Australian Government
Clean Energy Regulator

Carbon capture and storage method 2021 - simple method guide

User guide for carbon capture and storage projects

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Australian Carbon Credit Unit Scheme

Contents

Participating in the Australian Carbon Credit Unit Scheme

The Australian Carbon Credit Unit (ACCU) Scheme 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 (CO_2-e) emissions stored or avoided.

How participating in the Australian Carbon Credit Unit Scheme works

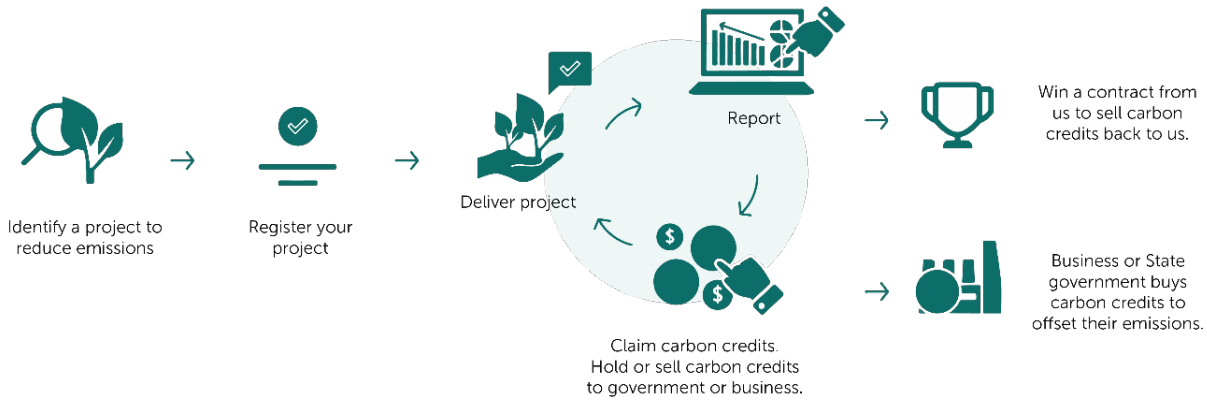


Figure 1: ACCU Scheme project lifecycle

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

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

See our website[1] 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 emissions[3] that would have otherwise been released to the atmosphere and transports them for injection into underground geological formations 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 or gas recovery. These activities are not eligible under the CCS method, which specifically excludes projects involving enhanced oil recovery, enhanced gas recovery and enhanced hydrocarbon recovery.

Projects involving direct air capture (DAC) are also excluded under the CCS method. Under the *Carbon Credits (Carbon Farming Initiative) Act 2011* (CFI Act), DAC projects are excluded from participating in the ACCU Scheme 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.

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 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 ACCU Scheme project

There are general requirements that need to be met to participate in the ACCU Scheme and specific requirements for undertaking the CCS method.

Eligibility requirements

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

Applications for an ACCU Scheme 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

[1] Clean Energy Regulator, 2020, Australian carbon credit units (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 CCS method refers to carbon dioxide, methane, and nitrous oxide.

- 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
- information about each relevant authority required for the project, including information about those authorities that have been obtained
- 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 Australia[4]. 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 or electricity generation.

CCS project plan

It is a requirement of the 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 points[6], pipelines, processing units, and injection points
- characteristics and operation of the storage site including monitoring and reporting activities
- how the longer-term risk of reversal from the storage site will be managed
- information about any workplace health and safety plan covering the operation that is required
- information about each relevant authority required for the project.

A CCS project plan is to be lodged with the project application.

CCS projects must be operated under either the *Offshore Petroleum and Greenhouse Gas Storage Act 2006* or a law or legislative framework that meets the criteria to be a **recognised law of a State or Territory**, as set out in section 5 of the CCS method. Under the definition of recognised law of a State or Territory, the law or legislative framework must require:

[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 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 are captured for the purpose of being injected into a geological formation for permanent storage.

