Australian Government
Clean Energy Regulator

EMISSIONS REDUCTION FUND

Industrial and Commercial Emissions Reduction Method 2021 - Simple Method Guide

User Guide for Industrial and Commercial Emissions Reduction Projects

V1 2021

Contents

Background to the Industrial and Commercial Emissions Reduction (ICER) method

The *Carbon Credits (Carbon Farming Initiative—Industrial and Commercial Emissions Reduction) Methodology Determination 2021* (the ICER method) is a new methodology determination that credits reductions in the emissions from industrial and commercial processes through activities such as upgrading or replacing existing emissions producing equipment, and fuel switching. Abatement is calculated as the difference between the baseline emissions that would have occurred in the absence of the project (worked out using an engineering or statistical model) and the emissions measured after the project activities are complete.

The draft ICER method builds on the existing *Carbon Credits (Carbon Farming Initiative—Industrial Electricity and Fuel Efficiency) Methodology Determination 2015* (the IEFE method) and makes a number of enhancements including introducing new abatement opportunities and improving method usability, while maintaining the integrity of the method.

A summary of key changes in the ICER method compared with the IEFE method are outlined below and explained further throughout this guide:

- *The scope of eligible activities is broadened*
  - Activities that reduce industrial process emissions will be credited.
- *The abatement calculations are more flexible*
  - Project proponents are able to develop baseline emissions models using engineering modelling techniques in addition to the existing statistical regression modelling approach.
  - Project proponents can make non-routine adjustments to account for changes in business circumstances such as unscheduled maintenance.
  - Projects with positive abatement from interactive effects (emissions changes that occur as a result of the implementation activities but outside the defined implementation boundary) that exceed 10 per cent of the abatement that occurs inside the boundary will receive credits up to the 10 per cent limit, instead of having the abatement for the implementation zeroed.
- *A project specific additionality measure is introduced*
  - Project proponents are required to provide a statement from a responsible financial officer (or their delegate) that the project activities would not *likely* occur in the absence of them being included as an eligible offsets project under the Emissions Reduction Fund (ERF).
- *The improvement factor is removed*

    - The improvement factor, which reduces the counterfactual baseline emissions level by an assumed rate of business-as-usual energy efficiency improvement, is removed because:
        - there is insufficient data to indicate energy efficiency is improving on a business-as-usual basis in sectors where the ICER method might be used.
        - it does not apply to all the eligible activities under the method, many of which are not energy efficiency activities such as fuel switching in a boiler or industrial process activities.
- *Terminology and implementation boundary concepts are simplified*
    - The method is framed around emissions-producing equipment instead of energy-consuming equipment.
    - Project proponents are required to explicitly define a boundary for each discrete project activity or collection of activities known as "implementations" in their project to enable the net abatement calculations.
    - Terminology changes are made to accommodate other changes made to the method and to clarify concepts.
- *Sub-method 2 removed*
    - Sub-method 2 is removed to reduce the complexity and length of the method, noting that no project has ever been credited Australian carbon credit units using sub-method 2.
- *Streamlining and enhancements to useability*
    - Relevant pieces of information previously spread out throughout the method are brought together.
    - Equations and definitions are streamlined to remove unnecessary duplication.
    - Sections are sequenced to more accurately reflect the steps proponents would typically follow to plan and conduct their project.

In addition, ICER projects will have the option to defer the start date of their crediting period for up to 3-years after the day the project is declared an eligible offsets project.

As the ICER method was designed to supersede the IEFE method, the IEFE method will be revoked. The process for revoking the IEFE method will commence after the Clean Energy Regulator has finalised arrangements with existing project proponents for transferring to the ICER method (see **Transferring your project to the ICER method**).

Transferring your project to the ICER method

Opportunities exist to transfer your existing IEFE method or Facilities method[1] project to the ICER method.

As the ICER method was designed to supersede the IEFE method, the IEFE method will be revoked. The process for revoking the IEFE method will commence after the Clean Energy Regulator has finalised arrangements with existing project proponents for transferring to the ICER method.

In some circumstances, revocation of the IEFE method interacts with your options to transfer your project to the ICER method. These circumstances and your options are described in detail below.

For specific guidance about how the revocation of the IEFE method affects your project, email enquiries@cleanenergyregulator.gov.au or phone 1300 553 542.

IEFE projects whose crediting period **has** started

- Existing IEFE projects whose crediting period **has** started can:
  - **Take no action** – the project can continue to make use of the IEFE method, including after the IEFE method is revoked.
  - **Transfer to the ICER method** – if your IEFE project meets the requirements of the ICER method, you can apply to transfer the project to the ICER method through the Client Portal.
    - In addition to the information required by section 90 of the CFI Rule[2], section 17 of the ICER method sets out method-specific information that must be included in your application to transfer.
    - If your application to transfer to the ICER method is approved by the Clean Energy Regulator, the ICER method will apply to your project from the start of the reporting period in which you submitted your application. Therefore, you should carefully consider the timing of your application to transfer and the effect this might have on offsets reports due to be submitted for your project.

IEFE projects whose crediting period **has not** started

- Existing IEFE projects whose crediting period **has not** started can:
  - **Apply to vary the start date for the project and transfer to the ICER method**
    - You can only apply to transfer your project to a different method once the crediting period for the project has started.

[1] *Carbon Credits (Carbon Farming Initiative–Facilities) Methodology Determination 2015* (the Facilities method)
[2] *Carbon Credits (Carbon Farming Initiative) Rule 2015* (the CFI Rule)

- Therefore, if you have not already varied the nominated start date for your project, you can apply to bring your project's start date forward through the Client Portal.
- Once your project's crediting period has started you can apply to transfer your project to the ICER method through the Client Portal.
- **Note** you can only vary the start date for your project once. If you bring forward your project's start date to transfer the project to the ICER method, you cannot make another application to move your start date to a later date after having transferred. Therefore, you should carefully consider whether your project is ready to start its crediting period.

