Green Gold Label Standard GGLS6 Power company criteria

Requirements for power companies as end-users in GGL supply chains

Standard GGLS6
Power company criteria

Version 1-3
Valid from 2 March 2026 (Adoption date)

greengoldlabel.com

Document navigation

This document is part of the Standards from the Overall documents. It concerns Standard GGLS6 of the GGL scheme and applies to all regulatory frameworks.

The Overall documents comprise the GGL Setup and Governance, GGL Standards and GGL Operating documents. Additionally, the GGL scheme offers Instructions and Guidances for specific regulatory frameworks (RED, FIT/FIP, SDE+/++), which can supersede clauses in the Overall documents. This applies only when explicitly stated in the relevant Instructions and Guidances.

Refer to the ***GGL Document Structure*** (as part of the GGL Setup and Governance documents) for more detailed information on navigating and interpreting GGL documentation.

GGL Setup and Governance

- Articles of association GGL foundation
- GGL Document structure
- GGL Regulation
- GGL Scope definitions
- GGL CB agreements
- GGL Partner Code of Conduct
- GGL Operating Agreement

GGL Standards

- GGLS1 – Chain of custody criteria
- GGLS2 – Agricultural source criteria
- GGLS4 – Transaction and Product Certificate
- GGLS5 – Forest management criteria
- **GGLS6 – Power company criteria**

GGL Operating documents

- GGL Participant fees
- GGL Logo and tradename use
- GGL List of prohibited materials

RED – Instructions

- Instruction A.0 – RED Module
- Instruction A.1 – RED Reporting duties
- Instruction A.2 – RED Internal monitoring
- Instruction A.3 – RED Auditor requirements
- Instruction A.4 – RED GHG emissions
- Instruction A.5 – RED Additional Agricultural source and Forest management criteria
- Instruction A.6 – RED Supplier verification programme for biogenic residues and waste

RED – Guidances

- Guidance A.0.i – RED Raw materials statement template
- Guidance A.0.ii – RED Transaction certificate template
- Guidance A.0.iii – RED Audit template
- Guidance A.4.iv – RED GHG default values
- Guidance A.5.v – RED Level A Risk assessments
- Guidance A.6.vi – RED Supplier verification checklist for biogenic residues and waste

FIT / FIP – Instructions

- Instruction B.0 – FIT/FIP Module
- Instruction B.1 – FIT/FIP Endorsed schemes
- Instruction B.2 – FIT/FIP GHG emissions
- Instruction B.3 – FIT/FIP Additional power company criteria

FIT / FIP – Guidances

- Guidance B.0.i – FIT/FIP Raw materials statement template
- Guidance B.0.ii – FIT/FIP Transaction certificate template
- Guidance B.0.iii – FIT/FIP Audit template
- Guidance B.0.iv – FIT/FIP Supplier verification checklist for biogenic residues and waste
- Guidance B.2.v – FIT/FIP LCGHG default values

SDE++ – Instructions

- Instruction C.1 – SDE++ Endorsed schemes
- Instruction C.2 – SDE++ GHG emissions

SDE++ – Guidances

- Guidance C.0.i – SDE++ Raw materials statement template
- Guidance C.0.ii – SDE++ Transaction certificate template

GHG Guidance

- Guidance ABC.1 – GHG calculator

The GGL standards are applicable as per the indicative Illustration i below.

