



Australian Government

Department of Climate Change, Energy,
the Environment and Water

Australia's Guarantee of Origin scheme

Overview of consultation papers

16 December 2022

[DCCEEW.gov.au](https://dcceew.gov.au)

Acknowledgement of Country

Our department recognises the First Peoples of this nation and their ongoing connection to culture and country. We acknowledge First Nations Peoples as the Traditional Owners, Custodians and Lore Keepers of the world's oldest living culture and pay respects to their Elders past, present and emerging.

Why do we need a Guarantee of Origin scheme



Consumers are seeking to substantiate emissions claims associated with the products and energy they use



Producers want the emissions attribute of their outputs to be quantifiable and valued by markets



Consistent measurement and transparency of the carbon intensity of a product will support sales nationally and internationally



A government-backed scheme provides trust and credibility

The GO scheme would provide a consistent and trusted emissions accounting and certificate framework

The GO scheme would be a foundational element in positioning Australia as a clean energy superpower. It has two parts:

1. An internationally-consistent, emissions accounting framework for products
2. An enduring certificate for renewable electricity that builds upon the Renewable Energy Target framework

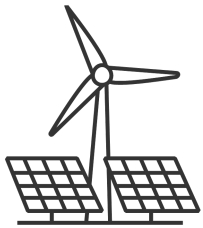


The GO scheme can unlock value for Australian industry



A GO is essential for Australia's clean energy export ambitions


- Securing Australia's position above competitors
- Demonstrating adherence to importing market requirements such as CBAMs



The GO scheme would enable Australian industry to meet growing domestic and international demand for certified renewable energy and clean products

- Provide certainty to support investment in new renewable capacity
- Complement other measures to support Australia's energy transformation

The scheme has been developed based on consultation, trials, and international engagement

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- 2019** ○ A GO scheme was an early priority action item in *2019's National Hydrogen Strategy*
 - 2020** ○ Internationally-aligned accounting approaches began development through bilateral, multilateral forums and engagement.
 - 2021** ○ Public consultation on hydrogen-focused scheme design
 - 2022** ○ Trials commenced by Clean Energy Regulator and DCCEEW to translate, test and develop hydrogen methodologies
 - Targeted consultation on an enduring renewable certification
 - \$2.2 million provided in '22-23 budget to develop and consult on a GO framework

What we have designed based on what we heard

- The GO scheme would be voluntary, Government-led and established under new legislation
- It would commence with hydrogen, hydrogen energy carriers (e.g. ammonia) and renewable electricity
- Over time new products (such as metals, biofuels and other materials) could be incorporated
- Broad eligibility for producers and RE generators/generation
- Build on existing accounting frameworks such as NGERs and the RET

The scheme would be administered by the Clean Energy Regulator

Scheme integrity is critical, but must be balanced with regulatory burden and cost

- A streamlined, upfront reporting model will be utilised to enable high volume certificate creations
- Limited scope technical reviews in place of limited assurance audits – maximising assurance while reducing cost
- Correcting certificates
 - Product GO information would be changeable for a limited period
 - REGO information would be fixed, but reconciled (like LGCs)

Two types of GO certificates

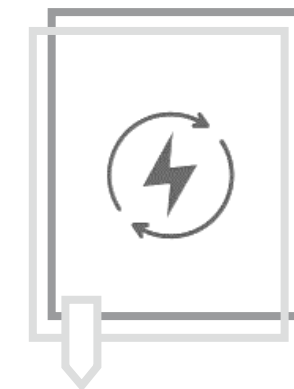
Product GOs

- Captures product emissions intensity and other attributes across the product's lifecycle
- No minimum product eligibility thresholds (e.g. emissions intensity)
- Provenance-based certificate (it follows the product)

