



FOCUS ON HYDROGEN: AUSTRALIA'S GO SCHEME AND HYDROGEN CERTIFICATION

Certification schemes for clean hydrogen are being proposed in many countries to help markets develop, by providing certainty as to where the hydrogen has been made, and to track greenhouse gas emissions over its lifecycle. In this briefing, we look at the proposals for a new government scheme in Australia and other frameworks available to producers in the market.

GO SCHEME

The Australian Federal Government released its National Hydrogen Strategy in 2019, and since that time it has been developing a Guarantee of Origin scheme (GO Scheme) which aims to show the origins of a product, how it was made and its lifecycle carbon intensity. The scheme is being designed to track emissions from hydrogen, hydrogen energy carriers (such as ammonia) and renewable energy.

The most recent Federal Budget provided funding to the Department of Climate Change, Energy, the Environment and Water to develop, consult on and draft legislation for a GO Scheme. The consultation period opened in December 2022 and closed on 3 February 2023. The scheme is proposed to be administered by the Clean Energy Regulator (CER), which is an existing independent Federal statutory authority. The scheme will be voluntary. To ensure that international trade is supported, the methodology underpinning the GO Scheme aligns with the International Partnership for Hydrogen and Fuel Cells in the Economy (IPHE).

The intention is that the scheme will be implemented by the start of 2024 and initially reviewed in 2025 and then every five years thereafter. For comparison, the Netherlands has become the first European country to launch a [GO Scheme](#), issuing certificates in October 2022.

Certificates under the GO Scheme

Part of the proposed GO Scheme is to create a certificate mechanism for renewable energy which builds upon the Australian Renewable Energy Target (RET) certificate scheme already in place. There will be two new certificates created under the GO Scheme:

- Product GOs; and
- Renewable Energy GOs (REGOs)

The certificates will be kept on public registers maintained by the CER and which will enable participants to share additional information that is private with other scheme participants.

Product GO certificates will verify the carbon intensity of a product across its lifecycle. The emissions associated with the supply of raw materials, production, and transport and storage to the point of consumption or international departure will be captured. This approach measures "well-to-user". There are no emissions intensity thresholds for Product GOs and all businesses are able to opt in to the scheme, as long as a methodology exists for their product. A Product GO will represent a standard one-kilogram unit of the product that has been produced.

If a product like green hydrogen is combined with other products, the GO certificate will follow the supply chain but does not need to be specifically bundled with the clean hydrogen molecules – it just requires a reasonable physical link between the clean hydrogen and Product GO. This aims to prevent companies trading clean certification between products, i.e. "greenwashing", while also still allowing for flexibility in hydrogen trade methods.

REGO certificates can be traded independently from the electricity that created them, whilst Product GOs would be traded alongside the product itself (although there is some flexibility as molecules may be interchangeable through processes such as storage and transport).

REGOs will include information about the time of generation, location of generation, commissioning date of the power station and the end consumption. Each REGO will represent one megawatt hour of renewable electricity. They are meant to operate in a similar way to and as a replacement for large-scale generation (LGC) certificates under the RET, since the LGC scheme ends in 2030.

Proposed legislative structure

The GO Scheme would be established under new legislation, and its processes would be covered in an Act and Regulations. Other legislative instruments would be created to assist in calculating the emissions intensity for the emissions accounting framework. On a general level, these would be similar to the National Greenhouse and Energy Reporting (NGER) measurement determinations that are used under the NGER Act 2007. There would also be individual emissions accounting methodologies which cover each product and production pathway, based on the IPHE methodologies.

In practice, the aim is that, for hydrogen production via electrolysis, the individual methodology would state the water sources that must be accounted for, while the general instruments would provide advice as to how this source is to be measured and estimated.

Participation in the GO Scheme will be **voluntary** for eligible renewable electricity power stations, producers of hydrogen and hydrogen energy carriers. Eligibility to participate will be based on whether the producer is using a production pathway that is covered under an emissions accounting methodology in the scheme. The participants will have to meet obligations under the legislation such as regulatory approvals, fit and proper person checks and data reporting accuracy.

