



Australian Government
**Department of Industry, Science,
Energy and Resources**

Discussion Paper: King Review Safeguard Crediting Mechanism

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Glossary

Australian carbon credit unit (ACCU) - A unit that represents one tonne of carbon dioxide equivalent (t CO₂-e) stored or avoided by an Emissions Reduction Fund (ERF) project.

Carbon dioxide equivalent (CO₂-e) - A standard unit of emissions used to compare the emissions from different greenhouse gases on the basis of their global warming potential.

CFI Act - *Carbon Credits (Carbon Farming Initiative) Act 2011*. The primary legislation in which the ERF and offsets integrity standards sit.

Climate Active - A partnership between the Australian Government and Australian businesses to encourage voluntary climate action. Climate Active certification is awarded to businesses that have credibly reached net zero emissions.

Crediting reference level – the emissions intensity below which a facility could be credited under the new King Review Safeguard Crediting Mechanism.

Default values - Government-set emissions intensity values and production variables used to set baselines under the Safeguard Mechanism

Emissions Reduction Fund (ERF) - Refers to a set of mechanisms designed to help Australia reduce its emissions. The ERF credits abatement delivered through projects undertaken in accordance with approved abatement calculation methods.

Grid-connected electricity generator - A designated generation facility connected to a designated electricity network at any time during a financial year. A designated generation facility is one whose principle activity is electricity production, generating electricity for the grid and not for its own use or as a secondary activity.

King Review - Report of the Expert Panel examining additional sources of low cost abatement chaired by Grant King and released in 2020.

Large-scale generation certificates - Certificates that accredited power stations can be credited with for electricity generated from their renewable energy sources. Certificates can be sold to entities with liabilities under the Large-scale Renewable Energy Target (mainly electricity retailers) to meet their compliance obligations.

Multi-year monitoring period - Safeguard facilities that exceed their baseline can apply for a multi-year monitoring period. Under a multi-year monitoring period, a facility can exceed its baseline in one year, so long as average emissions over a 2 or 3 year period remain below the facility's average baseline over that period.

Net emissions number - The number of tonnes of carbon dioxide equivalence of the total amount of covered emissions of greenhouse gases from the operation of the facility during a specified period.

NGER scheme - The *National Greenhouse and Energy Reporting Scheme* is a single national framework for reporting and disseminating company information about greenhouse gas emissions, energy production, energy consumption and other information specified under the NGER legislation.

Prescribed carbon unit - An Australian carbon credit unit or unit that is specified in the safeguard rules.

Safeguard Mechanism Credit (SMC) - Credits given to safeguard facilities for reducing their emissions below a crediting baseline by undertaking transformative abatement projects. The King

Review recommended this new unit type be established under the new safeguard Crediting Mechanism. These credits would be used to meet Safeguard obligations or be purchased by the Government or private entities.

Safeguard Rule - The *National Greenhouse and Energy Reporting (Safeguard Mechanism) Rule 2015*.

Scope 1 emissions - The emissions released to the atmosphere as a direct result of an activity, or series of activities at a facility level, sometimes called direct emissions.

Overview

The Safeguard Mechanism requires Australia's largest greenhouse gas emitters to keep their net emissions below an emissions limit, called a baseline, or purchase carbon offsets to make up the difference. The legislative framework for the Safeguard Mechanism is set out in the *National Greenhouse and Energy Reporting Act 2007* and the *National Greenhouse and Energy Reporting (Safeguard Mechanism) Rule 2015* (the Safeguard Rule).

The Safeguard Mechanism applies to facilities with direct (scope 1) greenhouse gas emissions of more than 100,000 tonnes a year. This means that the Mechanism covers facilities in the industrial, manufacturing, transport, mining, oil and gas sectors. Information on covered facilities' emissions and baselines is published on the Clean Energy Regulator's website.

King Review recommendation

In October 2019, the Minister for Energy and Emissions Reduction appointed an Expert Panel chaired by Mr Grant King (the Expert Panel examining additional sources of low cost abatement, or the King Review) to inquire and report on how best to unlock low cost abatement opportunities across the economy, with a particular focus on the industrial, transport and agriculture sectors and by increasing energy efficiency.

The King Review recommended that the Government establish a 'below-baseline crediting arrangement' for large facilities using the existing National Greenhouse and Energy Reporting Scheme and Safeguard Mechanism architecture. The arrangement would provide credits to facilities who reduce their emissions intensity by undertaking transformative abatement projects. In accepting the recommendation, the Government committed to undertake further consultation on the detailed design and implementation arrangements of the crediting mechanism. Through the 2021-22 Budget, the Government committed \$279.9 million to establish the crediting mechanism and support investment in transformative abatement projects.

This paper seeks feedback from stakeholders on the design of the King Review-recommended Safeguard Crediting Mechanism.

Next steps

Following consultation on this paper, the Department of Industry, Science, Energy and Resources (the Department) will develop an exposure draft of the subordinate legislation needed to implement the crediting mechanism. The Department will consult stakeholders on the exposure draft legislative instrument.

Making a submission

Submissions can be made via the Department's Consultation Hub (<https://consult.industry.gov.au/>) and by clicking the "Make a Submission" button. Submissions will be published online after the consultation closes, however stakeholders may request that their submission is kept confidential and not published. The Department will also publish information on the outcome of the consultation on the Consultation Hub.

Safeguard Crediting Mechanism

The King Review recommended a crediting arrangement that would initially operate as a pilot phase and credit reductions in emissions intensity. The King Review recommendation and Government response are shown in Box 1.

Rather than being an offset scheme, it would be a low-emissions technology deployment incentive scheme, not unlike the Renewable Energy Target (RET) scheme. The Safeguard Mechanism Credits (SMCs) would be legislated through the *National Greenhouse and Energy Reporting (NGER) Act*, and could be used to meet Safeguard obligations or be purchased by the Government or private entities.

1. Overview

Together with the reporting obligations under the National Greenhouse and Energy Reporting Scheme, the Safeguard Mechanism provides a framework for Australia's largest emitters to measure, report and manage their emissions. It does this by placing emissions limits—called baselines—on Australia's largest greenhouse gas emitters.

