

Renewable Electricity Guarantee of Origin

Approach paper

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Introduction

The Department of Climate Change, Energy, the Environment and Water (the Department) is continuing consultation on the development of the Renewable Electricity Guarantee of Origin (REGO) scheme.

The Department has considered responses received in the previous consultation on the Guarantee of Origin (GO) scheme from December 2022 to February 2023. 77 submissions were received in response to the REGO policy position paper. Respondents were generally supportive with some divergence of views on eligibility of below-baseline generation (policy proposal #6), storage (policy proposal #4), small-scale generation (policy position #2), and the requirement to include a time stamp (policy position #12).

The Department has also held targeted meetings to discuss submissions in further detail and appreciates the time and effort of all stakeholders that have engaged in the consultation process to date.

Purpose of this consultation

The purpose of this consultation paper is to present further information on how the Department proposes to develop the renewable electricity certification component of the GO scheme. The paper builds on policy positions proposed in the Department's consultation paper published in December 2022.

It responds to feedback on those positions and provides some additional detail on the Department's thinking in areas where the REGO scheme will introduce new capabilities or changes relative to the Renewable Energy Target (RET) scheme. This includes the introduction of renewable electricity storage as an eligible energy source, participation of small-scale generating units and time stamping of certificates.

Feedback from stakeholders will inform the development of legislation and regulations to give effect to the GO scheme. It is anticipated that legislation will be in place in 2024 and that the REGO scheme will commence on 1 January 2025.

The legislation being developed for the GO scheme will, once enacted, provide certainty for investors that a framework for creation of renewable energy certificates like that under the RET scheme will exist after 2030, and will be administered by the Clean Energy Regulator (CER) on an ongoing basis. Certainty about the renewable energy certificate framework can help to support investment decisions being made now. The GO scheme legislation does not preclude the Government from pursuing further policy levers to support and incentivise the rollout of renewable energy generation, and a modern certificate framework creates further options for future policy levers if needed. REGO is intended to be complementary with the RET scheme while they co-exist, noting there are benefits to moving towards a single, enduring certificate creation framework.

Details on specific arrangements for registration of power stations, certificate attributes and claims, and measurement under REGO will be outlined in subordinate legislation to be developed in 2024. The Department will work with the CER in developing regulations, and stakeholders will be provided opportunity to input.

Background

In 2022, the Australian Government legislated emissions reduction targets of 43 per cent below 2005 levels by 2030 and net zero by 2050. To achieve these legislated emissions reduction targets, the

Government has committed to a national renewable electricity target of 82 per cent by 2030 and the development of six sectoral decarbonisation plans.

The Electricity and Energy Sector decarbonisation plan is being developed. The Government has already made significant commitments that will help to decarbonise the electricity and energy sector, including the \$20 billion Rewiring the Nation plan and the \$10 billion Capacity Investment Scheme. The Electricity and Energy Sector decarbonisation plan will build on this progress and map out decarbonisation pathways to 2050 for the sector. The plan will be vital to attracting new investment in decarbonisation that Australia needs to reach our targets, by providing industry and investors with certainty.

The establishment of the REGO scheme will form an important building block of the decarbonisation plan. The REGO scheme will ensure there is an enduring mechanism to provide transparent and trusted information about renewable electricity generation and consumption in Australia. As electricity is a fundamental input into so much of Australia's economic activity, the REGO scheme will be a key enabler of decarbonisation across our entire economy. Transparent and trusted information on renewable electricity consumption will also support Australia's ambition to become a renewable energy superpower by allowing global markets to have confidence that the products and services we export are produced using genuinely renewable electricity.

The CER-administered renewable energy certificate framework under the RET scheme has worked well and is broadly supported, but it is nearly 25 years old and limitations are emerging. REGO retains the basic design strength of the Large-scale generation certificate (LGC) – a tradeable certificate – but introduces features that make it a more fit-for-purpose market-based instrument now and in future.

REGO is being designed with needs out to 2050 in mind. In the years between now and then, it is likely that Australia will need offshore generation outside territorial waters, a lot more electricity storage and orchestrated participation of distributed energy resources. Businesses will likely face increasing pressure to remove emissions from electricity use and production processes.

Australia's renewable electricity policy settings cannot remain static. They will have to grow and adapt to these changes over the coming years. The forthcoming Electricity and Energy Sector Plan is an important next step in this process.

The legislative architecture for REGO will provide for flexibility to respond to policy and market developments. Buyers are increasingly looking for more detailed information to support energy purchasing choices, and international trends are moving towards time matching and temporal conditions for surrenders to accelerate grid decarbonisation. The certificate creation framework for REGO will allow for energy attributes and their level of granularity to be refined over time.