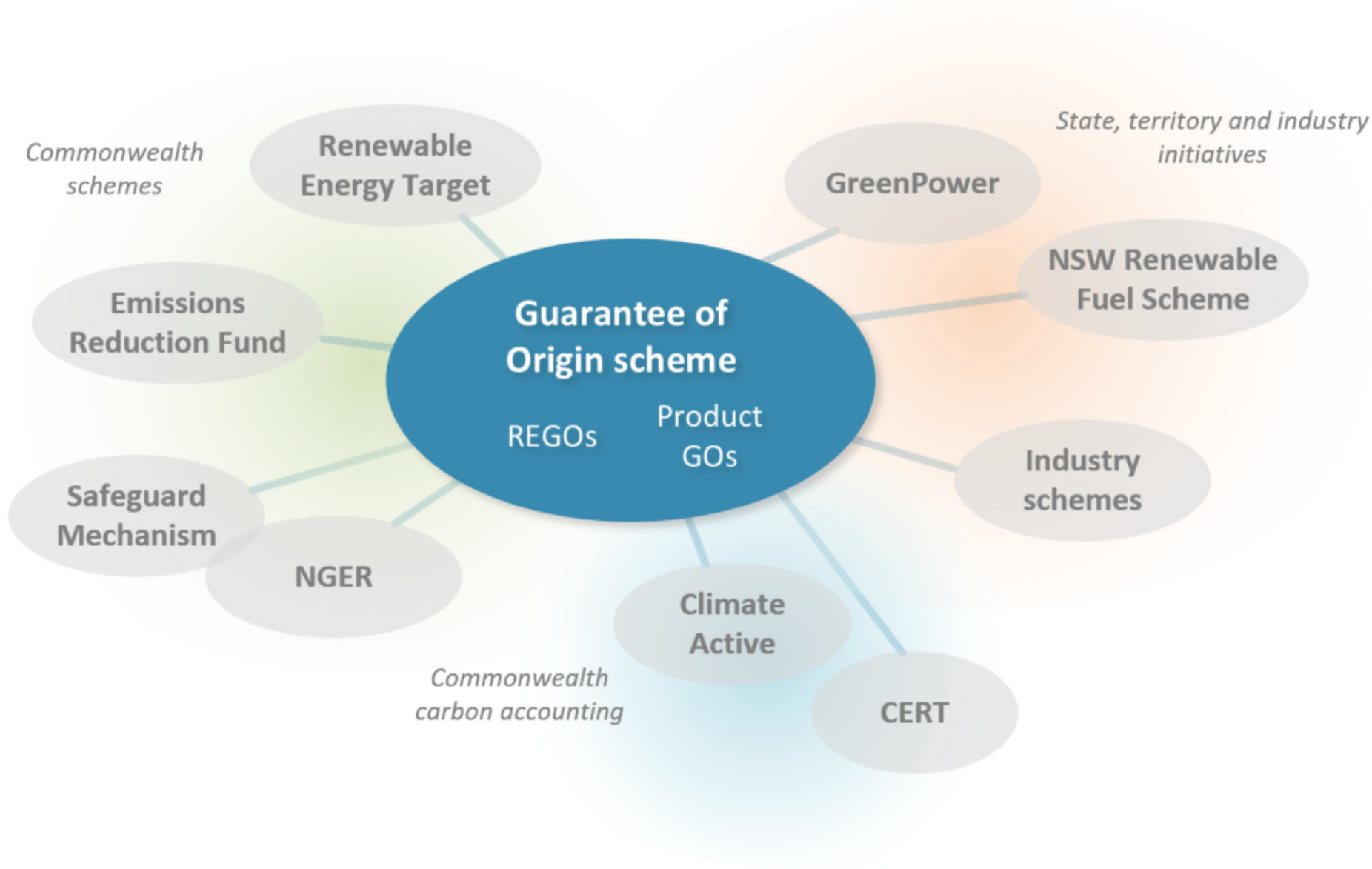


Renewable Electricity GOs (REGOs)

- Tradeable certificates equal to 1MWh (like LGCs)
- Used to support renewable electricity claims for Product GO creation and organisational emissions reduction goals
- All renewable electricity generation in Australia eligible to create REGOs, including RET below-baseline and export