The Safeguard Mechanism's mandatory emissions limits provide a strong incentive for businesses to prevent their emissions from rising above baseline levels. However, there are also significant opportunities to reduce emissions below-baseline levels. This abatement potential is large—the Safeguard Mechanism covers around a quarter of Australia's emissions¹.

Facilities covered by the Safeguard Mechanism can make use of the Emissions Reduction Fund, but the King Review found that the Emissions Reduction Fund has had limited take-up across the energy efficiency, industrial, and transport sectors. In many cases, the most cost-effective abatement opportunities involve early replacement or upgrades of equipment. The King Review found that it can be difficult to credit these activities under the Emissions Reduction Fund.

The King-review recommended **Safeguard Crediting Mechanism** will aim to unlock these 'below-baseline' abatement opportunities that are not being realised under the Safeguard Mechanism or the Emissions Reduction Fund. It would incentivise the deployment of low-emissions technologies by providing revenue that will help investments get over the minimum rate of return required for them to go ahead.

¹ This figure does not include grid-connected electricity generators, which are subject to a sectoral baseline and would not be eligible to participate in the Safeguard Crediting Mechanism.

Box 1. King Review Recommendation and Government response

King Review Recommendation 9.1

Establish a 'below-baseline crediting arrangement' for large facilities using the Safeguard Mechanism architecture. The arrangement would provide credits to facilities who reduce their emissions below their Safeguard baselines by undertaking 'transformative' abatement projects.

The below-baseline crediting mechanism would help realise abatement opportunities in industrial facilities that are not being accessed by the ERF.

Key design parameters would include the following.

- The crediting mechanism would not be an offset scheme; it would be a low-emissions technology deployment incentive scheme, not unlike the RET.
- Initially the mechanism would operate as a pilot, trial phase.
- Units generated under the scheme should be differentiated from ACCUs and could be known as Safeguard Mechanism Credits (or SMCs).
- The crediting mechanism would be implemented through the National Greenhouse and Energy Reporting (NGER) Act and its subordinate legislation.
- Crediting should be targeted at reductions in emissions intensity to avoid crediting reduced production or facility closures.
- SMCs could be used to meet compliance obligations under the Safeguard Mechanism, purchased by the private sector, or purchased by the Government through a new arrangement under the Climate Solutions Fund.

Government response

Agreed. The Government agrees that establishing a low-emissions technology deployment incentive scheme to reduce emissions from Safeguard-covered facilities would help realise abatement opportunities that are not being accessed by the ERF.

As noted by the Panel, substantial consultation will be required with industry on how to best implement such a scheme and maximise co-investment.

In this context, the Government will undertake further consultation with affected businesses and other stakeholders on the detailed design and implementation arrangements.

Note: in the 2021-22 Budget, the Government committed \$279.9 million to establish the crediting mechanism and support investment in projects that will reduce the emissions intensity of Safeguard-covered facilities.

Building on the existing policy framework

The Safeguard Crediting Mechanism will build on the existing climate change policy framework, including the NGER scheme, the Safeguard Mechanism and elements of the Emissions Reduction Fund. It will comprise two distinct elements:

- **Crediting:** facilities will receive SMCs for reducing the emissions intensity of their operations.
- **Purchasing:** the primary incentive to reduce emissions will come from Australian Government purchase of SMCs. Through the last Budget, the Government committed \$279.9 million over ten years to support purchases of SMCs under the new Safeguard Crediting Mechanism. SMCs could

also be used in the voluntary market or to meet compliance obligations under the Safeguard Mechanism.

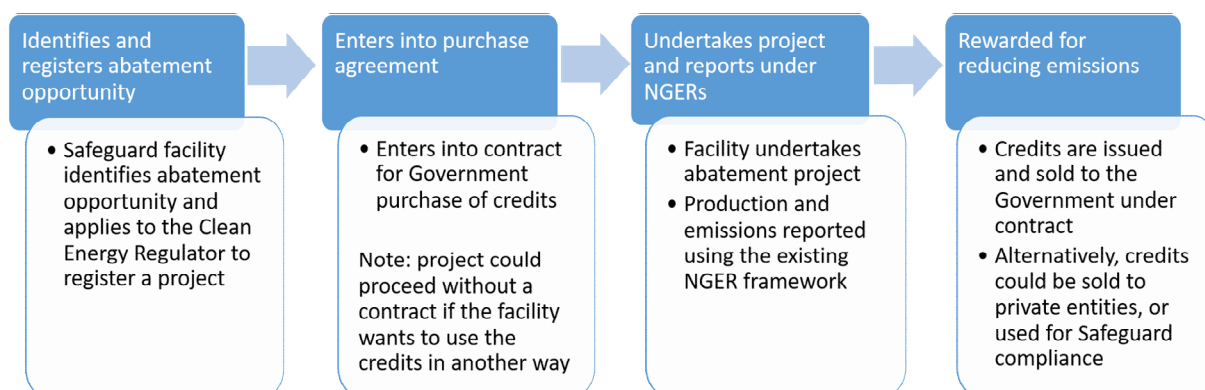
Emissions reductions would be measured and verified based on data reported through the NGER scheme. The NGER scheme's measurement, reporting and verification arrangements align with UN climate treaty transparency requirements, allowing emission reductions to contribute towards Australia's international emissions reduction commitments. Reductions in emissions intensity will be measured against metrics developed under the Safeguard Mechanism framework.

Some enabling changes to primary legislation will be needed to implement the crediting mechanism, confer property rights and enable appropriate tax treatment of SMCs (consistent with arrangements for other units, including Australian Carbon Credit Units). The *NGER Act* and the *Australian National Registry of Emissions Units Act 2011* will be amended to provide for the issue of credits, with details about how this would work being provided in subordinate legislation. An **Appendix** provides a summary of the enabling Act changes required to establish the Safeguard Crediting Mechanism.

The purchasing mechanism could follow elements of the Emissions Reduction Fund model, with contracts for the delivery of SMCs being entered into by the Clean Energy Regulator via reverse auction or another mechanism. Amendments to the *Carbon Credits (Carbon Farming Initiative) Act 2011* could allow purchasing arrangements similar to those for ACCU purchases to apply to SMCs.