» **Revoke your IEFE project and apply to register the project under the ICER method**

- You can apply to voluntarily revoke your IEFE project. At the same time, you can apply to register your project under the ICER method through the Client Portal.
- The information that must be included in your application to register your project under the ICER method is generally the same information you provided with your application to register the project under the IEFE method.
  - The only additional information you must include is a description of the proposed boundary for each implementation in the project.
  - You will be exempt from having to provide a statement of activity intent covering activities that were included in the original IEFE project.
- The ICER method includes an in lieu of newness provision for projects whose activities were formerly included in an IEFE project that was revoked before its crediting period started. This means that when you apply to register you project under the ICER method, your project will meet the newness requirement[3] even if you had commenced your project activities (see **Additionality – Newness**).

- The Clean Energy Regulator will work with registered IEFE projects whose crediting period has not commenced to reduce the risk that a project is not covered by a method when the IEFE method is revoked.

Facilities projects whose first reporting period has **not** ended

- Proponents of Facilities projects whose crediting period has started can transfer their project to the ICER method provided they submit their application to transfer during the first reporting period for the project. You can apply to transfer your project through the Client Portal.

» This means that if you submit your first offsets report for your Facilities project before you apply to transfer your project to the ICER method, you are not able to transfer your project to the ICER method later.

- Restricting when projects can transfer is an important integrity measure as it limits project proponents transferring between methods each reporting period

[3] For a project to be declared an eligible offsets project, section 27(4A)(a) of the *Carbon Credits (Carbon Farming Initiative) Act 2011* (the CFI Act) requires the project 'has not begun to be implemented'. This is known as the 'newness' test.

depending on which method will deliver them the most Australian carbon credit units.

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 (CO_2-e) emissions stored or avoided.

How participating in the Emissions Reduction Fund works

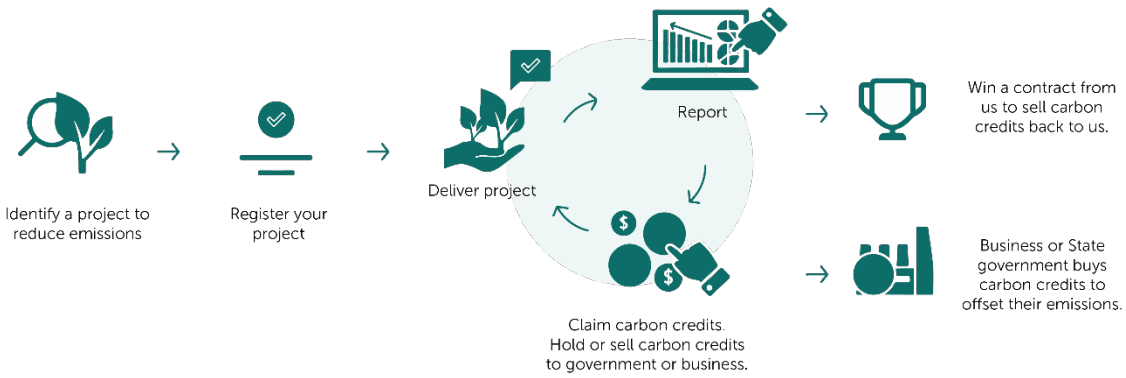

Figure 1: Emissions Reduction Fund project lifecycle

There are 4 general steps in running a project and participating in the ERF:

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[4] for more information on selling your ACCUs to the Australian Government or other interested buyers.

Industrial and commercial emissions reduction (ICER) projects

An ICER project involves activities that reduce the energy emissions (emissions from the combustion of fuel and consumption of electricity) and industrial process emissions produced by existing emissions-producing equipment. A range of opportunities exist to reduce these emissions, such as upgrading or replacing existing equipment, fuel switching, or changing the way existing emissions-producing equipment is controlled or operated. The ICER method is technology-neutral and provides flexibility for project proponents to determine what eligible activities are most appropriate for their site.

What sources of emissions are covered by the ICER method?

Industrial operations generate a range of greenhouse gas emissions. The ICER method credits ACCUs to projects that reduce:

- Direct emissions from on-site **fuel combustion** in equipment such as boilers, furnaces, and generators.
- Indirect emissions from **electricity consumption** in electrically powered equipment such as motors and heating elements.
- **Industrial process emissions** generated in processes such as chemical and cement manufacturing.

Under the ICER method, project proponents must develop a baseline emissions model that estimates the emissions that would have been produced in the absence of the project. The abatement generated by a project is then calculated by comparing the baseline emissions level to the actual level of emissions produced after the project activities are implemented.

The measurement and modelling approaches used in the ICER method are generally consistent with standard energy efficiency savings calculation techniques, such as those under the New South Wales Energy Savings Scheme Project Impact Assessment with Measurement and Verification method[5] and the International Performance Measurement and Verification Protocol[6].

In addition to lowering emissions, well-designed projects undertaken under the ICER method could potentially reduce facility energy-costs, improve productivity, reduce maintenance as well as generating income from carbon credits.

Using this guide

This document is a guide on how to register, run and report on a project under the ICER method that sets out the rules and processes an ICER project is to follow to be eligible to receive ACCUs. This guide supports the ICER method and its explanatory statement. Proponents seeking to conduct an ICER project should read the relevant legislation and guidance for the method and seek professional advice as necessary.

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[4] Clean Energy Regulator, 2021, Buying ACCUs (cleanenergyregulator.gov.au)
[5] Independent Pricing and Regulatory Tribunal New South Wales, Project Assessment with M&V, https://www.ess.nsw.gov.au/Home/About-ESS/Energy-savings-calculation-methods/Project-Impact-Assessment-with-MV
[6] Efficiency Valuation Organisation, International Performance Measurement and Verification Protocol (IPMVP), https://evo-world.org/en/products-services-mainmenu-en/protocols/ipmvp

Why you might want to seek professional advice to run an industrial and commercial emissions reduction project

The emissions models used in the ICER method must be developed using statistical regression or engineering-based modelling techniques and meet strict statistical requirements. Not all activities will be able to meet these statistical requirements even though the activity may reduce emissions.

