Technical support for RES policy development and implementation.
Establishing technical requirements & facilitating the standardisation process for guarantees of origin on the basis of Dir (EU) 2018/2001

Task 1
Mapping of the currently existing standardisation frameworks

Task 1.1
Comparison of EN16325 and the EECS Rules with an identification of the main differences

FaStGO
Facilitating Standards for Guarantees of Origin

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1. Introduction

1. Framework

The FaStGO project provides expert advice to the European Commission DG ENER, based on the terms of Reference N° ENER/C1/2019-517: "Technical support for RES policy development & implementation. Establishing technical requirements and facilitating the standardisation process for guarantees of origin on basis of Dir (EU) 2018/2001."
Task 1 of FaStGO has the aim of 'Mapping the Currently existing standardisation frameworks.
Under task 1.1 the project compares the current text of EN16325 and the EECS Rules and identiies the main differences between the two documents.
Task 1.2 will compare the current text of EN16325 with the provisions of EN16325.
Task 1.3 identifies the main challenges that currently exist in the management of guarantee of origin systems.
Further in the project (FaStGO task 2) options and text proposals are drafted for the standard EN16325 on guarantees of origin.
The text proposals for a revised EN16325 that will be drafted later in this project, will be an input for the process in CEN/CENELEC for the revision of this standard on guarantees of origin.

2. What and why

EECS stands for European Energy Certificate System. The EECS Rules are available on https://www.aib-net.org/eecs/eecsr-rules . The European standard for guarantees of origin EN16325 was based on the EECS Rules as they were in the time EN16325 was drafted and adopted in 2013. Updates to the EECS Rules were introduced during the process of considering and adopting EN16325. Where EN16325 provides a standard for guarantees of origin (GOs), EECS provides in addition a wider institutional framework for organising the cooperation between Issuing Bodies and enabling cross-border transfer of GOs.
Disregarding the institutional framework, this document compares the two documents with a view on the upcoming revision of EN16325.

3. Reading Guide

This document consists of the following parts:

a. Executive summary
b. Comparison of EN16325 with the corresponding sections in the EECS Rules
c. An identification of topics included in EECS, but not in EN16325
d. Annex I - tables from Subsidiary Document 03 to the EECS Rules, included for reference

The comparison mentioned at b., which by far makes up the largest part of this document, is laid-out as follows:

EN16325 section	Text	EECS Rules section	Text	Analysis	Impact
# Chapter number and description in EN16325					
#.# Paragraph number in EN16325					
Article number in EN16325	Full text of the relevant part of EN16325	EECS Rules paragraph / article number	Full text of the relevant part of the EECS Rules	Identification of differences between EN16325 and the EECS Rules	Impact of the differences so identified

2. Executive Summary

The body of this document comprises an elaborate comparison and analysis of EN 16325:2013+A1:2015 (hereinafter: EN16325) versus the European Energy Certificate System Rules, shortly the EECS Rules, maintained by the Association of Issuing Bodies (AIB) as per February 2020.

For the convenience of you, the reader, we will provide a brief overview of the differences with the greatest impact here.

Multiple energy carriers / conversion / storage
EECS facilitates a generic energy certificate system, expanded with specific schemes for electricity and for gas. The generic system incorporates rules for energy carrier conversion of one energy carrier to another – see also below, under *Disclosure – general*.

EN16325 only covers guarantees of origin for electricity. Directive 2018/2001 requires the issuance of GOs for (renewable) electricity, gas (including hydrogen) and heating / cooling. This means that EN16325 will have to be amended to incorporate rules for energy carrier conversion similar to those in EECS.

Member States could, on a voluntary basis, apply similar such rules for storage of energy in the same energy carrier. It is however administratively less complex to cancel GOs for claims on the origin of the storage losses, than to install all the controls necessary for cancelling GOs for stored energy and issuing GOs for energy coming out of storage. In both cases the end result after storage is a reduced amount of GOs for the same energy carrier with the same attributes as the GOs available before storage.

Immutability
Under the Core Principles of EECS, a GO can in principle not be altered once it has been issued, save:

- to correct errors;
- to amend their status as a result of their end of life (cancellation, withdrawal or expiry).

EN16325 only describes this in Art. 7.2, but omits it from the main objectives. However, its inclusion is vital to the credibility of the GO system. After all, the ability to amend GOs after their issuance could be easily abused to misinform end customers about the origin of energy supplied to them.

Digital security
The Core Principles of EECS require that GO systems be reliable and secure. EN16325 does not contain a statement to this effect. GOs are by definition a digital affair. The market for GOs represents a multi-billion euro industry. (Digital) security is very important, and this should be reflected in the objectives. A key part in this is that a GO should always exist in a registry of the Competent Body, or be in transit from one registry to another.

Disclosure – general
The AIB recognises that the responsibility of a Member State does not end at the issuance of a GO. The way in which GOs are used is also essential. As each Member State is required to recognise GOs issued in other Member States, it should be able to rely on the fact that each GO uniquely represents proof of the origin of the energy to

which it relates. If it cannot, then there is a risk of double disclosure, which seriously jeopardises the credibility of the GO system.

The EECS Rules include more elaborate provisions that secure such:

- It stipulates that where a GO is issued, the energy to which that GO relates can only be disclosed through the cancellation of a GO, and not through any other means. We explicitly note that this is relevant for *all* energy sources (renewable and non-renewable) and for *all* energy carriers (electricity, gas, heating and cooling).
- Where energy is drawn from a grid for conversion to another energy carrier, or where energy is converted from an onsite source that has received GOs, new GOs can only be issued for the resulting energy carrier on condition that GOs are cancelled for the energy consumed by the converting production device.

Disclosure of GOs issued for energy consumed at the site of the production device
In addition to these provisions, EN16325 and EECS each treat onsite demand of energy differently for the purposes of issuing GOs. Provisions should be drafted to exclude the possibility of double-counting. Several scenarios should be considered:

a. to not allow GOs to be issued at all for energy consumed onsite; or
b. to describe the conditions under which GOs may be issued for energy consumed onsite while still preventing double-counting (e.g. cancelling upon issue, or requiring onsite demand to be part of overall registered consumption and thereby subject to disclosure by a supplier, etc.); or
c. to leave it to a Member State's discretion to choose option a or b. Measures will need to be considered to overcome concerns and potential import barriers resulting from different national policies.

Audit – compliance of national GO schemes
The provisions for auditing national GO schemes provided by EECS are far more elaborate than those in EN16325. This topic is strongly tied to that of disclosure. As we described above, Member States should be able to rely on the unique proof represented by each GO. As such, a framework is needed for supervision and auditing of a Member State's national GO scheme, across the entire process from production device registration, to measurement of its output, issuing and cancellation of GOs, and finally the use of these GOs for purposes of disclosure.

Audit – production devices
For audit of production devices, EN16325 refers to EN16247. However, while EN16247 provides conditions for *how* an audit should be performed, it does not identify *which aspects* should be audited. Such information is crucial to determine the (ongoing) accuracy of the energy source(s) used, of the volumes of energy produced by production devices, and the determination of the corresponding amount of GOs to be issued.

Framework for harmonisation of detailed protocols and cooperation methods
In addition to a 'basic text' harmonising GOs (and other types of Certificate), EECS provides a framework that enables efficient cooperation in a trusted environment by Issuing Bodies. This is established through harmonisation of the following aspects, as an additional layer on top of harmonised GOs:

- data and transfer protocols for cross-border transfer of GOs,
- data validation processes,
- procedures for changing the rules,

- decision-making amongst Issuing Bodies,
- a contractual framework properly allocating liability to each involved party, including not only Issuing Bodies and their Agents, but also Account Holders.

For further consideration – Purpose of a certificate

EECS is designed in a way that EECS certificates can serve various purposes, as long as the purpose is recorded explicitly on the certificate. Such recording of the purpose makes it possible to avoid the certificate being used *as* a GO, when it is not intended for the purpose of Disclosure. Under EECS, a multipurpose certificate can include a GO and also hold attributes that can serve other purposes. However, while the multipurpose certificates using the EECS structure usually stay within a single Domain/country, currently only GOs (being single-purpose (Disclosure) certificates) cross borders for international trade. Given various concerns in the gas sector related to double-counting of the same quantity of renewable gas by the use of certificates which are intended for different purposes, a solution might be to embed the guarantee of origin into an electronic document that can be used to serve more than one purpose.

3. Comparison between EN16325 and EECS Rules

EN 16325 section	Text	EECS Rules section	Text	Analysis	Impact
0	**Introduction**				
0.1	General				
	>deleted text< The objective for this European Standard is that it should contain standardisation of Guarantees of Origin (GO) in line with the relevant Directives and existing voluntary schemes with the aim to create a standardised transferable GO that can be used for mainly disclosure and also supporting labelling. A GO is an instrument for proving production of energy in a specific source of production. There is an increasing **demand from the end customers' side** regarding reliable accounting of the origin of energy production. There is also an obligation for electricity suppliers to provide reliable disclosure information to end customers. A standardised system for GOs can fulfil these requirements. Standardisation of Guarantees of Origin will create a tool for fulfilling the requirements in the >deleted text< Renewable Energy Directive, the Electricity Market Directive and the >Energy Efficiency Directive< and to create a basis for further development	Pre-face	(excerpt) **Purpose of the EECS Rules** The EECS Rules governs the European Energy Certificate System (EECS) – a commercially funded, integrated European framework for issuing, holding, transferring and otherwise processing electronic records (EECS Certificates) certifying, in relation to specific quantities of output from production devices, attributes of its source and/or the method and quality of its production. A classic example is the electrical output of a windmill. The number of certificates issued to a windmill during a period will be directly equivalent to the electricity produced by the windmill during that period. These certificates will guarantee that the electricity is from a renewable source and has been produced from wind energy. The purpose of the EECS Rules is to secure, in a manner consistent with European Community law and relevant national laws, that systems operating within the EECS	The introductions of the two different documents both agree on the importance of standardisation of GOs, and on the purpose of GOs. While the preface of the EECS Rules do not explicitly mention labelling, the EECS Rules do contain provisions for such under the term Independent Criteria Scheme. Note EN16325's attention for the end customer side. As we will see below at EN section 3, Disclosure is typically considered a process required of the supplier. In practice, we also see larger	To prevent double-counting, we might considered whether provisions could be introduced for securing the accuracy of all claims relating to the (renewable) origin of energy, including claims by parties other than electricity suppliers.

	of certification regarding the original electricity production. In this way a harmonised way to prove the origin of the electricity produced will be developed. These GOs can be used for trading and/or for disclosure/labelling of electricity. The Renewable Energy Directive and >Energy Efficiency Directive< regulates that the member states shall generally recognise the GOs issued by other member states. Further, the system should be fraud-resistant and avoid double-counting. Therefore a European Standard for GOs for all member states is important. The content of the standard can, after necessary modifications, for example, be applied to heating, cooling, and gas (including biogas). These modifications will not be included in this standard. The elaboration and publication of European Standards will allow certification bodies to develop their activities on consensual and recognised practices and this will increase the credibility of the certificates they deliver.		framework are reliable, secure and inter-operable. The implementation, under the EECS Rules, of harmonised standards for issuing and processing EECS Certificates enables the owners of EECS Certificates to transfer them to other Account Holders at both the domestic and international level.	consumers greening their electricity consumption without engaging the services of a supplier.	
0.2	Experiences of the Association of Issuing Bodies (AIB), Description of existing voluntary system (EECS)				
0.2.1	Association of Issuing Bodies (AIB) The AIB has as its purpose the development, use and promotion of a standardised system based on structures and procedures in order to ensure the reliable operation of international certificate schemes which satisfy the criteria of objectivity, non-	N/A		One may wonder what the value is of including text such as this in a Standard. The purpose of the Association of Issuing Bodies is not under the control of the	For a future version of the Standard, if it should need some manner of introduction, it may be considered to focus on what AIB has achieved that led

	discrimination, transparency and costs effectiveness in order to facilitate the international exchange of certificates.			Standard. As such, if the Association were to amend its purpose, this part of the Standard would become outdated.	to the content of the Standard, rather than what it supposedly does nów.
0.2.2	The EECS Rules The European Energy Certificate System (EECS) is a commercially funded, integrated European framework for issuing, holding, transferring and otherwise processing electronic records (EECS Certificates) certifying, in relation to specific quantities of output from power plants, attributes of its source and/or the method and quality of its production. The number of certificates issued to a power plant during a period will be directly proportional to the electricity produced by it during that period. These certificates guarantee the source of that electricity. EECS is governed by rules (the EECS Rules) which are intended to secure, in a manner that is consistent with European Community law and relevant national laws, that systems operating within the EECS framework are reliable, secure and inter-operable. The implementation, under the EECS Rules, of harmonised standards for issuing and processing EECS Certificates enables the owners of EECS Certificates to transfer them to other >Account Holders< at both the domestic and international level.	N/A		Just like the purpose of the AIB, the EECS Rules are under its control and subject to change. Of note, however, is the principle of members conducting reviews of each other's operations. This can give some level of assurance that each member complies with the shared set of rules. The statement that EECS is commercially funded is outdated: At the time of this writing, EECS is paid for with the fees of its members, who are funded in various ways, some by taxpayers' money, some by fees paid by the account holders of GOs.	It will be worthwhile to investigate if the provisions for auditing in (currently) section 12.1 of EN16325 can be strengthened to provide assurance to a broader audience, e.g. competent bodies for disclosure throughout the Union. This should alleviate any concerns a Member State might have about accuracy, reliability and veracity as per article 19, subsection 9 of Directive 2018/2001/EC.

	The EECS Rules set out the obligations of AIB members in connection with their membership. The AIB governs the EECS Rules, its members conducting reviews of each other's operations. Members are responsible within set geographic "domains" for overseeing their customers' compliance with these rules. The EECS Rules harmonise the creation, maintenance, transfer, cancellation and other processing of EECS Certificates; setting requirements for member participation. EECS Certificates may be eligible as Guarantees of Origin issued pursuant to European Community legislation as implemented by member states; or in connection with other legislative certification schemes or under other, entirely voluntary, arrangements. To become a member of an individual EECS Scheme, the relevant provisions applicable in that member's domain should satisfy the requirements of the EECS Rules, including legislative and administrative arrangements for the issue of such certificates. Each member produces a domain protocol, which legislative provisions ensure that the EECS Rules are satisfied. Account holders are not bound by the EECS Rules, but by the legislation to their domain.				
0.2.3	Registration of production devices EECS Certificates can only be issued to the owners of power plants that have successfully registered within a	N/A	N/A	While it is true that the EECS Rules contain many	

	domain. To apply for registration under EECS, the owner of the power plant should provide information about themselves and the power plant, including the technology and energy sources, commissioning dates and capacities, details of any public support that has been received, details of the arrangements for measuring energy sources and produced electricity, including any production >Auxiliaries<, pumping stations and on-site demand. Registration requires the power plant to comply with both the law and with EECS with members being permitted to conduct physical inspections where necessary.			provisions that were replicated in EN16325, they are also continuously subject to amendments aimed at improvement. As such, a reference to the EECS Rules would be better to include than actual provisions, which should be in the main body of the Standard, anyway.	
0.2.4	Issuing of EECS Certificates Once a power plant has been registered, then it can receive EECS Certificates. The produced electricity, along with any fuels used, may only be measured by an approved body. The EECS Certificates may only be traded for electricity supplied to the grid, nett of electricity used by production Auxiliaries or for pumping water back to the header lake in pumped storage facilities. Certificates for electricity used by production >Auxiliaries< and pumping are automatically cancelled upon issue.				
0.2.5	Use of EECS Certificates Certification of the quality of electricity and the method of its production provides an efficient mechanism for accounting for: the quality and method				

	of production, as supplied to consumers; progress towards targets for the use of certain technologies; and production and/or consumption for stimulating investment in certain categories of plant. Certification enables specific types of electricity to be given a value; which can be traded separate to the physical electricity. For this to work effectively, producers, traders, suppliers, consumers, NGOs and governments should be sure that the certificates provide reliable evidence of the qualities to which they relate. EECS ensures that users have confidence in the EECS certificates issued and processed by AIB members.				
0.2.6	Life cycle The life cycle of an EECS Certificate encompasses: issuance, transfer and cancellation. EECS Certificates are issued on registries operated by AIB members for electricity by power plant registered in connection with national legislation or otherwise under EECS. They may be transferred from the producer's account to that of a trader and so on; either within the country of origin or to other EECS registries across Europe. EECS certificate may be cancelled and removed from circulation when the value of the certificate is realised, and may be used to adjust the residual mix for that domain. EECS Certificate may be cancelled by consumers in recognition				

	of the qualities they represent; to qualify for financial incentives from government; or to discharge contractual or legal obligations. EECS Certificates may also be withdrawn from circulation where they have been issued in error; or expired (automatically cancelled), if they remain transferrable after a set period.				
1	**Scope**				
	This European Standard specifies requirements for Guarantees of Origin of >Electricity< from all energy sources. This standard will establish the relevant terminology and definitions, requirements for registration, issuing, transferring and cancellation in line with the RES, >Energy Efficiency< and IEM Directives. This standard will also cover measuring methods and auditing procedures. These Guarantees of Origin may be traded and/or used for Disclosure/Labelling. The content of this standard can, for example, be applied, after necessary modifications, to heating, cooling, and gas (including biogas). These modifications are not part of this standard. This European Standard will not establish any sustainability criteria, this work is done elsewhere. This standard is suitable for certification purposes.			The EECS Rules provide rules for gas in addition to electricity. The establishment of sustainability criteria is not in the standard: that is currently only to be found in Directive 2018/2001. The electronic document that contains the GO can, however, contain information on whether such criteria have been fulfilled. EECS facilitates a data field for so-called Independent Criteria Schemes to identify whether these criteria have been met.	Consider facilitating an electronic document that contains a GO and can optionally also serve additional purposes.

2	**Normative references**				
	The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies. EN 16247-1, *Energy audits — Part 1: General requirements*	N/A		EN16325 mentions EN16247 only very briefly, in relation to the audit of EGIs / production devices. The applicability of EN16247 is narrow, however, as it provides conditions for *how* an audit should be performed, but does not identify *which aspects* should be audited.	Proper audit of production devices requires knowing what to look for. Recommendation to include in the Standard provisions for the *content* of production device audits. These should be harmonised as much as possible. But it is likely that each energy carrier shall, due to the characteristics specific to its production, require an additional list of specific audit topics, too. Inspiration may be found in EECS E3.3.7, E3.3.11, E3.3.12, N5, O5.
3	**Terms and definitions**				
	For the purposes of this document, the following terms and definitions apply.	B1.1.1	In the EECS Rules and each Subsidiary Document, unless the context otherwise requires or there is express provision to the contrary, terms shall have the meanings respectively ascribed to them below:	None.	

		N2.1.2	In the EECS Rules and each Subsidiary Document where the Output of a Production Device is electrical energy then, unless the context or law otherwise requires or there is express provision to the contrary, terms shall have the meanings respectively ascribed to them by the definitions in Section B1.1.1 of the EECS Rules as modified by the following, which shall take precedence:	None	
3.1	**Account Holder** person or organisation in respect of whom a Transferables Account or a Cancellation Account is maintained on a Registration Database	B1.1.1	**Account** an account in a Registry being either a Transferables Account or a Cancellation Account; **Account Holder** a person in respect of whom an Account is maintained on an EECS Registration Database;	The combination of AIB's definitions lead to almost exactly the same phrasing as that in EN16325. The latter is more explicit in distinguishing natural persons *and* legal persons. The Account in a registry is an important concept. Through the concept of the Account, it must be reinforced that a GO at all times be held in an Account on a Registry or in transit between two Registries. A GO cannot exist outside a registry.	In practice, Accounts are typically held by producers, suppliers and traders of energy and GOs. Many of these do so in the form of a legal person. In that sense, the current phrasing in EN16325 is to be preferred. There is no effective need for the Standard to distinguish between Transferables Accounts and Cancellation Accounts. What matters is that Cancelled GOs cannot be moved out of an Account.

				The concept of a Cancellation Account is a specific implementation of a very important, underlying concept: when a GO is cancelled, it should be marked as such in order to prevent its onward transfer. Whether this is done by amending its status in a registry or by moving it to a separate account is in principle for the competent / issuing body to decide.	Recommendation to have just two definitions: • **Account:** record on a Registration Database relating to a particular Account Holder in which GOs are held. • **Account Holder:** person or organisation in respect of whom an Account is maintained on a Registration Database.
3.2	**Affiliate** stakeholder assigned by the expression "related undertaking" by the IEM Directive Directive 2009/72/EC, art. 2, subsection 22: *'related undertaking' means affiliated undertakings, within the meaning of Article 41 of the Seventh Council Directive 83/349/EEC of 13 June 1983 based on Article 44(2)(g) (13) of the Treaty on consolidated accounts (14), and/or associated undertakings, within the meaning of Article 33(1) of that Directive, and/or undertakings which belong to the same shareholders;*	B1.1.1	**Affiliate** a company that is closely related to another through minority ownership by a parent company	Given that the Directive to which the definition in EN16325 (indirectly) refers is no longer in force, the definition may no longer be applicable. The definition as included in the EECS Rules may be construed as to apply only to subsidiary undertakings, whereas EN16325 clearly also means to	The definition should be re-drafted, such that it is not dependent on a Directive that is no longer in force, while taking into account that it should apply to both subsidiary ánd parent undertakings.

	Directive 1983/349/EEC, art. 2, subsections 11 and 12 (no longer in force): *(11) ·group· means a parent undertaking and all its subsidiary undertakings* *(12) ·affiliated undertakings· means any two or more undertakings within a group*			include parent undertakings. The latter interpretation makes sense, because the term in the context of EN16325 and the EECS Rules is used to describe that bodies charged with issuing GOs must be independent from the market for such GOs.	
3.3	**Alteration** correction by the Competent Body of any data of a GO in case that an error is introduced upon issuing of the GO or in the course of the processing of the GO	N/A		The EECS Rules do not include a definition for alteration, presumably finding the term self-explanatory.	None – there is no reason why the definition cannot be kept.
3.4	**Auxiliaries** item of the plant and/or apparatus not directly part of an >Electricity< generation process but required for the functional operation of the EGI	B1.1.1	**Production Auxiliary** a device that consumes some of the energy produced by a Production Device in order to prepare Input for consumption by that Production Device;	The definition in EN16325 seems broader than that in the EECS Rules. It is reasonable to assume that preparation of input shall be considered as 'required for the functional operation of the EGI'. However, depending on the interpretation	Recommendation to introduce a clear definition of (Production) Auxiliary, which is essential for the calculation of the amount of output eligible for being issued GOs.

				of the definition in EN16325, e.g. the lighting of an EGI may also be construed as an auxiliary.	
3.5	**Approved Measurement Body** person or organisation that is responsible for collecting and determining (on behalf of the Registrant) measured values of the Import and Export Meters of an EGI, and which has been approved by a Competent Body to measure Electrical Energy	B1.1.1 N2.1.2 O2.1.2	**Approved Measurement Body** a person that is responsible for collecting and determining (on behalf of the Registrant) measured values of the Output of a Production Device, and which has been approved under Section H3.2 to conduct specified functions in relation to the EECS Rules **Authorised Measurement Body** a person who is authorised or, where appropriate, appointed by the relevant Competent Authority for the relevant Domain to collect and determine measured Output quantities and other measured energy values for use in connection with charging for use of (as is appropriate in connection with the relevant Production Device) a distribution or transmission system; **Authorised Measurement Body** a person who is authorised or, where appropriate, appointed by the relevant Competent Authority for the relevant Domain to collect and determine measured Output	The EN16325 definition includes measurement of electrical energy drawn from a distribution or transmission system or onsite production, whereas the definition in the EECS Rules only mentions Output. Further, under the EECS Rules, Output can be either electricity, fuel or heat. EN16325 is limited to measuring only electricity.	The measurements of the Approved Measurement Body shall be used to calculate the amount of output eligible for being issued GOs. Since Directive 2018/2001/EC requires certification of electricity, heating, cooling, hydrogen and renewable gas, the role of the approved measurement body must be re-assessed: in addition to energy production, the energy consumption of an EGI / production device will have to be measured, and the Standard will have to contain provisions for the measurement of both.

			quantities and other measured values;		
3.6	**Cancel** to use a GO for purposes of Disclosure and prevent it from being transferred to another account	B1.1.1	**Cancel** to remove an EECS Certificate from a Transferables Account at the request of an Account Holder for the purposes of enabling the Account Holder (whether on its own behalf or on behalf of another person): (a) to realise such real or intangible benefits as may be accorded to it; and/or (b) to comply with a legal obligation; (and Cancellation shall be construed accordingly);	The definition in the EECS Rules allows for GOs to be cancelled for whatever reason seems profitable for the Account Holder. By contrast, EN16325 makes a specific link with disclosure. Further, the EECS Rules specifically refer to cancellation occurring at the request of the Account Holder, while EN16325 is silent on the matter.	To prevent GOs from being misused, thereby causing attributes to leak away from the overall 'pool' available for disclosure, it is recommended to sync up with the intended purpose of GOs in Directive 2018/2001/EC: "demonstrating to final customers the share or quantity of energy from renewable sources in an energy supplier's energy mix and in the energy supplied to customers under contracts marketed with reference to the consumption of energy from renewable sources". Of course, Directive 2018/2001/EC also allows MS to issue GOs for non-renewable energy, so the last part of that sentence should refer

					to energy from *specific* sources. Further, either the definition and/or the process should describe how cancellation is initiated. Since the purpose of the GO is to demonstrate the origin of the supply of energy, it should indeed be initiated by the supplier. In addition, it should be clear that cancellation can only take place once.
3.7	**Cancellation Account** record on a Registration Database concerning Cancelled GOs and relating to a particular person or organisation	B1.1.1	**Cancellation Account** a record on an EECS Registration Database relating to a particular person incorporating EECS Certificates which have been Cancelled by that person, or which have been transferred to that person in connection with their Cancellation by another Account Holder;	The concept of a Cancellation Account is a specific implementation of a very important, underlying concept: when a GO is cancelled, it should be marked as such in order to prevent its onward transfer. Whether this is done by amending its status in a registry or by moving it to a separate account is in principle for the	There is no effective need for the Standard to distinguish between Transferables Accounts and Cancellation Accounts. What matters is that Cancelled GOs cannot be moved out of an Account. Recommendation to remove this definition.

				competent / issuing body to decide. In practice, most registries seem to have chosen the former.	
3.8	**Cancellation Statement** electronic receipt that can be printed which provides evidence to a National GO Scheme Participant and the respective beneficiaries of the cancellation of the attributes at the time of >cancellation< of one or more GOs and which is not transferrable to any other National GO Scheme Participant or beneficiary	B1.1.1	**Cancellation Statement** a non-transferable electronic or printed receipt for providing evidence of the attributes at the time of Cancellation of Certificates acquired by an Account Holder;	Consistent with their respective definitions for 'Cancel', EN16325 is quite specific and the EECS Rules are more vague about whom the evidence a Cancellation Statement provides is aimed at. Further, there is a slight difference in the format in which a Cancellation Statement may be provided.	Again, it is recommended to sync up with the intended purpose of GOs: disclosure. The definition of the cancellation statement should include that the evidence it provides is for the benefit of whomever the origin of energy is being disclosed to. Regarding the format: anything in printed form can be scanned and made electronic. And almost any electronic document can be printed. This makes the difference moot. In the modern world, electronic receipts may simple be preferable to paper copies. Recommendation to

					remove the distinction.
3.9	**Cancelling Body** body which cancels GOs in order to prevent their further transfer between National GO Scheme Participants	B1.1.1	**Cancelling Body** a body, which may or may not be an Account Holder which: (a) provides real or intangible benefits in connection with the Cancellation of EECS Certificates; and/or (b) imposes a legal obligation that may be satisfied by the Cancellation of EECS Certificates;	As was established in the analysis and impact for the definition of Cancellation, cancellation is initiated by the supplier. Therefore, for the purpose of GOs, this definition is not needed.	Recommendation to remove this definition.
3.10	**Cogeneration** simultaneous generation in one process of thermal energy and electrical and/or mechanical energy *>deleted text<*	N2.1.2	**Cogeneration** is the simultaneous generation in one process of thermal energy and electrical and/or mechanical energy;	These definitions are identical.	None.
3.11	**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 or administrative function associated with the administration of a National GO Scheme	B1.1.1	**Competent Authority** in relation to the exercise or discharge of any legislative, governmental, regulatory or administrative function with respect to any Domain, the body duly authorised under the laws and regulations of the state (and, as the case may be, region) in which such Domain is situated to exercise or discharge that function, and, in relation to any Guarantee of Origin or Support Certificate the body duly authorised by the State under the relevant Legislative Certification Scheme to issue that Guarantee of	While the terms are different (Body vs. Authority), their *definitions* in EN16325 and the EECS Rules are close to identical, save that: • the definition in the EECS Rules specifies how the definition applies to Guarantees of Origin and support certificates; and	There are several roles in a GO scheme (issuing body/registry operator, production auditor, production registrar, regulator, etc.) Roles can be performed by competent bodies, and any individual competent body need not be in charge of all the roles in a scheme. Therefore,

