REVIEW OF THE EMISSIONS REDUCTION FUND

DECEMBER 2017

ACKNOWLEDGEMENTS

The Authority would like to thank the many individuals and organisations that contributed time and expertise to this review. These contributions have improved the quality of the review and provided evidence to help inform the Authority's recommendations.

The Clean Energy Regulator (CER) and the Australian Government Department of the Environment and Energy also provided technical expertise to the Authority in its preparation of this review. The views in this report are the Authority's own and should not be taken as the views or positions of the CER or the Department.

The Authority would also like to thank the many stakeholders who provided submissions to this review and who participated in consultations.

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Readers should note that a minor revision was made to Figure 4 on 16 February 2018 to correct an error in the labelling of the lines. This revision does not affect the conclusions of the report.

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CHAIR'S FOREWORD

The Climate Change Authority is pleased to release this report on its review of the Emissions Reduction Fund (ERF). Legislation to establish the ERF was passed in 2014 so it is timely to take stock and reflect on how it is performing.

The Authority found that the ERF is generally performing well. It has created incentives for new domestic abatement at low cost that will contribute to Australia meeting its international emissions reduction commitments. Effective architecture has been put in place to credit abatement across the economy, enable Government purchasing and ensure compliance with the scheme.

This is no small feat: establishing a robust approach to emissions reduction offsets is challenging given the need for sound policy, administrative judgement, technical requirements for emissions reduction estimation and timely stakeholder and client service.

Finding a way through these challenges for the ERF has resulted in a fairly complex scheme. The Authority found however that some complexity is unavoidable if the ERF is to deliver genuine abatement. Many of the ERF's requirements are set in legislation, which is one of its strengths as it provides a degree of certainty to scheme participants and also facilitates robust compliance arrangements.

The Authority has identified some risks for the ERF and recommended some enhancements to the scheme to reduce the likelihood of them occurring. On the purchasing side, a key risk is that the measure may not deliver as much domestic abatement as anticipated. To address this risk, the Authority has recommended new arrangements to bolster the effectiveness of ERF contracts and enhance the secondary market's investment signals.

The potential for the reversal of carbon stored in ERF vegetation and soil projects is also a significant risk. The Authority is of the view that the key to managing potential lack of permanence is twofold and largely already in place. The Authority has recommended some new measures to help scheme participants become more aware of their permanence obligations, and new tools to help the Clean Energy Regulator enforce breaches of the scheme, including for lack of permanence.

On the crediting side, while there is scope for continuous improvement for a small number of individual methods, the Authority has not found evidence that additionality is a widespread problem. The Authority is of the view that the Emissions Reduction Assurance Committee plays a vital role as the gate-keeper of the ERF's integrity, and the Committee's method reviews are a key vehicle to ensure that emissions reductions remain additional as the scheme matures.

Stakeholders have highlighted untapped opportunities for potential abatement on the land. To capture these, the Authority has recommended an enhanced process for method prioritisation and stakeholder engagement as well as new funds for research and development to deliver more domestic abatement.

The Authority considers that, over time, other policies will need to take over from ERF purchasing to decarbonise Australia's economy and deliver structural change. Investment by both Government and the private sector in offsets, particularly for the land sector through the

Carbon Farming Initiative and now the ERF, should be built on as part of the policy toolkit Australia needs to meet its Paris Agreement emissions reduction goals.

Wendy Craik AM
Chair, Climate Change Authority

11 December 2017

EXECUTIVE SUMMARY

The Climate Change Authority is an independent statutory agency, which provides expert advice to the Government on climate change policy.

The Emissions Reduction Fund (ERF) is an emissions reduction offsets scheme combined with Government purchasing of abatement, which has been accomplished to date through competitive auctions. As of 16 November 2017, the ERF had contracted 189 million tonnes of emissions reductions at a cost of $2.23 billion and around $300 million remained.

The Authority is required to review the ERF every three years. This review covers the crediting and purchasing elements of the ERF. The safeguard mechanism is the third element of the ERF and will be covered in the Authority's review of the *National Greenhouse and Energy Reporting* legislation in 2018.

The Authority considered the role the ERF could play in meeting Australia's Paris Agreement obligations in its report *Towards a Climate Policy Toolkit: Special Review on Australia's climate goals and policies* (CCA 2016). The Authority recommended that ERF crediting and purchasing continue until other policies to reduce emissions are put in place and envisaged an ongoing role for ERF crediting in the land sector.

The Authority considers its recommendations on the ERF in the *2016 Special Review* remain current. This review focuses on the operational aspects of the ERF, in particular whether the scheme is well administered and delivering low cost and genuine emissions reductions.

MAINTAINING INTEGRITY

The ERF's methods stipulate how abatement is estimated and reported as well as giving effect to offsets integrity standards (which set standards for the environmental integrity of ERF projects). Some stakeholders want to develop their own ERF methods to realise new abatement opportunities. This could result in methods that do not meet the scheme's legal requirements and the Authority recommends instead the Department of the Environment and Energy seek proposals from stakeholders on new methods, continue to involve them in method development and publish priorities for method development every two years. Recent research suggests that there is still untapped abatement potential on the land but new research and development is needed to capture these genuine opportunities. The Authority recommends that additional funding be provided to the Department to work with research organisations and stakeholders to develop new methods.

The Authority notes that ERF projects can have very long crediting periods and projects can continue to generate Australian Carbon Credit Units (ACCUs) even if changes are made to the original method. To improve integrity, the Authority recommends that scheme participants be required to transition projects to new methods within two years of a method being varied, including for any changes to the way abatement is estimated.

The Authority considers that the Emissions Reduction Assurance Committee (ERAC) plays a vital role in maintaining the integrity of the ERF. The ERAC's current method reviews will need to ensure that projects remain additional given changes in technology and practices as methods come up for a possible extension of their crediting periods. The Authority recommends the ERAC look closely at whether methods for soil carbon, human-induced regeneration, native forest managed regrowth and landfill gas continue to meet the offsets integrity standards.

The Authority notes that the ERF was set up with the expectation that methods would be refined over time. While some problems have emerged in the small number of methods mentioned above, this is to be expected given the complex, innovative and technical nature of the scheme. The Authority has not seen evidence that additionality is a systemic problem in the ERF but it remains a key watch point.

The Authority recommends accountability for the ERAC secretariat be separate from method development in the Department to avoid any perception of a conflict of interest and that the ERAC develop guidance on how it interprets the offsets integrity standards to ensure consistency in its decision making over time.

The potential for reversal of some of the 139 million tonnes of carbon that will be stored in vegetation and soil projects is a significant risk. To bolster understanding of permanence obligations, the Authority recommends that scheme participants submit plans to the Clean Energy Regulator (CER) outlining how they will maintain carbon in their projects and deal with the risk of fire. To enhance information available to purchasers of land with ERF projects, the Authority recommends that scheme participants can no longer withhold a project from the CER's project register. The Authority is of the view that the CER should prepare guidance for conveyancers on permanence obligations 'running with the land' and enhance the search functions on their website to make it easier to find projects with permanence obligations. The Authority also recommends that the threshold for relinquishment of ACCUs to the CER (in the event of significant reversals) be reviewed.

The CER withholds ACCUs to address permanence through the risk of reversal buffer and discounts for the 25 year permanence period option. The Authority will review these discounting arrangements at regular intervals to test their effectiveness.

PURCHASING, DELIVERY AND THE SECONDARY MARKET

The Authority considered whether the ERF's purchasing principles' emphasis on least cost abatement should be changed to better address risks like non-permanence, or to allow the ERF to pay directly for co-benefits like biodiversity. Moving away from least cost could make CER's purchasing decisions harder to justify and the Authority believes that the ERF's limited resources should be focused on helping Australia meet its Paris Agreement targets.

There is a risk that abatement contracted through the ERF may not eventuate if some scheme participants rely on the secondary market to source ACCUs rather than investing directly in projects themselves. The Authority recommends that new ERF contracts require scheme participants to supply a proportion (30-50 per cent) of their contracted ACCUs from projects they use to register at auction. The market damages provision should also be reviewed for new ERF contracts to encourage delivery even if secondary market prices rise to the point where scheme participants have a strong incentive to default.

The risk of an ACCU shortfall could be further reduced if the secondary market is more transparent and liquid. The Authority recommends that the CER publish timely information about holdings of ACCUs for prospective purchasers and a regular statement of opportunities to signal when new investment is needed.

Some stakeholders remain concerned about the risk of unscrupulous carbon service providers in the ERF. The Authority recommends that the CER require a declaration from landholders that they have read the Department's ERF aggregation agreement resources so they are aware of the obligations they will be taking on. The Authority recommends that scheme participants be required to notify the CER of any individuals or firms they paid for advice, and

the Fit and Proper Person requirement be extended to designated agents involved in the scheme.

The Authority recommends some industry organisations or local government associations consider offering a trusted source of advice on ERF projects to their stakeholders.

ENVIRONMENTAL AND SOCIAL IMPACTS

The Authority found that arrangements to address adverse environmental or social impacts from ERF projects are working reasonably well. However, the Authority recommends that scheme participants provide the CER with evidence that they advised the local Natural Resource Management (NRM) body of their project (rather than just saying whether it is consistent with their local NRM plan) to facilitate engagement between scheme participants and the NRM planning bodies.

The Authority is of the view that uncertainty on legal issues related to native title, consultation and consent is a barrier to ERF savanna fire projects delivering further benefits to Indigenous communities and other stakeholders. The Authority recommends that the CER finalise its guidance to clarify expectations on consultation with Indigenous communities. The Authority recommends that scheme participants notify Registered Native Title Body Corporates of project applications on determined Native Title land and other known eligible interest holders before projects are registered with the CER. Scheme participants would be required to provide the CER with evidence of this consultation. The Authority also recommends that the CER not allow scheme participants to bid at auction until all eligible interest holder consents have been obtained.

ADMINISTRATION OF THE EMISSIONS REDUCTION FUND

In general, stakeholders gave positive feedback on how the ERF is administered. The auctions and project administration appear to run reasonably smoothly, particularly given the scheme's complexity. In response to some feedback however, the Authority recommends the CER examine its processes to see if it can respond to complex enquiries more promptly.

The Authority examined the costs of administering the ERF to see whether it represents value for money. For a complex and evolving scheme, the Authority found that the ERF's administrative costs stack up well when benchmarked against similar government initiatives.

The Authority considered whether the CER has sufficient tools to facilitate smooth administration. The Authority recommends legislative change so that the CER can issue penalty infringement notices similar to fines for lower level infringements rather than seeking remedies in the courts and to clarify that administrative decisions can be reversed in cases where the original decision was based on incorrect information.

LOOKING TO THE FUTURE

Overall, this review has found that the ERF is generally performing well. It has successfully incentivised new domestic abatement at low cost that will help contribute to Australia meeting its international target commitments. The ERF has effective compliance architecture that supports both the crediting and purchasing arms of the measure.

This is no small feat. Establishing a robust approach to emissions reduction offsets is challenging given the complex blend of policy, administrative judgement and technical emissions estimation that is required as well as the need for timely and efficient client service.

The Authority remains of the view that ERF purchasing will need to perform less of Australia's emissions reduction task over time and that other policies will need to take up the challenge of decarbonising Australia's economy and deliver structural change. That said, the investment by both Government and the private sector in offsets through the Carbon Farming Initiative and now the ERF should be built on as part of the policy tool kit Australia needs to meet its Paris Agreement goals.

LIST OF RECOMMENDATIONS

The Climate Change Authority recommends that:

R. 1	The Department establish a formal submission process so stakeholders can propose new Emissions Reduction Fund methods. Following assessment of stakeholder proposals by the Department, the Minister would publish priorities for method development every two years.
R. 2	The Emissions Reduction Assurance Committee work with the Department to develop guidance (in the form of a legislative rule) to clarify how the Emissions Reduction Assurance Committee will interpret the Emissions Reduction Fund's offsets integrity standards.
R. 3	Senior executive accountability for the Emissions Reduction Assurance Committee secretariat to be segregated from method development.
R. 4	The Minister make improvements to methods (in the form of variations) to maintain their alignment with the Emissions Reduction Fund's offsets integrity standards. Variations should incorporate guidance on the most current emissions estimation techniques, tools and calculators including those used for the national inventory. Scheme participants must use the varied method and updated tools within two years of the varied method coming into force.
R. 5	As part of its method reviews, the Emissions Reduction Assurance Committee examine: i.) the measured soil method to assess its effectiveness in distinguishing between natural variability (rainfall) and management actions in crediting abatement from soil carbon ii.) estimation and project requirements for the human-induced regeneration method iii.) the native forest managed regrowth method to assess the additionality of project activities and baselines iv.) regulatory additionality baselines for the landfill gas method and v.) the additionality requirements for each method to see if they are still current given changes in technologies, practices and regulation for relevant activities and sectors when considering whether the method's crediting periods should be extended.
R. 6	The Minister make a legislative rule requiring scheme participants to provide the Clean Energy Regulator with a plan for maintaining carbon stores during the permanence period when registering sequestration projects.
R. 7	The Clean Energy Regulator require scheme participants to provide fire management plans for sequestration and savanna fire projects. These plans could be the same as those required to meet state or local fire management requirements.
R. 8	The Department review the definition of a significant reversal of carbon stored to ensure it is calibrated to the risk of carbon losses across the scheme.
R. 9	The *Carbon Credits (Carbon Farming Initiative) Act 2011* (Cth) be amended to remove the ability for a scheme participant to request that the project area be omitted from the project register for new projects.
R. 10	The Clean Energy Regulator include on their website a search function that allows potential land buyers or other eligible interest holders to search for individual properties and determine if the land is subject to Emissions Reduction Fund permanence obligations.
R. 11	The Clean Energy Regulator develop guidance for conveyancers and state and territory legal societies on permanence obligations that run with the land.
R. 12	The Authority review in every second review of the Carbon Farming Initiative legislation the risk of reversal buffer and the 25 year permanence discount to determine whether these discounts are calibrated to potential losses of carbon, based on evidence of actual losses of carbon in the Emissions Reduction Fund.
R. 13	Scheme participants advise the Clean Energy Regulator of individuals and firms they paid to provide advice on the Emissions Reduction Fund when new projects are registered and updated in project reports.
R. 14	The *Carbon Credits (Carbon Farming Initiative) Act 2011* (Cth) be amended so that the Fit and Proper Person requirement is extended to designated agents that act for scheme participants.

R. 15 The Clean Energy Regulator require a declaration from landholders that they have read the Department's aggregation agreement resources prior to scheme participants registering a project that involves multiple landholders.

R. 16 Some industry bodies and local government associations consider providing advice on Emissions Reduction Fund projects to their members.

R. 17 The Clean Energy Regulator finalise its guidance to clarify expectations on consultation with Indigenous communities; scheme participants to notify and engage with Registered Native Title Body Corporates on project applications on determined Native Title land and other eligible interest holders before projects are registered and provide the Clean Energy Regulator with evidence this consultation occurred; and the Clean Energy Regulator not allow scheme participants to bid at auction until all known eligible interest holder consents have been obtained.

R. 18 The *Carbon Credits (Carbon Farming Initiative) Act 2011* (Cth) be amended to make it explicit that the Clean Energy Regulator can reverse specific decisions in cases where the original decision was based on false or misleading information.

R. 19 The *Carbon Credits (Carbon Farming Initiative) Act 2011* (Cth) be amended to remove the requirement for scheme participants to state whether sequestration or area based projects are consistent with local Natural Resource Management plans and replaced with a requirement that scheme participants provide the Clean Energy Regulator with evidence that they have advised the relevant Natural Resource Management body about the proposed Emissions Reduction Fund project.

R. 20 There be no change to the purchasing principles.

R. 21 The Clean Energy Regulator periodically revisit the cap on buyer's damages in new Emissions Reduction Fund contracts to provide a greater incentive for scheme participants to deliver their contracted Australian Carbon Credit Units.

R. 22 The Clean Energy Regulator require scheme participants to deliver a minimum of 30-50 per cent of Australian Carbon Credit Units from the projects they used to register at auction.

R. 23 The Clean Energy Regulator publish timely information about the holdings of Australian Carbon Credit Units including ownership, volume and project method and a six monthly 'statement of opportunities' that sets out the forward delivery schedule for Australian Carbon Credit Units from Emissions Reduction Fund contracts, the availability of Australian Carbon Credit Units in the secondary market and, to the extent known, indicative demand and prices for Australian Carbon Credit Units.

R. 24 The Clean Energy Regulator investigate ways to further enhance client services, particularly when responding to complex enquiries.

R. 25 The *Carbon Credits (Carbon Farming Initiative) Act 2011* (Cth) be amended to expand the Clean Energy Regulator's regulatory toolkit to include issuing penalty infringement notices (similar to fines) for some specified instances of non-compliance such as non-reporting.

R. 26 The Government allocate additional funds to the Department so it can collaborate with research organisations and stakeholders on new methods for the land sector, drawing on the consultation process for new method development (Recommendation 1) and the Government require rural research and development corporations include emissions reductions as one of the priorities for their research and development work.

CHAPTER 1. BACKGROUND AND OVERVIEW

1.1 ABOUT THIS REVIEW

The Climate Change Authority is an independent statutory agency, established to provide expert advice on climate change policy. The Authority is required by the *Carbon Credits (Carbon Farming Initiative) Act 2011* (Cth) to review the Carbon Farming Initiative (CFI) every three years. The CFI Act states that the Authority's review must cover the operation of the CFI Act, its regulations and other instruments made under the Act such as methodology determinations (known as methods) (Appendix A).

The CFI was an emissions reductions offsets scheme that covered the land and landfill waste sectors. An emissions offset is a reduction in emissions made in order to compensate for (or offset) an emission made elsewhere. The legislation that supported the CFI was amended to give effect to the Emissions Reduction Fund (ERF) in 2014, which has broader coverage.

The ERF has three elements: crediting emissions reductions, purchasing emissions reductions and the safeguard. This review covers the crediting and purchasing aspects of the ERF. The safeguard element of the ERF is implemented through the *National Greenhouse and Energy Reporting Act 2007* (Cth) and will be covered in the Authority's review of the NGER Act in 2018.

The first review of the CFI was conducted by the Authority in 2014 (CCA 2014). This second review of the ERF must be provided to the Minister for the Environment and Energy by 31 December 2017.

1.2 APPROACH TO THIS REVIEW

The Authority considered the role that the ERF could play in meeting Australia's Paris Agreement targets as part of its report *Towards a Climate Policy Toolkit: Special Review of Australia's climate goals and policies* (CCA 2016). In summary, the Authority recommended that ERF crediting and purchasing continue until other policies (such as an emissions intensity scheme or Clean Energy Target,[1] a national energy efficiency savings scheme, an expanded safeguard mechanism, vehicle emissions standards and regulation for landfill waste and synthetic gases) are put in place. The Authority envisages an ongoing role for offsets in the land sector, using a continuation of ERF crediting, as a complement to other policy measures.

The Authority is of the view that its recommendations on the ERF in the *2016 Special Review* remain current and the focus for this review is on the operational aspects of the ERF. In particular, for this review the Authority has examined the extent to which the ERF is achieving low cost and real emissions reductions and whether it is being well administered. The review also considered if there are any improvements that should be made to the operation, administration, design and governance of the ERF.

1.3 PUBLIC CONSULTATION

The Authority consulted widely as part of this review. The Authority thanks all individuals and organisations that contributed, noting the short timeframes involved.

The Authority sought stakeholder views through roundtable discussions and individual meetings. The Authority also received 28 submissions on the consultation paper that was

[1] The Authority since recommended that the Government consider a Clean Energy Target if it is unable to implement an emissions intensity scheme (AEMC and CCA 2017).

released in August 2017, four of which were confidential (Appendix B). Non-confidential submissions can be found on the Authority's website at www.climatechangeauthority.gov.au/consultations.

The Authority was able to build on the significant work and consultation that has already occurred on some of the matters covered by this review. In particular, the Authority considered submissions made to the Department of the Environment and Energy's 2017 review of climate change policies and the Authority's *Action on the land: reducing emissions, conserving natural capital and improving farm profitability* issues paper released in March 2017.

CHAPTER 2. OVERVIEW OF THE EMISSIONS REDUCTION FUND

2.1 WHAT IS THE EMISSIONS REDUCTION FUND?

The Emissions Reduction Fund (ERF) was established in 2014 and is the Australian Government's central climate change policy.

Key design features of the ERF include (Australian Government 2014):

- Lowest-cost emissions reductions: the ERF will identify and purchase emissions reductions at the lowest cost.
- Genuine emissions reductions: the ERF will purchase emissions reductions that make a real and additional contribution to reducing Australia's greenhouse gas emissions.
- Streamlined administration: the ERF was streamlined (compared to its precursor scheme, the Carbon Farming Initiative (CFI)) to make it easier for businesses to participate.

2.1.1 CREDITING MECHANISM

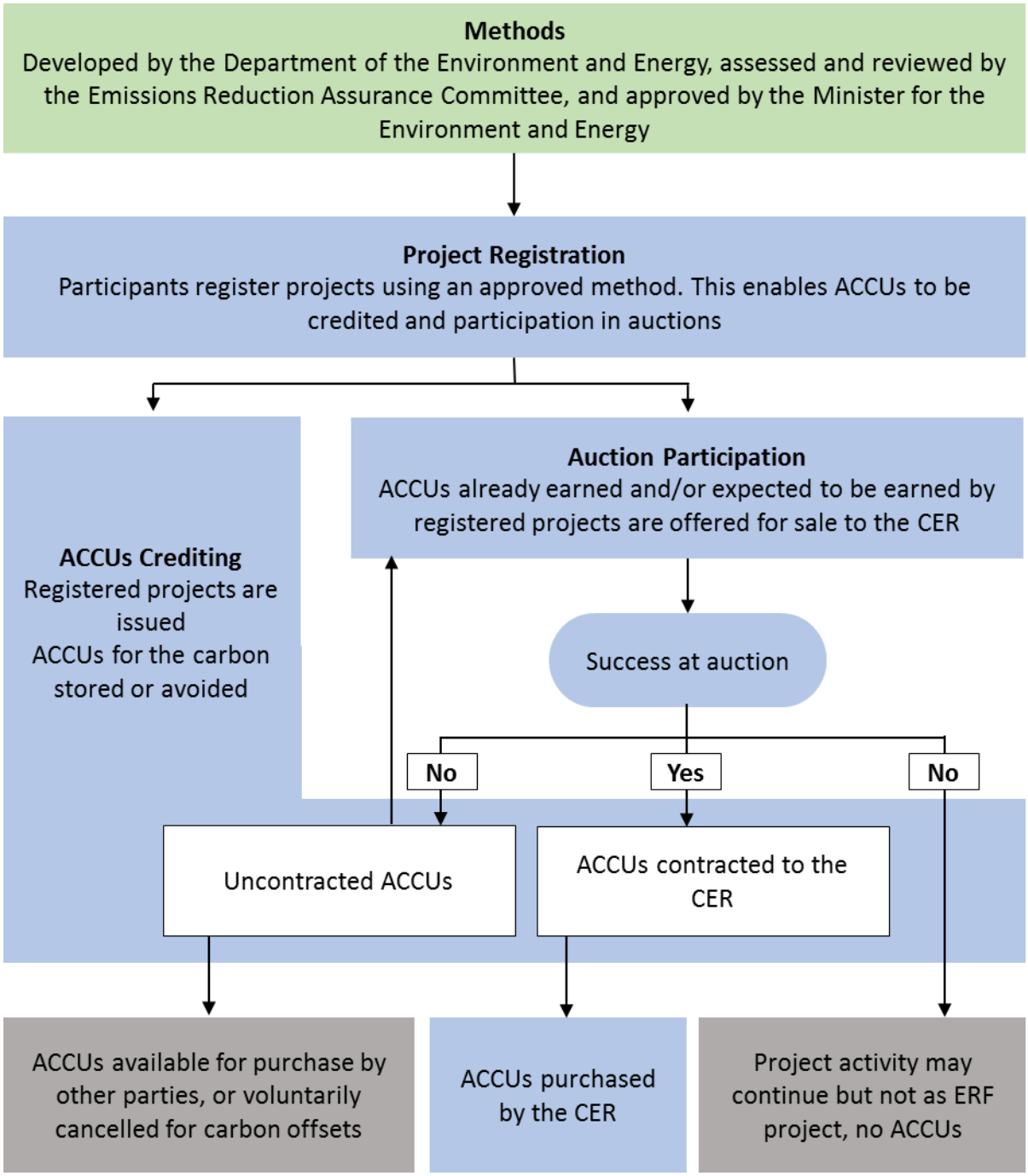
Under the crediting mechanism, the ERF issues Australian Carbon Credit Units (ACCUs) to businesses, community organisations, local councils, individuals, and others that successfully undertake an emissions reduction project registered with the Clean Energy Regulator (CER). An ACCU represents one tonne of carbon dioxide equivalent (t CO_2-e) stored or avoided by a project. Projects registered with the CER must comply with methods developed by the Department of the Environment and Energy and approved by the Minister. There are currently 34 approved methods under which projects can be registered in agriculture, energy efficiency, facilities, mining, oil and gas, transport, vegetation management, savanna fires, waste and wastewater management.

All methods under the ERF accredit emissions reductions or carbon storage that can be used to meet Australia's international emissions reduction commitments.

2.1.2 PURCHASING MECHANISM

The Australian Government can purchase ACCUs from scheme participants who have registered a project with the CER. The CER has purchased through auctions (although the CFI legislation allows the CER to purchase ACCUs through other means). Figure 1 outlines the project registration, crediting and purchasing mechanisms under the ERF. These processes are explained in the remainder of the report.

FIGURE 1: THE ERF PROCESS



Note: Scheme participants can provide abatement from projects other than that used to register at auction to fulfil contracts.
Source: Climate Change Authority analysis; ANAO 2016.

The ERF was allocated $2.55 billion in 2014 to purchase emissions reductions. Five auctions have been conducted between April 2015 and April 2017. The average price contracted over the period was $11.83/t and as of 16 November 2017 about $300 million remained in the ERF. A total of 189 million tonnes of emissions reductions had been contracted as of 16 November 2017 (CER 2017k). Table 1 summarises the results from each auction. The sixth ERF auction was held on 6-7 December 2017. At the time of publication, results from this auction were not available.

TABLE 1: ERF AUCTION RESULTS

AUCTION DATE	CONTRACTED ABATEMENT (MILLION ACCUS OR MILLION TONNES OF CO_2-E)	AVERAGE PRICE PER ACCU ($)	TOTAL COST ($ MILLION)
APRIL 2015	47.3	13.95	660.3
NOVEMBER 2015	45.5	12.25	556.8
APRIL 2016	50.5	10.23	516.3
NOVEMBER 2016	34.4	10.69	367.3
APRIL 2017	11.3	11.82	133.0
TOTAL	**188.9**	**11.83**	**2,233.7**

Note: Eight contracts, amounting to 5 Mt of abatement, have lapsed or have been terminated after auction. This reduces the total volume of abatement left under contract, the total cost and average price. Data on the value of these contracts is not available. Data as at 16 November 2017.
Source: Climate Change Authority based on CER 2017k; CER 2017n.

2.1.3 SAFEGUARD MECHANISM

The safeguard mechanism is designed to ensure emissions reductions purchased by the Government are not offset by significant increases above business as usual levels elsewhere in the economy. Baselines, or regulatory limits, are set for facilities that emit over 100,000 t CO_2-e a year in the electricity generation, mining, oil, gas, manufacturing, transport, construction and waste sectors. If a facility's emissions are expected to exceed its baseline, firms are able to purchase ACCUs to offset emissions above the baseline or reduce their emissions through other means (*National Greenhouse and Energy Reporting Act 2007* (Cth)).

The safeguard mechanism is established in the NGER Act and commenced on 1 July 2016. While an element of the ERF, the safeguard functions largely as a separate scheme and it will be reviewed by the Authority in 2018 as part of its review of the NGER legislation.

2.2 THE CARBON FARMING INITIATIVE TRANSITION TO THE EMISSIONS REDUCTION FUND

The CFI, which ran between September 2011 and December 2014, was originally designed as a voluntary carbon offset scheme for the land sector to complement the carbon pricing mechanism (an emissions trading scheme). CFI projects covered the landfill waste, land, forestry and agriculture sectors.

Firms in the sectors covered by the carbon pricing mechanism (such as electricity generation, transport, manufacturing and industrial processes) could buy ACCUs from CFI projects and use these to meet their carbon price liability. In 2014 the CFI was amended to become the ERF and eligible CFI projects transitioned into the new scheme. Project crediting under the ERF was also broadened to cover all sectors of the economy. The legislative amendments to establish the ERF created new arrangements for auctions and Government purchase, administered by the CER. The ERF amendments also sought to streamline or improve some CFI requirements such as reporting and auditing (Section 8.5).

2.3 GOVERNANCE OF THE EMISSIONS REDUCTION FUND

The CER, the Department and the Emissions Reduction Assurance Committee (ERAC) all have roles in the ERF (Chapter 12).

2.3.1 THE CLEAN ENERGY REGULATOR

The CER is responsible for the administration of the ERF, including key elements of the crediting and purchasing aspects of the scheme. These include the registration of projects, the conduct of auctions and purchasing, the management of contracts and the issuance of ACCUs

to scheme participants. The CER is also responsible for monitoring and compliance with the rules of the scheme, as well as pursuing breaches of these rules if they occur.

2.3.2 THE DEPARTMENT OF THE ENVIRONMENT AND ENERGY

The Department develops new methods for inclusion in the ERF and is responsible for policy development for the scheme as a whole. In scoping and developing new methods, the Department seeks advice from the CER and the ERAC. The Department also provides secretariat support for the ERAC and is the point of contact for stakeholders in their dealings with the ERAC.

2.3.3 THE EMISSIONS REDUCTION ASSURANCE COMMITTEE

The ERAC is an independent, expert committee responsible for assessing whether methods developed by the Department meet the ERF's offsets integrity standards. The ERAC conducts periodic reviews of ERF methods to assess their ongoing effectiveness, and provides advice to the Minister on whether a method should be made, varied or continue to be part of the ERF (Section 3.7).

2.4 INTERNATIONAL CONTEXT

A number of international offset standards and markets currently exist. These include the Verified Carbon Standard, the Gold Standard, and the Clean Development Mechanism. In 2016 around 155 million tonnes of carbon credits were generated globally under these markets (Gold Standard 2017; UNFCCC 2017; VCS 2017). Each offset market uses a different standard, however, all aim to produce real and additional emissions reductions. ERF methods were developed to meet Australian conditions and the offsets integrity standards under the *Carbon Credits (Carbon Farming Initiative) Act 2011* (Cth), however, international standards were considered by the Department where relevant (DoE 2015). All methods under the ERF are designed to be able to meet Australia's international emissions reduction targets.

CHAPTER 3. METHODS

The rules and requirements for Emissions Reduction Fund (ERF) projects are set out in the ERF methods and the Carbon Farming Initiative (CFI) legislation. ERF methods are legislative instruments similar to regulations, which means they give scheme participants more certainty than would be the case if methods took the form of non-regulatory guidance.

The methods specify the type of emissions avoidance or carbon storage[2] activities that need to be undertaken, the process for estimating emissions reductions from project activities and reporting to the Clean Energy Regulator (CER). The methods must also meet offsets integrity standards, a set of principles set in legislation that aim to achieve genuine and additional emissions reductions (Section 3.4).