Using established frameworks will help to lower compliance costs for scheme participants, allowing them to focus their efforts and resources on reducing their emissions. Figure 1 outlines how an abatement project could operate under the Safeguard Crediting Mechanism.

Figure 1. Example Safeguard Crediting Mechanism project



The purpose of this document is to seek input from businesses and the community on the detailed design of the Safeguard Crediting Mechanism.

- **Section 2** considers design principles and the possible role of a pilot phase.
- **Section 3** considers design options for crediting.
- **Section 4** considers design elements that could promote programme integrity and ensure that only genuine abatement is credited.
- **Section 5** considers design options for purchasing.
- **Section 6** provides a worked example of how to calculate the volume of credits a facility could receive.
- An **Appendix** describes the legislative framework for crediting.

2. Design principles

The objective of the Safeguard Crediting Mechanism is to encourage transformative emissions reduction projects. It is likely to be successful if it can do the following:

1. Encourage the deployment of transformational low-emission technologies in Australian industry and other sectors covered by the Safeguard Mechanism.
2. Encourage Safeguard facilities to realise low cost emissions reductions in a way that maintains or increases international competitiveness.
3. Realise genuine abatement that provides value-for-money for abatement driven by Government and private purchase of credits.
4. Have a simple design that builds on existing frameworks and minimises additional reporting.

We invite views on the four design principles proposed above.

The role of a pilot phase

The King Review suggested that a pilot phase could be used to test the market appetite for SMCs and refine programme administration. A pilot phase could also help to better understand and manage any impacts on existing offset markets.

The Government's preference is to start the pilot phase on 1 July 2022. Alternative start dates could be considered, however to ensure consistency with existing frameworks, crediting periods should be on a financial year basis.

The pilot phase could run for 2 or 3 years. To provide participants with enough time to develop their project and achieve emissions reductions, projects that commence in the pilot phase will likely need to have crediting periods that continue after the pilot phase has ended.

An evaluation could take place towards the end of the pilot phase. The evaluation could examine the effectiveness of the crediting mechanism at meeting its objective, and consult on how post-pilot phase crediting arrangements could be improved. Consideration would need to be given to the provision of sufficient continuity for existing projects while providing flexibility to adjust crediting arrangements to reflect lessons learned during the pilot phase.

We invite views on:

- The length and start date of a pilot phase.
- How to ensure scheme continuity between the pilot phase and subsequent arrangements.
- Issues to consider when the pilot phase is being evaluated.

3. Crediting

This section discusses the design of how the crediting framework could work, including the key questions of how to set the reference level against which emissions reductions would be measured.

Setting reference levels

As proposed in the King Review, the broad approach for determining how many credits a facility receives would be to credit reductions in emissions intensity. Crediting reductions in emissions intensity is one way to ensure that abatement is genuine. It means credits will be issued for cleaner production, not for simply reducing output.

This approach builds on the Safeguard Mechanism architecture, which sets baselines with reference to emissions intensity levels. Under the Safeguard Mechanism, baselines are set by multiplying *production* by an *emissions intensity value*, defined as follows:

- **Production:** measured using a metric published in the Safeguard Rule which defines the product or service delivered, for example, tonnes of coal or revenue-tonne-km of air transport;
- **Emissions intensity values:** either a site-specific forecast (that reflects the individual circumstances of a facility) or a published default value representing the industry average.

It is proposed that the reference level for the crediting mechanism would use the production metrics published in the Safeguard Rule, but not the emissions intensity values used to set Safeguard Mechanism baselines.

The Safeguard Mechanism emissions intensity values, which reflect a forecast or industry average are unlikely to be suitable for crediting. By its nature, forecasting is difficult. If forecasts were used, it would be difficult to determine what portion of the calculated abatement reflects emissions reductions rather than inaccuracy in the forecast. Similarly, the use of published industry average default values may not give buyers confidence that credits are supported by a genuine emissions reduction project. By definition, around half the facilities are already performing better than the industry average.

In line with the proposed approach in the King Review, the Government's view is that facilities should not be credited with SMCs based purely on emissions reductions below a facility's existing baseline, but instead be credited for abatement relative to a new reference level based on historical emissions intensity performance. Crediting under the mechanism would require the facility to invest in new low-emissions technologies, or undertake process changes that lead to emissions reductions, and would not occur simply because a facility's emissions are below its Safeguard baseline. Facilities that achieve abatement relative to the new lower reference level could choose to enter into an arrangement to sell their SMCs to the Government. This could occur through an auction process, building on the existing arrangements for Government purchase of Australian Carbon Credit Units (see section 5). The 2021-22 Budget allocated \$279.9 million to support Government purchases of SMCs.

The Government's preference is for abatement to be calculated with reference to historical data. If the post-upgrade emissions intensity is lower than the historical reference level, the difference can be multiplied by the facility's production (as defined in the Safeguard Rule) to provide an abatement estimate. This is illustrated in Figure 2. Section 6 describes the proposed formula and provides a hypothetical worked example of how to calculate the volume of credits a facility could receive.