An enduring credible certificate mechanism can underpin auditable and transparent scope 2 electricity emissions reporting. The National Greenhouse and Energy Reporting Scheme (NGERS) introduced a supplemental market-based reporting methodology for 2023-24. This methodology allows NGERS reporting entities to make unique claims on the zero emissions attribute of renewable energy purchases and reflect these in their scope 2 emissions. The [outcomes of consultation on 2023 updates to the NGERS scheme](#) anticipated the introduction of REGO certificates and further consultation on moving to dual reporting.

Treasury is consulting on climate-related financial disclosure requirements that would align with international standards. Internationally, the Greenhouse Gas Protocol secretariat is undertaking a review of its scope 2 guidance and the flexibility and granularity that would be provided through the REGO framework is consistent with themes emerging through the review process.

Part 1. REGO creation and surrender

The Department proposes no changes to the proposed policy that eligibility to create REGO certificates is intended to be inclusive of all renewable electricity generation in Australia, where that generation has not already created LGCs, Small-scale Technology Certificates (STCs), unless the certificate creation period has passed, or other certificates (policy proposal #2).

The Department's approach means the list of renewable energy sources under the *Renewable Energy (Electricity) Act 2000* will be the starting point to define eligible renewable energy sources (policy proposal #3). Arrangements for electricity generation from hydrogen in future as a secondary renewable energy source will be considered.

Offshore renewable energy power stations and storage facilities located to the boundary of Australia's Exclusive Economic Zone, and electricity that is exported internationally (policy proposal #5) could create REGO certificates.

This allows for all renewable electricity generation in Australia to be able to be tracked and verified over time, which provides for transparency in energy and emissions claims, including the surrender of REGO certificates to demonstrate renewable electricity use for products under the GO scheme. Further information can be found in the Guarantee of Origin Scheme Design Paper.

Section 1.1 Below-baseline generation

The December 2022 policy position paper proposed that all electricity generation would be eligible to create REGO certificates regardless of power station age (policy proposal #6). The paper acknowledged that the impact of introducing below-baseline generation through the REGO scheme while the RET scheme is still operational would depend on voluntary demand for renewable electricity certificates.

The proposal to include below-baseline generation in the REGO scheme is consistent with the scheme's primary purpose. It allows buyers to exercise choice about the certificates they wish to purchase.

Schemes like NGERs are increasingly considering market-based reporting of scope 2 emissions. If REGO certificates are used in market-based methodologies for scope 2 emissions in future, the residual mix factor (RMF) that applies to any consumption not matched with renewables would be increased as the zero-emissions renewable sources that are issued REGO certificates are removed. This may drive incentive for electricity consumers to acquire certificates, including below-baseline REGO certificates, if they do not want to report increasing market-based scope 2 emissions.

GreenPower will not use below-baseline certificates, and schemes such as RE100, which already apply criteria that exclude certificates created by older power stations, may strengthen requirements on power station age. This would reduce the extent to which energy users seek to purchase below-baseline REGO certificates.

If below-baseline generation is excluded from the REGO scheme, industry-led or international certification schemes (such as I-RECs) would likely fill the gap. This may increase the risk of double counting of electricity used in different certification schemes.

However, the Department acknowledges concerns about the potential for the introduction of below-baseline REGO certificates to impact signals for investment in new renewable capacity. It is important to minimise risks to investment incentives. Building flexibility into the REGO legislation means the Government can sequence measures to minimise risks and respond to market dynamics.

The REGO scheme legislation will include a provision allowing regulations to be made, which could limit the participants that may surrender below-baseline REGO certificates prior to 2030. This is explained further below in Section 1.4.

Section 1.2 Small-scale generation

The previous policy position paper proposed that there would be no minimum capacity for generators to participate in the REGO scheme (policy proposal #7), and that renewable electricity generation that has not already created LGCs or STCs (unless the relevant certificate deeming period has passed) would be allowed to create REGO certificates (policy proposal #2).

The Department has noted that most owners of small-scale systems would have already created STCs for deemed generation until 2030 through the Small-scale Renewable Energy Scheme (SRES), and that it is expected that future system owners will continue to utilise the SRES in preference to the REGO scheme.

Given small-scale systems will continue to increase to 2030 and beyond, excluding small-scale systems from the REGO scheme would forego an opportunity for orchestrated distributed energy resources (DER). Virtual Power Plants (VPPs) and other innovative small-scale aggregation and market participation models are emerging and rapidly scaling up.