There are currently 34 eligible methods across the following sectors: vegetation management, waste and wastewater, agriculture, savanna burning, energy efficiency, industrial fugitives (mining, oil and gas), transport and facilities (Appendix C; DoEE n.d.b). There are projects registered under 28 of these methods, and six methods currently have no registered projects (Table 2).[3] Some new methods are also under development (Section 3.6).

TABLE 2: NUMBER OF ERF METHODS AND REGISTERED PROJECTS

SECTOR	METHODS*		PROJECTS	
	NUMBER OF METHODS	NUMBER OF METHODS WITHOUT REGISTERED ERF PROJECTS	NUMBER OF REGISTERED PROJECTS	NUMBER OF REGISTERED PROJECTS WITH CONTRACTS WITH THE CER
Vegetation	9	1	359	227
Waste and wastewater	4	0	134	104
Agriculture	9	4	45	20
Savanna burning	1	0	72	52
Industrial fugitives	2	1	14	11
Energy efficiency	6	0	51	11
Transport	2	0	7	3
Facilities	1	0	1	0
Total	**34**	**6**	**683**	**428**

Note: Methods included in the first two columns of the table are those that are currently open to new projects. The last two columns include projects for methods that are now closed to new projects, and exclude projects that have been revoked. Data as at 16 November 2017 for last two columns. Data as of 1 December 2017 for first two columns.
Source: Climate Change Authority based on CER 2017n.

3.1 UPTAKE AND EMISSIONS REDUCTIONS FROM METHODS

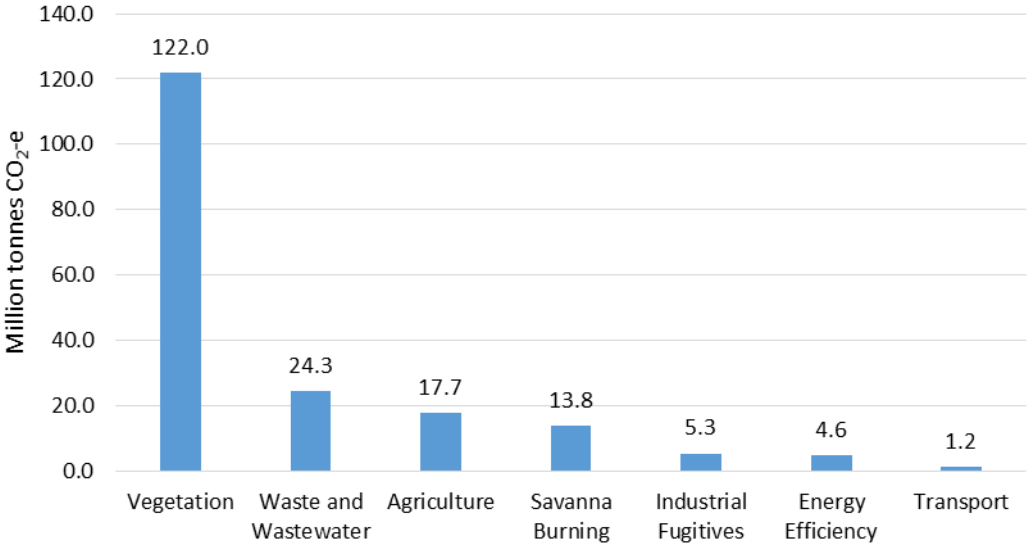
Projects under a small number of methods make up the majority of projects registered under the ERF, as well as providing the majority of emissions reductions contracted by the CER (Table 2 and Figure 2). The greatest volume of emissions reductions under the ERF comes from vegetation management, which accounts for 65 per cent of contracted abatement (Figure 2) (CER 2017n). These methods generally credit carbon storage arising from the regrowth of vegetation by removing stock or fencing off land, or from preventing land clearing. Other sectors that have high levels of uptake and success at auction include landfill waste,

[2] Emissions avoidance offset projects refer to those that avoid emissions of greenhouse gases. Storage (or sequestration) offset projects are those that remove or avoid greenhouse gases from the atmosphere by storing it in living biomass, dead organic matter or soil (*Carbon Credits (Carbon Farming Initiative) Act 2011* (Cth)).

[3] There are another nine methods that currently have projects registered under them, but are no longer open to new project registrations.

which accounts for 11 per cent of total contracted abatement and soil carbon, accounting for 9 per cent.

FIGURE 2: VOLUME OF CONTRACTED EMISSIONS REDUCTIONS UNDER THE ERF BY SECTOR (MILLION TONNES CO_2-E)



Source: Climate Change Authority based on CER 2017k,n. Data as at 16 November 2017.

3.2 BARRIERS TO UPTAKE OF METHODS

3.2.1 THE AGRICULTURE SECTOR

Methods in the agriculture sector with no uptake include reducing emissions from dairy cows through feeding dietary additives, reducing emissions from cattle by adding nitrates to feeds and reducing emissions of nitrous oxides from fertiliser use in cotton farming systems.

Analysis undertaken for CottonInfo (2015), the cotton industry's joint extension program, found that:

> *with modest levels of abatement at a farm scale, using the Reducing Greenhouse Gas Emissions from Fertiliser in Irrigated Cotton method, growers would be unlikely to successfully compete at auction against much bigger projects in other sectors with larger economies of scale* (p. 4).

The National Farmers' Federation (NFF) said in their submission on the 2017 review that:

> *Individually, most of Australia's 150,000 farm businesses are small [and for] low value carbon projects… cannot sustain the overhead costs associated with participating in the ERF in its current form. The overhead costs of projects and the financial risks (such as reduced productivity) of implementing a method often far outweigh the financial benefits of the carbon price, and, therefore, we see a number of methods barely or not even utilised* (p.14).

In their submission on the 2017 review, Farmers for Climate Action (FCA) suggested that the ERF does not provide a sufficient financial incentive for any but the larger corporate farms.

3.2.2 THE NON-LAND SECTOR

The methods that cover the mining, oil and gas (industrial fugitives), transport and energy efficiency sectors have the lowest levels of uptake, and together account for just under

six per cent of total contracted abatement. Relatively low uptake in these sectors may be due to a number of factors, which are examined below.

In their submission on the 2017 review, the Bureau of Steel Manufacturers of Australia (BOSMA) said the reasons for very few industrial projects being selected through the ERF are 'auction prices are very low; accounting periods [contract lengths and crediting periods] are too short to support industrial projects; methods are restrictive; and administrative and audit costs are high'. BOSMA says that audit costs per project 'can be up to $80,000 and… at an auction price of $13/t CO_2-e, a company would need at least a 5,000 t CO_2-e saving project to make it viable…' (pp. 12-13).

A number of other firms, industry and business organisations also cite the low auction price, the need to meet ERF requirements (particularly for additionality), the length of the contract period's financial incentive and transaction costs as reasons for low uptake (submissions on the 2017 review by Australian Industry Group, Australian Industry Greenhouse Network, Australian Institute of Petroleum, Australian Forest Products, BHP Billiton and Australian Chamber of Commerce and Industry).

The Australian Local Government Association's submission on the 2017 review points to the regulatory and reporting burden of ERF energy efficiency projects as making them unattractive to local government.

The relatively low uptake of energy efficiency projects in the ERF probably also reflects the fact that state schemes like the NSW Energy Savings Scheme (which provides upfront payments through deeming) offer a potentially more attractive financial incentive (BOSMA submission on the 2017 review).

3.2.3 MINIMUM BID SIZE AND AGGREGATION

Some stakeholders (submissions on the 2017 review by Property Council and Australian Sustainable Built Environment Council) cited the minimum bid size as a barrier to entry and also a concern that individual building owners could find themselves liable to deliver Australian Carbon Credit Units (ACCUs), if contracted abatement cannot be delivered.

The Authority notes however that in the land sector, aggregation of projects by carbon service providers has apparently been reasonably successful in surmounting the challenges posed by the minimum bid restriction, and finding ways to share risks of non-delivery (although there may be concerns as to whether all scheme participants fully understand these risks). The land and landfill waste sectors may also have benefited from learning by doing under the CFI, which may have positioned them well for the ERF. The Authority has examined the minimum bid size and did not find compelling arguments to change it (Section 6.6.1).

3.2.4 CURRENT AUSTRALIAN CARBON CREDIT UNIT PRICES

As discussed earlier, a number of submissions on this review and the 2017 review say that the anticipated return on ERF participation given current ACCU prices is insufficient for them to invest in projects and bid at auction (submissions on the 2017 review by NFF, BOSMA; submissions on this review by Climate Friendly, Country Carbon, Australian Gas Infrastructure Group, Arnhem Land Fire Abatement and FCA).

The marginal abatement cost curve estimated by Energetics for the Department (DoEE 2016b) shows that for the vast majority of abatement options, the marginal abatement cost is either negative (indicating the existence of a non-price barrier, which would not be addressed through the ERF alone), or costs are significantly greater than ERF prices. For example, in the

land sector costs are up to $85 per tonne for restoring degraded farmland, and around $25 per tonne for reforestation activities – more than twice the average ACCU price. Similar results were found in earlier work by Climate Works in 2010 (ClimateWorks Australia 2010). As outlined in Section 14.2, the Authority is of the view that new research and development could further reduce these costs, making further abatement options economic under the ERF in the future (DoEE 2016b; ClimateWorks Australia 2010).

The ERF was explicitly designed to purchase lowest cost abatement through its auction process so the fact that ERF projects in sectors with higher abatement costs are not being registered and awarded Government contracts does not necessarily point to a problem in the scheme.

3.2.5 COMPLEXITY OF METHODS AND PROCESSES

Some stakeholders have suggested that another barrier to participation is the complexity of the ERF's methods, tools and registration processes (submissions on this review by Australian Petroleum Production and Exploration Association, Kimberley Land Council (KLC), Climate Friendly and Southern Atherton Tablelands Revegetation Alliance). For example, KLC said that 'the complexity of the [savanna burning] method and legislation often requires native title holders to seek external support to register a project and maintain ongoing project compliance obligations' (submission on this review, p. 3).

Climate Friendly said that 'The eligibility criteria for many methods are overly specific, meaning a minor deviation from the criteria renders a project ineligible, even though [it] would deliver genuine abatement' (submission on this review, p. 4).

Consequently, Climate Friendly suggests that some method eligibility criteria could be made less prescriptive by being converted to principles, rather than criteria.

In the past, some stakeholders have pointed to the United Nations Framework Convention on Climate Change's Clean Development Mechanism as a model and suggest that the ERF should follow a similar approach whereby the scheme sets minimum project requirements for environmental integrity, measurement, reporting and verification, and the individual project documentation outlines how these requirements will be met. The Authority is of the view that this approach would shift complexity from the methods (where they apply to all projects of a similar type) to the individual project documents themselves. In the Authority's view, this would inevitably result in at least the perception of inconsistent decision making across different projects, and open the scheme up to a greater risk of administrative challenge.

The ERF is complex but some complexity may be unavoidable if the scheme is to deliver genuine abatement. The methods themselves are legislative instruments. The legislative basis of the ERF carries a number of benefits for the scheme, including increased levels of certainty for scheme participants compared to schemes that rely solely on administrative guidance. The environmental integrity of the scheme is bolstered by the CER's compliance role, which also has a legislative basis. The Authority considers that simplifying a method or easing a project's requirements to increase uptake could compromise integrity standards. The Authority does however support the ongoing work of the Department and CER in developing clear guidance to outline the methods and their requirements.

3.3 OPPORTUNITIES FOR NEW METHODS

Stakeholders have proposed a number of new methods for the ERF. These include a whole-farm method to capture multiple on-farm activities under the one project (CMI 2017; EHP

2017), additional fertiliser use methods (EHP 2017), woodland restoration (EHP 2017), changes to eligibility criteria for the avoided deforestation method (Peter Yench's submission on this review), a method for existing conservation land (Trust for Nature submission on the 2017 review) and a blue carbon method (Victorian Catchment Management Authorities submission on the 2017 review, CMI 2017; EHP 2017).

The Authority is of the view that some of these methods may not credit additional abatement (for example, on existing conservation land or changes to eligibility for avoided deforestation). In some cases it is unclear whether emissions reductions from activities (such as building 'blue carbon' from sea grasses) can be counted towards Australia's international target commitments.

A number of stakeholders also pointed to the need for research and development funding to identify opportunities for new methods to capture significant abatement (Carbon Market Institute (CMI) submission on this review, South Australian Department of Environment, Water and Natural Resources submission on the 2017 review; EHP 2017). The Authority found in its *2016 Special Review* that research and development on abatement opportunities for the land sector is a priority area and should be part of a policy tool kit to help Australia meet its Paris Agreement targets. In Chapter 14, the Authority recommends additional funding to the Department to work with research organisations and stakeholders to develop new methods for the land sector.

3.3.1 REGULATION AS AN ALTERNATIVE TO EMISSIONS REDUCTION FUND PROJECTS

As part of its consultation on this review, the Authority sought stakeholder views on whether abatement from some ERF methods and projects could be delivered more efficiently through regulation. The Wilderness Society submitted that emissions reductions from ERF vegetation projects were being eroded by the weakening of land clearing laws in Queensland and NSW and said that strong regulations on deforestation and land clearing are needed.

The most recently available national inventory from 2014-15 suggests however that national emissions from land clearing continued to fall, contributing net emissions of 33.7 million tonnes that year, down from 41.6 million in 2013-14 and 86.1 million a decade earlier (DoEE 2017g). The Authority considers that provided avoided deforestation projects meet the ERF's offsets integrity standards, they can make an effective contribution to reducing land clearing emissions. Section 4.4 contains analysis on the additionality of avoided deforestation projects.

3.4 OFFSETS INTEGRITY STANDARDS

The offsets integrity standards are set out in legislation and designed to ensure that ACCUs issued under the ERF are for genuine emissions reductions that are additional to business as usual.

Under the standards, the emissions reductions are to be:

- additional – unlikely to occur in the absence of the ERF
- genuine – measurable, capable of being verified and conservative (i.e. does not over-estimate emissions reductions)
- able to count towards meeting Australia's international emissions reduction targets
- able to account for leakage (so that any material increase in emissions as a result of the project are accounted for)

- supported by clear and convincing evidence.

Additionality concerns in the native forest from managed regrowth and landfill waste methods are discussed in Section 4.4. Other concerns about consistency with the offsets integrity standards have also been raised in relation to the human-induced regeneration and soil methods. These are discussed below.

3.4.1 CHALLENGES WITH THE HUMAN-INDUCED REGENERATION METHOD OF A PERMANENT EVEN-AGED NATIVE FOREST

The human-induced regeneration of a permanent even-aged native forest method has the single greatest amount of uptake under the ERF, representing 43 per cent or 80.5 Mt CO_2-e of total contracted abatement and around 30 per cent of all contracted projects (CER 2017k; CER 2017n).

Projects under this method earn ACCUs by changing land management practices to facilitate regeneration of a native forest on areas previously cleared or grazed. Landholders can assist regeneration through activities such as excluding livestock from the project area, managing the timing and extent of grazing, managing feral animals and non-native plants in the project area and stopping mechanical clearing. Projects under this method are concentrated in western New South Wales and south-west Queensland.

Under this method, the volume of ACCUs earnt is calculated from modelling using the Full Carbon Accounting Model. This means that provided that certain conditions (like having the potential to generate a forest) are met and provided the project activity occurs, the model in effect credits the project using assumptions about vegetation growth and carbon stored on the project site. The Authority is aware of concerns that the vegetation on the ground may not match assumptions in the model raising questions as to whether the project abatement estimation is conservative. Other projects under the method may be over-delivering on abatement.

Across the range of human-induced regeneration projects, it is possible that these overs and unders are balancing out and it is a feature of modelled methods that the Government bears the risk of a discrepancy between what an individual project delivers and what the inventory credits towards Australia's national targets.

The Authority is aware of other concerns that some scheme participants may not have changed their land management practices so that the project can re-establish forest cover as required by the method. The Authority notes that the CER has recently issued draft guidance to clarify the method's requirements, which is intended to operate immediately to address potential anomalies in crediting (CER 2017m). The Authority recommends that the Emissions Reduction Assurance Committee (ERAC) assess whether the CER's guidance will address all of these concerns as part of its review of the method (Recommendation 5).

The Authority is also aware that some stakeholders have concerns about the potential for adverse impacts from projects under this method where adequate weed control is not being undertaken. These are discussed in Section 9.2.2.

3.4.2 CHALLENGES WITH SOIL CARBON

The Authority is aware of some concerns about the measured soil carbon method, in particular whether the science relating to soil carbon sequestration on farm land is sufficiently well advanced to distinguish between the impact of management action (say changing stocking rates or changing from cropping to pasture) from the impact of climate variability like rainfall.

Some published science indicates that the ability of soils to sequester carbon is far more influenced by factors like rainfall, soil type and the topography of the land than the management action taking place on the land (Rabbi et al. 2015; Allen et al. 2013). A question then arises as to whether the soil sequestration method is able to screen out sufficiently the impact of climate and other natural variability when crediting abatement. If for example, a landholder timed the start of a soil carbon project to begin at the end of a drought, then he or she could receive credit for soil carbon that is actually the result of increased rainfall rather than a changed management practice.

The science on this point is inconclusive. There are studies showing that management activities such as converting land under crops to pasture can build soil carbon levels (Rabbi et al. 2014; Badgery et al. 2014). There is however a dearth of longitudinal studies to show what the impact of sustained management actions could be on soil carbon on a given area of land over time.

The soil carbon method for grazing systems has a number of checks to prevent over-crediting. These include a discounting arrangement that restricts the volume of ACCUs that landholders receive in the early years of the crediting period before a trend of abatement (following changed land management) can be established. The method contains other rules that stipulate how soil sampling must occur to avoid cherry picking and the minimum number of soil samples that must be taken.

The Authority notes that the direct measurement soil method for grazing systems is likely to be superseded by a new method that allows soil carbon projects to take place on land that is subject to a wider range of farming practices and introduces new, more cost effective soil sampling and estimation techniques. This method has been recently released by the Department of the Environment and Energy for public consultation (DoEE 2017d). The Authority encourages the ERAC to examine closely the scientific basis for the revised soil method to ensure that it meets the offsets integrity standards (Recommendation 5).

3.5 DEVELOPMENT OF METHODS

The Department develops new methods for the ERF by working with technical experts and other stakeholders with knowledge of abatement opportunities in given sectors.

A number of stakeholders have suggested that they should be able to develop methods for the ERF, as was the case for the CFI, arguing that this would allow for the private sector to innovate to secure new abatement opportunities. For example, the CMI submission on this review said:

> *Leveraging the private sector expertise in the development of methods is important for identifying the most efficient and effective means to generate abatement. Furthermore, industry-led method development will assist in prioritising methods most useful to industry and therefore most widely adopted* (p. 12).

In practice, when the CFI was operating, method development by private sector or other non-government bodies created a significant resourcing burden for the Government, which needed to ensure the draft methods met the legislative requirements of the scheme (Australian Government 2014). Early CFI methods were often informed by particular business models and covered only a small number of possible project activities.

New methods for the ERF (including for previously uncovered sectors) sought to be broader in scope and simpler in form. This change aimed to ensure that method development achieved

widely useable, activity-based methods that reduced scheme participation costs (Australian Government 2014).

The Authority is not convinced that the problems with non-government method development (resource intensiveness for government, narrow scope of possible projects) under the CFI can be readily overcome for the ERF. The Authority is of the view that the current ERF approach, whereby the Department works with technical experts and other stakeholders to develop or vary methods, should continue.

The Authority considers however that allowing stakeholders to propose new methods or variations for methods at regular intervals could alert the Department to possible new abatement opportunities and reduce some of the pressure from stakeholders to develop their own ERF methods. Assessing such proposals would still carry an administrative cost for the Government however and the Authority sees most value in proposals that have a high likelihood of delivering low cost, significant abatement for the ERF and broad uptake within a given sector or industry. Proposals for new methods should also outline how they could meet the offsets integrity standards, given the importance of these standards for the integrity of the scheme.

3.6 PRIORITISING METHODS FOR DEVELOPMENT

Under the ERF, the prioritisation of new methods for development is determined by the Minister for the Environment and Energy based on advice from the ERAC, the Department and stakeholders (DoE 2015). Prioritisation is intended to focus on methods with the potential for greatest uptake and genuine abatement. There are currently some new methods under development including for savanna burning sequestration and industrial equipment upgrades (DoEE n.d.b.).

Stakeholders have indicated to the Authority that they would like greater transparency in how methods are prioritised (Climate Friendly submission on this review, CO_2 Australia Limited submission on the 2017 review) and more frequent publication of the priority list.

For example, in their submission on this review, the CMI states that:

> *…it is essential that the method development… and method review process is transparent. Any changes to current methods should be undertaken through appropriate stakeholder engagement to ensure industry views are incorporated and timeframes… are appropriate* (p. 12).

The Authority is of the view that a more transparent approach for method prioritisation and a more regular announcement of method priorities (every two years) would also help the market plan for new projects and alleviate pressure from stakeholders to develop methods themselves. Ideally this process would be timed to reflect the outcomes from the process to assess stakeholder proposals for method development (Figure 3).

FIGURE 3: PROPOSED PROCESS FOR METHOD PRIORITISATION

Source: Climate Change Authority.

RECOMMENDATION

R. 1. The Department establish a formal submission process so stakeholders can propose new Emissions Reduction Fund methods. Following assessment of stakeholder proposals by the Department, the Minister would publish priorities for method development every two years.

3.7 EMISSIONS REDUCTION ASSURANCE COMMITTEE AND THE METHOD REVIEW PROCESS

Once developed by the Department, methods are assessed by the independent ERAC. The ERAC provides advice to the Minister for the Environment and Energy, following public consultation, on the suitability of draft methods or variations to existing methods. The Minister makes the final decision whether to make or vary a method (Australian Government 2014) and must take into account a range of factors including the ERAC's advice and the potential for adverse impacts (Chapter 9).

The Minister must not make a method determination if the ERAC advises that a method does not meet the offsets integrity standards (CFI Act).

Once the Department has prepared a draft method, it is considered by the ERAC before being opened for public consultation for a period of between two and four weeks. Organisations and individuals can make submissions on the draft legislative instrument.

The ERAC reviews each method at least once every four years and can recommend to the Minister for his or her decision that a given method be reviewed more frequently (say a year after being made). ERAC review of methods is required to examine whether the method continues to comply with the offsets integrity standards. The ERAC also reviews the additionality of methods to check whether their crediting periods should be extended (Chapter 4). Members of the public can request that the ERAC review methods. The ERAC can

suspend a method for up to 12 months where there is reasonable evidence that it does not comply with the offsets integrity standards. New projects cannot be approved while a method is suspended (CFI Act).

The Authority considers that the ERAC's role in assessing methods against the offsets integrity standards is very important for the integrity of the scheme. The Authority is of the view that the ERAC is doing a good job in assessing methods, and notes that a number of draft methods have been amended at the ERAC's request. For example, the ERAC endorsed an increase in the 25 year permanence discount to 25 per cent for the plantation forestry method to address concerns that trees were likely to be harvested and not re-established at the end of the crediting period (Box 2). In addition, the ERAC rejected the draft landfill biofilters method because the scientific basis for estimating abatement was too uncertain.

The Authority notes however that interpretation of the offsets integrity standards also requires a degree of judgement from the ERAC members and there may be a risk over time, as new members join the ERAC, that its decision making is perceived as lacking consistency.

The Authority is of the view that the ERAC should work with the Department to develop guidance in the form of a legislative rule[4] to clarify how the ERAC will interpret the ERF offsets integrity standards and what information will be taken into account in making a decision on the standards. Such guidance could assist transparency and help maintain consistency in the ERAC's decision making over time.

RECOMMENDATION

R. 2. The Emissions Reduction Assurance Committee work with the Department to develop guidance (in the form of a legislative rule) to clarify how the Emissions Reduction Assurance Committee will interpret the Emissions Reduction Fund's offsets integrity standards.

3.8 EMISSIONS REDUCTION ASSURANCE COMMITTEE SECRETARIAT SUPPORT

The Department provides secretariat support to the ERAC as well as providing advice on draft methods and method reviews. Currently accountability for the ERAC secretariat function sits with a part of the Department that is also responsible for method development. While there is no evidence that this has affected the independence of the ERAC secretariat, it could give rise to the perception of a conflict of interest. The Authority recommends that senior executive accountability for the ERAC secretariat be segregated from method development.

[4] A legislative rule is legislation, which supports the operation of an Act and can be implemented or amended without being passed by Parliament.

RECOMMENDATION

R. 3. Senior executive accountability for the Emissions Reduction Assurance Committee secretariat to be segregated from method development.

3.9 INCENTIVES TO CHANGE METHODS

Under the CFI, a given method is applied to a project and its abatement for the life of a crediting period. This feature was intended to give investment certainty to scheme participants and carried over into the ERF crediting period rules. Under the ERF, a crediting period is 7 years (for most emissions avoidance projects) or up to 25 years, for sequestration and savanna burning projects. Even if the method itself is varied and updated, the project retains the original method's rules unless the scheme participant applies to the CER to change to a varied method. Scheme participants are unlikely to do so before the end of a crediting period if the varied method provides them with fewer ACCUs and less financial return.

The ERF and CFI design always envisaged that methods would need to change and evolve over time with developments in estimation techniques, the science underpinning abatement (particularly for the land sector with its natural systems and their inherent variability) and, with respect to additionality, in light of changes in technologies and practices. The challenge is how best to strike a balance between the need for continuous improvements in the methods (so as to maintain the environmental integrity of the projects they cover) and providing a degree of certainty for scheme participants.

The Authority is concerned that 25 years is a long time to allow projects to keep generating ACCUs if a problem is identified with a method.

Methods are developed by the Australian Government and it could be argued that the Government should bear the risk if a project delivers abatement from a method that has been superseded. The Authority is of the view, however, that scheme participants should share some of this risk given that maintaining scheme integrity provides value to all scheme participants. Recognising the importance of allowing lead-in times for scheme participants to adjust to changed conditions, the Authority recommends that if a variation to a method is made, existing ERF scheme participants must move to the new method within two years of the variation coming into force. This new requirement could reduce the volume of abatement that can be generated from some ERF projects but the Authority considers this reduction in abatement is outweighed by improving the integrity of the scheme.

3.10 ESTIMATION FACTORS AND TOOLS

Methods are based on abatement that is reflected in the national inventory, and emissions estimation approaches used to calculate abatement in the inventory are regularly updated in line with international best practice through the United Nation's Intergovernmental Panel on Climate Change (DoEE 2017f; DoEE 2017g).

A number of methods embed these approaches in tools that are used to quantify emissions reductions. In most cases, these tools are developed and administered by the Department although some are owned or hosted by academic institutions or state governments. In all

cases, they are made available to scheme participants free of charge. One of the purposes of these tools is to make the method easier to use and ensure more accurate abatement estimation.

It is important that estimation tools and other approaches used in methods are updated at the same time they are updated in the national inventory processes. This will reduce the risk that abatement credited under the ERF is not reflected in the national inventory and therefore does not contribute to Australia's target.

In the earlier CFI methods, estimation approaches were fixed for the life of the method in the method themselves, irrespective of whether the approach to estimation changed in the national inventory. Some later methods refer instead to whatever version of the estimation tool or approach is current in the inventory (noting that it is updated from time to time). More recently, the Department has issued separate non-legislative guidance that sits alongside the methods to govern ERF project abatement. This guidance can be updated by the Department in line with improvements in estimation approaches. This means that changes can be made to bring methods in-step with the inventory without a varied method being made by the Minister. The Authority supports the ongoing work in the Department and CER to assess the effectiveness of tools available, and possible improvements.

At present however the Department is required to maintain out-dated versions of estimation tools where projects using older methods rely on them to estimate abatement. Maintaining these out of date tools is resource intensive for the Government and abatement estimated by them may not be eligible for inclusion in the inventory or used to meet Australia's Paris Agreement emissions reduction targets. The Authority considers that methods with outdated tools should be varied by the Minister to require the covered projects to transition onto varied methods, which refer to the Department's guidance, requiring the projects to use the most current estimation tools and approaches.

RECOMMENDATION

R. 4. The Minister make improvements to methods (in the form of variations) to maintain their alignment with the Emissions Reduction Fund's offsets integrity standards. Variations should incorporate guidance on the most current emissions estimation techniques, tools and calculators including those used for the national inventory. Scheme participants must use the varied method and updated tools within two years of the varied method coming into force.

CHAPTER 4. ADDITIONALITY

Additionality is a key element in ensuring environmental integrity in all offset schemes and necessarily involves judgement and trade-offs. To be additional, offset projects must deliver emissions reductions in response to the Emissions Reduction Fund (ERF) incentive rather than as a result of business as usual (Box 1). Where additionality requirements are too rigid, the scheme may miss out on some abatement that is genuinely additional. If the additionality requirements are too lax, then the ERF will not receive value for money and the Government may need to take alternative action to find the emissions reductions it needs to meet Australia's international targets.

BOX 1: DEFINING BUSINESS AS USUAL

The term 'business as usual' is used to describe the counterfactual or what would occur in the absence of the ERF. The terms business as usual, counterfactual and additionality baseline are often used interchangeably to describe similar concepts. Additional abatement that arises from the ERF is the difference between emissions that is realised with the project in place, and those expected under business as usual.

By its very nature, the business as usual scenario (counterfactual) can never be known. Estimating the emissions that are expected to arise under the business as usual scenario, therefore, is a fundamental challenge of any offset scheme. However, for many methods it is a core requirement for ensuring emissions reductions are genuine.

Establishing business as usual is also challenging because technologies and practices change and improve over time. Assessing what is additional therefore requires judgements to be made about the rate of technological change or the introduction of new practices that is likely to occur in a given industry or sector.

To try to ensure emissions reductions are additional, the ERF has additionality tests embodied in both the legislation and, for particular project types, in methods.

4.1 ADDITIONALITY UNDER THE CARBON FARMING INITIATIVE ACT

There are three additionality requirements under the *Carbon Credits (Carbon Farming Initiative) Act 2011* (Cth): newness, regulatory additionality and a government program requirement.

4.1.1 NEWNESS

Under the newness requirement, the project must not have begun at the time the ERF project is registered with the Clean Energy Regulator (CER). The newness requirement was intended as a practical filter to ensure that only projects established in response to the ERF incentive would be eligible for ERF crediting and purchasing. Following consultations on the draft ERF legislation, however, a number of projects established under the previous Carbon Farming Initiative (CFI) legislation were allowed to transition to the ERF. CFI project proponents made

the case that otherwise their investments would be stranded by changes in government policy with the repeal of the carbon price mechanism (Australian Government 2014).

4.1.2 REGULATORY ADDITIONALITY

The ERF's regulatory additionality requirement aims to ensure that emissions reduction activities required under state, territory or Australian government regulation are not eligible under the ERF. For example, projects involving upgrading equipment to meet government health and safety requirements would need to occur anyway and are generally not additional (CER 2016f). The ERF legislation also states that if a regulation is removed, abatement activity that was previously covered by regulation remains ineligible for ERF crediting (CFI Regulations). This is to avoid creating an incentive for governments to exchange regulation for an ERF project, in effect cost shifting to taxpayers.