As a result, the ICER method requires a complex understanding of statistics and measurement and verification techniques. The Clean Energy Regulator recommends that you seek the services of an accredited engineer or statistician, or a measurement and verification professional to design and assist in running the project. Drawing on professional expertise may enhance the design and operation of a project and assist in earning carbon credits.

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 that are contained in the ICER method. Project proponents also need to consider project costs and potential carbon credit returns as well as the legislative requirements.

Eligibility requirements

You must first register your ICER project as an eligible offsets project before it can begin earning ACCUs.

All applications to register a project as an eligible offsets project must meet the requirements in section 23 of the *Carbon Credits (Carbon Farming Initiative) Act 2011* (the CFI Act) and section 13 of the Carbon Credits (Carbon Farming Initiative) Rule 2015 (the CFI Rule).

General eligibility information that must be provided to the Clean Energy Regulator when applying to register your project include:

- 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 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 reduced) available from the project
- details of how the project meets the additionality requirements.

For more information on eligibility, visit our website[7].

In addition to the general information described above, the ICER method requires specific information to be included in your application to register your project. This information is set out in section 14 of the ICER method and is described later in this guide.

Fit and proper person assessment

You need to be recognised as a fit and proper person[8] 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.

[7] Clean Energy Regulator, 2020, Planning a project, http://www.cleanenergyregulator.gov.au/ERF/Want-to-participate-in-the-Emissions-Reduction-Fund/Planning-a-project

[8] Clean Energy Regulator, 2017, Fit and Proper Person posture, http://www.cleanenergyregulator.gov.au/About/Policies-and-publications/fit-and-proper-person-posture

For an ICER project, relevant regulatory approvals may include development and building approvals for infrastructure, and environmental laws or permits.

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

Hold legal right

You need the legal right to undertake your project and claim ACCUs. For an ICER project, the legal right will typically be held by either the owner of the facility at which the project activities will occur or a carbon service provider who is managing the project on the facility owner's behalf.

To acquire the legal right to carry out the project you should consider all the stakeholders involved or impacted by the project, including owners, lessees, and service providers. You may need a written agreement to evidence legal right if there are multiple parties involved in the project.

For more information on legal right, visit our website[9].

Additionality – Newness

For a project to be declared an eligible offsets project, section 27(4A)(a) of the CFI Act requires the project 'has not begun to be implemented'. This is known as the 'newness' test.

Activities that may breach newness include:

- making a final investment decision on the project
- purchasing equipment
- commencing construction.

The ICER method includes an *in lieu of newness provision* for projects whose activities were formerly included in an IEFE project that was revoked before its crediting period started. Projects of this type are known as 'restarting ICER projects' (see section 17A of the ICER method).

The in lieu of newness provision for restarting ICER projects recognises that such projects may have started their project activities before their crediting period commenced while they were registered under the IEFE method.

If your project is a restarting ICER project, when you apply to register you project under the ICER method, your project will automatically meet the newness requirement even if you have commenced your project activities.

Note that it is a requirement that the activities described in the application to register a restarting ICER project must **only** be those activities that were described in the application to register the former IEFE project. This ensures that the in lieu of newness provision is not applied to activities that have not previously been assessed by the Clean Energy Regulator as meeting the newness requirement.

Additionality – Regulatory additionality

For a project to be declared an eligible offsets project, 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' (regulatory additionality).

[9] Clean Energy Regulator 2018, Legal right, http://www.cleanenergyregulator.gov.au/ERF/Want-to-participate-in-the-Emissions-Reduction-Fund/Planning-a-project/Legal-right

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[10]. In brief, where an entity establishes an ERF project and is also subject to a regulatory obligation to reduce or offset their emissions, any ACCUs generated by that project used to meet the regulatory requirements must be put aside permanently in a Commonwealth holding account. These units cannot be sold or transferred to another party including the Commonwealth. However, any ACCUs resulting from the project that are not used to meet regulatory obligations can be made available to the market.

This means that if there is a regulatory requirement on an ICER project to meet an offset or emissions reduction obligation, then the project will only be able to sell ACCUs to the extent that the project results in more abatement than the offsetting obligation requires.

Additionality – Government program additionality

Section 21 of the CFI Rule creates in lieu of government program requirement that substitute for the general requirements in paragraph 27(4A)(c)(i) of the CFI Act (the government program requirement). Section 21 of the CFI Rule excludes ERF projects from also receiving funding or certificates under listed State and Commonwealth programs including:

- the Commonwealth's Renewable Energy Target (RET), except in specified circumstances, under the *Renewable Energy (Electricity) Act 2000*
- the New South Wales Energy Savings Scheme under the *Electricity Supply Act 1995 (NSW)*
- the Victorian Energy Upgrades Program under the *Victorian Energy Efficiency Target Act 2007*
- the South Australian Retailer Energy Efficiency Scheme under the *Electricity (General) Regulations 2012 (SA)* and *Gas Regulations 2012 (SA)*
- the Australian Capital Territory's Energy Efficiency Improvement Scheme under the *Energy Efficiency (Cost of Living) Improvement Act 2012 (ACT)*.

This means that ERF projects can receive funding from other government programs not listed in section 21 of the CFI Rule, subject to the other eligibility requirements.

Eligible project activities

An ICER project consists of one or more discrete emissions reduction activities known as implementations. Each implementation involves one or more eligible project activities that relate to existing emissions-producing equipment. Eligible activities include:

- Modifying, removing, or replacing existing emissions-producing equipment or changing the way it's controlled or operated. Examples include:
  - » replacing existing emissions-producing equipment with higher efficiency versions
  - » optimising pre-heating cycles
  - » using catalysts to reduce the industrial process emissions produced during chemical manufacture.
- Changing the fuel sources or the mix of fuel sources used by existing emissions-producing equipment, for example, switching from coal briquettes to biomass in a solid fuel boiler.

