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Introduction

This draft standard is based on national and international discussions. Your comments on this draft are invited and will assist in the preparation of the consequent standard.

For international standards, comments will be reviewed by the relevant UK national committee before sending the consensus UK vote and comments to the international committee, which will then decide appropriate action. If the international standard is approved, it is usual for the text to be published as a British Standard.

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UK Vote

Please indicate whether you consider the UK should submit a negative (with supporting technical reasons) or positive vote on this draft. Please indicate if you are aware of any reason why this draft standard should not be published as a British Standard.

Submission of Comments

- **Annotated drafts are not acceptable and will be rejected.**
- All comments should be submitted online at <https://standardsdevelopment.bsigroup.com/>. You will need to register in order to comment.

Template for comments and secretariat observations

Date: xx/xx/20xx	Document: ISO/DIS xxxx
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1	2	(3)	4	5	(6)	7
MB	Clause No./ Subclause No./Annex (e.g. 3.1)	Paragraph/Figure/ Table/Note	Type of comment	Commend (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted
	3.1	Definition 1	ed	Definition is ambiguous and needs clarifying.	Amend to read '...so that the mains connector to which no connection...'	
	6.4	Paragraph 2	te	The use of the UV photometer as an alternative cannot be supported as serious problems have been encountered in its use in the UK.	Delete reference to UV photometer.	

English version

Guarantees of Origin related to energy - Guarantees of Origin for Electricity, gaseous hydrocarbons, Hydrogen, and heating & cooling

Garanties d'origine liées à l'énergie - Garanties d'origine de l'électricité, des hydrocarbures gazeux, de l'hydrogène, du chauffage et du refroidissement

Herkunftsnachweise im Energiebereich - Herkunftsnachweise für Elektrizität, gasförmige Kohlenwasserstoffe, Wasserstoff sowie Wärme und Kälte

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/CLC/JTC 14.

If this draft becomes a European Standard, CEN and CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

This draft European Standard was established by CEN and CENELEC in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN and CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation. Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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European foreword

This document (prEN 16325:2022) has been prepared by Technical Committee CEN/CLC/JTC 14 “Energy management and energy efficiency in the framework of energy transition”, the secretariat of which is held by UNI.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 16325:2013+A1:2015.

In comparison with the previous edition, the following technical modifications have been made:

- the scope of the document is extended to guarantees of origin of several gaseous energy carriers and heating and cooling.

This document will establish the relevant terminology and definitions, and requirements for the registration, issuance, transfer and cancellation of GOs in line with the following directives:

- Directive 2018/2001/EU on the promotion of the use of energy from renewable sources,
- Directive 2019/944/EU on common rules for the internal market for electricity,
- Directive 2012/27/EU on energy efficiency,

and other relevant European Union law.

Introduction

General

This document sets out how Guarantees of Origin (GOs) are standardized in line with relevant European (EU) directives and existing voluntary schemes. The aim of the standard is, therefore, to create a standardized transferable GO that can be used to facilitate the disclosure of the origin of energy, the identification of particular energy sources, to its final customer, including by labelling schemes, like environmental/ecological labels. For the purpose of the Renewable Energy Directive (2018/2001/EU, often referred to as RED II), a GO means an electronic document which has the sole function of providing evidence to a final customer that a given share or quantity of energy was produced from renewable sources. A GO may serve other purposes where Member States have arranged to have GO's for other types of energy.

There is a growing demand from final customers for energy that can be reliably certified. Electricity suppliers are required to provide reliable disclosure information to final customers on the origin of the energy they supplied them. The EU GO system already meets many of the needs of these stakeholders and revising the EN 16325 standard on GOs can further strengthen the current system.

The EN 16325 standard on GOs is being revised to ensure that it fulfils the requirements of the recast Renewable Energy Directive (2018/2001/EU), the Directive on common rules for the internal market for electricity (2019/944/EU), the Directive on Energy Efficiency (2018/844/EU) and other relevant European laws. The revised standard will provide a basis for the further development of energy attribute tracking in the EU, to achieve greater harmonization between the national systems of EU Member States and EEA countries.

GOs are certificates which are tracked through a book and claim system and which thereby underpin the trading and disclosure of energy. The Renewable Energy Directive and Directive on Energy Efficiency require Member States to recognize a GO issued by another Member State unless it has “well-founded doubts about its accuracy, reliability, or veracity” (RED II - Art. 19.9). Further, the system should prevent double-counting and be resistant to fraud. Therefore, a European Standard for GOs for all member states is important. As per the revised Renewable Energy Directive, the content of the standard applies to energy from renewable sources, be it “electricity, or gas, including hydrogen, or heating or cooling” (RED II - Art. 19.7). The content of this standard can also be applied for energy from non-renewable sources.

The elaboration and publication of European Standards will allow certification bodies to develop their activities on consensual and recognized practices and this will increase the credibility of the certificates they deliver.

Description of the Guarantee of Origin system and its components

Basic description of the GO system and its components

The purpose of a guarantee of origin (GO) system is to track the attributes of a given megawatt-hour (MWh) of energy from generation/production to consumption. In doing so, the system allows final customers to know the origin of the energy supplied to them. For instance, this enables those final customers to choose to consume/use energy from renewable sources or to consume/use decarbonised and low-carbon energy. This is accomplished by energy producers or generators requesting the issuance of a GO for each MWh of energy they produce/generate. These GOs can then be traded until they are cancelled by/for a final customer. This cancellation allows the final customer to state that they have used this unit of energy. The underlying goal of GOs is to facilitate consumer choice, which indirectly could act as a market incentive for renewable production.