			Origin and/or Support Certificate as the case may be;	• the EN16325 definition smartly rearranges word order to be more concise, and therefore easier to read. • EN16325 might assign a wider package of responsibilities under this term: the whole administration of the GO system is allocated with the Competent Body. EECS limits the function to Issuing of GOs or certificates. Where the full administration of the National GO scheme, as stated by EN16325, might by law be distributed to several organs, this may be a too extensive allocation in some cases. However, the definition in EECS limits itself to the act of Issuing, which is not corresponding	there is a need to distinguish between different competent bodies with different roles, and the Standard should be amended accordingly.

				reality nor the wider set of requirements in the body of the EECS Rules.	
3.12	**Competent Body's Agent** person or organisation engaged by the Competent Body to perform on its behalf any of its obligations relating to the administration of GOs	B1.1.1	**Member's Agent** a person, including a Registry Operator, engaged by a Member to perform any of its obligations under the EECS Rules on its behalf;	The definitions for Member's Agent in the EECS Rules is somewhat difficult to interpret without further context. The Articles of Association of the AIB stipulate that each of its members must be an Issuing Body, which therein is defined as *"the body responsible for administering certificates within a Non-Governmental Certificate Scheme or a Legislative Certificate Scheme"*. We can reasonably conclude that the EECS Rules relate to the administration of GOs. Following this, we can conclude that the definitions are indeed quite similar.	The difference is almost negligible. The wording of the EN16325 definition can more easily be applied in the context of a Standard. Both EN16325 and the EECS Rules agree that an issuing body could engage an agent to perform "any obligation". As such, it does not make sense to single out one specific obligation (registry operator) in the definition.
		B1.1.1	**Registry Operator** in relation to any Member and EECS Scheme either: (a) that Scheme Member; or (b) where such appointment has been made, the person appointed by such Scheme Member to administer the operation of the EECS Registration Database for the purposes of that EECS Scheme;		

3.13	**Consumption Declaration** declaration with respect to the Inputs of an EGI (including the Electrical Energy used in storing energy to be used by that EGI)	B1.1.1	**Consumption Declaration** a declaration with respect to the Inputs of a Production Device (including the electrical energy used in storing energy to be used by the Production Device);	These definitions are identical.	None.
3.14	**Disclosure** process whereby a supplier provides to its customers information about Electrical Energy that has been supplied to them, as directed by Article 3.9 of the IEM Directive	B1.1.1	**Disclosure** the process whereby a supplier provides to its customers information about energy that has been supplied to them;	The main difference here is that the EN16325 definition provides a link to the IEM Directive, which is therein defined as Directive 2009/72. Since the latest update to EN16325, a new Directive (2019/944) on common rules for the internal market for electricity has been published. This new version (2019/944) lists requirements for disclosure of energy sources in Annex I, paragraph 5. However, art. 19(12) of Directive 2018/2001/EC (Directive 2018/2001) still refers to Article 3(9) of Directive 2009/72. Further, the EN16325 definition limits Disclosure to	As we have established earlier, the scope of GOs in Directive 2018/2001/EC has expanded beyond merely electricity. Since Directive 2018/2001/EC specifically calls for Member States' compliance with EN16325, it makes sense for the definition for Disclosure to reference the rules for such in an applicable Directive. Since the reference in Directive 2018/2001/EC seems outdated, we would expect such reference to relate to Annex I of 2019/944.

				electricity, whereas the EECS Rules maintain that it relates to *energy*. Finally, the definition of Disclosure does not encompass claims of renewable energy consumption made by other parties than suppliers. In practice such claims take place.	In any case, however, Directive 2018/2001/EC: • enables Member States to issue GOs for energy from non-renewable sources; and • without limitation to an energy carrier or energy source, requires Member States to recognise GOs issued in other Member States. Neither version of the IEM Directive directs that a GO for anything other than renewable electricity be used for disclosure. But given their purpose, it only makes sense that such GOs *can* be used for disclosure. Therefore, the definition for Disclosure should be narrow enough to require the use of

					GOs for disclosure of renewable energy, while being broad enough to allow for GOs for non-renewable energy to be cancelled for purposes of Disclosure. In order to avoid the same MWh from renewable energy to be claimed for consumption more than once, it is essential that either: • A prohibition be introduced for parties other than suppliers to make a claim regarding the origin of energy used. Or • GOs are cancelled also for RES consumption claims by other parties than suppliers, and that the purpose of a GO be amended, accordingly.
3.15	**Domain**	B1.1.1	**Domain**	For the purpose of GOs, these	None.

	geographic area containing EGIs with respect to which a Competent Body is responsible for issuing GOs		an area containing Production Devices with respect to which a Member is an Authorised Issuing Body for the purposes of an EECS Product	definitions are identical.	
3.16	**Electrical Energy** **Electricity** energy made available by the flow of electric charge through a conductor	O2.1.2	**Gas** a gaseous energy medium, of which the principal purpose is to carry energy content towards an energy consumer; **Hydrogen** a gas with a composition of at least 99.9% vol hydrogen; **Methane** a gas, fulfilling the technical criteria for injection in the natural gas grid of the respective country;	There is no definition for Electricity in the EECS Rules. Conversely, there are not yet definitions for types of gas in EN16325.	The definitions in EN16325 should be expanded to include such other energy carriers as are identified in Directive 2018/2001 (i.e. gas incl. hydrogen, heating and cooling).
3.17	**Electricity Generation Installation** **EGI** separately measured device or group of devices that produces Output	B1.1.1	**Production Device** a separately measured device or group of devices that produces an Output;	The definitions are identical, while the terms used to refer to them are different. The term used in EN16325 mentions only electricity.	Recommendation to amend the term such that it is intuitive for the reader – production device is preferred. Another benefit from that term is that it is energy carrier-neutral. Its definition should be amended to refer to any applicable type of energy; not just electricity.

3.18	**Energy Efficiency Directive** 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<	N2.1.2	**Cogeneration Directive** Directive 2012/27/EC 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 92/42/EEC;	The inclusion of 92/42/EEC in the EECS Rules definition seems out of place. Otherwise, the definitions are identical. Directive 2012/27 is amended by Directive 2018/2002. However, all stipulations relating to GOs (for electricity from high efficiency cogeneration – see art. 14, Annex I, Annex II and Annex X) remain unaffected.	Impact negligible. The EN16325 definition may be kept.
3.19	**Energy Input Factor** proportion (expressed as a factor of not more than one) of the Nett Electrical Energy Generation of an EGI which is from a single type of Input, as specified in the GO Issuing Request for the period over which Electrical Energy has been generated for that EGI and for that single type of Input	N2.1.2	**Energy Input Factor** in relation to any Production Device and period of time and single type of Input as defined in the Fact Sheet "Types of Energy Inputs and Technologies" the proportion expressed as a factor of less than one of the Nett Electrical Energy Generation of that Production Device which is from that single type of Input, as specified (consistently with the terms of the relevant Product Rules) in the Production Declaration for that Production Device with respect to the period over which the electricity was generated;	The differences here: a) the proportion being not more than one vs. being less than one; b) the specification occurring in the GO Issuing Request or in the Production Declaration. c) the proportion relating to electricity vs. energy.	Recommendations: • regarding to the proportion (< 1 vs. ≤ 1): to keep with EN16325, as mathematically speaking the formula could result in the number 1; • to amend the definition to refer to the Consumption Declaration, and

		O2.1.2	**Energy Input Factor** This relates to any Production Device and period of time and single type of Input (as defined in the Fact Sheet "Types of Energy Inputs and Technologies"). It is the proportion, expressed as a factor of less than one, of the Nett Gas Production of a Production Device, which is from a single type of Input, as specified (consistent with the terms of the relevant Domain Scheme) in the Production Declaration for that Production Device, with respect to the period over which the Gas was produced;	Regarding a), the calculation of the Energy Input Factor could theoretically be 1. Regarding b) neither document seems be correct. In both documents, the Energy Input Factor is actually specified in the *Consumption* Declaration. Regarding c): the scope of Directive 2018/2001/EC clearly includes heating, cooling, hydrogen and gas.	to energy over electricity.
3.20	**Expiry** cancellation of a GO as a consequence of the passage of a given period of time since the production of the associated Electrical Energy	B1.1.1	**Expiry** the prevention by the Issuing Body on whose EECS Registration Database an EECS Certificate resides of transfer to another Transferables Account and Cancellation of such EECS Certificate by the holder as a consequence of the passage of a given period of time since its Issue or since the production of the associated energy;	EN16325 defines Expiry as a form of Cancellation. This is incorrect: Cancellation as per its definition relates to Disclosure, which in turn relates to an act performed by a supplier. In contrast, Expiry occurs as a result of the passage of time. For statistical purposes it is essential that	It is important that expiry occurs as intended to allow for proper calculation of disclosure statements, residual mixes, and statistics. Therefore, the definition must be re-written: • to be distinguished from cancellation;

				Expiry be separately identifiable from Cancellation. Further, the EECS Rules maintain that the reference date for Expiry could be the date of issue of a Certificate. For GOs, the reference date is always the production of the associated energy. And finally, we again see the difference of electricity vs. energy.	• to relate to the end date of production (not the issue date of the GO) of the associated energy (not just electrical).
3.21	**Export Meter** one or more device(s) and supporting arrangements for determining (in whole or in part) the quantity of Electrical Energy flowing from an EGI to a distribution or transmission system or to satisfy onsite demand	N2.1.2 O2.1.2	**Export Meter** has the meaning assigned to an Exit Measurement Point by the definition in Section B1.1.1 of the EECS Rules and refers to a device, or collection of devices, and supporting arrangements for determining (in whole or in part) the quantity of electrical energy flowing from a Production Device to a distribution or transmission system and, where permitted by national practice, including the electrical energy flowing from that Production Device to satisfy onsite demand; **Export Meter**	In contrast to EN16325, the EECS Rules identify Export Meter as a specific interpretation for electricity of a more generic definition for any energy source. In addition, in the EECS Rules the inclusion of onsite demand of electricity is dependent on such being permitted by national practice.	The distinction between energy sources looks useful, as not all energy carriers are necessarily fed into a grid. As for onsite demand, it is very important for the credibility of the GO system that the arrangements are such as to prevent GOs from being double-counted for

			has the meaning assigned to an Exit Measurement Point by the definition in section B1.1.1 of the EECS Rules and refers to a device, or collection of devices, and supporting arrangements for determining the quantity of Gas flowing from a Production Device to a distribution or transportation system;		purposes of disclosure, and to eliminate even the perception of the public that they could be. For onsite demand several scenarios should be considered: • whether to allow GOs to be issued at all for energy consumed onsite; or • if MS may at their discretion choose to not issue GOs for energy consumed to satisfy onsite demand; and • where it is left to MS' discretion: under what conditions GOs may be issued for energy consumed onsite while still preventing double-counting (e.g. cancelling upon issue, requiring onsite demand to be part of overall consumption and
		B1.1.1	**Exit measurement** the technical and administrative arrangements for determining (in whole or in part) the quantity of Output flowing from a Production Device and, where permitted by national practice, including the Output flowing from that Production Device to satisfy onsite demand; **Exit measurement Point** the point in a Production Device at which Exit Measurement takes place;		

					thereby subject to disclosure by a supplier, reported as part of total consumption in the Residual Mix Calculation, etc.)
3.22	**GO Issuing Request** request by the authorised representative of an EGI to a Competent Body for the Issue of GOs in respect of that EGI and a specific period of time	B1.1.1	**Production declaration** a request by the operator of a Production Device to an Authorised Issuing Body for the Issue of EECS Certificates, in respect of a particular Production Device and a specific period of time,;	These definitions are functionally identical, although the definition provided in EN16325 is easier to read.	None.
3.23	**Gross Electrical Energy** total Gross Electrical Energy production of an EGI; as evidenced by measured values collected and determined by an Approved Measurement Body with reference to its Import and Export Meters (adjusted by meter amendments and the outcome of any disputes)	N2.1.2 O2.1.2	**Electrical Energy Generation or Gross Electrical Energy Generation** the total annual gross electricity production of a Production Device; as evidenced by measured values collected and determined by an Authorised Measurement Body with reference to its Import and Export Meters (adjusted by meter amendments and the outcome of any disputes); **Gas Production or Gross Gas Production** The total gross Gas produced by a Production Device; as evidenced by measured values collected and determined by an Authorised Body with reference to its Import and Export Meters (adjusted by meter	The main difference between these definitions is that the one in the EECS Rules specifies the annual production. In addition, it should be considered that both definitions relate to electricity, specifically.	In relation to the topic of issuing for onsite consumption, as described at the definition for Export Meter, it does not make sense to only consider annual production. Further, it should be considered if this definition can be harmonised to cover all relevant energy carriers, or if similar, separate definitions should be determined to describe gross production of individual energy carriers.

			amendments and the outcome of any disputes);		
3.24	**Guarantee of Origin** **GO** certificate Issued under a National GO Scheme with the >purpose< of Disclosure Note 1 to entry: Guarantees of origin should be used within the framework of Labelling to designate the provider mix and - if a provider sells to an end-consumer with undertaking a product differentiation with a different energy mix (product mix) – also for a designation of the product mix.	B1.1.1	**Guarantee of Origin** a certificate issued by (a) a Competent Authority; or (b) by a Member acting as the duly authorised agent on behalf of a Competent Authority, under the laws of a State as a guarantee of the nature and origin of energy for the purpose of providing proof to the final consumer of energy that a given share or quantity of energy, as the case may be: (i) was produced from the energy source to which the guarantee relates; and/or (ii) was produced by the specified technology type to which the guarantee relates; and/or (iii) has, or the Production Device(s) which produced it has (or have), other attributes to which the guarantee relates;	While much longer, the EECS Rules definition effectively means mostly the same thing as the EN16325 definition. Disclosure is separately defined, so it makes sense to use that rather than provide an elaborate explanation here. The main difference is the origin of the certificate, i.e. the body issuing it.	To prevent double-issuing, there must be no doubt that GOs can only be issued under the authority of a body appointed under a legislative scheme. The definition for GO should be amended to reflect that.
3.25	**High-Efficiency Cogeneration** Cogeneration which meets the criteria of >Annexes I and II< of the >Energy Efficiency Directive<		**High-Efficiency Cogeneration** Cogeneration which meets the criteria of Annexes I and II of the Cogeneration Directive, as defined in the Cogeneration Directive;	The EECS Rules definition seems to contain redundancy, but otherwise these definitions are identical.	None.
3.26	**IEM Directive** Internal Electricity Market Directive, being Directive 2009/72/EC (and its predecessor 2003/54/EC) of the European Parliament and of the Council	N/A		The EECS Rules do not define 'IEM Directive'.	We have identified earlier that it would be useful for the definition for Disclosure to reference the rules

					for such. For that to work, a definition must be included. We would expect such reference to relate to Annex I of 2019/944.
3.27	**Import Meter** one or more devices and supporting arrangements for determining (in whole or in part) the quantity of Electrical Energy flowing into an EGI from a distribution or transmission system or onsite production	N2.1.2 O2.1.2	**Import Meter** has the meaning assigned to an Entry Measurement Point by the definition in Section B1.1.1 of the EECS Rules and refers to a device, or collection of devices, and supporting arrangements for determining the quantity of electrical energy flowing into a Production Device from a distribution or transmission system or, where enabled by the location of the Entry Measurement Point, onsite production; **Import Meter** has the meaning assigned to an Entry Measurement Point by the definition in section B1.1.1 of the EECS Rules and refers to a device, or collection of devices, and supporting arrangements for determining the quantity of Gas flowing into a Production Device from a distribution or transportation system or, where enabled by the location of the Entry Measurement Point, onsite production;	In contrast to EN16325, the EECS Rules identify Import Meter as a specific interpretation for electricity of a more generic definition for any energy source.	The distinction between energy sources looks useful. Since Directive 2018/2001/EC requires MS to issue GOs for heating and cooling, gas and hydrogen, there is likely a need to consider other inputs than just electricity to enable proper GO issuance.

		B1.1.1.	**Entry Measurement** the technical and administrative arrangements for determining the quantity of Input flowing to a Production Device (including, where enabled by the location of the Exit Measurement Point, on-site production); **Entry Measurement Point** the point in a Production Device at which Entry Measurement takes place;		
3.28	**Input** amount of a specific type of energy or material goods consumed by an EGI in the production of Output	B1.1.1	**Input** an amount of a specific type of energy or material goods as listed in the Fact Sheet "Types of Energy Inputs and Technologies" consumed by a Production Device using combustion technology in the production of Output;	The definitions are similar, but not identical. The EECS Rules definition requires: • that the inputs be defined in accordance with a list; and • that such inputs be consumed using combustion technology.	The definition in EN16325 should be amended to reflect that the input be identified by means of a list, as the energy source must be included on a GO. The input being consumed using combustion in the EECS Rules is limiting and outdated and this should be omitted.
3.29	**Issue** process of creating (as a GO) a record in a Transferables Account in a Registration Database	B1.1.1	**Issue** the process of creating (as an EECS Certificate) a record in a Transferables Account in an EECS Registration Database;	The EECS Rules are set up to enable issuance of GOs and certificates of other types. However, for the purposes of GOs,	Given that in the analysis for Account, it has been established that there is no need to identify different

				these definitions are identical.	types of Account, the word 'Transferables' should be deleted in the definition in EN16325.
3.30	**Labelling** process whereby a supplier provides to a customer detailed information about the supplied Electrical Energy based on the selection of GOs which satisfy the criteria for specific commercial products	B1.1.1	**Independent Criteria Scheme (or ICS)** A scheme that provides assurance that the Output certified by an EECS Certificate, and/or the relevant Production Device with which it is associated, conforms to a specific set of qualities which are additional to those established for the EECS Product. **ICS Rules** the rules establishing the operation of an ICS; **Scheme Operator** in relation to an ICS, the body responsible for the ICS Rules;	The definitions in EN16325 and the EECS Rules are complementary. The EECS Rules define terms that are used in the issuing process, so that label information can be included on a GO. EN16325 describes the process of *using* that information.	The Standard,should include both the inclusion of information and the process of using that information. This enables a basic structure to facilitate information on the GO regarding an EU-wide green label as in Directive 2018/2001/EC, art.19.13;
3.31	**National GO Scheme** legislative, regulatory, administrative and contractual framework, in relation to any Domain, establishing a system of GOs in that Domain pursuant to the laws of the European Union	B1.1.1	**Certification Scheme** a legislative, administrative and/or contractual framework establishing a system of Certificates; **Disclosure Scheme** a legislative, administrative and/or contractual framework for Disclosure based on Cancellation of Certificates; **Legislative Certification Scheme**	The EECS Rules are drawn up to enable both legislative GO schemes and other types of certificate schemes. Moreover, the EECS Rules distinguish between certification and disclosure. It does so, because it makes an explicit link	While the distinction between legislative and non-legislative schemes are irrelevant for the purpose of GOs (GO schemes are, by definition, legislative in nature), it is vital that where a GO is issued, only that GO can be used to claim and prove the origin

			a Certification Scheme implemented pursuant to the law of any EU Member State or a State bound to the EU by a Treaty requiring the recognition of GOs or of any other State accepted by the AIB; **Legislative Disclosure Scheme** a Disclosure Scheme implemented pursuant to the law of any EU Member State or a State bound to the EU by a Treaty requiring the recognition of GOs or of any other State accepted by the AIB;	between certification and disclosure to secure that each GO uniquely represents the origin of the energy to which it relates.	of the energy to which it relates. EN16325 should be amended to make this explicit.
3.32	**National GO Scheme Participant** Registrant of an EGI within the Domain to which a National GO Scheme relates and/or an Account Holder on the Registration Database established for the purposes of that National GO Scheme	B1.1.1	**EECS Market Participant** An Registrant or an Account Holder	The definitions are effectively identical, as they both provide a term that can be used to refer to registrants and account holders, collectively.	None.
3.33	**Natural Flow** flow of water which occurs without any pumping	N/A		The EECS Rules do not provide a definition but do use the phrase in the calculation of output eligible to receive GOs. From this, it may be deduced that the AIB considers the term self-explanatory.	Since both documents use the phrase in the calculation of GOs, it makes sense to be explicit and retain the definition in EN16325.
3.34	**Nett Electrical Energy Generation**	N2.1.2	**Nett Electrical Energy Generation**	The EECS Rules are more explicit about	It is essential that measured values are

	Gross Electrical Energy production of an EGI minus the demand of any production Auxiliaries and minus losses in the main generator transformers on the site of the EGI		the gross electricity production of a Production Device as evidenced by measured values collected and determined by an Authorised Measurement Body (or where appropriate an Approved Measurement Body) with reference to its Import and Export Meters (adjusted by meter amendments and the outcome of any disputes) minus the demand of any Production Auxiliaries and minus losses in the main generator transformers on the site of the Production Device;	the origin of the measured values: they must be collected by an independent measurement body (where the EECS Rules define Authorised Measurement Body specifically for the purpose of certifying electricity or gas). Further, they describe here (albeit in little detail) how those measured values shall be determined.	verified by a party independent from the registrant, and it makes sense for the definition to reflect that. The calculation of the amount of output eligible to receive GOs must be explained more elaborately, but the best place for that is not this definition. It should be in the main body of the Standard.
		O2.1.2	**Nett Gas Production** The Gas produced by a Production Device as evidenced by measured values collected and determined by an Authorised Measurement Body (or, where appropriate, an Approved Measurement Body) with reference to its Import and Export Meters (adjusted by meter amendments and the outcome of any disputes) minus the demand of any Production Auxiliaries and minus losses due to heating, compression and pumping on the site of the Production Device. The energy consumed by a Production Auxiliary from a non-gaseous energy carrier is quantified as the equivalent energy content of the amount of gas that can be produced with this auxiliary energy,		

			and state-of-the-art methods shall be used to determine conversion reference efficiency in accordance with the EECS Rules Subsidiary Document "Determination of Conversion Efficiency";		
3.35	**On-Site Demand** demand of Electricity taking place at the location of the generating plant, but for other purposes than Electricity generation (e.g. supplying of a paper mill, etc.)	N/A		The EECS Rules do not define onsite demand, presumably deeming the phrase self-explanatory.	This definition is very important for determining the amount of output eligible to receive GOs and should therefore be defined. However, the definition included in EN16325 is insufficient, because Directive 2018/2001/EC requires certification of more energy carriers than merely electricity. For that, it seems logical to require that onsite demand relates to consumption of the energy conveyed by the same carrier as is produced by the production device.
3.36	**Originating EGI** EGI which produced the Output to which a GO relates	B1.1.1	**Originating Production Device** in relation to an EECS Certificate, the Production Device which	These definitions are identical for the purpose of GOs.	None.

			produced the Output to which that EECS Certificate relates;		
3.37	**Output** amount of Electrical Energy yielded by an EGI and measured by an Approved Measurement Body in units of 1 MWh	B1.1.1	**Output** an amount of energy or material goods yielded by a Production Device and measured by a Measurement Body, being either (i) electricity (ii) fuel; or (iii) heat;	The EN16325 definition is limited to electricity. The definition in the EECS Rules seems a little better prepared for certification of energy carriers other than just electricity. However, cooling has been omitted, and one may wonder if Directive 2018/2001/EC should be interpreted as applying only to such gases and hydrogen as are to be used as *fuel*.	This definition must be updated to accurately reflect the energy carriers for which GOs can be issued in accordance with Directive 2018/2001/EC.
3.38	**Primary Energy Savings** Primary Energy Savings that can be attributed to the use of >Cogeneration technology<, calculated according to >Annexes I and II< to the >Energy Efficiency Directive<	N2.1.2	**Primary Energy Savings** primary energy savings that can be attributed to the use of cogeneration technology, calculated according to Annexes II and III to the Cogeneration Directive;	The EECS Rules refer to the wrong Annexes in Directive 2012/27.	The definition must, of course, refer to Directive 2012/27, Annexes I and II. The text in EN16325 can be maintained.
3.39	**Production Auditor** Approved Body, independent of a Registrant, which has been appointed by the relevant Competent Body to examine the information provided by that Registrant in a GO Issuing Request, in order to confirm the accuracy of the Production and, where appropriate, the Consumption		**Production Auditor** in relation to any Domain and EECS Product, such Approved Body as the relevant Authorised Issuing Body appoints to audit information provided by Registrants in Production Declarations by reference to the records of, or made available by, the Registrant (or, if	These definitions, while very differently worded, both convey the same meaning. Both definitions omit the audit / onsite inspection of the EGI/Production	Recommendation to amend the definition for Production Auditor consistent with the extent to which the recommendations are followed with regard to Audit (see analysis

	Declaration in relation to that GO Issuing Request Note 1 to entry Such audit is achieved by reference to the records of, or made available by, the Registrant (or, if different, the owner or operator of the relevant EGI). Where appropriate, inspection of records may be supplemented by inspection of the relevant EGI.		different, the owner or operator of the relevant Production Device) and, where appropriate, by inspecting the relevant Production Device; **Production Audit** in relation to any Production Device, the independent examination by a Production Auditor of relevant records and, where appropriate, plant and equipment to confirm the accuracy of Production Declarations and (where appropriate) Consumption Declarations in relation to that Production Device;	Device. EECS however, does provide for such audit to take place in section E3.3.7.	of EN16325 section 12 below).
3.40	**Production Registrar** person or organisation responsible for assessing applications to register EGIs for the purposes of the National GO Scheme	B1.1.1	**Production Registrar** in relation to any Domain and EECS Product, the Authorised Issuing Body or such other person as the Domain Protocol provides is responsible for assessing applications to register Production Devices for the purposes of the relevant EECS Product	These definitions both describe the Production Registrar as whomever is charged with assessing applications for registration of production devices. In practice this definition is interpreted in different ways in different National GO Schemes. In some countries, the production registrar is the organisation who receives and registers the	Recommendation to consider clarifying the definition in order to eliminate multi-interpretability.

				application, in addition to assessing it. In other countries it is an independent inspection body, and the registration of a production device does not involve an assessment from the same party who registers the application.	
3.41	**Public Support** **Support** extent to which financial Support (other than through the sale or Cancellation of GOs) has been received or is receiving for investment in qualifying EGIs or for their current production of Output	B1.1.1	**Public Support (Support)** any direct or indirect financial support (other than through the sale or Cancellation of EECS Certificates) that has been or is currently being received for investment in Qualifying Production Devices or for their current (ongoing) production of Output. Public Support includes (among others): (a) financial support given to Qualifying Production Devices; (b) financial support which is higher for Qualifying Production Devices or their Output than it is for non-Qualifying Production Devices or, as the case may be, their Output; (c) prices paid, which may either include or be in addition to the market price of the related energy, for the supply of Output in recognition of its particular method or quality of production; and (d) guaranteed minimum price for support certificates whenever this	The EN16325 definition describes *extent* of support. While this reflects Directive 2009/28 (which required that the extent of support be included on a GO), Directive 2018/2001 merely requires an indication if investment and/or production support was received, and the type of support. Further, the EECS Rules definition includes a non-exhaustive list of examples.	Recommendation to delete *the extent* of support from the definition in EN16325. Determining such can be a labour-intensive task, which might not be concludable at the time of issuing a GO, and there is no legislative need to do so, anymore. No further impact.

			minimum price is significantly above the market rate;		
3.42	**Registrant** person in whose name an EGI is registered in a Registration Database	B1.1.1	**Registrant** a person in whose name a Production Device is registered from time to time in an EECS Registration Database for the purposes of the Issue of one or more EECS Products;	These definitions are functionally identical.	None.
3.43	**Registration Database** **Registry** database operated either by a Competent Body or by a third party on its behalf, comprising: a) Transferables and Cancellation Accounts and the GOs in those Accounts; b) details of EGIs and information provided to the Competent Body or a third party on its behalf in connection with the registration of those EGIs; and c) details of GOs which have been transferred out of that Registration Database	B1.1.1	**EECS Registration Database** a database operated by a Member, or operated by a CMO on behalf of a Member, for the purposes of EECS, comprising: (a) Transferables and Cancellation Accounts and the EECS Certificates in those Accounts; (b) details of Production Devices and information provided to the Member or its CMO in connection with the registration of those Production Devices with that Member or CMO; and (c) details of EECS Certificates which have been transferred out of that EECS Registration Database;	These definitions are functionally identical.	None, apart from the abovementioned recommendation to leave out the distinction between Transferables and Cancellation Accounts.
3.44	**Registration Functions** registration of EGIs and the issuing and registration of GOs in respect of their Output, and the maintenance of records regarding such processes	B1.1.1	**Registration Functions** the registration of Production Devices and the issuing and registration of Certificates in respect of their Output, and the maintenance of records regarding such processes;	These definitions are identical.	None.

