Clean Energy Council submission in response to the proposed Australian Guarantee of Origin Framework

3 February 2023

The Clean Energy Council (**CEC**) welcomes the release of the Australian Government's position paper on a new Guarantee of Origin Framework for Australia.

The CEC is the peak body for the clean energy industry in Australia. We represent and work with more than 1,000 businesses operating in Australia across solar, wind and hydro power, energy storage and renewable hydrogen. Our mission is to accelerate Australia's clean energy transition.

Decarbonisation commitments are gathering pace globally, and there is increasing demand for green and low-emissions products. The proposed Guarantee of Origin framework represents a landmark policy proposal, which will provide Australia with an essential mechanism to be able to demonstrate the environmental credentials of the products we produce, for both domestic and international consumption.
We appreciate the early focus on a guarantee of origin for hydrogen and its derivatives, but are very pleased to see that the framework is being developed with a view to it being future-ready, with the broadening of the scope to provide an embodied emissions framework for a wide range of commodities.

The integrity and credibility of the scheme for both producers and customers in Australia and overseas is critical to its success and the detailed work that the Department of Climate Change, Energy, Environment (**the Department**) has undertaken as a member of the International Partnership for Hydrogen and Fuel Cells in the Economy (**IPHE**) and via the first phase of Clean Energy Regulator trials places the scheme on a solid footing for positive international recognition.

While the CEC is an advocate for the development of renewable ('green') hydrogen and its derivatives as the only genuine prospect for zero-emissions hydrogen, it nevertheless sees merit in a framework which allows both renewable and fossil-based products to utilise the Government's accounting methodologies, as it provides a mechanism for transparency for all products, not just renewable ones.

The most important function for the Government's Guarantee of Origin (**GO**) scheme is a robust and trustworthy centralised 'source of truth' for production and emissions profiles of supply chains. This data can then be leveraged by other certification schemes to enable producers to demonstrate their compliance with standards and expectations of different customers and offtake markets.

Phone: +61 3 9929 4100
Fax: +61 3 9929 4101
info@cleanenergycouncil.org.au

Level 15, 222 Exhibition
Street, Melbourne, VIC
3000, Australia

cleanenergycouncil.org.au

ABN: 84 127 102 443

We welcome the flexible and practical approach that the Department and the CER have brought to the design of the scheme, which should ensure that it's both fit for purpose and future ready for emerging markets.

Please find in the appendix the CEC's individual responses to each of the 24 policy proposals, but in summary, we support:

1. The adoption of the provenance approach for the Product GO scheme, in which certificates would be traded with the product itself (rather than the option certificate trading being decoupled from the product), on the basis that we believe this will best meet public expectations, particularly within the early stages of the industry's development.
2. The expansion of the scheme boundary to a 'well-to-user' scope, incorporating transportation and storage emissions, which are a material issue for prospective hydrogen customers, particularly those considering imports from Australia.
3. The exclusion of offsets from the scheme.

While we appreciate in principle the pragmatic approach to the emissions materiality threshold, we are concerned that the true implications of a 2.5 per cent materiality threshold for a fossil fuel-based hydrogen project are unclear/unknown. There would be value in modelling the possible 'free'/unaccounted emissions associated with this threshold for non-renewable based hydrogen and ammonia of differing dimensions, so that the true implications are clearer and are deemed defensible (or not).

As a voluntary, opt-in framework, we expect that the GO scheme is much more likely to be used by renewable hydrogen (and other renewable-based products) in the early years, who will wish to demonstrate their superior environmental credentials. To ensure that the full cost of running the scheme is not therefore borne entirely by the more innovative, greener/cleaner producers, we welcome the Department's proposal for the cost-recovery to be delayed until the industry has matured and becomes competitive with existing energy sources.

Overall, the CEC considers that the proposed policy design is well-advanced and its implementation will provide a critical mechanism for leading Australian producers to be able to demonstrate their emissions credentials.

We look forward to working with the Department and the CER in the coming year as it develops the proposed legislation and supporting regulations and product accounting methodologies.