The legislation will include a provision which allows the owner of a power station, or small-scale system, to assign the right to create REGO certificates to another person or entity by written notice and in accordance with regulations. The regulations will also include requirements for REGO scheme participants that have been assigned the right to create REGO certificates on behalf of another person, which may include information that must be collected and maintained, metering arrangements, and certificate creation processes.

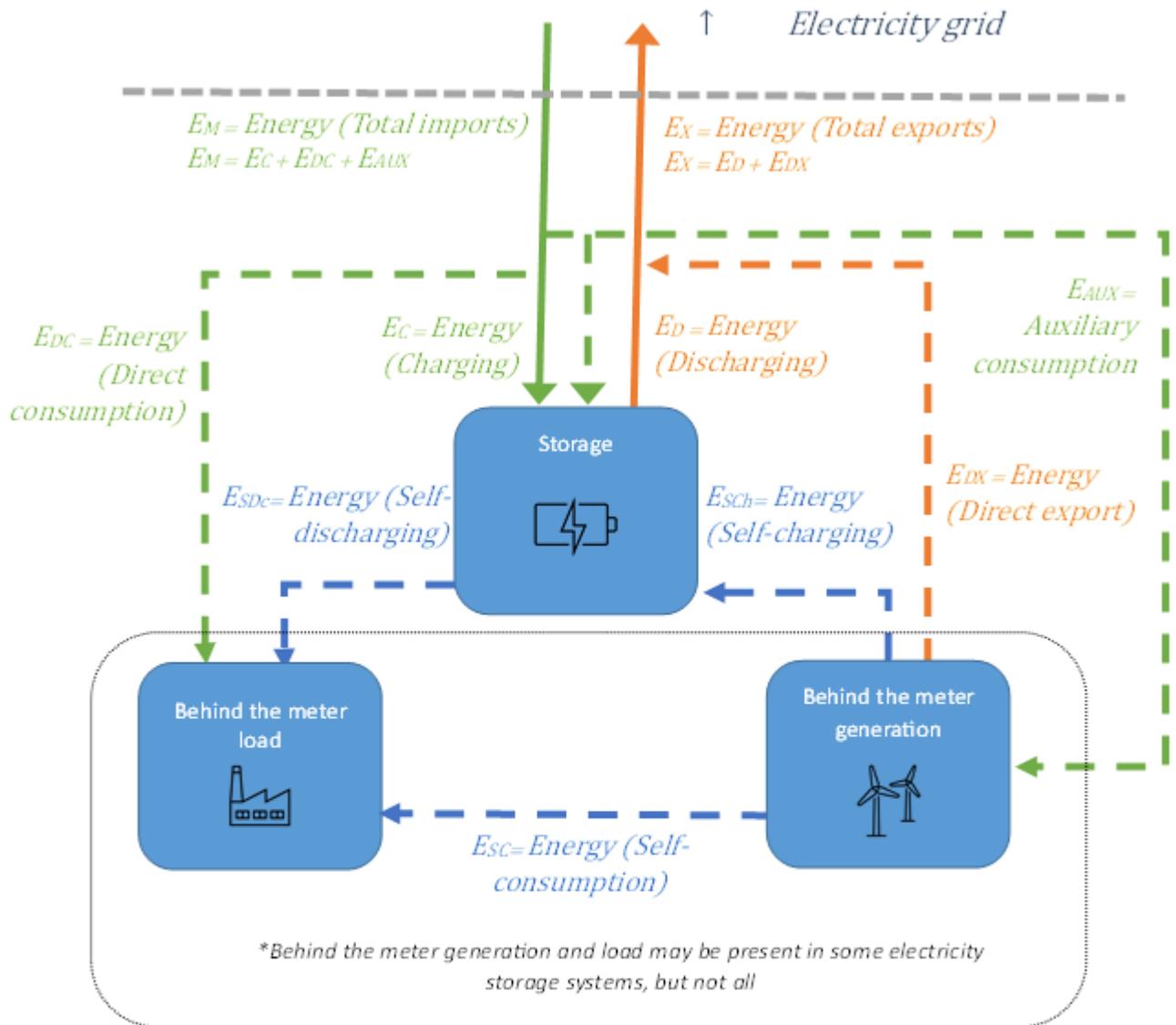
As part of future methodology development, the Department will engage with operators of VPPs and other orchestrated DER systems in the coming years to test and refine approaches that would support participation in the REGO scheme. The legislation will also explicitly state that REGO certificates cannot be created for electricity that has already created STCs, LGCs or other certificates such as I-RECs. As few small-scale systems would be eligible to participate in the REGO scheme until closer to 2030, when the deeming period for most small-scale systems expires, there is time to carefully consider how REGO can support the participation of orchestrated DER in electricity systems with high levels of variable renewables.