Figure 2: Example of credited abatement

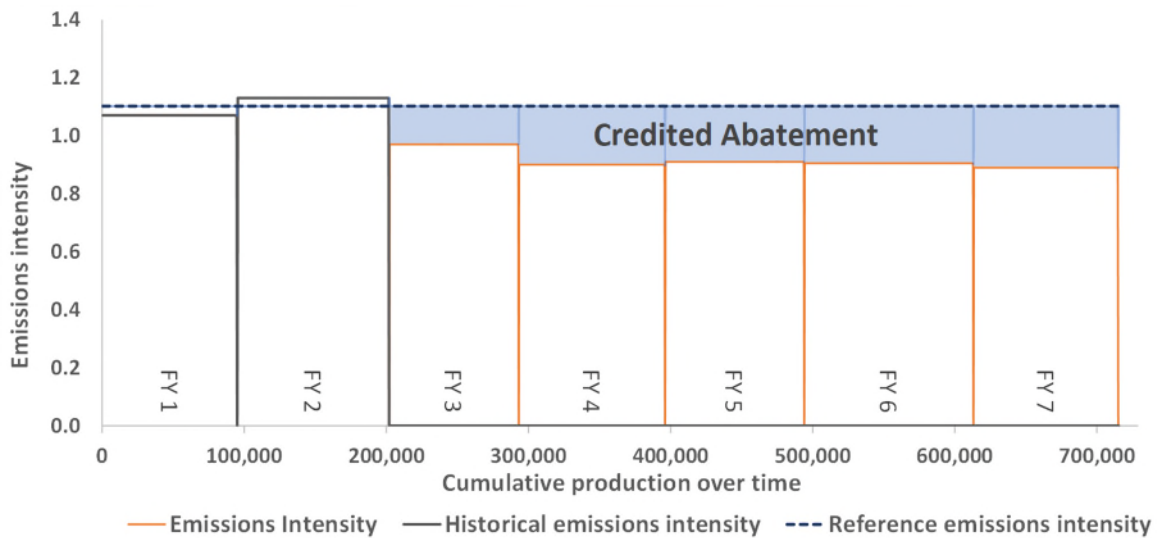


Figure 2. Example of how a facility could be credited for reducing its emissions intensity. In this example, the reference emissions intensity is calculated using the two years before the emissions reduction activity takes place.

How to set a historical emissions intensity value?

There are a number of ways to set a reference emissions intensity using historical information. The main options are:

- **Most recent period:** The reference emissions intensity level could be based on the most recent year (or years) before the emissions reductions commence.
- **A past, fixed period:** The reference emissions intensity level could be based on a fixed year (or years) prior to programme commencement (2019-20 or earlier). This fixed period would be common to all facilities regardless of when the emissions reductions take place.

Using the most recent period to set the reference emissions intensity level could lead to a more accurate estimate of the emissions reductions from the project. But using a reference case that occurs in the future introduces a risk that a business could be encouraged to increase its emissions to generate an artificially high reference level. While commercial factors would likely discourage or prevent this from occurring in practice, it could nevertheless jeopardise scheme integrity.

For this reason, the Government's preference would be to use a past, fixed year (or years) to set a reference emissions intensity level. This fixed period would occur before programme commencement and could include years up to and including 2019-20.

An average of two or three years could be used to provide a more robust emissions intensity value which takes account of a wider variety of operational circumstances. For example, a reference emissions intensity level could be set for each relevant facility based on its emissions intensity over three years from July 2017 to June 2020.

There may be circumstances, such as when a facility experiences an outage in production, where the emissions intensity during any nominated reference period will be artificially high. In these cases, an alternative to the historical emissions intensity may be needed for a facility in a given year. A possible way to deal with these circumstances would be for the reference emissions intensity to be set to no more than the emissions intensity used to calculate the facility's Safeguard baseline. This would also prevent any 'double counting' of emissions reductions (discussed below).

In practice, many participating facilities will produce more than one output. The design of the Safeguard Crediting Mechanism would accommodate facilities with multiple outputs. Facilities may need to apportion emissions in a year to individual outputs to allow the credited amount to be calculated.

Treatment of new facilities

Setting crediting reference levels based on historical data does not work for new facilities, as they have no historical data to draw on. A crediting reference level for new facilities could be based on an emissions intensity that references, but exceeds, current industry practice. However, not using historical data to set a reference emissions intensity could increase the likelihood that a new facility is credited for something it would do anyway. For example, a new facility may have a low emissions intensity because it is designed to be highly efficient. Equally, for some sectors, the technology that is available to be used in a new facility may not be substantially more efficient than existing approaches.

To avoid crediting ‘business as usual’ outcomes, a reference emissions intensity for a new facility could be more stringent than the emissions intensity used to set the facility’s Safeguard baseline. For example, a new facility could receive credits if it can beat the average of the best performing (least emissions intensive) top 30 or 50 per cent of existing facilities² (i.e. can beat an emissions intensity that reflects the least emissions intensive 15th or 25th percentile of Australian production). This would allow new facilities to participate if they use the newest, most efficient technologies, while making it less likely to credit for normal advances in plant and equipment performance. Options such as shorter crediting periods could also be considered to guard against crediting business as usual outcomes. Giving access to the below baseline crediting scheme for any new entrant who can perform at the average of the top 30 or 50 per cent of existing facilities, rather than the industry average, could help to incentivise best practice at new facilities.

Careful consideration would need to be given to setting ‘top 30 or 50 per cent’ emissions intensities in sectors where there are few facilities and/or limited data. For example, if there are only one or two existing facilities that produce a particular output, the top 30 or 50 per cent of production could reflect the least emissions intensive years of production and not necessarily reflect best practice. In these circumstances it could make sense to use international data or another approach to determine a best practice emissions intensity.

We invite views on:

- Is a historical emissions intensity value an appropriate reference point for crediting emissions reductions?
- Should a historical emissions intensity value reflect a fixed period or the most recent period?
- How should circumstances where a facility has experienced an outage or similar event that leads to its emissions intensity being artificially high be managed?
- Should new facilities have access to the Safeguard Crediting Mechanism? If so, what is the best approach for setting new facility crediting reference levels? Should they be set at the emissions intensity of the average of the top 30 or 50 per cent of existing facilities, or some other level?

² Measured as the production-weighted average emissions intensity of the best performing (least emissions intensive) 15th or 25th percentile of production of any given output.

Adjustments to reference levels

Where possible, the parameters used to set the reference level for a facility should be consistent with the parameters used by the facility to report its NGER emissions over its crediting period. This will help to ensure the abatement that is credited reflects genuine emissions reductions. In line with this objective, it is intended that there be scope for the facility's reference level to be adjusted so that it is calculated in the same way as its emissions are calculated; if necessary supported by additional information from reporters. Such an adjustment may be necessary if:

- there is a change to the global warming potential values used by NGER;
- a facility moves to a new NGER method to report its emissions to the Clean Energy Regulator; or
- an NGER method changes in a way that will affect the relevant facility's NGER reported emissions.

We invite views on this approach, and how a materiality threshold could be defined in order to determine whether such an update to a facility's crediting threshold is needed.