Yours sincerely,

Anna Freeman
Policy Director, Decarbonisation
afreeman@cleanenergycouncil.org.au

APPENDIX 1 - DETAILED REVIEW & INITIAL COMMENTS/NOTES

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10	Principles for the design of the GO scheme: Trustworthy, transparent, practical, consistent, flexible	CEC supports these principles as being critical to the integrity and workability of the scheme.
11	Purpose: The Guarantee of Origin scheme is designed to be a product-based emissions accounting framework that measures and tracks emissions and associated information across the value chain.	The CEC strongly supports the breadth of the scheme which recognises the increasing interest and expectation that producers will be able to disclose emissions across their supply chain across a variety of commodities.
11	The use of 'Guarantee of Origin' to describe the Australian Government's scheme is a purposeful one. The scheme would provide necessary information about a product's origin, life cycle emissions and attributes. It would not categorise the emissions intensity through definitions such as 'green' or 'low-emissions' at this stage.	The CEC supports this approach at present. Classifications can be provided by certification schemes, separate to the GO scheme.
Section 2: Scheme design		
13	The GO scheme is proposed to be established as new legislation administered by the CER. The core scheme design, administration and integrity controls discussed throughout this section would be covered in the Act and Regulations. Beneath these would sit other legislative instruments which provide guidance for how to calculate emissions intensity for the product-based emissions accounting framework. There would be two components to these legislative instruments: - A general library of emissions measurement processes, definitions, and sources for the various types of emissions used by the specific methodologies. This would draw from the NGER measurement determination that is used for reporting of emissions under the National Greenhouse Energy and Reporting (NGER) scheme, National Greenhouse Accounts Factors, and other sources. - Individual emissions accounting methodologies that cover each product and production pathway. These were consulted on in the previous discussion paper and will be based on the IPHE methodologies.	The CEC supports this approach in principle. Clarity is sought on the process for updating the 'legislative instruments' for changes/tweaks to accounting methodologies or definitions etc.

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	The library would provide a single source for all measurement guidance, which is then called up by the individual methodologies. For example the individual methodology for hydrogen via electrolysis will specify that water sources must be accounted for, then the library will provide specific advice for how this source is to be measured and estimated.	
14	**Policy position proposal 1: The scheme will be covered under new legislation administered by the CER.**	CEC supports this position, subject to greater clarity as to how the methodologies will be enshrined and refined
14	**Emissions scope (boundary)** The product-based emissions accounting framework will focus on emissions accounting throughout the supply chain of products covering the supply of raw materials, production, and transport and storage to the point of consumption or international departure. This system boundary is called **well-to-user,** outlined below. Initially a well-to-gate boundary was proposed in the A Hydrogen Guarantee of Origin scheme discussion paper. Stakeholders were generally in favour of this approach as it was most likely to be adopted by international schemes noting it was the initial scope of the IPHE. However, stakeholders noted that there may be a need to revise this initial scope to include broader supply chain emissions. The initial position has been revised to reflect recent international developments, with the IPHE currently developing a methodology to cover the transport and storage of hydrogen and hydrogen energy carriers. The revised scope of the scheme will ensure greater consistency with international frameworks, ensuring the requirements of international partners can be met.	We support the change in approach to well-to-user by the Department, which addresses the growing interest and expectations that producers will be able to account for emissions across the full supply chain.

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	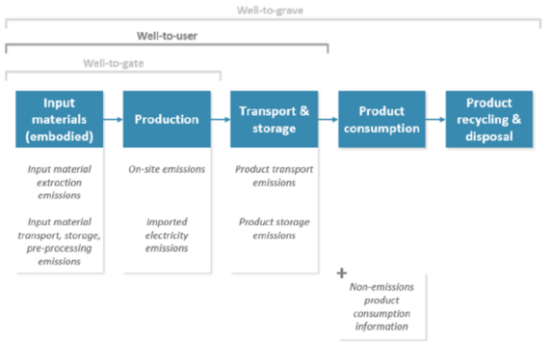	
15	**Policy position proposal 2: The Product GOs will cover the well-to-user system boundary.**	The CEC supports this position proposal for the reason outlined above.
15	**Policy position proposal 3: There will be no minimum emissions intensity requirements for Product GOs and participation will be voluntary for both Product GOs and REGOs.**	The CEC supports this position, as it is appropriate that we encourage and facilitate maximum emissions disclosure across the economy.
16	**Policy position proposal 4: The GO scheme will be cost recovered in line with Australian Government policy.** For hydrogen, it is anticipated that cost recovery would not commence until the industry has matured and becomes competitive with existing energy sources. This will be explored as part of the scheme review process.	This proposal appears reasonable, and we welcome the Department's proposal that cost recovery would not begin until the hydrogen sector has become competitive with existing energy sources, noting that were it to come into immediate effect, it would likely be borne by a small number of (largely) green hydrogen proponents, placing an additional cost impost only on these proponents.
16	**Scheme reviews** The GO scheme is proposed to be subject to an initial review commencing in 2025 and ongoing reviews every 5 years thereafter. The initial review will take place after the first two years of scheme operation. It will focus on the effectiveness of the scheme design and any potential amendments to improve functionality. It will likely also involve assessing and developing cost recovery options for hydrogen and hydrogen energy carriers. Finally, these reviews will ensure that the scheme continues to remain aligned with international developments.	The CEC agrees with these timeframes which support early and consistent review and improvement of the scheme.

