



Australian Government

Department of Climate Change, Energy,
the Environment and Water

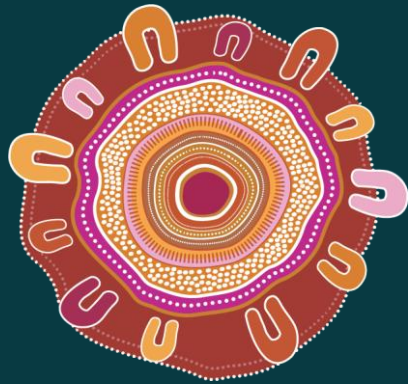
Australia's Guarantee of Origin scheme

Ammonia Energy Association Conference 2023

James Erskine, Assistant Director,
Guarantee of Origin and Trade

17 August 2023





Acknowledgment of Country

Our department recognises the First Peoples of this nation and their ongoing connection to culture and country. We acknowledge Aboriginal and Torres Strait 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?



The development of markets for low-emissions commodities will rely on verification of low-carbon credentials



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

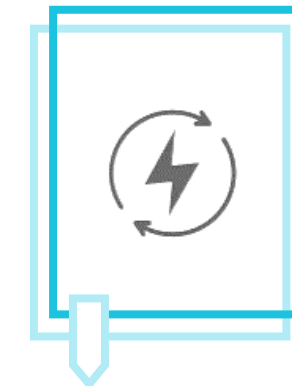
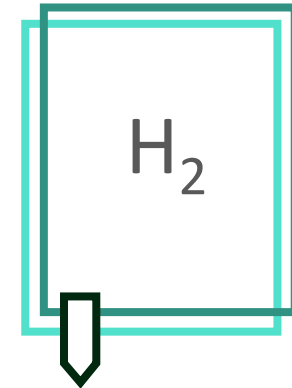


Interoperable measurement and transparency of carbon intensity of products will promote international trade in environmental goods and services

What is our Guarantee of Origin scheme?

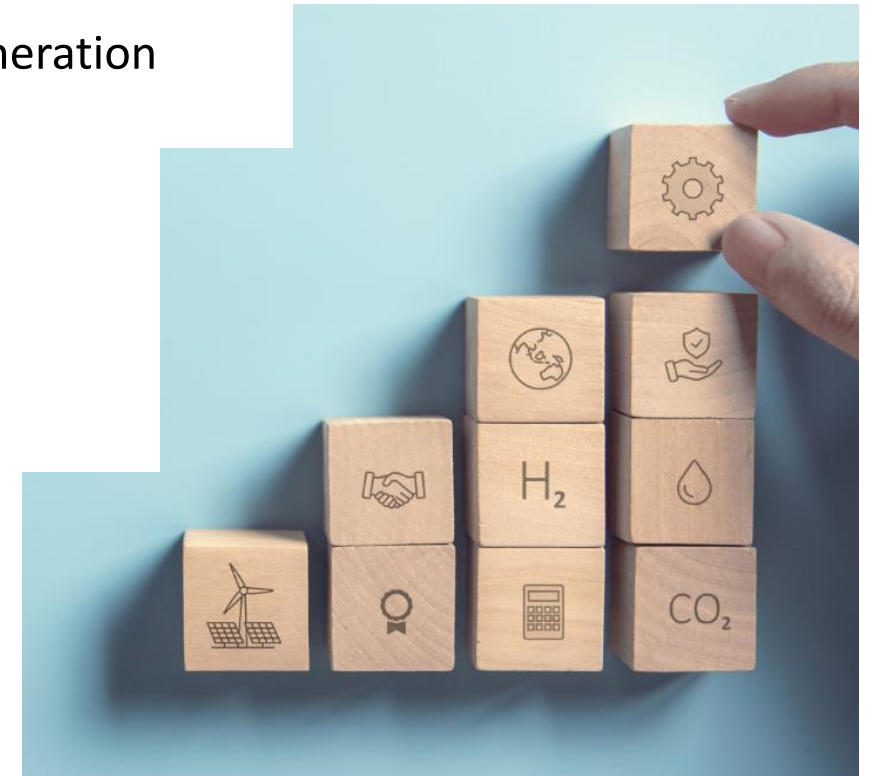
The GO scheme would provide a consistent and trusted emissions accounting and certificate framework. It has two parts:

1. An internationally-consistent, emissions accounting framework for products (such as hydrogen) - **Product GO**
2. An enduring certificate for renewable electricity that builds upon the existing Renewable Energy Target framework - **REGO**



