Participant Guide

GreenPower Renewable Gas Certification

Version 2.0

GreenPower™

Acknowledgment of Country Office of Energy and Climate Change as part of the Treasury cluster acknowledges the Traditional Owners and Custodians of the land on which we live and work and pays respect to Elders past, present and future.

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1. Purpose of this guide

This Participant Guide provides information about Producer and Trader eligibility requirements, the application and assessment process, and supporting documentation required for participation in the GreenPower Renewable Gas Certification (the Certification).

The (the Certification) provides independent verification of the attributes of renewable gas. The (the Certification) aims to help establish a voluntary market for renewable gases across Australia, initially focusing on biogas, biomethane and renewable hydrogen injected into a gas network or directly supplied to a consumer BTM or by road, ship or rail. By creating and tracking the ownership of Renewable Gas Guarantees of Origin (RGGOs), the (the Certification) enables commercial and industrial gas customers to match or displace their gas use with renewable gas, directly supporting renewable gas projects.

The Certification Rules have been developed which set out the terms and conditions of accreditation. The Rules are available for download on the GreenPower website.

Three guidelines are available which complement the Certification Rules, setting out the practical steps and processes. These include this Participant Guide as well as:

- a Registry User Guide for Producers that provides instructions for renewable gas producers on how to access and use the online registry platform. This includes how to log in, make a renewable gas production declaration, create RGGOs, and how to transfer the RGGOs to Trader accounts.
- a Registry User Guide for Traders that provides instructions for RGGO traders on how to access and use the online registry platform. This includes how to log in, how to transfer or trade RGGOs, how to retire RGGOs on behalf of end-use customers, and how to generate retirement statements.

Please contact the GreenPower Program at greenpower.gas@dpie.nsw.gov.au if you would like clarification on any part of these documents or have suggestions for improvements.

2. Definitions

For definitions, please refer to the Definitions section of the Certification Rules.

3. How to apply to become a participant

A Participant is a renewable gas Producer or certificate Trader registered in the Certification, as defined in the Certification Rules. To apply to become a Participant:

- Complete a Trader or Producer application form available on the GreenPower website. The application form includes a ‘Fit and Proper Person’ (FPP) declaration. The declaration covers any convictions or insolvency, and whether a person has the capabilities needed to run a project.
- Ensure all the required documentation listed in the application form (where applicable) is attached to your application.
- Submit the form and the required documents to the GreenPower Program Manager (NSW Treasury) via email to greenpower.gas@dpie.nsw.gov.au.

4. Participation fees

An annual participation fee of $5,000 excluding goods and services tax (GST) applies for both Trader and Producer participants.

The annual participation fee covers all uses of the registry including the creation and retirement of RGGOs. The fee applies once for each participating entity, meaning only one annual fee of $5,000 excluding GST is charged if the same entity participates both as a Trader and Producer.

The Participant fee is invoiced to Participants at the start of each calendar year by the GreenPower Program Manager and it covers participation in that calendar year. Participants have 30 days to settle the invoice.

If you join throughout the year, the first fee will be calculated based on the date of execution of the Participant Agreement on a daily pro-rata basis. Fees will not be reimbursed if a Participant leaves the program during a calendar year.

For a Producer that has more than one renewable gas project participating in the Certification, a setup fee of $1,500 excluding GST for each additional renewable gas project will be invoiced upon accreditation of the renewable gas project. The annual participation fee remains $5,000 excluding GST regardless of the number of renewable gas projects a Producer has participating in the Certification.

5. How will applications be assessed?

The GreenPower Program Manager will assess applications and supporting documents against the eligibility criteria in the Certification Rules. Applicants will receive the outcome of their application within one month of submitting the application unless additional information is required. An extended assessment timeframe may be required where projects propose new technologies or fuels that require changes to the Certification's standard operating procedures, and the applicant will be notified about the timeframes if this applies.

Once eligibility is confirmed, successful applicants will be required to execute a standard form Participant Agreement with NSW Treasury. Upon both parties signing the agreement, the Participant will be provided with login details to access the Certification's online Registry. Guidance on how to use the Registry is available in the Registry User Guides for Producers and Traders.

6. Supporting documentation needed for Producer applications

To understand if your project and you as a Producer are eligible to participate in the Certification, review the eligibility criteria listed in Appendix 1 of the Certification Rules. The following sections explain the documentation or supporting information that the GreenPower Program Manager needs to assess your application.

6.1. Producer requirements

As a Producer of renewable gas under the Certification, you must:

- provide a letter stating that you own, operate, or control your renewable gas project. The letter must be on a letterhead showing the Australian Company Number (ACN) and Australian Business Number (ABN) details of your company.
- complete the FPP declaration that is part of the application form and include a national police check in your supporting documents.

