

Office of Energy and Climate Change


Renewable Fuel Scheme



Rule 1 consultation paper

December 2023





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Purpose

This consultation paper explains the detail of the first rule for the Renewable Fuel Scheme (RFS). We have provided the draft RFS rule as part of this consultation on our website. It sets out the requirements for creating renewable fuel certificates for green hydrogen production.

The consultation paper highlights the key proposals in the draft RFS rule and the rationale behind them. The NSW Government is seeking your feedback on our proposals. We want to ensure that the draft RFS rule is appropriate and clearly describes our requirements for creating certificates. As this is the first opportunity for stakeholders to review the draft RFS rule, we recommend reviewing it in its entirety in conjunction with this consultation paper.

The scheme rule is only one aspect of the RFS. We are also working on other matters such as the regulations for scheme liabilities, exemptions and penalties. We will provide stakeholders information on these matters separately.

Call for submissions

The release of this paper starts the consultation period for the draft RFS rule. The NSW Government invites submissions from all interested parties on the questions in this consultation paper. The closing date for written submissions is 5:00 pm Australian Eastern Daylight Time (AEDT) on 2 February 2024. Please email your submission as a PDF file to renewablefuelscheme@environment.nsw.gov.au.

Publication of submissions

The NSW Government is committed to an open and transparent process, and consultation submissions will be made publicly available. All submissions will be converted to PDF files and published on our website.

If you wish for your written submission to remain confidential, please clearly state this in your submission, and only your organisation's name will be published. We will remove personal details from submissions made by individuals.

Please be aware that even if you state that you do not wish certain information to be published, there may be legal circumstances that require the NSW Government to release that information (for example, under the [Government Information \(Public Access\) Act 2009](#)).

Delivering the scheme rule

The scheme rule will be published in the NSW Government gazette. This is expected to occur in Q2 2024. We carried out the following activities leading up to this consultation:

- Initial industry engagement: we sought initial industry feedback on a discussion paper about items for consideration as part of rule development. It included eligible green hydrogen production activities and the process for renewable fuel certificate creation. We received feedback from hydrogen producers, peak industry bodies and natural gas retailers. This has helped shape the draft RFS rule.
- Technical advice: we sought subject matter expert advice on technical items to develop the draft RFS rule.

The next steps include:

- reviewing and addressing the submissions to this consultation
- publication of the scheme rule in the NSW Government gazette, and publication of a position paper detailing the final positions.

Part 1: Overview

This part of the paper provides an overview of the RFS and policy context.

1.1 NSW Hydrogen Strategy

The [NSW Hydrogen Strategy](#) aims to support the development of green hydrogen supply chains in NSW. A key action under the strategy is to establish the RFS. It will provide financial incentives for green hydrogen production and help make green hydrogen supply chains commercially viable in NSW.

1.2 NSW Energy Security Safeguard

The [NSW Energy Security Safeguard](#) (the Safeguard) helps ensure our energy system is more reliable, affordable and sustainable. It incentivises energy savings and peak demand reduction measures through:

- the Energy Savings Scheme (ESS)
- the Peak Demand Reduction Scheme (PDRS).

In 2021, the Safeguard was expanded to incentivise green hydrogen production through the RFS. The RFS is legislated under the *Electricity Supply Act 1995* (the Act).

1.3 Renewable Fuel Scheme

About the RFS

The RFS is a new market-based certificate scheme. The objective of the RFS is to create a financial incentive to increase the production of renewable fuels. The Electricity Supply (General) Regulation 2014 currently sets out annual targets for green hydrogen production only. The targets gradually increase to 8 million gigajoules (GJ) by 2030. Investing in the production of green hydrogen will help NSW shift to net zero emissions by 2050.

How the RFS will work

Certificates that are created under the RFS will help achieve its objective.

Hydrogen producers create certificates based on the amount of green hydrogen they produce and sell them to liable parties. Each certificate will represent 1 GJ of green hydrogen that is produced. The additional revenue that hydrogen producers receive from selling the certificates will reduce the cost of green hydrogen.

Liabile parties under the RFS are natural gas retailers and large users that don't purchase gas through a retailer. The liable parties will need to buy and surrender certificates equivalent to their share of the production target.

A summary of how the RFS creates a financial incentive is shown in Figure 1 below.