Vintage years

Reductions in emissions intensity would be calculated using emissions data reported through NGER. Because emissions are reported after the year they occur, credits would not be issued until after the year in which the emissions reductions took place. Assigning each credit a vintage, corresponding to the financial year that the relevant emissions reductions took place (rather than when the SMCs were issued), would encourage transparency.

Crediting periods

As highlighted in the King Review, below-baseline crediting could help to bring forward new investments. Over time, the use of new low emissions technologies could be expected to become more commonplace, so that investments that would not have occurred in the ordinary course of events at the moment may become standard practice in the future. Crediting periods can be used to limit the timeframe in which a particular investment could generate credits. The length of the crediting period is important as it can affect programme participation and the SMC price.

Crediting periods are used in the Emissions Reduction Fund (ERF). Many ERF methodologies have a 7 year crediting period. Shorter crediting periods may be appropriate for the Safeguard Crediting Mechanism as industrial sector projects could be expected to have commercial benefits and shorter pay back periods than, for example, land sector projects which deliver strong environmental outcomes, but may have little or no commercial value.

For example, industrial sector projects could include investments to improve energy efficiency or bring forward upgrades to newer, more efficient technologies. Both could be expected to lower energy costs and improve productivity. A 5 year crediting period may provide a sufficient incentive to encourage these investments. This is consistent with some international offset standards, such as the Gold Standard for the Global Goals, which has a 5 year 'registration renewal period'.³

³ The Gold Standard for the Global Goals is a standard and certification programme for emission reductions projects in international voluntary carbon markets.

The disadvantage of a shorter crediting period is that it could reduce the incentive to participate, particularly for facilities whose abatement opportunities require significant upfront capital investments.

Given the potential impact of the crediting period length on programme effectiveness, the Government is inclined to introduce a 5 year crediting period for the pilot phase. The crediting period could be reviewed and adjusted, to make it longer or shorter, depending on participation levels and the SMC price.

A further consideration is the role of up-front crediting on a compressed timeframe, as opposed to crediting all abatement on delivery. Some use of up-front crediting or compressed crediting is being considered under the ERF as an outcome of the King Review. The Government will consult, on a method by method basis, on compressed crediting under the ERF, which represents a well-established offsets scheme, however a more cautious approach may be appropriate in the pilot phase of the Safeguard Crediting Mechanism. As such, it is the Government's intention that compressed crediting is not used in the pilot phase.

We invite views on:

- The timeframe for an appropriate crediting period.
- Should crediting reference levels decline over time to reflect business as usual improvements, and how should a declining reference level be implemented?

Interaction with Safeguard Mechanism baselines

To ensure emissions reductions are not reversed after the crediting period, it is proposed that Safeguard Mechanism baselines could be adjusted to reflect improved emissions intensity performance. Noting that emissions intensity performance may vary year to year, the adjustment could reflect the average emissions intensity over the crediting period.

For example, a facility that uses a site-specific emissions intensity of 1.5 tonnes CO₂-e per tonne of output for setting its Safeguard Mechanism baseline before the emissions reduction project, but has an average emissions intensity of 1.3 tonnes CO₂-e during the crediting period, would use 1.3 as its site-specific emissions intensity value for setting its Safeguard Mechanism baseline after the crediting period ends.

In practice, this could only apply to baselines set using site-specific emissions intensity values. Site-specific values are intended to accommodate individual facility circumstances. It is appropriate that these values should be updated where investments that reduce emissions have been credited under the Safeguard Crediting Mechanism.

Baselines set using default values would not be adjusted, and all facilities have the option to move to default (industry average) baselines at any time. In the above example, if the default value is 1.5 tonnes CO₂-e per tonne of output, a facility could still receive credits for reducing its emissions-intensity, but its post-project Safeguard Mechanism baseline would not change.

In the above example the new emissions intensity for setting the facility's baseline is equal to the average emissions intensity of the facility during the crediting period. Other approaches could be considered, for example by reducing the emissions intensity for setting the baseline (which may not necessarily be equal to the reference level) in a way that is commensurate with the amount of credits received.

We invite views on:

- Should there be an adjustment to baselines for facilities that receive SMCs?
- How much of an adjustment should there be?
- Any feedback on the proposal to adjust baselines for facilities whose emissions intensity is above the default (industry average) emissions intensity.

Preventing double counting

Double counting can occur when one tonne of abatement that underlies a carbon unit is counted twice in relation to meeting a compliance obligation. For example, consider a facility whose emissions were two tonnes above its Safeguard baseline (emissions limit) that undertook a project resulting in one tonne of emissions reductions, with the facility receiving one SMC for that one tonne of abatement. If the facility were to use that one SMC for compliance purposes under the Safeguard Mechanism, it could further reduce its net emissions number by one tonne, bringing its net emissions down to its baseline. In doing so, it would count the single tonne of abatement twice.

This form of double counting can be prevented by only allowing SMC crediting to occur where the relevant facility is below its Safeguard baseline, or by having reference emissions intensity levels that are not greater than the emissions intensity used to set the facility's Safeguard baseline.

Care would need to be taken to prevent double counting from occurring when a facility is on a Multi-year Monitoring Period (MYMP)⁴. A facility could potentially create SMCs during an MYMP (e.g. in any MYMP year in which it is below its baseline) and then use those units to acquit against any exceedance it may have at the end of the MYMP. In this way it could double count the SMCs for Safeguard compliance purposes. This form of double counting can be prevented by requiring that facilities not be on an MYMP in order to participate in the below-baseline crediting mechanism. Facilities can apply to end existing MYMPs early under existing provisions in the Safeguard Rule.

It is intended that SMCs and ACCUs would not be issued for the same abatement by preventing abatement projects from being registered as an ERF project as well as a below-baseline crediting project.

The double counting provisions for Safeguard facilities undertaking ERF projects remain in place and are not within the scope of this discussion paper.

We invite views on whether SMC crediting should only be available to facilities that are not emitting above their baseline, and only those not on a MYMP.