Section 1.3 Electricity storage

The Department's position for electricity storage to be eligible to create REGO certificates (policy proposal #4) reflects the increasing importance of storage in energy systems. Participation in the GO scheme is voluntary so REGO would provide an opportunity for storage facilities that see value in the certificate price signal.

The detailed arrangements on how storage will participate in the REGO scheme will be outlined in subordinate legislation. However, the Department has given preliminary consideration to a method, which would apply to all renewable electricity storage systems.

Figure 1 - Electricity storage facility configuration and electricity flows



$$\text{Total REGO charging debits} = \frac{E_C - E_{SDC}}{MLF}$$

$$\text{REGO creation entitlement factor} = \frac{\text{Total REGOs surrendered}}{\text{Total REGO charging debits}} = \text{REGO}_{EF}$$

$$\text{REGO creation entitlement} = [(\text{REGO}_{EF} \times E_D + E_{DX} - E_{AUX}) \times MLF] + (\text{REGO}_{EF} \times E_{SDC})$$

In simple terms, operators of storage facilities who choose to participate in the scheme will be required to meter and report their electricity consumption to the CER. This electricity consumption would trigger a requirement to surrender an equivalent number of REGO certificates ('charging debit') to prove the facility has stored renewable electricity. If the storage facility operator surrendered enough certificates to acquit their full charging debit over a certain period, they would be entitled to create REGO certificates for 100 per cent of the electricity that they discharge and

send to the electricity grid (minus network losses) or a useful load during that same period. If the operator does not surrender enough certificates to acquit their full charging debit, the operator would only be entitled to create REGO certificates for part of the electricity they have sent out to the grid or to a useful load. The entitlement to create certificates would be directly proportional to the certificates surrendered relative to the charging debit. Further details are included in Figure 1.

Section 1.4 Surrender restrictions

The Department proposes to update its position that anyone may surrender a REGO certificate at any time, including for the purpose of creating a product GO certificate (policy proposal #14) to address stakeholder concerns about the inclusion of below-baseline generation. The scheme legislation will include a provision allowing regulations to be made, which could limit the participants that may surrender below-baseline REGO certificates prior to 2030. The legislation may also specify considerations the Minister responsible for the legislation must consider when seeking to amend the regulations to remove surrender restrictions. REGO certificates that are not created from below-baseline generation could be surrendered at any time.

To enable this provision to be adopted, REGO registry consumer profiles will be required to indicate whether they intend to conduct an emissions-intensive trade-exposed (EITE) activity at registration. The CER will ensure that a valid exemption certificate has been issued in the RET scheme for any REGO scheme participants that are seeking to surrender below-baseline REGO certificates, other than for Product GO creation.

In submissions on the Department's December 2022 paper, stakeholders suggested a range of options to minimise the short-term impacts of below-baseline certification, including location and time-based restrictions on surrender. The Department considers restricting use of below-baseline REGO certificates to EITE activities and Product GO creation initially is likely to minimise market distortions and risks of competing renewable certificate schemes becoming entrenched in the market but is open to feedback from stakeholders. These could be combined with restricting banking of below-baseline certificates, for example by requiring that they are surrendered (or otherwise expire) in the 18 months after they are created, to avoid a surplus of such certificates building up and impacting the certificate market once surrender restrictions are removed.

Since REGO certificates will not be introduced until 2025, any further measures announced by the Government or implemented before then could be factored into decision-making around restrictions on surrender and the precise parameters imposed.

The Department proposes no changes to the position that REGO certificates include the name of the person or organisation on whose behalf the REGO is being surrendered, where applicable, and if the surrender is being made on behalf of many organisations (policy proposal #16) and the position that additional information capturing the purpose of the REGO surrender would be provided when a person or organisation surrenders a REGO, and be publicly visible (policy proposal #17).

Part 2. REGO attributes

The primary legislation for the GO scheme will provide for a suite of attributes to be required on REGO certificates, which could include but not be limited to renewable energy source or storage technology, time of dispatch, location of power station or storage facility, age of power station or storage facility, storage status and export status.

The precise details of these attributes will be set out in regulations, which will support the development of definitions, and to establish systems for automated data collection. This will also

allow for attribute requirements to be refined over time, or for new attributes to be added as the market evolves.

The Department proposes no changes to its position for REGO certificates to include the commissioning date of the power station or storage facility creating the certificates (policy proposal #10) and the grid location of the power station or storage facility (policy proposal #11). The previous policy position to allow RET participants to choose to include on LGCs some or all the additional information required on REGO certificates (policy proposal #9) remains unchanged.