3.45	**RES Directive** Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC	B1.1.1	**RES-E** has the meaning attributed to the expression "electricity produced from renewable energy sources" by the RES Directive (being Directive 2009/28/EC of the European Parliament and the Council of 23 April 2009 on the promotion of the use of energy from renewable sources amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC);	Both documents agree on the definition of RES Directive, although in the EECS Rules it is hidden in another definition. Further, Directive 2009/28 has been succeeded by Directive 2018/2001. EN16325 doesn't contain a definition of "renewable energy sources".	Insofar as the Standard needs a definition for RES Directive, it should indeed be separated from other definitions, and it should be amended to refer to the correct Directive. EN16325 doesn't contain a definition of renewable energy sources. At first sight, this might seem unnecessary, given the fact that EN16325 is not limited to renewable energy sources but establishes a standard for GOs for electricity. However, in practice, it has shown to be relevant that the energy source mentioned on the GO, as in Annex I of EN16325, can be classified as whether or not originating "from renewable energy sources, in accordance with Directive 2018/2001". In order

					to enable this, a clear reference to the concept of "energy from renewable energy sources" must be linked to the level 1 categorisation in Annex I of EN1635, of which the value equals "F01: Renewable".
3.46	**Transfer Request** request to transfer one or more GOs which specifies: a) the identity of the relevant GOs; b) the identity of the Transferables Account in which such GOs are held; c) the identity of the Transferee's Transferables Account; and d) the Registration Database on which such Transferables Account is held, and which is made by the Account Holder of that Transferables Account or the operator of a trading exchange which the Account Holder has notified the relevant Competent Body is authorised to make such a request in relation to GOs held in its (relevant) Transferables Account	B1.1.1	a request to transfer one or more EECS Certificates which specifies (in accordance with the requirements of the EECS Rules): • the identity of the relevant EECS Certificates; • the identity of the Transferables Account in which such EECS Certificates are held; • the identity of the Transferee's Transferables Account; and • the Domain Code corresponding to the EECS Registration Database on which such Transferables Account is held, and which is made by the Account Holder of that Transferables Account or by the operator of a trading exchange which the Account Holder has notified the relevant Member is authorised to make such a request in relation to EECS Certificates held in its (relevant) Transferables Account;	These definitions are identical.	None.

3.47	**Transferables Account** record on a Registration Database relating to a particular >Account Holder< incorporating: a) GOs Issued to that Account Holder by the Competent Body operating that Registration Database; and b) GOs transferred to that Account Holder which in either case have not subsequently: 1) been transferred to another Transferables Account on this or another Registration Database; or 2) been Cancelled; or 3) Expired; or 4) been Withdrawn	B1.1.1	**Transferables Account** a record on an EECS Registration Database relating to a particular person incorporating: (a) EECS Certificates Issued to that person by the Member operating that EECS Registration Database; and (b) EECS Certificates transferred (by notice to the Member operating that EECS Registration Database) by another person; which in either case have not subsequently: (i) been transferred to another Transferables Account on this or another EECS Registration Database; (ii) been Cancelled; (iii) Expired; or (iv) been Withdrawn;	These definitions are functionally identical. The concept of a Transferables Account exists only in contrast to a Cancellation Account, to prevent onward transfer of GOs held in the latter. However, onward transfer can also be prevented by amending the status of a GO in a registry. The actual implementation is in principle for the competent / issuing body to decide. In practice, most registries seem to have chosen the former.	There is no effective need for the Standard to distinguish between Transferables Accounts and Cancellation Accounts. What matters is that Cancelled GOs cannot be moved out of an Account. Recommendation to remove this definition.
3.48	**Transferee** Account Holder whose Transferables Account has been nominated in a Transfer Request	B1.1.1	**Transferee** an Account Holder whose Transferables Account has been nominated in a Transfer Request;	These definitions are identical.	None, content-wise. Consistent with the recommendation to remove the terms Cancellation Account and Transferables Account, it is proposed to delete the word 'Transferables' in the

					EN16325 definition for Transferee.
3.49	**Transferor** Account Holder who has requested the Competent Body in whose Registration Database a GO is held on its Transferables Account to transfer that GO to another Transferables Account	B1.1.1	**Transferor** an Account Holder who has requested the Member in whose EECS Registration Database the EECS Certificate is held to transfer an EECS Certificate from its Transferables Account in that EECS Registration Database to another Transferables Account;	These definitions are functionally identical, although the EN16325 definition is more clearly worded.	None, content-wise. Consistent with the recommendation to remove the terms Cancellation Account and Transferables Account, it is proposed to delete each instance of the word 'Transferables' in the EN16325 definition for Transferor.
3.50	**Type of Installation (of an EGI)** type of Input consumed by an EGI and the type of technology used in the conversion of this Input into Output Note 1 to entry: See Normative Annexes A and B for clarification/more information.	N/A		The EECS Rules do not define Type of Installation, although they do recognise in section C3.5.4(g) that it shall be included in each EECS Certificate by reference to a list of types similar to that in Annex B to EN16325. As such, the EECS Rules consider the Type of Installation a distinct characteristic, separated from the Type of Input save for the permissible combinations of Type of Installation and	The definition as provided by EN16325 suggests that the type of Input is a constant for an EGI / production device. While this may be true for some, it definitely is not true for all. A production device that uses combustion technology may use different fuel sources over time. Recommendation to follow the example set by the EECS Rules, being to include in EN16325

				Type of Input identified in EECS Fact Sheet 5 Energy Inputs and technologies.	separate terms and definitions for Type of Installation and Type of Energy Input.
3.51	**Useful Heat** heat produced in a Cogeneration process to satisfy an economically justifiable demand for heat or cooling, as intended by the >Energy Efficiency Directive<	N2.1.2	**Useful Heat** heat produced in a Cogeneration process to satisfy an economically justifiable demand for heat or cooling, as intended by Directive 2004/8/EC.	The EECS Rules Definition unjustly refers to an older Directive.	To function properly, the definition must refer to Directive 2012/27. The definition of EN16325 should be kept.
3.52	**Virtual Natural Flow** flow which would have been due to gravity, had a hydraulic linkage existed	N/A		The EECS Rules do not define this term, which is used in Annex F of EN16325 to determine the amount of output eligible for GOs. The definition is rather vague and its interpretation is unambiguous.	The impact on calculation of eligible output is addressed at Annex F, below. If Annex F4 is removed as is suggested there, then this definition loses its value and should be deleted.
3.53	**Withdrawal** removal of a GO from a Transferables Account or the amendment of its status by the Competent Body on whose Registration Database a GO resides	B1.1.1	**Withdrawal** the correction the Issuing Body on whose EECS Registration Database an EECS Certificate resides of errors in the Issue and transfer to another Transferables Account of this EECS Certificate by its removal from a Transferables Account or by the amendment of its status.	The difference between these definitions is that the EECS Rules consider withdrawal as a measure to rectify an error.	If withdrawal may occur at any time (i.e. even in the absence of errors), that leaves a risk of attributes of energy being lost and becoming unavailable for calculating supplier and/or residual mix. It is therefore important that EN16325 be

					amended such that withdrawal is limited to correction of errors. Further, while both documents agree that withdrawal can result in removal of a record from a *Transferables Account*, for the purpose of internal consistency of databases it is recommended to not delete such record altogether. This makes it possible for such records to be audited.
N/A		N/A		None of the documents have a definition of Attribute	Consider including a definition of Attribute, that enables easier reference to the datafields on the GO. Different energy carriers might need different additional attributes on the GO.
4 Main objectives					
	This European Standard provides guidance to Competent Bodies and their agents and stakeholders in	A A1	CORE PRINCIPLES Introduction	The EECS Rules have far more elaborately	The credibility of the GO system is dependent on the

	National GO Schemes as to the manner in which they should discharge their responsibilities with respect to National GO Schemes. This European Standard shall support and promote a set of long-term objectives for the development of National GO Schemes, being: a) Uniqueness: 1) No more than one Certificate with a purpose of Disclosure shall be Issued and subsequently Cancelled in respect of the same unit of Output. b) Ownership of GOs: 1) The Account Holder of a Transferable Account shall be treated as the owner of the GOs in that Transferable Account. c) Operational reliability and record keeping: 1) Contingency plans and backup facilities should be established to allow for timely recovery of records and operations and completion of the transfer process. 2) Records which are sufficient to enable resolution of disputes relating to such matters as ownership of and eligibility for GOs should be kept of all material communications between Competent Bodies and National GO Scheme	A1.1.1 A1.1.2 A2 A2.1.1 A2.1.2	The Core Principles provide guidance to Members, Members Representatives, Member's Agents and the AIB (and their servants and agents) as to the manner in which they should discharge their responsibilities with respect to the development of the EECS Rules. The Core Principles constitute the long-term objectives of Members for the development of the EECS System. The Core Principles are not in themselves binding on Members or the AIB. UNIQUENESS The arrangements for Issuing, transferring and Cancelling EECS Certificates should be such as to eliminate the possibility of more than one EECS Certificate bearing the same Purpose being Issued, registered or Cancelled in respect of the same unit of Output, unless that Purpose is Public Support. The arrangements for Issuing EECS Certificates should be such as to eliminate the possibility of EECS Certificates being Issued in respect of the same unit of Output and attributes for which other transferrable Certificates (other than EECS Certificates of a different type where specifically permitted by the EECS Rules) have been or will be issued for the same Purpose.	defined the objective of uniqueness. The EECS Rules principle of immutability has been less stressed as a core objective in EN16325.' (currently only mentioned in the last sentence of section 7.2) It Is an essential element to prevent confusion and potential subsequent double counting. Regarding operational reliability: the documents seem to agree on the intent. Notably minimal in EN16325, though, is reliability and security, which only covers very high level principles on limited areas, c) and d). EN16325 establishes responsibilities for the Competent Bodies and their	unique proof each GO represents. It is important to note that such credibility does not end with the issue and cancellation of a GO. It should be clearly defined that where a GO is issued for an amount of energy, only cancellation of that GO can prove the origin of that unit of energy. This is an important addition AIB has made compared to the corresponding objective in EN16325. Since a GO represents proof of the origin of energy, and such proof is used to inform European citizens, the content of GOs is not to be tampered with. Doing so could cause double counting or erroneous claims. One may wonder why the principle of

	Participants regarding the registration of EGIs and the Issue, transfer and Cancellation of GOs. d) Protection of Account Holders: 1) Competent Bodies and Account Holders should co-operate in seeking to minimise the risk of an unauthorised instruction with respect to a GO being acted upon. e) Access and transparency: 1) Participation in National GO Schemes should be based on objective and publicly disclosed criteria. 2) Access to details of GO should be made available to National GO Scheme Participants. 3) Competent Bodies shall ensure that the purpose of a GO is clearly communicated to National GO Scheme Participants in order that they may better inform consumers. f) Communications: 1) The systems of Competent Bodies should use or accommodate appropriate international communication procedures and standards in order to facilitate effective, efficient and secure cross-border transfers.	A2.1.3 A2.1.4 A2.1.5 A2.1.6 A3 A3.1.1	The arrangements for Cancelling EECS Certificates should ensure that EECS Certificates in respect of the relevant Output are used as the sole proof of the qualities of the associated Output according to the relevant Product Rules and that no form of Disclosure is used in relation to Output to which such an EECS Certificate relates other than in connection with the cancellation of that EECS Certificate. Where several EECS Certificates, each of which has a different Purpose, are issued for the same Output, then each such EECS Certificate shall uniquely identify each of the other such EECS Certificates. The Purpose of an EECS Certificate shall not conflict with the Purpose of any other Certificate issued for the same unit of Output. Scheme Members shall clearly communicate the Purpose of an EECS Certificate to the Account Holders using their registries in order that they may better inform consumers. An EECS Certificate may only be used in accordance with its Purpose. IMMUTABILITY The certificate data specified by the EECS Rules shall not change in any	Agents and Stakeholders. So do the EECS Rules, but the latter go much farther in addressing liability through a contractual framework that ensures compliance measures, dispute resolution, damage claim resolution, through additional documents like Subsidiary Document 07, the Hub Participant Agreement, Standard Terms and Conditions, and Change control mechanisms.	immutability was not stressed as a main objective of the standard in EN16325. One possible explanation might be both the EECS Rules and the Standard allow for GOs to be altered to correct errors (see EN16325 section 9), but this could be easily remedied by including this in the objective/principle description. As a GO under Directive 2018/2001 is an electronic document, and issuance transfer and cancellation shall occur electronically, the GO system is by definition a digital affair. The market for GOs represents a multi-billion euro industry. (Digital) security is very important, and this should be reflected in the objectives.

			way once an EECS Certificate has been properly issued, except to indicate that it has expired, cancelled or withdrawn.		
		A4	OWNERSHIP OF EECS		
		A4.1.1	Subject to Section A4.1.2, to the fullest extent possible under relevant national and regional law, the Account Holder of a Transferable Account should be treated (as between the Account Holder and that Member) as the owner of the EECS Certificates in that Transferables Account.		
		A4.1.2	The principle of ownership should not prevent the exercise by a Member in whose EECS Registration Database an EECS Certificate is held of any rights with respect to that EECS Certificate granted to it under its contract with the relevant Account Holder. Furthermore, the principle of ownership should not impair or undermine a Member's obligations under the EECS Rules, or the obligations of an Account Holder under its contract with a Member or under the relevant Product Rules.		
		A5	OPERATIONAL RELIABILITY		
		A5.1.1	Operational risks arising in the Issue, transfer and Cancellation processes for EECS Certificates should be identified and mitigated		

			through the development of appropriate systems, controls and procedures.		
		A5.1.2	Systems should be reliable and secure, and have adequate capacity.		
		A5.1.3	Contingency plans and backup facilities should be established to allow for timely recovery of records and operations and completion of the transfer process.		
		A6	PROTECTION OF ACCOUNT HOLDERS		
		A6.1.1	Accounting practices and safekeeping procedures should be employed that fully protect the EECS Certificates in Account Holders' Transferables Accounts.		
		A6.1.2	Members and Account Holders should co-operate in seeking to minimise the risk of an unauthorised instruction with respect to an EECS Certificate being acted upon.		
		A6.1.3	EECS Certificates should as far as practicable be protected against the claims of a Member's or CMO's creditors.		
		A6.1.4	Members are responsible for complying with applicable Data Protection legislation.		
		A7	GOVERNANCE		
		A7.1.1	The governance arrangements for the EECS Rules and Domain		

			Protocols should fulfil public interest requirements and promote the objectives of Members, Registrants and Account Holders.		
		A8	ACCESS AND TRANSPARENCY		
		A8.1.1	Participation in EECS should be based on objective and publicly disclosed criteria so as to achieve fair and open access to existing and potential Members, service providers and EECS Market Participants.		
		A8.1.2	Access to details of EECS Certificates should be made available to EECS Market Participants.		
		A8.1.3	EECS Market Participants should be provided with sufficient information for them to identify and evaluate accurately the risks and rewards of transferring Certificates between Members' EECS Registration Databases.		
		A9	COST EFFECTIVENESS		
		A9.1.1	While maintaining safe and secure operations, Members should be cost-effective in meeting the requirements of EECS Market Participants.		
		A9.1.2	Members should be entitled to charge EECS Market Participants on a commercial basis for the provision of services in connection with the EECS Rules.		

		A10	COMMUNICATIONS		
		A10.1.1	Members' Systems should use or accommodate appropriate international communication procedures and standards in order to facilitate effective, efficient and secure cross-border transfers.		
		A11	REGULATION AND OVERSIGHT		
		A11.1.1	Members should be subject to transparent and effective regulation and oversight at a national level in relation to performance of their obligations under Legislative Certification Schemes.		
		A11.1.2	Members should be subject to transparent and effective regulation and oversight under the auspices of the EECS Rules in relation to their compliance with the EECS Rules (including the requirements of the relevant Section of PART IV of the EECS Rules in respect of EECS Schemes of which they are Scheme Members).		
		A12	RECORDS		
		A12.1.1	Records which are sufficient to enable resolution of disputes relating to such matters as ownership of and eligibility for EECS Certificates should be kept of all material communications between Members and EECS Market Participants regarding the		

			registration of Production Devices and the Issue, transfer and Cancellation of EECS Certificates.		
5	**Registration of Competent Bodies and their agents**				
5.1	Appointing authority for Competent Bodies				
	The appointing authority for Competent Bodies within a Domain shall be the relevant Member State.				
5.2	Characteristics of Competent Bodies				
5.2.1	**General** A Competent Body shall not be entitled to become or remain a Competent Body if it or any of its Affiliates participates in or distorts the competition in markets associated with GO. The Competent Body may participate in the market by buying or selling GOs when fulfilling public services or in connection with the performance of Registration Functions or associated functions such as metering, inspections, reviews, audits and data collection and aggregation. The >Competent Body< may act as authorised representative of an EGI for requesting the issuing of GOs when fulfilling public services.	G2.1.1

			Certificate except in the circumstances listed in Section G2.1.1.		
		G2.1.5	The AIB shall not authorise a Member to become or remain a Scheme Member of an EECS Scheme in the circumstances specified in Section G2.1.4 unless it is satisfied that: (a) the governance of the relevant Member and Affiliate(s) is such that the interests of the Affiliate(s) in relation to the relevant Scheme Certificate (s) will not materially affect the conduct of the Member in relation to the relevant EECS Scheme; and (b) it has been and will be granted sufficient access to the records of the relevant Member and Affiliate(s) to satisfy itself that the condition in Section (a) above remains satisfied.		
		G2.2.1	A Member shall not be entitled to become or remain a Scheme Member of any EECS Scheme if it or any of its Affiliates participates in markets associated with EECS Certificates (other than in connection with the performance of EECS Registration Functions or associated functions such as metering, inspections, reviews, audits and data collection and aggregation).		

5.2.2	**Responsibilities** A Competent Body shall be responsible for: a) a specific geographic or geopolitical Domain which does not overlap with any other Domain; b) issuing and administering GOs under one or more Directives;

		H1.1.1	A Scheme Member may (subject to the terms of the relevant Product Rules) appoint an agent (a Member's Agent) to discharge any of the obligations imposed on it by the EECS Rules or its Product Rules, provided such Member's Agent is Approved in relation to such functions.	easily comparable with other Domain Protocols. EN16325 only requires in d) that the details of the National GO Scheme are communicated to *Account Holders*. This could hinder Competent Bodies in their assessment of the accuracy, reliability and veracity of GOs issued in other Member States.	
	d) ensuring that the following are guaranteed and clearly communicated to Account Holders: 1) the purpose of each GO;	E6.2.1	Each Domain Protocol shall: (g) clearly state the Purpose of each EECS Product in relation to which the Scheme Member is an Authorised Issuing Body with respect to the relevant Domain;		
	2) details of the National GO Scheme;	E6.2.1	Each Domain Protocol shall: (b) specify the National Legislation and Originating Directive (if any) and the associated Competent Body for each EECS Product in respect of which the Scheme Member is an Authorised Issuing Body in relation to the relevant Domain; (...) (f) provide a clear and unambiguous summary of the Product Rules for each EECS Product in respect of the relevant type of Output, in relation to which the applicant is an Authorised Issuing Body;		
	3) provisions regarding the time and manner of Expiry; and	E6.2.1	Each Domain Protocol shall:		

			(h) contain provisions regarding the time and manner of Expiry.		
	4) provisions regarding the frequency with which the quantity of Output of Registered EGIs in the relevant Domain shall be determined and recorded, and with which GO are Issued;	D6.1.1	The Product Rules with respect to the measurement of Output and Inputs for the purposes of an EECS Product must meet the criteria set out at Section D6.1.2 (Measurement Criteria).		
		D6.1.2	The Measurement Criteria are as follows: (a) the Registrant of a Production Device for the purposes of the EECS Product is responsible for the delivery, quality and accuracy of measured values with respect to the Output of that Production Device; and (b) the Measurement Frequency shall be as required by the legislation and regulations that are applicable in the country in which that Production Device is situated. If no such legislation or regulation is applicable, then the Measurement Frequency shall be such that the period between measurements may not be more than twelve months (c) the Measurement Criteria specified in relation to the relevant Product in the Section establishing the EECS Scheme in respect of the relevant type of Output.		
		E6.2.1	Each Domain Protocol shall:		

	e) ensuring that it discharges its duties under relevant international and national law and regulation and in accordance with this European Standard, amending its practices in line with any change to international and national laws, regulations and this European Standard;		(d) secure that the Product Rules for each EECS Product in relation to which the Scheme Member is an Authorised Issuing Body with respect to the relevant Domain meet the requirements of Section D and the Section of PART IV of the EECS Rules establishing the EECS Scheme in relation to the relevant Output, including: (i) where the relevant Product is based on a Legislative Certification Scheme, by supplementing the Legislative Certification Scheme to that effect; and		
		E4.2.3	An Authorised Issuing Body shall institute applications for approval of proposed changes to Domain Protocols under Section L5 on a timely basis so as to enable the AIB (where appropriate) to approve any changes in good time to prevent any change to the terms of the EECS Rules or a relevant Legislative Certificate Scheme or Independent Criteria Scheme rendering the Product Rules in respect of any EECS Product in relation to which it is an Authorised Issuing Body non-compliant with the provisions of Section D2.1.2 and the Section of PART IV of the EECS Rules establishing the EECS Scheme in relation to the relevant Output.		

	f) imposing upon Account Holders legal requirements, remedies and sanctions for breaches of their obligations under the National 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 National GO Scheme;	E4.2.4	It is the responsibility of an Authorised Issuing Body to secure that those aspects of Product Rules applicable to Registrants are enforced and that the sanctions and remedies for failures on the part of EECS Market Participants therewith are enforced.		
		E4.2.5	It is recommended that an Authorised Issuing Body reports failures by EECS Market Participants to comply with the provisions of Product Rules to the Competent Authorities in relation to such matters. Such failures shall include behaviour by EECS Market Participants of which the Authorised Issuing Body is aware and which, in its reasonable opinion, amounts to a breach of Competition Law, or applicable law governing the conduct of financial markets.		
	g) operating a Registration Database in such a manner as to reliably, currently and accurately capture and record the details of and changes to: 1) EGI; and 2) GO, including their: i) issuance; ii) transfer from an Account on its Registration Database to another Account on the same	A5.1.1	Operational risks arising in the Issue, transfer and Cancellation processes for EECS Certificates should be identified and mitigated through the development of appropriate systems, controls and procedures.		
		A5.1.2	Systems should be reliable and secure, and have adequate capacity.		
		A5.1.3	Contingency plans and backup facilities should be established to		

	Database or to an Account on the Registration Databases of another Competent Body; and iii) Expiry, Withdrawal and Cancellation; h) cooperating with other Competent Bodies to ensure the accurate, reliable and secure transfer of GO between Accounts held on different Registries.	A10.1.1	allow for timely recovery of records and operations and completion of the transfer process. Members' Systems should use or accommodate appropriate international communication procedures and standards in order to facilitate effective, efficient and secure cross-border transfers.		
5.2.3	**Discretionary powers** A Competent Body shall at its own discretion conduct or commission: a) inspections of EGIs registered on its Registration Database and the associated Import Meter(s) and Export Meter(s) with a view to satisfying itself that: 1) the information recorded in relation thereto on the Registration Database is accurate; 2) the Registrant and, where applicable, the owner and/or operator of the EGI, is complying with all relevant obligations under the relevant National GO Scheme; and 3) such EGI meets the qualification criteria for the relevant National GO Schemes; b) ad hoc inspections of records associated with relevant Public Support in relation to EGIs	E3.3.7	A Scheme Member shall at its own discretion conduct inspections of Production Devices registered on its EECS Registration Database and the associated Entry Measurement Point and Exit Measurement Point with a view to satisfying itself that: (a) the information recorded in relation thereto on the EECS Registration Database is accurate; (b) the Registrant and, where applicable, the owner and/or operator of the Production Device, is complying with all relevant obligations under the relevant Product Rules; (c) such Production Device meets the PD Qualification Criteria for the EECS Products in relation to which it is registered; (d) each Measurement device, registering data that is being used to determine the amount of Output for the purposes of EECS	The defining difference here is that AIB has strengthened the provisions that enable issuing bodies to verify the metering arrangements of EGI's / production devices.	For proper GO calculation, the meters of an EGI/production device must be accurate and positioned correctly. It is recommended that a new version of the Standard incorporate an addition to the discretionary powers of competent / issuing bodies similar to that proposed by the AIB in EECS Rules section E3.3.7 d, e, f. We also note that where inspections are to be performed by an Agent, it is

	registered on its Registration Database.		certificates, is correctly positioned in order to measure the quantity needed for calculating the amount of GOs to be issued; (e) the accuracy of the Measurement Devices involved in the calculation of the amount of GOs to be issued, is acceptable in accordance with the existing regulatory framework and applicable standards; and (f) after onsite verification of the Production Device and its measurement equipment, the formula for calculating the amount of EECS certificates correctly reflects the amount of Output that qualifies for the purposes of EECS certificates, or whether amendments to this formula are needed.		sensible that such Agent shall have access to the EGI / Production Device and to relevant information for determining the amount of GOs to be issued.
		E3.3.8	A Scheme Member shall at its sole discretion conduct ad hoc inspections of records associated with relevant Public Support in relation to Production Devices registered on its EECS Registration Database for the purposes of EECS Schemes.		
		H1.2.4	In relation with E.3.3.7, the Scheme Member shall ensure that the Production Auditor and/or Production Registrar has access to:		

			(a) the data regarding the Production Device to be inspected, as registered in the EECS Registration Database; (b) the formula for calculation of the amount of Output that qualifies for the purposes of EECS Certificates for the relevant Production Device; and (c) specifications of the Measurement Devices as recorded by the Production Registrar.		
5.2.4	**Limitations of Competent Bodies owning GOs** A Competent Body shall not have any benefit from any GO that might come to its possession unless that GO has been purchased by the Competent Body for the sole purposes of proving the origin of the energy that it has consumed or testing the system.	G2.1.1	A Member shall not own any EECS Certificate nor hold any beneficial entitlement to any EECS Certificate unless: (a) such EECS Certificate has been purchased by the Member for the sole purposes of: (i) proving the Nature of the Output that it has consumed; or (ii) testing the system under the conditions specified in Section M5; or (b) the holder of such EECS Certificate has defaulted on an undisputed payment to that Member, in which case the Member may hold the EECS certificate in order to take appropriate actions in accordance with national law to minimise its losses. (c) such EECS Certificate is issued to the Member and subsequently auctioned, with the full proceeds being used as determined by national law.	There are a few minor differences here: a) EN16325 says the competent body shall not have a benefit from owning a GO, whereas the EECS Rules do not allow issuing bodies to own that GO in the first place (nor hold any beneficial entitlement). The difference at a) is subtle. It is hard to exclude the possibility of a competent body benefitting if they are allowed to	For the credibility of the GO system, a competent/issuing body should not be able or be perceived to gain financial benefit by intervening in the GO process. As such, it is recommended that EN16325 be amended to more closely follow the phrasing as proposed by AIB. This also means the inclusion of an exhaustive list of circumstances under which a competent/issuing body is permitted to hold a GO (auctioning, default, etc.)

				own a GO under other circumstances than those listed in the EECS Rules b) The EECS Rules allow GOs to be held in case of default.	
5.2.5	**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 European Standard; b) they are otherwise authorised 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.	G3.1.1	During their Membership and 15 years after the termination thereof Members shall preserve the confidentiality of Confidential Information, in relation to the business of the AIB, of other Members and third parties, such as transaction data, the technical and operational structure of the Hub, financial, strategic and economic information and documentation, in any form, that must be deemed "confidential" in accordance with the common business ethics. The confidentiality of this information provided to them in connection with these EECS Rules shall be preserved save to the extent that: (a) they are implicitly or explicitly required to disclose such information under the EECS Rules; (b) they are otherwise authorised to disclose such information by the person to whom a duty of confidentiality with respect to such information is owed; or	Both documents agree that confidentiality is important. However, AIB limits the obligation to preserve confidentiality to 15 years after the termination of membership. Moreover, it specifies in further detail what information should be considered confidential.	While confidentiality in relation to the Standard cannot be tied to membership, it may be considered if it is reasonable and legally feasible to require that confidentiality be kept indefinitely. It may not be possible to draft an exhaustive list of examples of confidential information. As a result, the definition as provided by AIB may not be suitable for inclusion in a Standard. However, it may be considered if it is possible to include at

			(c) they are required to disclose such information by law, including by any direction or request of a Competent Authority which it is reasonable for the Member to treat as having the force of law.		least whose interests shall be protected by the confidentiality clause (i.e. other competent bodies, registrants and account holders).
		B1.1.1	**Confidential Information** confidential information in relation to the business of the AIB, of any Hub users and third parties, such as transaction data, the technical and operational structure of the Hub, financial, strategic and economic information and documentation, in any form, that must be deemed "confidential" in accordance with the common business ethics;		
5.3	Criteria for qualification of Competent Bodies				
	The appointment criteria in connection with a proposed Domain for a Competent Body are that: a) the Competent Body has been appointed for the purpose of issuing GO under the relevant National GO Scheme with respect to any EGI located in the proposed Domain; and b) in each such case (subject only to the consent of the owner and/or operator of the relevant EGI) the Competent Body is entitled: 1) to use and permit such data to be used for the purposes contemplated by this European Standard; and	D3.1.2	The Authorisation Criteria for a Member in respect of an EECS Product are that: (a) the Member is a Scheme Member of the EECS Scheme in respect of the relevant type of Output; (b) where the EECS Product is type of Guarantee of Origin or Support Certificate, the Member is either: (i) a Competent Authority in relation to that EECS Product and the relevant Domain; or (ii) its agent for the purpose of issuing Certificates under the relevant Legislative Certification Scheme, with respect to any	The criteria in the EECS Rules are similar to those in EN16325, with the following notable additions: for the issuance of certificates with labels, AIB requires issuing bodies to provide proof of recognition by relevant label operators.	In principle all information on a GO shall be kept intact when it is transferred between issuing bodies. Using a label without a label operators permission puts issuing bodies at legal risk. As such, it is recommended that the inclusion of a label on a GO be subject to the relevant label operator's permission.