The scheme interacts with existing and emerging initiatives



Product GOs

Product GOs need to be internationally-aligned to be accepted - IPHE

- Australia plays a leading role in the IPHE Hydrogen Production Analysis taskforce
- First working paper released in October 2021
 - Covers a well-to-(usage)gate boundary
 - Emissions accounting approaches for four main production pathways
 - Electrolysis
 - Steam Methane Reformation with CCS
 - Coal Gasification with CCS
 - By-product hydrogen
- Second working paper released November 2022
 - Hydrogen energy carriers (Ammonia, liquid hydrogen, LOHCs)
 - Biomass feedstock and auto-thermal reforming (with CCS)



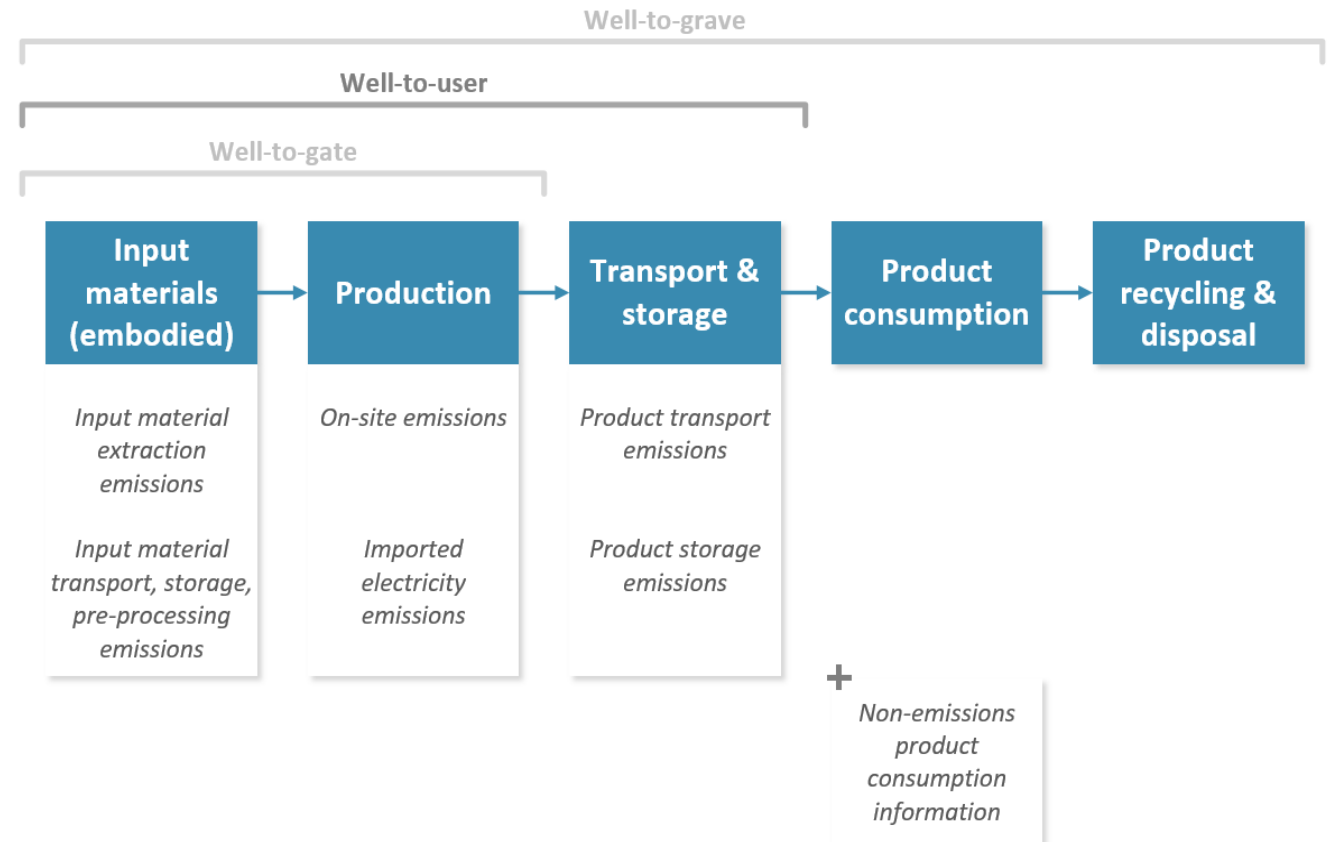
Product GO scope and eligibility

Scope

- Emissions intensity incorporates emissions across the supply chain
- Product GOs are product-based not facility/company level
- Broad range of information available on GO – not just emissions intensity e.g. water source

Eligibility

- Eligible to participate if there is a suitable production methodology



Product GO certificate details

Certificates would:

- be publicly available on a register
- represent 1kg of product, and can be batched together
- include product emissions intensity, facility details, product details, production stages, energy use
- Include other relevant attributes such as water use
- Include end use details

Product Guarantee of Origin Certificate

Emissions intensity

1.26 kg CO₂-e/kg H₂

Batch production details

Quantity 54,881 Tonnes

Purity at gate 99.99% H₂ purity Pressure at gate 1600kPa (16 Bar)

Attributes and tags

OTHER CERT
Climate Active

Electricity grid matched

Product stages

	Summary	Surrendered certificates	Stage emissions intensity (kg/kg)			
			Scope 3	Scope 2	Scope 1	Total (Δ)
○	Upstream and inputs Input sources and details <i>(e.g. water use and type)</i>	Product GOs	0.25	-	-	0.25
○	Production Production facility name Production method Energy use ...	LGCs REGOs	-	0.21	0.49	0.7
○	Transport & storage Transport type Transport distance Losses		0.31	-	-	0.31
○	Product consumption Consumer details Consumption purpose (e.g. export, scheme use) Consumption date					

