

Carbon Capture and Storage Method 2021 – Draft Simple Method Guide

This draft guide is designed to support the proposed *Carbon Credits (Carbon Farming Initiative—Carbon Capture and Storage) Methodology Determination 2021* (the proposed CCS method) under the Emissions Reduction Fund, and is for the purposes of public consultation.

User Guide for Carbon Capture and Storage Projects: DRAFT

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PUBLIC CONSULTATION ONLY

Participating in the Emissions Reduction Fund

The Emissions Reduction Fund (ERF) offers landholders, communities and businesses the opportunity to run new projects in Australia that avoid emissions of greenhouse gases to the atmosphere, or remove them from the atmosphere by storing them in biological systems such as vegetation or soil. These are known as emissions avoidance and sequestration projects respectively.

By running a project, you can earn Australian carbon credit units (ACCUs) and sell them to the Australian Government, or to companies, State governments and other private buyers. Each ACCU represents one tonne of carbon dioxide equivalent (CO₂-e) emissions stored or avoided.

How participating in the Emissions Reduction Fund works

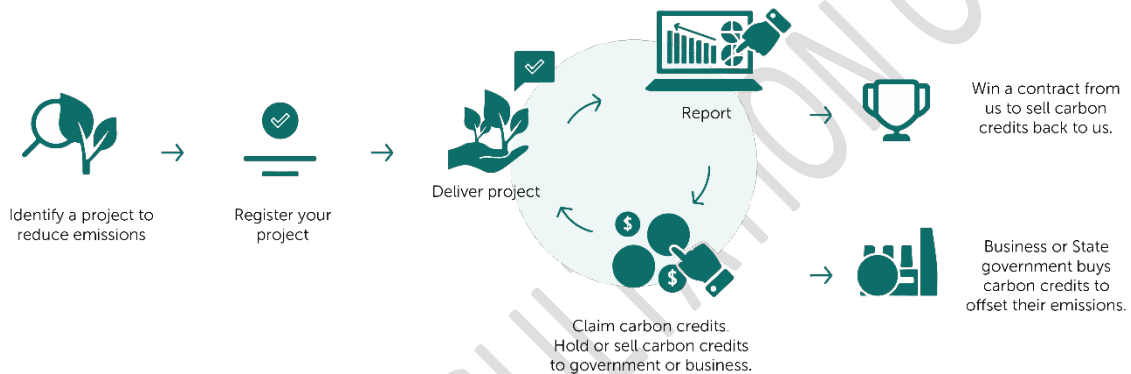






Figure 1: Emissions Reduction Fund project lifecycle

There are four general steps in running a project and participating in the Emissions Reduction Fund:

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1. Plan your project, make sure the project is eligible, and ensure you hold legal right.
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2. Register your project with the Emissions Reduction Fund.
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3. Run your project and deliver on project activities.
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4. Report on your project and claim ACCUs.

See our website¹ for more information on selling your ACCUs to the Australian Government or other interested buyers.

Carbon capture and storage projects

The Australian Government's first *Low Emissions Technology Statement – 2020*² identified carbon capture and storage (CCS) as one of Australia's priority low emissions technologies. A CCS project captures greenhouse gas emissions³ that would have otherwise been released to the atmosphere and transports them for injection into an underground geological formation for permanent storage. The technology can underpin new low emissions industries such as hydrogen, as well as reducing emissions in hard to abate sectors such as cement production and steel manufacture.

CCS projects are classified as emissions avoidance projects as the release of greenhouse gases to the atmosphere from industrial facilities or resource activities is avoided by capturing, transporting, and injecting the emissions into geological formations for permanent storage.

The term 'carbon capture, utilisation and storage' (CCUS) is often applied to the use of carbon dioxide for enhanced oil recovery, enhanced gas recovery, and where carbon dioxide is used as an input to another production process such as manufacturing concrete products. These alternative uses for carbon dioxide are outside the scope of this module of the proposed CCS method being developed in 2021.

The *Carbon Credits (Carbon Farming Initiative) Act 2011* (CFI Act) excludes projects involving direct air capture (DAC) from participating in the ERF as the technology does not meet the definition of either an emissions avoidance or sequestration activity. Further, abatement from a DAC project cannot currently be counted towards meeting Australia's international emissions reduction targets. This means DAC is not an eligible technology for the purposes of the proposed CCS method.

Using this guide

This document is a step-by-step guide on how to register, run and report on a CCS project. It supports the proposed CCS method, which is the legislation that sets out the rules and process to be followed by a CCS project to be eligible to receive ACCUs.