4.1.3 GOVERNMENT PROGRAMS

The government program requirement seeks to reduce the risk that projects will be non-additional as a result of other government incentives paying for the same or similar activities as ERF projects. Large government programs that directly support ERF-type project activities such as the 20 Million Trees Programme are ruled out in the CFI Rule (a legislative instrument). As a further check, the Emissions Reduction Assurance Committee (ERAC) can assess individual methods to determine whether available government incentives would make projects non-additional.

The ERF explicitly allows for some co-funding of ERF projects to pay for non-emissions reduction benefits (like improving water quality in the Great Barrier Reef or support for renewable energy from the Australian Renewable Energy Agency).

4.2 ADDITIONALITY REQUIREMENTS IN METHODS

ERF methods contain a number of specific additionality requirements that are targeted to particular risks of non-additionality associated with a given sector, technology or other type of project activity. These specific method based additionality requirements recognise that technologies and practices in commercial use tend to have a business as usual rate of efficiency improvement, which will occur in the absence of ERF support. As such, the ERF tries to prevent Australian Carbon Credit Units (ACCUs) being earned for emissions reductions associated with business as usual improvements. These method specific additionality requirements generally supplement the ERF newness, regulatory and government program additionality requirements but in some cases, they are used as alternatives to the ERF legislation's additionality tests if the legislative tests are not well suited to the method's activities.

The industrial electricity and fuel efficiency method credits emissions reductions through activities such as upgrades to boilers and heating, ventilation and cooling systems or switching fuel sources. In some cases, these upgrades or improvements would be expected to occur as part of normal business decision making at some point in the future. To address the risk that the emissions reductions would occur anyway, project emissions reductions are calculated against a baseline that discounts (or reduces the emissions reductions from the project) for energy efficiency improvements that are expected to occur as a result of technological change.

Under the land and sea transport method, emissions can be reduced by improving the emissions intensity of vehicles, including by replacing vehicles, modifying vehicles (fuel switching) and changing operational practices. In a similar fashion to the industrial electricity

and fuel efficiency method, the baseline for calculating emissions reductions under the transport method also accounts for expected improvements (by reducing emissions reductions from the project) in the emissions intensity of each vehicle category over time.

Under the savanna burning method, scheme participants are required to undertake planned early dry season burning to reduce the risk and extent of higher intensity fires (and therefore emissions) in the late dry season. To help address additionality concerns and ensure that ACCUs are not issued for fire management activities that would have occurred anyway, the method only credits emissions reductions that are below the average emissions in the project area in the 10-15 years before the project commences.

4.3 ADDITIONALITY TESTS IN OTHER OFFSET SCHEMES

The additionality requirements in the ERF were informed by experience with the CFI and other offsets initiatives including the United Nations Framework Convention on Climate Change Clean Development Mechanism.

Some of these schemes include a requirement for financial additionality where individual projects are assessed to determine if they would be financially viable without the financial support of the offset scheme. Financial additionality tests on a project-by-project basis are resource intensive and require a range of subjective assumptions to be made about individual financial behaviour and risk appetite.

The CFI was designed to avoid project-by-project assessment by incorporating a common practice test. The thinking here was that if a project activity was already widespread in a given sector or region, then it was unlikely to be additional. Activities that went beyond common practice were included in a ‘positive list’ and were eligible for a method to be developed.

In their submission on the 2017 review, the Wentworth Group called for the positive list to be reinstated as they said it ‘was a simple means of streamlining project assessment against the ‘additionality’ requirements’ (p. 3).

Stakeholder feedback on the CFI was that the common practice test was complex, administratively onerous and delayed the development of new methods (Australian Government 2014). The positive list was removed for the ERF and the concept of common practice is instead used to test for additionality in methods. It is not clear how the problems experienced with the positive list under the CFI could be resolved and the Authority is of the view that it should not be reinstated.

4.4 ADDITIONALITY ISSUES IN METHODS

4.4.1 VEGETATION METHODS

Concerns have been raised by stakeholders about additionality in some of the ERF methods, particularly methods that give credit for avoiding land clearing or allowing trees to regrow after land has been cleared (Table 3) but also for methods that credit avoiding emissions from landfill waste (Section 4.4.2).

TABLE 3: KEY ERF VEGETATION METHODS

METHOD	DESCRIPTION	SHARE OF TOTAL CONTRACTED ABATEMENT (%)
Human-induced regeneration of a permanent even-aged native forest	Projects under this method credit carbon sequestered by changing land management practices to facilitate regeneration of a native forest on areas where there has been no forest cover for the ten years prior to the project beginning. The project is based on ceasing an activity that clears vegetation like grazing or clearing land with machinery. Landholders can also assist regeneration through activities such as excluding livestock from the project area, managing the timing and extent of grazing, and managing feral animals and non-native plants in the project. Projects under this method are concentrated in western New South Wales and south-west Queensland.	43
Native forest from managed regrowth	This method is similar to human-induced regeneration except that the baseline requires one clearing event to show additionality. Projects under this method sequester carbon by changing land management practices to regrow native forest on land where vegetation has been removed for grazing purposes. Landholders promote regrowth of native forest by stopping clearing, excluding livestock, changing the timing and extent of grazing, or managing non-native plant species or feral animals.	2
Avoided deforestation	This method applies to native forest which has received state government consent to be cleared (through land clearing permits) and converted to cropland or grassland prior to 1 July 2010. The business as usual additionality test for the project assumes that the land clearing permits would have been used and the land cleared. Abatement is delivered by avoiding the emissions that clearing would have produced. Additional abatement may be achieved by managing the native forest in a way that enhances carbon stocks. All projects under this method are located in western New South Wales.	14

Source: DoEE n.d.b.

Under the managed regrowth method, land need only have been cleared once prior to the project being established. To be conservative, the method specifies a default clearing cycle of 15 years.

Project activity for this method takes the form of a decision not to re-clear native vegetation, which may have been re-growing since the last clearing event. Vegetation that grew from the last clearing event (possibly 10 years ago or more) is credited as project abatement. This means that projects under the method may not align well with the ERF's additionality requirement for newness.

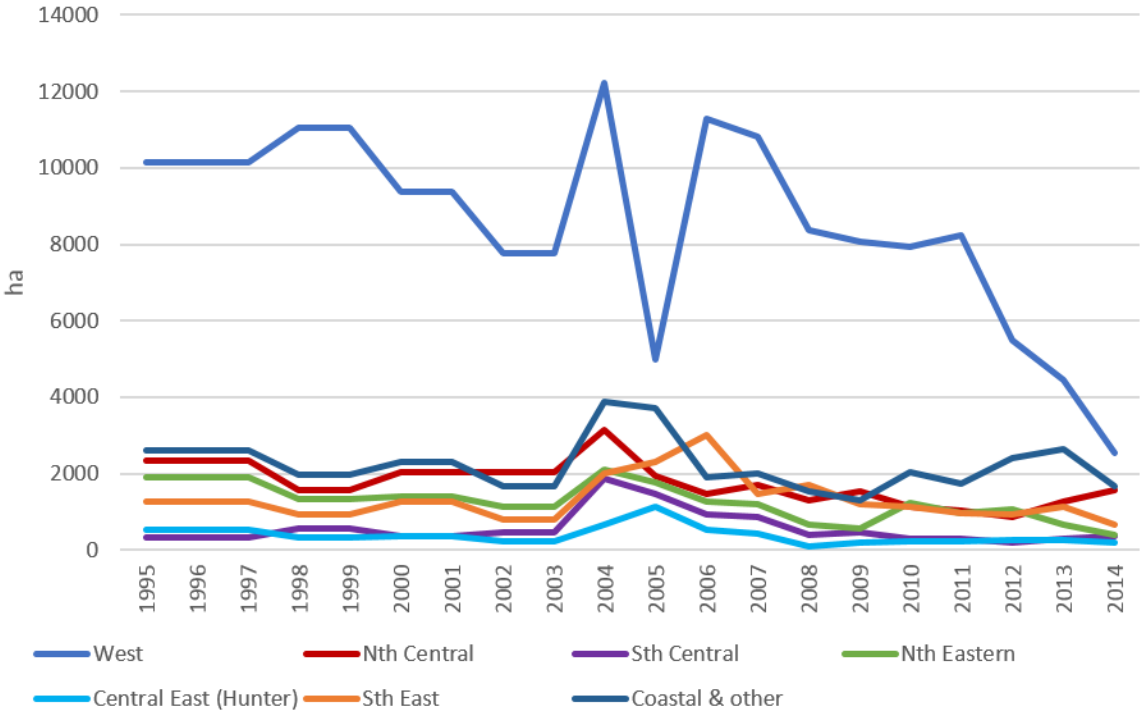
On the other hand, the method does mean that because of the permanence obligations, the land will not be cleared for at least 25 years and the opportunity cost of not clearing over an extended period could be seen as helping to make the project additional. That said, it is difficult to argue that a single clearing event constitutes a trend and provides a robust counterfactual baseline that the land would have been cleared in the absence of the scheme.

Concerns have also been raised about the avoided deforestation method, which relies on landholders relinquishing clearing permits issued by the New South Wales (NSW) Government before 2010 when the CFI was first announced by the Australian Government (Paul Burke, NSW Farmers 2017 review submissions). Stakeholders have concerns that despite farmers holding permits to clear, the land was in fact not going to be cleared and the ERF has resulted in windfall gains to some landholders. There is evidence to suggest that this may not be the case.

As Figure 4 shows, the rate of clearing in the western region of NSW (where all the avoided deforestation projects are) has declined significantly since 2011 when the CFI was announced. The significant decline in clearing is consistent with the hypothesis that the avoided

deforestation method has conserved forest that would have otherwise been cleared. The decline in clearing could also have been driven by other factors such as commodity prices and weather, which have not been analysed here.

FIGURE 4: RATE OF CLEARING FOR NSW BY REGION



Note: Clearing refers to forest conversion (first recorded human-induced conversion of forest to a non-forest land use in the satellite record, 1972-2014). The fluctuations in the rate of forest conversion over the period 2003-2006 are explained by the introduction of new land clearing laws over this period under the *Native Vegetation Act 2003* (NSW), which commenced in 2005. While the avoided deforestation method took effect in 2012, it was being developed prior to this and the Carbon Service Provider GreenCollar is known to have been in negotiations with relevant landholders prior to the method's commencement.
Source: Evans & Macintosh 2017.

Some stakeholders said that the Australian Government could have bought the land where many human-induced regrowth projects are established for less than the price it paid for the ERF contracted ACCUs (Paul Burke's submission on this review, NSW Farmers' Association submission on the 2017 review, Blakers & Considine 2016). The Authority recognises the concern about whether these human-induced regrowth projects reflect value for tax payer money but is of the view that this is a separate issue to questions of additionality. Furthermore, the human-induced regrowth projects will also require ongoing management, which carries costs.

4.4.2 LANDFILL GAS

The ERF regulatory additionality requirement aims to ensure that emissions reduction activities required under state, territory or Australian government regulation are not eligible under the ERF.

States and territories differ in the amount of gas that they require to be flared or captured from landfills. Regulation can take the form of a state wide regulation or site specific licence conditions. These individual licence conditions also vary markedly in terms of how much capture they require and the nature of the obligation. Some smaller landfills are not subject to any requirement to flare methane.

To manage the differences between and within states, a standard, national default baseline of 30 per cent was set for projects under the landfill gas method (if they were not subject to a higher quantitative limit on emissions by the state or local government) as a way to operationalise the regulatory additionality requirement for the CFI. This means that the total amount of methane combusted under the project was subject to a 30 per cent deduction before it could earn ACCUs. Setting a national regulated baseline was part of an agreement reached with minor parliamentary parties to pass the original CFI legislation.

The 30 per cent regulatory baseline does not apply if the landfill is subject to a state-wide or specific licence condition that requires a higher level of abatement or if the landfill is not subject to any quantitative or qualitative limits - in those cases, landfills have a zero regulatory baseline(Table 4).

The regulatory baseline also does not apply to a number of landfill gas projects that transitioned into firstly the CFI and then the ERF from earlier offset schemes that have since been wound up. The default baseline for projects transitioning from the NSW Greenhouse Gas Abatement (GGAS) Scheme is 24 per cent and zero per cent for projects transitioning from Greenhouse Friendly (Table 4).

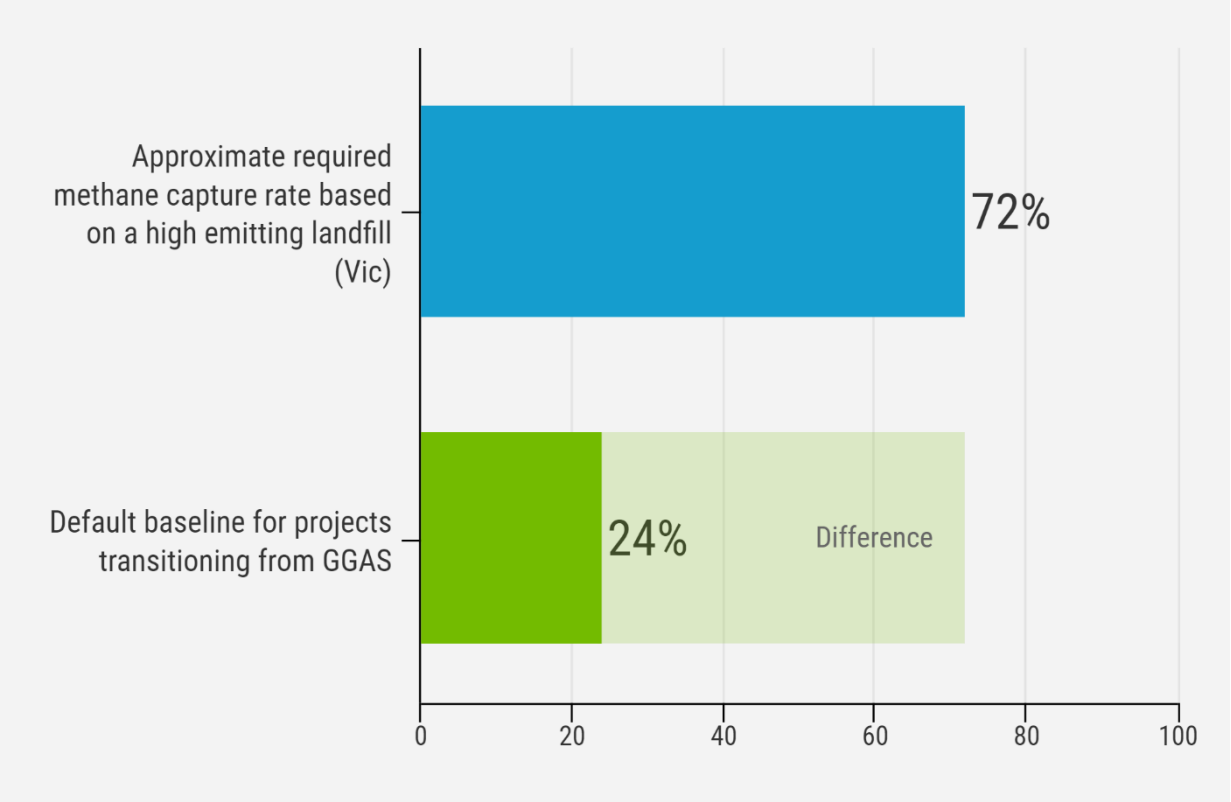
TABLE 4: LANDFILL BASELINES FOR NEW OR TRANSITIONING PROJECTS UNDER THE ERF

REGULATION	BASELINE UNDER THE ERF (IMPLIED CAPTURE RATE, %)
No quantitative or qualitative limit or transitioned from Greenhouse Friendly	0
Transitioned from the NSW Greenhouse Gas Abatement Scheme	24
Quantitative or qualitative limits equivalent to less than 30 per cent capture	30 (National default baseline)
Quantitative or qualitative limits equivalent to more than 30 per cent capture	Project specific baseline

Note: The crediting period for all landfill waste projects that started under the ERF or transitioned into the ERF is seven years.
Source: DoIICCSRTE 2013.

There are 36 transitioning projects in the ERF with a 24 per cent baseline and 9 transitioning projects with a zero baseline (CER 2017f, pers comm). Some of these projects were established in the late 1990s (ABCSE & CEC 2005) and a number are in Victoria, as the NSW scheme accredited projects outside that state (CER 2017n; GGAS n.d.). These baselines still apply to projects generating ACCUs for the ERF. In Victoria however a high emitting landfill could be required to flare 72 per cent per cent of emissions, which means that their ERF regulatory baseline is too generous (in the order of 48 percentage points) (Figure 5).

FIGURE 5: DIFFERENCE BETWEEN THE METHOD BASELINE FOR PROJECTS TRANSITIONING FROM GGAS AND STATE REQUIREMENTS TO CAPTURE EMISSIONS: EXAMPLE OF A HIGH EMITTING LANDFILL IN VICTORIA



Source: Climate Change Authority 2016.

The Authority considers that the ERAC should look closely at regulatory baselines as part of its current review of the landfill gas methods to check that they reflect recent regulatory developments in the sector.

The ERAC is currently reviewing the landfill waste methods to determine whether projects under those methods should receive an extension to their crediting periods. These projects were given a 're-set' seven year crediting period when the CFI was amended to become the ERF. If the ERAC agrees to an extension, some projects will continue to receive ACCUs after more than 15 years of getting offsets credits under various schemes.

The Authority notes that the concept of additionality is time dependent because practices and technologies change and improve over time. The ERAC's review of methods provides an important opportunity for each method's additionality requirements to be rigorously tested to see if they are still current in light of technological change, uptake of new practices and regulatory requirements in a sector or industry.

The Authority is of the view that extending crediting periods beyond those originally set for a given method could carry significant risks for additionality (particularly where methods and projects are transitioning from other schemes), and encourages the ERAC to examine the additionality of these methods and projects closely when conducting its reviews.

In line with its recommendation in its *2016 Special Review*, the Authority remains of the view that the best approach to reducing emissions from landfills would be for the Council of Australian Governments to agree to nationally harmonised regulation.

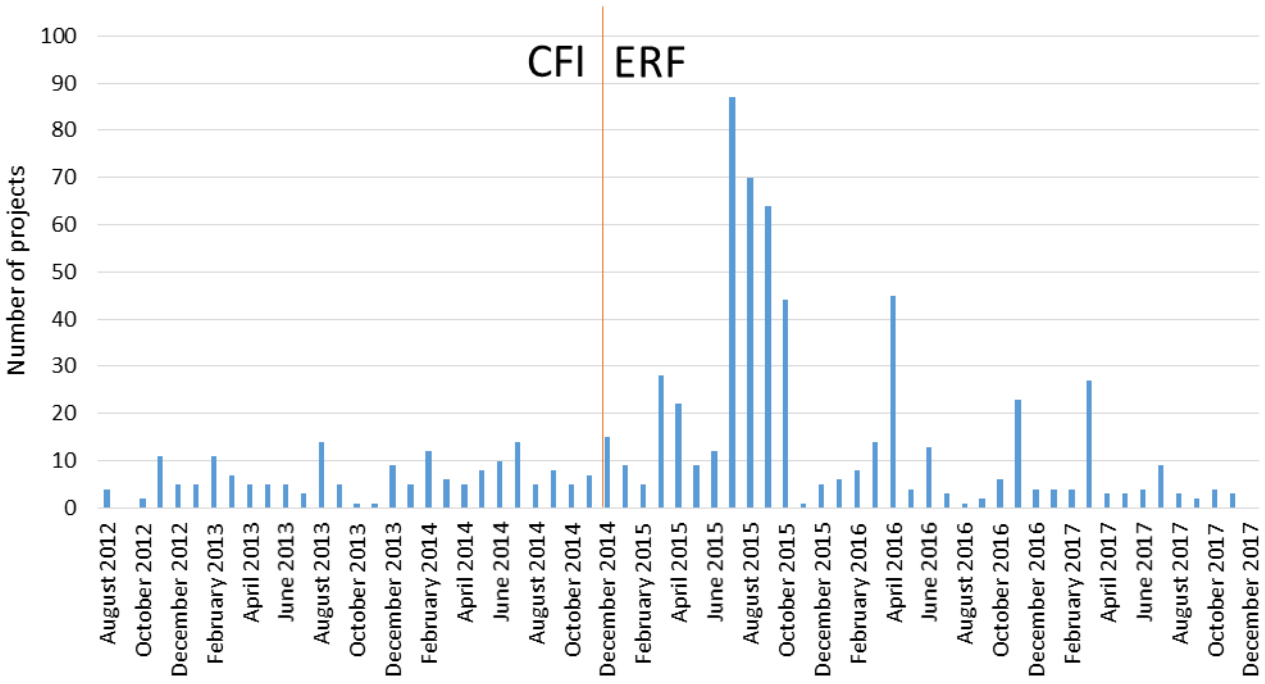
RECOMMENDATION

R. 5. As part of its method reviews, the Emissions Reduction Assurance Committee examine: i.) the measured soil method to assess its effectiveness in distinguishing between natural variability (rainfall) and management actions in crediting abatement from soil carbon ii.) estimation and project requirements for the human-induced regeneration method iii.) the native forest managed regrowth method to assess the additionality of project activities and baselines iv.) regulatory additionality baselines for the landfill gas method and v.) the additionality requirements for each method to see if they are still current given changes in technologies, practices and regulation for relevant activities and sectors when considering whether the method's crediting periods should be extended.

4.5 ADDITIONALITY PERFORMANCE OF THE EMISSIONS REDUCTION FUND

Some commentators have raised a concern that the ERF is purchasing abatement that was already being undertaken under the CFI and does not incentivise abatement through new projects (Paul Burke's submission on this review; Taylor 2015). While some of the funding under the ERF has gone to purchasing abatement from projects that transitioned from the CFI, overall, 79 per cent of the contracted abatement to 16 November 2017 is linked to a project that first registered under the ERF (rather than the CFI) (Figure 6). Particularly in later auctions, most of the purchased abatement has been from new projects (Table 5).

FIGURE 6: NUMBER OF PROJECTS REGISTERED BY MONTH OF REGISTRATION BEFORE AND AFTER THE COMMENCEMENT OF THE ERF



Source: Climate Change Authority based on CER 2017k. Data as at 16 November 2017.

TABLE 5: ACCUS CONTRACTED FROM PROJECTS FIRST REGISTERED UNDER THE ERF (AFTER DECEMBER 2014)

AUCTION	NUMBER OF PROJECTS	NUMBER OF ACCUS CONTRACTED	PERCENT OF ACCUS CONTRACTED IN EACH AUCTION FROM NEW ERF PROJECTS*
1	37	13,769,042	29
2	115	42,030,337	92
3	63	49,720,061	99
4	48	34,336,058	100
5	30	10,137,321	90
Total	**293**	**149,992,819**	**79**

Note: *The remaining percentage of ACCUs contracted at each auction came from transitioning CFI projects. Data as at 16 November 2017
Source: Climate Change Authority based on CER 2017k; CER 2017n..

The Australian National University academic, Dr Paul Burke (in his submission on this review) has identified a class of ERF projects (including energy efficiency improvements in manufacturing and transport) that he believes are non-additional.

Dr Burke does not provide evidence that these ERF projects are non-additional but says they are likely to happen anyway because they rely on a counterfactual that is difficult to prove one way or another or because the activities could provide an economic benefit in their own right.

Decisions about whether or not a given method or project is additional will always be a matter of judgement. The Authority notes that some of the concerns raised about additionality in the ERF appear predicated more on in-principle objections to offsets schemes and the ERF's purchasing of abatement than particular problems with the ERF's approach to additionality.

With the exception of the methods and projects discussed above, the Authority is not aware of evidence to suggest that the additionality tests in the ERF have broad systemic problems.

On balance, and in the absence of evidence to the contrary, the Authority considers that the additionality tests in the ERF are generally fit for purpose and appear to be working reasonably well.

The Authority is also of the view that the ERAC's independent reviews of the methods are very important checks and balances to bolster the additionality of the methods. These are discussed further in Chapter 3.

CHAPTER 5. PERMANENCE

Sequestration projects store carbon in soils and vegetation and represent around 73 per cent of contracted abatement under the Emissions Reduction Fund (ERF) (CER 2017k; CER 2017n). These projects are subject to a permanence obligation, which aims to ensure the carbon stored by sequestration projects is not lost in the future (Australian Government 2014). Emissions reduction projects do not have permanence requirements because they stop emissions from entering the atmosphere in the first place.

The permanence obligation requires scheme participants to maintain the carbon stored by ERF projects over the long term. This means that if a fire or other disturbance causes a decline in the volume of carbon stored, landholders must take reasonable action to re-establish carbon stores. Scheme participants will generally not receive further Australian Carbon Credit Units (ACCUs) until the carbon stores exceed their pre-disturbance levels. Alternatively, if scheme participants do not want to restore the carbon, ACCUs equivalent to the loss of carbon caused by the disturbance must be provided to the Clean Energy Regulator (CER).

At project registration, scheme participants nominate a permanence period of either 25 or 100 years for sequestration projects. Projects that nominate a 25 year permanence period are generally subject to a 20 per cent discount[5] on the number of ACCUs issued by the CER (Section 5.9). In their submissions on this review, Country Carbon stated that 'many landholders have found the 25-year permanence period option an attractive one' (p. 2), whereas GreenCollar said that '[m]ost of the projects within our portfolio are selected as 100-year permanence projects' (p. 6). Over 60 per cent of contracted sequestration projects have nominated the 100 year permanence period.

5.1 THE RISK OF A REVERSAL IN CARBON STORES

Natural events or human-induced actions can reverse carbon stores. The factors that affect the risk of a reversal in carbon stores are outlined below. The risk will vary across methods and over time and can be difficult to predict.

Natural events include flood, bushfire, drought, pests, disease and other natural disturbances such as cyclones. The risk of a natural event reversing carbon stores is affected by Australia's changing climate.

Clearing the land with a sequestration project is a human-induced action, which reverses carbon stores. Scheme participants face a trade-off between using the land for a sequestration project and alternative uses such as grazing or cropping. Changes in agricultural commodity prices and land values affect the likelihood of human-induced action to reverse carbon stores. For example, an increase in cattle or timber prices may increase the economic incentive to clear land with a carbon storage project to either run cattle or sell the harvested timber products.

During the crediting period,[6] if the carbon store is growing, scheme participants could receive a financial incentive through generating and selling ACCUs to maintain carbon stores. Once the crediting period ends, the CER's non-compliance penalties may be needed to deter scheme participants from removing vegetation or other forms of stored carbon.

[5] Plantation forestry projects have a 25 per cent discount to address a greater risk of a lack of permanence (Box 2).

[6] See Chapter 8 for an explanation of ERF crediting periods.

The ongoing costs associated with an ERF project may pose a financial disincentive to maintain carbon stores. This can be exacerbated by tax arrangements. The costs incurred in running an ERF project are treated differently for income tax purposes during the permanence period compared with the crediting period. During the crediting period, the non-capital costs incurred in running an ERF project such as the costs of pest and weed control, fence maintenance and activities to reduce the risk of fire can be claimed as an income tax deduction. However, these costs cannot be claimed as a deduction once the project stops generating income from ACCUs (*Income Tax Assessment Act 1997* (Cth)).

On the other hand, the environmental, biodiversity, cultural and social benefits associated with the ERF project are another incentive to maintain carbon stores. If these benefits provide direct or indirect value to the scheme participant then a permanent loss of carbon may be less likely to occur. For example, reforestation projects may generate co-benefits such as the restoration of native vegetation, enhanced biodiversity and ecosystem connectivity, habitat for threatened flora and fauna, the conservation of riparian zones, reduced erosion and salinity and improved soil and water health (CMI n.d.).

5.2 THE IMPORTANCE OF PERMANENCE

If carbon is lost and the ACCUs are not replaced, the Government may need to find alternative sources of abatement to reach its international targets. If this occurs, the ERF may fail to deliver value for tax payers' money, particularly if the Government needs to purchase abatement from elsewhere (for example by purchasing international units). Under this scenario, tax payers could, in effect, pay twice for the same abatement.

The CER's enforcement powers need to be effective to mitigate these risks to the scheme and reduce the need for the Government to purchase additional carbon units or to tighten emissions reduction policies in other sectors of the economy.

5.3 SCHEME PARTICIPANTS AND INFORMATION PROVISION AROUND THE COMPLIANCE OBLIGATION

To reduce the risk of carbon stores being lost, it is important that scheme participants understand the permanence obligation as well as the penalties for non-compliance at the time a project is registered. The need to maintain carbon stores into the future (and associated costs) should also be clearly understood by the scheme participant and included in any decision to undertake an ERF project. Information about the requirements of the permanence obligation is provided to prospective scheme participants through content on the CER and the Department of the Environment and Energy websites such as '*Make sure your timing is right - A guide to crediting, reporting, delivery and permanence periods*' (CER 2016d) and method factsheets.

Carbon service providers (CSPs) may also provide information to scheme participants. The draft carbon industry code of conduct contains information provision requirements about permanence for participating CSPs (Section 6.3).

Prospective scheme participants are currently required to nominate the permanence period for a sequestration project at the project's registration but are not required to outline how they will maintain carbon stores. The Department is consulting on draft legislative rules that would apply to all sequestration projects to require that scheme participants outline a plan for maintaining carbon stores and to provide this information to the CER. If made, these rules could help scheme participants understand the requirements of the permanence obligation and assist with compliance. The Authority supports this approach.

ERF vegetation projects could also lead to an increased fire risk if they are not managed well. The CER has informed some local fire authorities of the location of ERF vegetation projects so that they can manage the fire risk. In addition to these efforts, the Authority is of the view that the CER should require scheme participants to provide them with fire management plans for sequestration and savanna fire projects for information only. The CER would not assess or accredit the fire plans. The development of the fire plans would encourage scheme participants to plan and manage projects to reduce fire risk. These plans could be the same as those required to meet state or local fire management requirements.

RECOMMENDATION

R. 6. The Minister make a legislative rule requiring scheme participants to provide the Clean Energy Regulator with a plan for maintaining carbon stores during the permanence period when registering sequestration projects.

R. 7. The Clean Energy Regulator require scheme participants to provide fire management plans for sequestration and savanna fire projects. These plans could be the same as those required to meet state or local fire management requirements.

5.4 INFORMATION COLLECTION TO DETERMINE IF CARBON STORES HAVE BEEN LOST

The *Carbon Credits (Carbon Farming Initiative) Act 2011* (Cth) imposes a number of reporting and notification requirements for sequestration projects, which can assist the CER to detect a loss of carbon stores. The reporting requirements for sequestration projects continue beyond the crediting period until the CER declares that they cease to apply to a project. The CER can also initiate audits after the crediting period ends. Further, scheme participants are required to notify the CER of any reversal caused by a natural disturbance or third party. If a participant discontinues the required reporting beyond the crediting period, the CER can eventually revoke the project and seek relinquishment (or the return) of ACCUs. The CER has a number of tools to detect a loss of carbon stores including Geographic Information System monitoring and verification.

The Authority notes that the Government will need to plan to maintain its capacity to monitor permanence and enforce compliance for the length of the permanence period (up to 100 years). This is likely to encompass future machinery of government changes and successor organisations to the CER. High quality record keeping and ongoing regulatory ‘posture’ to enforce compliance will be needed.