It is worth noting that since the proposed GO Scheme has no emissions intensity thresholds (in contrast to the industry-led schemes described below), non-green hydrogen can be part of the GO Scheme. Hydrogen produced by electrolysis, steam methane reformation or coal gasification is to be covered under the GO Scheme. Production of hydrogen energy carriers such as methylcyclohexane, ammonia and liquefied hydrogen, and the transport and

storage of hydrogen and hydrogen energy carriers, is also expected to be included. The GO Scheme notes that industry initiatives such as the Green Hydrogen Standard and Zero Carbon Certification scheme (outlined below) will be fed into the GO Scheme once it starts operating to provide additional branding. It is unclear whether these initiatives will be independently verified before being added onto GO Scheme products.

OTHER SCHEMES/Frameworks

GH2 Standard

The Green Hydrogen Organisation (GH2) was founded by Lei Zhang, CEO of Envision Group, a Greentech company, former Australian Prime Minister Malcolm Turnbull, and Andrew Forrest of Fortescue Future Industries (FFI) and Fortescue Metals. GH2 defines green hydrogen as hydrogen produced through electrolysis with renewable energy. It notes, however, that current green hydrogen policies and frameworks vary in their definitions of renewable energy, carbon accounting systems, at what emission thresholds hydrogen is considered green, and the feedstock and production technologies used.

GH2 is aiming to significantly accelerate the production and use of green hydrogen, especially in the areas of steel, cement, fertilisers, shipping and aviation. It launched a Green Hydrogen Standard (the Standard) in May 2022, under which products that meet the Standard will be licenced to use the label "GH2 Green Hydrogen" and eligible to obtain and trade GH2 certificates of origin for green hydrogen and derivatives like green ammonia.

The Standard has a maximum threshold of greenhouse gas emissions of one kilogramme of carbon dioxide equivalent (CO₂e) per kilogramme of hydrogen and applies the IPHE methodology for electrolysis production with some modifications (IPHE does not currently address storage, conversion and delivery of hydrogen and its derivatives or establish an emission threshold). Producers are required to demonstrate that their hydrogen is produced using 100% or near 100% renewable energy, and that this system is a feasible and cost-effective system which don't negatively impact the energy market.

Seven requirements exist for projects to be accredited by GH2, including: //• publishing a transparent overview of the project; //• national government approval of the project; //• social impacts, such as ensuring consultation with indigenous people throughout the project process and that fair labour and working conditions are observed; //• environmental impacts, such as a publicly available evaluation of the project's water use, the production of hydrogen by electrolysis using 100% (or near 100%) renewable energy, and the project operating at an average of <=1 kilogramme CO₂e per kilogramme of hydrogen in a 12 month period. GH2 intends to accredit Independent Assurance Providers who will assess the project before preparing a draft report for public comment. Projects would be reviewed annually, and where there are material changes to a project, re-accreditation would be required.

As at the date of this briefing, no projects have been accredited. There are currently six hydrogen projects being assessed in accordance with the Standard, with FFI, Envision Group and Hy Stor Energy among those participating.

Zero Carbon Certification Scheme

The Smart Energy Council (the Council) launched the Zero Carbon Certification Scheme (ZCC Scheme) in December 2020, as a guarantee of origin scheme. The ZCC Scheme is led by industry and partners with State

governments and academic institutions. The Council has stated its intention to complement the Federal Government's work in this area.

In February 2022, the first project was certified under the ZCC Scheme. The ActewAGL's hydrogen refuelling station in Canberra uses green hydrogen produced from 100% renewable energy and has no carbon emissions. The green ammonia plant by Yara International, being built in Western Australia's Pilbara region, has been provided pre-certification under the scheme, with construction to begin on the plant in 2023. Yara International intends for renewable ammonia to be produced at the site using energy from solar PV. Frontier Energy, an Australian listed renewable energy company is currently being assessed for pre-certification on their renewable hydrogen project being developed in Waroona, Western Australia.

This publication does not necessarily deal with every important topic or cover every aspect of the topics with which it deals. It is not designed to provide legal or other advice.

www.cliffordchance.com

Clifford Chance, 10 Upper Bank Street,
London, E14 5JJ

© Clifford Chance 2023

Clifford Chance LLP is a limited liability partnership registered in England and Wales under number OC323571

Registered office: 10 Upper Bank Street,
London, E14 5JJ

We use the word 'partner' to refer to a member of Clifford Chance LLP, or an employee or consultant with equivalent standing and qualifications

If you do not wish to receive further information from Clifford Chance about events or legal developments which we believe may be of interest to you, please either send an email to nomorecontact@cliffordchance.com or by post at Clifford Chance LLP, 10 Upper Bank Street, Canary Wharf, London E14 5JJ

Abu Dhabi • Amsterdam • Barcelona • Beijing •
Brussels • Bucharest • Casablanca • Delhi •
Dubai • Düsseldorf • Frankfurt • Hong Kong •
Istanbul • London • Luxembourg • Madrid •
Milan • Munich • Newcastle • New York • Paris
• Perth • Prague • Rome • São Paulo •
Shanghai • Singapore • Sydney • Tokyo •
Warsaw • Washington, D.C.