Planning and registering your ERF project

There are general requirements that need to be met to participate in the ERF, as well as specific requirements contained in the proposed CCS method.

Eligibility requirements

You must first register your CCS project before it can begin earning ACCUs.

¹ Clean Energy Regulator, 2020, [Buying ACCUs \(cleanenergyregulator.gov.au\)](https://www.cleanenergyregulator.gov.au)

² Department of Industry, Science, Energy and Resources, 2020, [Technology Investment Roadmap: First Low Emissions Technology Statement 2020 | Department of Industry, Science, Energy and Resources](#)

³ Greenhouse gases for the purposes of the proposed CCS method refers to carbon dioxide, methane, and nitrous oxide.

Applications for an ERF project must satisfy the general requirements in Section 23 of the CFI Act and Section 13 of the Carbon Credits (Carbon Farming Initiative) Rule 2015 (CFI Rule), including:

- a summary of the project, including details of its location
- details of the applicant
- details of the project's activities that show how they are eligible under the method
- the skills and expertise available to the applicant to carry out the project
- a description of the approvals required to undertake the project and evidence of progress in obtaining these approvals
- information that shows that the applicant has the legal right to carry out the project
- an estimate of the forward abatement (emissions avoided) resulting from the project
- details of how the project meets the additionality requirements.

The project must be carried out entirely in Australia⁴. This includes all relevant infrastructure within the project, including capture facilities, pipelines and the storage site or sites.

For more information on general eligibility, visit [our website](#)⁵.

To be a CCS project, a project must involve the capture and permanent storage of greenhouse gases in a geological formation. The greenhouse gases can be captured from oil and gas industry operations or an industrial process such as hydrogen production as well as electricity generation.

CCS project plan

It is a requirement of the proposed CCS method that the project proponent take reasonable steps to implement or oversee the implementation of the project in accordance with a **CCS project plan**. A CCS project plan's purpose is to outline how the project will be undertaken including: all the project's capture points⁶; pipelines; characteristics and operation of the storage site including monitoring and reporting activities; and how the longer-term risk of reversal from the storage site will be managed. A CCS project plan is to be lodged with the project application and should include relevant authorities or details on how those authorities will be obtained.

CCS projects may be operated under one of the Acts listed in section 5 of the proposed CCS method:

- *Offshore Petroleum and Greenhouse Gas Storage Act 2006 (Commonwealth)*
- *Greenhouse Gas Geological Sequestration Act 2008 (Victoria)*
- *Offshore Petroleum and Greenhouse Gas Storage Act 2010 (Victoria)*
- *Greenhouse Gas Storage Act 2009 (Queensland)*
- *Petroleum and Geothermal Energy Act 2000 (South Australia)*

A CCS project may be operated in a State or Territory that does not have CCS specific legislation if its legal framework meets the criteria set out in section 5 of the proposed CCS method. These criteria provide assurance around the safety and permanence of the stored greenhouse gases. A CCS project

⁴ 'Within Australia' means a project that takes place on shore, or offshore within state, territory or Commonwealth waters as defined under section 7 of the *Offshore Petroleum and Greenhouse Gas Storage Act 2006*.

⁵ Clean Energy Regulator, 2020, [Planning a project \(cleanenergyregulator.gov.au\)](#)

⁶ A capture point is defined in section 5 of the proposed CCS method to mean any plant, building, structure or stationary equipment where greenhouse gases generated from an industrial process including electricity generation, or extracted from a hydrocarbon field or basin are captured for the purpose of being injected into a geological formation for permanent storage.

may be operated in a State or Territory that does not have CCS specific legislation if the jurisdiction's legal framework meets the criteria set out in section 5 of the proposed CCS method. These criteria provide assurance that the framework is consistent with other CCS-specific legislation for regulating the safety and permanence of the stored greenhouse gases.

Fit and proper person assessment

You need to be recognised as a [fit and proper person](#)⁷ for the purposes of the ERF. The fit and proper test involves declarations about any convictions or insolvency and whether a person has the capabilities needed to run a project.

Regulatory approvals

You need to ensure you have all relevant approvals, licenses, permits or authorities that are required to carry out your project.

In Australia, the underground injection of greenhouse gases for permanent storage can only be undertaken in accordance with relevant State, Territory, and Commonwealth legislation. These laws include:

- **CCS specific legislation** that regulates:
 - identifying a suitable storage site
 - establishing the compositional limits on and specifications for the range of gases that can be injected
 - requirements for the monitoring of the site
 - site closure processes including managing longer-term residual risks and/or liabilities
 - regular reporting on the operations undertaken at the storage site
- **environmental laws** that approve the entire project, specific components of a facility or manage impacts on environmental matters
- **major project laws** that enable the central co-ordination of large-scale infrastructure projects
- **petroleum pipeline laws** as many jurisdictions regulate carbon dioxide pipelines under petroleum pipeline laws
- **emissions reporting laws** including the *National Greenhouse and Energy Reporting Act 2007* and the *National Greenhouse and Energy Reporting (Safeguard Mechanism) Rule 2015*
- **tenure laws** such as Native Title legislation, land classification, and resources.