The guarantee of origin system for electricity was first legislated for at European level in Article 5 of Directive 2001/77/EC on the promotion of electricity produced from renewable energy sources in the internal electricity market. This article was later amended by Article 15 of the Renewable Energy Directive 2009/28/EC (often referred to as RED I). Article 15.1 states that “...Member States shall ensure

that the origin of electricity produced from renewable sources can be guaranteed... for the purpose of proving to final customers the share or quantity of energy from renewable sources in an energy supplier's energy mix". Renewable Energy Directive 2018/2001/EU, in Art. Nineteen extended the scope of GOs to cover gas (including hydrogen) as well as heating and cooling. The existing Energy Type Electricity is therefore extended to include the Energy Type Gas and Heating and Cooling:

- a) Electricity
- b) Gas
- c) Heating and Cooling

Article 14.10 of the Energy Efficiency Directive determines that upon request, a Member State shall issue a GO for Electricity produced from High-Efficiency Cogeneration, for the purpose of demonstrating that such production method leads to savings of primary energy used.

At the time of revision of this EN 16325 standard in 2020, the European energy market has adopted the GO system for electricity initiated by the first Renewable Energy Directive (2001/77/EC) and updated in the second and third one (2009/28/EC and 2018/2001/EC).

A guarantee of origin system consists of certain basic components, which relate to the verification of the underlying information, accurate generation of data, secure and electronic GO transfer as well as the use of GOs for cancellation and disclosure. These basic components ensure accurate attribute tracking and the avoidance of double disclosure, when the same unit of (renewable or decarbonised/low-carbon) energy is disclosed more than once. Table 1 describes how these basic components relate to the GO life-cycle.

Table 1 Main components of a GO system

Account Holder Registration	Prevent access of fraudulent actors	Competent body
	Ensure rule-compliance contractually	
Production Device Registration	Verify plant data	
	Ensure data maintenance and re-verification	
GO issuing	Base issuing on verified meter readings	
	Verify shares of energy origin in multi-fuel plants	
GO transfer	Secure and electronic transfer independently from the physical energy or energy trading	
	Non-mutability and uniqueness of certificate data	
GO cancellation	GO as the sole instrument to disclose renewable energy to consumers	
Disclosure	Disclosure of the energy origin sold/consumed	
	Where applicable, calculation of the residual mix and obligation to use it for untracked energy	

Account Holder registration

GOs are held in accounts of electronic registries which are managed by Issuing Bodies. Only legitimate companies (legal persons) with the intention of participating in the GO market (e.g. producers, traders and/or energy suppliers, end users of energy) are permitted to register as GO account holders. By setting a registration process and required documentation for account holders, the Competent Body or Bodies, Disclosure Authority of each country makes the necessary steps to block fraudulent actors accessing the market. Some countries may, at their discretion, limit access to the GO registry further to e.g. to energy

market actors alone established in the national territory. After a successful registration process, an account holder gains secure access to its GO account(s).

Production Device registration

Issuing of GOs is based on measured energy output from registered Production Devices. For this purpose, all Production Devices, the owner/operator of which requests issuance of GOs, are registered in the GO registry. Prior to the approval of a registration, a Competent Body or its agent verifies the registered standing data (such as age, capacity, location, technology, energy medium) of the Production Device. Periodically, the registration information is re-verified to ensure the up-to-date accuracy of the data.

GO Issuing

Issuing of GOs is made periodically (typically every month) for measured energy output from registered Production Devices. In most countries, the energy output data are derived from Transmission or Distribution System Operator's data (e.g. imbalance settlement), which automatically portrays the accurate amount of energy production netted from auxiliary consumption. Where (rarely) this is not the case, the production data might come straight from the producer, in which case the Competent Body takes the necessary additional steps to ensure the accuracy of the data (e.g. by verification of the metering diagram).

For Production Devices producing energy from multiple energy sources (e.g. certain combined heat and power plants), the measured total energy output is distributed to each energy source through a verified declaration of the shares of different energy sources used in production. GOs are then issued for output from each energy source in proportion to their share so that each GO only records one energy source. The declaration process might cause a time lag of several months for the issuance of GOs from multi fuel plants.

Issued GOs are deposited on the GO Account(s) of registered Account Holders. Each GO represents a value of 1 MWh of energy and the information content of a GO, the attributes of the unit of energy, consists of the standing information of the Production Device as well as information specific to the production such as the energy source, production time, received support). Once the GO is issued, the information contained on a GO is immutable (apart from possible error correction). The Competent Body ensures through contractual and other means that the same energy origin is not tracked by any other means (e.g. contractually or through another tracking system).

GO Transfer

Account Holders may access their GO Accounts to perform transactions such as the transfer of a GO to another Account Holder's account. GOs may be transferred independently from the transfer of the energy to which they relate (2018/2001/EC, preamble 55).

GO Cancellation

The Cancellation (use) of a GO enables a claim on the origin of the energy supplied to a final customer. Cancellation hence means the realization of the value of the GO for the Disclosure of energy origin to a final customer. An Account Holder who performs a Cancellation unambiguously designates the sold/consumed energy to which the Cancellation relates. This may imply a certain (renewable or decarbonised/low-carbon) energy product or the generic mix of a supplier in a given year.

GO transfers between Account Holder's in countries

between which no communication interface exists are handled usually through a process called ex-domain cancellation, where a GO is cancelled in one country for disclosure of the energy origin of the energy sold or consumed in another country.