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	The ongoing reviews are proposed to start in 2030 and take place every five years from then. These reviews will assess the ongoing integrity, effectiveness and efficiency of the GO scheme and identify any potential amendments.	
16	**Policy position proposal 5: The scheme will be reviewed in 2025 and every five years thereafter to ensure it is fit for purpose and able to support the industry.**	The CEC supports for the reasons outlined above.
17	**REGOs** REGOs will provide a mechanism for tracking and verifying renewable electricity use both as an input into Product GOs and more broadly to support renewable claims. **A REGO is proposed to represent 1 megawatt hour (MWh) of renewable electricity and contain additional information detailed in the Electricity Attributes section of the *Renewable Electricity Certification paper*.** REGOs are proposed to be a certificate that can be traded separately to the renewable electricity they were produced alongside. This approach is consistent with how Large-scale Generation Certificates work currently and is discussed more in the *Renewable Electricity Certification paper*. Information proposed to be contained on REGOs includes time of generation, location of generation, commissioning date of the power station and the end consumption.	The CEC supports a Renewable Energy Guarantee of Origin certificate representing 1 MWh of electricity, which is the same unit used as for Large-scale Generation Certificates.
18	**Product GOs** A Product GO is proposed to represent a standard 1 kilogram unit of the product that has been produced and require information about emissions, production inputs, transport and storage and end consumption. Certificate units ranging from 1 tonne to 1 gram were explored in the Department's discussion paper last year. **1 kilogram was selected as the final unit given its scalability and usability** for both large and small-scale production facilities.	The CEC supports the choice of a 1 kilogram unit as the most flexible for small and large scale production.
18	Product GOs are proposed to use a **provenance approach**, whereby they will follow the product from its production, to its transport and storage and then will note the end consumption of the product which will enable environmental claims. For example, clean hydrogen may be injected into a natural gas network and mixed with methane. The end consumption of the clean hydrogen could	The CEC supports this provenance approach, as an uncoupled approach to trade would risk the public credibility of the GO scheme.

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	be assigned to any users within this network. However, the end consumption of the clean hydrogen would not be able to be attributed to consumers outside of this network.	
18	Public information shared on Product GOs are proposed to include a **summary of the facility, product quantity, emissions intensity and any inputs relevant to emissions intensity such as water source.**	The CEC is supportive of this information being shared for Product GOs. We recommend that the inputs relevant to emissions intensity include water, renewable energy source and upstream emissions (such as fugitive emission leakage), transport and storage.
17	**Policy position proposal 6: Product GOs and REGOs will be housed on a publicly visible register with general information and the ability to share specific information with other scheme participants.** Feedback is sought on the information that should be publicly visible on REGOs (e.g. time of generation, grid location, commissioning date, end user, etc) and the information that should be publicly visible on Product GOs? (emissions intensity, volume, relevant inputs, etc).	REGOs should include the publicly available information that is made available for LGCs and via AEMO.
19	**Policy position proposal 7: Product GOs will use a provenance approach, while REGOs are able to be traded independently of the electricity they were created alongside.**	The CEC supports the choice of these two distinct approaches for these different commodities.
19	Those wishing to participate in the scheme will be able to register and report most of their information upfront. This information will then be used throughout the certificate creation and claim process. Upfront reporting model There are two types of data which are proposed to be reported in the GO scheme: 1. **Profile data** is data that can and must be submitted when registering products and supply chain steps throughout the system boundary. This is facility level data could include information such as facility details, input sources, type of transport, and marginal loss factors or emissions factors as required. These will only need to be updated if the details change. 2. **Batch data** is data that is specific to a GO creation batch, and is submitted periodically.	The CEC supports this layered approach. The upfront registration of a facility, which details the emissions profile (and other key information) of the plant will enable recognition of the key characteristics of the production plant from the outset and assist to reduce the ongoing administration of complying with the Guarantee of Origin scheme. It could also be helpful for facility-based accreditation by