5.5 ENFORCEMENT POWERS

If the CER detects that carbon stores have been lost or are at risk of being lost, it can use its monitoring powers to request information, conduct an inspection or audit a project to identify the reduction in carbon stores.

If there has been a significant reversal, the CER can issue a notice requiring the scheme participant to relinquish (or return) ACCUs to the CER. For a reversal of carbon stores caused by a natural disturbance, the Carbon Farming Initiative (CFI) rule defines a significant reversal

as one that affects at least five per cent of the total project area. For human-induced reversals, a significant reversal is defined as a reversal that affects at least the smaller of 5 per cent of the total project area or 50 hectares.

The threshold at which the CER can require scheme participants to relinquish or hand back ACCUs should be calibrated to the risk that the carbon may not be replaced across the life of the project's permanence period. The actual volume of carbon potentially lost for each sequestration project will be an important consideration for assessing that risk. A percentage based threshold may not work well for a sequestration project that stretches over a large land area as a large volume of abatement under the threshold could be lost. Further, five per cent of a small project may not in fact represent a significant volume of carbon stored. There may also be value in better aligning the threshold for human-induced and natural losses in the interests of making CER decision making and processes more efficient. The Authority therefore recommends that the Government revisit the thresholds in the CFI legislation for requiring ACCUs to be relinquished for both natural and human-induced reversals, in light of the needs of the scheme.

RECOMMENDATION

R. 8. The Department review the definition of a significant reversal of carbon stored to ensure it is calibrated to the risk of carbon losses across the scheme.

If the participant fails to provide the ACCUs to the CER within 90 days of receiving a relinquishment notice, the participant becomes liable to pay an administrative penalty to the CER. The administrative penalty is the higher of $20 per ACCU or twice the market price of ACCUs.

If the person does not relinquish ACCUs to the CER or pay the administrative penalty, the CER may pursue this scheme participant in court for civil prosecution. Further, if a person makes an arrangement (such as asset transfers) to avoid paying the penalty, the CER could refer them to the courts for criminal prosecution. The penalties for criminal prosecution are imprisonment for up to 7 years, a fine of up to $420,000, or both. As the participant has breached the CFI Act by failing to comply with the permanence obligation, he or she may no longer pass the Fit and Proper Person test, empowering the CER to revoke all of the participant's projects. This would mean that the participant could no longer earn ACCUs for other projects and the CER could seek relinquishment of ACCUs.

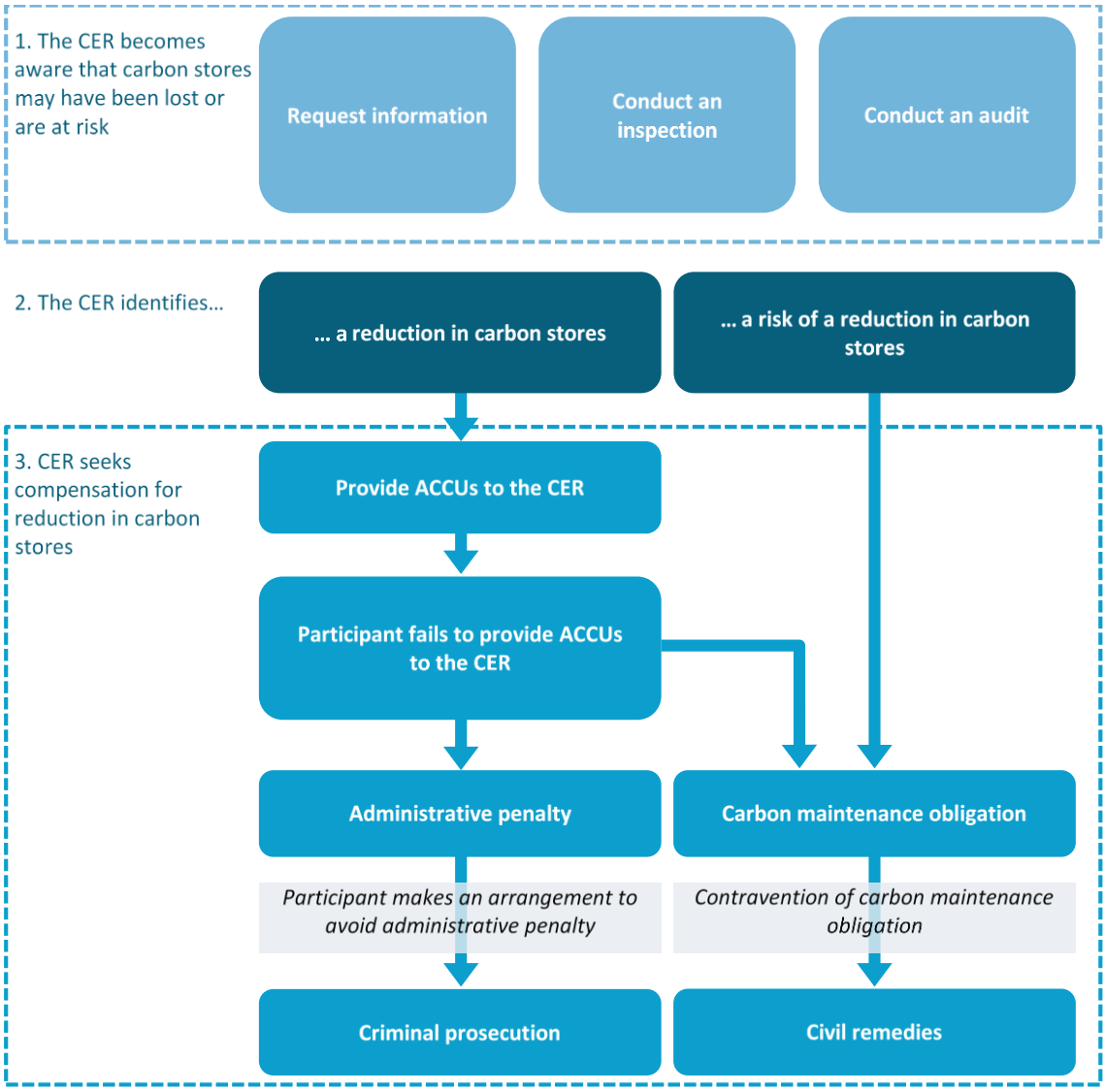
The CER can also impose a carbon maintenance obligation (CMO) on the landholder of a project area to stop them damaging or removing the carbon. The CMO can be imposed if the CER thinks it likely that carbon could be lost as a result of human action, if some carbon has already been lost and in cases where the CER thinks it is likely that the landholder will not comply with an order to relinquish ACCUs. The CMO can be imposed at the same time, after or before the CER orders ACCUs to be relinquished. The CER is required to notify the landholder of the CMO at the time it is imposed.

If the carbon is maintained, the CMO does not prevent the land being used for other purposes.

The CER can pursue civil remedies against persons who contravene the CMO, including injunctions and financial penalties of up to $2.1 million per contravention. These penalties remain available to the CER over the 25 or 100 year life of the permanence period. To date no instances of non-compliance related to permanence have been detected.

Figure 7 summarises the CER process for enforcing compliance with the permanence obligation.

FIGURE 7: ENFORCING COMPLIANCE WITH THE PERMANENCE OBLIGATION



Note: The CMO can be imposed at the same time, after or before the CER orders ACCUs to be relinquished.
Source: Climate Change Authority.

The Authority considered whether there is a need for the CER to have new or enhanced powers to improve compliance with the ERF's permanence obligations by considering programs with similar long term obligations. State and territory conservation covenanting programs appear to be the only government initiative that is an analogue with the ERF's permanence obligations. A conservation covenant is an agreement to conserve the natural environment on a property by restricting land use for a specified period of time or in perpetuity. In some jurisdictions, the covenant is recorded on the state government's land title register and legally binds current and future owners for the length of the agreement. Compliance arrangements for these programs include reporting and auditing, fines and requirements for landholders to re-establish vegetation if it is cleared. The CER has similar compliance powers

other than the ability to register permanence obligations on state land title registers and impose fines. Recommendations R.11 (guidance to conveyancers) and R.25 (on penalty infringement notices) in Section 5.6 and Section 12.4 respectively are intended to help the CER in these areas. These recommendations aside, the Authority considers that the CER has sufficient powers in its armoury to deal with permanence.

There is a risk however that scheme participants may believe that the Government will be reluctant to enforce permanence obligations on individual land holders many years into the future. The Authority is of the view that the CER's posture (or disposition as to how it will deal with lack of permanence) is of particular importance here. The Authority encourages the CER to advise scheme participants that it takes the permanence obligations very seriously and intends to use the full range of its compliance penalties, as needed, for any significant instances of non-compliance.

5.6 VISIBILITY OF PERMANENCE OBLIGATIONS

If land is transferred to a new owner, the CMO continues to apply. It is therefore important that permanence obligations are easily discoverable to potential buyers. The CER project register is available freely online and can be used as:

> *a point of reference for people wanting to buy land that has a sequestration offsets project on it so they can factor into the sale price the potential costs and benefits of the project* (CER 2017n).

It provides information about the location of the project, the permanence period and if a CMO has been imposed. However, a scheme participant can request for the project area to be omitted from the project register on the grounds that it would prejudice commercial interests. In that case, potential buyers cannot use the project register to discover whether any permanence obligations have been imposed on the land.

Two per cent of all registered area based projects have requested confidentiality of the project area. The Authority is of the view that the public interest in publishing project areas outweighs the commercial interests of a small number of firms or individuals.

RECOMMENDATION

R. 9. The *Carbon Credits (Carbon Farming Initiative) Act 2011* (Cth) be amended to remove the ability for a scheme participant to request that the project area be omitted from the project register for new projects.

The CER has a project map which shows the geographic location of registered projects. It is possible to find the location of individual properties if stakeholders download the project mapping files, which requires some IT skill. If the map or registry could be searched more quickly by address, potential buyers may find it easier to discover whether any permanence obligations are imposed on the land they wish to buy. A user-friendly search function could also be used by eligible interest holders to discover if there are any projects that may affect their interests (Section 8.3).

RECOMMENDATION

R. 10. The Clean Energy Regulator include on their website a search function that allows potential land buyers or other eligible interest holders to search for individual properties and determine if the land is subject to Emissions Reduction Fund permanence obligations.

Land titles are kept by the state and territory governments and record any restrictions, which have been imposed on the use of the land. The CFI Act allows permanence obligations to be recorded on land titles, however it does not impose an obligation to do so. Further, the Australian Government is unable to impose this obligation on states and territories as land use is a state responsibility. While the CER informs the state and territory land titles offices of permanence obligations, it is unclear if these are recorded on land titles. The Authority therefore sees value in other ways to provide information about permanence obligations to potential purchasers. For example, by developing guidance for conveyancers and state and territory legal societies on the need to search for permanence obligations and explain their implications to potential buyers.

RECOMMENDATION

R. 11. The Clean Energy Regulator develop guidance for conveyancers and state and territory legal societies on permanence obligations that run with the land.

5.7 THE IMPLICATIONS OF PERMANENCE OBLIGATIONS

For sequestration projects involving a carbon service provider (CSP), CMOs can be enforced against the landholder even where the scheme participant is the CSP (Chapter 6).

A landholder who participates in an aggregated project (Section 6.6) may be affected by another landholder's failure to comply with maintaining carbon stores on their land, as the CER can impose a CMO on all or part of a project area. Without oversight of the aggregation agreement, it is unclear how the CER could focus the non-compliance penalties on the participant who has failed to maintain carbon stores.

5.8 IS THE RISK OF REVERSAL BUFFER SET AT THE CORRECT LEVEL?

As well as the permanence obligation, sequestration projects are subject to a risk of reversal buffer. The risk of reversal buffer is intended to protect the ERF against temporary losses of carbon and residual risks that cannot be managed by the other permanence arrangements. To provide the risk of reversal buffer, all sequestration projects are subject to a 5 per cent reduction in the number of ACCUs issued for the project, meaning that for every 100 tonnes of carbon dioxide stored by a project, the CER issues 95 ACCUs.

In its submission on the 2017 review, CSIRO stated that the risk of reversal buffer may need to be reviewed to take into account increasing risk of natural disturbances, particularly if sequestration projects are geographically concentrated. Analysis of the project register shows that of the vegetation projects registered to date, 75 per cent are located in the Cobar Peneplain and Mulga Lands of south-west Queensland and western New South Wales (CER 2017n).

When the risk of reversal buffer was implemented, it was envisaged that the buffer would be adjusted over time to reflect actual losses of carbon across the scheme (Explanatory Memorandum, Carbon Farming Initiative Amendment Bill 2014 (Cth)). To date, the CER has not been notified of any significant carbon losses but it is likely some will occur in the future.

Submissions on the House of Representatives Committee inquiry into the Carbon Credits (Carbon Farming Initiative) Bill 2011 (Cth) offered differing views on the risk of reversal buffer based on their understandings of the current and future risks of carbon reversal, possibility of re-establishment and risk appetites. WWF stated that the size of the risk of reversal buffer is too low to protect against bush fires and the increased risk of carbon losses in future climates. Greenpeace stated that sequestration projects should be subject to a 50 per cent reduction in the number of ACCUs issued to reflect predicted reductions in rainfall and increased fire intensity and frequency making re-establishing lost carbon stores difficult or impossible. In contrast, Professor Andrew Macintosh, (Centre for Climate Law and Policy at the Australian National University) stated in public hearings for the committee that despite other offset schemes having larger risk of reversal buffers the size of the buffer is 'fair and reasonable. in terms of the sorts of risks we are facing.' [7] Given the geographic concentration of vegetation projects registered to date and the changing Australian climate, the Authority is of the view that the risk of reversal buffer should be reviewed. To provide investment certainty, any adjustment of the risk of reversal buffer would only apply to new projects (Explanatory Memorandum, Carbon Farming Initiative Amendment Bill 2014 (Cth)).[8]

5.9 IS THE PERMANENCE PERIOD DISCOUNT SET AT THE CORRECT LEVEL?

Projects with a 25 year permanence period are subject to a 20 per cent reduction in the number of ACCUs issued for the project unless a method specifies otherwise (Box 2). This reduction aims to reflect the potential cost to Government of replacing carbon stores if these projects are discontinued (Australian Government 2014).

BOX 2: PERMANENCE AND THE PLANTATION FORESTRY METHOD

The plantation forestry method requires scheme participants to establish a plantation forest on land where there has not been a plantation forest for at least the last seven years or transition an existing plantation forest from short-rotation to long-rotation. As of 1 December 2017, one project has been registered under this method (CER 2017n).

The plantation forestry method is the first method that specifies a different permanence period discount from other sequestration projects. A permanence

[7] Since 2013, Professor Macintosh was Chair of the former Domestic Offsets Integrity Committee and he is currently the Chair of the Emissions Reduction Assurance Committee.

[8] If a project defers the start of its crediting period and the risk of reversal buffer is changed before the crediting period commences, the new risk of reversal buffer will apply to the project.

period discount of 25 per cent is applied to short-rotation plantation forestry projects that elect a 25 year permanence period. The Emissions Reduction Assurance Committee (ERAC) took the view that the default permanence period discount of 20 per cent was not conservative for short-rotation plantation forestry projects given the historical trends in re-establishing plantations after harvesting. The 25 per cent permanence period discount addresses the risk of short-rotation plantation projects not being re-established post-harvest at the end of the 25 year permanence period. Like other sequestration projects, plantation forestry projects are also subject to the five per cent risk of reversal buffer.

Source: DoEE n.d.c.

In order to estimate the potential cost to the Government of replacing a given volume of lost carbon stores at the end of the 25 year permanence period (and determine if the permanence discount is set appropriately), a number of assumptions are used. The government bond rate is used as a proxy for a return on savings if the value of ACCUs from the 20 per cent discount is invested. An assumption about the likely increase in the price of ACCUs over time is used to project how much the Government would need to pay to replace the lost abatement. The actual cost of replacing the carbon will depend on the volume of carbon lost and carbon prices at the time the replacement is needed.

The CFI Act allows the 25 year permanence period discount to be adjusted across the ERF as a whole or for particular methods. As time goes on, there may be new information to help inform the likelihood of reversals that are not replaced and the cost of doing so. The Authority is of the view the permanence discount should be reviewed at regular intervals but again any changes would apply only to new projects.

RECOMMENDATION

R. 12. The Authority review in every second review of the Carbon Farming Initiative legislation the risk of reversal buffer and the 25 year permanence discount to determine whether these discounts are calibrated to potential losses of carbon, based on evidence of actual losses of carbon in the Emissions Reduction Fund.

CHAPTER 6. CARBON SERVICE PROVIDERS AND AGGREGATION

Carbon service providers (CSPs) can be involved in Emissions Reduction Fund (ERF) projects in a number of ways. They may develop ERF projects, provide advice on project registration, implementation and management, aggregate projects or contracts (Section 6.6) or act as designated agents, whereby they are authorised to act on the scheme participant's behalf. CSPs play an important role in the delivery of the ERF in terms of developing and running projects and reducing transaction costs.

6.1 IDENTIFYING CARBON SERVICE PROVIDERS

The Clean Energy Regulator's (CER's) oversight of CSPs is limited to their role as scheme participants, authorised contact persons or designated agents. As of November 2017, around 353 projects (or 52 per cent) involved CSPs. These projects include 60 per cent of all contracted projects, accounting for 74 per cent of contracted abatement. Table 6 outlines CSP involvement by sector. Most projects involving CSPs are in the vegetation sector, reflecting the dominance of vegetation projects in the ERF. The industrial fugitives and waste sectors also have high uptake of CSP services.

CSPs could also be associated with other projects, for example as advisers. If this is the case, this may not be known to the CER and it is not included in the project register.

TABLE 6: CSP INVOLVEMENT BY SECTOR

SECTOR	NUMBER OF PROJECTS INVOLVING CSPS	TOTAL NUMBER OF PROJECTS IN THE ERF	SHARE OF TOTAL PROJECTS WITH CSP INVOLVEMENT, %
Vegetation	182	359	51
Waste	85	134	6
Agriculture	20	45	44
Savanna burning	35	72	49
Industrial fugitives	13	14	93
Energy efficiency	17	51	31
Transport	2	7	29
Facilities	0	1	0
Total	**353**	**683**	**52**

Note: CSPs are identified from the CER's project and contract registers based on whether scheme participants, contractors or recipients of Australian Carbon Credit Units (ACCUs) are companies whose primary activity is providing carbon-related services. Data as at 16 November 2017.
Source: Climate Change Authority based on CER 2017n.

6.2 MARKET CONCENTRATION

Data from the ERF project and contract registers indicate that there are around 25 CSPs operating within the ERF. The market, however, is dominated by a few firms. Table 7 shows that GreenCollar, the largest CSP, accounts for 103 registered projects (or around 15 per cent of all projects) and 31 per cent of contracted abatement. Corporate Carbon, the second largest CSP, accounts for 54 projects (or eight per cent of projects) and 24 per cent of the total volume of contracted abatement. These top two providers account for 55 per cent of contracted abatement.

TABLE 7: NUMBER OF PROJECTS AND VOLUME OF ABATEMENT ATTRIBUTABLE TO CSPS

CARBON SERVICE PROVIDER	NUMBER OF PROJECTS	SHARE OF CONTRACTED ABATEMENT, %
GreenCollar	103	31
Corporate Carbon	54	24
LMS Energy	41	5
EDL	16	3
Country Carbon	26	2
Devine Agribusiness Carbon	33	2
Australian Integrated Carbon Financial Services	11	0
Other CSPs	69	8
Other participants	330	26
Total	**683**	**100**

Note: GreenCollar projects are listed in the project and contract registers under the trading name Terra Carbon Pty Limited. Projects and contracts for various state EDL branches have been aggregated. Data as at 16 November 2017.
Source: Climate Change Authority based on CER 2017k,n.

To date, CSPs have appeared to specialise in delivering projects in specific sectors using a relatively small number of ERF methods. For example, the projects registered by GreenCollar are all under the avoided deforestation, human-induced regeneration and avoided clearing of native regrowth methods. Of the projects registered by Corporate Carbon, almost three quarters use only two ERF methods – savanna burning and soil carbon sequestration in grazing systems. Outside of the land sector, methods with the most uptake by the ten CSPs with the greatest volume of contracted abatement are in the waste sector with 66 registered projects with these CSPs.

The dominance of a few providers in the CSP market may lead to concerns (Blakers & Considine 2016), including about competitiveness. From an economic perspective, dominance of a few providers does not necessarily lead to a lack of competition. The Australian Competition and Consumer Commission (ACCC) has responsibility for regulating markets where there are competitiveness concerns. If reasonable concerns were raised around a lack of competition and abuse of market power, the ACCC has the power and authority to investigate market participants.

If there are no significant barriers to entry, low levels of competition and significant opportunities to generate profits, economic theory says that new entrants are encouraged, which can lead to increased competition. In terms of providing services for establishing and running ERF projects, there appear to be no regulatory barriers or, in general, significant capital investment requirements. The most significant barrier to entry is likely to be knowledge and understanding of the ERF methods and requirements and uncertainty around future demand for ERF projects. Provided the ERF continues to operate in some form, with no systemic barriers to entry, it could be expected that competition in the CSP market will increase as the market matures and knowledge and understanding of the scheme improves.

Other concerns that are related to the dominance of a few CSPs are briefly outlined below.

- In terms of participating in CER auctions and supplying Australian Carbon Credit Units (ACCUs) to the Government, concentration of the market with a few providers has the potential to lead to higher prices if not carefully monitored and managed.
- Concentration of contracted abatement with a small number of CSPs may lead to a delivery risk if one or more of those CSPs fail in their role as scheme participants and aggregators and abatement cannot be delivered.

- In terms of policy and method development, having a small number of dominant scheme participants means a limited number of parties controls a significant volume of contracted abatement. Policy developments that aid the large players may reinforce their dominance.

- Having most of the ACCUs held by large CSPs or their clients limits transparency unless holdings and deliveries are disclosed and may hinder further development of the secondary market for other scheme participants. This is discussed further in Chapter 11.

Despite these potential concerns, the Authority is of the view that the CER and the Department of the Environment and Energy are generally monitoring and managing these risks well and the implementation of recommendations (in this and related chapters) by the Authority can further reduce these risks.

6.3 INDUSTRY-LED CODE OF CONDUCT

Some stakeholders have raised concerns about CSPs behaving unscrupulously (see for example National Farmers' Federation submission on the *Action on the Land* issues paper). While the Fit and Proper Person (FPP) test applies to CSPs who are scheme participants, those who are not do not need to pass the FPP test (Section 6.5). As outlined below, the Authority recommends that the FPP test be extended to designated agents.

In response to concerns raised in the industry, the Carbon Project Developers Council is currently developing an industry-led voluntary code of conduct for CSPs.

The code has a number of aims including to provide a best practice approach for engagement. The code specifies that CSPs must inform clients of the costs, benefits and risks of undertaking a project, including for sequestration projects, the implications of the permanence and carbon maintenance obligations and choice of permanence period, as well as the consequences of reversal (Chapter 5).

To become code signatories, CSPs must demonstrate that they comply with the code and have the systems and procedures in place to ensure ongoing compliance with the ERF. As such, this code may assist stakeholders to distinguish between CSPs and contract only with those who have signed the code. Once fully developed and implemented, the code may deter unscrupulous behaviour by CSPs by implementing a process for monitoring compliance with the code and enforcing sanctions for breaches. On the other hand, as the code will be voluntary, any rogue operators may just decide not to participate.

6.4 INCREASING TRANSPARENCY

The CER takes a risk-based approach to the administration of the ERF. At present, the CER has little knowledge of individuals or firms providing advice to ERF scheme participants (apart from designated agents) as checks like the FPP test only apply to scheme participants. If the CER knew more about these individuals or firms, it could use this information to inform its approach to compliance, monitoring and enforcement arrangements (Section 12.3). For example, if the CER identified non-compliance in a project and knew which CSP had provided advice, it may decide to require additional audits for other projects in which the same CSP was involved.

The Authority thinks that scheme participants should be required to advise the CER of any person or organisation that received payment for providing them with advice on the ERF. This notification should be given to the CER at the time when ERF projects are registered and it

should be updated in ERF project reports. The CER could collect and analyse this new information on ERF advisers for compliance purposes. The Authority considers that the benefits of increased transparency will outweigh the small additional increase in administrative burden.

RECOMMENDATION

R. 13. Scheme participants advise the Clean Energy Regulator of individuals and firms they paid to provide advice on the Emissions Reduction Fund when new projects are registered and updated in project reports.

6.5 EXTENDING THE FIT AND PROPER PERSON TEST TO AGENTS

The FPP test is set out in the Carbon Farming Initiative (CFI) Rule (a statutory instrument similar to regulation). The FPP test is used to determine the eligibility of a person (including individuals performing corporate director roles) to participate in the ERF. Scheme participants must maintain their FPP status to participate in the scheme and receive ACCUs. The ERF's FPP requirements generally consider a person's past compliance with the law, whether they are (or were) insolvent, and whether they have the necessary capabilities and competence to fulfil their intended scheme role.

At present the FPP requirement does not apply to designated agents that participate in the scheme. Under the ERF, a scheme participant can authorise an agent to act on their behalf. The Authority considers that risks associated with agents' conduct in the ERF are similar to other scheme participants and agents should also be covered by the FPP requirement.

Extending FPP to designated agents would require a legislative change.

RECOMMENDATION

R. 14. The *Carbon Credits (Carbon Farming Initiative) Act 2011* (Cth) be amended so that the Fit and Proper Person requirement is extended to designated agents that act for scheme participants.

6.6 AGGREGATION

For the ERF, aggregation refers to bringing together or pooling emissions reductions from multiple physical sites or different offset projects. It is a service offered by some CSPs.

Both projects and contracts can be aggregated under the ERF. Under project aggregation, activities that use the same method across multiple sites are pooled into a single project. Contract aggregation on the other hand combines projects using different methods into a

single bid at an auction. Most of the aggregation which occurs under the ERF is project based with less than five per cent of all contracts aggregated (CER 2017k).

The ERF was intended to encourage aggregation to reduce transaction costs, overcome information barriers and ultimately increase participation (Australian Government 2014). In its submission on the 2017 review, GreenCollar, a CSP, said that 'Allowing aggregation has created scale and efficiencies in the federal carbon space' (p. 3).

Although it is not possible to precisely identify aggregated projects on the project register, as discussed above, CSPs are responsible for 74 per cent of contracted abatement (Table 7). It is likely that a significant proportion of their contracted abatement involves aggregation.

6.6.1 THE MINIMUM BID THRESHOLD

To encourage the aggregation of smaller activities and reduce administrative costs, participation in an auction for a carbon abatement contract requires a minimum bid of 2,000 ACCUs a year on average over the term of the contract. The ERF White Paper suggested that this threshold could be adjusted over time (Australian Government 2014). Most contracts awarded to date are for more than 20,000 ACCUs a year and aggregation is clearly occurring across the ERF as a whole (CER 2017k).

Some stakeholders have told the Authority that the size of the minimum bid threshold is a barrier to participation. In its submission on this review, the Australian Gas Infrastructure Group said that 'the minimum requirement of 2,000 ACCUs may be prohibitive…. there are few emissions sources within a business akin to ours that are larger than the threshold' (p. 2). Similarly, the Western Australian Local Government Association (WALGA) stated in its submission on this review that:

> *the relatively high emissions reduction threshold of 2,000t CO_2-e per year means that only the larger Local Governments (and large projects within those Local Governments) might be eligible to bid into the ERF* (p. 6).

The Authority acknowledges that the minimum bid threshold may constitute a barrier to participation for certain organisations and projects and to date participation from local governments in the ERF has been limited. However, WALGA acknowledges that 'the costs involved for a Local Government seeking to participate' (p. 7) constitute an additional barrier. As such, the Authority believes that reducing the minimum bid threshold would not be enough to encourage participation from some stakeholders due to other barriers such as price. Given the administrative costs associated with smaller projects and the availability of aggregation services across the ERF, the Authority is not persuaded of the need to reduce the minimum bid threshold (Section 3.2.3).

6.6.2 AGGREGATION AGREEMENTS

Aggregation can work in a number of ways and may involve an aggregation agreement. An aggregation agreement sets out the roles of the parties involved and could include aggregators, site owners (or landholders) and other service providers. Aggregators can register an aggregated project with the CER and if they secure a carbon abatement contract with the CER they are responsible for delivering the contracted ACCUs.

The aggregation agreement between the parties will also determine how the financial costs and benefits of the activity are shared including how the site owner is paid. It may include agreements on a range of factors including who is responsible for maintenance and reporting and how the risks and benefits of producing less or more ACCUs than expected are shared.

Contractual arrangements for aggregated projects between CSPs and other project participants are commercial in confidence and are not made available to the CER.

In their submissions on the 2017 review and the *Action on the land* issues paper, the National Farmers' Federation (NFF) stated that agreements with aggregators are complex and there is 'Suspicion of third party aggregators and lack of clear standards around their contracting' (p. 8). The NFF believes this is currently a barrier to landholders participating in aggregated projects.

The Department has developed a number of resources, which outline key issues that landholders should consider when entering into an aggregation agreement including a fact sheet, case studies and key questions document, which is designed to be printed and provided to landholders. These resources provide information on issues that may arise in negotiating an aggregation agreement. They aim to help all parties to an ERF project understand the potential costs, benefits and risks of the project as well as the importance of clearly outlining what the roles and responsibilities of the landholders and aggregators are before making a decision to enter into a commercial arrangement (DoEE n.d.a).

The Authority notes the ongoing outreach on these resources by the CER and the Department. The Authority is of the view that landholders should be required to sign a declaration that they have read these resources. Aggregators would be responsible for providing these declarations to the CER when registering a project.

RECOMMENDATION

R. 15. The Clean Energy Regulator require a declaration from landholders that they have read the Department's aggregation agreement resources prior to scheme participants registering a project that involves multiple landholders.

6.7 INCREASING INFORMATION PROVISION

The Authority is of the view that some industry associations like the NFF and local government associations should consider offering advice on ERF projects to their members. These organisations have experience working with government and may be well placed to provide assistance in their industries or sectors.

RECOMMENDATION

R. 16. Some industry bodies and local government associations consider providing advice on Emissions Reduction Fund projects to their members.

CHAPTER 7. INDIGENOUS PARTICIPATION

The Emissions Reduction Fund (ERF) can provide a range of important social, cultural and economic benefits to Indigenous communities. ERF projects using savanna burning methods (Box 3) can help to maintain Indigenous cultural practices, increase employment, build community resilience in remote areas and enhance environmental outcomes while reducing emissions (Price et al. 2012; Russell-Smith et al. 2013).

BOX 3: SAVANNA BURNING METHODS

The savanna burning method under the ERF involves changing the timing and nature of fire practices in northern Australia to reduce emissions from fires. In northern Australian savannas, in the absence of active management, higher intensity fires that release large quantities of methane and nitrous oxide gases predominate late in the dry season when vegetation is very dry. Emissions are avoided through the savanna fire management method by actively burning in the early dry season to reduce the occurrence and extent of late dry season wild fires.

Savanna fire projects can also increase carbon storage relative to areas without early season fire management due to the cooler fires leaving more woody debris on the ground. By reducing the frequency of intense fires, the average carbon stock in the debris increases over time (Price et al. 2012; Russell-Smith et al. 2013; Smith et al. 2008).