The proposed CCS method does not duplicate requirements governing how storage sites should be selected, operated, monitored, or closed. Rather, it builds on the existing laws and regulatory frameworks.

Projects may be registered without having all regulatory approvals. These projects are *conditionally* declared and must ensure that all approvals are obtained before they make a claim for ACCUs.

Hold legal right

At the time of registering your project, you need the legal right to undertake your project and claim ACCUs. This means you must have the legal right to carry out project activities.

For a CCS project, legal right may be more complex than for other industrial methods due to the potential involvement of multiple parties responsible for different aspects of the project. For example, a project may involve the capture point owner, the pipeline operator and the injection site operator,

⁷ Clean Energy Regulator, 2020, [Fit and Proper Person posture \(cleanenergyregulator.gov.au\)](https://www.cleanenergyregulator.gov.au)

with the relationship between the parties being underpinned by contractual arrangements between them.

You may need to provide evidence of legal right such as a written agreement if there are multiple parties.

Additionality – in lieu of newness provision

For a project to be declared an eligible offsets project, section 27(4A)(a) of the CFI Act requires that it 'has not begun to be implemented'. However, this may be difficult for CCS projects, which have lengthy lead times.

To provide greater certainty on newness, the proposed CCS method includes an in-lieu provision under section 27(4A)(a)(ii) of the CFI Act to clarify that newness hinges on whether a final investment decision has been made on the project. This means a project can be considered new until a final investment decision is made and activities such as the following may be undertaken without breaching "newness":

- identifying and assessing a storage site
- undertaking any required environmental approvals under State, Territory or Commonwealth laws
- for hub projects, putting in place the required commercial agreements that will govern the project, contingent on the project being approved
- completing the engineering and design for the required facilities
- procuring equipment.

An 'in-lieu of newness' provision is also included to allow a new oil or gas field or basin to use an existing capture facility.

These in lieu of newness requirements replace the general provision under section 27(4A)(a)(i) that requires that a project has not begun to be implemented.

Additionality - regulatory

For a project to be declared an eligible offsets project and registered under the ERF, section 27(4A)(b) of the CFI Act requires the project is 'not required to be carried out by or under a law of the Commonwealth, a State or a Territory'.

In October 2020, the Clean Energy Regulator published guidance on the approach for addressing regulatory additionality where greenhouse gas offset obligations are imposed by State or Territory Governments⁸.

In summary, if the Commonwealth, State or Territory regulatory requirement refers to reducing or offsetting emissions but does not specify a particular activity to do so, if the regulated entity establishes an ERF project then any ACCUs generated by that project that are used to meet its regulatory requirement must be put aside permanently in a Commonwealth holding account. These ACCUs cannot be sold or transferred to another party including the Commonwealth. However, any

⁸ Clean Energy Regulator, 2020, <http://www.cleanenergyregulator.gov.au/ERF/Want-to-participate-in-the-Emissions-Reduction-Fund/Planning-a-project/regulatory-additionality-and-government-programs#regulatory-additionality-requirements>

ACCUs resulting from the project that are not used to meet the Commonwealth, State or Territory obligation could be made available to the market.

If a State government regulatory obligation states that a CCS project is required to meet an offset or emissions reduction obligation, then the project will only be able to sell ACCUs to the extent that the project stores more emissions than the offsetting obligation requires.

Additionality – government program funding

The intent of the Government program requirement is to rule out projects that are substantially funded by a large-scale government program.

Section 21 of the CFI Rule creates in-lieu government program requirements that substitutes for the general requirements in section 27(4A)(c)(i) of the CFI Act. Section 21 of the CFI Rule excludes ERF projects from also receiving funding or certificates under some State and Commonwealth programs, including the Renewable Energy Target, in some circumstances, and some state-based energy efficiency certificate schemes.⁹ Overlaps between a CCS project and the programs listed under section 21 of the CFI Rule are considered unlikely.

The Government is providing pre-operational support for CCS projects under the recently announced Carbon Capture, Use and Storage Development Fund and the Carbon Capture, Use and Storage Hubs and Technology Program. This Government support aims to incentivise technology uptake by industry; however, it will need to be supplemented by support provided under the proposed CCS method, given the large scale and extensive investment required for CCS projects. Therefore, receiving this pre-operational support will not make projects ineligible under the ERF.