	2) with respect to such data, to grant: i) a non-exclusive licence to use data provided in connection with this European Standard by that Competent Body (or on its behalf) to any other Competent Body to the extent necessary and solely for the purposes contemplated by this European Standard; 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.		Production Device located in the relevant Domain(s); and in each such case (subject only to the consent of the owner and/or operator of the relevant Production Device) entitled to: (iii) receive and use the data contained in Certificates issued in electronic form under the relevant Legislative Certification Scheme for the purposes contemplated by the EECS Rules; and (iv) grant the licence referred to in Section M4.1.1 with respect to such data; and (c) where the EECS Product is an ICS Certificate, the Member either: (i) has been appointed by the Scheme Operator of the relevant ICS Scheme to Issue Certificates under that ICS Scheme in respect of Production Devices in the relevant Domain(s); or (ii) meets such other Authorisation Criteria as are specified in relation to that EECS Product in the Section of PART IV which establishes the EECS Scheme for the relevant Output); (...)		
5.4 Types of agent					
	Subject to the terms of the relevant National GO Scheme, a Competent Body may appoint an agent (a Competent Body's Agent) to discharge any of the obligations imposed on it by	H1.1.1	A Scheme Member may (subject to the terms of the relevant Product Rules) appoint an agent (a Member's Agent) to discharge any of the obligations imposed on it by	The header for this section in EN16325 may be a little misleading. Rather than define types of	Recommendation to clearly describe that an organisation is only an Agent if the issuing body/registry

	this European Standard or its National GO Scheme, provided such Competent Body's Agent is approved by the relevant authority in relation to such functions. Where a Competent Body has appointed a Competent Body's Agent to discharge any of its obligations under this European Standard, then the Competent Body shall 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 European Standard 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.	H1.2.1	the EECS Rules or its Product Rules, provided such Member's Agent is Approved in relation to such functions. Where a Member has appointed a Member's Agent to discharge any of its obligations under the EECS Rules then, as between the AIB and that Member, the Member shall remain responsible for the discharge of such functions, and any failure on the part of that Member's Agent to discharge such a function shall be treated for the purposes of the EECS Rules as a failure on the part of that Member.	agent, it describes the relationship between an issuing body and its agent. The description is similar in both documents, though. As described in the analysis for the definition of Competent Body at 3.11, it should be possible for Member States to appoint different roles in the GO scheme to different organisations. Where this occurs for roles other than the issuing body/registry operator itself, the appointed organisations shall not be considered Agents, as they are not acting under the responsibility of the issuing body/registry operator. Instead, they have their own responsibility under national legislation.	operator has under its own responsibility engaged the services of a third party to perform a role within the GO scheme.
5.5 Criteria for qualification of agents					

	The criteria for approval of a Competent Body's Agent as an "approved" Competent Body's Agent in relation to functions connected with this European Standard are that: a) 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; b) Competent Body's Agent has agreed (with the Competent Body appointing it as a Competent Body's Agent) to comply with the provisions of this European Standard regarding intellectual property as if it were a Competent Body; and c) Competent Body meets such other requirements as may be specified for the purposes of this subclause 5.5.	D3.1.2 H2.1.1	The Authorisation Criteria for a Member in respect of an EECS Product are that: (d) each of the Member's proposed Member's Agents with respect to that EECS Product is an Approved Member's Agent for the purposes of the functions specified in relation to it in the relevant Domain Protocol; The criteria for approval of a Member's Agent as an "Approved" Member's Agent in relation to functions connected with the EECS Rules are that: (a) that Member's Agent agrees to provide such information to Members and such access to Members' Representatives to its facilities as may reasonably be required for the purposes of Sections F, H3 and I; (b) that Member's Agent has granted to the Member appointing it as a Member's Agent, or directly to the AIB, a licence in the terms provided for by Section M4.1.1; (c) that Member's Agent has agreed with the Member appointing it as a Member's Agent, or directly with the AIB, to comply with the other provisions of Section M4 as if it were a Member; and (d) that Member meets such other requirements as may be specified for the purposes of this Section H1.2.4 in relation to those functions	There is one substantial difference between EN16325 and the EECS Rules regarding the approval of agents: the EECS Rules require that the prospective agent accept their appointment.	It should not be possible for a competent/issuing body to appoint a person as an agent without such person agreeing to that appointment. It is recommended that the Standard be amended to reflect this.

			in the relevant Subsidiary Document.		
		M4.1.1	Each Member grants to the AIB a non-exclusive licence to use data provided in connection with the EECS Rules by that Member (or on its behalf) to the AIB or to any other Member to the extent necessary and solely for the purposes contemplated by the EECS Rules, together with: (a) the right to sub-license the use of such data to each other Member as necessary solely for those purposes; and (b) the right to grant each other Member the right to sub-license the use of such data to EECS Market Participants as necessary solely for those purposes.		
5.6	Obligations of Competent Bodies				
5.6.1	**General** The Competent Body shall ensure that: a) the information received in connection with an application is complete and accurate; and b) the EGI meets the qualification criteria for the relevant National GO Scheme. The provisions of each National GO Scheme for the registration of EGIs shall be such that the relevant Competent Body (or a Production Registrar appointed by it) is entitled to inspect any EGI in relation to which it	E3.3.9	A Scheme Member shall endeavour to provide a system that ensures that: (a) the information provided in connection with applications for Registration of Production Devices on its EECS Registration Database for the purposes of EECS Products is verified as being complete and accurate; (b) EECS Certificates are only Issued in respect of Production Devices in its Domain for the purposes of an EECS Product that	The provisions in both documents are very similar.	None.

	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 5.2 are not fulfilled or if the right to carry out inspections is not met, the application for registration may be rejected.		satisfy the PD Qualification Criteria for that EECS Product; (...) D4.1.2 The PD Registration Criteria are as follows: (c) applicants for registration of a Production Device for the purposes of the EECS Product are obliged to provide the Authorised Issuing Body (or a Production Registrar appointed by it) access to the Production Device together with records relating thereto so as to verify the information provided in connection with that application, and any application for Registration is to be rejected where such access is not provided on reasonable request;		
5.6.2	**Verification** The Competent Body shall verify the information provided in connection with an application to register an EGI in its Registration Database for the purposes of the relevant National GO Scheme and conduct an inspection of such EGI where appropriate. An inspection of an EGI is likely to be appropriate where: a) the Competent Body (or Production Registrar) is not familiar with the EGI; b) the Competent Body (or Production Registrar) is familiar with the EGI	E3.3.11 E3.3.12	The Scheme Member shall verify the information provided in connection with an application to register a Production Device in its EECS Registration Database for the purposes of the relevant EECS Scheme and specific Products and conduct an inspection of such Production Device where appropriate. For the purposes of Section E3.3.11, an inspection of a Production Device is likely to be appropriate where:	The AIB has identified additional cases where an inspection is (likely to be) appropriate for specific energy carriers.	It is recommended that the structure of the Standard be amended, with a generic set of rules for all energy carriers, and separate sections for energy carrier-specific rules. Such specific rules should include the cases where an inspection is (likely to be) appropriate. Such

	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 EGI is technologically novel or complex; d) the information in the relevant application cannot otherwise be verified; or e) the relevant application relates to an EGI which is or has previously been registered and specifies significant changes to the EGI; but may be appropriate even where such circumstances do not apply.	N5.1.1	(a) the Scheme Member (or Production Registrar) is not familiar with the Production Device; (b) the Scheme Member (or Production Registrar) is familiar with the Production Device and the information provided in the relevant application does not accord with the Scheme Member'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) this is specified in the Section of PART IV of the EECS Rules setting out the provisions for the relevant EECS Scheme; but may be appropriate even where such circumstances do not apply. For the purposes of Section E3.3.11, an inspection of a Production Device is also likely to be appropriate where the application for registration indicates that the Input for the relevant Production Device is in whole or in part comprised of biomass.		could be dependent on e.g. the type of Input.

		O5.1.1	For the purposes of section E3.3.11, an inspection of a Production Device the Output of which is Gas is mandatory.		
6	**Registration of EGIs and Account Holders**				
6.1	Application procedure for EGIs				
6.1.1	**General** The registration of EGIs shall be in accordance with national law and practice.	N/A		The EECS Rules do not include a statement to this effect.	Given that Directive 2018/2001/EC requires that Member States conform to EN16325, the text provided here creates a circular reference. After all, the Standard references national law, national law must follow the Directive, and the Directive imposes compliance with the Standard. This text could say that national law may contain additional provisions for the registration of GOs. But then, this is already the case under the Directive. Conclusion: the sentence in EN16325 is redundant.
6.1.2	**Application information**	D4.1.2	The PD Registration Criteria are as follows:	EECS Rules section D4.1.2(b) is the	Issuing and transferring GOs that

	The following information shall be provided to the Competent Body, which shall record it in its Registration Database: a) the applicant's name and address and additional contact details; b) the name or identity commonly used to identify that EGI; c) the Transferables Account into which GO in respect of that EGI are to be Issued, perhaps as the result of a request to open such an account in the application for registration. This will be assigned by the Competent Body unless otherwise requested by the applicant; d) the location of that EGI, being its: 1) latitude and longitude; and/or 2) country, city and postal code; e) the identity of net Export Meter(s) if existing and used, otherwise: 1) Export Meter(s) for that EGI; 2) production Auxiliaries; 3) Import Meter(s) for all energy sources that may be converted into Electrical Energy by that EGI; f) the Type of Installation; see the lists in Annex A and Annex B; g) the electrical nominal capacity of that EGI; h) the date when the installation became operational according to the provisions of the National GO Scheme;		(a) a Production Device may only be registered in an EECS Registration Database for the purposes of the Product by: (i) the owner of the Production Device; or (ii) an Account Holder duly authorised by the owner, which has provided adequate evidence: 1 of such authorisation; and 2 that it can comply with the requirements of the Product Rules with respect to the imposition of duties on the owner and/or operator of the Production Device; (b) applicants for registration of a Production Device for the purposes of the Product are obliged to provide the following information to the Authorised Issuing Body: (i) the applicant's name and address and any additional contact details; (ii) the Product with respect to which it is applying for registration; (iii) the Transferables Account into which EECS Certificates (corresponding to the Product) in respect of the Output of such Production Device are to be Issued, or a	AIB's equivalent to EN16325 section 6.1.2. Section D4.1.2 contains a number of other requirements for registration of production devices that should be noted here: a. The AIB requires Registrants to prove their authority to register an EGI/production device. b. The AIB requires Registrants to identify all inputs that may be converted into outputs by the EGI/production device (in addition to the meters). c. The AIB requires Registrants to identify accreditations to a label. d. The EGI/production device must be capable of producing energy	were not issued at the request of a person with appropriate authority may put competent/issuing bodies at legal risk. Therefore, it is recommended to include this in the Standard. Further, it is sensible to not only include import meters in the application, but also what it is that such meters are measuring. Regarding conformity of meters, see EN16325 section 6.1.3 below. For labels to be included on a GO, the Standard must describe how the label gets there. Although it may seem obvious, for GOs to be issued, the competent/issuing body must be satisfied that the EGI/production

	i) the identity of the Approved Measurement Body responsible for collecting and determining the measured values of the Outputs of that EGI and providing such measured values to the Competent Body; j) details of any payments, where relevant (other than payments arising from the sale of GOs): 1) whether and to what extent the installation has benefited from investment >Support<; 2) whether and to what extent the unit of energy has benefited in any other way from a national >Support< scheme; and 3) the type of >Support< scheme.		request to open such an account; (iv) the location of the Production Device, being its: 1 latitude and longitude in accordance with the EECS Rules Fact Sheet "Geographical Coordinates"; and/or 2 country, city and postal code; (v) details of the Exit Measurement Point(s) for the Production Device; (vi) details of any Production Auxiliaries associated with the Production Device; (vii) where there are Production Auxiliaries associated with the Production Device and the consumption of these Production Auxiliaries is not determined at an Exit Measurement Point, details of Entry Measurement Point(s) at which the Input consumed by the Production Device is determined; (viii) (irrespective of whether or not there is any intention to use such Inputs in connection with the Production Device) all Inputs that may be converted into Outputs by the Production Device, by	in such way as is relevant to the type of GO being requested by the Registrant. e. The metering arrangements conform to such requirements as are set out in national legislation. EN16325 requires that the data of the EGI / Production Device is recorded in the same Registration Database as the GO, whereas in practice it could be left open where the EGI/Production Device data is registered, as long as databases are coupled in such way as to exchange the data required for issuance of GOs.	device produces energy of a type appropriate for receiving GOs. As such, the Registrant must identify the energy carrier(s) produced by the production device. And finally, in order to properly facilitate GOs for heating, cooling, gas and hydrogen, it is recommended that the structure of the Standard be amended, such that provisions specific to different energy carriers may be included, amongst which information to be provided in the application.

			reference to the Input types set out in the EECS Rules Fact Sheet "Types of Energy Inputs and Technologies"; (ix) the type of Production Device, where this reflects the relevant fuel source(s) for and technology of that Production Device by reference to the fuel sources and technologies set out in the EECS Rules Fact Sheet "Types of Energy Inputs and Technologies"; (x) the Capacity of the Production Device; (xi) where at the time of such application it has been commissioned, the date on which that Production Device was commissioned; (xii) the identity of the Authorised Measurement Body or, where appropriate, Approved Measurement Body responsible for collecting and determining the measured values of the Outputs of the Production Device and providing such measured values to the Member; (xiii) details of any payments (other than payments arising from the sale of EECS Certificates):		

			1 which have been received by any person in relation to the Production Device under any of the Public Support schemes set out in the EECS Rules Fact Sheet "Types of Public Support"; and 2 that are due to accrue to any person in relation to the Production Device under any such Public Support scheme; and (xiv) a diagram of that Production Device, including details of the location of: 1 the Exit Measurement Point(s) for the Production Device; 2 any Production Auxiliaries for the Production Device; and 3 any Entry Measurement Points for the Production Device; and (xv) the name commonly used to identify the Production Device, provided that the applicant agrees to this information being recorded on EECS Certificates that are Issued in relation to the Production Device; (xvi) where the Production Device is accredited to an		

			ICS, the identity of that ICS; (c) (...) [see EN16325 section 5.6.1 above] (d) the Production Device meets the PD Qualification Criteria for the relevant Product; (e) the measurement arrangements for the Inputs and Outputs of the Production Device (including Output consumed in storing energy to be used by that Production Device) satisfy the Product Rules for the relevant Product. The requirements of each Domain Scheme's procedures for the registration of Production Devices whose Output is Gas shall, for the purposes of the relevant EECS Scheme, be such that registration applicants shall, in addition to the provisions of section D4.1.2 (b), be placed under an obligation to provide to the Scheme Member details of the location of any pumping and compression stations at the site of the Production Device.		
		O6.2.1			
6.1.3	**Meters** All the Import and Export Meters should be sealed, certified and have a minimum level of accuracy; such certification has to be repeated at defined intervals.	D4.1.2	The PD Registration Criteria are as follows: (e) the measurement arrangements for the Inputs and Outputs of the Production Device (including Output consumed in storing energy to be used by that Production Device)	The provisions regarding metering are quite similar in both documents, although the EECS Rules are more explicit about the	The requirements regarding accuracy and frequency of certification are hollow without further elaboration. Yet (continued)

	Details of the following, including where relevant diagrams, shall also be provided to the Competent Body, but need not be recorded in its Registration Database: a) Export Meter(s) for that EGI; b) production Auxiliaries (where relevant); c) Import Meter(s) for all energy sources that may be converted into Electrical Energy by that EGI (where relevant); d) the location of any transformer substations at the site of the EGI.		satisfy the Product Rules for the relevant Product.	criteria to be satisfied by measurement arrangements: they must be included in national legislation.	accuracy of meters is fundamental to proper issuing. Therefore, it must be defined how such accuracy shall be established. It is therefore recommended that EN16325 identify that accuracy levels and the frequency of certification shall be in accordance with national legislation / grid codes.
		C2.1.2	Where an application for registration of a Production Device for the purposes of an EECS Product is successful, the Authorised Issuing Body shall revise its Registration Database so that: (a) (...), it shall incorporate the information provided in relation to that Production Device in connection with that application, save that: (i) detailed descriptions of plant and equipment; (ii) graphical representations of the Production Device and its location, including diagrams and photographs; and (iii) (...) need not be included; (...)		
		N6.2.1	Procedures for the registration of Production Devices shall be such that registration applicants shall, in addition to the provisions of Section D4.1.2(b)(xi), be placed under an obligation to provide to the relevant Authorised Issuing Body details of the location of any transformer substations at the site of the Production Device.		
6.2 Application procedure for Account Holders					

	The registration and eligibility of Account Holders shall be in accordance with national law and practice. The following information shall be provided to the Competent Body, which shall record it in its Registration Database: a) type of organisation, including proof of status according to national scheme (such as supply licence); and b) the applicant's name and address and additional contact details.	E3.3.2 E7.1.1	A Scheme Member shall only provide services to Registrants and Account Holders in connection with any EECS Product on contractual terms substantially the same as the Standard Terms and Conditions annexed to its Domain Protocol. A Member's Standard Terms and Conditions will contain at least the principles as set forth in the Model STC as published on the AIB website and in the Hub Participant Agreement. A Member's Standard Terms and Conditions shall meet at least the following criteria: (a) their use will secure that the provisions of the Domain Protocol which supplement any Legislative Certification Scheme or ICS may be contractually enforced by the Member against its (solvent) Customers; (b) their use will secure that the provisions of the Product Rules referred to at Section (a) above (whether or not specified in the Domain Protocol) may be contractually enforced against its (solvent) Customers; (c) they contain provisions that will provide adequate protection to other Members, Members' Representatives and the AIB against any claim made against such a person by that Member's Customers for any losses arising in	The EECS Rules do not provide an explicit application procedure for Account Holders in the body of the EECS Rules, but in the form of the Domain Protocol Template in Fact Sheet 10a. They require that services only be provided by a competent/issuing body under a contract. Moreover, the EECS Rules set out requirements regarding such contract, which are typically aimed at securing National GO Scheme/Market Participants' compliance with the rules, and at protecting competent/issuing bodies against claims from same. Moreover, the AIB considers Know Your Customer procedures to be best practice in protecting the GO system from potential fraud.	Both documents agree that it is the responsibility of the competent/issuing body (see EN16325 section 5.2.2) to enforce the rules against National GO Scheme/Market Participants. It is recommended for competent/issuing bodies to protect themselves and each other from claims made by said participants. We wonder if it might be possible for a Standard to require such a contract. Further, it does indeed make sense to describe the application procedure in a little more detail. Such description should at least include: a. a list of information items that each applicant account holder should provide;

			connection with EECS Certificates (including as a result of any breach of the terms of the EECS Rules) in circumstances where a contractual relationship does not exist between such person and Customer in relation to EECS Certificates; and (d) they provide that: (i) the Member and the Account Holder shall co-operate (to the extent within their power) to ensure that no unjust enrichment occurs as a result of an error in the course of the processing of an EECS Certificate or as a result of any unauthorised access to, or malfunctioning of, an EECS Registration Database and that for that purpose EECS Certificates held in that Account Holders account may be Withdrawn or amended by the Member, having regard to the objective of securing the accuracy of EECS Certificates; (ii) each of its Customers is required to keep secret any passwords and other information used to establish that communications purportedly made on its behalf in connection with the EECS Scheme are duly authorised ("authorisation data"); and (iii) each of its Customers agrees that it shall be deemed to have sent any communication which is sent using its currently applicable authorisation data (and that		b. in generic terms, how the competent/ issuing body shall notify the applicant of the acceptance or rejection (as appropriate) ot their application. For the purpose of fraud protection, we consider it best to not be too explicit about the measures taken: on the one hand, fraudsters could use the information to better circumvent said measures, and on the other hand, such measures must be flexible and quickly adaptable.

			consequently it shall be bound by the consequences of such communication).		
6.3	Obligations of Registrants				
	The Registrant of an EGI is placed under an obligation: a) to provide correct information, notify of changes taking place in advance and to inform immediately when unplanned changes take place, but no later than within ten working days; b) where requested to do so, to permit the Competent Body (or its Production Registrar), its servants or agents to inspect that EGI including, if so required, without prior notice; and c) to provide the Competent Body (or its Production Auditor) and agents with access to such records concerning GOs as the Competent Body (or Production Auditor) may request in relation to that EGI, its Outputs and Inputs, including, if so required, without prior notice. The Registrant of an EGI is obliged to notify the Competent Body of any actual or planned technical change to the registered details of the EGI, failing which that EGI shall cease to be so registered.	D5.1.2	The Registrant Compliance Criteria are that the Registrant of a Production Device for the purposes of the EECS Product is required: (a) to notify the Authorised Issuing Body, in advance of such changes coming into effect, of any planned changes that will result in: (i) the information recorded in the Authorised Issuing Body's EECS Registration Database in relation to the Production Device becoming inaccurate; or (ii) the PD Qualification Criteria for any Product ceasing to be satisfied with respect to that Production Device; and (b) to notify the Authorised Issuing Body of any unplanned changes that have resulted in: (i) the information recorded in the Authorised Issuing Body's EECS Registration Database in relation to the Production Device becoming inaccurate; or (ii) the PD Criteria for the EECS Product ceasing to be satisfied with respect to that Production Device; (c) where requested to do so, to permit the Authorised Issuing Body Member (or its Production Registrar), its servants or agents to	The obligations in both documents are quite similar. Most notably, the EECS Rules require one additional role to be given access to the EGI/production device, being the Production Registrar. The role of same is to verify the accuracy of an application for registration of a Production Device, in contrast to the role of a Production Auditor, which is to verify actual production data (inputs and outputs). It makes sense for both to be able to access the EGI/production device. The Standard considers that failing to inform the competent body shall result in the EGI to	It is recommended that the Standard be amended: • to reflect that the Registrant is obliged to allow a Production Registrar access to the EGI/production device. • that a failure of the Registrant to notify the competent/issuing body of a change shall only result in the EGI / production device ceasing to be registered where the competent/issuing body: ○ becomes aware of such change; and ○ concludes that such change means that the EGI / production

			inspect that Production Device including, if so required, without prior notice; (d) to provide the Authorised Issuing Body (or its Production Auditor), its servants and agents with access to such records as the Authorised Issuing Body (or Production Auditor) may request in relation to that Production Device, its Outputs and Inputs, including, if so required, without prior notice; (e) to re-apply for registration for the Production Device for the purposes of the Product on each occasion that it notifies the Authorised Issuing Body of changes that have occurred, or are planned, with respect to that Production Device, which as the case may be, have resulted in, or will result in, the information recorded in the EECS Registration Database with respect to that Production Device becoming inaccurate.	cease to be registered. However, this only works if there is a way for the competent body to become aware of a change which was not notified. Finally, the EECS Rules require that the Registrant re-apply in case of change, although in reality a Registrant may simply choose to accept 'de-registration' of its production device.	device no longer qualifies for GOs.
6.4	Revision of Registration Databases				
	The Registration Database shall be amended by the Competent Body in accordance with any notification that it receives from the Registrant of an EGI of changes having the effect that the information recorded in the Registration Database in relation to that an EGI is no longer, or will cease to be, accurate; and to show that an	C2.2.2	Where (pursuant to an inspection or otherwise) a Member becomes aware of changes which have, or planned changes been notified to the Member by the Registrant of a Production Device which will have, the effect that the PD Qualification Criteria for an EECS Product are no longer fulfilled or will cease to be fulfilled by that Production Device,	The provisions in both documents are functionally identical, with the exception that the EECS Rules actually define the period of time after which re-registration is required.	We consider that re-registration as a result of the passage of time should indeed be defined – otherwise it could be interpreted so broadly as to (in effect) never require re-registration.

	EGI no longer qualifies for the relevant National GO Scheme where: a) changes are brought to its attention (pursuant to an inspection or otherwise), or planned changes have been notified to it by the Registrant of an EGI which will have the effect that this EGI no longer fulfils or will cease to fulfil the relevant Qualification Criteria; it shall do so: 1) (in relation to planned changes notified in advance to the Competent Body) with effect from the date on which such planned changes are due to come into effect; or 2) (in relation to other changes) as soon as reasonably practicable; or b) the period of time during which an EGI has been recorded in a Registration Database as qualifying for a National GO Scheme is in excess of a defined period; or c) a Registrant so desires unless the Registrant confirms the details of its registration of the relevant EGI as set out in 6.1. When the Registrant confirms the details of its registration of an EGI, a Competent Body shall satisfy itself that the relevant records in the Registration Database adequately describe that EGI.	C2.2.3 C2.2.4	the Production Device shall cease to be recorded in that Member's EECS Registration Database as qualifying for that EECS Product: (a) (in relation to planned changes notified in advance to the Member) with effect from the date on which such planned changes are due to come into effect; or (b) (in relation to other changes) as soon as reasonably practicable. Where the period of time during which a Production Device has been recorded in a Member's EECS Registration Database as qualifying for an EECS Product is in excess of five (5) years, or where a Registrant so desires, then unless the Registrant successfully re-registers the relevant Production Device as set out in Section D5, then the Member shall, where permitted by the legislation in the relevant Domain, amend with immediate effect the relevant records in the EECS Registration Database to indicate that the Production Device no longer qualifies for that EECS Product. When re-registering a Production Device, a Member shall satisfy itself that the relevant records in the EECS Registration Database adequately describe that Production Device.		However, it should be permissible for competent/issuing bodies to be stricter than EN16325 if they so desire. As such, we would propose that the Standard include an upper limit for such time frame, and the five-year period proposed by AIB is a commonly agreed number.

	Where the capacity of an existing EGI increases for any reason, including refurbishment or enhancement of the EGI, then Competent Bodies may allow such additional capacity to be registered in the Registration Database for that Domain as a separate element of that EGI with the capacity and the date on which the EGI became operational as specified in 6.1.	C2.2.5	Where the Capacity of an existing Production Device increases for any reason, including refurbishment or enhancement of the Production Device, then such additional capacity may be registered in the relevant EECS Registration Database as a separate element of that Production Device with: (a) the Capacity specified in the application for registration; (b) the date on which the Production Device became operational as specified in the application for registration.		
7	**Issuing and content of a GO**				
7.1	Format of the GO				
	Each GO shall have a value of 1 MWh. A GO shall contain at least the following information: a) the medium by which energy is conveyed, namely Electrical Energy; b) the unique number assigned to the GO by the Competent Body that Issued it, see normative Annex C; c) >the electrical capacity of the EGI in MWe<; d) the date when the EGI first became operational; e) optionally, where applicable, the capacity of the relevant production element of the EGI and the date when this production element became operational;	C3.5.4, C3.5.5 N6.5.1 O7 O8 HubCom Annex B5.5	C3.5.4 Each EECS Certificate shall contain the following information: (a) the EECS Product under which it has been Issued, so identifying the medium by which energy is conveyed, where this may be: (i) electricity; or (ii) fuel, whether gaseous, liquid or solid; or (iii) heat (including cooling), whether this is conveyed by gas, or by liquid, or by heat transfer by conduction or radiation; (b) the unique number assigned to it by the Originating Member in accordance with the Subsidiary Document "HubCom"; (c) the date on which the Originating Production Device became operational (as determined	Almost all data covered in EN16325 are functionally identical in EECS. Only differences are the following: Data items additional in EN16325: 1) Name of the production device is optional in EECS but mandatory in EN16325 2) Splitting of the capacity	For EN16325 the energy source is not identified as a separate field, but it is currently included in the Type of Installation. However, some energy sources can be converted to energy through different kinds of technologies. And the other way around: some technologies can convert more than one energy source to energy. We therefore recommend

	f) the first day on which the Output to which the GO relates was produced; g) the last day on which the Output to which the GO relates was produced; h) the Type of Installation (see normative Annexes A and B); i) the identity of the Originating EGI, where this shall include the unique number which has been assigned to that EGI by the Competent Body; and the name of the EGI. If the Registrant is a private person, then he or she shall agree to the name of the EGI being recorded on GO which are Issued for this EGI; j) the country in which the relevant EGI is situated; k) the location of that EGI, being its latitude and longitude; and/or country, city and postal code (please see Normative Annex D for more information); l) the identity >(and country or region)< of the Originating Competent Body; m) the date when the electronic Issuance of the GO took place; n) when relevant, whether or not this GO represents Output derived from High-Efficiency Cogeneration together with the information specified in 7.5; and o) an indication whether and to what extent the Originating EGI has received Public Support relating to		in accordance with relevant national legislation), as verified by the Production Auditor during the registration process for that Production Device; (d) the first day on which the Output to which it relates was produced; (e) the last day on which the Output to which it relates was produced; (f) the energy source from which the Output was produced (by reference to the types of energy sources set out in the EECS Rules Fact Sheet "Types of Energy Inputs and Technologies"; (g) the type of the Originating Production Device, by reference to the types of installation set out in the EECS Rules Fact Sheet "Types of Energy Inputs and Technologies"; (h) the identity of the Originating Production Device, where this shall include: (i) the unique number which has been assigned to the Production Device according to Section C2.1.2(b); and (ii) optionally, the name of the Production Device as specified in the application for registration of that Production Device, provided that the Registrant of the Production Device has agreed to this information being recorded on EECS Certificates which are issued for this Production Device; (i) the	of the production element of the production device, and the data when this production element became operational in e) Data items additional in EECS 3) EECS has extra information on certificates that allows for different products. GOs are one of the products that EECS Certificates can carry. 4) Date operational is mentioned in both EECS as in EN16325, but EECS states that it is verified by	to explicitly distinguish types of technology *and* types of energy input for clarity. This will also be helpful in the issuance of GOs for converted energy based on the cancellation of GOs for the energy consumption of the converting production device. If such cancelled GOs mention wind as the energy input, for example, it makes sense to include that as the energy source of the heat, even though the production device could likely not in itself convert wind energy into heat. EECS determines in HubCom the format for recording data on the EECS GO. It should be considered to what extent the Standard should cover this, bearing in mind that indeed it is

	investment in it and/or with respect to Output produced by it.		Country of Issue; (j) the location of the Originating Production Device, being its: (i) latitude and longitude in accordance with the EECS Rules Fact Sheet "Geographical Coordinates"; and/or (ii) country, city and postal code; (k) the Capacity of the Originating Production Device, as specified by the Section of PART IV of the EECS Rules establishing the EECS Scheme in relation to the relevant Output; (l) its Face Value in accordance with the Section of PART IV of the EECS Rules establishing the EECS Scheme in respect of the relevant Output; (m) the identity of the Originating Member; EECS Rules Release 7 v10 clean Page 28 of 88 © Association of Issuing Bodies, 2018 16 May 2018 (n) the Date of Issue; (o) the status of the EECS Certificate, by reference to whether the Certificate is a Guarantee of Origin, a Support Certificate or a NGC; and (i) where the Certificate is a Guarantee of Origin, whether it is a Guarantee of Origin in relation to the energy source for the Output to which it relates and/or the technology type used in producing such Output; (ii) where the Certificate is a Support Certificate, the type of Support Certificate which it is; (iii) where the Certificate is a Support Certificate and/or a Guarantee of	the Production Auditor during the PD/EGI registration process. 5) Thermal Capacity of cogeneration plant, and optionally the mechanical capacity of cogeneration plant, 6) EECS has extra information on certificates that allows for different purposes. Disclosure is one of the purposes that EECS Certificates can be issued for. Other purposes can be Support or Target. 7) The Face Value is on an EECS certificate. But now Directive	difficult to transfer records between registries if they do not have identical formats. Annexes A and B need to be updated. EECS Fact Sheet 5 contains a proposal.