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	This data includes information, such as the volume of inputs and outputs, directly measured emissions and renewable electricity certificate use (where applicable). This information will be provided throughout the process for creating GOs after the product or renewable electricity has been produced.	certification schemes in the future. Separate batch data will be important given that customers will be interested in the profile information associated with their individual purchase/shipment, however this must be balanced with increased costs of frequent data reporting. The CEC recommends that the data flow be automated as much as possible to reduce the administrative burden for participants.
20	**Policy position proposal 8: An upfront data reporting model will be implemented to provide a practical reporting process.**	The CEC supports the approach proposed for the reasons outlined above.
20	There are four roles that have been identified for entities that may engage with the GO scheme and manage or create profiles: • **GO Producer** – these participants create products or electricity certified under the GO scheme. • **GO Intermediary** – These participants neither create nor use products certified under the GO scheme. However, they may transport or store certified products. • **GO Agent (REGOs only)** – These participants may trade or consume certificates on behalf of other participants • **GO Consumer** – These participants use or consume the GO certified product or electricity.	
21	**Policy position proposal 9: There will be four scheme participant roles with differing responsibilities and permissions.**	The CEC supports the recognition of these separate roles, which appears to cover the range of participants required for scheme operation.
21	**GO creation process** The GO Producers with registered Product profiles have a 'licence to create' GO certificates (both for REGOs and Product GOs). The CER will be able to validate GO creations after physical production or	

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	generation has occurred. The process will combine the upfront profile data with batch specific data to create GOs. The CER will validate creation applications meet the information requirements under the scheme. The initial creation process can be done over a period that meets the commercial needs of the producer. It is proposed that the maximum length of a batch claim period will be 12 months, and the minimum period would be one-hourly batches. Feedback from the GO Trials indicated that some prospective scheme participants would prefer GO certificates to be validated in real time support their business to operations. The CER is exploring opportunities to facilitate high volume and high frequency GO certificate creations. The use of pre-assessed profiles reduces the need for the CER to investigate each batch of certificates and hence has the potential to reduce processing times.	
21	**Policy position proposal 10: The creation process will be implemented which combines batch data with the upfront profiles to create certificates. The creation period for GOs can range from a single hour to a year.** Feedback is sought on whether the certificate creation period range is suitably practical for businesses.	We support the flexible approach proposed that allows producers to create GOs in a way that meets the requirements of their customers.
22	The Product GOs will require information to be added about the transport and storage of the related product where relevant. This information can be added by the GO Producer or a GO Intermediary.	The scheme must be able to account for instances where the emissions intensity for this stage is zero as the hydrogen is created and used on site.
22	**Policy position proposal 11: Product GOs are proposed to require creation and transport and storage information to be complete. Product GOs can then be surrendered and report consumption information.**	We support this approach which will be required for the well-to-user scope, noting for practical purposes that registry users should be able to partially complete the required information (eg. for production) and later add further data (eg. storage/transport).
22	**REGOs** The REGOs do not have the same downstream information requirements as Product GOs, and once validly created they will be complete. They can then be traded freely between GO Producers, GO Agents	

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	and GO Consumers independently of the related electricity.	
22	**Policy position proposal 12: REGOs are proposed to be available to be traded or surrendered after being validly created.**	The CEC supports this approach, consistent with the treatment of LGCs.
2.4 Integrity controls		
23	The GO scheme will be designed with strong upfront controls around profile registration and a lighter touch for validating creation applications. The CER as the administrator of the GO scheme will also have a range of compliance controls to ensure risks to scheme integrity will be identified and addressed. This will include an Annual Reconciliation Check (ARC) process to ensure compliance with the scheme over the previous year.	
	Policy position proposal 13: The CER will undertake compliance monitoring and will have regulatory powers to address non-compliance.	Compliance monitoring is critical to the integrity and trustworthiness of Australia's scheme, and we support this approach. The CEC supports the proposed 'Annual Reconciliation Check'.
23	The IPHE methodology recommends that on-site verification should occur after any material changes in the process covered by the methodology. For the GO scheme, Limited Scope Technical Reviews (LSTRs) are proposed instead of limited assurance audits. The CER will be able to provide a limited scope for LSTRs with a specific list of matters that need to be reviewed. This is expected to maximise the value of assurance and reduce costs. There are two types of LSTRs: • Registration • Annual Reconciliation Check	The CEC is comfortable with this approach on an ongoing basis, but suggests that the Regulator may *maintain the option of* on-site verification in some circumstances where it deems appropriate (eg. where significant changes occur or issues/inconsistencies arise).
25	**Product GO certificate amendment** Where an error has occurred prior to or as part of the ARC process, the Product GO is proposed to require an amendment process. This process will include updating the GO with the most up to date and accurate information, notifying other relevant scheme participants of the change and adding a note detailing the changes.	