Eligible project activities

CCS projects must involve a new source of greenhouse gases captured for permanent storage. This may involve a new *capture point*, which is any plant, building or equipment where greenhouse gases are captured for injection into a geological formation for permanent storage.¹⁰ For the oil and gas industry, a new source of greenhouse gases can also be a hydrocarbon field or basin (that has not previously been used as an ERF CCS project) using an existing capture point.

This provides for greater flexibility as projects are tied to a new greenhouse gas source rather than a particular storage site. It allows entirely new facilities to be added to an existing CCS storage site and registered as a new project with a new crediting period. This arrangement is commonly referred to as a hub and spoke project. Similarly, an existing facility may expand to include a new capture point and this new capture point can be registered as a new project.

In both cases, the initial project continues with its existing crediting period, which is unaffected by any subsequent projects that share the same storage site or capture point¹¹. However, all projects must be metered so that project abatement for each project can be separately calculated, including both greenhouse gases captured and project emissions. This is to ensure that each project receives the appropriate number of ACCUs and that only the new project receives a new crediting period.

⁹ Clean Energy Regulator, 2020, <http://www.cleanenergyregulator.gov.au/ERF/Want-to-participate-in-the-Emissions-Reduction-Fund/Planning-a-project/regulatory-additionality-and-government-programs#government-program-requirement>

¹⁰ See section 5 of the proposed CCS method.

¹¹ Shared capture points relate to oil and gas projects only.

Example: A Liquefied Natural Gas facility has a registered CCS project. The facility starts injecting its greenhouse gas stream into a nearby reservoir with a crediting period starting in 2025. The LNG facility is the capture point for this initial project.

In 2030, a gas-fired generator is built nearby and is purpose built to capture the greenhouse gas emissions from the combustion of natural gas, including a new pipeline to transport the greenhouse gases to the shared reservoir. The gas-fired generator is a new capture point and can be registered as a new CCS project with a separate crediting period starting in 2030.

Within a project, a proponent can move injection points to access a different part of the storage site or move injection points to access a new storage site. However, these activities cannot be registered as new projects.

Project timelines

The Start Date and Crediting Period establish the commencement and end date for the crediting of ERF projects, that is, the period of time over which the project can receive ACCUs.

Start date

The start date is the date when the crediting period starts, that is, the date from when the project can earn ACCUs. For CCS projects, project proponents can nominate any start date from the date the Clean Energy Regulator declares the project to be successfully registered, to up to five years after this date.

If projects are unable to start within the five-year period, the project can continue under the proposed CCS method, but the length of their crediting period will be reduced by any delays beyond the five years.

Additionally, if the method is varied between the start date and when the crediting period commences, the project proponent is required to follow the varied method and not the version in force at the time of declaration.

Crediting period

The crediting period is the period over which the Clean Energy Regulator may issue ACCUs for the emissions reductions reported under the proposed CCS method. Most emissions avoidance methods allow for a crediting period of seven years. However, a crediting period of 25 years is provided for CCS projects to recognise the very large upfront and ongoing costs, and the fact that they are not expected to generate any revenue other than ACCUs. This is unlike projects such as energy efficiency that can deliver cost savings due to reduced energy use. On this basis, 25 years represents a timeframe over which a CCS project is likely to generate additional abatement, that is, abatement beyond the ordinary course of business.

The injection and storage of greenhouse gas emissions beyond the end of the crediting period will not be eligible to receive ACCUs.

Longer-term risk of reversal

There is a risk that the abatement created by a CCS project could be reversed and the injected emissions released to the atmosphere. International technical assessments suggest that the risk of

reversal is low and declines over time¹². In Australia, the risk of reversal is considered particularly low due to the characteristics of geological formations where CCS projects are likely to be located and strong regulatory frameworks¹³.

However, as these frameworks do not provide a remedy for the loss of any carbon that has been credited, the proposed CCS method incorporates additional controls.

While reversals during the crediting period will be accounted for in the net abatement calculation, this mechanism will cease to be available when the crediting period ends. In selecting an appropriate approach to risk of reversal after the crediting period ends, the Regulator sought expert advice, reviewed other international CCS frameworks, and consulted with key stakeholders.

Taking the information available into account, the proposed CCS method provides for three per cent of ACCUs to be withheld refundable on evidence of successful site closure issued by the regulating authority.

The length of the period between the end of the crediting period and the successful site closure will be project specific. It could be more than 15 years after injection has ceased before an application can be made to surrender a licence.