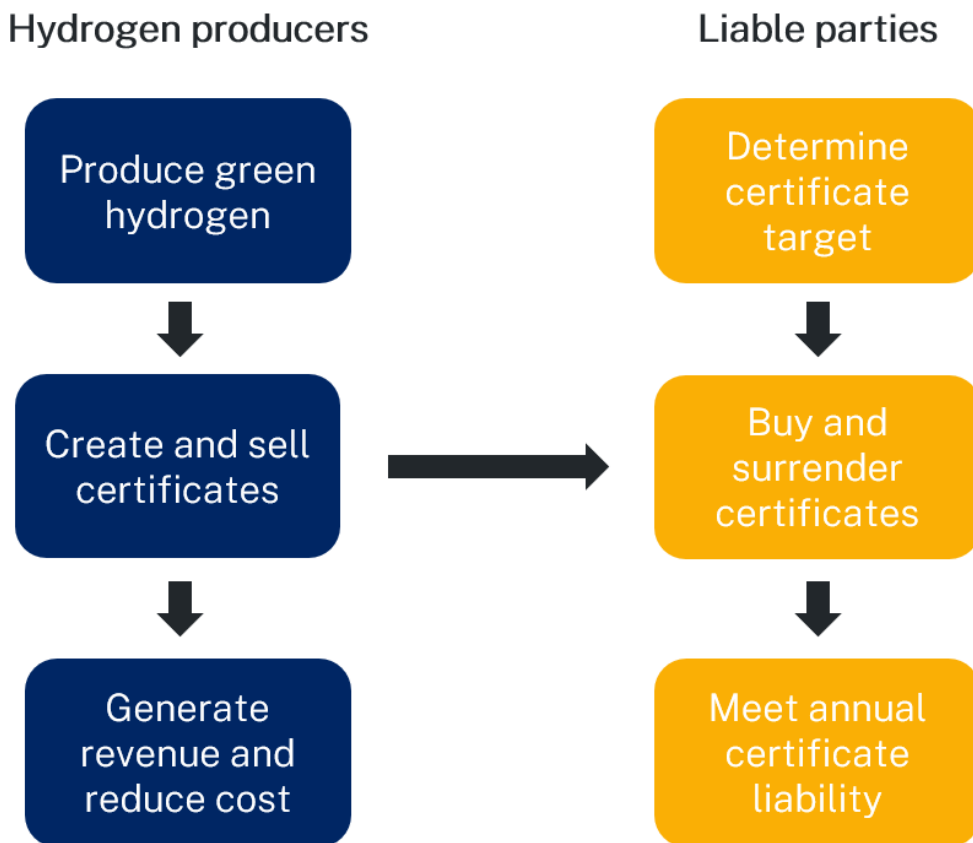


Figure 1 The RFS creates a financial incentive to produce green hydrogen.

RFS administration and review

The Independent Pricing and Regulatory Tribunal (IPART) is the scheme administrator. IPART will ensure compliance with the scheme rule and maintain the certificate registry.

The Office of Energy and Climate Change will periodically review the policy intent of the RFS. The RFS will undergo a statutory review every five years to ensure that its policy objectives remain valid, and it can deliver on its objective. The scheme rule will usually be reviewed annually and updated as required, in consultation with industry.

RFS design principles

The following design principles guide the development of the draft RFS rule:

1. Demonstrate a technically sound methodology.

-
2. Reflect national and/or international standards and practice.
 3. Optimise administration to maximise financial benefits for hydrogen producers.
 4. Update requirements as the hydrogen industry evolves, while meeting the policy intent.
 5. Bring clarity to requirements, rationale, and long-term vision.

1.4 Guarantee of Origin scheme

We intend to integrate the RFS with the proposed [Guarantee of Origin](#) (GO) scheme. The GO scheme will provide a framework to help facilitate green markets.

About the GO scheme

The Commonwealth Government's [National Hydrogen Strategy](#) sets a vision for a clean, competitive and innovative hydrogen industry. A key action of the strategy is for Australia to play a lead role in the design and development of an international guarantee of origin scheme.

The Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW) and the Clean Energy Regulator (CER) are establishing the GO scheme. It will likely be legislated under the forthcoming '*GO Act 2024 (Cth)*'. This is expected to occur in 2024.

The GO scheme will create the following two voluntary certificate types:

- Product Guarantee of Origin (Product GO) certificates
- Renewable Electricity Guarantee of Origin (REGO) certificates.