Section 2.1 Below-baseline status

In response to feedback, the Department proposes that below-baseline REGO certificates be clearly differentiated until 2030 to support consumers to be able to easily differentiate between certificates. Stakeholder views are invited on how this should be implemented.

Section 2.2 Time stamping

The Department's 2022 paper proposed that REGO certificates include a time stamp reflecting the hour in which the electricity was dispatched by the power station or storage facility (policy proposal #12).

International markets and hydrogen certification standards are likely to demand some degree of time matching in future. It is important that REGO delivers the capability to create time stamped certificates so that Australian businesses can demonstrate time matching of their electricity consumption in line with customer expectations. Time stamped REGO certificates could be used in market-based accounting frameworks that move towards temporal requirements. Once the REGO scheme is in place with locational and temporal attributes, this could be used as the basis for further refinements to the NGERs market-based methodology.

The GO scheme is intended to be world-leading and give Australian businesses the ability to make energy and emissions claims with a very high level of transparency and integrity. Time stamping provides information that business and other organisations may consider in their consumption decisions. It may contribute to buyer awareness of temporal differences between electricity generation and consumption. Differentiation, or a reduction in 'fungibility' between REGO certificates based on time of generation, would occur only to the extent that buyers are willing to pay a premium for REGO certificates based on time matching.

Electricity is already traded on the wholesale market in five-minute intervals, and that data at five-minute resolution is available from the Australian Energy Market Operator (AEMO). The Department will work with the CER on regulatory design that seeks to incorporate existing time series data into certificate creation processes to minimise administrative costs and maximise practicality.

The Department notes that data availability is likely to be a more significant barrier for small generators that are not wholesale market participants, and those on small and remote grids. These users are being considered in regulatory design.

The Department notes concerns about the integrity of time stamped certificates, particularly from small-scale systems, where fractions of generation are carried over. Since REGO certificates are proposed to be denominated in whole megawatt hours at scheme commencement, the Department proposes time stamping initially only where 1 MWh is generated within an hour.

A procedure for REGO certificates to be time stamped will be outlined in regulations developed in 2024. In general, the Department expects power stations will be required to submit their metered generation data as a time series rather than a monthly total as in the RET. The Department

understands that many metering service providers already provide metering data in a time series format as an attachment to LGC claims.

The Department and the CER will work with scheme participants to ensure that administrative processes are streamlined and practical and will refine these processes over time.

Section 2.3 Emission intensity data

Several stakeholders expressed a desire for REGO certificates to include data on the emissions intensity of the generation displaced by a relevant megawatt hour of renewable electricity. Proponents suggested using an emissions factor for the relevant grid at the time of generation as a proxy for the emission intensity replaced.

Some of these stakeholders referenced the Report of the Expert Panel examining additional sources of low-cost abatement, released in May 2020 (King Review). This review made a recommendation to adopt a convention that the implicit carbon content for an LGC be based on either the average grid carbon intensity or the state-based grid emissions factor.

Time stamping of REGO certificates will make it possible to determine the average emissions intensity of electricity at the time relevant electricity was generated. The Department notes that this is not necessarily the same as the emissions that were theoretically displaced by the generation of a megawatt hour of renewable electricity at that time. Estimating the emissions displacement requires a range of assumptions about the emissions intensity of the generation that would have been required in a counterfactual scenario.

The Department also notes that there may not be sufficient data to allow the emissions intensity of electricity generation in off-grid and remote grid settings to be calculated for each hourly time interval.

Noting the potential for misinterpretation of this data, data availability issues in some cases, and potential additional administrative complexity, the Department considers it would be preferable not to publish any emissions intensity information on REGO certificates when the scheme commences. Time and electricity grid attributes on REGO certificates would enable market participants to determine the emissions intensity of the relevant electricity grid at the relevant time if such information is valuable to them. If there is significant demand for emissions intensity attributes on certificates in future, Government may consider adding emissions displacement data to certificates in the future subject to rigorous and accurate data being available for all generation nation-wide.

Part 3. Other elements of REGO

Section 3.1 Loss factors

Some stakeholders proposed that power stations should use an average loss factor (ALF) to account for network losses in preference to the marginal loss factor (MLF) that is generally utilised in the RET.

The RET applies an MLF to relevant eligible electricity generation in the National Electricity Market to account for electricity that is lost in transmission. An equivalent is calculated and used for power stations in the South West Interconnected System (SWIS).

It would be undesirable for the REGO scheme to use a different convention for accounting for network losses than what is used in both the RET and the NEM's wholesale electricity market. The Department proposes continuing to use the MLF updated annually by the Australian Energy Market Operator and the equivalent calculated for generators in the SWIS.