			Origin, the Competent Authority (or Competent Authorities where appropriate); (p) the Purpose for which the EECS Certificate has been issued, being: (i) Disclosure; and/or (ii) Support; (q) an indication, as appropriate, as to whether: (i) the relevant EECS Registration Database records that no Public Support has been, is being or will be given in respect of the Originating Production Device; (ii) the relevant EECS Registration Database records that Public Support has been given in relation to an investment in the Originating Production Device or its owner; (iii) the relevant EECS Registration Database records that Public Support is being or will be given with respect to the Output of that Originating Production Device; (iv) the relevant EECS Registration Database records that both: 1 Public Support has been given to an investor in the Originating Production Device in relation to its investment therein or in the body which owns that Production Device; and 2 Public Support is being, or will be, given in respect of the Output of that Originating Production Device; or (v) the relevant EECS Registration Database does not record whether or not Public Support has been, or is being, given in respect of the	2018/2001/EC specifies the GO face value = 1MWh, this field is not longer necessary. 8) EECS certificates specify the identity of the originating Member (=Issuing Body). This provides a consistency check with the country of production, and enables easier tracking. 9) EECS certificates can be a non-governmental certificate, apart from a GO or a support certificate 10) EECS rules refer to a technical data format specification	

			Originating Production Device; (r) such other information as is specified by the Section of PART IV of the EECS Rules establishing the EECS Scheme in relation to the relevant Output as being required to be provided in respect of the energy source and type of Originating Production Device to which the Certificate relates; (s) where the Certificate has been issued in respect of a Production Device which is accredited to an ICS and the Scheme member is supporting that ICS, the relevant ICS identifier. C3.5.5 Each EECS Certificate and the information contained in it, or to be indicated by it, shall be in the format specified in the Subsidiary Document "HubCom". N6.5.1 For the purposes of Section C3.5.4 (k), an EECS Certificate in respect of Electricity shall contain: (a) the Electrical Capacity; and (b) where such EECS Certificate corresponds to a Product relating to the technology type of the Originating Production Device where such technology type is Cogeneration, the Thermal Capacity; and (c) where appropriate, the Mechanical Capacity.	of the certificate (in HubCom) 11) EECS enables for mentioning the label of a provider of an Independent Criteria Scheme (ICS). 12) EECS sections O7 and O8 provide the requirements for gas GOs. Differing definitions in shared data items: 13) EN16325 only allows the energy medium to be electrical energy, while EECS allows the values to be electricity, fuel, whether gaseous, liquid or solid, or heat	

			O7 Information on EECS Gas Certificates O7.1.1 For the purposes of Section C3.5.4 (a), an EECS Certificate in respect of Gas shall record the medium by which energy is conveyed as "Gas", in the format specified in the Subsidiary Document "HubCom". O7.1.2 For the purposes of Section C3.5.4 (k), an EECS Certificate in respect of Gas shall record its Nominal Capacity as the capacity of that Production Device. O7.1.3 In addition to the data mentioned in Section C3.5.4, EECS Certificates corresponding to the Gas Scheme must specify the following information in respect of the Output, in the format specified in the Subsidiary Document "HubCom": (a) the type of gas, referring to the chemical composition of the energy carrier, being "Methane", "Hydrogen" or "Other gas"; (b) the Calorific Value used for calculating the MWh of Output, being the higher calorific value; (c) the means of supply, as identified in EECS Rules Fact Sheet "Means of Supply". O8 Additional information on EECS Gas Certificates O8.1.1 EECS Gas Certificates corresponding to Products relating to the CO2 impact of the production shall contain the following data: (a) CO2 emissions	(including cooling). 14) For energy medium = heat, EECS foresees to inform on the certificate whether this is conveyed by gas, liquid or by heat transfer by conduction or radiation. 15) For date operational, EECS adds that Is is "as determined in accordance with relevant national legislation and as verified by the Production Auditor" 16) There EN16325 refers to "Type of Installation", which includes both a technology code and a fuelcode,	

			produced; and (b) CO2 emissions saved relating to the Nett Gas Production and including a reference to the methodology used to calculate this information, as identified in EECS Rules Subsidiary Document "Methodology for calculating CO2 impact of production"; O8.1.2 EECS Gas Certificates corresponding to Products relating to the sustainability criteria referred to in the Renewable Energy Directive shall contain the following data: (a) Whether or not the Production Device complies with the applicable sustainability criteria referred to in the Renewable Energy Directive, together with an indication as to whether these criteria have been met, a reference to the certification body which confirmed that this is the case, and a reference to the relevant report produced by this certification body; (b) Whether or not the CO2 emission savings criteria are met, as referred to in the Renewable Energy Directive; (c) End-use of the Gas as set out in EECS Rules Fact Sheet "Use of Gas"	EECS refers explicitly to an "energy source" AND a "type of originating Production Device". Normative annexes A and B correspond to EECS Fact Sheet 5 but the latter was updated since EN16325 was last updated.	
7.2	The Issuing process				
	GOs may be Issued either automatically on receipt of the relevant measurement data, or on request by means of a GO Issuing Request from the authorised	C3 C3.5.1 C3.1, C3.3	C3 ISSUE OF CERTIFICATES C3.1 Authority C3.1.1 An EECS Certificate may only be Issued by a Member which	Issuing is mostly functionally similar, but EECS in general goes more in detail.	EECS Rules C3.3 is not sufficiently reflected in EN16325, and is essential for

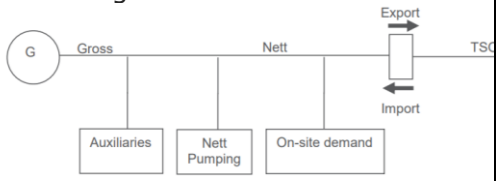
	representative of the EGI as required by the >National GO Scheme<. GOs may only be >Issued< for EGIs that qualify for the relevant National GO Scheme. Competent Bodies shall not Issue more than one GO in respect of the same MWh produced. A Competent Body may retain a quantity of Output that is less than 1 MWh until the quantity of Output available from the corresponding EGI is sufficient to qualify for the Issue of a GO. The period between measurements may not be more than twelve months. Where the period between measurements of the Output of an EGI is more than one month, then the number of GO Issued to an EGI for each month may be determined on a pro-rata or profiled basis in accordance with the relevant National GO Scheme by reference to the period between measurements. A Competent Body may only Issue GOs to EGIs which are situated in its Domain. In case the respective EGI is situated on the border of the Domain, the Competent Bodies of the affected Domains shall assure in close coordination that each Competent Body only >Issues< GO for the relative amount of >Electricity< production of the EGI which can be clearly assigned to his Domain.	C3.4	is (a) an Authorised Issuing Body in respect of the corresponding EECS Product; (b) in respect of the Output from a Production Device which is, at the time of Issue: (i) situated in that Member's Domain in respect of that EECS Product; and (ii) registered in the EECS Registration Database of that Member for the purposes of that EECS Product. C3.3 EECS GOs C3.3.1 An EECS GO shall only be Issued in respect of Output which has not been and is not being otherwise Disclosed, including by the Issue of any other Certificate of any variety (save to the extent permitted under Section C8) except, in the case of an EECS GO derived from and incorporating the relevant electronic data from one or more National Scheme Certificates, where such National Certificate(s) has/have been withdrawn or cancelled in order for it/them to be replaced by that EECS GO and the Certificate according to the national certification scheme has not been and is not being used for disclosure prior to withdrawal or cancellation C3.4 Frequency of Issue C3.4.1 Subject to Sections C3.4.2 and C3.4.3: (a) where the period between measurements of the	Following is not similar: • EECS mentions who can issue the EECS GO • EN16325 is explicit about the trigger for issuing coming from a request, where EECS doesn't fix the trigger for issuing (though EECS states that the Issuing Body is in receipt of measured values of Output collected and determined by an Authorised Measurement Body. EN16325 seems to assume that all measurement data can trigger automatic GO issuing, and that an Issuing Request can only come from a representative from the production device. In practice	avoidance of double counting of the attributes of the same MWh. There should be mechanisms in place that prevent the issuance of GOs for energy that is being disclosed otherwise. EN16325 describes two potential triggers for the issuance of GOs: an explicit request from the owner/representative of the EGI / production device, or the receipt of measurement data. In practice, different kinds of triggers are possible (e.g. request from a support organisation, such that GOs can be issued and auctioned). And in *each case*, the Competent / Issuing Body must be in receipt of the relevant measurement data to be able to issue GOs. Recommendation to

	Any request for the >Issuance< of GOs shall be submitted to the Competent Body no longer than three months after the end of the period to which the Output relates, and the Competent Body shall Issue the related GOs within one month of such request being received. A Competent Body will automatically >Issue< GOs no longer than three months after the date of receipt of the relevant measurement data. GOs may only be Issued for the Output of an EGI provided the relevant attributes of such Output have not been and are not being otherwise Disclosed, and the recipient of the GO shall guarantee this to the relevant Competent Body.		Output of a Production Device is no more than one month, then the EECS Certificates in respect of such Output shall be Issued no later than one month after the month in which such Output was produced; (b) where the period between measurements of the Output of a Production Device is more than one month, then the Issuing Frequency shall be the same as the Measurement Frequency; and (c) where the period between measurements of the Output of a Production Device is more than one month, then the number of EECS Certificates issued to a Production Device for each month must be determined on a pro-rata or profiled basis in accordance with the relevant Product Rules by reference to the period between measurements. C3.4.2 Any EECS Certificate derived from and incorporating electronic data from a National Scheme Certificate shall: (a) subject to Sections (b) and (c) below, replicate the content of a National Scheme Certificate cancelled or withdrawn in connection with the Issue of such EECS Certificate insofar as such information is required to be included on the EECS Certificate pursuant to Section C3.5.2 (and incorporate such further information as may be	such trigger can come from the measurement body, and GOs can be issued either automatically or manually. EN16325 links the issuance trigger to the national GO scheme, for which EECS leaves room for both national and voluntary schemes. The required link to the national GO scheme seems contradictory to the introductory text in EN16325 section 0 that the standard facilitates both GOs and voluntary schemes. It however makes sense that the exact word GO is only used for documents that comply with the concept of GO in the Directive 2018/2001/EC.	redraft the provisions of EN16325 accordingly. Both of the above topics might benefit from storing records of GOs in ranges that share the same characteristics. One record could have a range of 1 through 347 and thus represent 347 MWh of energy with the same characteristics. Given that EECS facilitates several types of certificate, recommendation to consider if EN16325 can do so, as well. Such would likely require the addition of provisions that are voluntary, in addition to those for GOs, which are obligatory on Member States. Recommendation to explain in EN16325 how to handle residual energy

	Upon Issue, any GO shall be placed in the Transferables Account nominated for such purposes by the Registrant of the Originating EGI. The Competent Body shall be obliged to inform the holder of any such Transferables Account of the Issuance of any GO into its Transferables Account and of the details of that GO or		required by the relevant Product Rules), save that the Issuing Date shall be the date of Issue of such EECS Certificate; and (b) have, in aggregate with any other EECS Certificates Issued in connection with the cancellation or withdrawal of such National Scheme Certificate, a Face Value which is equal to the Face Value of such Cancelled National Scheme Certificate); (c) where the Face Value specified in the Section of PART IV of the EECS Rules establishing the EECS Scheme in respect of the relevant Output is greater than the Face Value of the relevant National Scheme Certificate shall only be Issued on cancellation or withdrawal of National Scheme Certificates which in aggregate have a Face Value equal to that of such EECS Certificate; and (d) shall only be Issued within one month of the Cancellation of the relevant National Scheme Certificate(s). C3.4.3 A quantity of Qualifying Output produced by a Production Device which is less than the Face Value of an EECS Certificate may be carried over until the Qualifying Output of the Production Device is sufficient to qualify for the Issue of such an EECS Certificate. C3.4.4 An EECS Certificate may only be Issued by a Member in respect of the Output of a	• Final issuing dates differ between EECS and EN16325 • EECS Rules mention details about the issuing frequency and length of the production period for which GOs can be issued, where EN16325 doesn't mention such. • EECS Rules specify links with national scheme certificates where applicable.	production in a smaller quantity than the face value of the GO. In EN16325, mention that the production device must be registered during the production period for which a GO is issued, and that issuance of GOs is only possible for output after the registration of the Production Device in the Registration Database.

	otherwise make such information available to that person. A Competent Body shall not alter the details of any GO (save with respect to the Account in which it is held) or Withdraw any GO once it has been Issued, save as provided by Clause 9 and 10.3.		Production Device: (a) during a period in which that Production Device was registered in that Member's EECS Registration Database for the relevant Domain for the purposes of the corresponding EECS Product; (b) where the last day on which such Output was generated is not more than: (i) thirteen (13) calendar months after the first day on which the measured Output was generated; (ii) twelve (12) calendar months before the date of Issue of any related EECS certificates; (c) which has been found to be produced from the Input or Inputs claimed by the Registrant of the originating Production Device and which meets the Output Criteria for that EECS Product; and (d) the measured value of which has been collected and determined by an Authorised Measurement Body. C3.5.1 EECS Certificates shall only be Issued (a) in respect of Qualifying Output in respect of the corresponding EECS Product; (b) in respect of the Originating Production Device and period claimed in a Production Declaration specified by the Registrant of the Production Device or an Account Holder duly authorised on its behalf,	• EECS Rules explain how to handle residual energy production in a smaller quantity than the face value of the GO. • EECS Rules mention that the production device must be registered during the production	

			in accordance with the requirements of the Product Rules for that EECS Product; C3.5.2 An EECS Certificate shall be Issued by a Member by recording its details on that Member's EECS Registration Database in the Transferables Account nominated for such purposes by the Registrant of the Originating Production Device. C3.5.3 A Member shall inform an Account Holder of the Issuance of any EECS Certificate into that Account Holder's Transferables Account and of that EECS Certificate's details, or otherwise make such information available to that Account Holder.	period for which a GO is issued. • EECS Rules use the criterion of meeting the criteria of "qualifying output", whereas CEN refers to national GO schemes.	
7.3 Declaration of Consumption and Calculation of Output					
7.3.1	**General** Explanatory diagrams are to be found in Clause 11.	Preface	The EECS Certificates that are released onto the market for trade are those which represent energy	The EECS Rules Preface state that the EECS Certificates	Regarding onsite demand, it is very important for the

	A Competent Body shall Cancel upon Issuance each GO Issued in respect of Electrical Energy consumed by consumption Auxiliaries (including pumping).		flowing into the grid. These will have been produced nett of any energy used by Production Auxiliaries or (pumped storage facilities) for pumping water back to the header lake. Certificates representing the source of the energy used by Production Auxiliaries and pumping will be automatically cancelled upon issue – see diagram below.  	that are released onto the market for trade are those which represent energy flowing into the grid. This is further restricting than EN16325. Apart from that, both documents agree that direct auxiliaries are to be deducted, and pumping energy for pumped storage is not eligible for GOs.	credibility of the GO system that the arrangements are such as to prevent GOs from being double-counted for purposes of disclosure, and to eliminate even the perception of the public that they could be. For onsite demand several scenarios should be considered: • whether to allow GOs to be issued at all for energy consumed onsite; or • if MS may at their discretion choose to not issue GOs for energy consumed to satisfy onsite demand; and where it is left to MS' discretion: under what conditions GOs may be issued for energy consumed onsite while still preventing double-counting (e.g. cancelling upon

					issue, requiring onsite demand to be part of overall consumption and thereby subject to disclosure by a supplier, reported as part of total consumption in the Residual Mix Calculation, etc.)
7.3.2	**Consumption Declaration** A person submitting a GO Issuing Request in relation to an EGI for which one of the Inputs is stored energy shall be obliged to submit (in respect of the same period as that to which the GO Issuing Request relates) a Consumption Declaration and to specify therein the amount of Output consumed in storing energy for use by that EGI in that period. A person submitting a GO Issuing Request in relation to an EGI for which there is more than one Input shall be obliged to submit (in respect of the same period as that to which the GO Issuing Request relates) a Consumption Declaration for each combustible Input and to specify therein: a) the values of M^1, C^1…. M^n and C^n ; and b) the Energy Input Factor *L* for that Input and that period, where *L* is the proportion of the total Output produced during this period by the	C3.2, N6.3, O6.3	C3.2.1 An EECS Certificate corresponding to an EECS Product may only be Issued in respect of Output: (a) which is produced by an Originating Production Device which meets the PD Qualification Criteria in respect of that EECS Product; (b) that meets the Output Criteria for that EECS Product; (c) in respect of which the Authorised Issuing Body is in receipt of measured values of Output collected and determined by an Authorised Measurement Body(or, where the relevant Product Rules so permits, an Approved Measurement Body) which, having regard to the relevant Consumption Declaration where relevant, corroborate the amount so specified; and (d) which has been determined in accordance with the Product Rules for that EECS Product.	EN 16325 section 7.3.2 is identical to EECS N6.3, except for the title of the section. This concerns electricity only for both documents. EECS adds C3.2.1 as a framework for issuing and provisions for gas in O6.3. The provisions for gas are similar to those for electricity. The formula of the Energy Input Factor enables to analytically consider production devices with multiple Inputs. It must be noted that production devices exist that create	For making the text generic for all energy carriers, not much needs to be changed, just a small difference in the explanation of 1 of the parameters of the Energy Input Factor formula. For production Devices with Multiple Inputs and Multiple Outputs, detailed rules must be developed , both in EECS (subsidiary document) and in EN16325 for multiple energy carriers. Recommendation to include a provision that enables Member States to deviate

	relevant Input and is calculated as follows: $L = \frac{M^1 \cdot C^1}{\left(M^1 \cdot C^1\right) + \ldots + \left(M^n \cdot C^n\right)}$ where (for the relevant Energy Input and period) M^1 is the mass of the relevant Energ C^1 is the average calorific value of t M^n is the mass of each Input other t C^n is the average calorific value of e that period.		N6.3 Production Declarations N6.3.1 A person submitting a Production Declaration in relation to a Production Device for which one of the Inputs is stored energy shall be obliged to submit (in respect of the same period as that to which the Production Declaration relates) a Consumption Declaration and to specify therein the amount of Output consumed in placing energy (in any medium) into storage for use by that Production Device in that period. N6.3.2 A person submitting a Production Declaration in relation to a Production Device for which there is more than one Input shall be obliged to submit (in respect of the same period as that to which the Production Declaration relates) a Consumption Declaration for each combustible Input and to specify therein: (a) the values of M1 , C1…. Mn and Cn ; and (b) as the Energy Input Factor for that Input and that period, a factor no greater than L, where L is the proportion of the total Output produced during this period by the relevant Input and is calculated as follows:	multiple Outputs, e.g. electricity and heat. Therefore, for the purposes of issuing GOs, the methodology for determining the share of each energy source in a production devices outputs must be equally applicable to: • production devices that produces one type of output from multiple types of input; and • production devices that produces multiple types of output from multiple types of input. E.g. Production of hydrogen by the plasma gasification of biomass involves two energy inputs: biomass and electricity, and several types of gases as output.	from the requirement for having a consumption declaration for waste incineration.

			$L = \frac{M^1 \times C^1}{(M^1 \times C^1)..+(M^n \times C^n)}$ Where M1 is the mass of the relevant Energy Input for that Production Device during the relevant period C1 is the average calorific value of the relevant Energy Input for that Production Device during the relevant period Mn is the mass of each relevant Input other than the relevant Input for that Production Device during the relevant period Cn is the average calorific value of each relevant Input other than the relevant Input for that Production Device during the relevant period. O6.3. Production Declarations (Gas Scheme) O6.3.1 A person submitting a Production Declaration in relation to a Production Device for which one of the Inputs is stored energy shall be obliged to submit (in respect of the same period as that to which the Production Declaration relates) a Consumption Declaration; and to specify therein the amount of Output consumed in placing energy (in any medium) into storage for use by that Production Device in that period.	In practice, for waste incineration several countries apply a fixed percentage to determine the renewable share in the energy output of a production device. This is because municipal waste is not so homogenous that its renewable content can consistently and cost-effectively be determined through sampling.	

			O6.3.2 Where relevant for determining the energy source on the EECS Certificate, as mentioned in section C3.5.4 (f), a person submitting a Production Declaration in relation to a Production Device for which there is more than one Input shall be obliged to submit (in respect of the same period as that to which the Production Declaration relates) a Consumption Declaration for each Input and to specify therein: (a) the values of M1 , C1…. Mn and Cn ; and (b) as the Energy Input Factor for that Input and that period, a factor no greater than L, where L is the proportion of the total Output produced during this period by the relevant Input and is calculated as follows: $$L = \frac{M^1 \times C^1}{\left(M^1 \times C^1\right)..+\left(M^n \times C^n\right)}$$ Where M1 is the mass of the relevant Energy Input for that Production Device during the relevant period where the Inputs are liquid and/or solid. Where the Inputs are a mixture of gases, their volume shall be used rather than their mass; C 1 is the average calorific value of the relevant Energy Input for that Production Device during the relevant period;		

			Mn is the mass of each relevant Input other than the relevant Input for that Production Device during the relevant period where the Inputs are in liquid and/or solid phase. Where the Inputs are a mixture of gases, then the volume shall be used instead of the mass; and C n is the average calorific value of each relevant Input other than the relevant Input for that Production Device during the relevant period. For specific classes of Production Devices (e.g. PDs with multiple Outputs (Cl, H2) reference should be made to Subsidiary Document "Consumption Declarations for Production Devices with Multiple Inputs and/or Outputs".		
7.3.3	**Calculation of Output** Subject to the requirements of the National GO Scheme, the amount of Output determined for the purposes of GOs shall be either: > a) For EGI not operating in High-Efficiency Cogeneration mode 1) the amount of Gross Electrical Energy produced by that EGI multiplied by the Energy Input Factor for that Input, which shall be equal to one (1) where the EGI produces energy from one Input, or as calculated in	N6.4, N8.1 O6.4	N6.4 Determination of Output N6.4.1 Where the Product relates to the energy source of the Output, the amount of Output determined for the purposes of EECS Certificates corresponding to that EECS Product as having been produced by that Production Device shall be: (a) where the Originating Production Device only produces Output from a single Input, the amount of Nett Electrical Energy	EECS allows multiple products and multiple purposes. EECS Categorises electricity GOs under the Renewable Energy Directive under Products related to the energy source of the Output. EECS categorises high-efficient cogeneration GOs under Products related to the	Given that EECS facilitates several types of certificate, recommendation to consider if EN16325 can do so, as well. Such would likely require the addition of provisions that are voluntary, in addition to those for GOs, which are obligatory on Member States.

	7.3.2 where the EGI produces energy from more than one Input; or 2) the amount of Nett Electrical Energy Generation produced by that EGI multiplied by the Energy Input Factor for that Input, which shall be equal to one (1) where the EGI produces energy from one Input, or as calculated in 7.3.2 where the EGI produces energy from more than one Input. b) For EGI operating in High-Efficiency Cogeneration mode 1) the amount of Nett Electrical Energy Generation produced by that EGI multiplied by the Energy Input Factor for that Input, which shall be equal to one (1) where the EGI produces energy from one Input, or as calculated in 7.3.2 where the EGI produces energy from more than one Input.<		Generation produced by that Production Device provided that Output meets the Output Criteria for the Product; (b) (b) where the Originating Production Device produces energy from more than one Input, the amount of Nett Electrical Energy Generation produced by that Production Device multiplied by the Energy Input Factor for the relevant Input. N6.4.2 Where an EECS Product relates to the technology type of the Originating Production Device Output, the amount of Output determined for the purposes of EECS Certificates corresponding to that EECS Product as having been produced by that Production Device shall be the amount of Output which meets the Output Criteria for that Product. N6.4.3 EECS Certificates shall not be Issued in respect of electricity consumed by Production Auxiliaries. N6.4.4 Where an EECS Certificate is issued for electricity from a pumped-hydro Production Device, only the electricity derived from natural inflow shall qualify for the Issuance of an EECS Certificate, which means that:	technology type of the Originating Production Device. EN16325 here in 3.3 leaves the choice to issue GOs either for gross either for net electricity production. In section 7.3.1 it complements by stating that GOs issued for auxiliary consumption should be cancelled upon issue. EECS is clear that only net electricity production is eligible for GO issuing and no EECS Certificates shall be issued for auxiliary consumption. While the principle of deducting pumping storage energy is equal in both documents, EECS adds N6.4.4 that states how to calculate Output in case of pumped hydro-electric energy. This was added in order to	Recommendation to amend EN16325 such that GOs cannot be issued for auxiliary consumption.