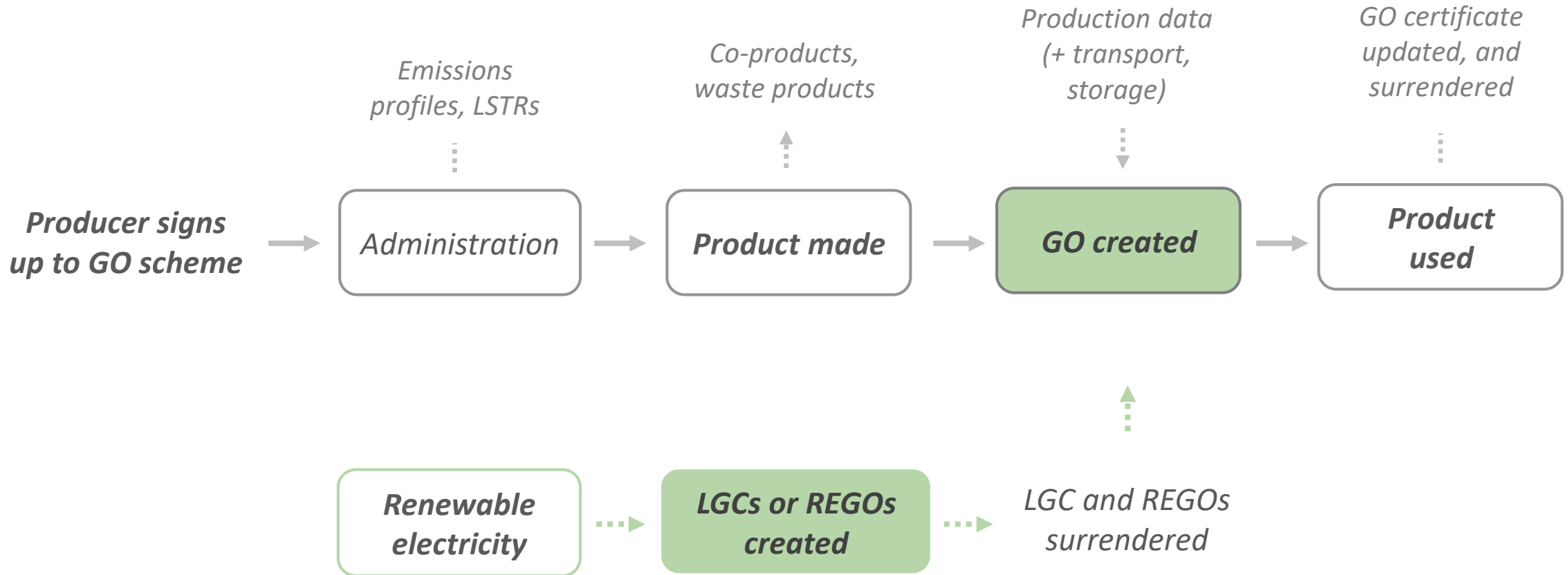
Certificate details

Certificate ID
xxxxx

Batch ID
[342246584D45](#)

Batch production dates
12/02/2021 - 12/02/2022

How are Product GOs created and used?



The scheme is about emissions accounting, not branding

- For products, the GO scheme won't assign labels like "green", but will determine an objective account of product emissions intensity
- The scheme's emissions accounting approach is designed to be domestically and internationally consistent