Clifford Chance has a co-operation agreement with Abuhimed Alsheikh Alhagbani Law Firm in Riyadh.

Clifford Chance has a best friends relationship with Redcliffe Partners in Ukraine.

ABOUT

Focus on Hydrogen is a Clifford Chance briefing series covering hydrogen-related developments globally. 1.008 is the standard atomic weight of hydrogen.

Read more about [hydrogen](#). Read more about [energy transition](#).

AUTHORS



Meg Green
Law Graduate,
Perth

T +61 8 9262 5583
E meg.green
@cliffordchance.com



Phil Sealey
Director, Head of
Renewables, APAC,
Perth

T +61 8 9262 5542
E philip.sealey
@cliffordchance.com

GLOBAL CONTACTS



Anthony Giustini
Partner, Global Lead of
the Clean Hydrogen
Taskforce, Paris

T +33 1 44 05 59 26
E anthony.giustini
@cliffordchance.com



**Mohamed Hamra-
Krouha**
Partner,
Abu Dhabi

T +971 2 613 2370
E mohamed.hamra-
krouha
@cliffordchance.com



Liesbeth Buijter
Partner,
Amsterdam

T +31 20 711 9326
E liesbeth.buijter
@cliffordchance.com



Patrice Viaene
Counsel,
Brussels

T +32 2 533 5925
E patrice.viaene
@cliffordchance.com



Ouns Lemseffer
Partner,
Casablanca

T +212 5 2000 8615
E ouns.lemseffer
@cliffordchance.com



Björn Heinlein
Counsel,
Düsseldorf

T +49 211 4355 5099
E bjoern.heinlein
@cliffordchance.com



Vicky Ma
Partner,
Hong Kong

T +852 2825 8995
E vicky.ma
@cliffordchance.com



Clare Burgess
Partner,
London

T +44 20 7006 1727
E clare.burgess
@cliffordchance.com



Courtney Hoffman
CMD Executive
Manager,
London

T +44 20 7006 4787
E courtney.hoffman
@cliffordchance.com



Eleanor Hooper
Knowledge
Development Lawyer,
London

T +44 20 7006 2464
E eleanor.hooper
@cliffordchance.com



John Wilkins
Partner,
London

T +44 20 7006 2466
E john.wilkins
@cliffordchance.com



Jaime Almenar
Partner,
Madrid

T +34 91 590 4148
E jaime.almenar
@cliffordchance.com



Marc Casas
Lawyer,
Madrid

T +34 91 590 9491
E marc.casas
@cliffordchance.com



Umberto Penco Salvi
Partner,
Milan

T +39 02 8063 4241
E umberto.pencosalvi
@cliffordchance.com



Gauthier Martin
Partner,
Paris

T +33 1 4405 5181
E gauthier.martin
@cliffordchance.com



**Epistimi
Oikonomopoulou**
Associate,
Paris

T +33 1 4405 5110
E epistimi.oikonomopoulou
@cliffordchance.com



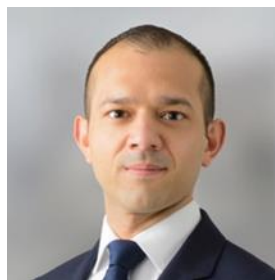
Mel Chan
Counsel,
Singapore

T +65 6506 2771
E mel.chan
@cliffordchance.com



Nadia Kalic
Partner,
Sydney

T +61 2 8922 8095
E nadia.kalic
@cliffordchance.com



Hans Menski
Partner,
Tokyo

T +81 3 6632 6669
E hans.menski
@cliffordchance.com



David Evans
Senior Counsel,
Washington, D.C. (US
coverage)

T +1 202 912 5062
E david.evans
@cliffordchance.com



Peter Hughes
Counsel,
Washington, D.C. (*US*
coverage)

T +1 202 912 5135
E peter.hughes
@cliffordchance.com



Jessica Springsteen
Partner,
Washington, D.C.
(*LatAm coverage*)

T +1 202 912 5008
E jessica.springsteen
@cliffordchance.com