Key features of the scheme

- Voluntary, Government-led, established under new legislation (to be introduced), administered by the Clean Energy Regulator
- Broad eligibility for producers and renewable electricity generators/generation
- Builds on existing domestic and international emissions accounting and renewable electricity certification frameworks
 - Australia's NGER Act and Renewable Energy Target (RET)
 - Align with IPHE methodologies, ISO standards
- Commence with hydrogen, hydrogen energy carriers (e.g. ammonia) and renewable electricity
- Incorporates new products (such as metals, biofuels and other materials) over time



International methodology development

- Led by the IPHE Hydrogen Production Analysis taskforce
- IPHE is internationally recognised as the leading G2G forum for methodology development
 - Published 2 working papers with emissions accounting approaches for:
 - Six main hydrogen production pathways
 - Three hydrogen carriers
 - Next working paper expected in coming weeks.
- IPHE working papers are the seed papers for the ISO/TC 197-Hydrogen Technologies



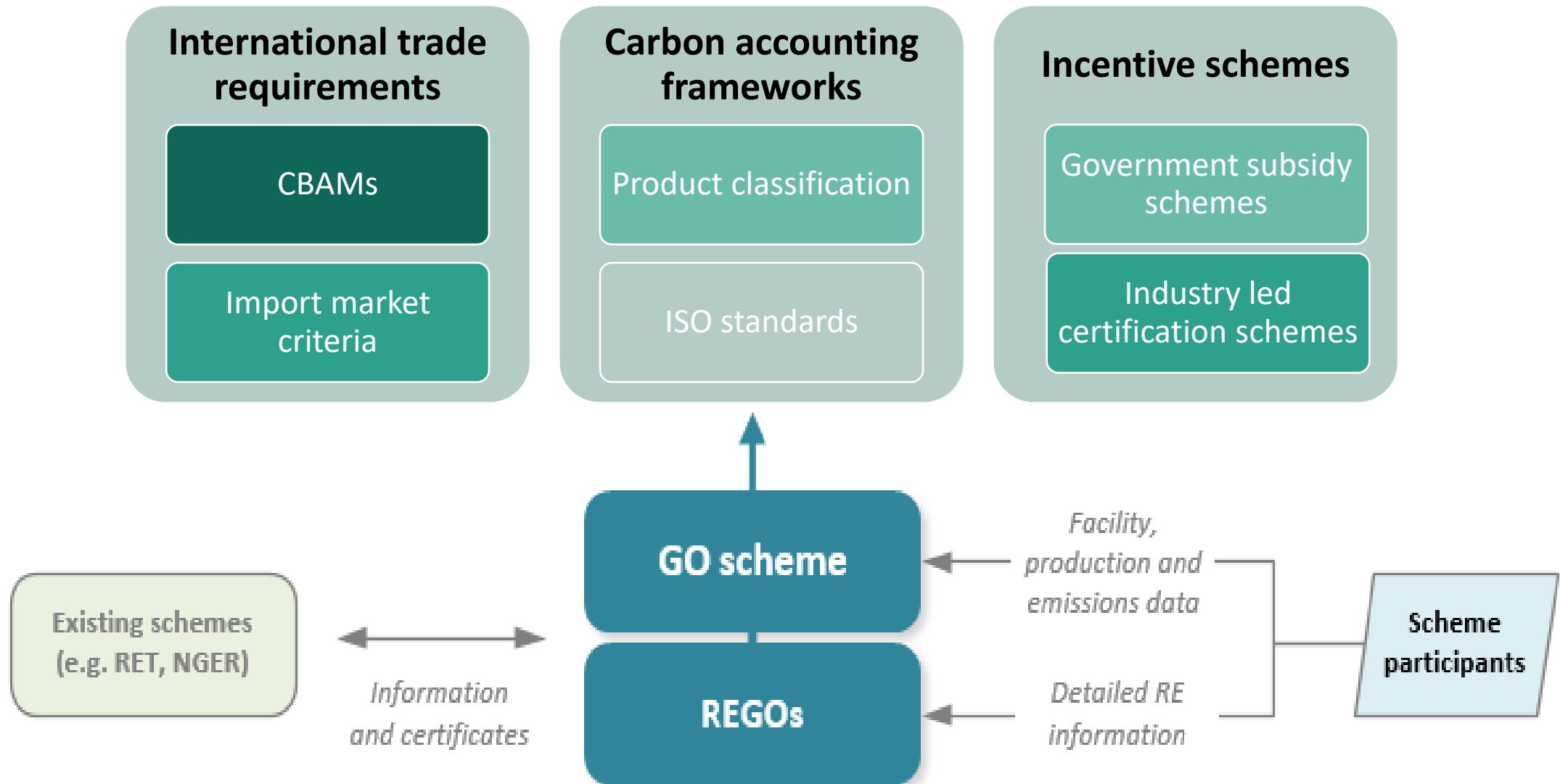
IPHE logo

International market interoperability

- Interoperability has many layers including regulation, technology and compliance
- The Hydrogen Breakthrough Agenda Priority Action H.1 is on standards and certification
- IPHE has been given responsibility for coordinating activity under H2 BtA
 - In collaboration with IRENA and IEA TCP
- Australia is co-leading the IPHE Certification Mechanisms taskforce
 - Tasked with recommending an approach to achieve global interoperability of certification schemes



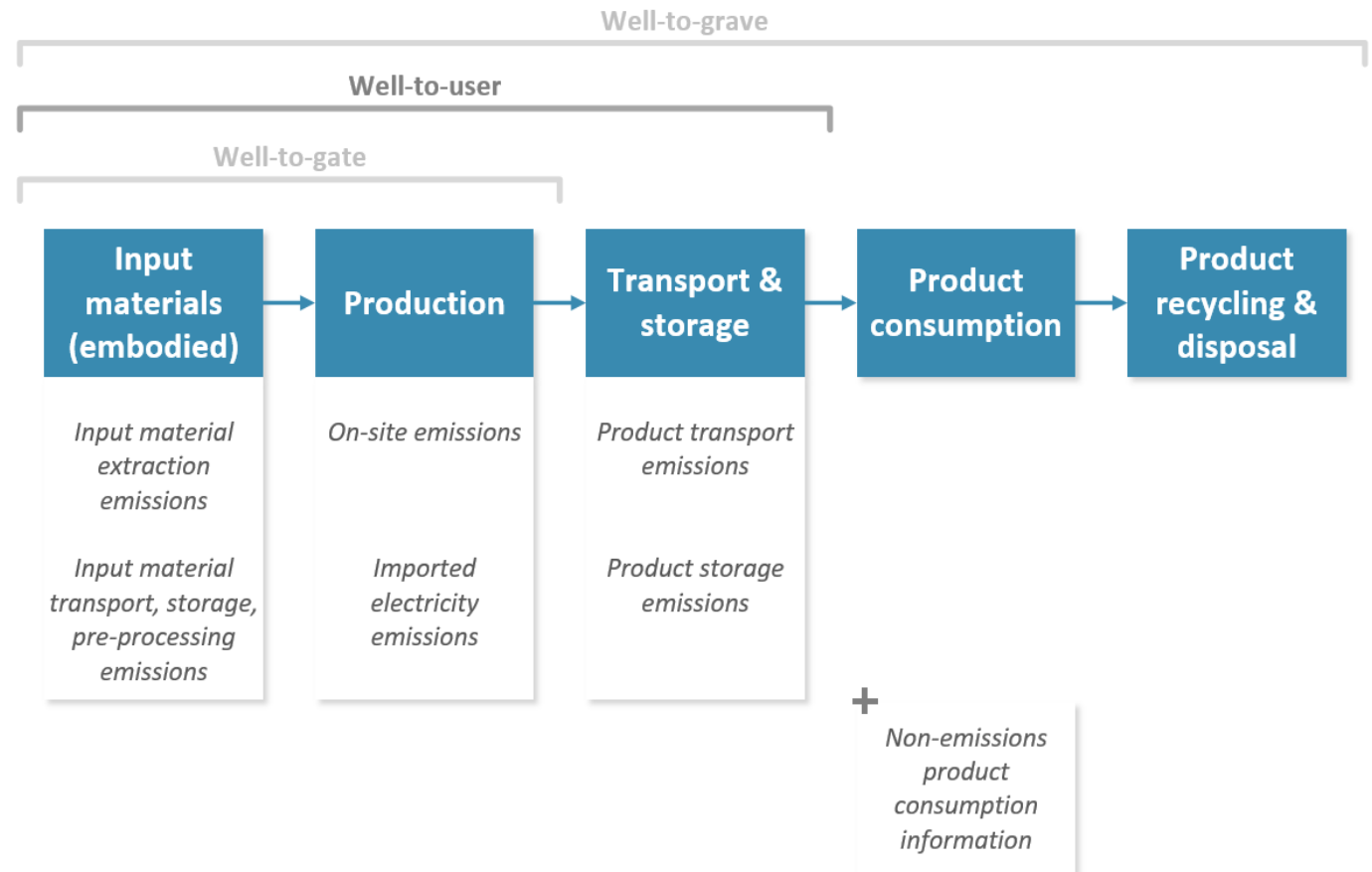
Considerations for interoperability



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
- 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