			(a) EECS Certificates shall be issued for natural inflow minus any nett electricity consumed by pumping; (b) Where an onsite Production Device supplies electricity to the pumped-storage Production Device, then the onsite Production Device shall be considered to be a separate Production Device to the pumpedstorage Production Device; (c) Where the amount of energy imported by the relevant Production Device during a period exceeds that exported by it during the same period, then the difference between such imports and exports shall be compensated by an equivalent amount of nett exports during successive periods before new EECS Certificates may be issued; and (d) EECS Certificates shall be issued according to the following formula: (i) $\mathbf{Issue = E - I * \eta\rho + I * \eta\rho * AF}$, where: Issue = Net production from natural inflow (Qualifying Output) $\mathbf{E}$ = Electricity measured by the Export Meter $\mathbf{I}$ = Electricity measured by the Import Meter (including consumption of the pump) $\boldsymbol{\eta\rho}$ = Efficiency of the pump (this is not mandatory, by	avoid confusion in the interpretation of the rule. EECS adds rules for gas. Also here there is only GO issuing for net gas production, and the pro rata allocation based on the calorific value of the inputs is similar.	

			default 100% must be assumed) **AF** = Share (%) of energy consumption of Production Auxiliaries from total gross generation (this is not mandatory and if this is not measured, $\mathbf{I} * \boldsymbol{\eta\rho} * \mathbf{AF}$ must be assumed to be zero). O6.4. Determination of Output (Gas scheme) O6.4.1 The amount of Output determined for the purposes of EECS Certificates under the relevant EECS Scheme and Product as having been produced by that Production Device shall be the energy content of the Gas produced by that Production Device during the relevant period, being the volume of Nett Gas Production produced by that Production Device multiplied by: (a) where a Production Device produces Output solely from a single Input, or from a mixture of Inputs from renewable energy sources which together generate an Output with a higher calorific value than the sum of the individual calorific values of the separate Inputs, the average calorific value of the Energy Output for that		

			Production Device during the relevant period; and (b) where the Production Device produces energy from more than one Input, and where relevant for determining the energy source on the EECS Certificate, as mentioned in section C3.5.4 (f), the Energy Input Factor for that Input. O6.4.2 EECS Certificates for Gas shall only be issued for Nett Gas Production. EECS Certificates shall not be Issued in respect of Gas consumed by Production Auxiliaries. If there is more than 2% of energy consumption from another energy carrier related to the production of Output, this shall be taken into account in the determination of Output.		
7.4 CO2 emissions and nuclear waste					
	In addition to the information contained on a GO as identified in 7.1, each National GO Scheme may provide that a GO Issued contains: a) CO_2 emitted by the Originating EGI in the production of 1 MWh of Electrical Energy; b) for nuclear source Electrical Energy, the radioactive waste produced per unit of Electrical Energy as required by the IEM Directive.	N6.6.2 N6.6.3 O8	N6.6.2 EECS Certificates in respect of Output produced from a fossil fuel by any Production Device must record the CO2 emitted by the Originating Production Device in the production of 1 MWh of electrical energy and associated with the relevant Input in kilograms per MWh of final energy produced, by reference to the source types and reference values set out in the EECS Rules Fact Sheet "Types of	EN16325 incorrectly identifies that the IEM Directive requires CO_2 emissions or radioactive waste to be included on GOs. While the IEM Directive requires that the environmental impact of electricity	Recommendation to remove the statement that the IEM Directive would require to record CO_2 and radioactive waste information to be recorded on the GO. The data fields can be kept as optional, as is

	At the time of publication of this document there is no verifiable, reliable and accepted European method for calculation available. As long as such a standardised method is not in place the declaration of CO_2 emissions and nuclear waste may be considered as non-reliable and non-verifiable.		Energy Inputs and Technologies". The format of such information shall be in accordance with the Subsidiary Document "HubCom". N6.6.3 EECS Certificates in respect of Output produced from nuclear fuel must record the radioactive waste produced per MWh of electricity. The format of such information shall be in accordance with the Subsidiary Document "HubCom". O8 Additional information on EECS Gas Certificates O8.1.1 EECS Gas Certificates corresponding to Products relating to the CO2 impact of the production shall contain the following data: (a) CO2 emissions produced; and (b) CO2 emissions saved EECS Rules relating to the Nett Gas Production and including a reference to the methodology used to calculate this information, as identified in EECS Rules Subsidiary Document "Methodology for calculating CO2 impact of production"; O8.1.2 EECS Gas Certificates corresponding to Products relating to the sustainability criteria referred to in the Renewable Energy Directive shall contain the following data:	supply shall be disclosed to customers, it does not require such information to be included on, nor derived from GOs. This may explain why EN16325 mentions the inclusion of such information as optional. Conversely, EECS provides data fields on CO_2 to be mandatory for GOs from fossil energy, High efficient cogeneration GOs, and optional for gas GOs. Further, EECS GOs for nuclear waste mandatorily state the radioactive waste produced per MWh. Neither EECS, nor EN16325 have elaborated the methodologies for calculating CO_2 or radioactive/nuclear waste.	evident from the phrase 'may provide'.

			(a) Whether or not the Production Device complies with the applicable sustainability criteria referred to in the Renewable Energy Directive, together with an indication as to whether these criteria have been met, a reference to the certification body which confirmed that this is the case, and a reference to the relevant report produced by this certification body; (b) Whether or not the CO2 emission savings criteria are met, as referred to in the Renewable Energy Directive; (c) End-use of the Gas as set out in EECS Rules Fact Sheet "Use of Gas".	EECS determines in HubCom the detailed format for recording data on the EECS GO.	
7.5	Special provisions for High-Efficiency Cogeneration Electrical Energy				
7.5.1	**Amount of High-Efficiency Cogeneration Electrical Energy Generation produced by an EGI** The amount of High-Efficiency Cogeneration Electrical Energy Generation produced by an EGI shall be: a) where the EGI produces High-Efficiency Cogeneration Electrical Energy Generation only, the amount of Electrical Energy produced by that EGI from fuels consumed at the same site; and b) where the EGI produces High-Efficiency Cogeneration Electrical Energy Generation and Electrical Energy which is not High-Efficiency Cogeneration Gross Electrical	N8.2	N8.2 Cogeneration N8.2.1 In the case of Cogeneration using fuels burned directly by the Production Device: (a) where the Production Device produces High-Efficiency Cogeneration only, the amount of electrical Output produced by that Production Device from fuels burned at the same site; and (b) where the Production Device produces High-Efficiency Cogeneration and electricity which is not HighEfficiency Cogeneration, calculated in accordance with Annexes II and III of the Cogeneration Directive taking into	The intention behind both documents seems the same. EN16325 7.5.1 b) and N8.2.1(b) both risk to undermine the intentions of the Energy Efficiency Directive, if a HEC device can be split up in a HEC part and a non-HEC part. This could enable to omit the requirement for efficient use of heat.	If two GOs could be issued for the same MWh (one being for the energy source and one for high-efficiency cogeneration) this presents a huge risk for double-counting. As such, we recommend for the Standard to be amended to follow the example of EECS, being that only one GO shall be issued at all times.

	Energy calculated in accordance with >Annexes I and II< of the >Energy Efficiency Directive< taking into account only energy produced from Inputs at the same site.		account only energy produced from Inputs at the same site. N8.2.2 Where a Production Device produces electrical energy from a specific source of energy using HighEfficiency Cogeneration, then the relevant Scheme Member may issue no more than one EECS Certificate for each relevant MWh. This EECS Certificate may convey either: an EECS GO for a specific source of energy; or an EECS GO for High-Efficiency Cogeneration; or both an EECS GO for a specific source of energy and an EECS GO for High-Efficiency Cogeneration.	EECS adds that only 1MWh can be issued in case of a GO for cogeneration and for the source. EECS differentiates GOs issued for High Efficient Cogeneration from GOs issued for the source, through a different product. EN16325 doesn't do this, enabling potential misunderstanding that the HEC criterion would be met when it is not or vice versa. Also EECS could be structured more clearly to phrase the different products in a more understandable way.	A clear indicator on whether or not the HEC criterion is met should be added on the GO under EN16325. Since Directive 2018/2001/EC actually allows Member States to issue GOs for energy from non-renewable sources, the most sensible solution seems to be that information relating to the High-Efficiency aspect of the Cogeneration shall be included as an add-on to a GO relating to the energy source on request of the Registrant. Where such information is indeed included, the GO shall also constitute a GO for high-efficiency cogeneration electricity in accordance with the Energy Efficiency Directive.

					Consider adding to EN16325 7.5.1 b) "on condition that the criterion for High Efficiency Cogeneration remains intact for the EGI as a whole."
7.5.2	**GO Issued for Electrical Energy which has been found to be High-Efficiency Cogeneration Electrical Energy** In addition to the information contained on a GO as identified in 7.1, each National GO Scheme shall provide that, for Electrical Energy which has been found to be High-Efficiency Cogeneration Electrical Energy, a GO Issued thereunder shall contain the following information: a) use of heat, being the value which represents the predominant use of the relevant heat (see normative Annex E for more information); b) lower calorific value in megajoules per kilogramme of fuel or megajoule per cubic metre of gaseous fuel or megajoule per litre of liquid fuels. >For conventional purposes, dry basis of the nett calorific value should be used for the calculation;< c) Primary Energy Savings, including: 1) the >Primary Energy Saved< expressed as a percentage according to >Annex II< of the	N6.5.1. N6.6.1	N6.5 Information on EECS Certificates N6.5.1 For the purposes of Section C3.5.4 (k), an EECS Certificate in respect of Electricity shall contain: (a) the Electrical Capacity; and (b) where such EECS Certificate corresponds to a Product relating to the technology type of the Originating Production Device where such technology type is Cogeneration, the Thermal Capacity; and (c) where appropriate, the Mechanical Capacity N6.6.1 EECS Certificates corresponding to Products relating to the technology type of the Originating Production Device where such technology type is High-Efficiency Cogeneration must specify the following information in respect of the Output, in the format specified in the Subsidiary Document "HubCom": (a) use of heat, being the value identified in the EECS Rules Fact Sheet "Cogeneration GO Codes"	EN16325 annex E is identical to EECS Fact sheet11 with regards to the admitted values for "Use of Heat". EN16325 rightfully adds to the description of the calorific value: "For conventional purposes, dry basis of the nett calorific value should be used for the calculation;<" EECS adds CO2 emissions saved, where EN16325 in 7.4 provides only room for absolute CO2 emissions, and this is optional there. In EECS both elements on CO2 are mandatory for HEC GOs.	Functionally identical, except with regards to CO_2 emissions, those are optional for EN16325 and mandatory for EECS HEC GOs. In line with the Energy Efficiency Directive, this information must be mandatorily on the GO for HEC GOs. It makes sense to keep this information optional in EN16325 for other GOs.

	>Energy Efficiency Directive<; and 2) the actual amount of >Primary Energy Saved< expressed in megajoules per MWh; and 3) the overall Primary Energy Savings expressed as a percentage based on the total energy Input and Output flows of a Cogeneration unit (whereas the >Annex II< Primary Energy Savings calculations identified in >7.5.2 c) 1)< are based on the Cogeneration Inputs and Outputs only). > d) thermal capacity of the EGI in MWth; e) Useful Heat production from Cogeneration correlating to 1 MWh of High-Efficiency Cogeneration Electricity production; f) nominal electric efficiency; g) nominal thermal efficiency.<		which represents the predominant use of the relevant heat; (b) lower calorific value in megajoules per kilogramme of fuel or megajoules per cubic metre of gaseous fuel or megajoules per litre of liquid fuels; (c) Primary Energy Savings, including: (i) the primary energy saved expressed as a percentage according to Annex II of the Cogeneration Directive; and (ii) the actual amount of primary energy saved expressed in megajoules per MWh; and (iii) the overall primary energy savings expressed as a percentage based on the total energy input and output flows of a Cogeneration unit (whereas the Annex II primary energy savings calculations identified in section N6.6.1(c)(i) are based on the Cogeneration inputs and outputs only); and (d) information relating to CO2 emissions, comprising: (i) the CO2 emissions produced per unit of highly efficient Cogeneration electricity in kilograms per MWh, calculated by subtracting the fuel for Cogeneration heat based on Harmonised Efficiency Reference Values for separate production of heat from the total Cogeneration fuel; and	EN16325 adds in the body of the document Useful Heat Production, nominal electric efficiency and thermal efficiency. EECS has those also as mandatory fields in Subsidiary Document 03 Hubcom through the link with this document in section C3.5.5. EECS could add those in N6.6.1 for clarity.	

			(ii) absolute CO2 emissions saved per MWh of highly efficient Cogeneration electricity compared with the best available and economically justifiable technology for separate production of heat and electricity using the same fuels; and which was on the market in the year of construction of the Cogeneration unit, as defined in Annex II (f) and in particular Annex II (f) (2) of the Cogeneration Directive.		
8	**Transferring of GOs**				
8.1	General				
	Solely duly authorised personnel of an Account Holder (or of a trading exchange duly authorised by the Account Holder) may make a Transfer Request on behalf of that Account Holder with respect to a GO held on that Account Holder's Transferables Account.	C5.1.1	A Member shall only accept a Transfer Request from the duly authorised personnel of an Account Holder (or of a trading exchange duly authorised by the Account Holder) with respect to an EECS Certificate held on that Account Holder's Transferables Account on that Member's EECS Registration Database.	These provisions are functionally identical.	None.
8.2	The Transfer process				
	Where a Competent Body receives a Transfer Request it shall, perhaps as wholly or partly automated process, and after having confirmed that the Transfer Request is valid: a) remove the GOs specified in the Transfer Request from the relevant Transferables account;	C5.1.3	Where a Scheme Member receives a Transfer Request with respect to one or more Scheme Certificates held in a Transferables Account on its EECS Registration Database, the Scheme Member shall, having confirmed that the Transfer Request is valid: (a) remove from that Transferables Account the details of the EECS	The differences regarding the transfer process can be put into two categories: a. level of automation of the transfer process; b. splitting of GOs.	It may be considered that the process of splitting is not relevant to GOs, unless it comes down to splitting a set of GOs with the same characteristics other than their

	b) where the Transferee's Transferables Account is in its own Registration Database: 1) add the GOs referred to in section (a) to the Transferee's Transferables Account; 2) confirm, to the Transferor, the identity of the transferred GOs; and 3) confirm, to the Transferee, the identity of the Transferor and of the transferred GOs by reference to their unique identifying number; and c) where the Transferee's Transferables Account is on the Registration Database of another Competent Body: 1) notify that other Competent Body of that Transfer Request; 2) send the full details of the GOs referred to at section (a) to that other Competent Body; 3) record on its own Registration Database the export of such GOs; and 4) on receipt of confirmation from that other Competent Body that the transfer has been completed, confirm to the Transferor the identity of that other Competent Body and of the GOs so transferred.		Certificate(s) specified in the Transfer Request; (b) where the Transferee's Transferables Account specified in the Transfer Request is in its own EECS Registration Database: (i) include the full details of the EECS Certificate(s) referred to in Section (a) above in the Transferee's Transferables Account; (ii) confirm, to the Transferor, the identity of the EECS Certificates so transferred and any EECS Certificate split in connection with such transfer by reference to their unique identifying number(s) and Face Values; and (iii) confirm, to the Transferee, the identity of the Transferor and of the EECS Certificates so transferred by reference to their unique identifying number and Face Values; and (c) where the Transferee's Transferables Account specified in the Transfer Request is on another Member's EECS Registration Database: (i) notify that other Member of that Transfer Request; (ii) send the full details of the EECS Certificates referred to at Section (a) above to that other Member's EECS Registration Database in accordance with the provisions of the Subsidiary Document "HubCom". These details are preferably sent via the Hub;	In earlier times, the EECS Rules provided for GOs to be issued in ascending denominations (1, 10, 100... 10,000 MWh) to lessen the requirements on databases After all, maintaining one record on a database of 10,000 MWh is easier than storing one thousand records of 1 MWh each. Where a transaction would occur regarding a part of a certificate with a face value of more than 1 MWh, that certificate would be split into smaller denominations in order to enable such transaction. Since then, however, common practice has become to store records of GOs in ranges that share the same characteristics. One record could have a range of 1 through 347 and thus represent 347 MWh	identification number. Regarding the level of automation: where it is lower, more manual work is involved. Manual work is more susceptible to mistakes being made. Mistakes in the course of transfer could lead to certificates being double-counted, for example by existing in two places at once. Such double-counting is a serious threat to the credibility of the GO system. The number of transfers performed daily is typically so large (more than 700 million GOs passed over the AIB hub in 2019) that we recommend that manual controls be limited to a minimum. While this may be difficult to define in the

			(iii) record on its own EECS Registration Database, the export of such EECS Certificates; and (iv) on receipt of confirmation from that other Member, which, as the case may be, may come from either the Hub or from that other Member directly, that the transfer has been completed, confirm to the Transferor of the identity of that other Member's EECS Registration Database and of the EECS Certificates so transferred and of any EECS Certificate split in connection with such transfer by reference to their unique identifying numbers and Face Values.	of energy with the same characteristics. The AIB effectively requires its members to send and receive messages through the AIB Hub – a process that is in most cases fully automated, save the initiation of the transfer by the Transferor. By contrast, the current version of EN16325 does not explicitly require that any part of the process be automated.	Standard, it should at least contain a statement that competent/issuing bodies shall implement and maintain such process controls as are necessary to prevent double-counting as a result from GOs being transferred from one account to another.
8.3	Import/export from Registration Databases				
8.3.1	**Receipt of request** Where a Competent Body is informed by another Competent Body of a Transfer Request, and pursuant thereto receives details of a GO which are consistent with the Criteria as set out in 8.2 for such a GO together with the account number for a Transferables Account on its own Registration Database, it shall: a) insert the full details of that GO in that Account Holder's Transferables Account; b) confirm to the Competent Body that informed it of the Transfer	C5.1.6	Where a Scheme Member is notified by another Scheme Member of a Transfer Request, which, as the case may be, may come from either the Hub or from that other Member directly, and pursuant thereto receives details of a Scheme Certificate with the account number for a Transferables Account on its own EECS Registration Database, it shall: (a) insert the full details of that Scheme Certificate in that Transferables Account;	These provisions are functionally identical.	None.

	Request that the transfer of that GO has been completed; and c) confirm, to the Transferee, that such GO has been transferred by reference to its unique identifying number.		(b) confirm to the Member that notified it of such Transfer Request that the transfer of that Scheme Certificate has been completed. Such confirmation should be sent via the Hub when appropriate; and (c) confirm, to the Transferee, that such Scheme Certificate has been transferred by reference to its unique identifying number and Face Value.		
8.3.2	**Rejection of request** Where a Competent Body is informed by another Competent Body of a Transfer Request, and pursuant thereto: a) receives details of a GO which does not satisfy its Criteria as set out in 8.2 for such a GO; and/or b) receives an account number which does not correspond with an account number for a Transferables Account on its own Registration Database, then each such Competent Body shall use reasonable endeavours to exchange information such that the GO can be rendered compliant with that National GO Scheme or the correct account number identified (as the case may be), failing which: c) the full details of the GO shall be re-entered into the Transferor's Transferables Account on the relevant Registration Database, and that Registration Database shall be amended so that the GO is	C5.1.7	Where a Scheme Member is notified by another Scheme Member of a Transfer Request, which, as the case may be, may come from either the Hub or from that other Member directly, and pursuant thereto receives an account number which does not correspond with an account number for a Transferables Account on its own EECS Registration Database each such Member shall use reasonable endeavours to exchange information such the correct account number can be identified, failing which: (a) the full details of the EECS Certificate shall be re-entered into the Transferor's Transferables Account on the relevant EECS Registration Database and that EECS Registration Database shall be amended so that the EECS Certificate is no longer recorded as having been exported; and	The notable difference here is that EN16325 requires that GOs satisfy criteria as set out in section 8.2. Yet that section 8.2 does not actually contain criteria regarding GOs.	None. The additional criterion in EN16325 does not seem to have any function, and the remainder of the provisions in both documents are functionally identical.

	no longer recorded as having been exported; and d) all details of the GO shall be removed from the other Registration Database.		(b) all details of the EECS Certificate shall be removed from the other EECS Registration Database.		
8.3.3	**Restrictions of exports** A Competent Body may not transfer (or attempt to transfer) a GO: a) to another Competent Body other than between their respective Registration Databases for the purposes of that National GO Scheme; or b) to a body other than Competent Body, or c) which has been Cancelled.	C5.2.1 C5.2.3	A Scheme Member of any EECS Scheme may not transfer (or attempt to transfer), directly or via the Hub, a Scheme Certificate: (a) to another Scheme Member other than between their respective EECS Registration Databases in respect of that EECS Scheme; or (b) to a Member that is not a Scheme Member of that EECS Scheme. (...) A Member shall not permit the transfer of an EECS Certificate which has been cancelled or the validity of which has Expired.	The restrictions to exports are similar in both documents, and yet both are inconsistent with their other provisions: as we will see at EN16325 section 10, both documents agree that a GO ceases to be valid when it has been cancelled, when it has expired, or when it has been withdrawn. Moreover, such restrictions should only apply to exports, but also to: a. transfers between accounts held on the same competent/ issuing body's registration database; b. cancellations; c. expiry; d. withdrawals.	The impact is minor, because both documents agree on the end of life of a GO. However, for the purpose of clarity, we recommend the introduction of one comprehensive clause that secures that once a GO has reached its end of life, no further status changes shall occur at all.

				End of life shall mean end of life, and it shall only occur once for each GO.	
8.3.4	**Restrictions of imports** A Competent Body may not receive (or attempt to receive) transfers of GOs other than: a) into its Registration Database from the Registration Database of a Competent Body; and b) where its own Criteria as set out in 8.2 are met in relation to such transfer.	C5.2.2	A Scheme Member of any EECS Scheme may not receive (or attempt to receive), directly or via the Hub, transfers of Scheme Certificates other than into its EECS Registration Database from the EECS Registration Database of a Scheme Member of that EECS Scheme or of a Hub User.	EN16325 here refers to its section 8.2, which does not actually contain criteria. Directive 2018/2001/EC considers that a Member State may refuse to recognise GOs issued in other Member States where it has well-founded doubts about its accuracy, reliability or veracity. However, a Member having such doubts need not refuse imports; disabling cancellation of such GOs may be sufficient, too.	Minor. The additional criterion in EN16325 does not seem to have any function, and the remainder of the provisions in both documents are functionally identical.
9	**Correction of errors**				
9.1	Errors during issuing				
	Where an error is introduced (subsequent to its Issue) into, or with respect to, a GO held in an Account Holder's Transferables Account in a	C8.4.1 C8.4.2 C8.5	C8.4.1 Where an error is introduced (subsequent to its Issue) into, or with respect to, an EECS Certificate held in an Account Holder's Transferables Account in a	Both EN16324 9.1 and EECS Rules C8.4.1 are functionally identical, EN16325 explicits	Consider whether to delete "or Altering" in EN16325, in line with immutability principles, or to

	Competent Body's Registration Database: a) in the course of its Transfer into that Account; or b) during such time as it is in such Account, that Competent Body shall correct the error in or with respect to that GO by Withdrawing or Altering this GO, provided that it has not been Transferred out of that Transferables Account. >		Member's EECS Registration Database: (a) in the course of its Transfer into that Account; or (b) during such time as it is in such Account, that Member shall correct the error in or with respect to that EECS Certificate and any errors replicated in EECS Certificates split from it, provided that such EECS Certificate(s) have not been transferred out of that Transferables Account. C8.4.2 A Member may Withdraw or alter an EECS Certificate held in its EECS Registration Database to give effect to an agreement reached with an EECS Market Participant under provisions of its Standard Terms and Conditions that meet the criterion at Section E7.1.1. C8.5 Prohibition C8.5.1 A Member shall not alter the details of any EECS Certificate (save with respect to the Account in which it is held) or delete any EECS Certificate once it has been Issued save as provided by the preceding provisions of this Section C.8.4.	that correcting the error can be done by Withdrawing or Altering the GO. Altering a GO could be against the principle of immutability in EECS. (however EECS Rules C8.4.2 and C8.4.3 also allow altering for error-correction, this is limited by C8.5) EECS refers to the need to correct also the errors replicated in EECS Certificates split from it. That is only relevant for the theoretical case if a certificate has another size than 1MWh, which is not relevant for the GO. EECS adds C8.4.2 that opens the communication between the Competent Body and the Account Holder on error rectification.	define immutability in a way that a certificate can be altered for error-correction as long as it hasn't been transferred. Consider whether to add a provision on an agreement / communication between the competent body and the Account Holder on error rectification.
9.2 Errors during transfer					

	Where the erroneous GO has been Transferred into another Transferables Account in its Registration Database, the Competent Body may Withdraw or Alter the GO, so as to rectify an error which occurred prior to its Transfer into the Account in which it is held at such time, provided: a) the Account Holder has agreed to such Alteration or Withdrawal; b) it is reasonably satisfied that any unjust enrichment of the Account Holder as a consequence of such error has, to the extent reasonably practicable, been nullified; and c) it is reasonably satisfied that the Alteration or Withdrawal itself does not give rise to undue enrichment of the Account Holder. Each Competent Body shall afford each other Competent Body all such co-operation as may be required to identify and rectify errors in GOs in a timely manner.	C8.4.3 C8.4.4	C8.4.3 A Member may alter an EECS Certificate held in its EECS Registration Database so as to rectify an error which occurred prior to its transfer into the Account in which it is held at such time, provided: (a) the Account Holder has agreed to such alteration; (b) it is reasonably satisfied that any unjust enrichment of an EECS Market Participant as a consequence of such error has, to the extent reasonably practicable, been nullified; and (c) it is reasonably satisfied that the alteration itself does not give rise to undue enrichment of the Account Holder. C8.4.4 Each Member shall afford each other Member all such co-operation as may be required to identify and rectify errors in EECS Certificates in a timely manner.	Both texts are functionally identical.	None.
10	**End of the life of a GO**				
10.1	General				
	A GO shall cease to be valid when: a) it is Cancelled in accordance with a valid Cancellation request made under 10.2.1; b) it is withdrawn in accordance with 10.3; or c) its validity Expires in accordance with 10.4 and in the manner and time set out in the relevant National GO Scheme.	C6.1.1	An EECS Certificate shall cease to be valid when: (a) it is Cancelled in accordance with a valid Cancellation request made under Section C8; (b) it is withdrawn, as the case may be: (i) in accordance with Section C8.2;	The definition of the end of life of a GO is functionally identical in both documents.	None.

			(ii) in accordance with Section C8.4.2 with the purpose of rectifying errors; or (c) its validity Expires in the manner and time set out in the Product Rules for the relevant EECS Product.		
10.2 Cancellation					
10.2.1	**Cancellation procedure**				
10.2.1.1	**General** Solely duly authorised personnel of an Account Holder are entitled to request the Cancellation of a GO held in that Account Holder's Transferables Account.	C7.2.1	A Cancellation Request is a request for the Cancellation of a number of EECS Certificates made by the duly authorised personnel of an Account Holder and containing the following information: (...)	Both documents agree that transfer requests shall only be acted upon when made by duly authorised personnel.	None.
10.2.1.2	**Requesting a cancellation** Where an Account Holder requests that a Competent Body Cancels a number of GOs then such a request shall contain the following information: a) the Account Holder requesting Cancellation of the GOs; b) the Type of Installation. See list in Annex B; c) the relevant number of GOs associated with each EGI or category listed in (b) to be Cancelled; d) the relevant production period(s); e) the beneficiaries of the Cancellation, being: 1) the type of consumer, being either "energy supplier" or "end-consumer"; 2) the identity of the energy supplier or end-consumer	C7.2.1	A Cancellation Request is a request for the Cancellation of a number of EECS Certificates made by the duly authorised personnel of an Account Holder and containing the following information: (a) The Account Holder requesting Cancellation of the EECS Certificates; (b) The relevant Production Device identity(s) or category(ies); (c) The relevant number of EECS Certificates associated with each Production Device or category listed in Section (b) above to be Cancelled; (d) The relevant production period(s); (e) The usage into which this Cancellation falls, where this may be one of:	Subsections b and c of EN16325 are inconsistent here, as EGI's are not actually listed under b. The corresponding subsection (b) in the EECS Rules, however, does provide for production devices to be identified. This makes sense, as it enables suppliers to market products related to e.g. local windturbines. As the purpose of a GO shall always be disclosure, the EECS	To enable supervision of disclosure, it is recommended that the consumption period be included in a cancellation statement, and that the Standard clearly reflect that such consumption period must be in the past. Further, it is recommended that the Standard reflect that GOs can be cancelled for the purpose of establishing the origin of the energy consumed by a

	according to type of consumer as identified in (1); 3) location and country of energy supplier or end-consumer according to type of consumer as identified in (1).		(i) Support, where the certificate is being Cancelled in order to receive financial support; (ii) Disclosure, where the certificate is being Cancelled under a labelling scheme or as proof of supply to consumers or for own use, and has not been used in order to receive financial support; or (iii) Other, for any other purpose. The possible usages for Cancellation under each EECS Scheme are set out in the Section of PART IV of the EECS Rules establishing that EECS Scheme; (f) Information about the beneficiary or beneficiaries of the Cancellation, being: (i) The type of beneficiary, being either "energy supplier" or "end-consumer"; (ii) Where the beneficiary is an energy supplier, the identity of the energy supplier or where the beneficiary is an end consumer, the identity of the end-consumer or end-consumer group; (iii) The country (and, if known, the location within that country) where the electricity associated with the Cancellation is consumed; (iv) Where relevant, the brand name of the product associated with this Cancellation; and (g) The period during which the associated energy has been or will be consumed.	Rules subsection (e) is irrelevant here. It is noteworthy that EN16325 does not require the cancellation request to include the period during which the energy has been consumed that is being disclosed by such cancellation. We also note that the wording of EECS Rules subsection (g) enables cancellation for energy consumption that has yet to take place. It should not be possible to cancel a GO for consumption in a calendar year that lies beyond the lifetime of a GO, as that would circumvent the rules for expiry.	converting production device.