The Government is developing a new savanna burning method for crediting both the avoided (mainly methane) emissions from early dry season burning as well as increases in the storage of carbon as a result of savanna fire projects.

There are currently 72 savanna burning projects registered under the ERF (CER 2017n), covering over 10 per cent of northern Australia. About 29 of these projects are considered Indigenous projects because of the significant involvement of local traditional owners through control of the project, ownership of the land and participation in delivery of the project (Aboriginal Carbon Fund 2017).

In their submission on this review, Arnhem Land Fire Abatement (ALFA) said that:

> *…savanna burning projects in Arnhem Land create ACCUs that support the continuing beneficial management of a vast area of country of high conservation value. The production of those ACCUs support Aboriginal people in returning to, working and remaining on their country. In doing so, the knowledge of old people is preserved and transferred to younger generations, Aboriginal languages are maintained and people involved in managing their land have higher standards of mental and physical health* (p.3).

The Kimberley Land Council (KLC) said in their submission on this review that ERF projects

> *herald a new era for native title holders, demonstrating how native title rights and traditional Indigenous practices can form the foundation for innovative projects, generating social, environmental and economic benefits in remote communities* (p. 1).

In this review, the Authority asked stakeholders for their views on the barriers to Indigenous participation in the ERF (including eligible interest holder arrangements) and how they can be addressed. These issues are outlined below.

7.1 ELIGIBLE INTEREST HOLDER CONSENTS

Under the current *Carbon Credits (Carbon Farming Initiative) Act 2011* (Cth), scheme participants with savanna emissions avoidance and sequestration projects need to obtain eligible interest holder consent from native title holders. Indigenous groups have secured financial or other benefits through negotiations on ERF consent requirements.

An ERF project can be conditionally registered, bid at auction and obtain a contract from the Government without obtaining eligible interest holder consents. However, Australian Carbon Credit Units (ACCUs) can only be issued if all consents are received by the end of the first reporting period.

The Aboriginal Carbon Fund in its submission on the 2017 review highlighted the importance of the consent process as it 'means all those who could be affected by later Regulator actions have a say before a project proceeds'. (Reference material A, pp. 1-2). They also said 'best practice for obtaining consent from Aboriginal and Torres Strait Islander landholders is following free, prior and informed consent' (p. 3).

Further, KLC said that the ability for projects to be registered and win contracts before consents are given 'undermines relationships, disempowers native title holders and creates significant power imbalance when negotiating partnerships and agreements' (KLC submission on this review, p. 4).

In response to these concerns, the Authority recommends that while projects could still be registered without all the consents, the Clean Energy Regulator (CER) should require that scheme participants have all consents in place before participating in future ERF auctions.

Further, the Authority is of the view that consultation should occur with all eligible interest holders as early as possible in the project development process. Early and genuine engagement will assist all parties to better understand the potential impacts of the ERF project on the land in question. Opportunities to share concerns and ways to address them through consultation could also assist in achieving a mutually beneficial and long-term agreement between scheme participants and eligible interest holders.

The Authority recommends that scheme participants notify and engage with eligible interest holders of their intent to register a project. Registered Native Title Body Corporates should be notified as bodies that represent determined native title holders. Additionally, the scheme participant must also provide the CER with evidence that this engagement took place when projects are registered. Evidence could take the form of signed meeting notes or agreements for example. The Authority considers that the benefits of such engagement in terms of encouraging consultation early in the project development process outweighs the relatively small additional administrative costs that would arise.

7.2 DEMONSTRATING LEGAL RIGHT

Demonstrating legal right for a project undertaken on exclusive possession native title land is relatively straight-forward as the rights of the landholder are similar to those for free-hold land. In these cases, the CFI Act recognises the Registered Native Title Body Corporate as the scheme participant. However, determining who has the legal right to undertake projects on non-exclusive native title lands can be more difficult. This is because it can be unclear whether

the native title determination covers activities such as savanna burning or whether a pastoral lease (for example) gives the pastoralist the legal right to undertake these same activities.

The CER assesses claims to legal right on a case by case basis, and the onus is on scheme participants to provide evidence that they have resolved any disputes regarding legal right before a project will be registered.

The Authority notes that the case law on such matters relating to native title is dynamic and that there are strongly held but markedly different views among stakeholders. See for example submissions on this review and the 2017 review from KLC, Aboriginal Carbon Fund, Country Carbon and the National Farmers' Federation.

The Authority is not in a position to make a judgement on these complex legal matters. However, the Authority is of the view that the CER should encourage scheme participants to test legal right and obtain consents early in the project development process to avoid potential issues arising in the future. This should involve consultation with native title claimants. Engaging early will enhance certainty for the scheme participant and eligible interest holders while also reducing the risk to the CER that contracted projects may not deliver ACCUs due to legal challenges over legal right or consents.

7.3 2017 AMENDMENT BILL

The Government has proposed a range of amendments to the CFI Act, which will have implications for savanna fire management projects in Northern Australia. The key proposals cover:

- Removing the requirement to obtain consent from eligible interest holders (including determined native title holders) from emissions avoidance only projects. This would bring the Act in line with the original CFI Act, which required consent only for sequestration projects due to the possibility of a carbon maintenance obligation being imposed to prevent lack of permanence.
- Clarification that consent is not required from Commonwealth or state or territory ministers for projects conducted on exclusive possession native title land.
- Some changes to support more effective administration of the savanna sequestration method.

Although the Carbon Credits (Carbon Farming Initiative) Amendment Bill 2017 (Cth) has not been passed by Parliament, it remains part of the Government's legislative agenda. Some stakeholders (such as Country Carbon in its submission on this review) have suggested that the requirement for eligible interest holders to provide consents from savanna burning projects is inconsistent with the intention of the legislation, and that the outcome is the result of a drafting error.

Some stakeholders representing Indigenous communities support the current requirement for consents for emissions avoidance projects remaining. Others meanwhile may be more comfortable with tying consents only to savanna sequestration projects if the rest of the amendments proceed and provided consents are extended to include native title claimants as well as determined native title holders.

The Authority recognises that requiring consents for emissions avoidance projects was probably a drafting error but notes that the issue has become entangled with these broader

questions about native title, which may be difficult to resolve in legislation in a way that satisfies all interested parties.

The Authority is concerned that any benefits to Indigenous communities and other stakeholders associated with savanna projects may not be realised while these issues remain unresolved. The Authority is supportive of efforts to find a pragmatic way forward.

The Authority therefore encourages and supports the CER and the Department of the Environment and Energy's efforts to develop guidance on legal right and eligible interest holder consents as they apply to Indigenous communities. It could also be used to clarify interactions between the CFI Act and the *Native Title Act 1993* (Cth), particularly as it relates to consultation with claimants. The Authority encourages the CER and the Department to use the guidance to improve consultation with Indigenous communities for the purposes of obtaining eligible interest holder consents and clarifying legal right. Such guidance could reduce the risks to scheme participants and the CER of future legal challenges that could impede projects starting or continuing.

7.4 CONDITIONAL REGISTRATION

Currently, projects may be registered subject to certain conditions being met post-registration such as eligible interest holder consents or other regulatory approvals. Projects that are conditionally registered can also bid at auction and win a contract.

Winning a Government contract can assist scheme participants to access finance and is one of the reasons why stakeholders have told the Authority they support allowing conditionally registered projects to bid at auction. However, the KLC in their submission on this review said that 'The practice of seeking approvals to an activity post-registration and contracting is not common in any industry nor best business practice' (p. 4).

Allowing conditionally registered projects to bid at auction also leads to delivery risks if consents are not obtained as ACCUs cannot be credited until all conditions are removed. Of the total volume of abatement contracted for the ERF, around one third is subject to conditional declaration. Delivery risk is discussed in more detail in Chapter 10.

To help manage the risk of delivery failure, the Authority recommends that projects not be allowed to participate in ERF auctions until all known eligible interest holder consents have been obtained.

RECOMMENDATION

R. 17. The Clean Energy Regulator finalise its guidance to clarify expectations on consultation with Indigenous communities; scheme participants to notify and engage with Registered Native Title Body Corporates on project applications on determined Native Title land and other eligible interest holders before projects are registered and provide the Clean Energy Regulator with evidence this consultation occurred; and the Clean Energy Regulator not allow scheme participants to bid at auction until all known eligible interest holder consents have been obtained.

7.5 NON-LEGAL BARRIERS TO INDIGENOUS PARTICIPATION IN THE EMISSIONS REDUCTION FUND

In addition to payment for ACCUs, Indigenous participation in the ERF is currently encouraged through Working on Country and Indigenous Protected Areas programs. These programs train and employ Indigenous rangers across Australia to protect and manage their land and sea country (DPMC 2017).

Stakeholders emphasised the importance of this additional support in their submissions on this review. For example, KLC said:

> *Without assistance from government grants, philanthropic investment and the interest of the secondary market it is unlikely that any Kimberley savanna abatement projects would have been established to date, or would be in the near future, resulting in not only a reduction in emissions avoidance but social, cultural and environmental outcomes* (p. 2).

ALFA's submission on this review called for additional support for Indigenous capacity building to undertake ERF projects. They suggested that:

> *…it takes time and resources for Indigenous carbon projects to be established and for Indigenous groups to develop their capacity to engage with the industry. Whilst available, the Indigenous Carbon Farming Fund (ICFF) filled this role by providing invaluable support for Indigenous projects to build their project and business capacity* (p. 4).

The Aboriginal Carbon Fund in its submission on the 2017 review also points to Australian Government support for the former Indigenous Carbon Farming Fund and related programs as a key success factor in the industry to date.

The Authority recognises the strong interest among stakeholders in establishing incentives for projects such as savanna burning activities that produce environmental or social benefits beyond emissions reductions or carbon storage. These issues are discussed further in Chapter 10. Additionally, the Authority will release further research in 2018 on ways to deliver co-benefits and emissions reductions on the land.

CHAPTER 8. PROJECT ADMINISTRATION

8.1 PROJECT REGISTRATION

To be eligible to receive Australian Carbon Credit Units (ACCUs) and bid into Emissions Reduction Fund (ERF) auctions, scheme participants must register their project with the Clean Energy Regulator (CER). Before registering a project the CER will determine if the scheme participant is a Fit and Proper person; the project meets all eligibility criteria of the *Carbon Credits (Carbon Farming Initiative) Act 2011* (Cth); and the project is consistent with the relevant method. The CER's assessment aims to reduce the risk that a project could be non-compliant.

In order to undertake this assessment the CER requires detailed assurances from scheme participants that they have met necessary legislative requirements. The CER may also require additional documents and information, require scheme participants to appoint a registered greenhouse and energy auditor to carry out compliance audits, or in some circumstances inspect premises to determine whether a project complies with legislation and regulations.

8.2 PROJECT VARIATION

Scheme participants may apply to the CER at any time to vary a project area, conditions, the start date, the participant, or method or to withdraw a project. Scheme participants may need to relinquish ACCUs if a project area is removed from a sequestration project that has already been issued with ACCUs. This ability to vary projects can assist aggregators and other carbon service providers in managing their portfolio of projects, however, it does create administrative complexity.

The Authority is of the view that project variation is an important flexibility mechanism in the ERF as it allows scheme participants to reflect changes in projects while encouraging delivery.

8.3 ELIGIBLE INTEREST HOLDER CONSENTS

The CFI Act requires that scheme participants obtain consent from eligible interest holders for area based projects such as vegetation and savanna burning projects. Eligible interest holders include those with an interest in the land such as banks, state and territory crown lands ministers and native title holders.

It can be challenging for scheme participants to both identify and obtain consents from eligible interest holders. The requirements for obtaining consent vary depending on the state and land tenure type. As Climate Friendly's submission on this review said 'We continue to encounter new challenges in working with new interest holders who are unfamiliar with the ERF and/or do not have any processes for considering consent' (p. 9).

The Authority is aware of particular concerns around obtaining eligible interest holder consents from native title holders (Chapter 7).

8.4 CREDITING

The CER credits one ACCU for each tonne of carbon dioxide equivalent stored or avoided by a registered project and enters the ACCU in the Australian National Registry of Emissions Units.

The CER credits ACCUs after it verifies the scheme participant's report to the CER. The report outlines how the emissions reductions have been calculated (CER 2015c). Scheme

participants can submit project reports every six months except large projects, which can submit monthly reports (*Carbon Credits (Carbon Farming Initiative) Rule 2015* (Cth) (CFI Rule). Project reports include the outcomes of any auditing requirements.

8.4.1 THE CREDITING PERIOD

The crediting period is the maximum period for which a registered project can earn ACCUs. Limiting crediting periods aims to ensure ACCUs are not issued if they are no longer additional (Australian Government 2014). Crediting periods range from 7 to 25 years – sequestration projects tend to have longer crediting periods than emissions avoidance projects reflecting the length of time required to achieve a rate of return. The exception is savanna fire projects, which were given a longer crediting period (and opportunity to earn revenue) to reflect equity concerns for Indigenous communities.

The ERF draws a distinction between the length of time that ERF projects can generate ACCUs and the period of time for which ERF projects can receive payment under a Government contract (Table 8). Restricting contract periods is intended to manage the Government's liability for ERF contracts.

TABLE 8: ERF CONTRACT, CREDITING AND PERMANENCE PERIODS - DEFINITIONS

TERM	DEFINITION	LENGTH
Crediting period	Period over which a registered ERF project can earn ACCUs.	7 years for emissions avoidance projects other than savanna burning. 15 or 20 years for avoided deforestation projects. 25 years for savanna burning and sequestration projects except avoided deforestation.
Contract period (Section 10.4)	Period over which ERF projects receive payment from a Government contract in exchange for delivery of ACCUs.	Maximum of 7 years for emissions avoidance projects except savanna burning. Maximum of 10 years for savanna burning and sequestration projects. Other shorter contract periods to give flexibility.
Permanence period (Chapter 5)	Period over which scheme participants must maintain the carbon stored by ERF projects.	25 or 100 years for sequestration projects.

Source: CFI Act; CER 2017j.

For sequestration and savanna burning emissions avoidance projects, the crediting period is longer than the maximum contract length. Scheme participants can sell ACCUs earned outside of the contract period on the secondary market (Chapter 11).

In submissions on this review, some stakeholders propose that crediting periods should be extended for particular methods. For example, Arnhem Land Fire Abatement (ALFA) said that 'a 25 year crediting period will not cover the entirety of the opportunity for as soon as the annual fire management ceases a project would revert back to its baseline conditions' (p. 3). ALFA also suggest that the shorter length of ERF contracts does not adequately support projects with longer crediting periods.

The Authority considers that restrictions on crediting periods and contract lengths should continue because of risks for delivery and additionality. Section 10.4 provides further discussion of contract lengths. The Emissions Reduction Assurance Committee's role in assessing whether crediting periods should be extended is an important mechanism for ensuring that crediting periods adequately reflect whether a method is still additional (Section 3.7).

8.5 AUDITING

ERF projects must satisfy audit requirements before the CER credits them with ACCUs. Audits are required to provide a reasonable level of assurance that projects meet legislative requirements (including methods) and reported emissions reductions are accurate. Audits cover a range of activities including interviews with project participants, analysis of the procedures used by the participants to estimate emissions reductions, and site visits (CER 2017c). A registered and independent greenhouse and energy auditor must prepare the audit.

The CER has published an audit determination handbook, which describes the requirements for ERF audits and provides templates for audit reports. This guidance is updated from time to time to reflect lessons learnt from audits, and clarify the CER's expectations and quality requirements. There are also a number of standards, which auditors are required to meet including the code of conduct outlined in the *National Greenhouse and Energy Reporting Regulations 2008* (Cth) and the Australian Auditing Standards (AUASB n.d.). The Authority is of the view that there is sufficient guidance to assist auditors to meet the ERF's audit requirements.

The CER assesses audit quality through an inspection program of registered greenhouse and energy auditors and analysis of audit reports to detect performance issues. As a result of this process, one auditor was deregistered by the CER in accordance with the National Greenhouse and Energy Reporting legislation and two others deregistered voluntarily.

When the CFI transitioned to the ERF, auditing requirements were streamlined and new scheme participants were no longer required to submit an audit report with every project report. Audit costs vary significantly and are impacted by a number of factors including the size and location of the project, whether the audit can be conducted remotely or requires a site visit, and the audit firm and their relationship with the scheme participant.

In their submissions on this review, Climate Friendly, a carbon service provider, and the Southern Atherton Tablelands Revegetation Alliance stated that audit costs are a barrier to participation for small-scale projects. In contrast, GreenCollar considers that 'auditing arrangements in general strike the right balance between balancing compliance, integrity and potentially prohibitive transaction costs' (submission on this review, p. 9). Further, ALFA said that 'the introduction of audit schedules over the life of a crediting period has helped to address [transaction] costs' (submission on this review, p. 7), presumably compared to the more onerous CFI auditing requirements. Overall, in the absence of evidence to the contrary, the Authority considers that ERF audit arrangements are fit for purpose and proposes no further streamlining changes be made.

8.6 DECISION MAKING POWERS

In some cases the CER relies on specific information from scheme participants to make decisions such as removing a project's conditional registration so that the project can report emissions and receive ACCUs.

If that information later proves to be false or misleading, the CER does not have a clear power under the CFI Act to reverse its decision and re-instate project conditions. There is however a general law presumption that regulators are able to revisit and reinstate decisions where they have been made on the basis of false or misleading information.

The Authority is of the view that the CFI legislation should be clarified to make it explicit that the CER can reverse decisions made on the basis of false or misleading information, subject

to any administrative fairness arrangements that may be necessary to avoid creating uncertainty across the scheme.

RECOMMENDATION

R. 18. The *Carbon Credits (Carbon Farming Initiative) Act 2011* (Cth) be amended to make it explicit that the Clean Energy Regulator can reverse specific decisions in cases where the original decision was based on false or misleading information.

CHAPTER 9. MANAGING ADVERSE IMPACTS FROM EMISSIONS REDUCTION FUND PROJECTS

The Emissions Reduction Fund (ERF) has a range of protections that seek to prevent projects from causing adverse social, economic or environmental impacts.

9.1 CURRENT PROTECTIONS

9.1.1 GENERAL EMISSIONS REDUCTION FUND CRITERIA

When registering a sequestration or area based project, scheme participants must state whether their project is consistent with any natural resource management (NRM) plan, which applies to the project area. The participant must also obtain any regulatory approvals required by state, territory or federal laws relating to land use or development, the environment or water.

9.1.2 EXCLUDED OFFSETS PROJECTS ON THE 'NEGATIVE LIST'

ERF projects cannot be on the 'negative list' of excluded offsets projects. Certain activities have been ruled out or restricted in the Carbon Farming Initiative (CFI) Regulations because they may adversely impact water availability, biodiversity conservation, employment, the local community or land access for agricultural production.

In their submission on this review, the Australian Forest Products Association stated that the negative list:

> *imposes unnecessary constraints that effectively exclude forestry projects from the ERF, such as the restrictions on tree planting in regions with average annual rainfall above 600 mm… The 600mm annual rainfall zone restriction effectively duplicates provisions contained in the National Water Initiative (NWI)* (p. 5).

The Authority is of the view that the restrictions on forestry projects should remain on the negative list as such projects could impact surface or ground water availability downstream of the project or elsewhere in the catchment.

9.1.3 METHOD-SPECIFIC CRITERIA

The methods can also contain restrictions on activities that could adversely affect the environment or carry high work health and safety risks. For example, ERF projects using the reforestation and afforestation method must not remove native forests. The method for reducing greenhouse gas emissions in beef cattle through feeding nitrate containing supplements defines the maximum rate at which nitrates can be fed to beef cattle to avoid poisoning the cattle.

Some stakeholders have raised concerns about adverse impacts that are not covered by any of the current ERF protections. These are outlined below.

9.2 CONCERNS

9.2.1 MONOCULTURAL PLANTATIONS

In its submission on the *Action on the land* issues paper, The Wilderness Society (TWS) said that ERF projects should be targeted to meet landscape health outcomes and that 'monocultural plantations…should be excluded outright' (p. 10). TWS considers that mixed species plantations provide greater biodiversity benefits including greater structural complexity

to support native fauna compared with monocultural plantations. ERF methods for new tree plantations currently allow for monocultural or single species plantings. These projects are generally subject to the negative list requirement to hold a water entitlement whereas native environmental plantings are not subject to this restriction in the negative list. A question arises as to whether requiring mixed species vegetation by preventing monocultures goes further than preventing an adverse outcome but rather seeks to incentivise a benefit (other than carbon) by encouraging biodiversity.

The Authority is mindful that the primary goal of the ERF is to reduce emissions at low cost. The Authority is examining how the ERF could be used in combination with other measures to generate multiple benefits including enhanced biodiversity in its *Action on the Land* research paper, which will be completed in early 2018.

9.2.2 WEED MANAGEMENT AND INVASIVE NATIVE SCRUB

The 'negative list' prevents projects that plant a known weed species from participating in the ERF. Known weed species are identified by the state and federal governments in lists such as the Weeds of National Significance list (DoE n.d.) or legislation such as the *Pest Plants and Animals Act 2005* (ACT).

Some stakeholders have raised concerns about the potential for adverse impacts from the number of vegetation projects in the Cobar Peneplain and Mulga Lands of south-west Queensland and western New South Wales. Some of these projects could be encouraging the spread of invasive native scrub, which has negative impacts on farm productivity and biodiversity (Waters et al. 2017). Some of these invasive native scrub species are not categorised as weed species. However, the nature and extent of adverse impacts from this native scrub is still unclear and are likely to vary across individual projects, depending on how they are managed. The Authority is of the view that the Department of the Environment and Energy should investigate these issues further.

9.2.3 CONSISTENCY WITH NATURAL RESOURCE MANAGEMENT PLANS

The ERF also seeks to prevent projects from causing adverse environmental impacts by requiring scheme participants to state whether their project is consistent with any NRM plan that applies to the project area when registering a sequestration or area based project. Scheme participants are also required to notify the Clean Energy Regulator (CER) if their project becomes inconsistent with an NRM plan due to a change to their project. These plans are prepared by local catchment or other NRM bodies and seek to provide guidance at the local level on the sustainable management of natural resources consistent with the achievement of a range of environmental, social and economic objectives.

Some local NRM bodies are providing landholders with advice on managing projects to avoid adverse impacts. For example, Western Local Land Services has developed guiding principles for ensuring projects are consistent with the NRM goals for the region (Western LLS 2016a). These guiding principles include that the project does not reduce landscape diversity or cause damage to areas of high conservation value.

Similarly, the Victorian Department of Environment, Land, Water and Planning is conducting a trial in cooperation with Catchment Management Authorities (CMAs) to enhance understanding of carbon offset opportunities which align with NRM plans (Victorian CMAs submission on the 2017 review).

For the ERF, the scheme participant self declares consistency with the NRM plan and may or may not contact the relevant NRM organisation to verify the claim. The CER does not investigate whether the self-declaration is accurate as there is no agreed approach to evaluating consistency with an NRM plan. Consistency with the NRM plans is not an ERF criterion for project registration.

To date, no projects have been registered as being inconsistent with an NRM plan (CER 2017n). However, in some circumstances, implementation of ERF project activities and NRM plan goals might diverge over time. For example, Western Land Local Services aims to achieve 'a protective groundcover layer of 50% or above' in its region by 2020 (Western LLS 2016b). In some circumstances, the growth of woody species for an ERF vegetation project may reduce groundcover and be an impediment to the NRM plan goal.

In its submission on the *Action on the land* issues paper, NRM Regions Australia supported enhancing the role of regional NRM bodies in project development and registration to address region-specific environmental impacts of ERF projects. As the organisations responsible for developing and managing NRM plans, NRM bodies are well placed to identify potential adverse environmental impacts resulting from ERF projects in their region.

The Authority is of the view that because projects can still proceed even if they are inconsistent with NRM plans, the requirement to declare consistency or not to the CER should be removed. Instead it should be replaced with a requirement for scheme participants to notify relevant NRM organisations so that those bodies are informed about projects in their areas. This could also encourage dialogue between the ERF scheme participants and the NRM bodies so that the project better meets NRM plan goals. It would be desirable if the NRM bodies provided ERF scheme participants with advice as to whether their proposed projects meet the NRM plan.

RECOMMENDATION

R. 19. The *Carbon Credits (Carbon Farming Initiative) Act 2011* (Cth) be amended to remove the requirement for scheme participants to state whether sequestration or area based projects are consistent with local Natural Resource Management plans and replaced with a requirement that scheme participants provide the Clean Energy Regulator with evidence that they have advised the relevant Natural Resource Management body about the proposed Emissions Reduction Fund project.

CHAPTER 10. EMISSIONS REDUCTION FUND PURCHASING, CONTRACTS AND DELIVERY RISKS

To date, Emissions Reduction Fund (ERF) purchasing has been done by the Clean Energy Regulator (CER) through competitive auctions although other purchasing options are possible in the Carbon Farming Initiative (CFI) legislation.

10.1 PURCHASING PRINCIPLES

The *Carbon Credits (Carbon Farming Initiative) Act 2011* (Cth) sets out the principles for the Government to purchase ERF abatement. These principles are:

- to purchase emissions reductions at the least cost
- to maximise the volume of emissions reductions that can be purchased
- to conduct the process in a manner that ensures that administrative costs are reasonable
- to conduct the process in a manner that ensures its integrity
- to encourage competition
- to provide for fair and ethical treatment of all participants in the process.

The ERF was established with the goal of purchasing emissions at lowest cost across the economy (Australian Government 2014).

Some stakeholders support changing the ERF's purchasing principles to explicitly broaden the criteria on which the CER awards contracts at auction to include co-benefits such as biodiversity as well as emissions reductions (Eastern Alliance of Greenhouse Action, Australian Forest Products Association, Victorian Catchment Management Associations and the Wentworth Group in their submissions on this review).

A number of organisations support 'banding' or dedicated auctions, where projects of a similar type that offer co-benefits compete only amongst themselves rather than with the broader set of projects that would otherwise participate at auction. Stakeholders are of the view that projects in some sectors including those more likely to deliver co-benefits experience higher implementation costs than other project types and are disadvantaged at auction if the main purchasing criteria is least cost.

Support for sector specific auctions has also come from a broad range of stakeholders. The Australian Local Government Association (submission on the 2017 review) has suggested that the ERF be broken into sectors to allow smaller and non-commercial entities to participate and offer energy efficiency projects. Similar suggestions for 'banded' auctions were made to the 2017 review by the Australian Sustainable Built Environment Council, the Green Building Council of Australia, and the Energy Efficiency Certificate Creators Association.

Other stakeholders have proposed instead that the ERF be accompanied by a purpose designed funding mechanism to support co-benefits.

For example, the Kimberley Land Council said in their submission on this review that a 'dedicated purchasing mechanism for Indigenous ACCUs within the ERF [should be] established, priced to reflect the significant benefits delivered by these projects' (p. 3).

The Authority recognises the strong interest among stakeholders in establishing incentives for projects that carry environmental or social benefits beyond emissions reductions or carbon storage. It is possible that this interest has been heightened by budgetary constraints and a perceived lack of other government programs that deliver broader environmental or social outcomes. The Authority will release further research in 2018 on ways to deliver co-benefits and emissions reductions on the land.

The Authority notes however that the ERF is the Government's central policy that has been implemented to reduce emissions and help achieve Australia's international emissions reductions commitments. The emissions reductions task to 2030 remains challenging, according to current government emissions projections (DoEE 2016a) and recent modelling exercises (for example Finkel et al. 2017). It is also important that tax payers' funds deliver value for money in a transparent fashion and at present, it is not clear what decision rule the CER could use to allocate auction funds between projects in different sectors offering different co-benefits.

The Authority is also concerned that banded auctions (where for example energy efficiency projects compete only against each other) would deliver higher costs of abatement because projects that could deliver cheaper abatement than those in the designated 'band' would not be eligible to compete. If multiple separate auctions are held, costs would reflect the cheapest abatement in each band rather than lowest costs overall. Multiple, separate auctions would also increase administration costs for the CER.

The Authority is of the view the ERF should remain focused on efforts to reduce emissions at the lowest possible cost and does not support banded auctions or explicit ERF payment for co-benefits.

The Authority is aware of proposals to change the purchasing principles to make it easier for the CER to address risks (like fire) associated with certain project types being concentrated in geographic areas when it awards contracts through the auction. The Authority has made other recommendations to address risks like fire and considers these proposed changes would be a more direct solution to the problem and easier for the CER to justify than amending the purchasing principles.

RECOMMENDATION

R. 20. There be no change to the purchasing principles.

10.2 AUCTIONS

10.2.1 AUCTION PROCESS AND DESIGN

The CFI Act provides the CER with flexibility on how to purchase abatement on behalf of the Government. So far, the CER has chosen to use reverse auctions for abatement purchases, with only minor changes to the approach between auctions.

In each of the six auctions conducted so far, the CER has used a single round, pay-as-bid, sealed bid reverse auction process.[9] Scheme participants bid the volume and price of Australian Carbon Credit Units (ACCUs) they are willing to sell. The sealed bid element means that scheme participants have no knowledge of what others are bidding and provides an incentive for bidders to bid in at the lowest price. The pay-as-bid nature of the auction means that scheme participants successful at the auction receive the price they bid and the Government pays the minimum amount bidders are willing to accept, which aims to maximise value for money. The other side of the coin, however, is that scheme participants receive less revenue than would be the case under other auction models. Meta Economics Consulting Group (submission on the 2017 review) said that the auctioning mechanism erodes incentives to participate in the scheme. This is compared to a single price auction where all successful participants are paid the highest successful bid price. The Authority is of the view, however, that scheme participants are likely to bid in at a level that allows them to receive their desired returns on investment.

Two design elements determine which bids are successful in each auction: the benchmark price and the variable volume threshold. The benchmark price is set by the CER prior to the auction and sets a maximum price the CER is prepared to pay. A non-disclosure obligation applies (which forbids scheme participants from disclosing their bid prices) to protect the confidentiality of the benchmark price.

In the ERF White Paper the Government recognised there were trade-offs in choosing to reveal or maintain confidentiality around the benchmark price (Australian Government 2014). Revealing the price gives greater certainty to the market but also may encourage bidding at or just below the benchmark price by scheme participants. The Government decided that the benchmark price would remain confidential but the average price of successful bids would be published after each auction to provide some information on price to future scheme participants and support investment in new projects (Australian Government 2014). GreenCollar noted that the ERF (through the auction process) 'has been a wonderful tool for enabling price discovery' (submission on the 2017 review, p. 3).

The variable volume threshold determines the volume of emissions reductions under the benchmark price that is purchased. For the first auction, a fixed volume of 80 per cent of emissions reductions below the benchmark price was applied (CER 2015d). In the second and subsequent auctions, the variable volume threshold allowed the CER to vary the volume purchased between 50 and 100 per cent of emissions reductions under the benchmark price (CER 2015f). The variable volume threshold is intended to add uncertainty as to whether bids will be successful and foster competitive pricing in ERF auctions.

The Authority's research did not identify any required changes to the auction process or design.

10.2.2 AUCTION PERFORMANCE

The CER has established arrangements to protect the integrity and security of the auction process. Probity assessments of each of the auctions were conducted by an independent auditing firm. Based on monitoring of the integrity of the auction process, the auction processes were found to be 'fair and transparent, decisions were made with accountability, and… confidential information associated with the auction was treated appropriately' (CER

[9] In a reverse auction, the sellers compete to win the auction and prices will typically decrease as the sellers underbid each other.