During the period between when the crediting period ends and successful site closure, project proponents will be required to report any fugitive emissions from the site so they can be deducted from the amount of ACCUs to be refunded. This is called the extended accounting period. Offsets reports will be required every two years during the extended accounting period and the licence surrender, and any reversals that happen during that time will reduce the number of ACCUs credited to the project proponent at the end of the extended accounting period.

An amendment to the CFI Rule will be made to apply an extended accounting period to CCS projects to cover the period between the end of the crediting period and site closure.

Running and reporting on your project

Following the declaration by the Clean Energy Regulator that your project is an eligible offsets project you can then make the final investment decision and start your project.

Reporting net abatement

When your project is up and running, you will then need to report on the net emissions from your project to the Clean Energy Regulator.

¹² IPCC, 2005, *Carbon capture and storage: Special Report*, <https://www.ipcc.ch/report/carbon-dioxide-capture-and-storage/>, p.34-35; Alcade, J et al, 2018, "Estimating geological CO₂ storage security to deliver on climate mitigation", *Nature Communications* 9, 2201 (2018), <https://www.nature.com/articles/s41467-018-04423-1>; International Energy Agency, 2020, *CCUS in Clean Energy Transitions: Part of Energy Technology Perspectives*, <https://www.iea.org/reports/ccus-in-clean-energy-transitions>

¹³ Geoscience Australia, Onshore carbon storage, <http://www.ga.gov.au/about/projects/resources/onshore-energy-systems/onshore-co2-storage#heading-1>; UQ Centre for Natural Gas, 2019, *The UQ CCS Project*, The University of Queensland, <https://natural-gas.centre.uq.edu.au/ccs/about-ccs>; Romasheva, N and A Ilinova, 2019, "CCS projects: How regulatory framework influence their deployment", 8 *Resources* 181, www.mdpi.com/journal/resources

Under the offsets integrity standards set out in section 133 of the CFI Act, all ERF methods must include a deduction for any material emissions that occur as a result of carrying out the project. CCS projects involve activities that create other emissions that need to be deducted from the net abatement. These activities may include but are not limited to:

- emissions required to capture, process, compress and transport the greenhouse gas stream, including Scope 2¹⁴ emissions from electricity use
- fugitive emissions from pipelines and the underground storage site during the crediting period
- emissions associated with monitoring activities.

CCS projects are credited for net abatement, which in simple terms is equal to the greenhouse gases captured minus other emissions caused directly by the project activity.

Net abatement calculation

The net abatement calculation for a reporting period in the crediting period is based on the volume of greenhouse gases¹⁵ measured in tonnes of carbon dioxide equivalent (CO₂-e) captured at the project's capture point minus the emissions caused by the project:

$A = (CGG - Q_{CM} - CCSE) \times 0.97$	
Where:	
A	Means the net abatement in tonnes CO ₂ -e, for the reporting period in the crediting period.
CGG	Means the quantity of greenhouse gases captured at the project's capture points for the reporting period during the crediting period in tonnes CO ₂ -e.
CCSE	Means the CCS Emissions which comprise the: <ul style="list-style-type: none"> • capture related emissions; • processing, compression and transportation emissions; • transportation and injection site fugitive emissions; • storage site monitoring emissions; • any storage site fugitive emissions in tonnes CO₂-e; and • any off-take of carbon dioxide for purposes other than permanent storage. These terms are defined in the proposed CCS method and further described below.
Q _{CM}	Is relevant only for oil and gas operations where methane in the waste gas stream would have been oxidised in the absence of the CCS project. Q _{CM} is the amount of methane included in the CGG quantity for a reporting period in the crediting period reduced by the amount of emissions that would occur if that methane had been combusted.

¹⁴ Scope 2 emissions are defined under 2.24 of the National Greenhouse and Energy Reporting Regulations 2008.

¹⁵ Greenhouse gases refers to carbon dioxide, methane, and nitrous oxide.

Determination of CCS emissions (CCSE)

This section defines the terms used when calculating the net abatement from your project: Capture Related Emissions; Processing, Compression and Transportation Emissions; Transportation and Injection Site Fugitive Emissions; Storage Site Monitoring Emissions; Storage Site Fugitive Emissions; and Off-take Reduction.

Capture related emissions

Capture related emissions refers to the emissions associated with the capture of the greenhouse gases at the capture points.

For capture points where the capture of greenhouse gases would have been required and undertaken routinely without a CCS project, such as when carbon dioxide is removed during natural gas processing operations, the emissions associated with that activity are not considered capture related emissions.

For facilities such as electricity generators where capture is not undertaken routinely, the emissions associated with the energy used required for the capture process must be included in the capture related emissions.