⁴ An MYMP allows a Safeguard facility to meet its compliance obligations over a 2 or 3 year period by requiring that the facility's average emissions over the period are equal to or below its average baseline over the period. MYMPs allow facilities to reduce their emissions, or surrender offsets, in later years to make up for an exceedance in a previous year.

4. Delivering genuine abatement

As noted by the King Review, an essential design challenge is to strike a balance between measuring and crediting only genuine abatement while still encouraging commercial participation. A crediting mechanism should not introduce barriers to participation if it is to be successful at unlocking emissions reductions. But equally, each credit must deliver a genuine tonne of abatement (measured as carbon dioxide equivalent emissions) to give buyers confidence that the credits deliver the promised environmental benefit.

This can be achieved by moving away from the project-based approach associated with the ERF, which necessarily has strict additionality requirements, but taking a measured approach to crediting arrangements to ensure SMCs represent genuine abatement, have integrity, and provide value for money to buyers. One or more of the following design elements could help to deliver this:

- **Discounting or use of a buffer:** crediting only a portion of calculated emissions reductions could help to address uncertainty regarding whether emissions reductions would have taken place anyway.
- **Minimum crediting thresholds** to target crediting at transformative projects rather than business-as-usual fluctuations in emissions intensity at a facility from year to year.
- **Transformation statements** could require businesses to explain what actions they have taken to reduce emissions and how they were transformative.
- **Time limits:** there could be time limits on the use of SMCs, for example for Safeguard compliance purposes.

Buffers and Discounting

A simple way to ensure that SMCs represent genuine abatement is to issue credits for a portion of calculated emissions reductions. For example, credits could be issued for 85-95% of the emissions reductions delivered by a given investment during the crediting period.

When the King Review considered design options for calculating crediting reference levels, one option considered was to incorporate a 'buffer' when calculating the reference level. A percentage buffer could be applied to the initial level to make the final reference level more conservative.

A potential issue with this approach is that it could affect different sectors differently because some sectors have a greater variation in their emissions intensity than others. This could make it difficult to set a buffer in a way that accommodates all participants.

An alternative approach is to directly apply a discount to the abatement generated rather than to the reference level. This would be a simple measure that could help to ensure credited abatement is genuine and that each credit represents a tonne of emissions reductions. It would not act as a barrier to participation in the same way the King Review found some of the additionality measures in the ERF are limiting industrial sector participation. A similar approach to managing additionality has been used in overseas schemes, including energy efficiency schemes and methodologies for land sequestration projects.

We invite views on:

- Should there be a reduction in the number of SMCs issued for each tonne of calculated emissions reductions?
- What should the discount factor be?

Minimum crediting thresholds

The crediting mechanism could require that a minimum amount of abatement be delivered for a facility to be eligible to participate.

This could help to ensure that only transformative changes are credited, as opposed to normal fluctuations in year to year emissions intensity. This would help the crediting mechanism encourage the adoption of low emissions technologies by Australia's largest facilities. However, it may present an unnecessary additional hurdle if the administrative costs of participation provide a sufficient barrier to very small projects.

If a minimum crediting threshold is used, there is a question about whether it should be uniform across all participants or based on the size of the facility. For example, it could be set as a percentage of a facility's total emissions.

We invite views on:

- Whether there should be a requirement for a minimum level of abatement.
- What should the minimum level of abatement be?

Transformation statements

The King Review suggested that making the issuance of credits contingent on the submission of a transformation statement could encourage crediting to target new activities that bring low-emissions technologies and practices online. They would articulate what technology is being proposed, and how it will be transformational for the operation of the facility. Information could be required in transformation statements that demonstrates that the investment or activity being undertaken is significant and new. Transformation statements could be used to set out other sources of funding, such as grant funding, that are relevant for the project.

Statements would give information to the market on the integrity of the units to be generated and other information that could be of interest, such as the project type, location and underlying activity. Connecting each SMC to its corresponding transformation statement (and vintage) could enhance demand for SMCs, particularly if there are co-benefits (such as development of new technologies that can be deployed more in the future) associated with the emissions reductions.

Ideally transformation statements would encourage crediting to target low emissions technologies without creating undue administrative barriers. They could be published on the Regulator's website and the websites of participating businesses. Transformation statements could provide transparency about projects, but should not increase the regulatory burden on businesses in a way that discourages them from undertaking the project. The King Review suggested that participants could be subject to a duty of utmost good faith when making the statements.

We invite views on the role of transformation statements, including what details and types of declarations should be required and how they could help to inform carbon markets.

Time limits on credits

The King Review considered the use of limits on the lifetime of credits to manage integrity risks, and suggested that time limits could align with monitoring periods for the Safeguard Mechanism, which are typically between 1 and 3 years.

Time limits could be used to help manage any teething issues experienced in the early stages of the crediting mechanism. The King Review suggested that time limits could potentially apply to the pilot phase and be phased out as the mechanism matures.

Time limits could introduce the risk of the value of SMCs falling to low levels where there are units that have not been used in advance of their expiry. Time limits could also create continuity issues between the trial phase and the post-trial phase. They could reduce the value of SMCs, which could reduce the effectiveness of a crediting mechanism at encouraging new investment.

Time limits could be implemented by making SMCs over a prescribed age ineligible for certain uses, such as limiting their surrender by Safeguard facilities after the relevant time period expires. Alternatively, a stricter way of implementing a time limit would be for SMCs to be cancelled after the time period expires. The use of vintage years would facilitate the use of time limits, but the design of any time limits would need to take into account the fact that SMCs are likely to be issued after their vintage year because of NGER reporting timetables. Broad options for time limits are:

- No time limit, so that SMCs can be used indefinitely.
- A limit on the use of SMCs after the pilot phase if they correspond to abatement that takes place during the pilot phase.
- A limit that corresponds to a fixed number of years (which could correspond to a long or short duration).

If credits have a short lifespan, this may reduce demand from voluntary markets. If other design elements of the below-baseline crediting mechanism are sufficiently stringent, a case could be made for time limits to play a lesser role.

The use of time limits could be reviewed at the end of the pilot phase. A possible way for time limits to work with regard to the pilot phase would be for units whose vintage year is in the pilot phase to have a time limit of a fixed number of years after the unit's vintage year.