[10] Clean Energy Regulator, 2020, Regulatory additionality, 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

- Modifying, removing, installing, or replacing equipment that affects the emissions produced by existing emissions-producing equipment. Examples include:
  - » installing heat recovery systems
  - » replacing piping, valves or other connecting equipment
  - » installing activity sensors on a lighting system
  - » installing variable speed drives to more closely target the output of motors.
- Installing electricity generation equipment such as co-generation equipment or solar panels to:
  - » provide existing equipment that would otherwise consume electricity obtained from an electricity grid with electricity that is less emissions-intensive than the grid electricity, or
  - » replace existing off-grid electricity generation equipment with less emissions-intensive off-grid electricity generation equipment.

What is an 'implementation'?

The concept of an implementation provides the central framework for the ICER method.

- An implementation represents one or more discrete emissions-reducing activities applied to existing emissions-producing equipment at a site. An ICER project may consist of multiple but distinct implementations occurring at the same or different sites. This makes the method suitable for aggregation[11].
- Project proponents must define a boundary for each implementation. Boundaries may be defined by reference to a piece of equipment, a physical space, an energy or emissions system and its components, or a combination of these.
- The baseline and operating emissions produced by equipment within the implementation boundary must be modelled and measured for the purposes of calculating abatement for the implementation.
- Net abatement for the project in a reporting period is calculated by summing the abatement achieved in each implementation.

Several activities are not eligible under the ICER method and cannot be included in an ICER project. Excluded activities include:

- Activities that relate to electricity generation equipment with a combined capacity greater than 30 megawatts where the equipment has the capacity to export to an electricity grid and either:
  - » the export of electricity to the grid is regarded as 'scheduled' or 'semi-scheduled' by the market operator of the grid, or
  - » the generation equipment has the annual capacity to generate more electricity than the total electricity used by the site of the generation equipment in the 12 months before the application was made to register the project under the ERF

[11] Clean Energy Regulator, 2017, Aggregation under the Emissions Reduction Fund, http://www.cleanenergyregulator.gov.au/ERF/Want-to-participate-in-the-Emissions-Reduction-Fund/Planning-a-project/Aggregation-under-the-Emissions-Reduction-Fund

- Activities that relate to a vehicle or aircraft that could be covered by the Land and sea transport or Aviation ERF methods[12]
- Equipment at residential premises that are not commercial residential premises or retirement villages
- Projects that generate abatement through flaring or fuel incineration that dissipates heat into the atmosphere without producing heat for use
- Activities that lead or are likely to lead to a material impact on fugitive emissions
- Greenfields projects that install new equipment 'from scratch' are not eligible unless they are replacing existing equipment or offsetting grid electricity use by existing equipment. Existing emissions-producing equipment is needed for calculating baseline emissions.
- Activities that involve the combustion of biomass[13], or the use of biomass-derived energy, where the biomass is not an eligible renewable energy source under the RET scheme.[14]

Statement of activity intent

The ICER method requires project proponents to provide a statement of activity intent for each implementation when they apply to register their project under the ERF. A statement of activity intent is a statement that the activities the project proponent intends to implement would not *likely* be implemented in the absence of the activities being included in a registered ERF project. This ensures the method credits for carbon abatement that is unlikely to occur in the ordinary course of events.

The statement must be signed by the responsible financial officer with operational control of the proposed implementation site (for example, a Chief Financial Officer), or an individual holding a relevant delegation from that officer. In some circumstances, the responsible financial officer with operational control of the site of a proposed implementation will not be the project proponent. For example, if the registered project proponent for the project is an agent acting on behalf of the person with operational control of the facility.

Importantly, the statement of activity intent provides a mechanism for project proponents to add new activities to their project that were not identified at the time of their application to register their project under the ERF. See '**Adding new implementations to your project**' for more detail.

Crediting periods and start dates

The crediting period and start date establish the commencement and end date for the crediting of ERF projects, that is, the period over which the project can receive ACCUs.

Crediting period

The crediting period is the period in which the Clean Energy Regulator may issue ACCUs for the emissions reduction reported under a method. The crediting period for the ICER method is 7 years, as is the case for most emissions avoidance methods under the ERF.

The continuation of project activities beyond the end of the crediting period will not be eligible to receive ACCUs.

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[12] *Carbon Credits (Carbon Farming Initiative – Land and Sea Transport) Methodology Determination 2015* (Land and sea transport method), and *Carbon Credits (Carbon Farming Initiative – Aviation) Methodology Determination 2015* (Aviation method)

[13] Under the ICER method, biofuels such as ethanol or biodiesel are not considered biomass. Activities involving the use of biofuels are eligible under the ICER method.

[14] See the *Carbon Credits (Carbon Farming Initiative—Industrial Electricity and Fuel Efficiency) Methodology Variation 2015*.

Start date

The start date is the date when the crediting period commences – that is, the day from which a project can begin to earn ACCUs.

For ICER projects, project proponents can nominate any start date up to 3 years from the date the Clean Energy Regulator declares the project to be an eligible offsets project. Project proponents are also able to vary the nominated start date **once** to allow for changes in project circumstances, but only up to the maximum 3-year period.

If projects are unable to start within the 3-year period, the project can continue but the length of the crediting period for the project will be reduced by any delays beyond the 3 years.

Designing and running your project

Following the declaration that your project is an eligible offsets project you may then formally start your project and commence physical project activities. You will then need to report on the net emissions from your project to the Clean Energy Regulator.

After being declared as an eligible offsets project, project proponents will need to finalise decisions about their project, undertake technical work to ensure their project meets the requirements of the ICER method, and finalise the development of baseline emissions models to enable abatement calculations.

The preliminary stages of this work should commence as part of the proponent's project scoping and planning as it is a requirement that applicants provide some project-specific information as part of their application to register their project under the ERF including:

- a detailed description of the proposed boundary for the implementation
- a description of the proposed project activities that constitute the implementation
- an explanation of how the implementation could reasonably be expected to result in eligible carbon abatement.

Defining the boundary for an implementation

For each implementation, project proponents must identify a boundary that defines the scope of the implementation.

For each implementation, all emissions produced within the boundary must be accounted for and the effect of the implementation activities must be determined at the extent of this boundary.