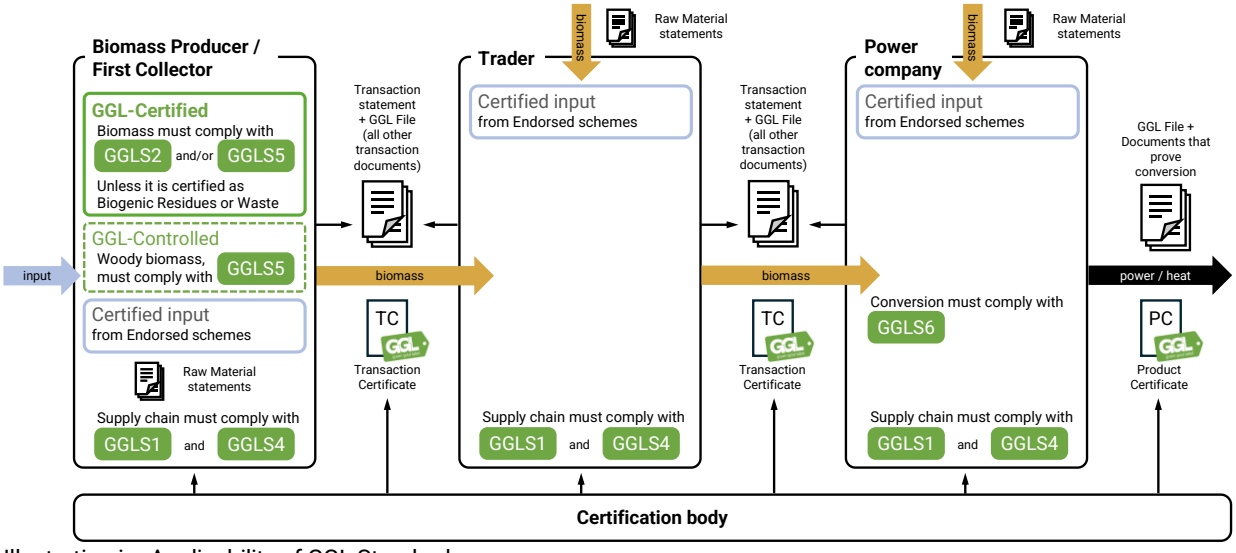

Illustration i – Applicability of GGL Standards

Table of contents

Changes and transitioning

This section lists the key changes in this version v1-3 from version ***GGLS6 - Power Company Criteria - Version 1-2 (August 2017)***.

No.	Change type	Section reference	Details of change
1	Content	Principle 7	Periodicity defined for issuing Product certificates
2	Text feature	Document navigation	Included document navigation and updated illustration for clarity
3	Text feature	Changes and transitioning	Included the changelog and the transitioning procedure between the previous and the current version
4	Text feature	Glossary	Included glossary
5	Formatting	All	Changed and edited formatting, text and wording for clarity and readability
6	Formatting	All	Converted layout to new templates for GGL Documents

In transitioning to this current version of this document, the following applies to Certification bodies, Participants and Certificates:

Publication date	7 November 2025
Adoption date	For all GGL Modules except the **SDE+ Module:** • 2 March 2026
Effective date	For all GGL Modules except the **SDE+ Module:** • 1 March 2027
End of Transition period	For all GGL Modules except the **SDE+ Module:** • 1 March 2028

To clarify: For GGL Scopes with the **SDE+ Module**, only the previous version of this document can be used and remains effective until further notice.

Glossary

Term	Definition
Adoption date	New (versions of) GGL documents include an Adoption date in the transitioning section. This date indicates when certification against the GGL Scheme and the specific document becomes possible. Certifications based on previous versions will remain valid until the Effective date of the new document.
Amount of GGL Biomass	This is the amount of GGL Biomass in metric ton (MT).
Biomass	Biomass refers to the biodegradable portion of products, waste, and residues derived from biological sources in agriculture, which includes both plant and animal materials. It also encompasses materials from forestry and related industries, such as fisheries and aquaculture. Additionally, biomass includes the biodegradable fraction of waste, including industrial and municipal waste of biological origin.
Default value	Greenhouse gas emission value attached to a batch of biomass material, listed as "default value" in the applicable GGL Module, and that may, in circumstances specified in that GGL Module, be used in place of an actual value.
Effective date	New (versions of) GGL documents specify an Effective Date. This is the date after which certification can only be granted according to the GGL Scheme and the specific document that has the Effective Date. Certification based on previous versions of the document is no longer considered valid.
FMU / Forest Management Unit	A well-defined land area that is predominantly (>50%) forested, incorporating planned human intervention within a forest ecosystem to meet specific goals and objectives.
GGL Biomass	Biomass certified with a GGL-Certified or GGL-Controlled claim.
GGL Categories	Biomass is classified into one of five categories recognized by GGL: 1) Woody biomass from large FMUs (> 500 hectares) 2) Woody biomass from small FMUs (< 500 hectares) 3) Residues from natural site and landscape management 4) Agricultural biomass 5) Biogenic residues and waste
GGL Module	These Instructions and Guidance documents outline how GGL has been approved and recognized as a Certification scheme under various legal and voluntary frameworks (e.g., Renewable Energy Directive (RED) in Europe and FIT/FIP in Japan).
GGL Scope	Each GGL Participant and each Certification Body (CB) is restricted to performing activities under the GGL Scheme based on the specific GGL Scope for which they are recognized. GGL Biomass has a specific GGL Scope. The GGL Scope is a combination of (a) applicable regulatory GGL Modules and (b) the GGL Categories of biomass. Detailed definitions of GGL Scopes can be found in the ***GGL Scope definitions*** document.
GGL-Certified	Biomass that has been certified against all applicable GGL criteria, or against a certification scheme other than GGL, which has been endorsed and approved by the relevant authorities (e.g., EU for RED, METI for FIT/FIP) and holds equivalent status. GGL-Certified biomass meets all criteria for sustainability and legality.