10.2.1.3	**Cancelling a GO** Where a GO has been Issued for the Output of an EGI, then the attributes of such Output may only be Disclosed through Cancellation and/or Expiry of the GO, and the recipient of the GO shall guarantee this to the relevant >Competent Body for Disclosure<. Where a Competent Body receives from an Account Holder (which may or may not be a Cancelling Body) a request made in accordance with this clause and the relevant National GO Scheme to Cancel a GO held in that Account Holder's Transferables Account on that Competent Body's Registration Database, the Competent Body shall: a) remove the details of that GO from that Transferables Account; b) either: 1) insert the details of that GO in the Cancellation Account of the Cancelling >Body< which made, or is specified, in that request; or 2) change the status of that GO from valid to Cancelled; c) notify the Account Holder of the Cancellation of the GO; d) provide details of the Cancelled GO to the Cancelling Body and its auditors where requested to do so.	A2.1.2 C7.2.2	(...) The arrangements for Cancelling EECS Certificates should ensure that EECS Certificates in respect of the relevant Output are used as the sole proof of the qualities of the associated Output according to the relevant Product Rules and that no form of Disclosure is used in relation to Output to which such an EECS Certificate relates other than in connection with the cancellation of that EECS Certificate. Where a Member receives a Cancellation Request from an Account Holder (which may or may not be a Cancelling Body) to Cancel an EECS Certificate held in that Account Holder's Transferables Account on that Member's EECS Registration Database, the Member shall: (a) remove the details of that EECS Certificate from that Transferables Account and insert the details of that EECS Certificate in the Cancellation Account of the Cancellation Body which made, or is specified, in that request (b) or mark that EECS certificate as having been cancelled; (c) provide the Account Holder with access to the full details of that EECS Certificate certifying that it has been Cancelled; and	The cancellation process in both documents is functionally identical.	None.

			(d) provide details of the Cancelled EECS Certificate to the Cancelling Body and its auditors where requested to do so and, where relevant and where one has been appointed for a Domain, the Competent Authority for that Domain and the relevant Product.		
10.2.1.4	**Limitations** A Competent Body may Cancel a GO solely: a) for use in its own Domain; or b) for use in any country or region which has yet to appoint a Competent Body.	C7.1.1	A Scheme Member may Cancel a Scheme Certificate solely: (a) for use in its own Domain (in relation to any EECS Product in respect of the relevant Output); or (b) for use in a Domain (in relation to any EECS Product) of another Scheme Member; provided: (i) it is not possible to transfer EECS Certificates directly or via the Hub to a Scheme Member for the other Domain; and (ii) a Cancellation Agreement exists between the Cancelling Scheme Member and the Scheme Member for the other Domain; and (iii) such Cancellation Agreement requires: 1 the provision by the Cancelling Scheme Member to the Scheme Member for the other Domain of statistical information concerning Cancelled EECS Certificates; and 2 the inclusion on any related Cancellation Statement of the identity of the Domain, Account Holder and purpose for which the EECS Certificates were Cancelled; or	The only difference is that the EECS Rules have defined an alternative procedure (see subsection (b) for export (and subsequent cancellation) where technical failure prevents a transfer from being successfully concluded.	Minor. An alternative procedure for export and cancellation may be considered for inclusion in the Standard.

			(c) for use in any country or region which is not a Domain.		
10.2.2	**Requesting and Producing a Cancellation Statement** The provisions of a National GO Scheme may provide for the >Issuance< of Cancellation Statements. A request may be made by an Account Holder to a Competent Body for the production of a Cancellation Statement in relation to GOs that have been Cancelled from the Transferables Account of that Account Holder in accordance with 10.2.1. Where a Competent Body produces a Cancellation Statement pursuant to a request made in accordance with 10.2.1 then it shall use the Cancellation Statement format identified in the relevant National GO Scheme of that Competent Body. The provisions of each National GO Scheme shall be such that in addition to the items listed in 10.2.1 each Cancellation Statement shall display: a) a statement that it relates to the Cancellation of GOs; b) the account number, name and address of the Account Holder that made the request; c) a statement that the environmental qualities of the associated energy have been consumed and that this Cancellation Statement and these GO may not be transferred to any party other than the energy supplier or end-consumer;	C7.3.1	A Member may issue Cancellation Statements in respect of the Cancellation of EECS Certificates, provided that: (a) the request for a Cancellation Statement is made by an Account Holder in relation to Certificates that have been Cancelled from the Transferables Account of that Account Holder in accordance with Section C7.1; (b) the Cancellation Statement is issued in the format identified for the relevant EECS Product in the relevant Domain Protocol of that Member, and shall display: (i) a statement that it relates to the Cancellation of Scheme Certificates; (ii) the account number, name and address of the Account Holder that made the request; (iii) information about the beneficiary or beneficiaries of this Cancellation, being 1 The type of the beneficiary, being either "energy supplier" or "end-consumer";	The only real difference here is the consumption period in the cancellation statement, which is a result of same being included in a cancellation request under the EECS Rules. For more details, see EN16325 section 10.2.1.2 above.	See EN16325 section 10.2.1.2 above.

	d) the identity of each GO that is associated with this Cancellation Statement; and e) the date of producing the Cancellation Statement.		2 Where the beneficiary is an energy supplier, the identity of the energy supplier or where the beneficiary is an end-consumer, the identity of the end-consumer or end-consumer group; 3 The country (and, if known, the location within that country) where the electricity associated with the Cancellation is consumed; and 4 The brand name of the product associated with this Cancellation, if one has been specified in the associated cancellation request; (iv) a statement that the environmental qualities of the associated energy have been consumed and that this Cancellation Statement and these Certificates may not be transferred to any party other than the energy supplier or end-consumer according to type of consumer as identified in Section C7.2.1(f)(i); (v) the identity of each EECS Certificate to which the Cancellation Statement relates; (vi) the date of producing the Cancellation Statement; and (vii) the period during which the associated energy has been or will be consumed.		
	When producing a Cancellation Statement, a Competent Body shall record in its Registration Database the GOs that are included in that Cancellation Statement, ensuring that	C7.3.2	When producing a Cancellation Statement, a Scheme Member shall record in its EECS Registration Database the Scheme Certificates that are included in that		

	each GO is included in no more than one Cancellation Statement.		Cancellation Statement, ensuring that each Scheme Certificate is included in no more than one Cancellation Statement.		
10.3 Withdrawal					
	A Competent Body may Withdraw and, where appropriate, Issue a corrected GO held in a Transferables Account on its Registration Database; a) where some data of the GO is inaccurate whether or not due to an act or omission of the >Account< Holder; or b) at the request of the Account Holder of that Account.	C8.2.1 C8.4.2 E7.1.1	A Member may Withdraw an EECS Certificate held in a Transferables Account on its EECS Registration Database at the request of the Account Holder of that Account, or otherwise in accordance with the provisions of the relevant Product Rules. A Member may Withdraw or alter an EECS Certificate held in its EECS Registration Database to give effect to an agreement reached with an EECS Market Participant under provisions of its Standard Terms and Conditions that meet the criterion at Section E7.1.1. A Member's Standard Terms and Conditions will contain at least the principles as set forth in the Model STC as published on the AIB website and in the Hub Participant Agreement. A Member's Standard Terms and Conditions shall meet at least the following criteria: (...) (d) they provide that: (i) the Member and the Account Holder shall co-operate (to the	While the EECS Rules more elaborately explain how withdrawal for the purpose of correcting errors shall be secured, the purpose in both documents is the same.	None.

			extent within their power) to ensure that no unjust enrichment occurs as a result of an error in the course of the processing of an EECS Certificate or as a result of any unauthorised access to, or malfunctioning of, an EECS Registration Database and that for that purpose EECS Certificates held in that Account Holders account may be Withdrawn or amended by the Member, having regard to the objective of securing the accuracy of EECS Certificates;		
10.4	Expiry				
	The Competent Body shall Expire the GO no more than 12 months after the end of the period during which the associated Electricity was produced. The status of a GO which has Expired according to the above process shall be recorded as >Cancelled because of Expiry< as Expired in the Registration Database in which it is held at such time.	C8.3.1	The status of an EECS Certificate which has Expired as set out in Section C6.1.1 above shall be recorded as Expired in the EECS Registration Database in which it is held at such time.	EN16325 is more specific about the time at which expiry occurs. The actual event is the same.	Minor. We consider it practical for the reader that the Standard contains a specific timing for expiry.
11	**Measurement and calculation methods**				
11.1	Metering				
11.1.1	**General metering principle** Electricity flows to and from the EGI should be measured over a period in order to establish the nett electricity generated during that period. The responsibility of the accuracy, delivery and quality of measurement data is the responsibility of approved measurement Bodies established by	D3.1.2 D6 C3.2.1 C3.4.4	D3.1.2 The Authorisation Criteria for a Member in respect of an EECS Product are that: (i) subject to Section (j) below, all information required for the determination of the Output of Production Devices within its Domain(s) and the calculation of Output Certifiable for the purposes	EN16325 adds that the responsibility of the accuracy, delivery and quality of measurement data is the responsibility of Approved Measurement Bodies.	None.

	the National GO Scheme. Where relevant, input to the EGI is measured. See 7.3. The Registrant of an EGI is responsible for the delivery, quality and accuracy of measured values with respect to the energy Output of that EGI. GOs shall solely be Issued in respect of Output of which the measured value has been collected and determined by an Approved Measurement Body. If allowed according to National GO Scheme some measurements can be calculated from others, which may allow for a reduced number of meters.		of the EECS Product will be collected and processed by Authorised Bodies; (j) in the absence of an Authorised Measurement Body responsible for any function specified in Section (i) above in relation to the Domain(s), the relevant function will be conducted by the Member itself, or by an Approved Measurement Body on behalf of the Registrant of the relevant Production Device. D6 MEASUREMENT CRITERIA D6.1 General D6.1.1 The Product Rules with respect to the measurement of Output and Inputs for the purposes of an EECS Product must meet the criteria set out at Section D6.1.2 (Measurement Criteria). D6.1.2 The Measurement Criteria are as follows: (a) the Registrant of a Production Device for the purposes of the EECS Product is responsible for the delivery, quality and accuracy of measured values with respect to the Output of that Production Device; and (b) the Measurement Frequency shall be as required by the legislation and regulations that are applicable in the		

			country in which that Production Device is situated. If no such legislation or regulation is applicable, then the Measurement Frequency shall be such that the period between measurements may not be more than twelve months (c) the Measurement Criteria specified in relation to the relevant Product in the Section establishing the EECS Scheme in respect of the relevant type of Output. C3.2.1 An EECS Certificate corresponding to an EECS Product may only be Issued in respect of Output: (…) (d) in respect of which the Authorised Issuing Body is in receipt of measured values of Output collected and determined by an Authorised Measurement Body(or, where the relevant Product Rules so permits, an Approved Measurement Body) which, having regard to the relevant Consumption Declaration where relevant, corroborate the amount so specified;		

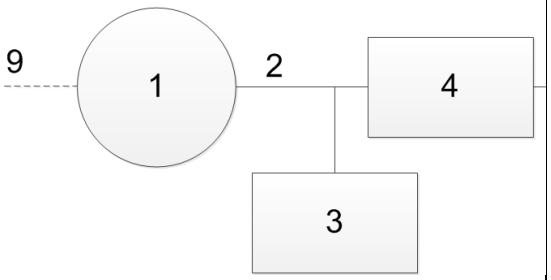
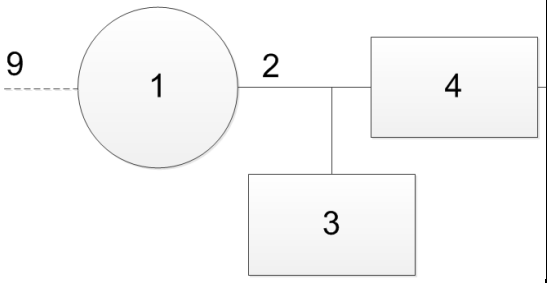
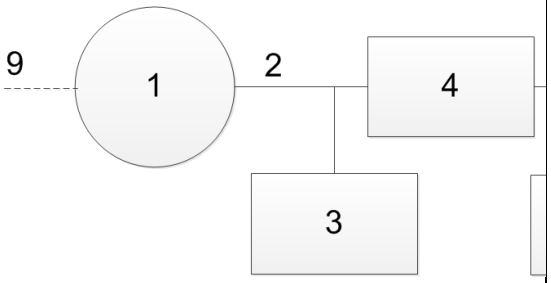
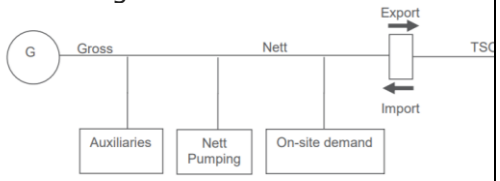
			C3.4.4 An EECS Certificate may only be Issued by a Member in respect of the Output of a Production Device: (…) (d) the measured value of which has been collected and determined by an Authorised Measurement Body.		
11.1.2	The Nett Electrical Energy is calculated at the points shown in the following Figures 1 to 3; a) Nett Electrical Energy in simple case:  **Key** 1 generator 2 >Gross< Electrical Energy 3 >Auxiliaries< 4 transformer 5 >Nett< Electrical Energy 6 >Export< Meter 7 >Import< Meter 8 grid 9 >Input< Energy	N6.4.3 N6.4.4. Preface	N6.4.3 EECS Certificates shall not be Issued in respect of electricity consumed by Production Auxiliaries. N6.4.4 Where an EECS Certificate is issued for electricity from a pumped-hydro Production Device, only the electricity derived from natural inflow shall qualify for the Issuance of an EECS Certificate, which means that: (a) EECS Certificates shall be issued for natural inflow minus any nett electricity consumed by pumping; (b) Where an onsite Production Device supplies electricity to the pumped-storage Production Device, then the onsite Production Device shall be considered to be a separate Production Device to the pumped storage Production Device; (c) Where the amount of energy imported by the relevant Production Device during a period exceeds that	EN16325 goes in further detail on the detailed formula, where EECS does that only for pumped hydro in N6.4.4 (d). EECS there only deals with the pumping principle but should take into consideration auxiliaries as well in that formula. EECS provides a detail on how to calculate Epump. EECS preface excludes onsite demand from issuing tradeable certificates, but N6.4 doesn't repeat this principle in N6.4.3.	It needs to be discussed whether or under which conditions tradeable GOs can be issued for Onsite Demand, and its correlated question of avoidance of double disclosure. it is very important for the credibility of the GO system that the arrangements are such as to prevent GOs from being double-counted for purposes of disclosure, and to eliminate even the perception of the public that they could be. For onsite demand several

	Figure 1 — Nett Electrical Energy in simple case E_{net} is the nett Electrical Energy, where: $E_{net} = E_{gross} - (E_{aux} + > E_{trans} <)$ and: E_{gross} = Gross Electrical Energy generation, as measured at the generator E_{aux} = Electrical Energy consumed by Auxiliaries (i.e. for purposes of Electrical energy generation) $> E_{trans} <$ = Transformer losses b) Nett Electrical Energy with On-Site Demand: On-Site Demand does not influence Nett Electrical Energy, although the quantity of Electrical Energy injected to the network would be smaller than the Nett Electrical Energy.  **Key** 1 generator 2 >Gross< Electrical Energy 3 >Auxiliaries< 4 transformer 5 >Nett< Electrical Energy 6 >Export< Meter 7 >Import< Meter 8 grid		exported by it during the same period, then the difference between such imports and exports shall be compensated by an equivalent amount of nett exports during successive periods before new EECS Certificates may be issued; and (d) EECS Certificates shall be issued according to the following formula: (i) $\mathbf{Issue = E - I * \eta\rho + I * \eta\rho * AF}$, where: Issue = Net production from natural inflow (Qualifying Output) $\mathbf{E}$ = Electricity measured by the Export Meter $\mathbf{I}$ = Electricity measured by the Import Meter (including consumption of the pump) $\boldsymbol{\eta\rho}$ = Efficiency of the pump (this is not mandatory, by default 100% must be assumed) $\mathbf{AF}$ = Share (%) of energy consumption of Production Auxiliaries from total gross generation (this is not mandatory and if this Preface: The EECS Certificates that are released onto the market for trade are those which represent energy flowing into the grid. These will have been produced nett of any energy used by Production Auxiliaries or (pumped storage facilities) for pumping water back to the header lake. Certificates representing the source of the		scenarios should be considered: • whether to allow GOs to be issued at all for energy consumed onsite; or • if MS may at their discretion choose to not issue GOs for energy consumed to satisfy onsite demand; and where it is left to MS' discretion: under what conditions GOs may be issued for energy consumed onsite while still preventing double-counting (e.g. cancelling upon issue, requiring onsite demand to be part of overall consumption and thereby subject to disclosure by a supplier, reported as part of total consumption in the Residual Mix Calculation, etc.)

	9 >Input energy< 1 >On-Site Demand< 0 **Figure 2 — Nett Electrical Energy with On-Site Demand** As in case a) above, E_{net} is the Nett Electrical Energy, where: $E_{net} = E_{gross} - (E_{aux}+>E_{trans}<)$. c) Nett Electrical Energy with pumping or storage Auxiliaries: Like Auxiliaries, energy used for pumping should be accounted for as measured, and deducted in the calculation of Nett Electrical Energy. In case of another storage medium, any Electrical Energy spent on the storage should be handled in a similar fashion to pumping energy.  **Key** 1 generator 2 >Gross< Electrical Energy 3 >Auxiliaries< 4 transformer 5 >Nett< Electrical Energy 6 >Export< Meter 7 >Import< Meter 8 grid		energy used by Production Auxiliaries and pumping will be automatically cancelled upon issue – see diagram below.  		If onsite demand is to be reported as part of total consumption in the residual mix, the calculation of such must incorporate the part of production that is not fed into the grid. It must be investigated to what extent this is the case with the production data from the TSOs used for the RM calculations by AIB. Including production data for all onsite consumption might significantly complicate RM calculation. Specific formula for storage to be considered, see EECS N6.4.4 but to be generalised to all types of storage for all energy carriers. Recommendation to follow this principle in EN16325: tradeable GOs can only be issued for energy

	9 >Input energy< 1 >On-Site Demand< 0 1 pumping (or other storage auxiliary) 1 **Figure 3 — Nett Electrical Energy with pumping or storage Auxiliaries** In this case, E_{net} is the Nett Electrical Energy, where: $E_{net} = E_{gross} - (E_{aux}+>E_{trans}<) - E_{pump}$ where: E_{pump} = Electrical Energy used for pumping				that is placed on the market and is not otherwise disclosed. Discussion needed on how to define 'whether energy is placed on the market'. If consensus could not be achieved, a final solution could be to include an identifier on a GO issued for onsite demand, such that a Competent Body can consider if the related energy in its opinion was or was not double-counted, and accordingly: whether or not to recognise the GO. The topic of onsite demand will also be elaborated upon in T1.3.
11.1.3	**Relevant perimeter** The relevant perimeter shall be calculated in accordance with Annex F.	N/A		This level of detail is not reflected in EECS specifically, but does not conflict in principle, see remarks on analysis on annex F.	

				Annex F is not complete, doesn't comprise all possible situations (see complex HEC or biomass devices on industrial plants, waste incineration units, …)	
12	**Auditing**				
12.1	Assessment of the National GO Scheme				
	When required by the Competent Body a report verified by an independent auditor with the relevant competence shall be provided. The auditor shall publish a statement that the audit has been carried out.	F1.1, F1.2 F4.3 F5 F6 F7 I K L4.2 L5 SD07 SD10	(too much text copy, would make this document too long)	EN16325 is not specific on what to be audited and how. It is also not specific on what the audit is used for. EECS is specific and elaborates extensively: Certificate schemes are reviewed by assessment panels at the time of scheme membership application, every time a change takes place in the Domain Protocol, and when a Member raises a complaint (compliance assessment). Issuing bodies and their national GO	Some type of compliance mechanism for EN16325 is recommended to provide assurance to a broader audience, e.g. competent bodies for disclosure throughout the Union. This should alleviate any concerns a Member State might have about accuracy, reliability and veracity as per article 19, subsection 9 of Directive 2018/2001/EC.

				schemes are audited the first year after EECS scheme membership, and every 3 years thereafter. Following an audit, rectifications can take place, but also suspension or expulsion. EECS elaborates on the composition of an assessment panel, and brings in the role of the 'professional reviewer'.	
12.2 Auditing of EGIs					
	Auditing of EGIs shall be done in accordance with EN 16247-1.	E3.3.7 E3.3.11 E3.3.12 N5 O5	E3.3.7 A Scheme Member shall at its own discretion conduct inspections of Production Devices registered on its EECS Registration Database and the associated Entry Measurement Point and Exit Measurement Point with a view to satisfying itself that: (a) the information recorded in relation thereto on the EECS Registration Database is accurate; (b) the Registrant and, where applicable, the owner and/or operator of the Production Device, is complying with all relevant	EN16325 mentions EN16247 only very briefly, in relation to the audit of EGIs / production devices. The applicability of EN16247 is narrow, however, as it provides conditions for *how* an audit should be performed, but does not identify *which aspects* should be audited.	Proper audit of production devices requires knowing what to look for. Recommendation to include in the Standard provisions for the *content* of production device audits. These should be harmonised as much as possible. But it is likely that each energy carrier shall, due to the

			obligations under the relevant Product Rules; (c) such Production Device meets the PD Qualification Criteria for the EECS Products in relation to which it is registered; (d) each Measurement device, registering data that is being used to determine the amount of Output for the purposes of EECS certificates, is correctly positioned in order to measure the quantity needed for calculating the amount of GOs to be issued; (e) the accuracy of the Measurement Devices involved in the calculation of the amount of GOs to be issued, is acceptable in accordance with the existing regulatory framework and applicable standards; and (f) after onsite verification of the Production Device and its measurement equipment, the formula for calculating the amount of EECS certificates correctly reflects the amount of Output that qualifies for the purposes of EECS certificates, or whether amendments to this formula are needed. E3.3.11 The Scheme Member shall verify the information provided in connection with an application to register a Production Device in its EECS Registration Database for the		characteristics specific to its production, require an additional list of specific audit topics, too. Inspiration may be found in EECS E3.3.7, E3.3.11, E3.3.12, N5, O5.

			purposes of the relevant EECS Scheme and specific Products and conduct an inspection of such Production Device where appropriate. E3.3.12 For the purposes of Section E3.3.11, an inspection of a Production Device is likely to be appropriate where: (a) the Scheme Member (or Production Registrar) is not familiar with the Production Device; (b) the Scheme Member (or Production Registrar) is familiar with the Production Device and the information provided in the relevant application does not accord with the Scheme Member'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) this is specified in the Section of PART IV of the EECS Rules setting out the provisions for the relevant EECS Scheme; but may be appropriate even where such circumstances do not apply.		

			N5 INSPECTIONS (Electricity scheme) N5.1.1 For the purposes of Section E3.3.11, an inspection of a Production Device is also likely to be appropriate where the application for registration indicates that the Input for the relevant Production Device is in whole or in part comprised of biomass. O5 INSPECTIONS (Gas Scheme) O5.1.1 For the purposes of section E3.3.11, an inspection of a Production Device the Output of which is Gas is mandatory		
12.3 Operational practice					
	The provisions of each National GO Scheme shall be such that: a) each Account Holder shall be required to keep secret any passwords and other information used to establish that communications purportedly made on its behalf in connection with the National GO Scheme are duly authorised (<authorisation data<); b) each Competent Body shall require Account Holders to agree that any communication which is sent using its currently applicable authorisation data is valid and is committing to the Account Holder; c) the Account Holder(s) and the relevant Competent Body shall be obliged to retain all records to	A5, A6, A7, A8, A9, A10, A11, A12, C5.1.2 E3.3.2	A5 OPERATIONAL RELIABILITY A5.1.1 Operational risks arising in the Issue, transfer and Cancellation processes for EECS Certificates should be identified and mitigated through the development of appropriate systems, controls and procedures. A5.1.2 Systems should be reliable and secure, and have adequate capacity. A5.1.3 Contingency plans and backup facilities should be established to allow for timely recovery of records and operations and completion of the transfer process.	EECS has more requirements on operational reliability EECS requires Account Holders to sign Standard Terms and Conditions, which are assessed by AIB for every Domain.	We consider that the text of EN16325 section 12.3 could deserve a section of its own, rather than be included under "auditing", as the text does not describe any verification process. Add the provisions of EECS A5, A6, A7, A8, A9, A10, A11, A12 to a section on operational reliability Some aspects of the Standard Terms and

	which they have had access relating to that GO for not less than 10 years after its Cancellation (or such longer period as may be required by applicable national legislation); and d) each Competent Body shall ensure that its manual and automated information systems for the Issue, holding and transfer of GO are able to support audit of all transactions with respect to GO held on its Registration Database or transferred to or from such Registration Database.		A6 PROTECTION OF ACCOUNT HOLDERS A6.1.1 Accounting practices and safekeeping procedures should be employed that fully protect the EECS Certificates in Account Holders' Transferables Accounts. A6.1.2 Members and Account Holders should co-operate in seeking to minimise the risk of an unauthorised instruction with respect to an EECS Certificate being acted upon. A6.1.3 EECS Certificates should as far as practicable be protected against the claims of a Member's or CMO's creditors. A6.1.4 Members are responsible for complying with applicable Data Protection legislation. A7 GOVERNANCE A7.1.1 The governance arrangements for the EECS Rules and Domain Protocols should fulfil public interest requirements and promote the objectives of Members, Registrants and Account Holders. A8 ACCESS AND TRANSPARENCY A8.1.1 Participation in EECS should be based on objective and publicly disclosed criteria so as to achieve fair and open access to existing and potential Members, service providers and EECS Market Participants.		Conditions as defined by the AIB can be taken into account in EN16325 in order to impose some basic requirements on Account Holders, like informing the competent body on changes to registered information, and binding the Account Holder to the rules of the national GO scheme.

			A8.1.2 Access to details of EECS Certificates should be made available to EECS Market Participants. A8.1.3 EECS Market Participants should be provided with sufficient information for them to identify and evaluate accurately the risks and rewards of transferring Certificates between Members' EECS Registration Databases. A9 COST EFFECTIVENESS A9.1.1 While maintaining safe and secure operations, Members should be cost-effective in meeting the requirements of EECS Market Participants. A9.1.2 Members should be entitled to charge EECS Market Participants on a commercial basis for the provision of services in connection with the EECS Rules. A10 COMMUNICATIONS A10.1.1 Members' Systems should use or accommodate appropriate international communication procedures and standards in order to facilitate effective, efficient and secure cross-border transfers. A11 REGULATION AND OVERSIGHT A11.1.1 Members should be subject to transparent and effective regulation and oversight at a national level in relation to		

			performance of their obligations under Legislative Certification Schemes. A11.1.2 Members should be subject to transparent and effective regulation and oversight under the auspices of the EECS Rules in relation to their compliance with the EECS Rules (including the requirements of the relevant Section of PART IV of the EECS Rules in respect of EECS Schemes of which they are Scheme Members). A12 RECORDS A12.1.1 Records which are sufficient to enable resolution of disputes relating to such matters as ownership of and eligibility for EECS Certificates should be kept of all material communications between Members and EECS Market Participants regarding the registration of Production Devices and the Issue, transfer and Cancellation of EECS Certificates. C5.1.2 A Member shall retain all records to which it has had access relating to any EECS Certificate on its EECS Registration Database which is the subject of a Transfer Request for not less than 10 years after its Cancellation or Expiry (or such longer period as may be		

			required by applicable national legislation). E3.3.2 A Scheme Member shall only provide services to Registrants and Account Holders in connection with any EECS Product on contractual terms substantially the same as the Standard Terms and Conditions annexed to its Domain Protocol.		
Annex A					
	Fuel codes		To avoid overly long replications of tables, neither the exact content of the Standard nor that of the EECS Rules has been included here. E3.3.2 A Scheme Member shall only provide services to Registrants and Account Holders in connection with any EECS Product on contractual terms substantially the same as the Standard Terms and Conditions annexed to its Domain Protocol.	We note that the AIB has expanded its methodology for identifying energy sources to facilitate issuance of GOs for other energy carriers.	Since different energy carriers can be produced from different energy sources, the list of Fuel Codes in the Standard must be updated accordingly. We propose following AIBs methodology for doing so.
Annex B					
	Technology codes		To avoid overly long replications of tables, neither the exact content of the Standard nor that of the EECS Rules has been included here.	We note that the AIB has expanded its methodology for identifying technology codes to facilitate issuance of GOs for other energy carriers.	Since different energy carriers can be produced using different production methods, the list of Technology Codes in the Standard must be updated accordingly. We propose following AIBs methodology for doing so.

Annex C					
C.1 Introduction					
	In order to ensure uniqueness of all data identifiers, this standard implements a methodology of coding.				
C.2 Coding of Registration Databases					
	Each Registration Database shall maintain at least one GS1 prefix to be used in accordance with the GS1 numbering structure. The Registration Database Prefix forms an essential part of the coding for Electricity Generation Installations and GOs. A Company Prefix is a numeric identifier of between 6 and 10 digits in length. The Competent Body Company Prefix is used as the Competent Body ID. Where a Competent Body maintains more than one prefix, one prefix may be chosen as the Competent Body ID. EXAMPLE Competent Body Company Prefixes are: 51234567 (8 digit Company Prefix); 598765432 (9 digit company prefix).	SD03 A2.2.1 SD03 A2.2.2	Each CMO must maintain at least one GS1 prefix to be used in accordance with the GS1 numbering structure. The CMO Prefix forms an essential part of the coding for Production Devices and Certificates. A Company Prefix is a numeric identifier of between 6 and 13 digits in length. The CMO Company Prefix is used as the CMO ID. Where a CMO maintains more than one prefix, one prefix may be chosen as the CMO ID. The Company prefix can be retrieved by contacting to a local GS1 office. Example CMO Company Prefixes are: 51234567 (8-digit Company Prefix) 598765432 (9-digit company prefix) 5425011229014 (13-digit company prefix)	The EECS Rules also allow for a 13-digit prefix.	Medium. Recommendation to add the 13 digit prefix in the standard.
C.3 Coding of certificates					
	Certificates will be coded in accordance with Global Individual Asset Identifier (GIAI) (AI 8004), an element of the	SD03 A2.3.1	Certificates will be coded in accordance with Global Individual Asset Identifier (GIAI) (AI 8004),	These provisions are identical.	None.