- The *original boundary* is the boundary for the implementation in its form before the implementation activities have commenced and is the basis for developing the baseline emissions model.
- The *upgraded boundary* is the boundary in its form after the implementation activities are completed and is the basis for calculating measured operating emissions produced during the reporting period.

The original and upgraded boundary can differ only to the extent necessary to accommodate the changes due to the implementation activities, such as excluding removed equipment and including any installed equipment or components.

The project proponent will often have a choice about how to define an implementation's boundary. At a minimum, the boundary of an implementation must include:

- one item of emissions-producing equipment
- each item of equipment that is the subject of the implementation activities unless the equipment has been identified as 'interactive equipment' – see **Identify interactive effects**

- any item of equipment that could reasonably be expected to experience an increase in emissions because of the implementation activities that is not immaterial or minor. This requirement helps ensure the ICER method meets the offsets integrity standard that material greenhouse gases emitted as a direct consequence of carrying out the project are accounted for.
  - » If an item of equipment experiences an increase in emissions because of the implementation that is an immaterial or minor increase, the project proponent may choose to account for that change by including the item of equipment in the boundary for the implementation or by identifying the change in emissions as an interactive effect.
  - » For example, if as part of a large gas turbine optimisation project, associated electricity-consuming equipment experiences a small increase in electricity-consumption emissions, the proponent may choose whether to include the electricity consuming equipment in the boundary for the implementation or account for the electricity-consumption emissions change as an interactive effect.

Boundaries may be defined by reference to a piece of equipment, a physical space, an energy or emissions system and its components, or a combination of these. Boundaries may also be defined by reference to a whole facility. The description of an implementation boundary may be supported by diagrams such as site maps or plant schematics.

Developing baseline emissions models

To calculate the emissions avoided by an implementation during a reporting period, the project proponent must compare the measured emissions that occur during the reporting period (the 'measured operating emissions') to the estimated emissions that would have been produced if the implementation had not taken place (the 'baseline emissions').

To estimate baseline emissions for an implementation for each reporting period, the project proponent must first develop a baseline emissions model using one or more relevant variables. Relevant variables are parameters that cause or explain changes in baseline emissions for example, production rates per energy unit, tonnes of material processed, operating hours, and ambient temperature.

The baseline emissions model must be developed or calibrated using the values of the relevant variables observed during a representative period before the implementation is commenced (see **Select appropriate relevant variables** and **Choose the length of the baseline measurement period**).

Once the model is developed, the project proponent must measure the values of the chosen relevant variables during the reporting period and insert these values into the baseline emissions model to estimate the level of emissions that would have been produced during that reporting period in the absence of the implementation.

Baseline emissions models may be either:

- a regression baseline emissions model developed using statistical regression analysis, or
- an engineering baseline emissions model developed using engineering-based modelling techniques.

A range of decisions set out below must be made to develop a baseline emissions model for an implementation.

What is an engineering baseline emissions model?

- An engineering baseline emissions model is a science-based model of heat, mass and energy flows that is used to estimate the baseline emissions for an implementation.
- Engineering baseline emissions models will generally rely on a combination of fixed and variable data.
- Engineering-based models are often used by industry to scope and design energy efficiency projects and their use is supported under international standards, such as Option D under the International Performance Measurement and Verification Protocol.
- If a project proponent uses an engineering baseline emissions model for an implementation, they must provide a declaration from an independent measurement and verification professional that the model meets the requirements of the method.

Identifying the sources of baseline emissions

For each implementation, the project proponent must identify the sources of energy emissions and industrial process emissions produced by equipment within the original boundary for the implementation. These emissions must be measured throughout the baseline measurement period to develop or calibrate the baseline emissions model.

Industrial process emissions that may be reduced through an ICER project include emissions such as carbon dioxide from cement manufacture or nitrous oxide from the production of nitric acid.

Project proponents should note that industrial process emissions produced by equipment within the boundary for an implementation only need to be included in the baseline emissions model if the implementation activities are likely to materially impact those industrial process emissions. This is because including unaffected emissions sources in the baseline emissions model may decrease the accuracy of the model or reduce the observed percentage change in emissions that occurs because of the implementation activities.

Select appropriate relevant variables

To develop a baseline emissions model, project proponents must identify parameters that cause or explain changes in baseline emissions. These factors are known as relevant variables in the ICER method.

Examples of relevant variables include production rates per energy unit, tonnes of material processed, operating hours, and ambient temperature.

Project proponents must be able to measure the selected relevant variables throughout both the baseline measurement period and all reporting periods. Appropriate selection of relevant variables is crucial to developing a baseline emissions model that meets the statistical requirements of the ICER method.

What is the effective range of a relevant variable?

- For *regression baseline emissions models*, the effective range of a relevant variable is the variable's range of measured values observed in the baseline measurement period and used to develop the model.
- For *engineering baseline emissions models*, the effective range of a relevant variable is the range of values for which the model is valid and for which values are physically possible.
- Measurement time intervals are the time periods during which the values of relevant variables are measured (see below). Measurement time intervals during which the measured values of relevant variables are materially outside their effective range are not *eligible measurement time intervals* and are excluded from the abatement calculations (see section 5 of the ICER method).
- This means that you should carefully consider the timing and length of the baseline measurement period to make sure that the relevant variable's effective range will reflect those likely to be seen across all reporting periods for the project.

Identify the static factors

For each implementation, the project proponent must identify any static factors. Static factors are parameters that if varied would change the level of baseline emissions. Examples of static factors may be floor space for a commercial building, the rated power of an installed motor or the storage capacity of a refrigeration unit.

A key difference between relevant variables and static factors is that, under normal operating conditions, static factors do not vary over time, or their variation is small enough to have no observable effect on emissions produced within the implementation boundary.

Static factors can be excluded from regression baseline emissions models that is, not treated as a relevant variable in the model because they are not expected to change.

Static factors must be measured or monitored during the baseline measurement period to determine their normal value.

If a static factor is not at its normal value in a measurement time interval in the reporting period, for example, because of unscheduled maintenance or a temporary reduction in operating hours, the ICER method allows for project proponents to still calculate abatement for that measurement time interval by either:

- revising their baseline emission models using a period of baseline data for which static factors were at the observed level
- making a non-routine adjustment to the level of emissions predicted by the baseline emissions model.