Product Guarantee of Origin

The Product GO will track and verify the carbon emissions associated with clean energy products across the product lifecycle. It will initially focus on hydrogen and is likely to expand to other products over time.

It will capture emissions associated with the supply of raw materials, production, as well as transport and storage to the point of consumption or international export. It will also provide information on the location, energy source and technology used to produce the hydrogen.

The information will be listed on Product GO certificates and made available to hydrogen consumers. The certificates will be transferred alongside the product. We intend to use information from Product GO certificates for the RFS. For more information, refer to Part 2.4.

The Product GO is expected to start in 2024.

Renewable Electricity Guarantee of Origin

The REGO will create a lasting certification mechanism for renewable electricity.

It will build on the established large-scale generation certificate (LGC) framework under the Renewable Energy Target (RET) scheme. Like LGCs, REGO certificates could be traded

independently from the electricity that created them. This mechanism could be used to support renewable electricity claims such as for Product GO certification, and for users seeking to make credible renewable electricity claims.

The REGO is expected to start in 2025.

Part 2: Core concepts

This part of the paper explains core concepts of the draft RFS rule. We are seeking your feedback on our proposals through the questions in the table below.

Consultation questions

For each proposal in Part 2, please respond to the following questions:

1. Do you support the proposal?
2. What is your feedback on the proposal?
3. What risks may be associated with the proposal?

2.1 Green hydrogen

Green hydrogen means hydrogen produced using renewable energy, other than biomass from timber native to Australia.

The definition is set out in the Act, and is generally aligned with internationally recognised bodies such as [Hydrogen Europe](#) and the [International Renewable Energy Agency](#).

2.2 Renewable fuel

Renewable fuel means green hydrogen, or another renewable fuel prescribed by the Electricity Supply (General) Regulation 2014. This definition is set out in the Act.

In the draft RFS rule, green hydrogen is the only prescribed renewable fuel.

2.3 Renewable energy

Proposal 1: Renewable energy is the “eligible renewable energy sources” as defined in the forthcoming ‘GO Act 2024 (Cth)’.

Initial industry feedback suggests strong support for aligning the definition of renewable energy in the scheme rule with the definition set out in the forthcoming ‘GO Act 2024 (Cth)’.

The GO scheme will endure beyond the RET scheme which is set to expire in 2030. The RET scheme is established under the *Renewable Energy (Electricity) Act 2000 (Cth)*.

2.4 Integration with Product GO

Proposal 2: Product GO certificates will be required to create renewable fuel certificates.

Information from Product GO certificates will be used as inputs to create renewable fuel certificates. This includes emissions data, information on renewable energy certificates, and hydrogen production quantity. A list of information from Product GO certificates that would be used by the RFS is in [Appendix 1](#).

Using information from Product GO certificates will ensure there is alignment between the proposed Product GO and the RFS. It also creates opportunities for scheme efficiencies and to minimise administrative costs. Initial industry feedback suggests strong support for taking an integrated approach. We are working with the CER and IPART to design and deliver this integration. Indicative timings of RFS and proposed Product GO integration is in [Appendix 1](#).

IPART will provide separate guidance on the renewable fuel certificate creation process at a later stage.

2.5 Eligible production activity

An eligible production activity is the production of green hydrogen. This concept relates to clause 6 of the draft RFS rule.

2.6 Eligible production method

Proposal 3: The eligible production method is the electrolysis of water using renewable electricity.

This concept relates to clause 7 of the draft RFS rule. Only the production of green hydrogen from an eligible production method can result in the creation of renewable fuel certificates.

Electrolysis is one of the most established green hydrogen production technologies. It is supported by internationally recognised bodies such as the [Hydrogen Council](#) and [CSIRO](#). Initial industry feedback suggests broad support for prescribing electrolysis as a scalable pathway for green hydrogen production. This will also provide investment certainty.

For more information on the renewable electricity requirements, refer to Part 3.

2.7 RFS emissions boundary

Proposal 4: The RFS emissions boundary is the hydrogen “production boundary” as defined in the forthcoming ‘GO Act 2024 (Cth)’.

The RFS emissions boundary sets the scope of emissions considered under the RFS and is shown in Figure 2 below. It includes:

- upstream emissions: emissions associated with the extraction, processing and transportation of feedstocks, such as water
- hydrogen production emissions: direct emissions and indirect emissions from the production of hydrogen (including water treatment, gas purification, drying and cooling, purification and compression).