Energy disclosure and residual mix

Each electricity supplier is obliged to disclose to its customers the energy origin of electricity sold (2018/2001/EU, Article 19.8). This process, called "Disclosure", is the purpose of GOs. GOs are used by energy suppliers, and, in some countries, by consumers to self "green" the "regular" energy supplied to

them by a supplier or directly purchased from e.g. an energy exchange. Sale of energy from renewable energy origin shall take place accompanied by the cancellation of a GO¹.

The legal basis for a similar disclosure obligation exists to some extent for district heating and cooling (see 2018/2001/EU, Article 24.1) and can be found for other types of energy in 2018/2001/EU, Article 19.8 paragraph 2. In order to avoid double claims on the origin of the same amount of energy, a disclosure scheme linked to the cancellation of guarantees of origin is needed for all energy carriers for which a GO system is introduced. No requirement exists for disclosure of the energy origin of gas at the time of drafting this revised standard.

Residual Mix is the energy source mix excluding tracked energy generation attributes from the generation mix. The concept of residual mix is an integral part of any energy origin disclosure system based on the book-and-claim principle. The introduction of a GO (= book-and-claim) system provides a way to supply energy with specified attributes, but also impacts the remaining attributes of energy supplied without a GO. A residual mix is a logical consequence of implementing energy attribute tracking as it ensures that the attributes represented by GOs are not double disclosed to other consumers through an implicit mix. The use of uncorrected generation statistics for purposes of disclosure should be avoided. For the time being a residual mix is only mandatory for electricity, but the same methodology should be extended for other energy carriers as GO and disclosure systems for other energy carriers develop.

Electricity disclosure information provided by energy suppliers to their customers is verified by a Disclosure Supervisory Body to ensure a) that a sufficient amount of GOs has been cancelled corresponding to the suppliers' disclosure statements and b) that for the remaining part of disclosure the residual mix² is correctly applied.

Complementing EN 16325 for agile response in changing circumstances

This standard covers the essential building blocks for a reliable system of guarantees of origin, and a basis for reliable disclosure of the origin of energy. For efficiency of operation and deeper quality assurance, harmonization of detailed processes is recommended, although such details may require frequent updates e.g. to keep pace with developments in the market, and national policies.

There is need for a trade-off between the stability of a formalized standard and the more flexible additional agreements that can be made between issuing bodies.

Ideally, this is done in a single platform where issuing bodies share experiences and concerns, and jointly make decisions on the updates. A clear process for such decision-making between GO issuing bodies, enables agile response to changing circumstances for GO system management.

¹ Only exceptions include governmental support schemes and remaining shares of renewable energy attributes in the residual mix.

² or possible contractual tracking for non-renewable attributes.

1 Scope

This document specifies requirements for Guarantees of Origin (GOs) of Electricity several gaseous Energy Carriers, and Heating and Cooling. This document will establish the relevant terminology and definitions, and requirements for the registration, issuance, transfer and cancellation of GOs in line with the following directives: Renewable Energy Directive (2018/2001/EU), the Directive on common rules for the internal market for electricity (2019/944/EU), the Directive on Energy Efficiency (2012/27/EU) and other relevant European Union law. This document will also cover measuring methods and auditing procedures.

Out of scope of this document is GO recognition by Member States.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 13443, *Natural gas – standard Reference conditions*

ISO 20675, *Biogas - Biogas production, conditioning, upgrading and utilization - Terms, definitions and classification scheme*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

3.1

account

record on a *registration database* (3.54) relating to a particular *account holder* (3.2) in which *GOs* (3.33) are held

3.2

account holder

person or organisation in respect of whom an *account* (3.1) is maintained on a *registration database* (3.54)

3.3

affiliate

stakeholder assigned by the expression “related undertaking” by the IEMD (in relation to the electricity market) and directive (EU) 2009/73 (in relation to the gas market)

3.4

alteration

correction by the *competent body* (3.12) of any data of a *GO* (3.33) where an error has been introduced upon issuing the *GO* (3.33) or during the processing the *GO* (3.33)

3.5 auxiliary

item of the *production device* (3.50) that is required for the functional operation of that *production device* (3.50) that consumes energy

Note 1 to entry: An auxiliary can consume output produced by that production device.

Note 2 to entry: An auxiliary can consume energy in the form of any energy carrier.

Note 3 to entry: Energy consumed by an auxiliary used to facilitate the process is other energy than input and is thus not converted into the output.

3.6 authorised measurement body

person or organization responsible for collecting and determining (on behalf of the *registrant* (3.53)) measured values of the *import meter(s)* (3.36) and *export meter(s)* (3.29) of a *production device* (3.50), and which has been either:

- appointed under a *domain GO scheme* (3.20); or
- appointed by a competent body (3.12) as its *agent* (3.13);

for the purpose of measuring energy

3.7 attribute

data field specifying the characteristics of an energy unit produced by a *production device* (3.50) in terms of the *input(s)* (3.37) used and/or the details (standing data) of that *production device* (3.50) and production process

3.8 biomass

biodegradable fraction of products, waste, and residues from biological origin from agriculture, including vegetal and animal substances, from forestry and related industries, including fisheries and aquaculture, as well as the biodegradable fraction of waste, including industrial and municipal waste of biological origin

3.9 cancel

mark, at the request of the holder of the account on which it is held, a *GO* (3.33) as having been used for the purpose of *disclosure* (3.16) of consumed energy, and to prevent it from subsequently being:

- transferred to another account; or
- marked again in this way

3.10 cancellation statement

electronic, non-transferrable receipt which provides evidence of the cancellation of one or more *GOs* (3.33) for the purpose of *disclosure* (3.16) of the *attributes* (3.7) of those *GOs* (3.33) for the beneficiary or beneficiaries of the cancellation

3.11 cogeneration

simultaneous generation of thermal energy and electrical and/or mechanical energy in a single process

3.12

competent body

body duly authorised under the laws and regulations of any state (and, as the case may be, region) to exercise or discharge any legislative, governmental, regulatory, administrative or supervisory function associated with the administration of a *domain GO scheme* (3.20)

3.13

competent body's agent

agent

person or organisation engaged by a *competent body* (3.12) to perform on its behalf any of its functions associated with the administration of a *domain GO scheme* (3.20)

3.14

consumption declaration

declaration with respect to the *inputs* (3.37) of a *production device* (3.50), including energy used in storing energy to be used by that *production device* (3.50)

3.15

conversion issuance

issuance of a *GO* (3.33) for *output* (3.46) resulted from *energy carrier conversion* (3.23), and for which *GOs* (3.33) representing the *attributes* (3.7) of the *input* (3.37) to that *production device* (3.50) have been cancelled

3.16

disclosure

provision of information to a final customer on the share or quantity of the energy supplied to them as having specific *attributes* (3.7)

3.17

disclosure authority

competent body (3.12) charged with supervision of origin disclosure in its *domain* (3.19), comprising tasks like e.g.:

- verifying the accuracy and veracity of *disclosure statements* (3.18); and
- applying corrective measures with regard to *disclosure statements* (3.18) that do not conform to the requirements of the relevant *domain GO scheme* (3.20), and
- calculating the *residual mix* (3.61) and possibly other fuel mixes, where applicable

3.18

disclosure statement

information provided as a result of *disclosure* (3.16)

3.19

domain

geographic area containing *production devices* (3.50) with respect to which an *issuing body* (3.39) is responsible for issuing *GOs* (3.33) for the relevant *energy carrier* (3.22)

3.20

domain GO scheme

GO scheme

legislative, regulatory, administrative, supervisory, and contractual framework, in relation to any *domain* (3.19), establishing a system for issuing, registration, and cancellation of *GOs* (3.33) and for *disclosure* (3.16) in that *domain* (3.19)

3.21**domain GO scheme participant****GO scheme participant**

registrant (3.53) and/or an *account holder* (3.2)

3.22**energy carrier**

substance or phenomenon that can be used to produce mechanical work or heat or to operate chemical or physical processes and the means by which it is conveyed

3.23**energy carrier conversion****conversion**

production of an *energy carrier* (3.22) in a *production device* (3.50) from one or more *inputs* (3.37) including at least one other *energy carrier* (3.22)

3.24**energy efficiency directive****EED**

directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC

3.25**energy input factor**

proportion (relating to the energy content and expressed as a factor of not more than one) of the *output* (3.46) of a *production device* (3.50) which is from a single type of *input* (3.37)

3.26**energy storage****storage**

device or system that is used to store energy, where the *energy carrier* (3.22) injected into that device or system is the same as the *energy carrier* (3.22) that flows out of it

Note 1 to entry: For the purpose of this standard, energy carrier conversion is not to be understood as energy storage.

3.27**expiry**

cessation of a *GO* (3.33) being eligible for transfer or cancellation, as a consequence of the passage of a given period of time since the production of the associated energy, in accordance with subclause 4.9.4

3.28**fuel index**

minimum mole fraction of a certain compound in a gas mix

Note 1 to entry: The index is determined by subtracting the total of all other gases expressed in mole percent, from 100 mol percent.

3.29**export meter**

one or more device(s) and supporting arrangements for determining (in whole or in part) the quantity of *output* (3.46) flowing from a *production device* (3.50) to the point where the *output* (3.46) is to be made available

3.30

GO issuing request

request by the authorised representative of a *production device* (3.50) to an *issuing body* (3.39) for the *issue* (3.38) of *GOs* (3.33) in respect of that *production device* (3.50) and a specific period of time

3.31

energy type

the energy to which a *GO* (3.33) relates, being *electricity* (3.31.1), *gas* (3.31.2) or *heating and cooling* (3.31.3)

3.31.1

electrical energy

electricity

energy made available by the flow of electric charge through a conductor

3.31.2

gas

energy type (3.31) comprising all gaseous *energy carriers* (3.22) that consist of a chemical compound being in a gaseous state at 15°C and atmospheric pressure (101,325 kPa)

Note 1 to entry: In the context of this standard gaseous energy carriers are hydrogen, methane, ethane, propane, butane, ammonia, dimethylether (DME) and unspecified gas.