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25	**Policy position proposal 14: LSTRs will provide third-party assurance of the information reported under the GO scheme. The need for LSTRs will be front-loaded requiring less as time goes on and participants demonstrate compliance with the requirements of the scheme**	As above.
25	**Policy position proposal 15: Where Product GOs have incorrect information, they will be updated to reflect the most up to date information. After the ARC process, Product GOs will be finalised and not subject to further amendments.**	The CEC is comfortable with the approach set out by the Department. It's important that where errors have been picked up, there should be publication of the error/change to maintain transparency in reporting, and to act as a deterrent for provision of inaccurate information.
25	REGO - amendment and reconciliation Due to the nature of REGO certificates the process for correcting errors will differ to prevent disruption to the REGO market. REGO certificates will not be amended once they have been validly created. Instead they will follow an 'unders' and 'overs' reconciliation process.	
26	**Policy position proposal 16: Where REGOs have incorrect information, they will not be updated and instead will follow an 'unders' and 'overs' reconciliation process to minimise impacts on the renewable electricity certificate market.**	The CEC is comfortable with this approach.
3. Interactions with other schemes		
27	The differentiating factor between the GO scheme and other schemes is two-fold. First, the GO scheme is product-based where many other emissions-accounting based schemes are facility or company level. Secondly, the GO scheme is proposing the broadest level of coverage – focused on measuring and tracking emissions across the supply chain where other schemes are focused on only parts of the supply chain. Centralising supply chain product-based emissions accounting into a single Government-led framework allows other industry and government schemes to leverage information from the GO scheme to deliver their own product or legislative objectives. This can reduce the costs of other schemes. It also increases alignment of emissions accounting methodologies between schemes. The GO scheme is expected to interact with the following:	

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	• National emissions accounting schemes • Schemes that provide incentives for carbon abatement • Voluntary Australian Government schemes to demonstrate carbon neutrality • Industry schemes that provide branding or labelling of products • International requirements	
28	National Greenhouse and Energy Reporting (NGER): To reduce regulatory burden across the two schemes, where there is an overlap in reporting obligations the measurement and emissions approach will be aligned with the NGER prescribed approach.	
28	Safeguard mechanism: Where participants are required to report emissions under the GO scheme and comply with the Safeguard mechanism there may be overlap in coverage. As the Safeguard Mechanism relies on the NGER scheme, the GO scheme will similarly align with the Safeguard Mechanism.	
28	**Policy position proposal 17: The Department proposes the GO scheme methodologies will align where possible with the NGER and the Safeguard mechanism.**	The CEC supports this approach.
28	There are schemes developing domestically which are designed to encourage consumption of hydrogen. The NSW Government is developing their Renewable Fuel Scheme (RFS), the WA Government are developing a Renewable Hydrogen Target, and GreenPower is developing the Renewable Gas Certification pilot.	
28	**Policy position proposal 18: The CER will be able to establish formal data sharing arrangements with the administrators of these schemes to streamline the creation process.**	The CEC supports this proposal. The Australian Government's Guarantee of Origin scheme should provide a central source of truth for domestically produced products that other domestic schemes can draw on for certification or accreditation purposes.
29	**Interaction: Voluntary carbon accounting schemes [such as Climate Active and the Corporate Emissions Reduction Transparency Report by the CER] will be able to use GO scheme information where relevant.**	The CEC supports this proposal as it offers consistency.