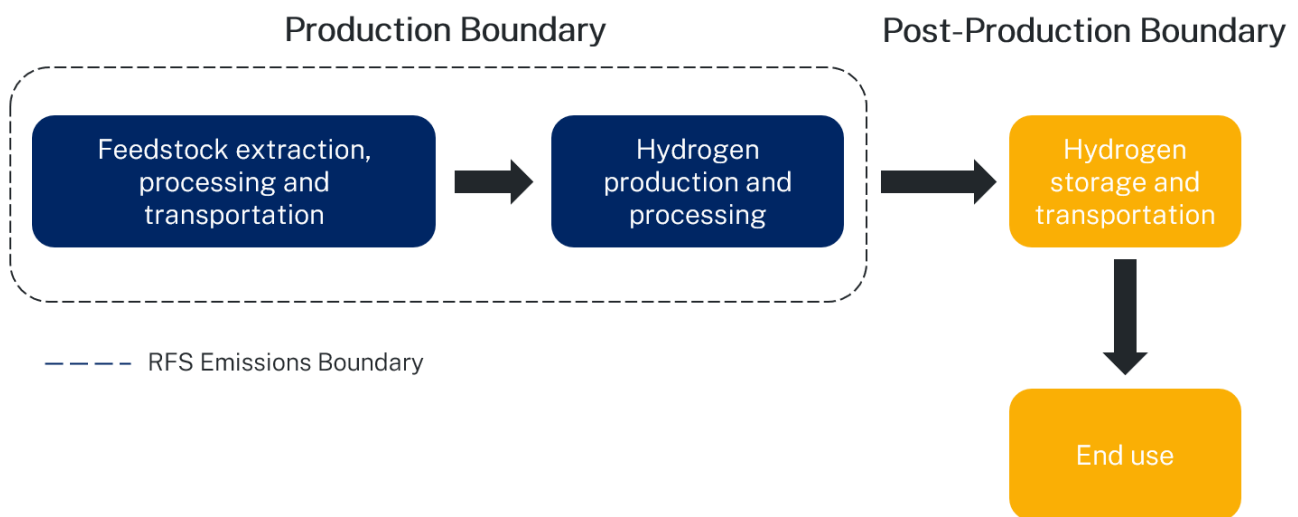


Figure 2 An illustration of the RFS emissions boundary.

Our subject matter experts advised on the RFS emissions boundary and to ensure that it is consistent with the proposed Product GO.

2.8 RFS emissions data

The RFS emissions data relates to the RFS emissions boundary. It includes the following information obtained from Product GO certificates:

- electricity emissions
- direct combustion emissions
- imported steam emissions
- total production emissions.

The RFS will leverage the emissions accounting methodology from the proposed Product GO for hydrogen produced from electrolysis.

2.9 Local use

This concept relates to clause 9.2 of the draft RFS rule which is about the calculation of renewable fuel certificates.

Local use refers to the end use of hydrogen in NSW or for NSW Government-funded projects. It is an important consideration to maximise local benefits of the RFS. The RFS may need to support the growth of green hydrogen use in NSW in the future.

Local Use Factor

Proposal 5: The Local Use Factor is 1 for all green hydrogen produced in NSW.

The Local Use Factor is an adjustment to the calculation of renewable fuel certificates (Equation 1 in Part 4.1) to account for domestic and non-NSW use of green hydrogen.

This proposal means that initially, all green hydrogen produced in NSW is deemed to have local use. This was broadly supported by initial industry feedback.

In the future, as the hydrogen industry matures, we will investigate updates to the Local Use Factor. For more information, refer to Part 5.6.

2.10 Green hydrogen purity

Proposal 6: Green hydrogen must have a minimum purity of 99.9 volume percent at the point of exit from the RFS emissions boundary.

Our subject matter experts advised that electrolyzers should typically produce hydrogen with purity higher than 99.9 volume percent for most applications. A purity requirement ensures that comparable grades of hydrogen are incentivised by the RFS.

In the future, we will review this requirement. For more information, refer to Part 5.8.

2.11 Accredited Certificate Providers

Proposal 7: IPART will only accredit green hydrogen producers to create renewable fuel certificates.

Unlike the ESS and PDRS, IPART will not accredit “aggregators” such as external organisations to create renewable fuel certificates on behalf of green hydrogen producers.