2015a; CER 2015b; CER 2016a; CER 2016b; CER 2017b). The Australian National Audit Office (2016) audit of the purchasing process under the first two auctions concluded that the design and implementation of the auctions were in accordance with established processes and probity guidance.

The CER also analyses auction results to identify any potential concerns around the operation of auctions, including evidence of collusion that may compromise the least cost purchasing principle. Analysis conducted by the CER has not identified any areas of significant concern. No issues around the integrity of the auction process have been raised by stakeholders in submissions on this review.

10.3 ALTERNATIVE APPROACHES TO PURCHASING

In 2016, the CER released a 'market sounding' paper seeking stakeholder views on a 'direct abatement offer', or purchasing emissions reductions outside the auction process (CER 2016e). Just six submissions were received. Submissions suggested that large bids should have the opportunity to be considered outside the auction process and that the ERF design could be adjusted to provide longer contract periods and broader methods. The CER concluded that given the limited number of responses, there was limited need to undertake purchasing approaches outside of auctions at this stage.

10.4 CONTRACTS

Scheme participants who are successful at an ERF auction enter into a standardised carbon abatement contract with the CER. As a standardised agreement, the carbon abatement contract aims to 'reduce transaction costs, increase transparency and ensure projects compete for funding at auctions on equal terms' (Australian Government 2014, p.11).

10.4.1 MAXIMUM CONTRACT LENGTH

There are three types of carbon abatement contracts: a standard contract, short-term contract and immediate delivery contract. The shorter-term contracts are for less than seven years and allow the CER and scheme participant to reduce the risk of contract terminations. The trade-off is a reduced period over which the volume and price of ACCUs is fixed. The maximum contract length is 7 years for emissions avoidance projects and 10 years for savanna burning and sequestration projects. Sellers may choose to enter into immediate delivery contracts if their registered project has already earned ACCUs.

Many stakeholders stated that the maximum contract length should be extended to support certain types of ERF projects by prolonging the length of time that a fixed price can be achieved. For example, in their submissions on the 2017 review, the Australian Industry Group, Australian Petroleum Production and Exploration Association and BHP Billiton said that the maximum contract length imposed a barrier for participation for projects in industry, energy and much of agriculture. The Kimberley Land Council stated that the contract length offers 'no benefit to projects that have been recognised as additional and therefore provided with longer crediting periods' (submission on the 2017 review, p. 8). Conversely, GreenCollar, a carbon service provider (CSP), said that 'the 7-10 year contract has provided certainty to the farmers and the carbon industry' (p. 4). In their submission on this review, Climate Friendly, another CSP, stated that 'long-term government contracts have offered a price signal with lower risk' (p. 2) and Arnhem Land Fire Abatement (ALFA) said that 'a low risk and long term contract selling credits to the Australian Government' has been one of the 'positives associated with the ERF' (p. 6).

The maximum contract length makes a trade-off between encouraging participation in the ERF and binding the Government's future use of taxpayer revenue. The Authority notes that contract length is only one of a range of factors identified by business as affecting uptake. The maximum contract length was determined based on market testing of the commercial impacts of alternative contract lengths for proposed ERF projects (Australian Government 2014). The Authority is of the view that the risks of increasing contract length (in terms of binding the Government) outweigh the benefits of doing so and does not recommend they change.

10.4.2 FIXED TOTAL DELIVERY VOLUME

The carbon abatement contract contains a delivery schedule for a specified volume of ACCUs by stipulated dates across the contract period. The contract provides some flexibility to allow the seller to manage their delivery schedules, for example by allowing early delivery of units within a financial year. In addition, contract variations can be agreed with the CER to allow a change in the delivery schedule if the seller is able to provide information to show they will be able to make up the shortfall within a reasonable timeframe from the project or other sources. All ACCUs must be delivered by the last contract delivery milestone.

Contract variation creates administrative complexity for the CER. However, the Authority understands that such flexibility is important for scheme participants and is of the view that contracting as a whole is working well. For example, GreenColllar in their submission on this review said 'The contract has been the basis of the success of the ERF to date... The market needs consistency and certainty, any sudden changes may have detrimental effects on market participants' (p. 10). As such, the Authority is of the view that the current flexibility to vary ERF contracts should continue.

Under normal circumstances, neither party can vary the total volume of ACCUs or extend the final date of delivery. In their submission on this review, the Australian Gas Infrastructure Group said that emissions reductions from ERF projects in the mining, oil and gas sectors are difficult to predict as they are responsive to external factors, such as demand. Due to the contractual requirement to deliver a fixed volume of ACCUs, 'this uncertainty increases the cost of participating in the ERF' (p. 2). This view is supported by the Australian Petroleum Production & Exploration Association. Further, Arnhem Land Fire Abatement (ALFA) stated that 'the fixed delivery on carbon abatement contracts also introduces risks for carbon producers operating under annually variable methodologies (as is the case with Savanna Burning)' (submission on this review, p. 6).

However, incorporating flexibility around the total delivery volume would make it difficult for the Government to forecast expenditure or stay within a given budget. Further, the fixed delivery volume helps ensure that contracts deliver the expected emissions reductions (Australian Government 2014). Therefore, increased flexibility on the amount of abatement may increase the risk of Australia failing to meets its emissions reduction targets. On balance, the Authority is of the view that carbon abatement contracts should continue to fix total delivery volumes.

10.4.3 MARKET DAMAGES

Under the ERF standard carbon abatement contract between the CER and scheme participant, the Government is entitled to seek buyer's damages from the scheme participant for non-delivery of ACCUs. This encourages scheme participants to meet their contractual delivery obligation and, in the case of default, the Government can purchase replacement ACCUs on the market. In general, the damages payable to the Government for non-delivery of ACCUs are set as the difference between the market price of ACCUs and the contract price. However, market damages are capped at the contract price (plus interest and reasonable

costs incurred by the CER). This means that if the secondary market price exceeds double the contract price, scheme participants may have an incentive to default on their contracts (Box 4).

BOX 4: WORKED EXAMPLE OF MARKET DAMAGES CAP

Stuart has contracted to deliver ACCUs at $10 per tonne but wants to default on his Government contract so he can sell them to Wendy for $25 per tonne. The market damages penalty in his contract is capped at the contract price of $10 per ACCU so Stuart would pay the Government $10 per ACCU if he defaults. Stuart gets the $25 per ACCU from Wendy and keeps $15 per ACCU after paying damages to the Government. The Government keeps the $10 per ACCU it would have paid Stuart if he had delivered on his contract. So Stuart is $5 better off per ACCU and the Government is $5 worse off per ACCU relative to Stuart delivering on his contract if it buys replacement ACCUs at the market price of $25 per ACCU.

Note: In practice, Stuart will probably not get the full $5 per ACCU as the CER is entitled to charge him reasonable costs and interest associated with defaulting on his contract.

As discussed in Chapter 11, it is likely that demand for ACCUs on the secondary market will increase over time and this could impact the market price. As such, the cap on buyer's damages should be revisited for new projects to take into account trends in the secondary market that influence the risk of delivery failure including price. Any proposed increase to the cap will also need to consider the likely impact on participation as scheme risks and costs will increase.

RECOMMENDATION

R. 21. The Clean Energy Regulator periodically revisit the cap on buyer's damages in new Emissions Reduction Fund contracts to provide a greater incentive for scheme participants to deliver their contracted Australian Carbon Credit Units.

10.5 EXPECTED DELIVERY OF ABATEMENT UNDER THE EMISSIONS REDUCTION FUND

Of the 189 million ACCUs contracted as at 16 November 2017, 26 million ACCUs (or around 14 per cent) have already been delivered, with about 158 million ACCUs remaining to be delivered by 2028 (CER 2017k). The number of ACCUs delivered to the CER under contract is marginally above expected delivery schedules at this time. Some sellers are also generating more ACCUs than necessary to meet contractual obligations, which means they have a reserve of units to draw from if needed.

While it appears that current deliveries of ACCUs are broadly on track to meet total contract obligations under the ERF and the proportion of conditionally registered projects and contracts subject to conditions precedent are declining, the past may not be a reliable guide to the

future. For example, there is a risk that deliveries of ACCUs could decline due to unforeseen climatic or business conditions. Additionally, 30 per cent of projects currently have conditional registration meaning these projects will not be able to proceed without securing consents or regulatory approvals (Section 7.4) (CER 2017n). Further, 12 per cent of all contracts are still subject to conditions precedent (CER 2017e, pers comm). These contracts may not proceed if conditions are not met. However, to date, only eight contracts, amounting to 5 Mt of abatement have lapsed or terminated after auction including as a result of conditions precedents not being met (CER 2017k).

10.6 DELIVERY RISKS UNDER THE EMISSIONS REDUCTION FUND

To be able to bid into an ERF auction and enter into a carbon abatement contract with the Government, scheme participants must register their project with the CER and provide a forward abatement estimate, which is used by the CER to determine audit schedules and assess whether the abatement volumes in the auction bids are reasonable. However, the make-good provisions in ERF contracts mean that scheme participants are not required to deliver any ACCUs from the project they use to make a bid at auction. The scheme participant can meet their contract obligation with ACCUs generated by another project altogether or purchased in the secondary market (although only ACCUs can be used to make good). This flexibility is intended to allow emissions reductions to be delivered in the most cost effective way as scheme participants can meet their contractual obligations using ACCUs that cost less than ones from projects they invest in directly. It also helps scheme participants to meet their emissions reductions commitments regardless of changes in individual projects.

The effective decoupling of ACCU delivery from projects bid at auction raises some concerns for the Authority. Most importantly, the Authority is concerned that there is a risk that such decoupling may lead to a growing mismatch between contracted projects and ACCUs available to meet ERF contractual obligations. This could lead to the ERF being unable to deliver a significant volume of contracted ACCUs, meaning it could fail to meet one of its key objectives, which is to reduce domestic emissions. Such a short fall may not become evident until the later years of the ERF when scheme participants are required to deliver on all of the remaining ACCUs at the end of their contracts.

The Authority is also aware that some scheme participants use small ‘anchor projects’ to demonstrate how they intend to contract with other parties and deliver a larger volume of ACCUs than will be available from the anchor project. There is a risk that these currently undeveloped projects will not go ahead and scheme participants will instead rely on the secondary market to deliver on all or most of their ERF contractual obligations.

To help address this risk, the CER has clarified its expectations that scheme participants will deliver ACCUs from projects registered at auction and is using conditions precedents in its more recent ERF contracts to check delivery risk earlier in the life of the contracts (CER 2017i).

The shortfall risk increases if demand on the secondary market rises (as a result of other government policies like the safeguard or the National Energy Guarantee emissions requirement) or if the secondary market is not functioning effectively due to a lack of information or investment certainty. The Authority has made recommendations on ways to improve the functioning of the secondary market in Chapter 11.

Strong administrative and compliance regimes are also important factors in addressing this risk (Chapter 12). To that end, the CER has recently announced that ‘the performance of the participant or any of their authorised representatives under any contract entered into by them’

(CER 2017l) will be considered when qualifying and registering them for auction to reduce the risk that they will contract with parties with minimal ability to deliver against their contracts.

The Authority considers that it is anomalous and inefficient to require scheme participants to register projects and bid at auction on the basis of projects that are not required to deliver any abatement at all into the scheme.

One option to address these issues would be to change the auction rules and allow participants to bid without registering a project. Bids would then more explicitly reflect expectations about the availability and price of ACCUs on the secondary market. If adopted, this approach could be more administratively efficient but could create an even greater mismatch between ACCUs that can be delivered from projects and ACCUs under contract.

The Authority is aware that some stakeholders see the risk of Australia not meeting its Paris Agreement targets because of non-delivery from the ERF as low. This is because the Government will retain the contracted funds if delivery failures occur and can purchase abatement from elsewhere (such as international units) if it is needed to meet Australia's international target obligations.

The risk of non-delivery would be less if there is an effectively functioning secondary market as potential investors could be expected to respond to shortfalls in contracted ACCUs by investing in new projects.

On balance, after taking into account the risks of delivery failure and the current lack of liquidity in the secondary market, the Authority recommends that there should be a minimum delivery obligation for all projects under future ERF contracts, in the range of 30-50 per cent of ACCUs. Make good using ACCUs from projects that were not subject to the participant's auction bid would only be permitted up to the level of the pre-set make-good limit (i.e. 50-70 per cent). Failure to deliver the contracted minimum will also attract compliance penalties for non-delivery including market damages.

While the Authority is aware that such a restriction may increase the price of abatement at auction, the Authority is of the view that securing domestic abatement is a key objective of the ERF and the delivery risk needs to be managed.

A minimum delivery obligation would have implications for the size and selection of anchor projects. For example, to meet a minimum delivery obligation of 30 per cent for a contract of 10,000 ACCUs, the anchor project would need to be able to deliver at least 3,000 ACCUs.

RECOMMENDATION

R. 22. The Clean Energy Regulator require scheme participants to deliver a minimum of 30-50 per cent of Australian Carbon Credit Units from the projects they used to register at auction.

CHAPTER 11. SECONDARY MARKET

11.1 THE DEMAND FOR AUSTRALIAN CARBON CREDIT UNITS ON THE SECONDARY MARKET

The secondary market is the sale and purchase of Australian Carbon Credit Units (ACCUs) outside of a contract with the Government. There are several possible sources of demand for ACCUs on the secondary market: make-good provisions in Emissions Reduction Fund (ERF) contracts (which allows scheme participants to meet their obligation to provide ACCUs from projects other than the project they registered at auction), safeguard mechanism facilities that exceed baselines, potentially the National Energy Guarantee (depending on the outcome of future design and consultations) and the voluntary market. Future demand is uncertain and driven by a range of factors outlined below.

11.1.1 MAKE-GOOD PROVISIONS

The size of the 'make-good' market will be determined by the difference between the volume of ACCUs under contract and actual ACCUs delivered from those projects. Any difference will depend on a range of factors including the extent to which carbon service providers (CSPs) are able to manage any 'unders' or 'overs' across their portfolio. This in turn will be influenced by the risk appetite of CSPs in terms of their contracted and expected abatement. Expected abatement may also differ from actual abatement depending on a range of project specific variables such as rainfall for sequestration projects. Chapter 10 discusses the risk of non-delivery of contracted abatement.

11.1.2 SAFEGUARD MECHANISM AND THE NATIONAL ENERGY GUARANTEE

Facilities covered by the safeguard mechanism that exceed their prescribed emissions baselines may decide to purchase ACCUs on the secondary market to meet their obligations under the scheme (Section 2.1.3). It is unclear what level of demand this will create as it is uncertain to what extent safeguard facilities will exceed their baselines and whether they will use ACCUs or other options (like multiyear compliance plans) to meet their safeguard obligations. This issue will be examined by the Authority in its 2018 review of the National Greenhouse and Energy Reporting legislation.

The option for retailers to use ACCUs or international units to meet the Guarantee (after its planned implementation in 2020) is one of the Guarantee design features that is still to be settled. At this stage, it is difficult to tell whether the Guarantee will deliver new demand for ACCUs.

11.2 VOLUNTARY MARKET

There is also a voluntary market for ACCUs with demand from firms seeking to offset their emissions. For example, between 2010-11 and 2015-16, Carbon Neutral Program participants in Australia offset around nine Mt of CO_2-e, although only about two per cent of the credits used for this purpose in 2015-16 were ACCUs (DoEE 2017e). The demand from the voluntary market could increase over time if companies increasingly invest in corporate social responsibility initiatives. In October 2017, the Department launched National Carbon Offset Standards for buildings and precincts (DoEE 2017b), which may lead to some additional demand for ACCUs. Further, in 2017 the International Carbon Reduction & Offset Alliance endorsed the use of the ERF in its Code of Best Practice for Carbon Management Services. This is discussed in Chapter 13.

On balance, the Authority is of the view that demand for ACCUs on the secondary market will increase over time.

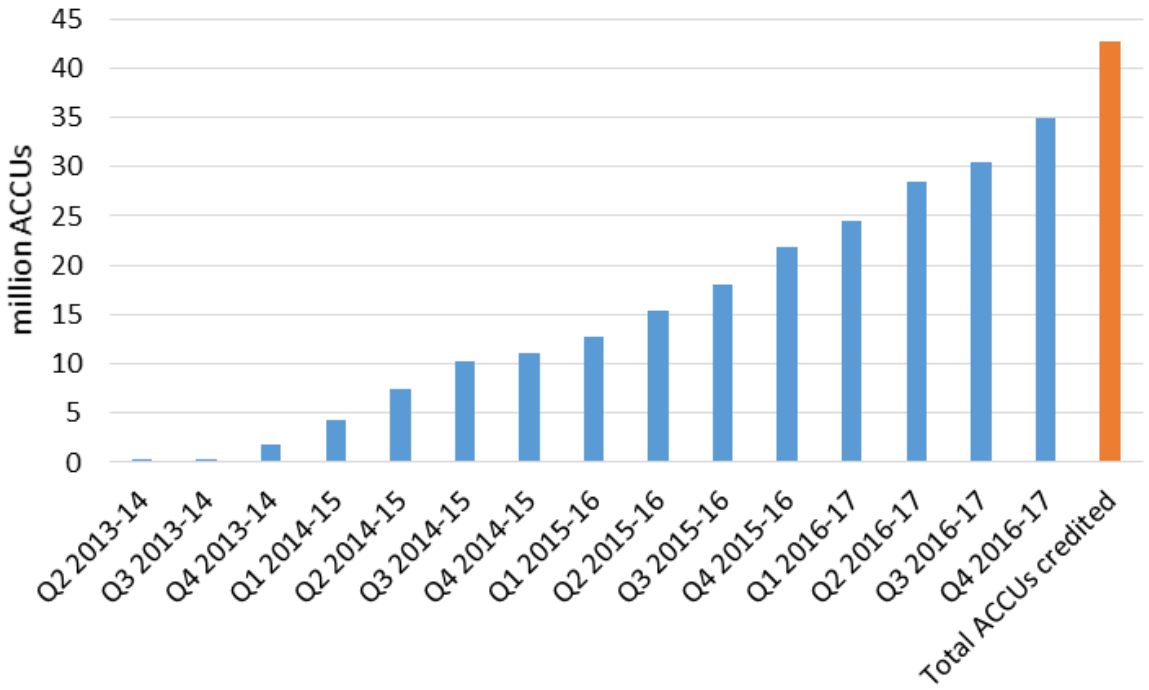
11.3 THE SUPPLY OF AUSTRALIAN CARBON CREDIT UNITS ON THE SECONDARY MARKET

ERF projects are the sole source of supply of ACCUs. Of the 43 million ACCUs credited as of November 2017, 26 million have been delivered to the Government under contract, 14.5 million were surrendered under the former carbon pricing mechanism and 0.3 million have been voluntarily cancelled or relinquished (CER 2017k; CER 2017n; CER 2015e). This means that there are currently around two million ACCUs, which may either be traded on the secondary market or held by companies for other purposes.

The potential supply of ACCUs on the secondary market is determined by the number of projects registered under the ERF (which in turn reflects returns and demand), the volume of ACCUs they generate and the proportion of those ACCUs which are not contracted for delivery to the Government. The number of ACCUs issued has increased over time (Figure 8).

Scheme participants also provide projections of their projects' abatement volumes to the CER. This is discussed in Section 10.6.

FIGURE 8: CUMULATIVE ACCUS ISSUED PER QUARTER



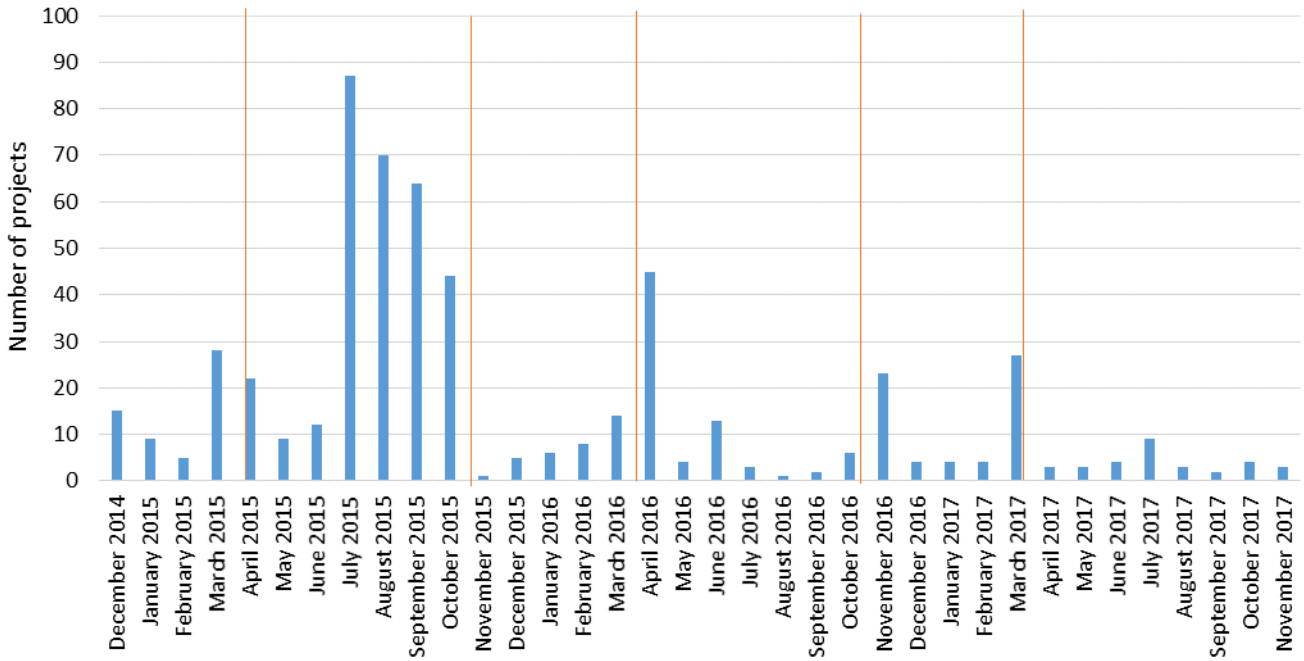
Note: Total ACCUs credited is to 16 November 2017. Data as at 16 November 2017.
Source: Climate Change Authority based on CER 2016c.

As noted above, investment in ERF projects reflects expected returns, which are driven by a number of factors including anticipated demand for ACCUs and assumptions around price. Figure 9 shows that, in general, registrations of new ERF projects have been declining over time. Investment in ERF projects may be being affected by uncertainty around the future of the ERF and the demand from the secondary market. On the other hand, it may reflect the current auction prices and that scheme participants are focusing on implementing already contracted projects.

Some carbon abatement projects may also choose certification outside of the ERF. In their submission on the 2017 review, Carbon Neutral explained that they certified part of their revegetation project under the international Gold Standard as opposed to the ERF for a number of reasons, including that the Gold Standard recognises co-benefits and allows for some upfront crediting. Carbon Neutral also said that Gold Standard buyers are 'paying a premium price of $12-$25 per t CO_2-e' (p. 6).

The volume of ACCUs available to be traded on the secondary market will therefore be influenced to some extent by the price of ACCUs relative to the price of certificates generated under competing standards.

FIGURE 9: NUMBER OF PROJECTS REGISTERED UNDER THE ERF



Note: The orange lines indicate the timing of the five auctions held to date. Data as at 16 November 2017.
Source: Climate Change Authority based on CER 2017k.

On the other hand, if demand for ACCUs were to increase, as discussed above, with a resulting increase in price, then it is likely that new ERF projects would be registered in response. In their submission on the 2017 review, GreenCollar estimated that, revegetation could achieve 'somewhere in the realms of 100 million tonnes of abatement [beyond that of already registered projects]… with an increase in the price for carbon' (p. 8).

11.4 TRANSPARENCY AND LIQUIDITY

The Authority investigated how the secondary market has been operating and what changes are needed to increase its effectiveness. The Renewable Energy Target large-scale generation certificates (LGC) market provides a useful point of comparison with the ACCU secondary market (Box 5). For a secondary market to function well, it should be transparent and liquid.

BOX 5: OPERATION OF THE CARBON MARKET COMPARED TO LGC MARKET

Under the Renewable Energy Target, renewable energy generators create large-scale generation certificates (LGCs). These certificates can then be sold to electricity retailers, who are required to surrender a set number of certificates to the Clean Energy Regulator (CER) each year. The Renewable Energy Certificate (REC) Registry facilitates the creation, transfer and surrender of LGCs.

The LGC market is bigger and more mature than the current secondary market for ACCUs. In the LGC market, spot and forward contract prices are traded and reported by established trading houses. The secondary market for ACCUs is far less developed and transactions tend not to be widely reported.

The LGC market is also more transparent and liquid than the current secondary market for ACCUs, partly because more market information is publicly available. For example, the CER publishes LGC demand and supply data to signal to the market the amount of investment required in renewable energy. Supply data is based on the number of LGCs held in the registry as well as current and probable generation projects, while the renewable energy target specifies the minimum demand for LGCs up to 2020.

Although the REC Registry does not report the price of LGCs traded, it has, along with the availability of market data and demand, facilitated the development of private trading platforms for LGCs. Further, forward contracts for LGCs can be traded on the Australian Securities Exchange. Advisory businesses, such as Green Energy Markets, also report spot prices to inform investment and trading decisions.

Source: CER 2017a.

11.4.1 CURRENT OPERATION OF THE SECONDARY MARKET

There is currently no mechanism or trading platform that enables prospective buyers and sellers to easily and transparently identify the current price and quantity of ACCUs on the secondary market in order to execute trades. This presents a barrier to the liquidity and depth of the secondary market.

In their submission on the 2017 review, the Victorian Government stated that there is an ‘absence of an effective secondary market’ (p. 11). Similarly, AGL observed in their submission on this review ‘that there is a lack of liquid supply of ACCUs, and transparency of supply, in the secondary market’ (p. 3).

As discussed in Section 6.2, a few CSPs dominate the ERF in terms of the number of registered projects and share of contracted abatement. In their submission on this review, GreenCollar stated that:

> *Brokers do not currently show prices for ACCUs on any transparent platform (e.g. Reuters), as there are so few transactions and a large majority of those are bilateral (between two parties directly* (p. 10).

These bilateral trades are likely to be done within and between CSPs as they manage their portfolio of projects and any differences between ACCUs generated and contracted. Although these participants may have an indication of the availability and price of ACCUs on the secondary market, this information is unlikely to be readily accessible by other participants. For example, in their submission on this review the Southern Atherton Tablelands Revegetation Alliance stated that '[f]or a very small player in a regional area it's very hard to get an understanding of how the…market works, and how we might participate' (p. 6).

The CER maintains a publicly available project registry, which identifies the volume of ACCUs generated by each project and method used as well as the person(s) to whom they are issued (CER 2017n). Potential buyers could examine the project registry and contact scheme participants who they suspect may have ACCUs they could sell to them. However, it does not show up-to-date holdings to assist buyers to identify potential sellers. The Australian National Registry of Emissions Units is the platform for issuing, holding and transferring ACCUs (CER n.d.). However, information on ACCU holdings is not included in the publicly available reports for the registry.

The CER also maintains a contract registry, which is available on their website (CER 2017k). The contract registry identifies the total volume of contracted abatement and the volume of abatement delivered to date for each contract. However, as it does not provide information on delivery schedules, the use of this information to inform demand or supply expectations is limited.

To assist with transparency and with support from the Department of the Environment and Energy, the Carbon Market Institute developed an online market platform for Australian carbon credits including ACCUs, with a focus on the voluntary market. The Carbon Marketplace provides a description of the project used to generate the credits, including any co-benefits it generates, and contact details for the owner of the credits (CMI n.d.). In their submission on this review, the National Waste and Recycling Industry Council said they support this initiative. Although a useful tool, the Carbon Marketplace does not provide information about the volume of credits generated by the projects or the price at which projects owners are willing to sell them. The Authority is of the view that transparency of the availability and price of ACCUs on the secondary market is limited.

11.4.2 OPPORTUNITIES TO INCREASE THE SECONDARY MARKET'S EFFECTIVENESS

As discussed above, it is likely that the size of the secondary market for ACCUs will grow over time due to increased demand. For trading to occur efficiently, a mechanism which reconciles offers to purchase ACCUs with offers to sell ACCUs will be required. In their submission on this review, AGL stated that 'Given the potential demand for ACCUs on the secondary market…there is a need for policymakers to consider avenues through which to develop a functioning secondary market' (p. 3). It may become profitable for the private sector to respond to this requirement by developing a trading platform for ACCUs. Public information on ACCU holdings and contract delivery schedules beyond that already available on the CER's project and contract registry would support the development of such a platform and enable the secondary market to develop further.

For the supply of ACCUs to increase in response to an increase in demand, prospective investors in ERF projects need to have some visibility of the anticipated volume of ACCUs demanded on the secondary market. Without this visibility, there is likely to be a significant time lag before sufficient ACCUs are supplied to meet the demand for ACCUs on the secondary market. This could limit the availability of ACCUs and obstruct scheme participants from meeting their contractual delivery obligations through make-good provisions. It could also affect the ability of facilities covered by the safeguard mechanism or possibly entities covered by the Guarantee to comply with their obligations.

To reduce this risk, the Authority is of the view that the CER should provide information to inform the decision making processes of market participants and investors.

RECOMMENDATION

R. 23. The Clean Energy Regulator publish timely information about the holdings of Australian Carbon Credit Units including ownership, volume and project method and a six monthly 'statement of opportunities' that sets out the forward delivery schedule for Australian Carbon Credit Units from Emissions Reduction Fund contracts, the availability of Australian Carbon Credit Units in the secondary market and, to the extent known, indicative demand and prices for Australian Carbon Credit Units.

CHAPTER 12. GOVERNANCE

12.1 ADMINISTRATION

The Clean Energy Regulator (CER), the Department of the Environment and Energy and the Emissions Reduction Assurance Committee (ERAC) all have a role in the governance of the Emissions Reduction Fund (ERF) (Section 2.3).

The CER is the primary administrator and regulator of the ERF. The CER is responsible for registering projects, running auctions, establishing contracts, issuing Australian Carbon Credit Units (ACCUs) and monitoring compliance. The Department is responsible for overall policy direction, method prioritisation, development and reviews, maintenance of tools that support methods, secretariat support to the ERAC and general public engagement and promotion.

The CER and the Department seek to actively manage a range of risks to the ERF. These include ensuring consistency with the requirements of the *Carbon Credits (Carbon Farming Initiative) Act 2011* (Cth) such as the offsets integrity standards and value for money as well as managing direct risks associated with non-compliance such as fraud or workplace health and safety. The CER has developed guidance on applying the Fit and Proper Person test and is currently developing additional guidance on legal right, eligible interest holder consents and native title. As discussed in Chapter 5 and Chapter 7, the Authority is of the view that the CER and the Department should continue to develop and disseminate clear public guidance on ERF policy and administrative issues.

In 2016 the Australian National Audit Office (ANAO) examined the crediting and purchasing elements of the first two auctions under the ERF. The ANAO (2016) found that in general 'applications for fund project registration and variation have been effectively assessed by the regulator' (p. 8). The report found, however, that documentation of decisions could be improved to demonstrate the basis on which registration decisions had been made.

For this review, the Authority asked stakeholders for their views on ERF governance arrangements.