 - Scope 1 – aligned with NGER where applicable
 - Scope 2 – market-based, recognising evidenced renewable electricity (e.g. matched with surrendered LGCs or REGOs)
 - Scope 3 – aligned with IPHE
- Offsets will not be accepted as a means to reduce carbon intensity, and will be adjusted for if created as part of the production process

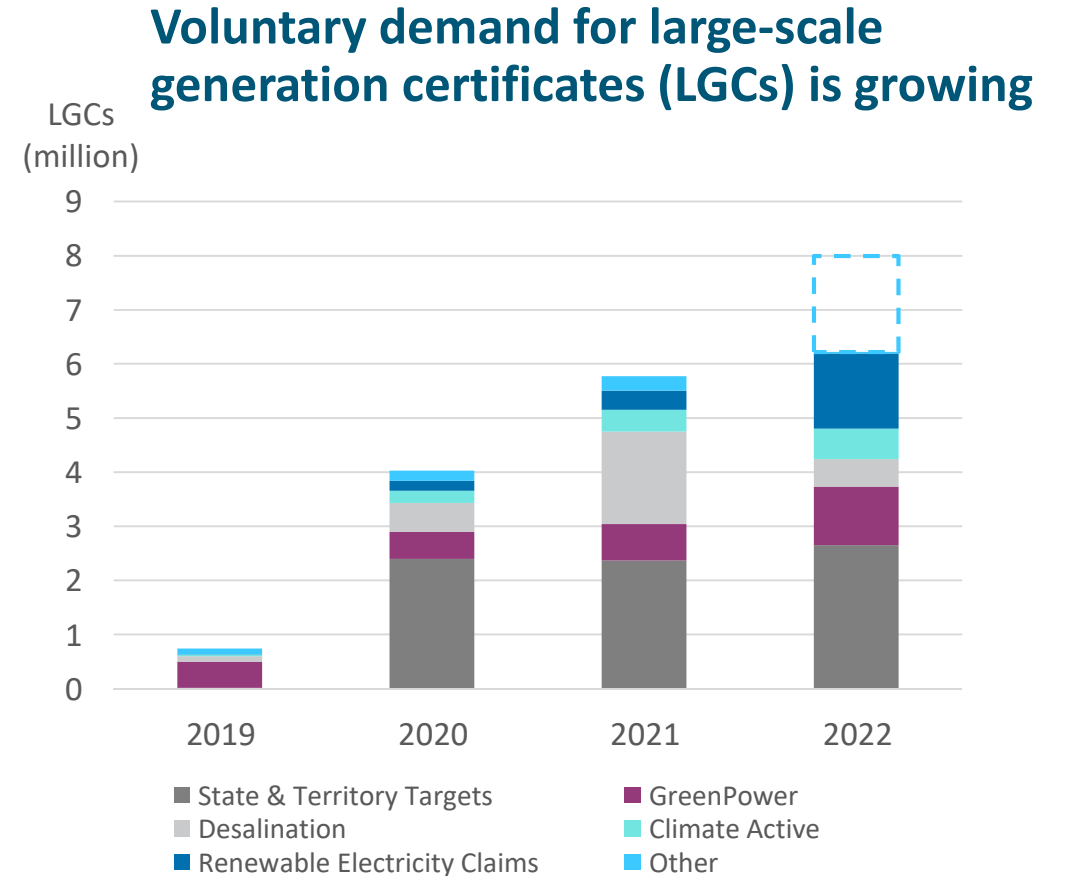
GO data can be leveraged by other schemes