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30	**3.4 Industry standards and certification** The hydrogen industry has been developing industry-led standards and certification schemes for low emission hydrogen. The Green Hydrogen Organisation has launched its Green Hydrogen Standard, and the Smart Energy Council is operating a Zero Carbon Certification scheme. **Interaction: These industry initiatives will be able to leverage the GO scheme once it commences operation to provide additional branding.**	The CEC supports this proposal as it provides consistency across different schemes.
	3.5: International Trade The GO scheme will directly enable producers to demonstrate adherence to emissions intensity requirements that may be required by other markets. The GO scheme will also enable producers to display information across other attributes, such as water source or renewable electricity requirements that will not only demonstrate compliance with requirements, but could position Australian hydrogen to be more competitive across a number of areas such as environmental sustainability. **Interaction: The GO Scheme will be used to demonstrate adherence to international market requirements.**	The CEC strongly supports the flexible approach proposed by the Department, which would require accounting/disclosure across a range of core criteria, but also enable a degree of tailored reporting against additional criteria which may be important to some markets/customers.
4. Emissions accounting		
	The emissions accounting approach outlined in this section is proposed to apply to all products included in the GO scheme. The approach is consistent with the IPHE methodologies and has been further developed through the co-design process with industry and informed by learnings from the GO Trials. This section does not apply to REGOs which only track renewable electricity. The general approach would be specified in legislation as a library of emissions measurement processes, definitions, and sources, but the GO scheme will also include detailed, product- and pathway-specific methodologies for calculating product-related emissions. As the scheme expands, more methodologies will be prioritised, developed and incorporated to cover new industries, activities, products, and production pathways. If a product (such as hydrogen) has multiple common production pathways (e.g. electrolysis, steam methane reformation) each pathway will have its own methodology.	The CEC supports this approach to the development of emissions accounting methodologies.
	Draft methodologies for the initial production pathways included in the GO scheme are planned to be released for feedback in parallel with scheme legislative development. **These methodologies will**	We support the prioritisation of hydrogen and its derivatives, as this is essential for enabling the

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	cover hydrogen produced via electrolysis, steam methane reformation or coal gasification. Other methodologies targeted for inclusion close to scheme commencement would cover production of hydrogen energy carriers including ammonia, methylcyclohexane and liquefied hydrogen; and transport and storage of hydrogen and hydrogen energy carriers.	development of the clean hydrogen sector in Australia. Speedy development of the methodology for ammonia is important as this is currently the leading hydrogen energy carrier being explored. The Government may also explore accelerating the development of a methodology for methanol ahead of liquefied H2.
31	**4.1 General emissions accounting approach** **Scope 1 emissions** Scope 1 emissions are direct emissions from the product process. Scope 1 emissions can be accounted in accordance with the *National Greenhouse and Energy Reporting (Measurement) Determination 2008* determination framework.2 For each activity, there are four emissions estimation methods: • Method 1 – basic estimation method with use of default emissions factors. • Method 2 – site-specific sampling and use of Australian or international standards or their equivalent for analysis of fuels and raw materials. • Method 3 – like Method 2 but Australian or equivalent documentary standards must be used for sampling and analysis of fuels and raw materials. • Method 4 – direct or continuous emissions measurement.	
32	**Upstream emissions** Upstream emissions are the relevant scope 3 emissions from extraction, processing and transport of production inputs. It is proposed that, in-line with the IPHE guidelines, upstream emissions must be accounted for within the system boundary. If these activities are integrated with production, they are to be accounted for as Scope 1 emissions as described above.	
32	**Scope 2 emissions** Producers must account for the scope 2 emissions associated with the electricity consumed through producing a product covered by the scheme. Details of the proposed market-based approach to scope 2 accounting are broadly outlined below: 1. Metering the total relevant electricity consumption.	