Term	Definition
GGL-Controlled	Woody biomass that has been certified against some of the applicable GGL criteria, or against a certification scheme other than GGL that has been endorsed and approved by the relevant authorities (e.g., the EU for RED or METI for FIT/FIP) holding equivalent status. GGL-Controlled biomass can only come from GGL categories 1, 2, or 3 for woody biomass and must meet specific key sustainability criteria. Therefore, the sustainability of GGL-Controlled woody biomass is certified to a lesser extent than that of GGL-Certified woody biomass.
GHG (Greenhouse Gas) Emissions	Greenhouse gases are a group of gases that contribute to global warming and climate change. According to the Kyoto Protocol, they include seven gases: carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulphur hexafluoride, and nitrogen trifluoride. Converting them to carbon dioxide equivalents (CO2eq) makes it possible to compare them and to determine their individual and total contributions to global warming.
Installation	An installation refers to a physical production facility that generates fuel, heat, cooling, or electricity. An installation is considered to be in operation once it has begun the physical production of biofuels, biogas used in the transport sector, bioliquids, as well as heating and cooling, and electricity from biomass fuels.
Mass balance	Mass balance is a chain-of-custody approach that enables the net amount of sustainable materials to be tracked as they move through a system or supply chain, and ensures an appropriate allocation of these materials to the finished goods, based on auditable bookkeeping.
Normative	Normative elements are prescriptive guidelines that must be followed to comply with scheme requirements.
Participant / GGL Participant	An economic operator that has been certified under the ***GGL Regulation*** Section G, or under another certification scheme endorsed and approved by the relevant authorities (e.g., EU for RED or METI for FIT/FIP), holds equivalent status. This includes forest and agricultural biomass producers, waste and residue producers, first gathering points, collectors, suppliers, traders, processing plants, and conversion plants (end-users).
PC / Product certificate	A certified statement confirming the final conversion of GGL Biomass by GGL Participants that meets the requirements of ***GGLS4 - Transaction and product certificate***.
Point of origin	The location where the raw material directly originates, before its classification as GGL Biomass.
Publication date	New (versions of) GGL documents include their Publication date, which indicates when that version is published. Certification against a new version cannot occur until after its Adoption date.
Raw material	The batch of biomass from a single Point of origin before it is classified as GGL Biomass, for which a single Raw Material Statement is verified and that falls within a single GGL Category of biomass.
TC / Transaction certificate	A certified statement of a transaction between GGL Participants that meets requirements of ***GGLS4 - Transaction and product certificate***.

Term	Definition
Transition period	The new versions of the GGL documents specify the end of a Transition Period. This is the time until which (re-)certification decisions made before the Effective Date (based on the previous version of the document) remain valid. During the Transition Period, audits conducted by a Certification Body must be based solely on the valid (new) version of the GGL Scheme documents.
Useful heat	Heat generated to meet a justifiable economic demand for heating or cooling.

A. Introduction

A.1

This standard applies to GGL Participants producing or trading power and/or heat, that wish to receive or trade Green Gold Label product certificates. The aim of the Green Gold Label (GGL) criteria for End-users, such as Power companies, is to provide proof that a portion of the power generated is derived from processed GGL-Certified or GGL-Controlled biomass.

A.2

This Standard is part of the Green Gold Label certification system as described below in Figure i.