3.31.2.1

unspecified gas

energy carrier (3.22) or mix of *energy carriers* (3.22) for which the *fuel index* (3.28) is not specified

3.31.2.2

hydrogen

energy carrier (3.22) of which the energy content is derived from the chemical compound H_2

3.31.2.3

methane

energy carrier (3.22) of which the energy content is derived from the chemical compound CH_4

3.31.2.4

ethane

energy carrier (3.22) of which the energy content is derived from the chemical compound C_2H_6

3.31.2.5

propane

energy carrier (3.22) of which the energy content is derived from the chemical compound C_3H_8

3.31.2.6

butane

energy carrier (3.22) of which the energy content is derived from the chemical compound C_4H_{10}

3.31.2.7

ammonia

energy carrier (3.22) of which the energy content is derived from the chemical compound NH_3

3.31.2.8

dimethylether

DME

energy carrier (3.22) of which the energy content is derived from the chemical compound C_2H_6O

3.31.3**heating and cooling**

energy type (3.31) which has the purpose of adding or deducting thermal energy

3.32**gross energy production**

total energy production of a *production device* (3.50)

3.33**guarantee of origin****GO**

electronic document relating to the *attributes* (3.7) for a specific amount of energy issued by an *issuing body* (3.39) under a *domain GO scheme* (3.20) with the purpose of disclosure (3.16)

3.34**high-efficiency cogeneration**

cogeneration which meets the criteria of Annex II of the *energy efficiency directive* (3.24)

3.35**Internal Market in Electricity Directive****IEMD**

directive 2003/54/EC of the European Parliament and the Council of 26 June 2003 concerning common rules for the internal market in electricity and repealing Directive 96/92/EC

Note 1 to entry: Directive 2003/54/EC has been replaced by directive 2009/72/EC and then by directive (EU) 2019/994 of the European Parliament and of the Council of 5 June 2019 on common rules for the internal market for electricity and amending Directive 2012/27/EU

3.36**import meter**

one or more device(s) and supporting arrangements for determining (in whole or in part) the quantity of total *input* (3.37) per *energy carrier* (3.22) flowing into a *production device* (3.50)

3.37**input**

amount of energy from a specific energy source or material goods consumed by a *production device* (3.50) for the production of *output* (3.46)

3.38**issue**

process of creating (as a *GO* (3.33)) an *account* (3.1), i.e. a record in a *registration database* (3.54)

3.39**issuing body**

competent body (3.12) or *competent body's agent* (3.13) responsible for:

- registering *production devices* (3.50) and *account holders* (3.2) in a *registration database* (3.54);
- collecting measured values from *authorized measurement bodies* (3.6);
- issuing *GOs* (3.33) ; and
- enabling and registering transfers and cancellation of *GOs* (3.33)

3.40

label

attribute on a *GO* (3.33) reflecting that the *output* (3.46) and/or *production device* (3.50) and/or *input* (3.37) to which a *GO* (3.33) relates, conforms to a specific set of qualities defined in a *label scheme* (3.41), following an agreement between the *issuing body* (3.39) and the corresponding *label scheme operator* (3.42)

3.41

label scheme

scheme with criteria independent from the criteria for *GO* (3.33) issuing, that provides assurance that the *output* (3.46) and/or the *production device* (3.50) to which a *GO* (3.33) relates, conforms to specific requirements which are additional to those established in this standard

3.42

label scheme operator

body responsible for the rules establishing the operation of a specific *label scheme* (3.41)

3.43

net energy production

gross energy production (3.32) as evidenced by measured values collected and determined by an *authorised measurement body* (3.6) with reference to its *import meters* (3.36) and *export meters* (3.29) and minus the demand of any production *auxiliaries* (3.5) and minus losses and energy consumption that occur before the resulting energy becomes available for trade

3.44

network-compatible gas

gas which fulfils the technical criteria for injection in the natural gas distribution or transmission system of the respective *domain* (3.19)

3.45

originating production device

production device (3.50) which produced the *output* (3.46) to which a *GO* (3.33) relates

3.46

Output

amount of *net energy production* (3.43) of a specific *energy carrier* (3.22) yielded by a *production device* (3.50) and measured by an *authorised measurement body* (3.6) in MWh

3.47

primary energy savings

savings in primary energy that can be attributed to the use of *cogeneration* (3.11) technology, calculated according to Annexes I and II to the *EED* (3.24)

3.48**production auditor**

person or organisation, independent of the *registrant* (3.53), which has been approved by the relevant *competent body* (3.12) to examine:

- the information provided by that *registrant* (3.53) in a *GO issuing request* (3.30), in order to confirm the accuracy of the *output* (3.46) and, where appropriate, the *consumption declaration* (3.14) in relation to that *GO issuing request* (3.30); and/or
- the *production device* (3.50) itself, in order to confirm the accuracy of the data held with regard to that *production device* (3.50) in the relevant *registration database* (3.54)

Note 1 to entry: Such audit is achieved by reference to the records of, or which are made available by, the Registrant (or the owner or operator of the relevant Production Device). Where appropriate, inspection of records may be supplemented by inspection of the relevant Production Device.

3.49**production declaration**

declaration with respect to the *energy carrier* (3.22) and quantity of the *relevant output(s)* (3.46) of a *production device* (3.50)

3.50**production device**

separately measured device or group of devices that yields one or more *outputs* (3.46) from one or more *inputs* (3.37), with one specific *technology type* (3.67)

3.51**production registrar**

person or organisation, independent of the *registrant* (3.53), which has been appointed by the relevant *competent body* (3.12) to assess applications to register *production devices* (3.50) for the purposes of the *domain GO scheme* (3.20)

3.52**public support
support**

any instrument, scheme or mechanism applied by a State, or a group of States, that promotes the use of energy from renewable sources by reducing the cost of that energy, increasing the price at which it can be sold, or increasing, by means of a renewable energy obligation or otherwise, the volume of such energy purchased, including but not restricted to, investment aid, tax exemptions or reductions, tax refunds, renewable energy obligation support schemes including those using green certificates, and direct price support schemes including feed-in tariffs and sliding or fixed premium payments

[SOURCE: RED II, art. 2, paragraph 5 defining “Support scheme”]