The capture related emissions must be included in the abatement calculation regardless of whether the additional emissions are also captured and injected into the storage site.

In some situations, a single energy source will provide useful energy to both the capture equipment and a productive activity and emissions associated with this energy source will need to be apportioned between the two uses.

The methodology used to calculate the capture related emissions must be included in each offsets report and will be within the scope of each audit.

Processing, compression and transportation emissions

Processing, compression and transportation emissions refers to emissions from:

- any processing or compression of the greenhouse gases after they are captured, and
- the transport of the captured greenhouse gas stream, for example, if the captured gas is transported via road, rail, or ship.

Processing, compression, and transportation emissions do not include fugitive emissions that occur via pipelines and other equipment when the greenhouse gases are transported to the storage site. These are included in the transportation and injection site fugitive emissions.

Where there is more than one project sharing processing, compression or transportation infrastructure, associated emissions will need to be apportioned between projects on a pro rata basis.

Transportation and injection site fugitive emissions

The abatement calculations must account for fugitive emissions that occur during transportation of the greenhouse gases to the injection site from pipelines, and at the injection site, for example due to venting or equipment leakage.

Where there is more than one project sharing a pipeline, transport and injection site, fugitive emissions will need to be apportioned between the projects. The apportionment will be based on the amount of measured emissions contributed by each project during the reporting period.

Storage site monitoring emissions

Project proponents will be required to undertake a range of monitoring and verification activities to ensure the underground storage of emissions remains secure including monitoring wells and undertaking seismic surveys. Emissions from these activities will need to be included in the calculation. Where multiple projects are using the same storage site, the storage site monitoring emissions will need to be apportioned between the projects on a pro rata basis.

Storage site fugitive emissions

Storage site fugitive emissions are emissions from any reversal of the injected gases to the atmosphere from the storage site occurring during the crediting period.

Scientific evidence indicates that the risk of reversals to the atmosphere from the storage site is low, given the purpose of a well-managed and regulated storage site is to prevent such emissions being released to the atmosphere. However, any such emissions that do occur must be accounted for.

Where there is more than one project sharing a storage site, the fugitive emissions will need to be apportioned between projects on a pro rata basis using the total measured greenhouse gases injected by each project. These fugitive emissions exclude injection site fugitives.

Offtake reduction

The proposed CCS method provides for the abatement to be reduced if the greenhouse gas stream is transferred for a purpose other than permanent storage, after it is captured. For example, part of the greenhouse gas stream may be diverted for use in beverage manufacturing meaning that this portion would need to be deducted from the net abatement calculation.

Determination of quantity of captured methane emission

Determining the quantity of captured methane emissions referred to as Q_{CM} is only relevant for oil and gas industry projects where methane was present in the waste gas stream and would have been oxidised and converted to carbon dioxide in the absence of a CCS project. Such facilities can be required to undertake oxidisation under their environmental approvals to remove air pollutants prior to venting the waste gas.

At facilities where oxidisation was previously undertaken, the abatement will need to be reduced for the tonnes CO_2 -e of methane included in the CGG¹⁶ figure for the reporting period, as the methane portion was not going to be emitted in the absence of the project. The Q_{CM} calculation includes an adjustment to reflect the carbon dioxide that would otherwise have been released when the methane was oxidised in the base case no longer occurs and can contribute to net abatement.

In considering Q_{CM} , a new facility purpose built to include CCS would need to consider whether that facility, if it was built without CCS, would be legally required to oxidise the waste gas stream. If the facility would be required to oxidise the methane, then it would need to calculate the Q_{CM} in the abatement calculation for the purpose of excluding it from crediting.

¹⁶ CGG refers to *captured greenhouse gases for permanent storage*.

Risk of abatement reversal

The abatement calculation reduces abatement by three per cent in each reporting period to account for the risk that injected greenhouse gases are released from the storage site after the end of the crediting period.

The project proponent may then apply to have the deducted ACCUs refunded back to them following the completion of the site closure process required by the relevant regulatory body. This generally occurs when the site operating licence is surrendered to the appropriate regulatory body after injection has ceased. The number of ACCUs refunded would be reduced for any storage site fugitive emissions that have occurred since the end of the crediting period.