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	2. Determining the renewable component of electricity use. The scheme will recognise direct and indirect surrender of 'market-based' instruments (e.g. LGCs and REGOs) and eligible 'behind the meter' electricity use where certificates are surrendered or not created. Discussed in more detail in Section 4.3 below. 3. Determining residual emissions from residual electricity use that is not demonstrated as renewable, using an appropriate Residual Mix Factor (RMF). 4. Determining emissions from non-grid, non-renewable electricity (e.g. off-grid or co-located generation) using relevant emissions factors.	
32	**Metering** The metering of electricity, gas flows and other relevant quantities must meet relevant Australian standards. For most scope 1 emissions measurement, this will be consistent with the relevant NGER metering requirements. **GO Trial participants indicated primary metering onsite according to NGER standards should be possible. However, they noted that secondary metering for upstream emissions could be more problematic.** Where standards and frameworks for hydrogen metering are not yet fully formed, the Department will seek out alternative approaches that may be used until they are developed. For example, the NGER framework does not currently explicitly address hydrogen metering.	We welcome working with the Department as it considers these issues further.
	Co-products Co-products are products resulting from the production process that have demonstrable value from being on-sold or reused in the production facility. An example is in the hydrogen via electrolysis production process, oxygen is often produced alongside the hydrogen. This oxygen could then be on-sold or reused in the production facility. Emissions from the upstream and production process will be able to be allocated between the product covered under the GO scheme and the co-product. **However, it is proposed that evidence of the sale or use of co-products will be required to validate it has been used.** **In line with IPHE requirements, where carbon dioxide is a co-product of the production process it will need to be permanently stored to be removed from the product's emissions intensity.** If the carbon dioxide is used, emissions will not be able to be allocated separately to it.	The CEC supports the approach put forward by the Department on the emissions accounting for co-products. We agree that it is important that the oxygen that is produced as a result of the hydrogen production process is on-sold/re-used, in order to deter producers from attributing emissions to oxygen which may then be simply treated as 'waste'. We also support the IPHE's requirements for the permanent storage of carbon dioxide.

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	Materiality A materiality threshold is a limit below which an emissions source does not need to be measured as it is considered immaterial. A materiality threshold can reduce participation burden by limiting excessive measurement, but may introduce risks to perceived scheme integrity. A list of material emissions sources that must be measured would be included in the product- and pathway-specific methodologies. **The list of material sources will be informed by whether they contribute at least 2.5 per cent of total emissions per source.** This threshold was supported by most respondents to the previous consultation paper. **If an emissions source is required to be estimated under the NGER scheme and it is within the GO scheme's scope it must be reported even if it is below the materiality threshold.**	While we appreciate in principle the pragmatic approach to the emissions materiality threshold, we are concerned that the true implications of a 2.5 per cent materiality threshold for a fossil fuel-based hydrogen project are unclear/unknown. There would be value in modelling the possible 'free'/unaccounted emissions associated with this threshold for non-renewable based hydrogen and ammonia of differing dimensions, so that the true implications are clearer and are deemed defensible (or not).
33	**Policy position proposal 19: Material emissions sources that must be measured for each product and production pathway will be specified in the methodologies. The sources will be selected based on materiality threshold of 2.5% of total emissions per source.**	As above.
4.2 Treatment of offsets and double-counting		
34	**Policy position proposal 20: ACCUs issued from within the system boundary will need to be surrendered for the emissions reductions to be recognised under the GO scheme.** ACCUs or other carbon offsets cannot be used **to reduce the** emissions intensity of products listed on GO certificates.	The CEC is pleased to see the position taken by the Department which rules out the use of ACCUs or other carbon offsets to reduce the emissions intensity of products listed on GO certificates. Having allowed this would have risked the international standing of Australia's emerging scheme.
35	**4.3 Tracking renewable electricity** Surrender of renewable electricity certificates, either LGCs or REGOs, will be the mechanism used to claim the zero emissions attributes of renewable electricity as part of the GO scheme. GO producers will need to measure the gross consumption of electricity generated onsite and grid electricity imports that contribute to the production processes using RET compliant metering approaches. In keeping with the market-based approach, all electricity used as part of the production process will first be summed and then eligible renewable	

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	electricity deducted (treated as zero emissions), with emissions from any residual electricity use calculated using an RMF.	
36	**Policy position proposal 21: LGCs and REGOs will be used to demonstrate renewable electricity use. Behind the meter or directly supplied renewable electricity will not require certificate surrender if none were created.**	The CEC supports this approach.
36	**Residual Mix Factor (RMF)** A residual mix factor will be incorporated into the GO scheme to account emissions for imported electricity use not claimed by a renewable electricity certificate (REGOs or LGCs). An RMF is a critical component of market-based scope 2 accounting as it accounts for the emissions from all unclaimed electricity generation. Use of an appropriate RMF prevents double counting of renewable electricity within and across market-based accounting schemes. The GO scheme will require an RMF to be calculated. It is anticipated that this will be calculated as part of National Greenhouse Accounts (NGA) emissions factor calculations and included within NGER scheme legislation. Calculating this value centrally means that associated market-based frameworks like Climate Active's carbon neutral certification, or the Clean Energy Regulator's Corporate Emissions Reduction Transparency Report can reference the same emissions factors, increasing alignment and transparency.	
37	**Policy position proposal 22: A new RMF will be calculated for use within the GO scheme that is updated frequently and can be accessed by other market-based frameworks.**	The CEC supports this proposal for a centralised Residual Mix Factor. Query: Will there be distinct RMFs for different grids (eg. NEM; SWIS)? What about industrial microgrids?
38	**REC eligibility requirements for the GO scheme** It is proposed that REGOs and LGCs used to demonstrate renewable electricity use will have a 12 month vintage. This means that when a product GO is being created, any RECs surrendered against the associated electricity use must have been issued within 12 months of the production. No additional eligibility requirements (e.g. spatial or hourly time-matching) will be placed on LGCs or REGOs utilised within the GO scheme to	The CEC considers this to be a reasonable position for the framework of the government accounting scheme, and considers that any demand from customers for a tighter temporal correlation between generation and certificate surrender should be voluntary and