- Product GO emissions data and attributes can be used to underpin existing and emerging incentives (e.g. NSW Renewable Fuel Scheme) and as an eligibility requirement
- Voluntary carbon accounting schemes such as Climate Active and CERT can leverage GO data where commodities associated with Product GOs are being consumed to support claims.
- GO data can be used by industry to create and determine eligibility against criteria-based standards and certification
- In the future, Safeguard liable entities could use Product GOs to demonstrate use of different gasses for combustion

Renewable Electricity GOs

Why a new renewable electricity certificate mechanism?

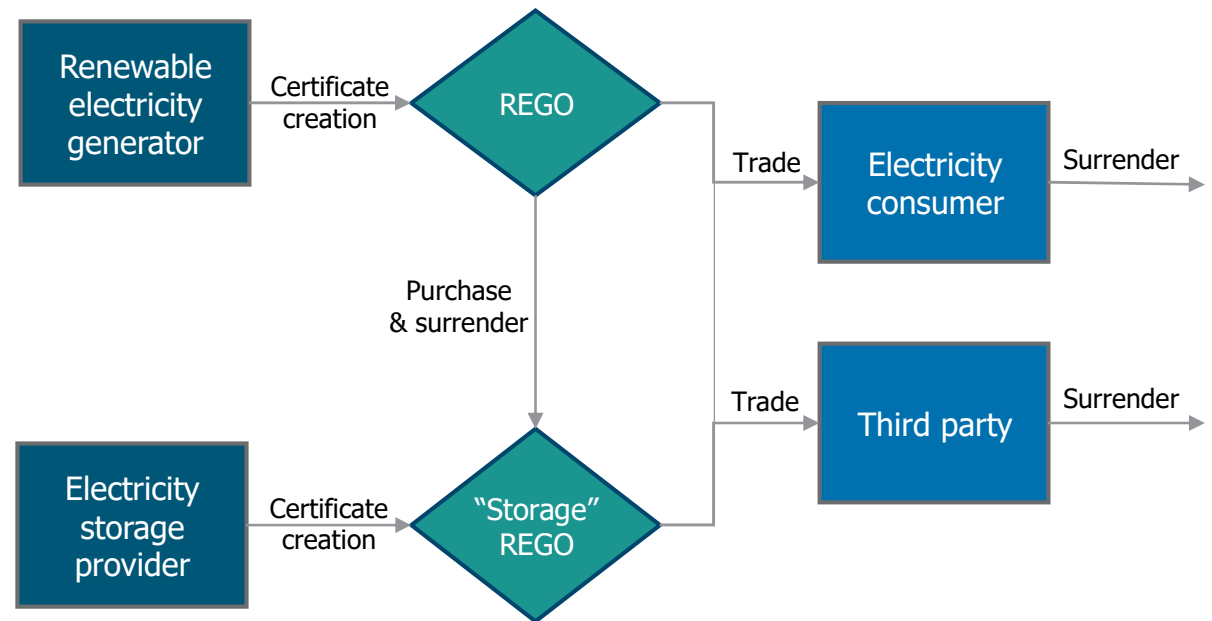
- To create product GOs, renewable electricity needs to be tracked & verified
- Renewable Energy Target ends in 2030
- Certainty needed for investors and buyers of renewable electricity
- LGCs can't be created for:
 - International export
 - Below-baseline generation
 - Most offshore generation