Each of the specifically listed legislative frameworks deals with site closures differently and these are set out below:

Legislation	Site closure trigger
<i>Offshore Petroleum and Greenhouse Gas Storage Act 2006 (Commonwealth)</i>	A closure assurance period has been declared under section 399.
<i>Greenhouse Gas Geological Sequestration Act 2008 (Victoria)</i>	A surrender of authority under section 168 has been consented to by the relevant Minister.
<i>Offshore Petroleum and Greenhouse Gas Storage Act 2010 (Victoria)</i>	A site closing certificate has been issued under section 427.
<i>Greenhouse Gas Storage Act 2009 (Queensland)</i>	A lease surrender has been approved under section 179.
<i>Petroleum and Geothermal Energy Act 2000 (South Australia)</i>	The Minister accepts an application to surrender the licence under section 89.

If a project is using another legal framework that was determined as meeting the regulatory criteria set out in the method, the site closure trigger will be when the licence has been surrendered to the satisfaction of the authority responsible for administering the relevant legislation.

Once a site closure trigger has occurred, the extended accounting period ends and a project ceases to have further reporting obligations.

Abatement calculation example – gas processing

A gas processing facility has set up a CCS project and is now piping a greenhouse gas stream to a reservoir 100 kilometres away where it is injected for permanent storage. The facility was not previously oxidising its waste gas.

For a 12-month reporting period, the CCS project calculated the following:

- 1,000,000 tonnes of greenhouse gases (measured in tonnes CO₂-e) captured by the facility.
- There are no capture related emissions as the facility was not previously capturing the greenhouse gases.

- 25,000 tonnes CO₂-e processing, compression and transportation emissions – primarily from the compression of greenhouse gases at the gas processing facility.
- 15,000 tonnes CO₂-e transportation and storage site fugitive emissions – primarily as a result of venting from the pipeline and equipment at the injection site.
- 500 tonnes CO₂-e storage site monitoring emissions
- There are no storage site fugitive emissions detected by the monitoring program

$$A = (CGG - Q_{CM} - CCSE) \times 0.97$$

$$\text{Abatement} = (1,000,000 - 0 - (25,000 + 15,000 + 500)) \times 0.97 = 930,715 \text{ tonnes CO}_2\text{-e}$$

Consistency with National Greenhouse and Energy Reporting

Corporations that meet National Greenhouse and Energy Reporting (NGER) thresholds are required to annually report their energy production, energy consumption, and emissions to the Clean Energy Regulator. For many emission sources, the NGER framework provides a choice for which estimation methodology to use for estimating emissions.

While the proposed CCS method does not prescribe a particular NGER methodology to be used, it does require projects to use the same approach for their ERF project calculations as they have chosen for their NGER reporting within a particular reporting period. A facility or project may change the methodology used for their ERF project calculations between periods provided it is the same one used under NGER. Under NGER, a reporter may switch to a higher order methodology at any time provided they use that approach for a minimum of four years before changing to a lower order method.

Offsets reports and claiming carbon credits

ACCUs from a CCS project will be issued following the lodgement of an offsets report by the project proponent and an assessment by the Clean Energy Regulator.

Once the crediting period for your project has commenced you must provide offsets reports in accordance with section 76 of the CFI Act and section 70 of the CFI Rule. The first offsets report covers the period commencing upon the start of the crediting period and you can choose a duration of between one month and two years¹⁷. Subsequent reporting periods commence immediately after the end of the previous reporting period and you can choose between one month and two years.

An offsets report is the report plus any supporting information that you provide to us that details your project's progress, including the net abatement amount. An offsets report may include an 'application for certificate of entitlement' under section 12 of the CFI Act and section 7 of the CFI Rule.

The CCS method includes several method requirements regarding project reports. These include:

- a description of how the components used to calculate the net abatement amount have been calculated, including the capture related emissions

¹⁷ Projects can report as frequently as monthly if more than 2,000 ACCUs are being sought in the reporting period. Otherwise, the minimum reporting period is six months.

- any changes to the manner of the project's operating or project locations
- a description of any additional regulatory approvals that were required for the changes.

When the crediting period ends, the extended accounting period begins and project proponents have ongoing reporting obligations during the extended accounting period, though these are different from the obligations during the crediting period:

- any storage site fugitive emissions that have occurred during the reporting period
- any material changes to the behaviour of the greenhouse gases in the storage site that increases the risk of fugitive emissions being released during the extended accounting period.

There are also additional reporting requirements where an ERF project includes a safeguard facility, which are described in **Relationship with the Safeguard Mechanism** section below.



Adding new storage sites to your project

Project proponents may add in or swap over to a new storage site so long as they have obtained all the relevant regulatory approvals and the project continues to meet all the eligibility requirements in the CCS method.

Such changes must be included in the next offsets report to the Clean Energy Regulator.

You must submit your offsets report through the Clean Energy Regulator Client Portal¹⁸. To be issued carbon credits you'll need to set up an Australian National Registry of Emissions Units (ANREU) account¹⁹.