Accredited producers are referred to as Accredited Certificate Providers (ACPs). Initial industry feedback on the RFS suggests that hydrogen producers will typically have robust corporate reporting systems which allow them to be accredited and manage their own projects as ACPs. Restricting ACPs to hydrogen producers can also minimise the pass-through costs for creating the certificates. IPART will provide separate guidance on the accreditation process at a later stage.

We will ensure the certificate creation process is simple and streamlined. The certificates will be traded by ACPs on a spot market or through bilateral arrangements with liable parties under the RFS.

Part 3: Green hydrogen requirements

This part of the paper relates to clauses 7 and 8 of the draft RFS rule. Clause 7 covers the eligible production methods for green hydrogen production. Clause 8 covers the requirements for renewable energy certificates. We are seeking your feedback on our proposals through the questions in the table below.

Consultation questions

For each proposal in Part 3, please respond to the following questions:

1. Do you support the proposal?
2. What is your feedback on the proposal?
3. What risks may be associated with the proposal?

3.1. Demonstrating the production of green hydrogen

Proposal 8: For the production of green hydrogen:

- electricity emissions must be zero by matching the electricity use with an equivalent number of renewable energy certificates
- direct combustion emissions must be less than 2.5% of total production emissions.

Matching imported electricity with renewable energy certificates

The use of renewable energy certificates to demonstrate the procurement of renewable energy aligns with standard practice. The proposed Product GO will use a market-based approach to account for emissions from electricity imported from the grid.

Requirements for renewable energy certificates are described in Part 3.2.

Direct combustion emissions

Direct combustion emissions must be less than 2.5% of total production emissions. This requirement is aligned with the materiality threshold under the proposed Product GO. It caps direct combustion emissions for green hydrogen production.

Emissions intensity threshold

An overall emissions intensity threshold is not provided in the draft RFS rule. This decision was informed by the RFS design principles in Part 1.3, and evolving nature of the hydrogen industry.

In the future, we will investigate the use of an overall emissions intensity threshold for the RFS emissions boundary. Initial industry feedback suggests support for this approach. To help us with this process, the draft RFS rule requires ACPs to report the total production emissions for renewable fuel certificate creation.

We also note that Product GO certificates will provide overall emission intensities which may be used to comply with national or international trade requirements.

Imported steam emissions

To help with future scheme rule updates, the draft RFS rule requires ACPs to report the total imported steam emissions for renewable fuel certificate creation.

3.2 Renewable energy certificates

Proposal 9: Renewable energy certificates:

- only include certificates eligible under the [GreenPower Program Rules](#)
- involve the surrender of certificates through an accredited GreenPower product.

National GreenPower Accreditation Program

The [National GreenPower Accreditation Program](#) is a renewable energy certification initiative of state and territory governments. It ensures that any GreenPower purchases by electricity consumers are matched with accredited renewable electricity added to the grid on their behalf. Verification under the program will:

- provide a nationally recognised and independent, government-accredited renewable electricity certification
- align with requirements for [green hydrogen electricity concessions](#) for producers
- align with the broader [Net Zero Plan Stage 1: 2020-2030](#) and drive the sourcing of renewable electricity from new generators.

Indication of GreenPower on Product GO certificates

The proposed Product GO will capture the GreenPower products that are procured by hydrogen producers. This will help streamline renewable fuel certificate creation and reduce administrative burden.

Part 4: Renewable fuel certificates

This part of the paper relates to clause 9 of the draft RFS rule. Clause 9 covers renewable fuel certificate creation. We are seeking your feedback on our proposals through the questions in the table below.

Consultation questions

For each proposal in Part 4, please respond to the following questions:

1. Do you support the proposal?
2. What is your feedback on the proposal?
3. What risks may be associated with the proposal?

4.1 Calculation of renewable fuel certificates

Proposal 10: The number of renewable fuel certificates is calculated using Equation 1.

Equation 1

Number of Renewable Fuel Certificates = Renewable Fuel Production x Local Use Factor

Where:

- *Number of Renewable Fuel Certificates* is rounded to one decimal place.
- *Renewable Fuel Production* is in gigajoules (GJ) and calculated using Equation 2.
- *Local Use Factor* is 1.

The renewable fuel production in Equation 1 is calculated using Equation 2 below.