Proposed design

Renewable Electricity Guarantee of Origin (REGO) certificate

- 1 REGO = 1 MWh
- Tradeable, enduring, voluntary
- Similar creation and surrender mechanism to that for LGCs under the Renewable Energy Target (RET) scheme
- No impact on RET, including liability



Proposed design

Eligibility

All renewable electricity generation in Australia including:

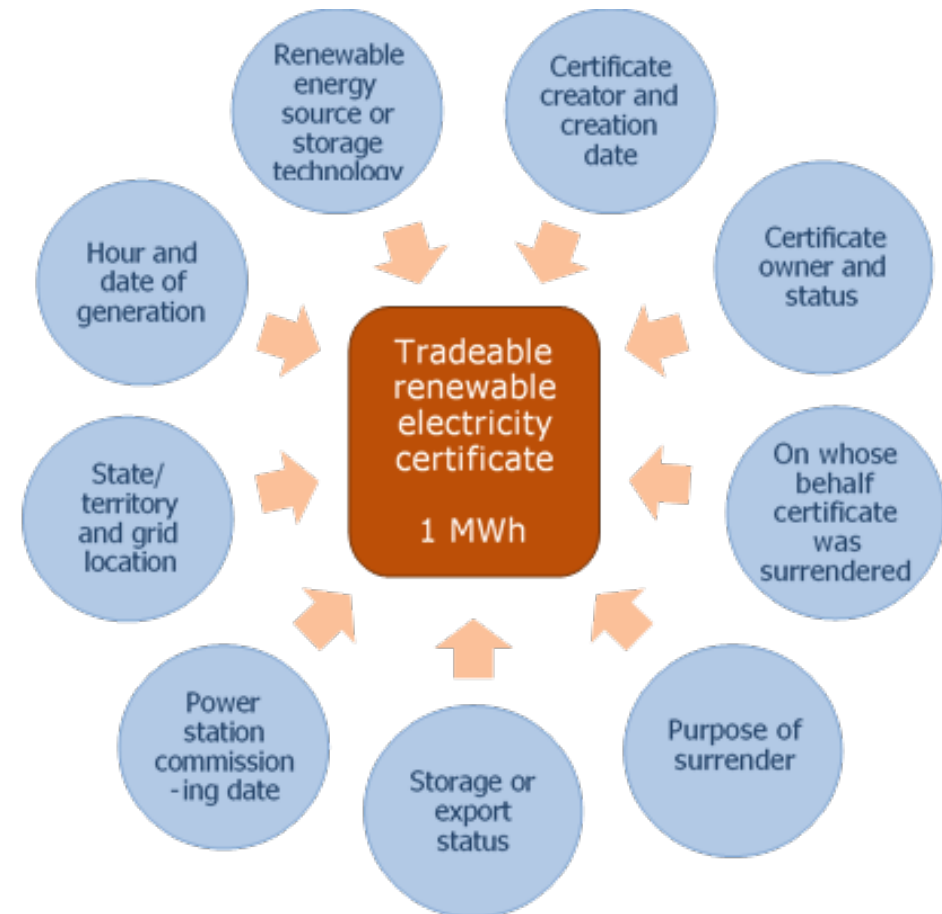
- RET below-baseline
- Offshore
- International exports
- From storage facilities
- From systems of any capacity