- detailed assessments and technical specifications of the proposed reservoir including its estimated storage capacity and ability to be used to permanently store injected greenhouse gases
- conditions to be imposed on or attached to the recognised licence, about the greenhouse gases to be injected, including technical specifications of the composition, injection rate, and volume of the greenhouse gases
- monitoring and regular reporting of greenhouse gases being stored in the reservoir, at a minimum for the duration of the relevant authority
- assessing the likelihood of greenhouse gas loss and potential migration paths of injected greenhouse gases from the recognised reservoir
- all foreseeable risks of greenhouse gas loss from the reservoir to public health and the surrounding environment are identified in a detailed assessment
- mitigation and management strategies to be developed and implemented to address identified risks
- criteria for notification of a proposed project and relevant stakeholders to be advised of the proposed project
- provides for regular review and reporting of project operations.

These criteria are to provide assurance that the regulatory framework whether specifically for CCS or not, is sufficiently robust to ensure the safety and permanence of the stored greenhouse gases. The method notes that the following state-based laws are considered to be recognised laws of a State or Territory:

- the *Greenhouse Gas Geological Sequestration Act 2008 (Vic)*
- the *Offshore Petroleum and Greenhouse Gas Storage Act 2010 (Vic)*
- the *Greenhouse Gas Storage Act 2009 (Qld)*
- the *Petroleum and Geothermal Energy Act 2000 (SA)*.

Fit and proper person assessment

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

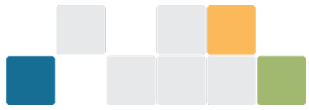
Regulatory approvals

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

[7] Clean Energy Regulator, 2020, Fit and Proper Person posture (cleanenergyregulator.gov.au)



  - 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 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, with the relationship between the parties being underpinned by contractual arrangements between them. Furthermore, legal right may be dependent on regulatory approvals and licensing arrangements.

You may need to provide evidence of legal right such as a written agreement if there are multiple parties or demonstrate an exclusive right to apply for the injection license.

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'. To provide greater certainty on newness, the 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 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 requirements

For a project to be declared an eligible offsets project and registered under the ACCU Scheme, 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 Governments[8].

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 ACCU Scheme 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 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 ACCU Scheme 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; and by expanding the mandate of the Australian Renewable Energy Agency (ARENA) to enable it to support the development of emerging CCS technologies. This Government support aims to incentivise technology uptake by industry; however, it will need to be supplemented by support provided under the 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 Emissions Reduction Fund.

[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

[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

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 (that has not previously been a source of greenhouse gases for an ACCU Scheme CCS project) using an existing gas processing plant that captures and separates the CO_2 from the gas stream.

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 point[11]. 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.

Example

A liquefied natural gas (LNG) 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. 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 ACCU Scheme 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. Project

[10] See section 5 of the CCS method.
[11] Shared capture points relate to oil and gas projects only.

proponents are also able to vary the nominated start date **once** to allow for unexpected changes in timeframes, but only up to the maximum five-year period.

If a project is unable to start within the five-year period, the project can continue under the CCS method, but the period in which the project can earn ACCUs 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 that was 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 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 also 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 time[12]. 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 frameworks[13].

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

Reversals during the crediting period will be accounted for in the net abatement calculation.

The CCS method also provides a mechanism to control for the potential risk of the carbon abatement being reversed between when the crediting period ends and successful site closure. Three per cent of all ACCUs will be withheld that are 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.

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[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 CO_2 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

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, and an amendment to the CFI Rule was made to enable this mechanism. Offsets reports will be required every two years during the extended accounting period. 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. The extended accounting period ends when the licence is surrendered (a return event) or 25 years after the end of the crediting period, whichever is earlier. If a project has not successfully surrendered its licence within the maximum 25-year period, the withheld ACCUs can no longer be refunded to the project.

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 need to report on the net emissions from your project to the Clean Energy Regulator.