Equation 2

Renewable Fuel Production = Hydrogen GO x Lower Heating Value

Where:

- *Renewable Fuel Production* is in gigajoules (GJ).
- *Hydrogen GO* is the hydrogen produced, in kilograms (kg), obtained from Product GO certificates and that meets the requirements of the draft RFS rule.
- *Lower Heating Value* is 0.120 GJ/kg.

Hydrogen GO and Lower Heating Value in Equation 2 are described below.

Hydrogen GO

To create renewable fuel certificates, hydrogen producers must first obtain Product GO certificates. The hydrogen that is produced and listed on Product GO certificates must meet the requirements of the draft RFS rule, described in Part 3.1. This data must then be used to calculate the renewable fuel production in Equation 2.

Lower heating value

The heating value refers to the heat of combustion, or the amount of heat released when a substance is combusted in oxygen. The draft RFS rule uses a Lower Heating Value (LHV) to conform to existing international standards for conversion approaches. For example, the [UK Low Carbon Hydrogen Standard](#) has an LHV basis.

4.2 Production period

Proposal 11: The duration of the production period is not less than the Product GO batch period and not greater than 12 months.

The production period is the continuous period in which the renewable fuel is produced and for which the renewable fuel certificates are created. The production period gives hydrogen producers the flexibility to create renewable fuel certificates at a frequency that works for them. Initial industry feedback suggests strong support for this approach.

4.3 Annual baseline production

Proposal 12: The sites listed in clause 9.4 of the draft RFS rule can only create renewable fuel certificates for producing green hydrogen above their annual baseline production.

The annual baseline production requirement limits the participation of sites that are operational before the RFS starts. This requirement ensures the RFS incentivises green hydrogen production that is in addition to what would have existed without the RFS. Initial industry feedback generally supports this and highlights the need for a baseline approach.

4.4 Production after Product GO certificates

Renewable fuel certificates can only be created after Product GO certificates are created. Green hydrogen produced before the proposed Product GO commences is not eligible for renewable fuel certificates. This requirement helps minimise complexity in RFS administration.

4.5 Use of renewable fuel certificates

Renewable fuel certificates can only be used to meet liabilities under the RFS. They cannot be used to claim the purchase or use of green hydrogen. This eliminates the potential for double counting environmental benefits between end users of the green hydrogen and liable parties. In addition, certificates created under the Safeguard (ESS, PDRS and RFS) are not classified as ‘financial instruments’ defined under the [Australian Accounting Standards Board](#).

4.6 Expiry of renewable fuel certificates

Renewable fuel certificates are tradeable for three years from the date of creation. This provision is in the Act.

Part 5: Future work

This part of the paper provides an overview of future work items for the RFS. The timeframes for working on these items are yet to be established. At this stage, we are only seeking your general comments on these items through the question in the table below.

Consultation question
What are your general comments on the future work items?

5.1 Expanding the RFS

We will investigate options to expand the RFS to incentivise other renewable fuels. The scheme rule will be reviewed and updated as required, in consultation with industry.

We acknowledge that scaling green hydrogen supply chains now is essential to reach net zero by 2050. We are committed to providing continued support for green hydrogen under the RFS.

5.2 Other hydrogen production technologies

We will investigate the potential to include other hydrogen production technologies in the scheme rule. This will be informed by the following:

- ensure that incentives are provided to appropriate production technologies
- ability to integrate production technologies with a Product GO certificate pathway
- support from industry on the inclusion of production technologies.

Note on steam methane reforming of biomethane

Steam methane reforming (SMR) of biomethane is not prescribed in the draft RFS rule for the following reasons:

- it is already a mature technology for hydrogen production
- a Product GO certificate pathway for hydrogen produced from SMR of biomethane will not be initially available under the proposed Product GO.

5.3 Supporting other policies and programs

The RFS will complement broader climate and energy policy goals to help create alignment between programs and maximise the scheme's potential impact.

We will continue to investigate how the RFS will complement other Commonwealth and NSW incentive schemes such as the [Hydrogen Headstart program](#), [Australian Carbon Credit Units](#), [GreenPower Renewable Gas Certification Pilot](#), and other schemes in the [Safeguard](#).

In practice, this means that participation in the RFS should not prevent hydrogen producers from accessing incentives in other schemes. The scale of incentives may be 'stacked' for different government schemes to ensure effectiveness of these schemes.