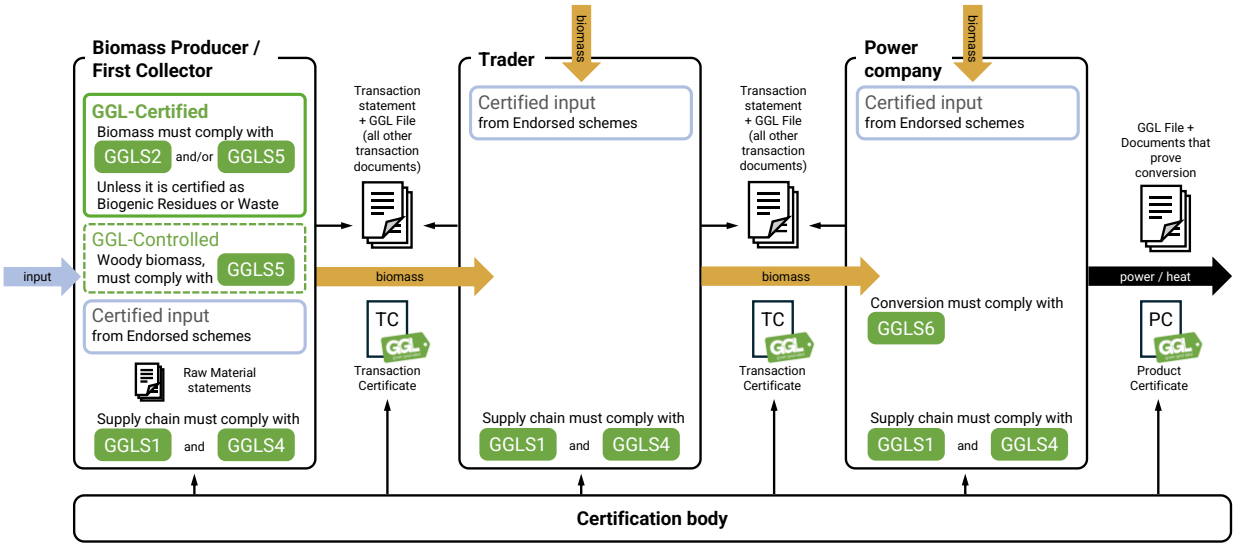

Figure i – Applicability of standards in the GGL Scheme

A.3

Under this standard, GGL biomass can be converted into electricity and/or heat by Power companies. End-users, such as Power companies, shall be certified against the ***GGLS6 – Power company criteria*** by their GGL Certification Body.

Note - Conversion of GGL biomass into energy by GGL Participants rather than Power companies is not possible under this standard.

A.4

All GGL Standards are normative unless stated otherwise.

B. Principles

Principle 1. Authorisations and responsibilities are in place

1.01 The responsibilities, authorisations, and interrelations of all personnel who manage, perform and verify work at the Participant affecting quality shall be recorded in writing.

1.02 The definition and documentation of responsibilities and authorisations shall also refer to the documentation relating to mass balance and GHG emissions of GGL biomass, as well as to the power or useful heat produced with GGL biomass.

1.03 The Participant should record the responsibility structure in an organisation chart.

1.04 The Participant's management shall appoint a management representative who, irrespective of other responsibilities, shall have a defined authority:

a) to ensure that a quality system, complying with the requirements of this ***GGLS6 – Power company criteria,*** is set up, implemented, maintained and distributed; and,

b) to report to management on the operation of the quality system, enabling its review and improvement.

Principle 2. Quality policy and management objectives shall be focused on the traceability of GGL biomass

2.01 The management shall define and document its policy and objectives for, and commitment to, quality, including an accessible bookkeeping system needed for GGL traceability.