Under the offsets integrity standards set out in section 133 of the CFI Act, all ACCU Scheme 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 2[14] 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 gases[15] measured in tonnes of carbon dioxide equivalent (CO_2-e) captured at the project's capture point minus the emissions caused by the project:

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

Where:

[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.

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: • 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 CO_2-e • any off-take of greenhouse gases for purposes other than permanent storage. These terms are defined in the CCS method and further described below.
Q_{CM}	Is only relevant 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.

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 related to 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 for the capture process must be included in the capture related emissions as a deduction.

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 may 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 using the apportionment mechanism in ***equation 8*** in the method.

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 as they are accounted for elsewhere in the abatement calculations (see Transportation and injection site fugitive emissions).

Off-take reduction

The 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 emissions

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 CGG[16] 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 that no longer occurs.

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.

Risk of abatement reversal

The abatement calculation reduces net 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 apply to have the deducted ACCUs refunded back to them following the completion of the site closure process required by the relevant regulatory body, which is called 'the return event' in the method. 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.

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

The extended accounting period is limited to a maximum of 25 years under the CFI Rule. If no return event occurs by year 25 after the end of the crediting period, the extended accounting period and associated reporting requirements end, and the withheld credits are not refunded.

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

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.

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

- 1,000,000 tonnes of greenhouse gases (measured in tonnes CO_2-e) captured by the facility.
- There are no capture related emissions as the facility was previously capturing the greenhouse gases.
- 25,000 tonnes CO_2-e processing, compression and transportation emissions – primarily from the compression of greenhouse gases at the gas processing facility.
- 15,000 tonnes CO_2-e transportation and storage site fugitive emissions – primarily as a result of venting from the pipeline and equipment at the injection site.
- 500 tonnes CO_2-e storage site monitoring emissions. No storage site fugitive emissions detected by the monitoring program.
- The value of Q_{CM} is zero as the facility was not previously oxidising its waste gas.

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 CCS method does not prescribe a particular NGER methodology to be used, it does require projects to use the same approach for their ACCU Scheme 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 ACCU Scheme 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. Furthermore, facilities in some industries will need to use a higher order NGER methodology to reduce reported emissions for the captured greenhouse gases and ensure that emissions reductions from the CCS project are reflected in the facility's NGER reporting.

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 months

and two years[17]. 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
- any material changes to the manner of the project's operations or project locations, including where the project is operating differently from what was set out in the CCS project plan.
- 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 ACCU Scheme 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 Portal[18]. To be issued carbon credits you'll need to set up an Australian National Registry of Emissions Units (ANREU) account[19].

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

[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.
[18] Clean Energy Regulator, 2020, Client Portal (cleanenergyregulator.gov.au)
[19] Clean Energy Regulator, 2020, Opening an ANREU account (cleanenergyregulator.gov.au)

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 ACCU Scheme 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 ACCU Scheme 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 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 ACCU Scheme 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.

> **Note**
>
> 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 an audit will be required for each offsets report.

Other matters

[20] Clean Energy Regulator, 2020, Managing excess emissions (cleanenergyregulator.gov.au)

Notification requirements

The legislation, including the CFI Act, CFI Rule, and the 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
- 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 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
- when the greenhouse gases injected into a storage site are behaving in a manner where there is a material risk of a material volume of storage site fugitive emissions being released during the crediting period.

Legislative Rules

Several changes to the CFI Rule were required to support the CCS method:

- Allowing the start time for CCS projects to be deferred for five years.
- Providing for an extended accounting period for CCS projects which would extend until a return event described in the CCS method occurs or 25 years after the end of the crediting period, whichever occurs first.

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 provides general guidance on using the CCS method. It does not replace or supersede any legal requirements, address all applicable legal requirements or recommend any investment. Examples are indicative and are not necessarily applicable to individual circumstances.

ACCU Scheme CCS projects involve ongoing legal obligations and returns can vary. You are encouraged to carefully consider if a project is right for you and seek independent professional advice relating to your unique circumstances.