We invite views on:

- Whether SMCs should be time limited, and the parameters of any time limits.

5. Purchasing

This section discusses and seeks feedback on issues related to three potential sources of demand for SMCs:

1. **Government purchase:** purchased by the Government through a new arrangement under the Climate Solutions Fund.

2. **Safeguard compliance:** SMCs could be eligible units for the purposes of meeting Safeguard Mechanism compliance obligations.
3. **Other markets:** purchase by the private sector or governments to contribute to emissions reduction commitments.

Government purchase

Initially, Government purchase of SMCs would provide the primary incentive for facilities to reduce their emissions. The Government allocated \$279.9m over ten years in the 2021-22 Budget to support the Safeguard Crediting Mechanism, including to support the purchase of SMCs by the Clean Energy Regulator. Safeguard Credits could be purchased by the Clean Energy Regulator through an arrangement similar to the purchasing process for ACCUs (see Box 2). Government purchase and contracting for delivery of ACCUs is managed by the Clean Energy Regulator. The *Carbon Farming Initiative Act* provides for purchasing principles, along with legislative rules, that the Clean Energy Regulator must have regard to when undertaking a purchasing process, such as a reverse auction. Purchasing of SMCs could be conducted using a similar approach.

Box 2. Purchasing under the Emissions Reduction Fund

Commonwealth purchasing of ACCUs is conducted by the Clean Energy Regulator through reverse auctions that have been conducted about twice a year since April 2015. These contracts are for the forward delivery of ACCUs from participants with ERF projects. As of the twelfth ERF auction, which took place in April 2021, the Commonwealth has contracted for the delivery of 205 million tonnes of emissions reductions, of which 66 million tonnes has been delivered under Government contract.

ERF auctions so far have used a ‘pay-as-bid’ format—participants bid an ACCU price and a volume to be delivered. If the price is sufficiently low that the bidder successfully enters into a contract, the price paid by the Commonwealth for each ACCU delivered is equal to the price that is bid.

Most contracts delivered so far have been for ‘fixed delivery’. Bidders submit a delivery schedule of ACCUs to the Clean Energy Regulator and if successful, they must make those deliveries. If the project has not been able to generate enough ACCUs, the participant can source ACCUs from elsewhere and deliver those ACCUs instead.

As of the March 2020 ERF auction, the Clean Energy Regulator has offered a new ‘optional delivery’ contract, which saw significant uptake at Auction 11 and Auction 12. Successful bidders who enter into an optional delivery contract have the option to deliver ACCUs rather than an obligation to deliver ACCUs. This helps participants manage risks associated with investing in ERF projects, and gives them opportunities to sell their ACCUs elsewhere.

Most Government purchase of ACCUs is done through forward contracts that are entered into after they are selected at an ERF auction. There are two types of contracting options available under the ERF:

- **Fixed Delivery contract:** specifies a price and time for delivery of ACCUs.
- **Optional Delivery contract:** gives businesses the option to sell ACCUs at a specified price on a specified schedule.

The Optional Delivery contract was introduced at the March 2020 auction and provides flexibility in circumstances where the timetable for the delivery of abatement is uncertain. This flexibility may be attractive to participants in Safeguard crediting.

The Regulator could also potentially engage in ‘spot’ purchase of SMCs that have already been issued.

We invite views on:

- What sort of principles should the Regulator have regard to when purchasing SMCs?
- Should SMCs be purchased by the Regulator under forward contracts, and if so, what length of contract would be sensible?

Safeguard compliance

Businesses covered by the Safeguard Mechanism can surrender carbon units that are listed under the *NGER Act* (known as *prescribed carbon units*) to offset emissions above their baseline. ACCUs are currently the only prescribed units that can be used to meet Safeguard Mechanism compliance obligations. However, other units can be prescribed in the Safeguard Rule, so long as they represent abatement that is able to be used to meet Australia’s climate change targets.

In line with the King Review’s recommendations, SMCs could be specified as a prescribed carbon unit. This would mean facilities covered by the Safeguard Mechanism could surrender SMCs to help meet their compliance obligations. This could help Safeguard Mechanism facilities to better manage compliance obligations, allowing them to bank good performance now, against the risk of possible exceedance later.

It could also impact the market for ACCUs. As the only two units that could be used for Safeguard compliance, ACCUs and SMCs would be competing for Safeguard facility demand. However, they would not necessarily trade at the same price, because SMCs could not be used to meet ERF contract delivery obligations. This may see SMCs trading at lower prices than ACCUs, with the market potentially choosing to value SMCs differently.

Demand for ACCUs from Safeguard facilities is relatively low (at around 200,000 tonnes per year in the initial four years of the scheme) compared to demand for ACCUs to meet ERF delivery obligations (which is the source of demand for around 90 per cent of issued ACCUs). Demand from the Safeguard is also lower than demand for ACCUs from the voluntary market. As such, the impact on ACCU prices of allowing SMCs to be used for Safeguard Mechanism compliance is expected to be low.

What would the impact on the ACCU market be of allowing SMCs to be used for Safeguard compliance and how could any impacts be most effectively managed?

Other markets

Purchase from private entities is an increasingly important source of demand for other units, including ACCUs and large-scale generation certificates (LGCs) which are issued via the Renewable Energy Target. In 2020, over 840,000 ACCUs and 4 million LGCs were voluntarily surrendered⁵. Sources of demand have included state and territory governments offsetting emissions from activities like fleet vehicles and desalination plants, and Climate Active participants. Voluntary surrender often reflects a preference for ACCUs that deliver co-benefits in addition to achieving

⁵ Clean Energy Regulator - Quarterly Carbon Markets Report.

emissions reductions, with savanna burning projects underlying 72 per cent of the ACCUs voluntarily surrendered in the second quarter of 2020.

One driver of voluntary LGC surrender is to meet renewable energy commitments. Sources of surrender have included GreenPower and desalination plants as well as state and territory governments. The King Review recommended that a carbon exchange rate be explored for LGCs to help the market understand the level of abatement associated with an LGC. The Government will consult on this separately.