6.2. Renewable gas and feedstock requirements

To be eligible, a renewable gas project must meet the conditions listed below:

- The feedstock used to produce the renewable gas must meet the Certification requirements (see feedstock requirements in the Rules). Feedstock must be specified in a Life Cycle Assessment (LCA) report that needs to be submitted as part of the application for participation (see Appendix A of this Participant Guide).
- The project must use renewable energy sources listed in Section 17 of the Renewable Energy (Electricity) Act 2000 (Cth). The energy sources must be outlined in the LCA report.
- The greenhouse gas (GHG) emissions intensity resulting from renewable gas production must be lower than the emissions intensity for equivalent fossil natural gas as specified in the most recent update to National Greenhouse Accounts (NGA) Factors for the location (state or territory) where the renewable gas is produced. The project's LCA report must state the GHG emissions intensity of the renewable gas based on the LCA guidance provided in Appendix A.
- For network injection projects, the quality of produced renewable gas must meet AS 4564 gas quality standards, and any other requirements set by the relevant gas network operator. To demonstrate this, please provide an approval letter from the gas distribution network operator that the injection point is approved.
- For behind-the-meter (BTM) projects, the gas must meet the quality requirements of the end-user of the renewable gas. Your application must outline the end-user quality requirements and show that the renewable gas meets the requirements.

6.3. Electricity requirements

Under the Certification, electricity used by the project to produce renewable gas must be matched with renewable electricity sources. You must provide a plan for use of one of the following options, or a combination, as the project's source of electricity. The renewable electricity use must be evidenced as part of each Production Declaration.

The following electricity sources and renewable energy certificates are eligible:

- purchase of accredited GreenPower Products – please include in your application the details of the retail plan or a copy of your purchase contract.
- matching of the project's electricity use with an equivalent number of large-scale generation certificates (LGCs) retired through GreenPower Corporate Direct – please include your plan for the purchase of LGCs and note whether you have applied for a Corporate Direct product.
- on-site BTM Renewable Electricity Sources that do not receive LGCs – please include details about the electricity source and to be included in the LCA report.

6.4. Water requirements

Participating projects must use water in a responsible manner. Depending on the source of water, you must provide the following information when you apply. In all cases, details of the water treatment process (including the emissions) must be included in the LCA report.

- If the used water is recycled, desalinated, or treated at the renewable gas production facility then emissions will be part of the site's Scope 1 and Scope 2 emissions.
- If desalinated or recycled water is purchased, you must provide a contract or other evidence that the water is from a recycled or desalinated source, and the associated emissions.
- If potable water is used, you must include in your application the information listed below to demonstrate responsible water use:
    - volume of water used (L/GJ of renewable gas produced)
    - location of the water source and if the transport of water is required
    - information about the local availability and scarcity of the water source, including consideration of the impact of the project's water use on competing uses
    - any specific state/territory regulation affecting water use
    - any social/community licence concerns and engagement outcomes associated with the water use
    - viable plans for the reduction of potable water use in the near future (e.g., plan for recycling the water, or changing of hydrolyser cooling technologies in hydrogen projects).

6.5. Environment, community, and safety requirements

Any negative environmental and/or cultural impacts of each project must be minimised or avoided where possible. It is at the discretion of the Program Manager to reject an application due to actual or perceived adverse environmental impacts.

The following documents need to be provided to demonstrate that a renewable gas project meets the environmental, community, and safety requirements to the satisfaction of the GreenPower Program Manager:

- Evidence showing that relevant statutory and licensing requirements, including planning approvals, have been met.
- A report detailing potential community impacts and concerns, mitigation measures, and benefit sharing, including but not limited to Aboriginal and Torres Strait Islander communities. These may be included in the relevant statutory and licensing requirements (covered in the above dot point). The report should include any community and local stakeholder consultation with stakeholders such as local residents, interest groups, Aboriginal and Torres Strait Islander communities, and environmental advocacy groups.
- A copy of the Environmental Impact Statement (EIS) undertaken for the project as part of relevant planning requirements that addresses key environmental issues including potential impacts of the project and proposed mitigation measures, and how the project meets the principles of Ecological Sustainable Development (ESD).

Where applicable, a Major Hazard Facility (MHF) licence or equivalent licence from the jurisdiction where the project is located, and specifically for hydrogen projects.

6.6. Other requirements

The below requirements apply only to projects that create displacement Australian Carbon Credit Units (ACCUs) under the Emission Reduction Fund (ERF) or projects that produce hydrogen through steam methane reforming (SMR):

- If the project has received ACCUs in respect of carbon abatement resulting from displacing, or avoiding the use of, fossil natural gas, which is known as 'displacement abatement', these 'displacement ACCUs' represent the same renewable energy benefit as the RGGOs. To avoid double counting, the Certification Rules provide two options (Section 7.5 of the Certification Rules):
    1. 'stapling' of the ACCUs to the RGGOs, so that they are traded and retired together, and the renewable energy benefit stays with the same end-user
    2. voluntary retirement of the 'displacement ACCUs' before the RGGOs are created.