In their submission on this review, GreenCollar stated that 'Governance seems to be agile and effective' (p. 11) and 'transaction costs are immaterial' (p. 11). Similarly, Arnhem Land Fire Abatement (ALFA) 'has not found the current transaction costs to be onerous and recognises that rigorous processes maintain the integrity of the scheme' (submission on this review, p. 7).

Other submissions, however, expressed concern about consistency and transparency of decision making. For example Climate Friendly said 'responses are often informal and remain un-documented. This can create an unfair advantage, or inconsistency in implementation approaches, for market participants that have not received the same advice' (submission on this review, p. 9).

The Authority also received feedback from stakeholders on the continued need for simple online guidance on the ERF and mechanisms to ensure timely responses to online, email and phone enquiries.

For example, in their submission on this review Climate Friendly said:

> *There remain numerous system glitches [in the CER's online ERF portals], including differences between questions that appear in the portal and those that appear in printed versions of the portal form. Further, Climate Friendly regularly encounters problems with*

> *projects that we manage not appearing in the portal, which takes time and resources for both the Regulator and our organisation to resolve* (p.10).

The Aboriginal Carbon Fund also told the Authority that while CER staff are very professional, it was sometimes difficult to get forms and reports through the CER. They also emphasised the importance of clear, consistent guidance being available on the website.

Other submissions, however, supported the CER's decision making processes. For example, GreenCollar said 'the current processes strike an effective balance between market integrity and scheme participation' (submission on this review, p. 8), while ALFA said:

> *experience to date with the operational aspects of the ERF and the CER has been very positive. Information provided on the website and directly by staff members is informative and very helpful and the decision making is consistent and in line with the legislation* (submission on this review, p. 6).

After taking into account stakeholder views, the Authority is of the view that the CER should investigate ways to better meet client needs in terms of responding to complex enquiries in a timely manner and providing transparent information about reasons for decisions. A survey of clients could be used to elicit views and inform the development of a work program to address these issues. The Authority suggests looking at best-practice examples from other sectors such as real-time online 'do you want to chat' help systems being used by some banks and telecommunications companies.

RECOMMENDATION

R. 24. The Clean Energy Regulator investigate ways to further enhance client services, particularly when responding to complex enquiries.

The Authority's other findings that could improve governance for crediting, purchasing and other administrative issues are discussed in the relevant chapters in this report.

12.2 COSTS OF ADMINISTERING THE EMISSIONS REDUCTION FUND

The CER has a budget of $2.55 billion to purchase emissions abatement on behalf of the Government through the ERF. Total departmental funding allocated to the Clean Energy Regulator (CER) in 2016-17 was $71 million (Australian Government 2017). In addition to the crediting and purchasing elements of the ERF, the CER is responsible for administering the Renewable Energy Target, the National Greenhouse and Energy Reporting scheme and the Safeguard. ERF functions are integrated with similar functions in other schemes which makes identifying ERF-specific costs challenging. However, the CER provided the Authority with an estimate of the cost of administering the ERF from 2014-15 to 2017-18, and also the expected cost of purchasing abatement over that time.

The CER conducts a range of different activities to administer the ERF. Registration and crediting activities as well as auction and contract management represents a significant proportion of CER expenditure (CER 2017d, pers comm). The distribution of these costs could change over time as the ERF matures and design changes are made.

The Department of the Environment and Energy perform important functions for the ERF including policy development, method development and review as well as support for the Emissions Reduction Assurance Committee. The CER also participates in many of these policy development tasks. These functions are funded with departmental funding. On balance the Authority decided not to include these costs in its assessment of the administration of the ERF because method development and ERAC support are essentially policy related tasks rather than administration. The Authority notes that neither the CER nor the Department received additional funds for the ERF beyond the amount made available to them to administer previous programs (the carbon pricing mechanism and the CFI). Like other Commonwealth agencies, the Department and the CER are subject to the efficiency dividend that reduces agency budgets each year.

12.2.1 SUMMARY OF COSTS OF MANAGING THE EMISSIONS REDUCTION FUND

The average costs over the initial forward estimates period for the scheme (four years from 2014-15 to 2017-18) are in Table 9.

TABLE 9: ERF (NOMINAL) COSTS TO THE GOVERNMENT OVER THE PERIOD 2014-15 TO 2017-18

	AVERAGE COST PER YEAR ($M)	MAXIMUM AVERAGE COST PER ACCU DELIVERED ($)
Costs of purchasing abatement	138	11.83
Costs of managing the scheme - CER	19	1.66
Total cost	158	13.50

Note: Costs are based on scheme costs from 2014-15 to 2017-18 and are sourced from CER budget estimates, and CER projected delivery of abatement. Figures in this table are reported in nominal terms to be consistent with published information, such as the average price of ACCUs. Policy related functions are excluded. Totals may not add up due to rounding.

Source: Climate Change Authority based on data provided by the CER.

ERF administration costs (Table 9) are maximum costs as costs incurred in the early years of the scheme incorporate all the costs of establishing processes to register and credit projects and establishing contracts for ACCUs that will continue to deliver beyond the first four years. The CER expects to achieve efficiencies over the life of the ERF, which could lower costs. To deliver the full amount of abatement contracted, the ERF will need continued funding for the length of carbon abatement contracts, and longer to ensure the permanence of carbon stored.

The ERF is a unique and complex policy, which makes it difficult to benchmark or compare its administration costs with other government programs. However, the Authority found that the ERF's administrative costs appear to compare well when benchmarked against other government programs that also allocate public money, or take the form of legislative schemes that provide credits for activities that reduce emissions (for example state energy efficiency certificate schemes) (Table 10 and Appendix D).

TABLE 10: COMPARISON OF THE COST OF THE ERF WITH OTHER GOVERNMENT PROGRAMS

	OTHER GOVERNMENT PROGRAMS	COST OF THE ERF
Australia Council grant programs	$0.01-$0.51 per dollar of funding distributed	$0.14 per dollar dispersed between 2014-15 and 2017-18
State energy efficiency certificate schemes	$2.95 per tonne of CO_2-e	$1.66 per ACCU delivered between 2014-15 and 2017-18

Note: Costs are in nominal terms. More information about these comparator programs can be found at Appendix D.
Source: Climate Change Authority.

The Authority sought to compare the costs associated with the ERF with other similar programs overseas such as the California Compliance Offsets Program. The Authority notes that Californian tradable emissions units (which are indicative of offset costs) traded for between about A$17.50 to A$20 per tonne of CO_2-e in California in 2017 (InterContinental Exchange 2017). Korean offset credits have traded for between A$24.70 to A$34 per tonne of CO_2-e over the past 6 months (KRX 2017). This is considerably higher than the average auction price for ACCUs at $11.83 per tonne of CO_2-e, and even if the costs of administration are included.

12.2.2 ONGOING BENEFITS FROM CURRENT EXPENDITURE

ERF administration is important for maintaining the integrity of the ACCUs issued. The Authority notes however that the ERF's administrative costs reflect the large number of individual projects, methods and scheme participants. Recommendations described in other sections of this report (such as Recommendations 18 and 25) aim to improve the efficiency of the scheme over time.

Registration, crediting and compliance activities are necessary for the governance of offset schemes and are likely to be needed even if the Government's purchasing element of the ERF winds up. As noted in its *2016 Special Review* (CCA 2016), the land sector is well suited to offsets schemes and the Authority remains of the view that the crediting aspects of the ERF should continue for that sector. Costs associated with ERF administration can therefore be considered as an investment in future emissions reduction policy (Chapter 14).

12.3 COMPLIANCE

The CER uses a risk-based approach to compliance, focusing on the likelihood and consequences of non-compliance, the behaviour and intention of participants and the costs associated with making sure scheme participants are meeting their legislative requirements.

The CER's approach to compliance and enforcement is set out in its compliance, education and enforcement policy available on its website (CER 2017h). Additionally, the CER has also released a document that outlines its compliance priorities for 2017 (CER 2017g). For the ERF, these include:

- Reassessing matters where false or misleading statements have been made or material information has been withheld.
- Confirming and validating that projects are not already claiming ACCUs under another ERF project or other Government programs.
- Using data analytics and Geographic Information Systems to check if the volume of ACCUs issued lines up with other data sources and re-auditing if anomalies are found.

- Proactively engaging with contracted parties to help ensure the correct volume of ACCUs will be delivered over the term of the contract and ensuring conditions precedent are being met to allow contracts to commence.
- Monitoring and reviewing variations to the delivery of ACCUs over the term of the contract to ensure they are sought in a timely and appropriate manner.

Publication of the compliance focus is intended to increase levels of voluntary compliance, and identify areas for improvement (CER 2017d).

The CER monitors ERF projects and participation and works in close partnership with other agencies that have regulatory responsibilities to share information and where appropriate, refer matters for enforcement. Information provided by scheme participants also assists in that process. Where the CER suspects a breach of the CFI Act has occurred or may occur, the CER may use its investigative powers under the CFI Act to audit a participant or use other methods to further investigate compliance or request additional information. Where a scheme participant has failed to satisfy their legal obligations, the CER will consider the nature of the non-compliance when determining how it will deal with the matter.

12.3.1 COMPLIANCE PENALTIES

The CER has a range of graduated enforcement options at its disposal. For example, where the participant has accidentally failed to comply with an obligation, and is taking steps to rectify the problem, the CER may guide the participant on how to best address the non-compliance. Where there is deliberate non-compliance with evidence of a criminal or fraudulent intent, the CER may initiate investigations, pursue civil action or refer matters for criminal prosecution. The CER can also revoke the registration of an ERF project or enter into a voluntary, but enforceable, undertaking with the scheme participant. The CER can also obtain court injunctions to prevent or require action to occur (CER 2017e).

12.3.2 PENALTY INFRINGEMENT NOTICES

The Authority examined the compliance penalties available to the CER in Chapter 5 when considering permanence and concluded that the tools available are generally sufficient. There is one exception however, which relates to more minor infringements.

The CFI Act specifies that certain ERF requirements such as project reporting are subject to civil penalties. To use these penalties, the CER must work through the courts, which can be a lengthy and expensive process. The lack of compliance may also be of a minor nature, which in turn means that seeking civil penalties may not be justified.

Other legislative schemes such as the Small-scale Renewable Energy Scheme can issue penalty infringement notices similar to fines for relatively minor compliance breaches without the need to go through the courts (*Renewable Energy (Electricity) Act 2000* (Cth)). The Authority is of the view that issuing penalty infringement notices for specified more minor compliance breaches would be a useful enforcement option for the CER because it would enable instances of non-compliance to be calibrated to the specific infringement and dealt with cost-effectively.

RECOMMENDATION

R. 25. The *Carbon Credits (Carbon Farming Initiative) Act 2011* (Cth) be amended to expand the Clean Energy Regulator's regulatory toolkit to include issuing penalty infringement notices (similar to fines) for some specified instances of non-compliance such as non-reporting.

CHAPTER 13. INTERNATIONAL MARKETS

International trade in emissions reductions can help to achieve domestic and global emissions reductions at lower cost by allowing countries to import international units from overseas if they are cheaper than reducing emissions domestically. Provided the emissions reductions underlying any carbon unit are genuine, international emissions reductions have the same effect to reduce emissions as domestic reductions. However, extensive use of international units could delay efforts to make the Australian economy less emissions intensive over time.

13.1 INTERNATIONAL DEMAND FOR AUSTRALIAN CARBON CREDIT UNITS

Under the Emissions Reduction Fund (ERF), exports of Australian Carbon Credit Units (ACCUs) are not allowed. While the export of ACCUs may increase demand and spur investment in ERF projects, abatement represented by ACCUs that are exported does not count towards meeting Australia's emissions reduction targets and would make the task of meeting Australia's targets more difficult (Australian Government 2014).

While there is currently an excess of carbon credits in the international market (Ecosystem Marketplace 2017), the Authority is of the view that international demand for ACCUs will increase over time in response to a number of arrangements outlined below.

- The Paris Agreement: As countries implement policies to meet their commitments under the Paris Agreement, there may be increased demand for international units, possibly including for ACCUs. The implications of the Paris Agreement, in particular the international trading features of the agreement, will evolve over time.

- The International Civil Aviation Organisation (ICAO): ICAO is currently developing a market based measure to offset and reduce emissions growth from the international aviation sector – the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA). The required volume of emissions that would be needed to be offset annually under CORSIA could be around 142 to 174 Mt CO_2-e by 2025 and more than double that volume by 2035 (ICAO 2017). The types of carbon units that will be eligible for use under CORSIA has not yet been determined. The Australian Government could apply to ICAO for ACCUs to be recognised under the scheme. If accepted such a move could require a Government decision to allow for the export of abatement represented by ACCUs and ensure that abatement is not double counted. If ACCUs were not eligible, Australian based airlines may not be able to use ACCUs to comply with the scheme.

- International Carbon Reduction and Offset Alliance (ICROA): ICROA has recently endorsed the use of units issued through the ERF (ICROA n.d.). ICROA members include leading global carbon service providers who adhere to the ICROA code of best practice which is an international standard for best practice carbon management and offsetting. In 2016, around 63 Mt CO_2-e was traded on the international voluntary carbon market including by ICROA members (Ecosystem Marketplace 2017). While small, demand could increase over time if more companies strive to meet social corporate responsibility goals.

Allowing for the export of ACCUs could increase the price of ACCUs and provide increased opportunities for Australian ERF scheme participants. Arnhem Land Fire Abatement, the Carbon Market Institute and Energetics highlighted the increased opportunities that exporting ACCUs could provide for scheme participants in their submissions on this review and the 2017

review. The Authority is of the view that allowing the export of ACCUs is also likely to increase the cost of compliance with Australian policies including safeguard obligations, make-good provisions under the ERF and possibly the National Energy Guarantee. As a result, exports of ACCUs should not be allowed at this stage.

Increased prices for ACCUs on the secondary market may also lead to an increased risk of non-delivery under ERF contracts as scheme participants may be able to sell their ACCUs at a higher price than under their ERF contract. This risk is likely to be material only if the price of ACCUs becomes more than twice the price under the ERF contract due to the design of market damages under the ERF contract (Section 10.4.3).

13.2 USE OF INTERNATIONAL UNITS FOR EMISSIONS REDUCTION FUND COMPLIANCE

The ERF White Paper states that the ERF was intended to incentivise domestic emissions reductions and international units cannot be surrendered to meet contractual obligations under the ERF. This restriction aims to direct ERF funds towards Australian emissions reductions, improve the productivity of Australian businesses and support the domestic carbon market (Australian Government 2014).

In the current market, some international units are significantly cheaper than ACCUs. For example, Certified Emission Reductions that meet the European Union Emissions Trading System eligibility criteria trade at below A$0.50/t (InterContinental Exchange 2017a). However, units in other countries' emissions trading schemes trade at similar or higher prices than the average price (A$11.83) paid for ACCUs at auction (CER 2017k). For example, European Union Allowances are around A$11.40/t (InterContinental Exchange 2017b) and South Korean Emissions Trading Scheme units trade at over A$20/t (KRX 2017).

The current availability of lower cost international units means that allowing for the use of international units to satisfy ERF contractual or safeguard obligations would likely see a significant decline in the use of ACCUs and a decline in Australian based offset projects. This could reduce the extent and pace of structural change in the Australian economy towards low emissions production. The risks of delaying domestic emissions reductions was highlighted by AGL in their submission on this review: 'a reliance on international carbon markets could effectively defer Australia's own decarbonisation, exposing the economy to greater structural shock in the future should "deep cuts" be required domestically' (p. 4).

Allowing ERF obligations to be met using international units could also lead to a windfall gain to ERF scheme participants who could substitute cheaper international units for ACCUs and still meet ERF contract delivery obligations.

The Authority is of the view that allowing international units to be used to meet ERF contractual obligations or allowing for the export of ACCUs is not in line with the policy intent of the scheme.

In its *2016 Special Review*, the Authority recommended that coverage of the safeguard mechanism be expanded to more facilities and that the safeguard benchmarks be tightened over time. In that context the Authority also recommended that robust and genuine international units could be used for compliance with enhanced safeguard obligations to address international competitiveness concerns (CCA 2016). The Government is considering the safeguard mechanism in its current 2017 review (DoEE 2016c). The Authority will consider the safeguard mechanism and the role of international permits for it in its review of the National Greenhouse and Energy Reporting legislation in 2018.

13.3 LINKING SCHEMES IN THE FUTURE

New opportunities to export ACCUs or link Australia's domestic emissions reduction policies to schemes in other countries may arise in the future. Future policy linkages may represent opportunities to lower the cost of abatement or generate a new source of export revenue for Australian offset providers. For ACCUs to supply these markets, the integrity or quality of ACCUs must meet the requirements of the foreign markets. This should be considered when making any changes to the way ACCUs are generated to ensure any opportunities for linking in the future are not compromised. In their submission on the 2017 review, GreenCollar stated that 'Where linking and export of ACCUs is considered, the review should explore how methods developed under the ERF can be aligned with international standards and other carbon offset markets' (p. 13).

Climate Friendly (in their submission on this review) also said that '[to] ensure that ACCUs are eligible for future international markets, it is critical that methods are reviewed in the context of evolving international accounting rules and [Intergovernmental Panel on Climate Change] guidance' (p. 10).

The Authority agrees with these submissions and notes that the Department seeks to ensure that the estimation of emissions reductions from ERF projects aligns with evolving United Nations Framework Convention on Climate Change and Intergovernmental Panel on Climate Change guidance (Australian Government 2014, DoEE 2017f).

International units was one of the issues identified for consideration in the 2017 review (DoEE 2016b). The rules for a new mechanism, which may allow international linking of domestic emissions reductions is under negotiation for the Paris Agreement.

CHAPTER 14. THE FUTURE OF THE EMISSIONS REDUCTION FUND

The Authority considered the role that the Emissions Reduction Fund (ERF) could play in meeting Australia's Paris Agreement obligations as part of its report *Towards a Climate Policy Toolkit: Special Review on Australia's climate goals and policies* (CCA 2016). The Authority is of the view that its *2016 Special Review* recommendations for the ERF remain current.

To recap, the Authority recommended that ERF crediting and purchasing continue until other policies (such as a Clean Energy Target[10] or Emissions Intensity Scheme, a national energy efficiency savings scheme, an expanded safeguard mechanism, vehicle emissions standards and regulation for landfill waste and synthetic gases) are put in place. The Authority envisages an ongoing role for offsets in the land sector, using a continuation of ERF crediting, as a complement to other policy measures the Authority recommended for the tool kit.

The broader climate policy context has changed, however, in relation to the energy generation sector. Since the completion of the *2016 Special Review* and the Authority's 2017 joint review with the Australian Energy Market Commission (AEMC & CCA 2017), the Government has announced its National Energy Guarantee, which will require energy retailers to meet both reliability and emissions standards (DoEE 2017a). The announcement of the Guarantee was welcomed by many in business and more broadly as a way of securing investment certainty for the energy generation sector and providing secure and reliable energy while reducing emissions (Morgan & Janda 2017).

14.1 A DYNAMIC POLICY ENVIRONMENT

The Guarantee policy framework is fairly high level, however, with much detail still to be filled in through further policy design and consultation. It would be premature for the Authority to offer much commentary on the Guarantee at this stage. That said, the Authority remains strongly of the view that there is a pressing need for investment certainty in the energy sector and the Guarantee offers a viable pathway towards this goal.

Government decision making on measures for other sectors (including those covered by the ERF) is being informed by its 2017 review, the outcomes of which had not been announced at the time this report was being finalised (DoEE 2016c).

Given the uncertainty about the policy suite the Government will use to meet its Paris Agreement emissions reductions goals, it is difficult to be definitive about how the ERF should transition to whatever comes next.

In the remainder of this chapter, the Authority offers some observations to help guide decision makers chart a course so the ERF can play its part in the future climate policy set.

14.2 OFFSETS FOR THE LAND

As noted above, the Authority found in its *2016 Special Review* that offsets are well suited to the land sector and that the crediting arm of the ERF should continue to serve this purpose.

[10] The Authority since recommended that the Government consider a Clean Energy Target if it is unable to implement an emissions intensity scheme (AEMC & CCA 2017).

Some stakeholders agree with this proposition. In their submission on the 2017 review, the National Farmers' Federation (NFF) said that the land sector should continue to be covered by an offsets scheme.

Farmers for Climate Action stressed 'the need for… a multi-sector emissions reduction approach' and supported the participation of the land sector through the ERF with 'long term certainty and [some recalibration of ERF policy settings] to encourage farmers to participate' (submission on this review, pp. 1-2).

Recent international research demonstrates the important role that the land sector can play in reducing emissions. It is estimated that improved stewardship of the land (including conservation, restoration, and improved land management across global wetlands, agricultural lands and grasslands) can deliver 37 per cent of cost effective mitigation needed globally by 2030 to hold warming to below 2°C. In addition to reducing emissions, these actions will also generate co-benefits (Griscom et al. 2017).

CSIRO modelling indicates that the technical potential for carbon storage in the land sector in Australia through new plantings and regeneration could be substantial—up to 513 Mt CO_2-e per year between 2031 and 2050 (Bryan et al. 2015). This would, however, require an unprecedented level of revegetation of agricultural land. The extent to which this potential is likely to be realised also depends on a range of factors including future carbon prices, availability of water, agricultural commodity prices and any impacts on regional communities.

A number of stakeholders have pointed to the need for more research and development (R&D) funding for land based offsets so that further abatement opportunities can be realised. In its submission on this review, the Carbon Market Institute (CMI) said 'The Government should commit to an allocation of more R&D funding for ERF method development so that Australia can optimise investment in land sector abatement' (p. 5). The NFF also said more incentives were needed. A recent report to the Queensland Government pointed to the need for new methods to cover woodland restoration, mangrove protection and restoration and fertiliser use in sugar cane (EHP 2017). Meat and Livestock Australia has identified reducing methane emissions from livestock as an area for R&D activity (MLA 2017).

The Authority is of the view that opportunities remain to reduce emissions from the agriculture and land sector, and that additional R&D is required on the science and estimation techniques needed to support new methods and for development of the methods themselves, using the approach to prioritisation outlined in Section 3.6. In addition, the Authority recommends that rural R&D corporations (which are responsible for a significant amount of agriculture related R&D) prioritise research on reducing emissions from agriculture in their work programs.

RECOMMENDATION

R. 26. The Government allocate additional funds to the Department so it can collaborate with research organisations and stakeholders on new methods for the land sector, drawing on the consultation process for new method development (Recommendation 1) and the Government require rural research and development corporations include emissions reductions as one of the priorities for their research and development work.

14.3 EMISSIONS REDUCTION FUND: FROM GOVERNMENT PURCHASE TO A PRIVATE MARKET

A number of stakeholders supported new funding for the ERF as a transitional measure until an alternative source of demand for Australian Carbon Credit Units (ACCUs) emerges (AGL, GreenCollar and Australian Petroleum Production and Exploration Association submissions on this review).

Also, CMI's submission on this review said:

> *The Government should commit a quantum of additional funding allocation to the ERF that is required to ensure the continuity of the domestic carbon offset industry until the time it transitions to a market driven by demand under the Safeguard Mechanism (p. 6).*

The Wentworth Group in their submission on this review noted that, in the long term, an alternative source of demand for ACCUs beyond the Government would be necessary to spur investment in ERF projects.

Any new funding for ERF purchasing would be a matter for future Government decision making in the context of the federal budget. Given the tight fiscal outlook, the Authority expects that it may be challenging to obtain significant new funds for ERF purchasing. There is however more than $300 million left (excluding the results of the December 2017 auction), which could provide some continuity of investment.

The Authority remains of the view however that ERF purchasing of emissions reductions will need to perform less of Australia's emissions reduction task over time and that Government purchasing will need to be replaced by the emergence of a private market incentivised by other measures.

The possibility for retailers to use ACCUs or international units to meet the emissions requirement (after it is implemented in 2020) is one of the Guarantee design features that is still to be settled. At this stage, it is difficult to tell whether the Guarantee or another policy like an expanded safeguard will deliver new demand for ACCUs and ERF offset projects into the future. The Authority notes that allowing energy retailers to use ACCUs and international units to meet their Guarantee compliance obligations could allow greater flexibility and lower costs. As outlined in the *2016 Special Review*, the Authority considers that use of international permits could complement domestic action provided they are robust and credible. It will be important that the use of international units and ACCUs does not delay the sector's transition to lower emissions energy.

14.4 BUILDING ON EXISTING INVESTMENTS

The Government has invested in ERF crediting of offsets through method development, assessment and review, project registration and reporting, scheme administration and compliance. The private sector, government and non-government organisations have all become familiar with these arrangements and have crafted business models around them. There is now a significant body of experience and expertise across and beyond government. Continuing the use of the crediting aspects of the ERF will maximise the value of these investments.

The Authority is also mindful of the need to avoid stranded investments if there is a break in demand for ACCUs from Government contracts. Similarly the secondary market is likely to need ACCUs from new ERF projects for some time to come. It would be desirable to avoid an investment hiatus for ERF offset projects if Government purchasing winds up.

14.5 A PREDICTABLE AND TRANSPARENT POLICY TRANSITION

A predictable policy transition from the current ERF (crediting and purchasing across the economy) to one focused on crediting for the land sector means that, to the extent possible, businesses, households and other affected entities need a clear understanding of future policy arrangements so they can form well-founded expectations about the future.

For example, Climate Friendly in their submission on this review highlighted that establishing clearer climate change policy is of greater importance than adjusting operational aspects of the ERF:

> *without the right pricing signals and policy toolkit, improvements to the operational aspects of the ERF will not deliver Australia's contribution towards the Paris Agreement and tackle the pressing issue of climate change* (p. 3).

During the transition of the ERF away from Government purchasing activities and towards other sources of demand for ACCUs, the Government should seek to ensure its decisions are communicated well in advance of coming into effect (such as when certain activities will no longer be eligible as offsets and when Government auctions will phase out). This will help the private sector make decisions and investments that are cost and environmentally effective.

On the other hand, experience with the transition from the Carbon Farming Initiative (CFI) to the ERF offers some useful lessons. Some projects established in the early 2000s under now defunct offset schemes became eligible to generate ACCUs for the CFI and continue to receive ACCUs under the ERF. Care is needed to avoid projects transitioning from one scheme to another in a way that adversely affects ERF offsets integrity standards, particularly for additionality. As noted in Chapter 3, the Emissions Reduction Assurance Committee's review of methods and crediting periods is an important check against this risk.

In summary the Authority suggests that the following principles be used as a guide for the ERF to make an effective transition to a new role crediting land based offsets.

14.6 PRINCIPLES FOR TRANSITION

To the extent possible, government decision making should provide investment certainty about future policies and possible demand for ACCUs by:

- Ensuring that available funding and timing of future auctions are telegraphed well in advance.
- Communicating changes in the coverage of the ERF (from economy-wide to the land) with plenty of notice for sectors that may no longer be eligible to generate offsets.
- Maximising the use of the existing Government architecture developed to measure, credit and ensure compliance for offsets.
- Supporting, through funding for further research, the development of new methods to ensure the abatement potential from the land sector is maximised.

The Authority has used the assessment criteria in its legislation (economic efficiency, environmental effectiveness and equity) to analyse its guidance for the ERF transition (Table 11).

TABLE 11: ANALYSIS OF ERF TRANSITION GUIDANCE

CCA ASSESSMENT CRITERIA	ERF TRANSITION
Economic efficiency	Policy changes on the ERF are communicated well in advance to: - provide investment certainty and enable scheme participants to make effective decisions and investments for cost efficiency and environmental effectiveness; - minimise the risk of stranded assets. Using existing infrastructure and systems for example, for registering and monitoring offsets projects, can reduce costs and maintain the value of existing investments in these systems. Providing investment signals for ERF projects will ensure supply of ACCUs if required. For example, with respect to announcing policy on the future of the safeguard, the use of ACCUs under the National Energy Guarantee and clearly telegraphing future ERF auctions and funding will assist investment in ERF projects.
Environmental effectiveness	Ensuring ACCUs represent genuine abatement as additionality changes over time. New funding for research and development into new ERF methods in the land sector will maximise the extent of abatement available from the land sector and also reduce costs.
Equity	Treat stakeholders in a consistent manner and be cognisant if costs fall disproportionately on particular groups. Consider how any changes treat new entrants compared to existing scheme participants, and consult key stakeholders before changes are made.

CHAPTER 15. CONCLUSION

This review has found that the Emissions Reduction Fund (ERF) is generally performing well. It has successfully incentivised new domestic abatement at low cost that will help contribute to Australia meeting its international commitments. Just as important, it has also developed and implemented effective administrative arrangements for crediting robust abatement from sectors across the economy. In addition, the ERF has effective compliance architecture that supports both the crediting and purchasing arms of the measure.

This is no small feat: establishing a robust approach to emissions reduction offsets is challenging given the complex blend of policy and administrative judgement, highly technical considerations for emissions estimation and the need for timely and efficient stakeholder and client service.

The Authority has identified some risks for the ERF. On the purchasing side, the main risk appears to be that the measure may not deliver as much domestic abatement as anticipated. This risk could eventuate if policy uncertainty causes an investment chill for new projects, a low auction price drives low levels of uptake in some sectors and a lack of transparency in the secondary market hampers its ability to create an investment signal if shortfalls in supply emerge.

The potential for the reversal of carbon that will be stored in the 139 million tonnes of vegetation and other soil projects in the scheme is a significant risk. The Authority is of the view that the Clean Energy Regulator (CER) is on the right track in its approach. The key to managing permanence is twofold: firstly that all potential scheme participants are as aware as they can possibly be of the nature and timeframe of the obligation they are taking on, and secondly that the CER is very clear about its willingness to pursue scheme participants with vigour to enforce serious breaches of the scheme that result in a lack of permanence.

On the crediting side, the perennial risk is that the methods and resulting projects fall short of the ERF's offsets integrity standards, particularly for additionality. While there is scope for some continuous improvement with respect to additionality in the case of individual methods, the Authority has seen no evidence that a lack of additionality is a widespread problem across the scheme.

The Authority considers that the Emissions Reduction Assurance Committee (ERAC) plays a vital role as the gate-keeper of the ERF's integrity and encourages the Committee to be vigilant in acting as a critical friend to the scheme. The ERAC's method reviews will be a key vehicle for ensuring that methods and projects remain additional as the scheme matures and projects and methods come up for a possible extension of their crediting periods.

The Authority remains of the view that ERF purchasing of emissions reductions will need to perform less of Australia's emissions reduction task over time. Other policies will need to take up the challenge of decarbonising Australia's economy to deliver structural change. That said, the investment by both Government and the private sector in offsets for the land through the Carbon Farming Initiative and then the ERF is a substantial investment and should be built on as part of the policy toolkit Australia needs to meet its Paris Agreement goals.

APPENDIX A: GUIDING PRINCIPLES FOR THIS REVIEW

The principles established in the *Climate Change Authority Act 2011* (Cth) guide all of the Authority's work. These include that measures to respond to climate change should:

- be economically efficient, environmentally effective, equitable and in the public interest
- support the development of an effective global response to climate change, and be consistent with Australia's foreign policy and trade objectives
- take account of the impact on households, businesses, workers and communities.