2.02 Management will demonstrate its commitment through quality objectives. This will be achieved by at least the following items:

- The importance attached to compliance with the GGL rules shall be known throughout the organisation;
- Written Quality Policy, which includes correct bookkeeping and traceability of GGL biomass and the power produced with the GGL biomass, the organisation's awareness of its position regarding making rightful claims about electricity produced with GGL certified biomass;
- Directors' Declaration, which includes a commitment from management to supervise the correct development, implementation and maintenance of the GGL Scheme at all levels in the organisation;
- Records of relevant quality;
- Management assessments for the necessary resources are being made available;
- Internal audits, for which documented procedures for planning and carrying out internal audits shall be established. For these, at least the following applies:
  - The object of these audits is to determine whether the quality system functions adequately to meet the basic quality standards.
  - Internal quality audits shall be planned at least once a year and carried out by personnel who are independent of those directly responsible for the activity on which the audit is to be conducted, and may be performed by subcontractors.

- The results of the internal audit shall be recorded and brought to the attention of the personnel responsible for the area in which the audit is carried out. Regarding any shortcomings observed during the audit, corrective measures must be taken promptly. The implementation and effectiveness of the measures taken shall be verified and recorded.

Principle 3. A quality management system is in place

3.01 A documented quality management system shall be drawn up and recorded in writing as a means of ensuring that the quality and quantity of all biomass, the quality and quantity of GGL-Certified or GGL-Controlled biomass is measured and recorded, as well as the quantity of the power and/or useful heat produced with the biomass, the GGL-Certified or GGL-Controlled biomass as well as any other fuels.

3.02 The quality system shall indicate the methods by which the organisation will ensure it makes rightful claims for electricity produced from GGL-Certified or GGL-Controlled biomass, and shall cover the procedures within the quality system and explain the structure of the documentation used in it. Changes in the GGL criteria are to be appropriately incorporated into the quality management system.

3.03 Documented quality management system procedures shall be established to comply with the GGL Scheme requirements. These procedures must include:

- (external) storage of biomass;
- incoming biomass and other fuels used for power registration;
- registration of quality and quantity of GGL and non-GGL certified biomass;
- procedure for the burning of biomass;
- registration of power produced with GGL and non-GGL certified biomass;
- registration of power produced with other fuels;
- safety procedures;
- environmental procedures;
- procedures for the handling, transport and storage of biomass and other fuels;

3.04 Documented procedures shall be established to ensure that purchased GGL-Certified or GGL-Controlled biomass meets all GGL requirements. Demonstrable agreements with service providers relating to compliance with the GGL criteria must be in place.

3.05 A procedure to establish, document and implement corrective and preventive measures shall be maintained. The corrective and preventive measures are aimed at achieving basic quality and the standards mentioned in this standard. Changes arising from corrective and preventive measures must be implemented and recorded.

3.06 The quality system, including documented procedures with tasks, responsibilities, and personnel authorities, is to be implemented effectively. This also applies to temporary personnel. The procedures making up the quality system are to be matched to the complexity of the work and the level of the personnel involved. Where there is any deviation from the GGL Standard, the client should demonstrate that its alternative measures have the same quality level.

3.07 Personnel must have sufficient knowledge and expertise to perform their assigned tasks to achieve the quality required for traceability and correct claims for the GGL biomass used.

3.08 A procedure shall be drawn up to cover authorisations to approve and issue documents and data. An appropriately authorised person must approve documents and data before issue.

Principle 4. Quality management is continuously improved

4.01 A procedure shall be drawn up for document management (including digital documents) to identify the applicable revision status of documents to prevent the use of invalid and/or obsolete documents. A reference list or similar document may be used.

4.02 A method is to be devised for updating and managing significant service-provider documents. Each page should show the date of the last revision. The system of managing the quality system must ensure that:

a) the relevant issues of appropriate documents are available at all locations where operations essential to the effective functioning of the basic quality system are performed;
b) invalid or obsolete documents are immediately removed from all points of issue or use, or otherwise prevented from being used unintentionally;
c) any obsolete document that is retained for legal reasons and/or for reference purposes is identified as such; and,
d) where possible, the nature of the change should be identified within the document.

Principle 5. Record-keeping systems are in place

5.01 Appropriate records shall be maintained of the experience, expertise and (required) training of the employees concerned.

5.02 The manner in which (quality) records are collected, identified, filed and stored shall be established in writing and/or digitally. Quality records shall be maintained to demonstrate that the mass balance requirements of GGL-Certified or GGL-Controlled biomass used for production of power or useful heat are adhered to. Quality records shall be stored and maintained so that they are readily retrievable.