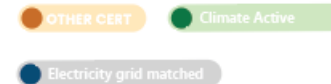
1.26 kg CO₂-e/kg H₂

Batch production details

Quantity 54,881 Tonnes

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

Attributes and tags



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 (e.g. water use and type)	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					

**Example
certificate
only**

Certificate details

Certificate ID

XXXXX

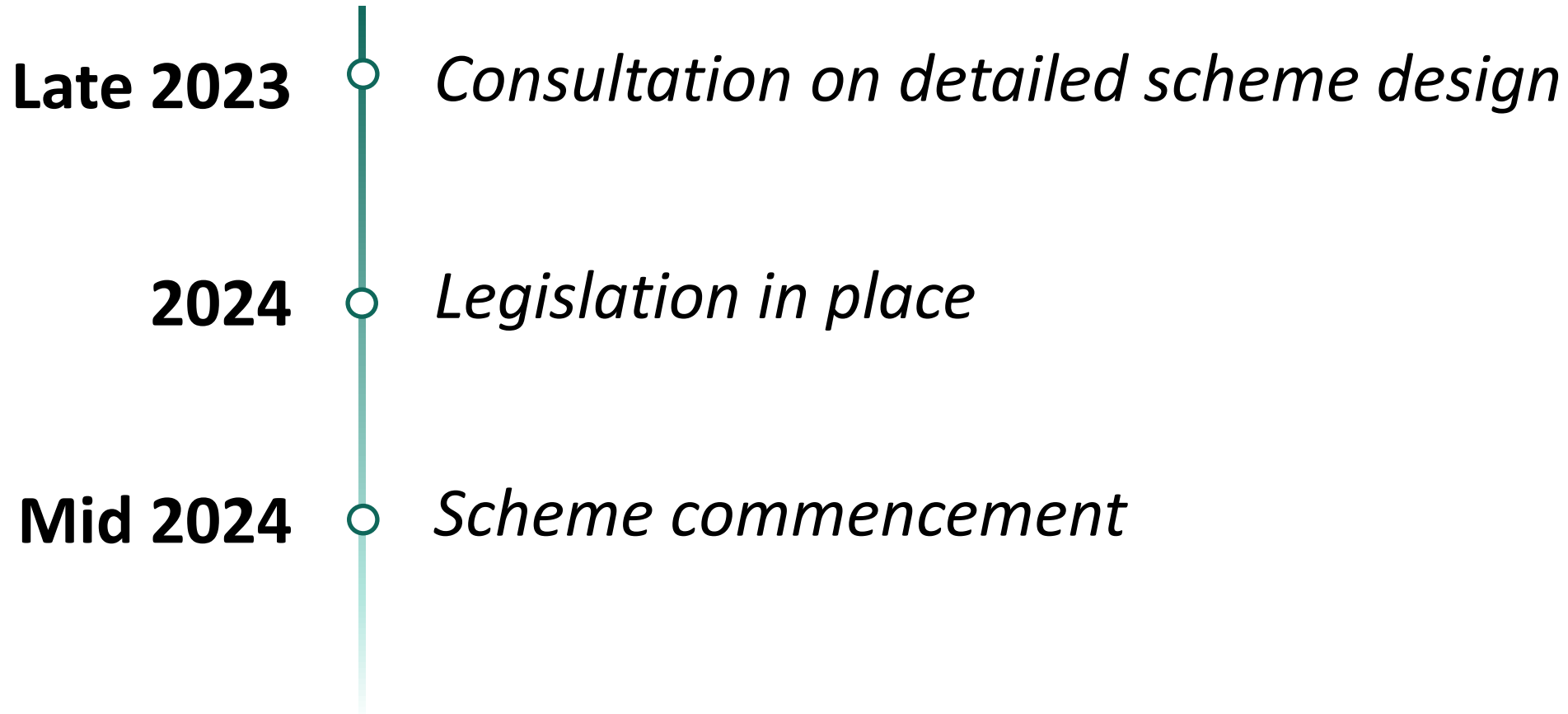
Batch ID

[342246584D45](#)

Batch production dates

12/02/2021 - 12/02/2022

Next steps





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Contact us

Guarantee of Origin and Trade section

GuaranteeofOrigin@dceew.gov.au

dceew.gov.au |     