If a static factor is not at its normal value in a measurement time interval and the proponent neither revises their baseline emissions model nor makes a non-routine adjustment, then that measurement time interval is not an *eligible measurement time interval*. Project proponents can only claim abatement generated during eligible measurement time intervals.

Combined, these amendments provide for greater flexibility to deal with circumstances where static factors change while still ensuring the baseline emissions value is a genuine and accurate estimate of the emissions level that would have occurred in the absence of the project.

What is a non-routine adjustment?

- A non-routine adjustment (NRA) is an individually calculated adjustment to baseline emissions made because a static factor is not at its normal value.
- If a static factor is not at its normal value, the level of baseline emissions predicted by the baseline emissions model will not be an accurate estimate of the true level of emissions that would have been produced in the absence of the implementation activities. This is because static factors are not expected to change, so their influence on baseline emissions is not incorporated into the baseline emissions model.
- If a project proponent chooses to make a NRA during a reporting period, they must provide a declaration from an independent measurement and verification professional approving the calculation approach used.

Choose the length of the baseline measurement period

The baseline measurement period is the period over which the values of baseline emissions and relevant variables are measured to enable the development or calibration of the baseline emissions model.

Proponents choose the length and timing of the baseline measurement period in a manner that complies with section 22 of the ICER method:

- the start date for the baseline measurement period must be no earlier than 36 months (3 years) before the implementation commences, and
- the measurement period must account for the typical range of operating conditions of the equipment within the implementation boundary.

It is also good practice to set an end date for the baseline measurement period that is as close as possible to the date the implementation activities commence.

Choose the measurement time interval

Throughout the baseline measurement period and each reporting period, all parameters must be measured across consistent time periods. This period is referred to as a *measurement time interval*. Project proponents can choose any length of time for their measurement time interval, but the same measurement time interval must be used for all parameters.

For example, a project proponent selects 'widgets-produced' as one of 3 relevant variables for a baseline emissions model. If the project proponent decides to measure widgets-produced on a monthly basis, then all other relevant variables, as well as operating emissions must also be measured on a monthly basis.

Identify interactive effects

An *interactive effect* is a flow-on change in emissions that occurs because of the implementation activities but is outside the implementation's modelling boundary. While outside the implementation boundary, interactive effects are still within the broader project boundary and any abatement associated with interactive effects must be accounted for in the net abatement calculations.

Project proponents must identify any interactive effects and the equipment affected by the interactive effect ('interactive equipment'). In some circumstances, project proponents will have a choice as to whether to include an emissions change within the implementation boundary or to treat it as an interactive effect.

For example, a project proponent replaces an existing furnace with a more efficient version.

- The more efficient furnace releases less waste heat resulting in less load on the electrically powered plant room cooling system.
- This decrease in electricity-consumption emissions could be treated as an interactive effect or the cooling system could be included in the implementation boundary.

The ICER method requires any equipment that could reasonably be expected to experience an increase in emissions that is not immaterial or minor to be included within the implementation boundary.

If a change in emissions is identified as an interactive effect for an implementation in the baseline measurement period, it must be treated as an interactive effect in all reporting periods for the implementation.

Project proponents must choose an approach to estimating the interactive effect that meets the requirements of section 25 in the ICER method, including:

- using data from the records of the site of the implementation
- using either regression or engineering baseline emissions modelling or a generally accepted energy efficiency measurement and verification practice
- being consistent with relevant measuring and estimation requirements under the NGER Measurement Determination[15] for fuel combustion, electricity consumption, and production of industrial process emissions
- resulting in an estimate that is measurable, capable of being verified and conservative, and is credible and robust.

In deciding whether to treat a flow-on emissions change as an interactive effect or within the implementation boundary, project proponents should consider:

- the limit on the amount of abatement that can be claimed from interactive effects, which is 10 per cent; and
- section 43 of the ICER method, which allows certain emissions to be excluded when calculating the emissions abated by an implementation.

What emissions can be excluded when calculating the emissions abated by an implementation?

- A project proponent may choose not to account for one or more changes in emissions that occur as a result of an implementation if:
  - it is impractical or disproportionately costly to account for those changes, and
  - not accounting for the total of those changes would result in a difference of 5 per cent or less on the abatement for the implementation in the reporting period.
- If a project proponent chooses to exclude emissions, they must exclude those emissions from both baseline and operating emissions for the implementation.
- This means that may be able to exclude a flow-on emissions change that would otherwise be treated as an interactive effect from the abatement calculations for an implementation.

[15] *National Greenhouse and Energy Reporting (Measurement) Determination 2008*

What are the limits on the amount of abatement that can be claimed from interactive effects?

- The limit on the amount of abatement that can be claimed from interactive effects is worked out by comparing the amount of abatement that occurs from interactive effects to the amount of abatement that occurs within the implementation boundary.
- The ICER method credits positive abatement (i.e. emissions reduction) from interactive effects. However, the amount of ACCUs that can be issued for abatement associated with interactive effects is capped at 10 per cent of the abatement that occurs inside the implementation boundary. This differs from the IEFE method, which credits zero abatement for an implementation if interactive effects exceeded 10 per cent of the abatement that occurs inside the implementation boundary.

- This provides project proponents flexibility in how they define their implementation boundary but limits the amount of ACCUs credited for abatement that is not captured by the modelled baseline emissions and measured operating emissions.
- All negative abatement (increase in emissions) from interactive effects must be accounted for in the net abatement calculations.

Example:

The abatement that occurs inside the implementation boundary for an implementation is *1,000 tonnes CO_2-e* and the abatement from interactive effects is *150 tonnes CO_2-e*.

The *150 tonnes CO_2-e* of positive abatement from interactive effects is greater than 10 percent of the abatement that occurs inside the implementation boundary (in this example 10 percent is equal to *100 tonnes CO_2-e*). Therefore, the amount of interactive effect abatement that is credited is limited to *100 tonnes CO_2-e*.