The Clean Energy Regulator will assess your offsets report within 90 days unless further information is required. If the Clean Energy Regulator assesses everything to be in order, ACCUs will be issued into your ANREU account. The Clean Energy Regulator is currently improving our systems with the intention of reducing this timeframe to 45 days.

Relationship with the Safeguard Mechanism

To avoid counting the same offset twice, the number of ACCUs (if any) generated at a safeguard facility are added to its net emissions number for the year in which the ACCUs were issued. If the facility's net emissions exceed its baseline, those ACCUs can be surrendered to bring the facility's net emissions back to its baseline. Alternatively, if the ACCUs generated at the facility are delivered under an ERF contract, the facility's net emissions number will also be reduced by the amount of ACCUs delivered (this is called deemed surrender). Where deemed surrender is being used, parties should ensure that ACCUs are delivered under the ERF contract before the 1 March safeguard deadline. For more information on excess emissions management options under the Safeguard Mechanism see 'Managing excess emissions'²⁰ on the Clean Energy Regulator's website.

Section 70(4) of the CFI Rule sets out additional requirements for offsets reports where a project includes ACCUs that were generated at one or more safeguard facilities. In these circumstances, each

¹⁸ Clean Energy Regulator, 2020, [Client Portal \(cleanenergyregulator.gov.au\)](https://www.cleanenergyregulator.gov.au)

¹⁹ Clean Energy Regulator, 2020, [Opening an ANREU account \(cleanenergyregulator.gov.au\)](https://www.cleanenergyregulator.gov.au)

²⁰ Clean Energy Regulator, 2020, [Managing excess emissions \(cleanenergyregulator.gov.au\)](https://www.cleanenergyregulator.gov.au)

offsets report must set out what portion of the net abatement from the project is *attributable* to each safeguard facility that the project involves. This information is used to identify any safeguard facilities that need to have adjustments made to their net emissions numbers.

Where a CCS project involves multiple facilities, including one or more safeguard facilities, ACCUs may be attributed between multiple facilities (i.e. where abatement occurred across multiple facilities). In attributing the ACCUs, project proponents should be mindful of interactions with their safeguard obligations and may want to consider including ACCU attribution in their commercial arrangements for participating in an ERF project. Additionally, if a project involves a safeguard facility where the entity that has operational control of the facility is different from the project proponent, the project proponent must obtain the consent of the entity with operational control to carry out the project.

Please note that the attribution of ACCUs is for safeguard purposes only. The ACCUs themselves can only be credited to the registered project proponent.

Audit Requirements

The CFI Rule and the CFI Audit Threshold Instrument set out the requirements of audit reports that accompany an offsets report.

These regulatory instruments currently require that any application for more than 100,000 ACCUs must be accompanied by an audit report. Given the abatement volumes likely to be generated by CCS projects, it is likely that they will require an audit to be undertaken for each offsets report.

Other matters

Notification requirements

The legislation, including the CFI Act, CFI Rule, and the proposed CCS method, set out various situations where you are required to report to the Clean Energy Regulator within various timeframes.

General notification requirements include the requirement to notify the Clean Energy Regulator if:

- the project proponent changes,
- the project proponent has identified errors in previous offsets reports, and
- the manner in which the project is being operated has changed where the change is likely to result in the project being revoked.

See sections 78-85 in the CFI Act and sections 81-87 in the CFI Rule for further information about the general notification requirements.

The proposed CCS method includes notification requirements where:

- there are any changes to a CCS project's regulatory approvals that might impact on its ability to continue to operate the project,
- a material volume of storage site fugitive emissions was released in a reporting period, and

- when the greenhouse gases injected into a storage site are behaving in a manner where there is a material risk of reversal or increased storage site fugitive emissions being released during the crediting period.

Legislative Rules

The changes to the *Carbon Credits (Carbon Farming Initiative) Rule 2015* (CFI Rule) proposed to support the proposed CCS method are:

- Allowing the start time for CCS projects to be deferred for five years.
- Allowing for an extended accounting period for CCS projects which would extend until a return event described in the proposed CCS method occurs.

Making changes to your project

You can make changes to your project to adjust for changing circumstances.

For some of these changes to your project, you will need to complete a Project Variation form, located in the [Clean Energy Regulator Client Portal](#)¹⁸. See the Clean Energy Regulator [website](#) for further information about varying a project.

Other changes may be made without the approval of the Clean Energy Regulator but the Regulator must be informed via a formal notification or in an offsets report.

Disclaimer

This document is provided to stakeholders as part of a consultation process on the development of a proposed carbon capture and storage method.