  In your application, outline which option you choose and how you will ensure the process is auditable. This plan must be in line with the options provided in the Certification Rules.
- If you have received RGGOs for produced biogas or biomethane and will use the biogas or biomethane to produce renewable hydrogen, there are two options:
    1. not creating any certificates for the biogas or biomethane (this may include ACCUs or other certificates), and creating RGGOs for the renewable hydrogen. No retirement of certificates is needed, however you will be required to provide evidence of biogas or biomethane production as part of each hydrogen Production Declaration.
    2. creating RGGOs or other certificates for the biogas or biomethane, which must be voluntarily retired prior to RGGOs being created for the renewable hydrogen.

  In your application, outline which option you choose and how you will ensure the process is auditable. This plan must be in line with the options provided in Section 7.6 of the Certification Rules.
- If the project produces hydrogen through SMR of fossil natural gas, the amount of consumed gas for the declaration period must be matched with RGGOs related to biomethane or biogas projects connected to the same distribution or transmission gas network. In your application, please include how you plan to source or purchase the required RGGOs.

7. Supporting documentation needed for Trader applications

To understand if you are eligible to participate in the Certification as a certificate Trader, please review the criteria listed in Appendix 2 of the Certification Rules.

To demonstrate your eligibility, you must:

- Provide a letter outlining the ABN or/and ACN details of your business. The letter must also state the name and address of your company (i.e., a company letterhead).
- Complete an FPP declaration included in the Trader Application form. A national police check must be provided to support the FPP declaration.

Government-owned corporations wishing to participate as a Trader are not required to provide the above documents.

A Producers can also register as a Trader. A separate user account is required as Traders have access to different functions in the registry platform.

Appendix A - proof of concept life cycle assessment

A proof of concept (PoC) life cycle assessment (LCA) investigates and evaluates the environmental impacts resulting from the production of renewable gas based on the identification of energy and materials inputs. It will also assess and report estimated greenhouse gas emissions of the project for each unit of renewable gas, which is a key attribute noted on RGGOs.

The LCA is used by the Program Manager to assess eligibility and determine the emissions intensity of the produced renewable gas. Please provide a PoC LCA report as part of your application.

The focus of LCA reports prepared for the Certification is on the climate change attributes of the applicant projects. As stated in the Certification Rules, the emissions intensity of the renewable gas must be lower than the equivalent emissions intensity for fossil natural gas. The project's emissions will be compared against the published fossil natural gas emission factors (EFs) in the latest Australian National Greenhouse Accounts (NGA) Factors for the location (state or territory) where the renewable gas is produced/ processed.

Relevant ISO standards

It is recommended that you prepare your LCA report based on the methodologies outlined in the relevant ISO standards listed below. However, you need to consider specific requirements in preparing your reports which are described further in this appendix.

- ISO 14040 (2006) Life cycle assessment - Principles and framework
- ISO 14044 (2006) Life cycle assessment - Life cycle interpretation
- ISO TS 14067 (2013) Greenhouse gases - Carbon footprint of products

Content of LCA report

You must provide a PoC LCA report that is either prepared or critically reviewed by a third-party LCA practitioner. The report must include, but is not limited to, the following information:

- overview of the project
- environmental impact categories
- inventory analysis of inputs and outputs
- functional unit and reference system
- system boundary
- cut off criteria and exclusions
- temporal aspects
- assumptions
- GHG calculation and reporting.

Overview of the project

The overview of the project must include, but is not limited to:

- the project design (including a schematic flowchart)
- production capacity
- production site location

- commissioning date
- project ownership or partnership.

Environmental impact category

The environmental impact category required for the Certification is climate change, which is an indicator of the potential global warming due to emissions of GHG into the air. The greenhouse gases taken into account must be CO_2, N_2O and CH_4. Included in the total emissions from fossil-based and biogenic-based resources measured in kg CO_2-e per 1 GJ of produced renewable gas.

Inventory analysis of inputs and outputs

The inventory analysis is a compilation of data on energy use, material flows, and emissions to the environment in all phases of the life cycle within the system boundary. All inputs and outputs in the form of elementary flows, to and from the environment for all the processes involved in the production of renewable gas, must be included.

Functional unit and reference system

The functional unit is a quantified description of the function of produced renewable gas that serves as the basis for emission calculations. For the Certification, the functional unit must be the supply of 1 GJ of renewable gas (measured based on higher heating values) to the gas network or to the end-user of BTM renewable gas projects.

The reference system is fossil natural gas. The LCA should cover the emissions calculations associated with renewable gas production which then will be compared against the NGA factors for fossil natural gas.