5.03 The results of checks, measurements, sampling and inspections shall be recorded and filed. The records must clearly show which service provider performed the inspections and tests, along with the service provider's accreditation. An ISO-17025-accredited laboratory must perform analyses of materials.

5.04 Records of all orders and commissions of purchase are to be maintained to allow traceability of orders, during a period as described under “control of documents and records” below.

5.05 Records and documents relating to the GGL quality system must be kept for at least 10 years.

Principle 6. A quality control plan is in place

6.01 A quality control plan shall be developed to document how the critical points are

controlled, following the same sequence as the production process. The following matters shall at least be considered in drawing up the quality control plan:

- information flow within the organisation
- the physical biomass to power flow within the organisation

To adequately track biomass and the power and/or useful heat produced, the production process shall be described in sufficient detail, considering the process's scope and critical points.

6.02 Procedures and instructions shall be drawn up for monitoring critical points and the basic quality of production. In these schemes, adequate information shall be provided on methods for controlling the safety aspects of the process/operations. These schemes shall take into account all the relevant steps in the process. The verification of the process schemes must be repeated with every change in the process, so that changes and/or innovations in the operations/production process can be documented and assessed for risks.

6.03 The Participant shall identify and evaluate the potential hazards of all operations/processes. This identification and hazard analysis by the legal owner of the material shall include all aspects of the operations/processes that might harm the safety of the personnel.

6.04 A risk analysis must be performed for each identified hazard. The results of the analysis shall be documented, including the assumptions and principles used to determine or estimate the risk. Permissible levels of risk shall be defined, and these standards must comply, at a minimum, with the legal requirements. When conducting the risk analysis, practical experience, experimental data, literature, and other relevant sources shall be taken into account where applicable. A risk assessment should demonstrably be available for every type of biomass to be purchased or received.

6.05 As a result of the hazard identification and risk analysis, control measures to reduce risks to an acceptable level must be identified, implemented and, where appropriate, documented.

Principle 7. Transport and shipments of biomass are controlled and monitored

7.01 For all shipments received as GGL-Certified or GGL-Controlled biomass, a GGL transaction certificate must be available that meets requirements from ***GGLS4 – Transaction and product certificate***.

7.02 All relevant licenses, registrations, and certificates required by national or EU legislation must be available.

7.03 In case of transportation of GGL biomass by an external transport company, this should demonstrably comply with the requirements of ***GGLS1 – Chain of custody criteria.***

7.04 Contracts for GGL biomass must be drawn up in such a way as to ensure that biomass that carries a GGL claim is indeed either GGL-Certified or GGL-Controlled. This includes providing all necessary documents for the chain of custody system and may be performed by hiring a third-party inspection company.

7.05 A reliable administrative system shall be operated to include at least:

- the amount and quality of the biomass;

- the amount and quality of the GGL-Certified and GGL-Controlled biomass lost due to moisture content changes, processing and/or handling since prior transactions;
- the amount and quality of the other fuels used to produce power and useful heat;
- the power and useful heat produced by the biomass;
- the power and useful heat produced with the GGL-Certified and GGL-Controlled biomass;
- the energy produced with the use of other fuels;
- the link between the incoming fuels used to generate power and the useful heat produced;
- any associated documentation, guarantees, certificates, etc., which accompany the biomass.

7.06 The agreements to ensure the basic quality of the purchased biomass shall be set out in writing.

7.07 For each quantity of GGL Biomass converted into power and/or heat, the Power company issues a Product certificate per ***GGLS4 – Transaction and product certificate*** to confirm that the quantity of GGL Biomass is no longer available for trade. The Certification Body of the Power company verifies each Product certificate.

7.08 Power companies shall issue such a Product certificate every 3 months after conversion of a mass balance, or more frequently, e.g., monthly, which is considered best practice. Product certificates can only be valid under a single GGL Scope.

Principle 8. Subcontractors of the Participant shall adhere to the requirements

8.01 Subcontractors shall be evaluated at least once per year. This evaluation must focus on the subcontractor's accreditation and compliance with the GGL criteria, as well as the necessary certificates, e.g., ISO-17020 for inspection companies and ISO-17025 for laboratories.