	GS1 numbering structure. The certificate number is always exactly 30 digits long. **Table C.1 — Coding of certificates** **Format c** Glo GS1 Company Prefix Indiv for the Competent Body N_1 ... N_i N_{i+1} ... varia NOTE i represents the length of the Company Prefix for the Competent Body.		an element of the GS1 numbering structure. The certificate number is always exactly 30 digits long. Annex I.1 [1] (a) i represents the length of the Company Prefix for the CMO.		
	The GIAI uses the GS1 Company Prefix of the Competent Body assigning the Asset Reference. The structure and numbering of the Individual Asset Reference is determined by the relevant Competent Body. Competent Bodies may adopt any numbering methodology appropriate to the coding structure, although it is recommended that sequential Individual Asset Reference numbers be assigned.	A2.3.2	The GIAI uses the GS1 Company Prefix of the CMO assigning the Asset Reference. The structure and numbering of the Individual Asset Reference is determined by the relevant CMO. CMOs may adopt any numbering methodology appropriate to the coding structure, although it is recommended that sequential Individual Asset Reference numbers be assigned.		
	Although the GS1 specification for GIAI allows the Individual Asset Reference to contain all characters contained in Table 1 of ISO/IEC 646:1991, for the purposes of Certificate coding only numeric characters are permitted. EXAMPLE GIAI-based Certificate Number:	A2.3.3	Although the GS1 specification for GIAI allows the Individual Asset Reference to contain all characters contained in Table 1 of the International Standard ISO/IEC 646, for the purposes of Certificate coding only numeric characters are permitted.		

[1] The EECS Rules also include a table here. To not distort column widths on the current page, the relevant table in the EECS Rules has been moved to Annex I, under the number shown in the paragraph.

	512345670000000000000000001234 (8 digit Company Prefix with 22 digit Individual Asset Reference)		Example GIAI-based Certificate Number: **51234567**0000000000000000001234 (8-digit Company Prefix with 22 digit Individual Asset Reference)		
C.4	Coding of Electricity Generation Installations				
	Electricity Generation Installations will be coded in accordance with Global Service Relation Number (GSRN) (AI 8018), an element of the GS1 numbering structure. **Table C.2 — Coding of EGIs** **Format c** Glob GS1 Company Prefix For the Competent Body N_1 N_2 N_3 N_4 N_5 N_6 N_7 N_8 N_9 N_{1}	SD03 A.2.4.1	Production Devices will be coded in accordance with Global Service Relation Number (GSRN) (AI 8018), an element of the GS1 numbering structure. Annex I.2 [1]	These provisions are identical.	None.
	The GSRN uses the GS1 Company Prefix of the Competent Body assigning the Service Reference. The Service Reference is assigned by the Competent Body and relates to an individual Electricity Generation Installation. The structure and content of the Service Reference number is at the discretion of the Competent Body.	SD03 A2.4.2	The GSRN uses the GS1 Company Prefix of the CMO assigning the Service Reference. The Service Reference is assigned by the CMO and relates to an individual Production Device. The structure and content of the Service Reference number is at the discretion of the CMO.		
	The Check Digit is calculated as shown below. Its verification, which shall be carried out in the application software, ensures that the number is correctly composed.	SD03 A2.4.3	The Check Digit is calculated as shown below. Its verification, which must be carried out in the application software, ensures that the number is correctly composed. Annex I.3 [1]		

Table C.3 — Check digit calculation

	Ch
	Glo
	GS1 Company Prefix For the Competent Body
	N_1 N_2 N_3 N_4 N_5 N_6 N_7
	Multiply
	x3 x1 x3 x1 x3 x1 x3
	Accur
	Check digit = (nea

Table C.4 — Example check digit calculation

	Examp
Start number	G
	GS1 Company Pre For the Competent Body
	3 7 6 1 0 4
	Multip
	x3 x1 x3 x1 x3 x1
Interim	9 7 18 1 0 4
	Acc
	Check digit = (n
Final number	3 7 6 1 0 4

EXAMPLE GSRN-based Electricity Generation Installation Numbers are:
512345670000012347 (8 digit Company Prefix with 9

Example GSRN-based Production Device Numbers are:
512345670000012347 (8-digit Company Prefix with 9-digit Service Reference and single Check Digit)
598765432000001235 (9-digit Company Prefix with 8-digit Service Reference and single Check Digit)

	digit Service Reference and single Check Digit) **598765432**000001235 (9 digit Company Prefix with 8 digit Service Reference and single Check Digit)				
C.5	Coding of Account Holder Account IDs				
	Each Account Holder shall be assigned a unique account reference by their host IB. The account reference shall be composed as follows: — IB_ID (2 numeric digits) — X (single 'X' character) — 6 character alphanumeric ID (0-9 and A-Z only) — check character (see below) An example Account Holder Account ID is 10XRWENETJ. A check character is a character added to the end of the Account Holder Account ID that validates the authenticity of the code. A simple algorithm is applied to the other digits or letters of the code which yields the check character. The last character of each of the Account Holder Account ID represents the check character that is calculated from the other characters using the following algorithm. An example of an Account Holder Account ID is 10XRWENETJ. Calculation of the check character: a) The first 9 characters of the code are individualised as follows: 1 | 0 | X | R | W	SD03 A.2.5.1	Each trader shall be assigned a unique account reference by their host IB. The account reference shall be composed according to either (a) or (b) below: (a) The account reference consists of the following: • IB_ID (2 numeric digits) • X (single 'X' character) • 6-character alphanumeric ID (0-9 and A-Z only) • check character (see below) An example Trader Account ID is 10XRWENETJ. A check character is a character added to the end of the Trader Account ID that validates the authenticity of the code. A simple algorithm is applied to the other digits or letters of the code which yields the check character. The last character of each of the Trader Account ID represents the check character that is calculated from the other characters using the following algorithm. An example of a Trader Account ID is 10XRWENETJ.	The EECS Rules include a second method for composing the account reference. However, this second method is not shown in this document, because the only AIB member using it intends to discontinue such practice.	None.

b) Where alphabetic characters are present, they are replaced by a numeric value with the value 10 for the letter « A » ; 11 for the letter « B » ; 12 for the letter « C », etc. and 35 for the letter « Z », as follows :

1	0	33	27	32

c) Then, the positions are again weighted, beginning with the greatest value to the left and ending with a one at the far right.

1	0	33	27	32
10	*9*	*8*	*7*	*6*

d) Each digit is multiplied by its position weight

10	0	264	189	192

e) The products are then summed to give a total value: 917

f) A modulo 36 (which corresponds to the total number of characters available) is applied to the value 917 with the formula (36 – MOD([value],36)). This produces a numeric value in the range 1 to 36.

In the above example, the result is 19 which, since it is superior to 9 has to be converted to a letter using a similar mechanism as in Step 2. Number 0 is not an allowed output. Where the check character code is 36, this is represented as the character "[".

Thus the code for the above example is: "10XRWENETJ". With an account base of 11XYWZNET, the check

Calculation of the check character:

(i) The first 9 characters of the code are individualised as follows:

1	0	X	R	W	E	N	E	T

(ii) Where alphabetic characters are present, they are replaced by a numeric value with the value 10 for the letter « A »; 11 for the letter « B »; 12 for the letter « C », etc. and 35 for the letter «Z», as follows:

1	0	33	27	32	14	23	14	29

(iii) Then, the positions are again weighted, beginning with the greatest value to the left and ending with a one at the far right.

1	0	33	27	32	14	23	14	
10	9	8	7	6	5	4	3	

(iv) Each digit is multiplied by its position weight

10	0	264	189	192	70	92	42	

(v) The products are then summed to give a total value: 917

	character would be "[", and the full account code would be "11XYWZNET[".		(vi) A modulo 36 (which corresponds to the total number of characters available) is applied to the value 917 with the formula (36 – MOD([value],36)). This produces a numeric value in the range 1 to 36. In the above example, the result is 19 which, since it is superior to 9 has to be converted to a letter using a similar mechanism as in Step 2. Number 0 is not an allowed output. Where the check character code is 36 this is represented as the character [. Thus, the code for the above example is: 10XRWENETJ. With an account base of 11XYWZNET the check character would be [and the full account code would be 11XYWZNET[.		
C.6	Coding of Technologies				
	Fuel (or heat source) codes are found in Annex A. Technology codes are found in Annex B.	EECS Fact Sheet 5		Cross referencing to another annex adds little value	Consider deleting C6, or add also the cross references to Annex D and E, and consider additional coding structures.for: - support earmarks (see EECS Fact Sheet 3)

					- coding of issuing bodies (see EECS Fact Sheet 4) - products conveyed on the electronic certificate for energy attributes (see EECS Fact Sheet 17) - transfer error codes (see EECS Fact Sheet 18) - Means of Supply codes ((see EECS Fact Sheet 20) - Use of Gas codes (see EECS Fact Sheet 21)
Annex D					
	Geographical coordinates	EECS Fact Sheet 16	To avoid overly long replications of tables, neither the exact content of the Standard nor that of the EECS Rules has been included here.	Different Issuing Bodies use different Geographical map location standards across Europe. EN16325 Annex D equals an earlier	While having standardised systems for coding geographical coordinates facilitates unbiased understanding, by its nature, the list of

				version of EECS Fact Sheet 16. The latter has been updated according to reality, and also contains an extra column with the exact code to be mentioned on the certificate. The Geographical coordinates systems under EECS in principle are left to the discretion of Members to decide. Therefore, they are subject to change. However, the inclusion of a Geographical coordinates system on a GO shall be retained when such GO is transferred from one Registration Database to another.	Geographical Coordinates used in a country, may be subject to change and does not lend itself very well to standardisation. Therefore, we consider that instead, the Standard should preferably contain such generic provisions as enable the content of a GO regarding the Geographical coordinates system to be recorded and retained upon transfer without alteration.
Annex E					
	Cogeneration GO codes — Uses of Heat The predominant use of heat >including without limitation<: a) heating, including district heating and cooling;	FS11	Uses of Heat The predominant use of heat as stated in Recital (31) of the CHP Directive (2004/8/EC): (a) Heating, including District Heating and Cooling	The list of codes in the Standard is without limitation. This would enable issuing bodies to include uses of heat	We recommend to maintain a limitative list. The list itself can of course be expanded.

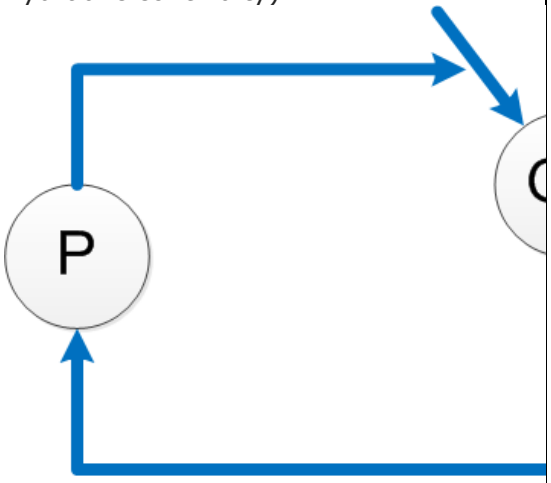
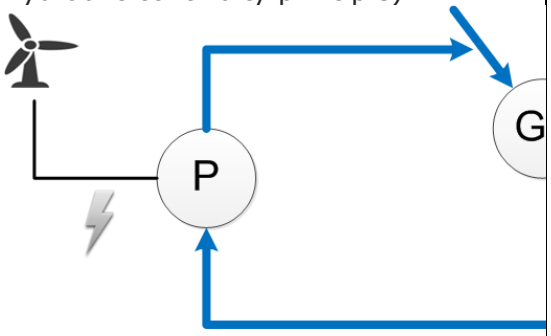
	b) industrial use, including process heating; c) agricultural use; d) production of biogas.		(b) Industrial use, including process heating (c) Agricultural use (d) Production of biogas.	at their own discretion. Especially where there is no shared method for coding such, there is a risk of data being misinterpreted.	
Annex F					
F.1 Hydraulic continuity principle					
F.1.1	**General** In case several production (G) or pumping (P) devices are linked through a hydraulic network, the considered perimeter shall be enlarged in order to include all relevant meters (principle of hydraulic continuity). 		EECS doesn't go in this level of detail, but this doesn't conflict.		

	Figure F.1 — Hydraulic continuity principle EXAMPLE G2 requests certificates. The hydraulic perimeter is G1+G2+P.				
F.1.2	**Extended hydraulic continuity principle** In case several production or pumping devices are linked through an electrical (sub)network, the considered perimeter shall be enlarged in order to include all relevant meters (extended hydraulic continuity principle).  **Figure F.2 — Extended hydraulic continuity principle** EXAMPLE A windmill supplies Electricity to pumps. The perimeter is G1+G2+P.		EECS doesn't go in this level of detail, but this doesn't conflict.	There are numerous potential configurations, one might wonder whether it adds value to sum them all up in the standard, or give a general principle.	
F.2	Smoothing of Electricity generation				
	The current rule that certificates should be Issued for generated Electricity still stands. Indeed, as long as regular measurements are provided, then what		Not in EECS Rules.	Doesn't add additional rules. Is a reflection. One might wonder whether such	Probably the concept of Smoothing is better dealt with under a general topic of "storage"

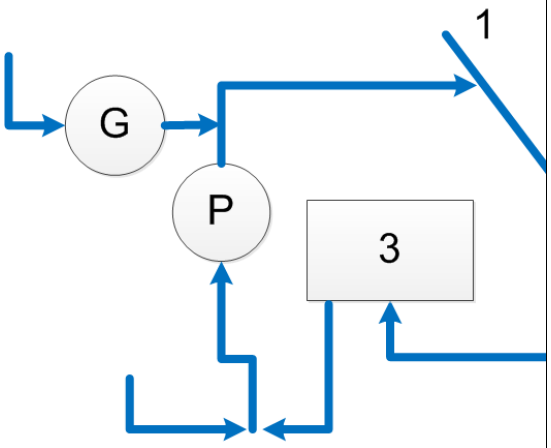
	has been stored one day will be spent another day. Moreover, the choice of any smoothing rule could be disputed, especially on grounds of double counting: variations in Electricity generation happen, and smoothing already happens because certificates can be used for relatively long periods. Besides, the smoothing in the Renewables Directive relates to target accounting, not Disclosure. Therefore, no smoothing of either generated or consumed Electricity should take place.			reflections belong in a standard.	
F.3	Electricity storage and conversion				
	Any Electricity that is stored in a medium other than Electricity (water potential energy, hydrogen etc.) will lose its attributes upon such conversion, unless certificates are Cancelled for the energy being converted - in which case an "Energy Input Factor" shall be calculated. When stored energy for which certificates have been Cancelled is converted back to Electricity, then this will have the same attributes as the original Electricity, as determined by the Energy Input Factor: either no attributes, or attributes set to "unknown", will be awarded for Electricity not associated with the Energy Input Factor.	C3.6	Definitions EECS Certificate Conversion: the issuance of an EECS Certificate corresponding to Energy Carrier Conversion, and for which EECS Certificates representing Input to that Production Device have been Cancelled; Energy Carrier Conversion: the transfer of energy carried by one type of energy carrier to another type of energy carrier; C3.2 Qualifying Output C3.2.2 Where Output is produced from Input carried by another energy carrier, the produced Output shall be eligible for Issuing EECS Certificates from the energy source	EECS foresees elaborated energy carrier conversion rules, where EN16325 is vague. The first sentence of EN16325 F3 is unclear: does the physical energy lose its attributes or does the GO lose them by GO cancellation? And if the latter: how to secure that this GO cancellation actually takes place in practice? EECS partly facilitates the second	Recommendation to incorporate in EN16325 rules for issuance of GOs in the case of energy conversion similar to those in EECS. Such rules should be *obligatory* on Member States, and apply regardless of whether the resulting energy is subsequently stored or consumed immediately. Further recommendation to incorporate in EN16325 rules for

			as identified in Section C3.5.4 (f), provided (a) The Input consists of this energy source, and no other proof certifying the same Output for the same Purpose has been issued for this input, in line with Section A2.1.1, or (b) EECS Certificates of the energy carrier identified in Section C3.5.4 (a), containing this specific energy source as identified in Section C3.5.4 (f) , are cancelled corresponding to the energy carrier and quantity of Input. The Qualifying Output for the Issuance of EECS Certificates shall be determined in accordance with Section C3.2.1. C3.2.3 An EECS Certificate shall only be issued for the production of a corresponding quantity of physical Output of the same energy carrier as that identified on that EECS Certificate. C3.6 Data registration related to EECS Certificate Conversion C3.5.6 The following shall apply regarding the information held on EECS Certificates Issued as the result of EECS Certificate Conversion: (a) The carrier by which energy is conveyed shall be identified in accordance with Section C3.5.4 (a)	option of EN16325 F3: GOs are cancelled for the input to the conversion. In EECS, energy stored in another energy carrier is not considered storage, but rather as energy carrier conversion, a concept separately defined. In EECS there are no provisions for cancelling and re-issuing GOs for energy stored in the same energy carrier. This is different in EN16325. To examine this, we looked at art. 7.2 of Directive 2018/2001/EC, which excludes from being renewable the production of electricity in pumped storage units that has previously been pumped uphill. Extrapolating this principle to storage	issuance of GOs in the case of energy storage of the same carrier. Such rules should be similar to those for conversion (i.e. cancellation for input, issuance for output – in accordance with input and output measurements from the storage device) and should be *voluntary* on Member States. Where Member States choose not to issue GOs for storing energy in the same energy carrier (gas tank, electric battery), no GOs need be cancelled for such storage, except to demonstrate the origin of energy lost in storage. Correspondingly, where a storage device is situated between a production device and the grid, GOs shall only be issued for energy flowing out of a

			and shall relate to the energy carrier of the Output resulting from the corresponding Energy Carrier Conversion; (b) A new unique number shall be assigned in accordance with Section C3.5.4 (b). (c) The date on which the originating Production Device became operational shall be identified in accordance with Section C3.5.4 (c) and shall be the commissioning date of the Production Device that produced the Output resulting from the corresponding Energy Carrier Conversion; (d) The first day on which the Output was produced shall be identified in accordance with Section C3.5.4 (d) and shall be the first day of the production period of the Output resulting from the corresponding Energy Carrier Conversion; (e) The last day on which the Output was produced shall be identified in accordance with Section C3.5.4 (e) and shall be the last day of the production period of the Output resulting from the corresponding Energy Carrier Conversion; (f) The energy source from which the Output was produced shall be identified in accordance with Section C3.5.4 (f) and shall be the energy source identified on the Cancelled EECS Certificate relating to the Input to the corresponding EECS Certificate	devices, an argument could be made that energy from a storage device should not be considered as originating from renewable sources. However, in principle production and consumption of energy reconcile. The same should be true of GOs. If we assume a situation where all energy receives GOs (so disclosure can be fully corroborated): • If energy is stored in e.g. a battery during a consumption period, and no GOs are cancelled for such, then there will be a surplus of available GOs / attributes during that consumption period. • When that energy is again released, then there will consequently be a deficit of available	storage device, where: • directly after production, this energy is physically fed into the storage device; and • no other GOs are issued for this energy.

			Conversion; (g) The type and identity, location and capacity of the Originating Production device shall be identified in accordance with Sections C3.5.4 (g), (h), (j) and (k) and shall be the type and identity of the Production Device that produced the Output from the Energy Carrier Conversion;	GOs/attributes during that period. As such, for consistency and coherence of the GO system, there is also an argument to be made that the energy flowing from a storage device should have the same attributes as the energy that was stored in the first place. Just like using energy conversion to store energy in another carrier, the process of cancellation and re-issuance for storage of the *same energy carrier* is complex. For such energy, there is already a means of disclosing the source to final customers for the purposes of art. 19.1 of Directive 2018/2001/EC (i.e. the GO that was issued to the	

				production of energy *before* it was stored). From this, it follows that Member States should be *enabled* (as opposed to required) to issue GOs for stored energy, provided that GOs are cancelled for the energy consumed by the storage device. Such GOs should bear the same characteristics as those cancelled, save for the start and end dates of production. Member States who would choose not to issue GOs for stored energy, implicitly accept the resulting potential disbalances highlighted in yellow, above.	
F.4 Alternative measures for a hydraulic plant					
F.4.1	**Certain flow** In case of complex hydraulic plants, it may sometimes be easier to Issue certificates based on the >Virtual< Natural Flow, as this represents the "certain" flow: whatever the actual	N6.4.4	Where an EECS Certificate is issued for electricity from a pumped-hydro Production Device, only the electricity derived from natural inflow shall qualify for the Issuance	The EECS Rules do not contain provisions that are similar to F.4.1 of EN16325. Instead, EECS Rules section	Suggestion to remove the text in EN16325 F4, and to introduce for pumped storage rules similar

	energy used or generated, it is certain that the flow of water between the higher and the lower altitudes would have been capable of generating a quantity of Electricity directly, depending on this altitude difference and on the characteristics of the plant. Certificates can always be Issued for this energy.  **Key** 1 higher altitude >*deleted text* 2 lower altitude >*deleted text* 3 complex hydraulic system **Figure F.3 — Complex hydraulic system** Hydro-Electricity is actually the potential energy of water converted into Electricity. The reverse is also true. Therefore, it is possible to calculate (reasonably accurately) the Electricity generated, based on measures of hydraulics.		of an EECS Certificate, which means that: (a) EECS Certificates shall be issued for natural inflow minus any nett electricity consumed by pumping; (b) Where an onsite Production Device supplies electricity to the pumped-storage Production Device, then the onsite Production Device shall be considered to be a separate Production Device to the pumped-storage Production Device; (c) Where the amount of energy imported by the relevant Production Device during a period exceeds that exported by it during the same period, then the difference between such imports and exports shall be compensated by an equivalent amount of nett exports during successive periods before new EECS Certificates may be issued; and (d) EECS Certificates shall be issued according to the following formula: (i) $\mathbf{Issue} = \mathbf{E} - \mathbf{I} * \boldsymbol{\eta\rho} + \mathbf{I} * \boldsymbol{\eta\rho} * \mathbf{AF}$, where: Issue = Net production from natural inflow (Qualifying Output) $\mathbf{E}$ = Electricity measured by the Export Meter $\mathbf{I}$ = Electricity measured by the Import Meter (including consumption of the pump) $\boldsymbol{\eta\rho}$ = Efficiency of the pump (this is not mandatory, by default 100% must be assumed) $\mathbf{AF}$ = Share (%) of energy consumption of Production	N6.4.4 deals with related content in a different way. F.4.1 is ambiguous as it doesn't show how to exclude GO issuing for electricity production for water that has previously been pumped uphill. This principle could only work if: • The certain flow is considered as the nett flow, deducting the water that was previously pumped uphill. • Generator yield includes deducted auxiliaries. Such data is not always easily available. • The accuracy of the flow meter is acceptable. Flow measurements have a tendency to be expensive for achieving an acceptable level of accuracy.	to those in N6.4.4 of the EECS Rules.

	The following is required: a) Difference in height between the highest point of Natural Flow and the generator; b) Generator yield; and c) Measured water flow. The first two are readily available, since they are intrinsic to any hydraulic EGI. Measurements of the water flow are less common, but still quite possible.		Auxiliaries from total gross generation (this is not mandatory and if this is not measured, $I*\eta\rho*AF$ must be assumed to be zero).	As such this method is not commonly used and seems more expensive than simply measuring electricity consumption and pump consumption. Measurement of the net produced electricity and deducting the energy for pumping water uphill seems easier and less expensive.	
F.4.2	**Non-energy-based hydraulic systems** In case of hydraulic systems built for purposes other than Electricity generation, such as inland water transportation or the removal of waste water, there is consensus that any energy generated from such a system should be considered renewable. Indeed, recovering some of the energy spent on such (non-energy purpose) hydraulics is good practice. Moreover, the installed power capacity of such systems is small or very small, especially when compared to the energy spent for the non-hydraulic purposes.	N/A		See Directive 2018/2001/EC art.7.2 energy produced with water that was previously pumped uphill, is not considered renewable.	Suggestion to remove this section from the standard.
				As in whole section F: the word certificate is used	

				while in the body of EN16325 the term GO is used. This is not necessarily problematic, as many voices go up for embedding the GO in a bigger multi-purpose certificate. EECS facilitates multi-purpose certificates. The purpose of GO = disclosure Other purposes of a certificate can be Target compliance or eligibility for Support.	
End of this table.					

4. Identification of topics not yet covered by EN16325

In the table above, we have matched and compared the provisions of EN16325 in its current form with the corresponding provisions in the EECS Rules. In addition, we have reviewed the EECS Rules for topics that did not become apparent from such comparison, and yet are not currently included in EN16325. This yielded the following discrepancies found:

Conversion
C3.6
The EECS Rules recognise that where an energy carrier (the *first carrier*) is being converted by a production device to produce another energy carrier (e.g. renewable electricity from biogas), issuance of GOs for that other carrier can only take place if GOs that were issued for the first carrier are cancelled for the consumption of the production device:

- where the input of the production device is derived from a grid; and/or
- where the input of the production device is supplied from an onsite source, where such onsite source has been issued GOs.

The Standard should implement such requirements as well, because not doing so would present a material risk of double-counting and thus jeopardise the credibility of the GO system.

Information systems shall support audit
C4.1.1
C5.1.2
E3.3.10
The provisions for auditing Competent Bodies are currently limited. As explained in the EN16325 vs. EECS comparison, we propose to improve such provisions. This would require manual and automated systems to support such audit. A statement to that effect should be included in the Standard.

National GO Schemes shall secure that certification is tied to disclosure
E3.2.1(h)
E3.3.14
As identified under EN section 4 in the EN16325 vs. EECS comparison, the principle of uniqueness shall entail that where a GO is issued, only cancellation of that GO shall entitle the (former) holder of that GO to make a claim regarding the origin of the energy. The Standard should include that National GO schemes shall secure such.

Location of a Production Device
E5.2.2
N3.1.1
O3.1.1
While the Standard establishes that a Competent Body shall only provide services to EGIs/production devices situated in its Domain, it could be clearer how the location of such shall be determined. The AIB requires that *"the question of whether or not a Production Device falls within a Domain can be readily determined and that its adoption will not prejudice the attainment of the Core Principles."* For electricity, we typically see in practice that the connection point to a grid determines where a Production Device is located. Rules for determining the location of a production device should be included in the Standard. It should be considered if such rules can apply to all energy carriers, or if differing energy carriers require differing rules.

Cessation of a Competent Body
C2.2.6
C2.2.7
The Standard should specify what happens when the appointment of a Competent Body expires or is revoked.

N9
O

Annex I: Tables included in Subsidiary Document 03 to the EECS Rules, also known as HubCom

1. SD03 A2.3.1

Format of the Element String				
	Global Individual Asset Identifier			
	GS1 Company Prefix for the CMO		Individual Asset Reference assigned by the CMO	
	N_1 ...	N_i	N_{i+1} ... variable length	N_{30}

2. SD03 A2.4.1

Format of the Element String																		
	Global Service Relation Number																	
	GS1 Company Prefix For the CMO																Service Reference	Check Digit
	N_1	N_2	N_3	N_4	N_5	N_6	N_7	N_8	N_9	N_{10}	N_{11}	N_{12}	N_{13}	N_{14}	N_{15}	N_{16}	N_{17}	N_{18}

3. SD03 A2.4.3

Check Digit Calculation																		
	Global Service Relation Number																	
	GS1 Company Prefix For the CMO																Service Reference	Check Digit
	N_1	N_2	N_3	N_4	N_5	N_6	N_7	N_8	N_9	N_{10}	N_{11}	N_{12}	N_{13}	N_{14}	N_{15}	N_{16}	N_{17}	N_{18}
	Multiply value of each position by																	
	x3	x1	x3	x1	x3	x1	x3	x1	x3	x1	x3	x1	x3	x1	x3	x1	x3	
	Accumulated results = 'sum'																	
	Check digit = (nearest multiple of 10 ≥ 'sum') – 'sum'																	

Example Check Digit Calculation																		
	Global Service Relation Number																	
	GS1 Company Prefix For the CMO																Service Reference	Check Digit
Start number	3	7	6	1	0	4	2	5	0	0	2	1	2	3	4	5	6	
	Multiply value of each position by																	
	x3	x1	x3	x1	x3	x1	x3	x1	x3	x1	x3	x1	x3	x1	x3	x1	x3	
Interim	9	7	18	1	0	4	6	5	0	0	6	1	6	3	12	5	18	
	Accumulated results = 'sum'																	101
	Check digit = (nearest multiple of 10 ≥ 'sum') – 'sum'																	110 -101 =9
Final number	3	7	6	1	0	4	2	5	0	0	2	1	2	3	4	5	6	9