Given the strong and growing interest in ACCUs and LGCs, it is likely that there will be demand for SMCs from the voluntary market. The level of demand from the voluntary market is likely to be influenced by the crediting mechanism's design settings.

We invite views on the role of SMCs in the voluntary market.

6. Worked example

The following provides two hypothetical worked examples of how many credits could be generated at a facility. It assumes a 15% discount factor, a 5 year crediting period and a baseline adjustment for facilities using a site-specific emissions intensity, as discussed in earlier sections of this paper. These design elements are included for illustrative purposes only and do not reflect any preferred positions of the Government.

Proposed formula for calculating crediting volumes

For all years where the emissions intensity of production has improved ($EI_H > EI_n$):

$$\text{Total number of credits} = \sum_{n=1}^5 (EI_H - EI_n) \times P_n \times (1 - D)$$

Where

EI_H is the historical emissions-intensity

EI_n is the post-upgrade emissions intensity in each crediting period year (in this case 1 to 5)

P_n is the post-upgrade production in each of the crediting period years (in this case 1 to 5)

D is the discount factor, for example, $(1 - D) = 0.85$ if the discount factor is 15%

Hypothetical examples

Facility A has an emissions intensity below (better than) industry average emissions intensity performance and has a constant emissions intensity value throughout the crediting period.

Facility B has an emissions intensity above industry average emissions intensity performance and its emissions intensity varies from year to year.

Both facilities' production remains constant at 100,000 tonnes.

Facility A: apples

Facility A produces 100,000 tonnes of apples per year. The default (industry average) emissions intensity value for apples is 1.6 tonnes CO₂-e per tonne of apples.

Prior to undertaking its emissions reduction project, Facility A has a lower than average emissions intensity and is using the default value for setting its Safeguard Mechanism baseline. It's historical (reference level) emissions intensity is 1.5 tonnes CO₂-e per tonne of apples.

Facility A undertakes an emissions reduction project which reduces its emissions intensity level to 1.3 tonnes CO₂-e per tonne of apples.

It can generate 85,000 credits over the 5 year crediting period.

Facility A: Emissions intensity remains constant over crediting period

	Year 1	Year 2	Year 3	Year 4	Year 5
El _H (reference year)	1.5	1.5	1.5	1.5	1.5
El _n (current year)	1.3	1.3	1.3	1.3	1.3
Difference (El _H – El _n)	0.2	0.2	0.2	0.2	0.2
Production (current year)	100,000	100,000	100,000	100,000	100,000
Calculated emissions reductions	20,000	20,000	20,000	20,000	20,000
Discount factor	0.15	0.15	0.15	0.15	0.15
Number of credits issued	17,000	17,000	17,000	17,000	17,000

Facility A's initial baseline is:

$$1.6 \times 100,000 = 160,000$$

Assuming it continues to produce 100,000 tonnes of apples each year, its baseline after the crediting period would not change. It would continue to be calculated using the default emissions intensity value of 1.6 tonnes CO₂-e per tonne of apples, so its baseline would continue to be 160,000.

Facility B: oranges

Facility B produces 100,000 tonnes of oranges per year. The default (industry average) emissions intensity value for oranges is 1.2 tonnes CO₂-e per tonne of oranges.

Prior to undertaking its emissions reduction project, Facility B is operating with an emissions intensity higher than the industry average and has a site-specific emissions intensity level of 1.5 tonnes CO₂-e per tonne of oranges⁶.

Facility B undertakes an emissions reduction project which reduces its average emissions intensity to 1.3 tonnes CO₂-e per tonne of oranges over the crediting period. However, due to a range of factors, its actual emissions-intensity varies from year to year.

⁶ In this example, Facility A's site-specific emissions intensity level is assumed to be the same as its historical (reference) year, but this may not always be the case.

It can generate 93,500 credits over the 5 year crediting period.

Facility B: Emissions intensity fluctuates over crediting period

	Year 1	Year 2	Year 3	Year 4	Year 5
EI_H (reference year)	1.5	1.5	1.5	1.5	1.5
EI_N (current year)	1.3	1.2	1.2	1.6	1.2
Difference ($EI_H - EI_N$)	0.2	0.3	0.3	-0.1	0.3
Production (current year)	100,000	100,000	100,000	100,000	100,000
Calculated emissions reductions	20,000	30,000	30,000	0	30,000
Discount factor	0.15	0.15	0.15	0.15	0.15
Number of credits issued	17,000	25,500	25,500	-	25,500

Facility B's initial baseline is:

$$1.5 \times 100,000 = 150,000$$

Its baseline after the end of the crediting period would be calculated using the production-weighted average emissions intensity over the crediting period (which is 1.3 tonnes CO₂-e per tonne of oranges), as follows:

$$1.3 \times 100,000 = 130,000$$

APPENDIX

Legislative framework for crediting

Legislative changes are necessary to allow for the creation of a new form of credit, to be a 'safeguard mechanism credit unit' and for the existing legal architecture for credits to be applied to this new unit type. The details of the Safeguard Crediting Mechanism would then be built into legislative rules.

The NGER Act could be amended so that these legislative rules could provide for the issuance of credits to persons with a Registry account and who are registered under that Act. The rules would deal with issues such as Regulator determinations relating to crediting and any relevant application requirements. The NGER Act amendments would allow for the rules to determine the use of credit units to reduce Safeguard net emissions and relevant limits on this (if any).

Relinquishment powers for false or misleading information or reporting would be available, similar to the CFI Act. The Regulator's general information gathering power would include the crediting provisions to ensure it has necessary enforcement information for the scheme.

The *Australian National Registry of Emissions Units Act 2011* could be amended to establish relevant ownership and transfer of the units, equivalent to existing unit types. Information about holdings and cancellations of safeguard mechanism credit units would be published, consistent with other unit types. Further details of this would be in legislative rules under that Act.

Under the CFI Act, safeguard mechanism credit units would be able to be purchased by the Regulator and subject to general purchasing principles, but the CFI Act would also allow rules to impose special limits or requirements to be met for any of these purchases. The parties to carbon abatement contracts would be broadened to also include persons issued, or likely to be issued, safeguard mechanism credit units and others prescribed by rules.