5.4 Total emissions intensity threshold and requirements for other emission sources

A total emissions intensity threshold refers to the amount of carbon dioxide equivalent (CO₂-e) released per unit of hydrogen.

Our subject matter experts advised that specifying an emissions intensity threshold for the RFS emissions boundary can encourage market-driven innovation while still delivering the policy intent of the RFS. It was advised that a threshold in the range of 2.3 – 2.7 kg CO₂-e per kg of hydrogen be considered for the RFS. This is consistent with the recently introduced [UK Low Carbon Hydrogen Standard](#) which is set at 2.5 kg CO₂-e per kg of hydrogen.

In Part 3.1, we only propose requirements on electricity emissions and direct combustion emissions. In the future, we will investigate the use of a total emissions intensity threshold and its inclusion in the RFS. We will also investigate any potential requirements for other emission sources within the RFS emissions boundary, such as accrued emissions and co-products.

5.5 Time of use matching

Time of use matching involves matching the electricity demand from producing hydrogen with renewable electricity generation in real time. Time of use matching is not a requirement in the draft RFS rule.

Initial industry feedback suggests that time of use matching requirements may be an additional barrier to participate in the RFS, at this early stage of hydrogen industry maturity.

We will investigate the potential for inclusion of time of use matching in the RFS. This may incentivise an optimal mix of renewable energy generation. We may also leverage the proposed REGO, which is expected to facilitate time of use matching through time-stamped electricity certificates.

5.6 Local use factor

We recognise that hydrogen incentivised under the RFS may be exported interstate or internationally. To account for this, the draft RFS rule includes a Local Use Factor to calculate the number of renewable fuel certificates.

In the future, we will monitor the end use of hydrogen and adjust the factor as needed. We will also request ACPs to report on the end use of hydrogen if it is known at the time of creating renewable fuel certificates. Based on initial industry feedback, we will also work on understanding the practicality of implementing local use and further define what constitutes the end use of green hydrogen.

Defining end use of green hydrogen includes the following considerations:

- hydrogen derivatives like ammonia
- products like green steel manufactured using green hydrogen
- refuelling stations and corridors
- gas network injection
- storage.

We will use the following principles in updating the Local Use Factor:

1. Ensure accuracy, fairness and transparency in determining the factor.
2. Minimise costs for hydrogen producers in determining the factor, such as:
 - minimise additional data and verification requirements, where possible
 - attribute the factor at a site level (not at a certificate level)
 - use aggregated data from Product GO certificates from the previous reporting period.

5.7 Market transformation

In the future, the RFS may need to limit the participation of green hydrogen producers where the production technology or end uses have become commercially viable without renewable fuel certificates. This will ensure that the RFS is effective in supporting hydrogen producers with technologies or end uses that need appropriate funding to scale.

We will investigate the need for a market transformation factor as the green hydrogen supply and value chain approaches maturity.

5.8 Purity

The draft RFS rule requires that green hydrogen has a minimum purity of 99.9 volume percent.

We will investigate the inclusion of hydrogen produced at lower purity and accounting for purity in the creation of renewable fuel certificates.

5.9 Renewable Electricity Guarantee of Origin

The proposed REGO will provide the following information relevant to the RFS:

- definition of renewable energy
- age and location of renewable energy plant generating REGO certificates
- assurance and verification processes.

We will continue to work with the National GreenPower Accreditation Program to investigate the inclusion of REGO in the GreenPower program and use of the information for the RFS.

5.10 Water source requirements

The sustainable use of water is an important consideration for the production of green hydrogen from electrolysis. We will investigate potential requirements.

5.11 National and international standards

Green hydrogen production must comply with relevant local, state, and national codes and regulatory authority requirements. This is set out in clause 6 of the draft RFS rule.

Additionally, we may investigate compliance requirements with specific standards as the hydrogen industry matures.