System boundary

The system boundary is the description of the activities within the product's (renewable gas) life cycle phases that are both included and excluded from emissions calculations. For the Certification, the system boundary for renewable gas projects must be cradle-to-gate. Cradle-to-gate assesses the partial product life cycle starting from materials acquisition and pre-processing followed by collection and transport of materials, then all the steps during the production of gas to the point that gas is injected into the network or transferred to the end-user directly or by other means than network pipeline. The injection or delivery point to the end-user is defined as the 'gate' and endpoint of the system boundary.

The following steps must be included in this system boundary:

1. Production or processing of feedstock - emissions from the extraction, processing, harvesting, or cultivation of raw materials e.g., harvesting of crop residue, collection of food waste or desalination of water. This needs to be done through the allocation of feedstock pro
2. Collection and transport of feedstock to the production site - this applies to the collection and transport from the feedstock origin to the production site for the purpose of renewable gas production.

3. Production processes and transport of goods within the site - this applies to all processes related to the final renewable gas product and are done within the primary site. Examples of these processes are:
   - anaerobic digestion of waste
   - transport of biogas to upgrading unit
   - upgrading of biogas to biomethane
   - production of renewable electricity on site
   - treating water (recycling or desalination) if done within the primary site
   - heating or cooling processes including electrolyser cooling
   - cleaning processes
   - gas scrubbing, treatment, or purifying processes.

4. Storage of renewable gas - this applies to any form of short or long-term storage of gas including buffer storage.

5. Renewable gas metering - any process related to metering and quality monitoring of the gas done at custody transfer stations and/or within the production site.

Cut-off criteria and exclusions

Cut-off criteria state the amount of environmental significance associated with a product system, to be excluded from LCA. If the level of emissions from an individual material or energy flow is found to be insignificant, these may be excluded from the emissions calculations but must be reported as data exclusions. For the Certification, the emissions cut-off for individual flows is set at 1% of total emissions and the cumulative emissions of the excluded processes are set at less than 5% of total emissions.

Temporal aspects

The LCA should be prepared based on the status or proposed design of the project at the time of application. This means that the effects of events that occur over time, such as technology advancements or plant capacity changes, will not be required to be assessed. Future changes in the project must be communicated with the Program Manager and a revised LCA must be provided when the changes occur.

Assumptions

Any general assumptions regarding the emissions calculations must be included in the PoC LCA report.

GHG calculation and reporting

To calculate the GHG emissions intensity of the renewable gas that will be produced at a project, use the steps set out in the “System Boundary” section above as a guide for the inclusion of activities in your report. For calculating the project’s emissions, use the EFs and methods provided in the National Greenhouse and Energy Reporting (Measurement) Determination 2008 (NGER MD) and the latest NGA factors available at the time of LCA preparation. Use the template provided in Table 1 to report the emissions.

The following aspects must also be considered in reporting the emissions:

- Emissions from the extraction, harvesting or processing of raw materials must include emissions from the collection, drying, and storage of raw materials, from waste and leakages, and from the production of chemicals or products used in extraction or cultivation.
- Emissions captured and stored in any of the steps within the system boundary shall be deducted from reported emissions.
- Where by-products exist in the production process, distribution or allocation of allowable emissions among various products must be considered to avoid overallocation of emission to renewable gas product.
- Emissions of biogenic CO_2 must be accounted as zero and non-CO_2 biogenic emissions (CH_4 and NO_X) must be included in calculation.
- Leakage/fugitive losses, venting, and flaring emissions associated with the renewable gas production process must be estimated and reported.
- Associated emissions with the consumption of electricity (Scope 2) should be reported, however, are considered zero in calculation as the Certification requires matching of electricity usage with GreenPower-accredited electricity products or on-site renewable energy generation.
- Emissions from the construction, manufacturing, and decommissioning of capital goods, business travel, and employee commuting do not need to be considered in the total emissions calculations.

Table 1. Template for reporting the emissions

Source of emission	**Assumption**	**Annual Activity data and units**	**EF and units**	**GHG Emissions (kg CO_2-e / year)**
e.g. gas processing	e.g. fugitive emissions from gas processing determined using Method 1, section 3.72 of the NGER MD, Feb 2023. Emissions are based on the quantity of gas processed. The density of biomethane, calculated using the ideal gas law at standard temperature and pressure, is 0.677 kg/Sm^3. The biomethane throughput is estimated to be 2,558 t per annum. The general leak emission factor used is 1.6×10^{-3} tCO_2-e/ t fuel throughput.	e.g. 2,558 t biomethane throughput/year	1.6×10^{-3} tCO_2-e/ t fuel throughput	4,093
Total Emissions (kg CO_2-e/year)				
Emission intensity (kg CO_2-e/GJ)	Total emissions / annual renewable gas supply capacity in GJ			
Emission intensity (kg CO_2-e/kWh)	Total emissions / annual renewable gas supply capacity in kWh			