As a result, the total abatement generated by the implementation is taken to be *1,000 tonnes CO_2-e* plus 10 percent, which is equal to *1,100 tonnes CO_2-e*.

Develop your baseline emissions model

The next step is to develop your baseline emissions model. Baseline emissions models may be either:

- a regression baseline emissions model developed using statistical regression analysis, or
- an engineering baseline emissions model developed using engineering-based modelling techniques.

Baseline emissions models must be developed to meet the technical and statistical requirements in Division 6 of Part 3 of the ICER method, including any required declarations from an independent measurement and verification professional.

In the ICER method, project proponents must revise their baseline emissions model each reporting period to incorporate the electricity emissions factor in force at the end of the reporting period. This ensures the level of baseline emissions predicted by the baseline emissions model reflects up-to-date estimates of the grid emissions intensity.

When do I need to provide a declaration from an independent measurement and verification professional (MVP)?

- Project proponents are required to provide a declaration from an independent MVP if they:
  - » have used an engineering baseline emissions model
  - » have made a non-routine adjustment during a measurement time interval
  - » are using a regression baseline emissions model that does not fully meet the minimum statistical requirements set out in section 32 of the method.
    - › In this instance, the role of the independent MVP is to declare that the model substantially complies with the minimum statistical requirements, and the area of non-compliance does not have a material impact on the validity and accuracy of the baseline emissions predicted by the model.
- An independent MVP must meet the qualifications and independence requirements set out in the ICER method.
- An example of an independent MVP is someone who is a Certified Measurement and Verification Professional or a professional engineer accredited by Engineers Australia with the status of Chartered Professional Engineer.

Simplified and illustrative regression baseline emissions model example

A plant produces particle boards of varying thicknesses.

Steam is required in the process and is generated from an on-site boiler. After fabrication, the boards are dried in a gas-fired kiln before being sanded ready for sale.

The plant owner wants to establish an ERF project where both the boiler and the kiln are upgraded, and they need to establish a baseline emissions model for the 2 systems.

The plant owner decides to use statistical regression modelling to develop a regression baseline emissions model.

The plant owner selects the following relevant variables for the model:

- the level of production of boards in tonnes per day
- the average thickness in millimetres of the boards produced each day.

The model may take the following form:

$$Emissions = 6.02 + 0.192(production) + 0.152\ (board\ thickness)$$

In this example:

- 6.02 is a constant value that describes the level of standby emissions produced by the plant.
- 0.192 is the coefficient for the production relevant variable and represents the amount the emissions will change for each one-unit change in production.
- 0.152 is the coefficient for the board thickness relevant variable and represents the amount the emissions will change for each one-unit change in the average thickness of boards.

Simplified engineering baseline emissions model example

An implementation involves efficiency upgrades to an existing gas turbine electricity generator.

The generator operator decides to develop an engineering baseline emissions model.

During the baseline measurement period the operator measures the generator power output at the start of each hour and the emissions associated with the fuel used by the generator for that hour.

Based on the known theoretical performance curve of the gas turbine at different turbine inlet temperatures and fuel flow rates, the operator derives a model that estimates the emissions produced per hour as a function of the generator power output.

In addition, the operator undertakes input parameter adjustments to calibrate or 'tune' the model to the actual values of power output and emissions measured during the baseline measurement period.

The use of actual site data to develop or calibrate an engineering baseline emissions model is a requirement of the ICER method and is essential to ensuring the model estimates baseline emissions in a manner consistent with the minimum statistical requirements.

Developing robust and accurate engineering baseline emissions models require significant technical expertise and experience. For this reason, all engineering baseline emissions models must be the subject of a declaration from an independent MVP.

Calculate operating emissions

After completing the implementations and during each reporting period, the operating emissions produced within the implementation boundary are determined by either directly measuring emissions or the energy use that contributes to them. Section 53 of the ICER method outlines how to calculate the emissions from fuel combustion, electricity consumption, as well as industrial process emissions.

Reporting on your project

During the project you will need to run and report on the net emissions from your project to the Clean Energy Regulator as well as measure and monitor the relevant variables, static factors, and interactive effects.

Calculating net abatement

Projects are credited for the net abatement they generate. The abatement generated by your ICER project is calculated by summing the abatement generated by each implementation. If emissions have increased over the reporting period, abatement is reported as negative.

In general, the abatement generated by each implementation is calculated as the difference between baseline and operating emissions, taking account of any abatement generated by interactive effects and an accuracy factor that reflects the accuracy of the baseline emissions model and measurements taken to calculate abatement.

The exact equation for calculating the abatement generated by an implementation is set out in section 46 of the ICER method. Project proponents should note that the exact equation differs depending on the value of the net interactive effects for that implementation, if any have been defined.

The general form of the equation for calculating the abatement generated by an implementation is set out in Table 1.

Table 1. General equation for calculating the abatement generated by an implementation.

$A = (A_{bound} + A_{IN}) \times AF$	
A	Emissions abated by the implementation during the reporting period, in tonnes CO_2-e.
A_{bound}	Emissions abated within the boundary for the implementation during the reporting period, in tonnes CO_2-e. The equation for calculating A_{bound} is set out in the Table 2.
A_{IN}	Emissions abated outside the boundary because of interactive effects for the implementation during the reporting period, in tonnes CO_2-e.
AF	The accuracy factor for the implementation for the reporting period. The **accuracy factor** is a value between 0 and 1 that scales the abatement generated by the implementation based on the relative precision of the baseline emissions model and measurements taken to calculate abatement. In general, baseline emissions models that predict baseline emissions with a high degree of accuracy and high-quality measurement techniques will result in an accuracy factor close to 1. The equations for calculating the accuracy factor are set out in section 56 of the ICER method.

Table 2. Equation for calculating the abatement that occurs within the implementation boundary.

$A_{bound} = E_{BM} - E_{Meas}$	
E_{BM}	Total baseline emissions for the implementation for the reporting period, in tonnes CO_2-e, worked out by adding the baseline emissions level predicted by the baseline emissions model and the change in baseline emissions from any non-routine adjustments made during the reporting period.
E_{Meas}	Total measured operating emissions for the implementation for the reporting period, in tonnes CO_2-e.