Part 6: Acronyms

Acronym	Full name
ACP	Accredited Certificate Provider
CER	Clean Energy Regulator
DCCEEW	Department of Climate Change, Energy, the Environment and Water (Cth)
ESS	Energy Savings Scheme
GJ	Gigajoules
GO	Guarantee of Origin
IPART	Independent Pricing and Regulatory Tribunal
LGC	Large-scale generation certificate
LHV	Lower Heating Value
PDRS	Peak Demand Reduction Scheme
REGO	Renewable Electricity Guarantee of Origin
RET	Renewable Energy Target
RFS	Renewable Fuel Scheme
SMR	Steam methane reforming
the Act	Electricity Supply Act 1995
the Safeguard	NSW Energy Security Safeguard

Appendix 1: Integration with Product GO

Information from Product GO certificates

Product GO certificates will be required to create renewable fuel certificates. The following information from Product GO certificates is expected to be used by the RFS:

- Hydrogen production information:
 - Product GO certificate identifier
 - hydrogen production, in kilograms
 - electrolysis technology type, for example alkaline water electrolysis or proton exchange membrane electrolysis
 - purity of hydrogen at the point of production, in volume percent
 - hydrogen production period
 - location of the site where hydrogen production occurs.
- Emissions data:
 - emissions data associated with the hydrogen production process:
 - direct combustion emissions
 - electricity emissions
 - imported steam emissions
 - total production emissions.
 - renewable energy certificates data including but not limited to:
 - number of certificates verified under the National GreenPower Accreditation Program, measured in megawatt hours
 - corresponding certificate identifier(s).
- Details of the end use of hydrogen:
 - location and type.

Timing

The GO scheme is expected to be legislated in 2024. The scheme rule will be published in the NSW Government gazette after the proposed GO scheme is legislated. This is because the scheme rule can only refer to legislation that exists.

The Product GO is expected to start in 2024. The production period for the RFS can start once the Product GO starts. This aligns with Part 4.4 and reduces complexity in RFS administration. We will continue to work with the CER and IPART to design and deliver this integration.

Appendix 2: List of questions

Proposal 1: Renewable energy is the “eligible renewable energy sources” as defined in the forthcoming ‘GO Act 2024 (Cth)’.

1. Do you support the proposal?
2. What is your feedback on the proposal?
3. What risks may be associated with the proposal?

Proposal 2: Product GO certificates will be required to create renewable fuel certificates.

1. Do you support the proposal?
2. What is your feedback on the proposal?
3. What risks may be associated with the proposal?

Proposal 3: The eligible production method is the electrolysis of water using renewable electricity.

1. Do you support the proposal?
2. What is your feedback on the proposal?
3. What risks may be associated with the proposal?

Proposal 4: The RFS emissions boundary is the hydrogen “production boundary” as defined in the forthcoming ‘GO Act 2024 (Cth)’.

-
1. Do you support the proposal?
 2. What is your feedback on the proposal?
 3. What risks may be associated with the proposal?

Proposal 5: The Local Use Factor is 1 for all green hydrogen produced in NSW.

1. Do you support the proposal?
2. What is your feedback on the proposal?
3. What risks may be associated with the proposal?

Proposal 6: Green hydrogen must have a minimum purity of 99.9 volume percent at the point of exit from the RFS emissions boundary.

1. Do you support the proposal?
2. What is your feedback on the proposal?
3. What risks may be associated with the proposal?

Proposal 7: IPART will only accredit green hydrogen producers to create renewable fuel certificates.

1. Do you support the proposal?
2. What is your feedback on the proposal?
3. What risks may be associated with the proposal?

Proposal 8: For the production of green hydrogen:

- electricity emissions must be zero by matching the electricity use with an equivalent number of renewable energy certificates
- direct combustion emissions must be less than 2.5% of total production emissions.

4. Do you support the proposal?

5. What is your feedback on the proposal?

6. What risks may be associated with the proposal?

Proposal 9: Renewable energy certificates:

- only include certificates eligible under the GreenPower Program Rules
- involve the surrender of certificates through an accredited GreenPower product.

1. Do you support the proposal?

2. What is your feedback on the proposal?

3. What risks may be associated with the proposal?

Proposal 10: The number of renewable fuel certificates is calculated using Equation 1.

1. Do you support the proposal?

2. What is your feedback on the proposal?

3. What risks may be associated with the proposal?

Proposal 11: The duration of the production period is not less than the Product GO batch period and not greater than 12 months.

1. Do you support the proposal?

2. What is your feedback on the proposal?

3. What risks may be associated with the proposal?

Proposal 12: The sites listed in clause 9.4 of the draft RFS rule can only create renewable fuel certificates for producing green hydrogen above their annual baseline production.

1. Do you support the proposal?

2. What is your feedback on the proposal?

3. What risks may be associated with the proposal?

Future work

1. What are your general comments on the future work items?



For more information

For more information about the Renewable Fuel Scheme, please visit our website or email:

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