3.53**registrant**

person in whose name a *production device* (3.50) is registered in a *registration database* (3.54)

3.54

registration database

registry

database operated by an *issuing body* (3.39) or its *agent* (3.13), comprising:

- a) *accounts* (3.1) and the *GOs* (3.33) in those *accounts* (3.1);
- b) standing data of *production devices* (3.50) and information provided to the *issuing body* (3.39) or a third party on its behalf in connection with the registration of those *production devices* (3.50); and
- c) standing data of *GOs* (3.33) which have been transferred out of that *registration database* (3.54)

3.55

registration functions

registration of *production devices* (3.50) and the issuing and registration of *GOs* (3.33) in respect of their *output* (3.46), and the maintenance of records regarding such processes

3.56

renewable energy directive

RED II

directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources

3.57

renewable energy source

RES

renewable sources as defined in Article 2, subparagraph (1) of the RED II, as identified by a *source type* (3.62)

3.58

renewable gas

gas which is produced by means of *RES* (3.57)

Note 1 to entry: There are two types of renewable gas: renewable gas of biological origin and renewable gas of non-biological origin.

3.59

renewable gas of biological origin

gas in which the energy content is derived from biomass and landfill gas

3.60

renewable gas of non-biological origin

gas which is produced by means of *RES* (3.57) other than biomass, landfill gas, sewage treatment plant gas and biogas (wind, solar, hydropower, etc.)

3.61

residual mix

for a given *energy carrier* (3.22), the mix of energy sources and other *attributes* (3.7) of the energy supplied in a *domain* (3.19) in a given period of time, excluding energy for which *GOs* (3.33) were cancelled, and excluding energy disclosed by other means of explicit tracking

3.62

source type

energy source of an *input* (3.37) consumed by a *production device* (3.50)

Note 1 to entry: See Normative Annex A for clarification and further information.

3.63**stored energy**

energy that is stored in a device or system for which the *energy carrier* (3.22) injected into that device or system is the same as the *energy carrier* (3.22) that flows out of it

Note 1 to entry: For the purpose of this standard, energy converted from another energy carrier, is not to be understood as stored energy.

3.64**transfer request**

request made by an *account holder* (3.2), or by any person or organisation whom the *account holder* (3.2) has duly authorised, to transfer one or more *GOs* (3.33) held in its *account* (3.1) which specifies:

- a) the identity of the relevant *GOs* (3.33) ;
- b) the identity of the *account* (3.1) in which such *GOs* (3.33) are held;
- c) the identity of the *account* (3.1) of the *transferee* (3.65); and
- d) the *registration database* (3.54) on which the *account* (3.1) of the *transferee* (3.65) is held

3.65**transferee**

account holder (3.2) whose *account* (3.1) has been nominated in a *transfer request* (3.64) to receive *GOs* (3.33) from the *transferor* (3.66)

3.66**transferor**

account holder (3.2) which has requested the *competent body* (3.12) in whose *registration database* (3.54) *GOs* are held on its *account* (3.1) to transfer one or more *GO(s)* (3.33) to another *account* (3.1)

3.67**technology type**

type of technology used by the *production device* (3.50) in generating *output* (3.46) from *input* (3.37)

Note 1 to entry: See Normative Annex B for clarification and further information.

3.68**useful heat**

heat produced in a *cogeneration* (3.11) process to satisfy an economically justifiable demand for heating or cooling as intended by the *EED* (3.24)

3.69**waste heat and cold**

unavoidable heat or cold generated as by-product in industrial or power generation installations, or in the tertiary sector, which would be dissipated unused in air or water without access to a district heating or cooling system, where a *cogeneration* (3.11) process has been used or will be used or where cogeneration is not feasible

3.70**withdrawal**

correction by an *issuing body* (3.39) of an error with regard to a *GO* (3.33) held in its *registry* (3.54) by removal of that *GO* (3.33) from an *account* (3.1), or through amendment of its status in a way that it is no longer transferable and can no longer be cancelled

4 Generic Rules for guarantees of origin (for all energy carriers)

4.1 Main objectives

This document provides guidance:

- to authorities for the implementation of Domain GO Schemes; and
- to Competent Bodies and their Agents and stakeholders in GO Schemes as to the manner in which they should discharge their responsibilities with respect to GO Schemes.

4.2 Principles

This document shall support and promote a set of long-term objectives for the development of Domain GO Schemes, being:

a) uniqueness:

- 1) no more than one GO shall be issued and subsequently cancelled in respect of the same unit of Output; and
- 2) where a GO is issued in respect of a unit of Output, only cancellation of that GO shall constitute proof of the Attributes of that unit of energy for the purpose of Disclosure; and
- 3) a GO shall be used solely for the purpose of Disclosure and shall be cancelled to that effect. The GO is created on the request of the producer and prevents double creation of a GO for the same unit of Output. This uniqueness should be respected in the qualification criteria for Production Device.(4.4.1.2); and
- 4) duplication of the same GO shall be avoided over its whole life cycle;

b) immutability:

the Attributes of a GO shall not be changed in any way once a GO has been issued, except:

- i) to correct an error; or
- ii) to indicate that it has ceased to be eligible for Transfer and/or Cancellation through Expiry, its prior Cancellation or Withdrawal;

c) operational reliability and record keeping:

- 1) operational risks arising in the Issue, transfer, and Cancellation processes for GOs should be identified and mitigated through the development of appropriate systems, controls, and procedures;
- 2) systems shall be reliable and (cyber)secure, and have adequate capacity;
- 3) contingency plans and backup facilities should be established to allow for timely recovery of records and operations and completion of the transfer process;
- 4) records which are sufficient to enable resolution of disputes relating to such matters as ownership of and eligibility for GOs shall be kept of all material communications between Competent Bodies and GO Scheme Participants regarding the registration of Production Devices and the Issue, transfer and Cancellation of GOs; and

- 5) Competent Bodies shall ensure that an electronic record is kept for each GO that has been held in their registry at least during the past 5 years, of:
 - each account or accounts in which it has been held and the period during which it was held in that account or accounts; and
 - where it has been imported, the country or region from which it was imported; and
 - where a GO is exported, then the record shall also show the Domain to which it has been exported;
- d) protection of Account Holders:
 - 1) accounting practices and safekeeping procedures shall be employed that fully protect the GOs in Account Holders' Accounts; and
 - 2) Competent Bodies and Account Holders shall co-operate in seeking to minimize the risk of an unauthorised instruction with respect to a GO being acted upon;
- e) access and transparency:
 - 1) access to participation in GO Schemes shall be based on objective and publicly disclosed criteria so as to achieve fair and open access to existing and potential GO Scheme Participants; and
 - 2) a list of Account Holders which are not natural persons shall be made publicly available and include the GO Schemes where the Account Holder is active, domicile of the Account Holder and its business registration number
 - 3) access to Attributes of a GO shall be made available to the Account Holder of the Account in which it is held; and
 - 4) Competent Bodies shall ensure that the purpose of a GO is clearly communicated to GO Scheme Participants so that they may better inform consumers;
- f) integrity:
 - 1) Competent Bodies should implement due diligence measures to ensure having sufficient knowledge about GO Scheme Participants that enables them to deny access to their Domain GO Scheme when they have sufficient grounds to suspect that prospective participants represent a threat to the integrity of any Domain GO Scheme or could use their Account to violate any EU law; and
 - 2) Competent Bodies shall/should implement effective and regular monitoring of their Domain GO Schemes to ensure that the activity of Account Holders is compliant with the requirements of this standard and with EU laws;
- g) communications:

the systems put in place by Issuing Bodies shall use or accommodate appropriate international communications procedures and standards in order to facilitate effective, efficient, and secure cross-border transfers.

h) regulation and oversight:

Competent Bodies shall be subject to transparent and effective regulation and oversight at a national or regional level in relation to the performance of their obligations under their respective GO Schemes.

4.3 Registration of Competent Bodies and their agents

4.3.1 Appointing authority for Competent Bodies

The appointing authority for Competent Bodies within a Domain shall be the relevant Member State.

4.3.2 Characteristics of Competent Bodies

4.3.2.1 General

A person or organization shall be entitled to become or remain a Competent Body provided it and all of its Affiliates undertake not to participate (other than in connection with the performance of Registration Functions or associated functions such as metering, inspections, reviews, audits and data collection and aggregation) in or otherwise to distort the competition in markets associated with GOs. The governance of the relevant Competent Body shall be such that its interests and those of its Affiliate(s) in relation to GOs will not materially affect the conduct of the Competent Body in relation to the Domain GO Scheme. Therefore, a Competent Body and its Affiliates shall not own nor hold any beneficial entitlement to any GO, unless:

- a) such GO has been purchased by the Competent Body for the sole purposes of:
 - 1) proving the Attributes of the Energy that it has consumed; or
 - 2) testing its systems, in which case the Competent Body shall hold no more GOs than is strictly required for performing such test; or
- b) an Account Holder in its Registry has defaulted on an undisputed payment to that Competent Body, in which case the Competent Body may hold the GO in order to take appropriate actions in accordance with national law to minimize its losses; or
- c) such GO is issued to and subsequently auctioned by the Competent Body, with the full proceeds being used as determined by national law.

4.3.2.2 Allocation of responsibilities under a GO Scheme in a specific Domain

The provisions of a Domain GO Scheme shall be such that the responsibilities identified in 4.3.2.3 are defined and allocated to one or more Competent Bodies. At any given time, the responsibility for a GO Scheme for Issuing GOs for an Energy Carrier within a Domain shall be allocated to a single Competent Body with responsibility for that Energy Carrier within that Domain. Each Competent Body shall carry out its responsibilities for a specific geographic or geopolitical Domain which does not overlap with any other Domain. A Competent Body may, insofar as its national law allows, appoint one or more Agents in respect of one or more of its responsibilities, provided that both the Competent Body and its Agents (continue to) comply with this document.

4.3.2.3 Responsibilities

The following responsibilities are essential for each GO Scheme to function properly:

- a) issuance and administration of GOs under one or more Directives;
- b) supervision of the accuracy of Disclosure Statements and of the related statistics publication thereof;
- c) ensuring that the provisions of the Domain GO Scheme are publicly available in English;
- d) ensuring that the following are guaranteed and clearly communicated to Account Holders:
 - 1) the purpose of GOs;
 - 2) provisions regarding the time and manner of Expiry of GOs in its Domain; and
- 3) provisions regarding the frequency with which the quantity of Output of Registered Production Devices in the relevant Domain shall be determined and recorded, and with which GOs are issued; and
- e) for each Competent Body, ensuring that it discharges its duties under relevant international and national law and regulations and in accordance with this document, amending its practices in line with any change to international and national laws, regulations and this document;
- f) imposing upon Account Holders legal requirements, remedies and sanctions for breaches of their obligations under the Domain GO Scheme; and where relevant to report to the relevant Competent Body or its Agent any failures by Account Holders to comply with the provisions of the Domain GO Scheme;
- g) deciding on the admission of Account Holders within their Domain, including Accounts suspension in case the Account Holders fails to comply with the provisions of the Domain GO Scheme;
- h) operating a Registration Database in such a manner as to reliably, currently, and accurately capture and record the details of and changes to:
 - 1) Production Devices and Account Holders; and
 - 2) GOs, including their:
 - i) issuance;
 - ii) transfer from an Account on its Registration Database to another Account on the same Database or to an Account on the Registration Databases of another Competent Body; and
 - iii) Expiry, Withdrawal and Cancellation;
- i) cooperating with other Competent Bodies to ensure the accurate, reliable, and secure transfer of GOs between Accounts held on different Registries;
- j) cooperating with other Competent Bodies and with relevant authorities to prevent fraud;
- k) conducting or commissioning inspections in accordance with the provisions of subclauses 4.3.5.2, 4.11.3, 4.11.4, 5.3.7, 5.3.3, 5.3.7 of this document.

4.3.2.4 Confidentiality

Competent Bodies shall preserve the confidentiality of information provided to them in connection with their roles as Competent Body save to the extent that:

- a) they are implicitly or explicitly required to disclose such information under this document;
- b) they are otherwise authorized to disclose such information by the person to whom a duty of confidentiality with respect to such information is owed; or
- c) they are required to disclose such information by law, including by any direction or request of a Competent Body which it is reasonable for the Competent Body to treat as having the force of law.

4.3.3 Criteria for qualification and entitlements of Issuing Bodies

The appointment criteria in connection with a Domain for an Issuing Body are that:

- a) the Issuing Body has been appointed for the purpose of issuing GOs under the relevant Domain GO Scheme with respect to any Production Device located in the relevant Domain;
- b) where the Issuing Body intends to issue GOs with a Label, the Label Scheme Operator of the relevant Label Scheme has agreed for the Issuing Body to Issue GOs under that Label Scheme in respect of Production Devices in the relevant Domain(s).

The Competent Body is entitled to receive and use such data as is contemplated by this document and with respect to such data, to grant:

- i) a non-exclusive licence to use it to any other Competent Body to the extent necessary and solely for the purposes contemplated by this document;
- ii) the right to sub-license the use of such data to each such other Competent Body as necessary solely for those purposes; and
- iii) the right to grant each such other Competent Body the right to sub-license the use of such data to Account Holders as necessary solely for those purposes.

4.3.4 Appointment of Agents

Subject to the terms of the relevant GO Scheme, a Competent Body may appoint a person or organization as its agent (a Competent Body's Agent) to discharge any of the obligations imposed on it by this document or its GO Scheme, provided such person or organization:

- is approved by the relevant authority in relation to such functions;
- accepts its appointment as the relevant Competent Body's Agent;
- agrees to provide such information to other Competent Bodies, and such access to its facilities to representatives of those Competent Bodies, as may reasonably be required;
- agrees (with the Competent Body appointing it as a Competent Body's Agent) to comply with the provisions of this document regarding intellectual property as if it were a Competent Body; and
- meets such other requirements as may be specified for the purposes of this subclause 4.3.4.

Where a Competent Body has appointed a Competent Body's Agent to discharge any of its obligations under this document, then the Agent itself does not become a Competent Body. The Competent Body shall

itself remain responsible for the discharge of such functions, and any failure on the part of that Competent Body's Agent to discharge such a function shall be treated for the purposes of this document as a failure on the part of that Competent Body.

The Competent Body remains under all circumstances liable for omissions and actions performed by the appointed agent.

4.3.5 Obligations of Issuing Bodies

4.3.5.1 General

The Issuing Body shall ensure that:

- a) the information received in connection with an application from a prospect Domain GO Scheme Participant is complete and accurate; and
- b) the Production Device or the Account Holder meets the qualification criteria for the relevant Domain GO Scheme.

The provisions of each Domain GO Scheme for the registration of Production Devices shall be such that the relevant Issuing Body (or a Production Registrar appointed by it) is entitled to inspect any Production Device in relation to which it has received an application for registration together with records related thereto so as to verify the information provided in connection with that application. In case the requirements listed in 4.4.3 are not fulfilled or if the right to carry out inspections is not met, the application for registration shall be rejected.

4.3.5.2 Verification of information on Production Devices

The Issuing Body or any other Competent Body shall verify the information provided in connection with an application to register a Production Device in its Registration Database for the purposes of the relevant Domain GO Scheme and ensure for the conduct of an inspection of such Production Device where such is considered to be appropriate by the Issuing Body and where it is defined as appropriate in subclauses 5.3.7, 5.4.3, 5.4.7.

An inspection of a Production Device is likely to be appropriate where:

- a) the Issuing Body (or Production Registrar) is not familiar with the Production Device;
- b) the Issuing Body (or Production Registrar) is familiar with the Production Device and the information provided in the relevant application does not accord with the Competent Body's (or Production Registrar's) experience and prior information;
- c) the Production Device is technologically novel or complex;
- d) the information in the relevant application cannot otherwise be verified;
- e) the relevant application relates to a Production Device which is or has previously been registered and specifies significant changes to the Production Device; or
- f) one or more Input(s) identified in 4.4.1.3 f) are of biological and/or fossil origin.

An Inspection may also be appropriate even where such circumstances do not apply, in correspondence to the judgement of the Issuing Body.