Surrender

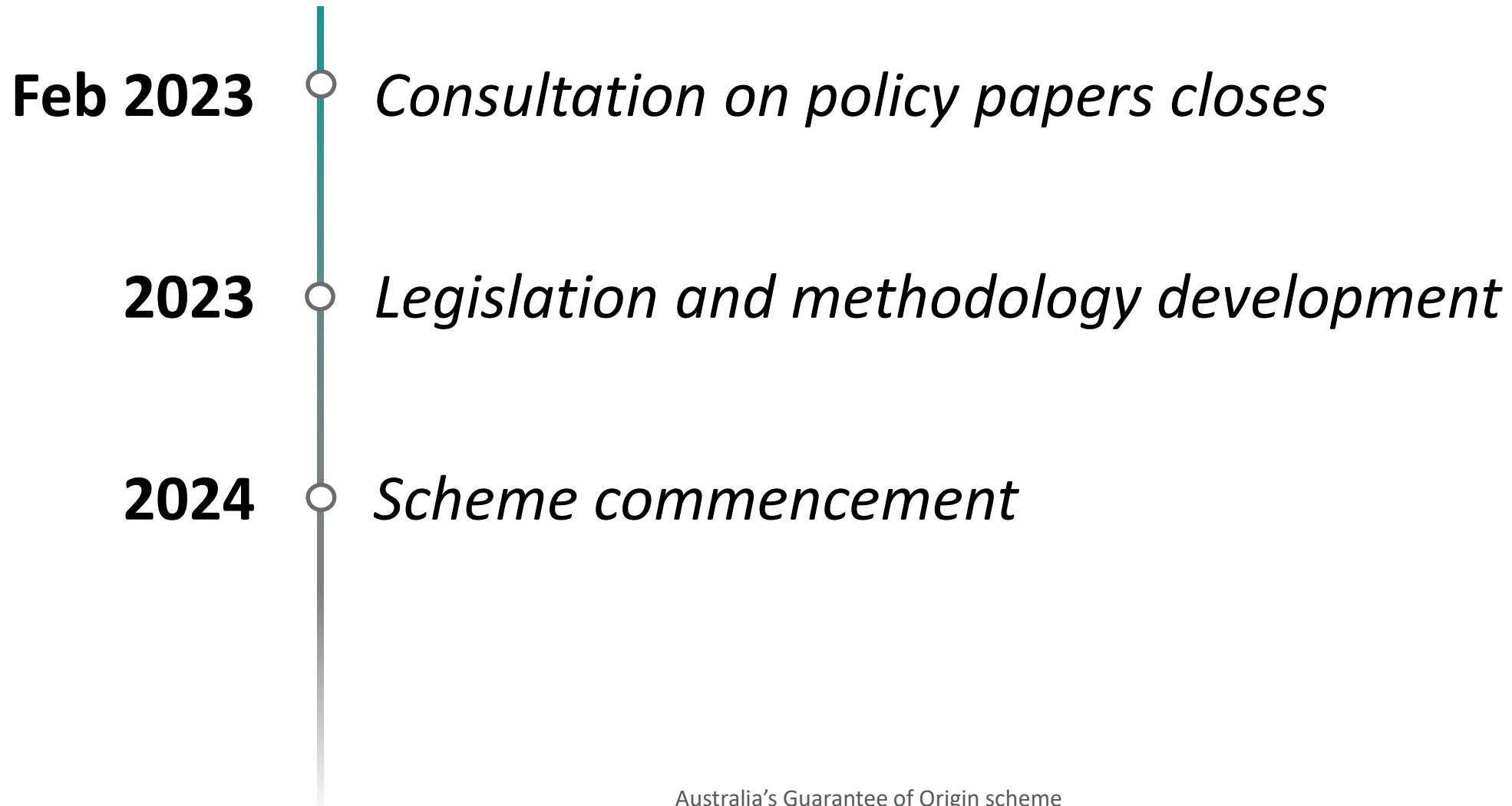
No restrictions

Registry would enable consumers to surrender REGOs with specific attributes

Information on REGOs



Next steps for the GO scheme





Australian Government

Department of Climate Change, Energy,
the Environment and Water

Questions

Vote for or enter questions in the chat

Hydrogen Strategy Section

Adaptation and New Industries Division

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