8.02 Any external storage shall be considered part of the installation, and the installation's rules shall apply to the storage. In case a Participant makes use of an external storage facility, the Participant shall demonstrably ensure that the external storage facility complies in full with all applicable requirements of ***GGLS1 – Chain of custody criteria***. The Participant shall, in such cases, include the requirements in a contract with the storage facility's landlord or its legal representative.

8.03 Quality and quantity of the biomass delivered shall be analysed and measured upon arrival at the gate of the installation, which an accredited subcontractor may perform.

Principle 9. Health and safety standards are adhered to

9.01 The Participant must provide and ensure the use of all necessary personal safety gear for its employees, in accordance with the legal standards in that country.

9.02 All measures necessary to ensure adequate industrial tidiness shall be devised and implemented. Industrial cleaning programs and the registration of such activities must be documented in writing, specifying the methods, frequencies,

and times.

Principle 10. Contamination of biomass is prevented at all times

10.01 Methods of handling GGL biomass must prevent contamination with other biomass and non-biomass materials. Before handling activities begin, the equipment used for handling should be inspected by qualified personnel for cleanliness, condition, and suitability for handling the material.

10.02 Storage silos or storage areas for GGL biomass must prevent contamination with other biomass or non-biomass material. Before filling, the storage space should be inspected by qualified personnel for cleanliness, integrity, and suitability for storing biomass. External storage space should also be inspected; qualified subcontractors may perform this.

10.03 Transport of the GGL biomass within the Participant's facilities (for example, from external storage to the power station) must be inspected. Transportation facilities must be inspected by qualified personnel or a qualified subcontractor to ensure cleanliness, compliance with state requirements, and suitability for the transport of biomass.

Principle 11. Power companies shall use calibrated values for calculating GHG emissions for fuel and efficiency rates

11.01 Where applicable, national and international legislative and regulatory requirements shall be followed concerning the energy and carbon balance calculation methodology reflected in each GGL Module

11.02 Calculations shall use calibrated values for at least the following items, to determine GHG emission values in a specific utility located in a specific country, which are to be verified case by case:

- The “marginal value”: this is the power and useful heat produced from an average (country’s) mix of fossil fuels only (excluding renewable sources and nuclear energy).
- The “fossil fuel comparator”: this is the actual GHG emissions per unit of power or useful heat produced. The fossil fuel comparator should be derived from the official (representative) authority or government in the country of the Power company.
- Actual efficiency of co-firing pellets in a specific utility (e.g. by using previous annual data). The default efficiency factor for co-firing a certain share of wood pellets is set to 39.2% unless defined otherwise in a specific GGL Module.

11.03 Only calibrated values per 11.01 can be used to calculate GHG emissions, which have been verified on a case-by-case basis.

11.04 GHG emissions of GGL-Certified or GGL-Controlled biomass that validly enter GGL supply chains under the certification of an Endorsed scheme should also include all GHG emissions that have been incurred under the scope of the Endorsed scheme.

11.05 If no or incomplete data for Endorsed schemes are available as of 11.04, an additional GHG calculation should be performed for these suppliers, using the applicable GHG emissions calculation methodology for that GGL Module.

Principle 12. Mass balance shall be maintained across the entire supply chain

12.01 A mass balance of GGL-Certified and GGL-Controlled biomass of the power and useful heat produced shall be maintained in the following manner for both the incoming total amount of fuel (I.) and the total amount of energy produced (II.):

(A / B) C = D

Where, for the total amount of fuel used (I.):

A = Total incoming annual mass of GGL-Certified or GGL-Controlled biomass
B = Total incoming annual mass of fuel
C = 100%
D = percentage of GGL-Certified or GGL-Controlled biomass

And, where for the total amount of energy produced (II.):

A = Power and useful heat produced with the total incoming annual mass of GGL-Certified and GGL-Controlled biomass.
B = Power and useful heat produced with the total incoming annual mass of fuel
C = 100%
D = percentage of power and useful heat produced with GGL-Certified and GGL-Controlled biomass

12.02 Units for mass-balance calculations can be calorific content (e.g., MJ or GJ) or mass (MT). The metric D in 12.01 can be used to compare with the minimum amount of GGL-Certified or GGL-Controlled biomass needed to comply with the GHG emissions for a specific GGL Module.