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	demonstrate use of renewable electricity. However, it is proposed that additional attributes such as location and time of generation be captured on REGO certificates. Requirements for time matched renewables (e.g. where renewable generation occurs in the same hour as the hydrogen production) is emerging internationally in certain regions and through some private corporate demand. **In time, CER could include additional attribute tags on Product GOs to identify when spatial and temporal conditions have been matched.**	could be assured via a relevant certification scheme. The CEC recognises the growing interest in real-time temporal matching of electricity generation and consumption, and is pleased to see that the CER is considering how it could account for much more granular time matching in the design of the REGO, where this might be requested by customer markets.
37	**Policy position proposal 23: RECs used to demonstrate renewable electricity usage in production of a GO product must have been issued within the previous 12 months. Additional information will be captured on REGOs to allow for voluntary time matching at a more granular level.**	As above.
4.4 37	**Development of product specific methodologies** Additional products that could be incorporated into the scheme include metals, biofuels and other materials. The Government will outline a process to prioritise products and production processes that could be added to the scheme. This will include regular public consultation to understand and gauge requirements, as well as opportunities for industry to pitch products for consideration against certain eligibility criteria (e.g technological readiness, trade or economic opportunity, ease of implementation and availability of existing standards).	The CEC supports this approach to prioritisation.
38	**International alignment and review** To date, methodologies for hydrogen have been developed by translating and trialling international methods developed as part of the IPHE for a domestic context. This process will continue for relevant hydrogen products and derivatives. New methodologies developed through relevant international forums for other products could be applied in Australia through a similar process, with the government drafting and co-designing a domestically-applicable version.	
	Policy position proposal 24: The GO scheme will expand over time by incorporating new product-specific methodologies. A prioritisation, development and review process with industry	The CEC observes that the process used for the development of accounting methodologies for

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	input and international engagement will be established to ensure domestic applicability, international alignment, and continued suitability of legislation.	hydrogen and their derivatives through the IPHE has worked relatively well, and although this approach can be slower, it provides greater confidence that the resulting frameworks will be broadly acceptable to major trading partners. As such, the CEC considers that adopting a similar approach where possible/practicable – working together with other major trading partners to jointly develop common accounting frameworks – would be a sound strategy for pursuing new methodologies.
38	**Governance and implementation** Authority to sign-off new or amended methodologies will likely rest with the Minister for Climate Change and Energy. Authority to sequence methodology development will also rest with the Minister, but could be delegated.	The CEC supports Ministerial sign-off of the new or amended methodologies.
39	**Next steps** Following the release and consultation on this paper, the Department will undertake the following next steps: - Summarise feedback on this paper and develop legislation to give effect to the GO scheme, - Work with international forums to continue developing internationally aligned methodologies, - Continue to test the international methodologies through the GO Trials phase 2, and - Develop domestic applications of the international methodologies into subordinate legislation.	
39	**Legislative development** The scheme is intended to be legislated by the start of 2024.	The CEC supports this timely enactment.
5.2	**International work** The Department will continue to work with the IPHE to ensure that the emissions accounting methodologies being developed for the GO scheme are internationally aligned. The International Organisation for Standardisation (ISO) has also signalled interest in developing the IPHE agreed methodologies into formal international standards. Alongside the work through IPHE, the government will work through other multilateral forums and	

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	bilaterally with trading partners to ensure interoperability of Guarantee or Origin or certification schemes.	