The objects of the *Carbon Credits (Carbon Farming Initiative) Act 2011* (Cth) provide specific direction for this review. The objects are to:

- remove greenhouse gases from the atmosphere, and avoid emissions of greenhouse gases, in order to meet Australia's obligations under international agreements
- create incentives for people to carry on offset projects
- increase emissions reductions in a way that protects Australia's natural environment and improves resilience to the effects of climate change
- authorise the purchase by the Commonwealth of units that represent emissions reductions.

APPENDIX B: PUBLIC CONSULTATIONS

The Authority conducts public consultations for all of its reviews.

Throughout this review, the Authority consulted with a wide range of interested parties including industry, non-government organisations, research and development corporations, Indigenous groups, academics and Commonwealth and state and territory government organisations.

On 31 August 2017, the Authority released a paper to facilitate consultation for this review. The Authority received 28 stakeholder submissions, four of which were confidential. The non-confidential submissions are available on the Authority's website at www.climatechangeauthority.gov.au/submissions/submissions-received#oct2017.

In the interests of efficiency, the Authority also drew on submissions to the *Action on the land: reducing emissions, conserving natural capital and improving farm profitability* issues paper it released in March. The Authority also drew on submissions to the Department of the Environment and Energy's 2017 review of Australia's climate change policies.

The Authority thanks all those that provided submissions or engaged with the Authority for this work.

Organisations that made non-confidential submissions to this review were:

- AGL Energy
- Arnhem Land Fire Abatement (NT)
- Australian Forest Products Association
- Australian Gas Infrastructure Group
- Australian Petroleum Production and Exploration Association
- Carbon Market Institute
- Climate Friendly
- ConocoPhillips
- Country Carbon
- Eastern Alliance for Greenhouse Action
- Farmers for Climate Action
- GreenCollar
- Kimberley Land Council
- National Farmers' Federation
- National Waste and Recycling Industry Council
- Our Energy Group
- Dr. Paul Burke (Australian National University)
- Peter Yench
- Southern Atherton Tablelands Revegetation Alliance
- The Wilderness Society
- Trust for Nature
- Victorian Catchment Management Authorities
- Wentworth Group
- Western Australian Local Government Association

APPENDIX C: OUTLINE OF METHODS UNDER THE EMISSIONS REDUCTION FUND

METHOD	DESCRIPTION	CONTRACTED ABATEMENT (MILLION ACCUs)
Vegetation management		
Avoided deforestation	Protects native forest that would otherwise be cleared for use as cropland or grassland, thereby storing carbon in the trees as they grow and avoiding emissions that would have occurred by clearing. To be eligible, the landholder must have received a clearing permit before 1 July 2010.	25.7
Avoided clearing of native regrowth	Retains native forest that would otherwise be cleared in the normal course of events, thereby storing carbon.	0.4
Human-induced regeneration of a permanent even-aged native forest	Establishes a native forest on land where native forest is being supressed using regeneration activities. Regeneration activities include excluding livestock, managing the timing and extent of grazing, and stopping destruction or suppression of native regrowth.	80.5
Native forest from managed regrowth	Allows native vegetation to regrow by stopping activities that prevent regeneration of native vegetation. Scheme participants can erect fencing to exclude livestock or remove non-native plant and animal species.	4.2
Reforestation and afforestation	Establishes forests by establishing a new forest or re-establishing a depleted forest on land previously used for grazing or cropping. Uses measurement to estimate carbon stored. Projects can involve any type of tree species, except for declared weed species.	0.7
Reforestation by environmental or mallee plantings - FullCAM	Establishes new forests by permanently planting native trees or mallees to store carbon. The method uses the FullCAM carbon model to estimate carbon captured by the growing trees.	9.8
Measurement based methods for new farm forestry plantations	Establishes a forest on land that has previously been used for grazing or cropping. Can include establishing trees for commercial harvest.	0.0
Designated Verified Carbon Standard projects	Enables avoided harvest projects validated under the Verified Carbon Standard (internationally recognised and credible international standard) to transition to the ERF. Scheme participants avoid emissions and sequester carbon by protecting native forests and not harvesting them.	0.8
Plantation forestry	Increases carbon storage through establishing and managing commercial plantation forests by establishing new plantation forests, converting short-rotation plantations to long rotations, or maintaining existing plantations established under another ERF method. This method uses FullCAM to model the carbon abatement of projects.	0.0
Waste and wastewater		
Landfill gas	Reduces methane from landfills by installing or expanding the operation of a flare or an electricity production system.	20.1
Alternative waste treatment	Recycling or composting waste at alternative treatment facilities to reduce methane from landfills.	3.7
Source separated organic waste	Allows for recycling or composting of waste by separating them (ie into different waste bins) This waste is then treated using alternative treatments such as composting and biodigestion. Also credits abatement resulting from the collection and distribution of surplus food by charities that would otherwise go to landfill.	0.2
Wastewater treatment	Captures and combusts methane generated by wastewater treatment by replacing open lagoons with either a covered lagoon or an engineered biodigestor and combusting the biogas.	0.3
Agriculture		
Sequestering carbon in soils in grazing systems*	Increases the carbon stored in soils by converting cropland to pasture, rejuvenating pastures, or changing grazing patterns. The amount of carbon sequestered is estimated by direct-measurement using soil sampling	16.7

Estimating sequestration of carbon in soil using default values	Increases the carbon stored in soil through one or more of three project management activities: adding fertiliser, lime and water, stubble retention or conversion to pasture. The amount of carbon stored is estimated using FullCAM modelling.	0.0
Fertiliser use efficiency in irrigated cotton	Improves the efficiency of synthetic fertiliser use in irrigated cotton, reducing emissions by activities such as changing the rate, timing or type of nitrogen fertiliser application.	0.0
Destruction of methane generated from manure in piggeries*	Prevents the release of methane generated from piggery manure by covering open effluent lagoons and combusting the biogas using flares, an electricity generation system, or a gas boiler.	0.8
Destruction of methane from piggeries using engineered biodigesters*	Prevents the release of methane generated from piggery manure by combusting the methane component in engineered biodigesters. The methane can be used to generate electricity or combusted using a flare.	0.0
Destruction of methane generated from dairy manure in covered anaerobic ponds*	Prevents the release of methane generated from dairy manure by collecting the biogas from covered effluent ponds and combusting the methane component. The methane can be used to generate electricity.	0.0
Beef cattle herd management	Reduces the emissions intensity of beef cattle production through a broad range of management activities such as supplement feeding, improving pastures and installing fences to control herd movements.	0.2
Reducing greenhouse gas emissions in beef cattle through feeding nitrate containing supplements*	Reduces methane emissions from enteric fermentation with nitrate lick blocks for pasture-fed beef cattle.	0.0
Reducing greenhouse gas emissions in milking cows through feeding dietary additives*	Reduces methane emissions from enteric fermentation and manure by changing dairy cows feed.	0.0
Savanna burning		
Savanna fire management	Reduces greenhouse gas emissions through fire management in the early dry season in northern savannas, aimed at reducing the incidence and extent of larger, higher intensity late dry season fires.	13.8
Fugitives (Mining, oil and gas)		
Coal mine waste gas	Reduces coal mine waste gas methane by installing or expanding the operation of a flare or an electricity production system. Projects may be credited both for methane destruction and for electricity displacement.	5.3
Oil and gas fugitives	Reduces fugitive methane emissions from venting at oil and natural gas extraction, production, transport and processing facilities through the use of flares.	0.0
Energy efficiency		
Aggregated small energy users	Improve energy efficiency and reduce emissions amongst a large group of households or small businesses by for example switching to LED lighting or installing more efficient water heating systems.	0.0
Commercial and public lighting	Improves the energy efficiency of lighting systems in commercial, industrial or public buildings or in public areas. Projects can include modification of existing lighting equipment or control systems.	2.6
Commercial building energy efficiency	Improves the energy efficiency of a single building or a group of buildings in offices, hotels and shopping centres to reduce their emissions intensity. Projects can include upgrading lighting systems or introducing more energy efficient heating and cooling systems, or changing the components or shell of the building to reduce energy consumption.	0.0
High efficiency commercial appliances	Improves the energy efficiency of commercial appliances such as air conditioners and refrigerated display cabinets by upgrading existing appliances or installing new ones.	0.0
Industrial electricity and fuel efficiency	Improves the energy efficiency of commercial or industrial equipment by upgrading equipment such as boilers or pumps or converting equipment to operate on lower emissions fuel (fuel switching).	2.0

Refrigeration and ventilation fans	Improves the energy efficiency of fans used in refrigeration systems such as refrigerated display cabinets and cold storage warehouses, as well as fans ventilating commercial and industrial buildings. Scheme participants can upgrade existing fans or install new ones.	0.0
Transport		
Land and sea transport	Reduces the emissions intensity of vehicles by replacing existing vehicles, modifying existing vehicles, changing energy sources (fuel switching) or mix of energy sources, and changing operational practices.	1.2
Aviation	Improves the energy efficiency of air transport through a broad range of activities including modifying existing planes, changing energy sources or the mix of energy sources, and changing operational practices.	0.0
Facilities		
Facilities	Reduces the emissions intensity of a facility. Projects may include upgrading turbines or reducing industrial process emissions. The method determines a baseline emissions intensity against which project abatement is calculated. ACCUs are then issued to participating facilities that reduce their emissions intensity per unit of output below the baseline level.	0.0

Note: Methods marked with an asterisk (*) transitioned from the CFI to the ERF on 1 July 2015. For vegetation and agriculture methods, there are broadly two approaches to measuring carbon abatement. These are either a direct-measurement approach or a modelled approach using the Full Carbon Accounting Model (FullCAM). The method description indicates which approach is used where it is appropriate to distinguish one method from another with similar activities. Contracted abatement is as at 16 November 2017.
Source: Climate Change Authority based on CER 2017k; DoEE n.d.b.

APPENDIX D: COMPARING THE COST OF THE EMISSIONS REDUCTION FUND WITH OTHER GOVERNMENT PROGRAMS

The Emissions Reduction Fund (ERF) is a unique and complex policy which makes any benchmarking or comparison exercise difficult. Some examples of how the ERF differs from many other programs that may be considered similar include:

- The ERF combines two different core sets of activities – crediting and purchasing.
- The complexity of the registration, reporting and auditing requirements of the ERF is greater than many other programs.
- The length of time over which each project is managed is much greater than other purchasing or grant programs. ERF compliance oversight can last for 100 years.

In addition to the challenges of comparing policies, the availability of data to enable comparisons is limited. The following comparisons are intended to put the administrative costs of the ERF in the context of other government programs rather than being direct analogues.

GRANT PROGRAMS

The Authority recognises that the ERF is not a grant program as contracts are awarded through competitive auctions and payment is only made on delivery. However, the ERF allocates public funds and provides payment to recipients. It therefore shares some common aspects with grant programs.

The Australian National Audit Office (ANAO) benchmarks the efficiency of grant programs using estimates of administration costs for each $1 of grant funding. The Australia Council manages a range of grant programs and the ANAO reviewed the Council's grant programs in 2017. The administrative costs of the Australia Council were found to range from $0.01 to $0.51 per dollar of funding distributed. ANAO used other government grant programs to compare the efficiency of the Australia Council programs - these comparators cost between $0.01 and $0.11 per dollar of funding distributed (ANAO 2017).

A comparison can be made with the ERF by equating grant funding distributed to the payments dispersed to contractors. Over the four years to 2017-18, the administrative costs of the ERF to the CER are estimated to be equivalent to around $0.14 per dollar dispersed (Section 12.2.1). This is within the range of the costs observed for Australia Council grant programs but higher than the programs the ANAO used to benchmark the Australia Council's administrative costs. The reviewed grant programs are significantly less administratively complex than the ERF, however.

STATE ENERGY EFFICIENCY PROGRAMS

Energy efficiency programs run by state governments (such as the Victorian Energy Efficiency Target – VEET, and NSW's Energy Saving Scheme – ESS), encourage emissions reductions by accrediting energy efficiency activities. Under the programs, accredited businesses are issued certificates representing the energy and emissions avoided through their activities. In some ways, these schemes are similar to the ERF. However, most activities are deemed upfront and do not need the ongoing oversight that the ERF requires.

In analysis conducted in 2012, these schemes were found to have ongoing costs averaging $2.62 per t CO_2-e in 2011, or $2.95 in 2016-17 dollars (DCCEE 2012, adjusted for inflation by the Authority).

Based on the administrative costs over four years (2014-15 to 2017-18) and the number of ACCUs expected to be delivered over that period, the administrative costs per ACCU delivered are estimated to be around $1.66. The estimated cost of the state run energy efficiency scheme is therefore 50 per cent higher than the estimated nominal cost of the ERF. It should be noted that the estimated costs of the energy efficiency schemes were based on a single year – 2011, and the cost was expected to fall as the schemes matured.

APPENDIX E: OVERVIEW OF THE COSTS AND BENEFITS OF THE AUTHORITY'S RECOMMENDATIONS

The *Carbon Credits (Carbon Farming Initiative) Act 2011* (Cth) requires the Authority to analyse the costs and benefits of any recommendations formulated during this review. The Authority is also required to have regard to the principles set out in the *Climate Change Authority Act 2011* (Cth) (see Appendix A) when performing its functions. Table 12 presents a summary of the recommendations' outcomes against these criteria. Further analyses of the costs and benefits of the recommendations are made throughout the report.

TABLE 12: ANALYSING THE RECOMMENDATIONS' OUTCOMES

	RECOMMENDATION	ECONOMIC EFFICIENCY		ENVIRONMENTAL EFFECTIVENESS	EQUITY	IMPLEMENTATION PROCESS
		COSTS	BENEFITS			
R. 1	Establish a formal submission process for new methods to be developed by the Department and publish priorities for method development every two years.	Increases administrative cost for Department.	Could lead to lower cost abatement opportunities. Increases private sector understanding and certainty.	May increase abatement opportunities through new methods.	Increases transparency, stakeholder engagement and participation.	Minister/Department
R. 2	Develop guidance to clarify how the ERAC will interpret the ERF offsets integrity standards.	Imposes an additional administrative cost for the ERAC and Department in the short term.	Enhances transparency and consistency of the ERAC's decision making.	Could enhance the ERAC assessment of methods against the offsets integrity standards and help facilitate environmental integrity.	Improves transparency and maintains consistent decision making over time.	Minister/Department and the ERAC
R. 3	Separate senior executive accountability for the ERAC secretariat from that for method development.	Imposes an additional administrative cost for Department.	Could improve perception of the ERAC's independence and method development process.	NA	NA	Department
R. 4	Make method variations to incorporate guidance on the most current estimation techniques, tools and calculators. ERF scheme participants must move to the new method within two years if a variation is made.	Increases uncertainty and potentially costs for scheme participants. Returns on investment on existing projects could be lower than expected.	Improves integrity of emissions reductions and provides better value for tax payer funds. Reduces costs for CER and Department to maintain old methods and tools.	Improves integrity of emissions reductions.	Imposes a retrospective change on incumbents, transfers risk from the Government to scheme participants.	Change to CFI Act to capture existing methods. Minister and Department for the method variations.

	RECOMMENDATION	ECONOMIC EFFICIENCY		ENVIRONMENTAL EFFECTIVENESS	EQUITY	IMPLEMENTATION PROCESS
		COSTS	BENEFITS			
R. 5	As part of its method reviews, the ERAC to: - review the measured soil method to assess its effectiveness in distinguishing between natural variability and management actions - assess the estimation and project requirements for the human-induced regeneration method - assess the additionality of project activities and baselines of the native forest managed regrowth method - assess regulatory additionality baselines for the landfill gas method - look closely at whether the additionality requirements in each method remain current over time.	Part of existing ERAC costs. .	Could improve integrity of emissions reductions and provide better value for tax payer funds.	Ensures integrity of emissions reductions.	NA	Existing process

	RECOMMENDATION	ECONOMIC EFFICIENCY		ENVIRONMENTAL EFFECTIVENESS	EQUITY	IMPLEMENTATION PROCESS
		COSTS	BENEFITS			
R. 6	Require prospective scheme participants to include a plan for maintaining carbon stores when registering sequestration projects.	Increases project registration and reporting costs for CER and transaction costs for scheme participants.	Enhances scheme participants' understanding of risks and obligations associated with permanence. May reduce participant's costs in future if management to maintain carbon is more cost effective than replacing lost carbon. Could lead to a net reduction in administrative costs for CER if it leads to less compliance action as result of reduced reversals.	Could increase the likelihood that the sequestration is maintained over time.	Treats new entrants differently to incumbents.	Minister make legislative rule (currently under consideration)
R. 7	Require fire management plans for sequestration and savanna fire projects.	Increases administrative costs for CER and transaction costs for scheme participants.	Aims to improve scheme participants' approach to managing risk from fire. May reduce participant's costs in future if fire management is more cost effective than replacing lost carbon. Reduces risk for ERF and Government.	Could increase the likelihood that the sequestration is maintained over time.	Treats new entrants differently to incumbents.	Change to legislative rule
R. 8	Review the definition of a significant reversal of sequestration to better calibrate the risk of carbon losses.	Small administrative cost to CER.	Could be used to better calibrate compliance arrangements to risk of reversal.	More effective arrangements for permanence could help CER better manage risk of reversal.	Treats new entrants differently to incumbents.	Department
R. 9	Remove the ability for a scheme participant to request that the project area be omitted from the project register.	May reduce participation to a small degree due to confidentiality concerns.	Increases availability of information to future purchasers of land with a sequestration project and increases confidence that eligible interest holders are aware of projects.	Could reduce risk of reversal to some extent by increasing the transparency of obligations on the land.	Improves information availability and transparency for those with interests in relevant land areas, removes ability to omit projects.	Change to CFI Act

	RECOMMENDATION	ECONOMIC EFFICIENCY		ENVIRONMENTAL EFFECTIVENESS	EQUITY	IMPLEMENTATION PROCESS
		COSTS	BENEFITS			
R. 10	The CER include on their website a search function for ERF projects based on individual properties.	Increases administrative costs for CER.	Increases availability of information to future purchasers of land with a sequestration project and increases confidence that eligible interest holders are aware of projects.	Could reduce risk of reversal to some extent by increasing the transparency of obligations on the land.	Improves information availability and transparency for those with interests in relevant land areas.	CER
R. 11	Develop guidance for conveyancers and state and territory legal societies on permanence obligations that run with the land.	Increases administrative costs for CER.	Increases availability of information to future purchasers of land with a sequestration project so they have better knowledge of costs and risks to property values over time.	Could reduce risk of reversal to some extent by increasing the transparency of obligations on the land.	Improves information availability and transparency for potential purchasers of land.	CER
R. 12	Review the: - risk of reversal buffer and - the permanence period discount.	Increases costs for the Authority.	Assists Government in understanding the risks of reversal.	Could lead to better management of the risk of reversal across the scheme.	NA	CCA
R. 13	Require ERF scheme participants to notify CER of individuals and firms that they paid to provide them with advice.	Small increases in transaction costs for scheme participants.	Could enhance CER intelligence gathering and improve scheme compliance.	Could improve environmental effectiveness of the scheme by strengthening compliance.	Creates a more level playing field for scheme participants that abide by ERF rules. Reduces risk of unscrupulous scheme advisers.	Change to legislative rule
R. 14	Extend the Fit and Proper Person test to apply to designated agents.	Increases administration costs to CER and transaction costs to some scheme participants.	Could improve scheme compliance.	Could improve environmental effectiveness of the scheme by strengthening compliance.	Treats agents the same as scheme participants.	Change to CFI Act

	RECOMMENDATION	ECONOMIC EFFICIENCY		ENVIRONMENTAL EFFECTIVENESS	EQUITY	IMPLEMENTATION PROCESS
		COSTS	BENEFITS			
R. 15	Require a declaration from landholders that they have read the Department's aggregation agreement resources to register an aggregated project.	Small increase in administrative costs for CER and transaction costs for scheme participants.	Could enhance scheme participant's understanding of obligations and reduce the need for compliance action.	NA	Improves transparency and reduces asymmetry of information between landholder and aggregator.	Change to legislative rule
R. 16	Some industry bodies and local government associations consider providing advice to their stakeholders on ERF projects.	Increases costs for some industry bodies and local government associations.	Could lead to lower cost abatement opportunities. May reduce transaction costs and increase participation.	May increase abatement.	NA	Industry bodies/local government associations
R. 17	Finalise guidance on consultation with Indigenous communities. Require scheme participants to notify and engage with Registered Native Title Body Corporates and eligible interest holders (EIH) of intention to register a project and provide the CER with evidence of consultation. Scheme participants not be allowed to bid at auction until all eligible interest holder consents have been obtained.	Increases administrative costs for scheme participants. Restriction on bidding at auction may present a barrier to procuring finance. Could lead to reduced participation and higher auction prices.	Increases transparency. Reduces risk that ERF contract's conditions precedent are not met and ERF projects do not deliver abatement, delivering better value for tax payer funds. May reduce net administrative costs for CER.	Increased likelihood of Government contracting with projects that will go ahead to deliver abatement but less abatement may be purchased if auction prices rise.	Improves transparency and ability for EIHs to negotiate with scheme participants. Treats new entrants differently to incumbents, EIHs can negotiate with scheme participants prior to a contract being in place.	CER and Change to legislative rule
R. 18	Make explicit the CER's ability to reverse specific decisions in cases where the original decision was based on false or misleading information.	Increases risks for scheme participants.	More efficient administrative decision making.	NA	NA	Change to CFI Act

	RECOMMENDATION	ECONOMIC EFFICIENCY		ENVIRONMENTAL EFFECTIVENESS	EQUITY	IMPLEMENTATION PROCESS
		COSTS	BENEFITS			
R. 19	Remove the requirement to state whether sequestration or area based projects are consistent with relevant NRM plans and instead require scheme participants to provide evidence that they have advised the relevant NRM body of the proposed project.	Increases transaction costs to scheme participants and NRM bodies.	Scheme participant and NRM body more aware of risks and benefits of proposed project for local region.	NA	NA	Change to CFI Act
R. 20	No change to the purchasing principles.	No change to status quo.	Maintains focus on purchasing least cost abatement.	No change to status quo.	No change to status quo.	No change to status quo
R. 21	Revisit the cap on buyer damages under ERF contracts.	Increases potential costs for scheme participants, which may lead to reduced participation and increased auction prices.	May encourage delivery under contracts, could reduce risk to Government of needing to purchase abatement from elsewhere.	Increases incentives to deliver abatement against contracts but less abatement may be purchased overall if auction prices rise.	Treats new entrants differently to incumbents.	CER
R. 22	Require scheme participants to deliver a minimum of 30-50 per cent of ACCUs from the projects they used to register at auction.	Reduces flexibility for scheme participants and increases costs, which may lead to reduced participation and increased auction prices. Increases administrative costs to CER.	Greater certainty of delivery under contracts and reduces risk to Government of needing to purchase abatement from elsewhere.	Unlikely to change status quo assuming any replacement abatement purchased by the Government is robust.	Treats new entrants differently to incumbents.	CER
R. 23	Publish timely information about the holding of ACCUs. Publish a six monthly 'statement of opportunities' that sets out the forward schedule for ACCU delivery, availability of ACCUs in the secondary market and indicative demand and prices.	Increases administration costs to CER. May raise confidentiality concerns with scheme participants.	Improves the operation of the secondary market and decreases costs and risks for scheme participants.	An effective secondary market can provide an investment signal for more ERF projects and abatement.	Increases transparency.	Change to ANREU Act and ANREU regulations CER

	RECOMMENDATION	ECONOMIC EFFICIENCY		ENVIRONMENTAL EFFECTIVENESS	EQUITY	IMPLEMENTATION PROCESS
		COSTS	BENEFITS			
R. 24	Investigate ways to further enhance CER's client services, particularly when responding to complex enquiries.	Increases administration costs to CER.	May reduce transaction costs and increase participation.	NA	Improved information and transparency for clients.	CER
R. 25	Expand the CER's regulatory toolkit to include issuing penalty infringement notices.	NA	Should reduce compliance costs by reducing need to initiate court proceedings.	NA	NA	Change CFI Act
R. 26	Allocate additional funds to the Department to collaborate with research organisations and stakeholders on new methods for the land sector and require rural research and development corporations include emissions reductions as priorities for their R&D work.	Increases costs for Government and could redistribute existing funds from other areas.	Could lead to lower cost abatement opportunities.	May increase abatement through new methods.	Increases stakeholder engagement and participation. May have equity implications if there are less funds available for other programs.	Australian Government and rural research and development corporations.

Note: The implementation column notes how the scheme rules and operation would need to change in order to implement the recommended change. Where an agency (eg CER or Department) is noted, the required change is an internal administrative change that does not require changes to legislation or legislative instruments. Regardless of the technical implementation, scheme participant actions may also need to change to comply with the new arrangements.

GLOSSARY OF TERMS

TERM	DEFINITION
2017 Review	Government review of Australia's climate change policies being led by the Department of the Environment and Energy.
additionality	Emissions reductions that are additional to what would have occurred in the absence of a policy-induced project or activity.
aggregation agreement	An agreement for carbon services related to participating in the ERF. Can include aggregators, site owners (or landholders) and service providers.
Australian carbon credit unit (ACCU)	A unit issued for verified emissions reductions under the CFI and the ERF, and held in the Australian National Registry of Emissions Units.
baseline	A counterfactual scenario of future emissions that would have been expected to occur without the emissions-reducing activity.
business as usual	Emissions that would occur without policy intervention.
Carbon Farming Initiative (CFI)	An Australian emissions offset scheme that credited emissions reductions from certain sources, such as forestry and agriculture, which were not covered by the carbon pricing mechanism.
carbon pricing mechanism	An emissions trading scheme introduced under the *Clean Energy Act 2011* (Cth) and applied to Australia's biggest emitters (called 'liable entities'). It was repealed in July 2014.
carbon service provider	Individuals or groups that develop ERF projects, provide advice on project registration, implementation and management, aggregate projects or contracts or act as designated agents, whereby they are authorised to act on the scheme participant's behalf.
contract period	Period over which ERF projects receive payment from a Government contract in exchange for delivery of ACCUs.
crediting period	Period over which a registered ERF project can earn ACCUs.
designated agent	An individual or company authorised to act on the scheme participants behalf in relation to an ERF project.
eligible interest holder consent	Approval from those holding an eligible interest in land on which an ERF project will run.
emissions intensity	A measure of the amount of emissions associated with a unit of output; for example, emissions per kilo of beef.
emissions reduction	The act or process of limiting, restricting or sequestering greenhouse gas emissions.
Emissions Reduction Assurance Committee (ERAC)	An independent, expert committee that assesses whether methods meet the offsets integrity standards of the ERF and provide advice to Government.
Emissions Reduction Fund (ERF)	A scheme resulting from the expansion of, streamlining and other changes to the CFI in December 2014. The ERF involves purchases of ACCUs by the Government.
enteric fermentation	A biological process in ruminant animals by which gases are produced through digestion.
Fit and Proper Person test	Individuals and firms must not be convicted of an offence related to dishonest conduct or subject to a bankruptcy and must have competence and capacity to participate in the scheme.
greenhouse gas (GHG)	Any gas (natural or produced by human activities) that absorbs infrared radiation in the atmosphere. Key greenhouse gases include carbon dioxide, water vapour, nitrous oxide, methane and ozone.
Guarantee	The National Energy Guarantee will require energy retailers across the National Electricity Market to deliver reliable and lower emissions generation each year.
information asymmetry	Information asymmetry occurs in transactions where one party has more or better information than the other.
land sector	The land use and agriculture sectors (including savanna fire management).
legislative rule	A legislative rule is legislation, which supports the operation of an Act and can be implemented or amended without being passed by Parliament.
make-good provisions	Allows scheme participants to meet their obligation to provide ACCUs from projects other than the project they bid on at auction
method	A legislative instrument that sets the rules for ERF projects.
National Greenhouse and Energy Reporting Act	A national framework for reporting and releasing information about greenhouse gas emissions, energy production and energy consumption.
National Greenhouse Gas Inventory	An annual report to the United Nations Framework Convention on Climate Change that contains Australia's greenhouse gas emissions data.

negative list	Identifies types of projects that are likely to cause adverse impacts to one or more of the following: the availability of water, the conservation of biodiversity, the local community, and land access for agriculture production.
offsets	An emissions offset is a reduction in emissions made in order to compensate for or offset an emission made elsewhere.
offsets integrity standard	A legislative standard in the ERF to ensure that ACCUs are issued for genuine, additional emissions reductions.
Paris Agreement	An international agreement adopted under the United Nations Framework Convention on Climate Change in 2015.
permanence period	Period over which scheme participants must maintain the carbon stored by ERF projects.
positive list	Regulation containing a list of additional emissions reduction activities eligible to earn ACCUs under the CFI.
reverse auction	In a reverse auction, the sellers compete to win the auction and prices will typically decrease as the sellers underbid each other.
risk of reversal buffer	A scheme wide mechanism that withholds 5 per cent of ACCUs from sequestration projects to protect the scheme from temporary losses of carbon
safeguard mechanism	An element of the ERF that establishes regulatory limits for large emitters that exceed a defined baseline.
scheme participant	The person who is responsible for, and has the legal right to, carry out an ERF project.
secondary market	A market where ACCUs are purchased outside of a contract with the Government.
sequestration/storage	The removal of atmospheric carbon dioxide, by storing it in living biomass, dead organic matter or soil.
transaction costs	The costs of participating in a market. In the case of the ERF, transaction costs are all costs from developing, approving and administering projects apart from costs directly associated with implementing and maintaining the project itself. Transaction costs also include costs to government and scheme participants for method development, reporting and verification.
United Nations Framework Convention on Climate Change (UNFCCC)	An international treaty that commits signatory countries (Parties) to stabilise greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous human-induced interference with the climate system.

ABBREVIATIONS AND ACRONYMS

2017 review	Department of the Environment and Energy's 2017 Review of Australia's climate change policies
ACCC	Australian Competition and Consumer Commission
ACCUs	Australian Carbon Credit Units
ALFA	Arnhem Land Fire Abatement (NT)
ANAO	Australian National Audit Office
ANREU	Australian National Registry of Emissions Units
Authority	Climate Change Authority
BOSMA	Bureau of Steel Manufacturers of Australia
CCA	Climate Change Authority
CER	Clean Energy Regulator
CFI	Carbon Farming Initiative
CMAs	Catchment Management Authorities
CMI	Carbon Market Institute
CMO	Carbon maintenance obligation
CORSIA	Carbon Offsetting and Reduction Scheme for International Aviation
CSP	Carbon service provider
Department	Department of the Environment and Energy
EIH	Eligible interest holder
ERAC	Emissions Reduction Assurance Committee
ERF	Emissions Reduction Fund
FCA	Farmers for Climate Action
FPP	Fit and Proper Person
FullCAM	Full Carbon Accounting Model
Guarantee	National Energy Guarantee
ICAO	The International Civil Aviation Organisation
ICROA	International Carbon Reduction & Offset Alliance
IPCC	Intergovernmental Panel on Climate Change
KLC	Kimberley Land Council
LGC	Large-scale generation certificate
Minister	Minister for the Environment and Energy
NFF	National Farmers' Federation
NGER	National Greenhouse and Energy Reporting system
NRM	Natural Resource Management
NWI	National Water Initiative
R&D	Research and development
TWS	The Wilderness Society
UNFCCC	United Nations Framework Convention on Climate Change
WALGA	Western Australian Local Government Association

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