Net Negative Abatement

If abatement in any earlier reporting period is negative, that negative amount is carried forward to the next reporting period.

Where the sum of abatement from all implementations in the final reporting period of a project is negative, the net abatement amount in that reporting period is taken to be zero. This is to ensure that a proponent is not penalised when they genuinely seek to reduce emissions through a project under the ICER method but fail to do so[16].

[16] Any obligations to deliver ACCUs under a carbon abatement contract to the Government will have to be met in accordance with the contract regardless of any net abatement that may have occurred under the project.

Adding new implementations to your project

Under the IEFE method, proponents cannot claim abatement generated from activities that were not included in the project description provided to the Clean Energy Regulator with the application to register their project under the ERF.

The ICER method allows proponents to add new activities to their project after the date their project is registered under the ERF by providing an updated statement of activity intent. The updated statement may apply to new activities at the site of an implementation already included in the project or may apply to entirely new implementations, such as an implementation at a distinct site.

This provides a mechanism for project proponents to continue to identify and claim ACCUs for new emissions reducing activities that are unlikely to occur in the ordinary course of events.

The updated statement of activity intent must be provided with the offsets report for the reporting period in which the new activity is completed. The project proponent can only claim ACCUs generated from the new activity for the remainder of the project's crediting period. The newly added activities must comply with all requirements of the ICER method, including being covered by a baseline emissions model for an implementation. The newly added activities must also be included in all subsequent audits for the project.

While updated statements of activity intent must be provided with the offsets report for the reporting period in which the new activity is completed, project proponents are generally encouraged to seek advice from the Clean Energy Regulator on the eligibility of new activities they intend to include in their project before undertaking them.

Reporting and crediting

The Clean Energy Regulator will issue ACCUs generated by an ICER project following lodging of a report and an assessment of the claim.

Offsets reports and claiming carbon credits

Once the crediting period for your project has commenced you must provide offset 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 6 months and 2 years[17]. Subsequent reporting periods commence immediately after the end of the previous reporting period and you can choose between one month and 2 years.

An offsets report is the document (plus supporting information) that you provide to the Clean Energy Regulator 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.

Claiming carbon credits

You can claim carbon credits each time you submit your offsets report if a positive net abatement amount during the reporting period is determined.

You must provide an offsets report no later than 6 months after the end date of each reporting period.

[17] Projects can report as frequently as monthly if more than 2,000 ACCUs are being sought in the reporting period.

You can submit your offsets report through the Clean Energy Regulator Client Portal[Error! Bookmark not defined.]. To be issued carbon credits you'll need to set up an Australian National Registry of Emissions Units (ANREU) account[18].

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, it will issue your ACCUs into your ANREU account. The Clean Energy Regulator is currently improving its systems with the intention of halving assessment timeframes.

Keeping abatement reporting consistent

If you include an implementation in the abatement calculations for the project during a reporting period but remove it from the abatement calculations for a subsequent reporting period, then that implementation must not be reincluded in any of the remaining reporting periods for the project.

This means that you cannot remove implementations from the abatement calculations in reporting periods where they return negative abatement, and then reinstall those implementations in reporting periods where they return positive abatement.

Auditing requirements

Your project needs to be audited to align with our legislative requirements. The number of audits required over the crediting period will depend on the project size and the forward abatement estimate. ICER projects will require 3 audits, including one with the first report.

Each audit report is submitted at the same time you apply for carbon credits. We will provide you with an audit schedule when your project is registered. It will tell you which reports need to include audits. For example: "*Audit 2: First project report submitted after 25/07/2024*".

Engaging auditors

We recommend you engage an auditor early when developing your project, as this will help you work out audit costs. You can find a list of registered auditors[19] on our website.

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.

[18] Clean Energy Regulator, 2020, Opening an ANREU account, http://www.cleanenergyregulator.gov.au/OSR/ANREU/Opening-an-ANREU-account

[19] Clean Energy Regulator, 2021, Register of auditors, http://www.cleanenergyregulator.gov.au/Infohub/Audits/register-of-auditors

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

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 an ICER 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.

Other matters

Notification requirements

You will need to notify us if your project changes, for example if the person running the project changes. **Appendix 1: Notification requirements** lists events that you need to notify the Clean Energy Regulator about and how long you have to provide that notification.

Making changes to your project

You can make changes to your project to adjust for changing circumstances, such as varying the proponent for your project.

To make changes (variations) to your project, you will need to complete a Project Variation form, located in the Clean Energy Regulator Client Portal. See **Appendix 2: Project variations** for a summary of allowed changes and information requirements.

Appendix 1: Notification requirements

Table 3: Notification requirements

Event	Notification triggers	Notification deadline
Offsets report events	You identify an error in your offsets report relating to project eligibility or the net abatement amount.	Within 60 days of you becoming aware of the event.
Project participant events	The person running the project (the project participant) changes due to death or other circumstances. The project participant is no longer a fit and proper person, due to insolvency or other events, including being convicted of an offence.	Within 90 days of you becoming aware of the event.

Appendix 2: Project variations

Table 4: Project variation actions and requirements

Variation type	Requirements
Vary project participant	The project participant is the person who has the legal right and responsibility for carrying out the project and the right to earn credits. You can add, vary, or remove a project participant. You will need to provide evidence of legal right.
Vary to remove condition	Your project is considered 'conditional' until all consents or approvals are received. You can apply to remove this condition by providing all signed eligible interest-holder consent forms or regulatory approvals through the Project Variation form on the Clean Energy Regulator Client Portal. You will need to provide all eligible interest-holder consents and regulatory approvals before your first offsets report.
Vary project start date	You can vary your project's nominated start date (which is also the start of your crediting period and first reporting period). The varied start date cannot be later than 3 years after the date your project is registered. You can only vary the start date before you submit your first offsets report, and it can only be varied once.

Further information on varying your project can be found on our making changes to your project webpage.