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

ENER/C1/2019-517

Final report

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1. Abstract

The FaStGO project took place during the preparation of the entry into force of the Directive (EU) 2018/2001 on the promotion of the use of energy from renewable sources. It 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 the basis of Dir (EU) 2018/2001."*

This final report provides an overview of the work done by the FaStGO project team. The project lays the ground for further upgrading of the guarantee of origin system in Europe, in various areas of operation.

This final report provides an executive summary of the outcome of the six task packages, lists the overview of deliverables, and attaches the full reports of all the tasks as annexes. Each of these reports is also self-standing and can be read independently of the other reports, in order to facilitate future developments in its respective work area.

The FaStGO project team looks forward to the further uptake of this work in its associated organisations and through constructive dialogue with the European Commission.

2. Executive Summary

2.1. Task 1: Mapping of currently existing standardisation frameworks

Task 1 of FaStGO maps existing standardisation frameworks in relation to guarantees of origin.

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

This task identifies the main differences between the European Energy Certificate System (EECS) rules and existing EN16325 standard on guarantees of origin. It elaborates on the impact on the GO system operation, the market and the consumers of differences in the detailed texts of the EECS Rules and of the standing EN16325. It also stipulates how the EECS™ Rules, on top of the areas covered by the standing EN16325 as last amended in 2015, contain additional provisions on the following areas:

1. Where the existing EN16325 covered only GOs for electricity, the EECS™ Rules foresaw a generic certificate system for various purposes and various energy carriers, including rules for energy carrier conversion and complemented this with detailed rules per energy carrier;
2. EECS™ contains more extensive provisions on the immutability of energy certificates, digital security, a surrounding framework with a view to avoiding double disclosure of the energy covered with a guarantee of origin and ensuring compliance of national GO schemes; and
3. EECS™ provides a framework for decision-making by issuing bodies and for the ongoing development of the certification system, through detailed rules facilitating efficient operation (As these may need flexible adaptation to changing circumstances, they do not belong in a formal CEN standard) and through a contractual framework.

The two documents differ in the framework for inspections of production devices and in dealing with energy consumed at the site of the production device.

Task 1.2 Comparison of EN16325 and EECS Rules with the requirements in the Directive (EU) 2018- 2001 on guarantees of origin

This task compares the current text of EN16325 with the provisions of REDII. The differences with the greatest impact relate to the following areas:

1. Facilitation of rules for other energy carriers than electricity;
2. The concepts of energy origin disclosure (provision of origin information to energy consumers) and residual mix;
3. Recognition of GOs issued in other member states;
4. Simplified information on GOs issued for energy production in small devices; and
5. Facilitation of labels.

Task 1.3 Identification of the main challenges which currently exist in the management of guarantee of origin system

Task 1.3 identifies the main challenges that currently exist in the management of the GO system. These challenges were grouped into 3 categories and are listed here.

1. Design of guarantees of origin
    - Prevention of fraud in production data registration and audit of production devices
    - GO Validity - Expiry
    - Simplified information on GOs for small capacities
    - Facilitating an EU-wide green label and/or a premium market for renewable energy
    - Energy Storage – and its relationship with the concepts of energy carrier conversion and onsite consumption
    - Categorising different types of gases in the design of GO systems
    - Rules for GO issuing related to energy carrier conversion
    - Determining the attributes of energy from production devices with multiple inputs and/or multiple outputs
    - Data to be recorded on the GOs: what information is relevant for consumers
    - Avoiding double counting following from the interplay of GOs (REDII art.19) and sustainability certificates (REDII art.25-31)
    - Using the data on the GO for purposes wider than origin disclosure - EU-ETS.
2. GO Market
    - Prevention of double disclosure of the origin of sold energy
    - Double disclosure or double perception related to onsite consumption and non-interconnected grids
    - GO Cancellation by multinational consumers
    - Prevention of financial fraud in GO markets
    - Estimating the development of GO market behaviour
    - Cross-border trade of heating and cooling GOs
    - Sector coupling and Energy Carrier Conversion => influence on GO market price for different energy carriers.
3. Cross border cooperation for GO issuing bodies and disclosure competent authorities
    - Using the Residual mix
    - IT Infrastructure
    - Compliance and alignment of designated competent bodies for issuance of GOs
    - Complementing a solid GO standard with a flexible agreement between Issuing Bodies
    - Synchronising discussion fora for gas GO issuing bodies
    - Challenges facing issuing bodies in making collective decisions
    - Sector coupling & Energy Carrier Conversion => supervision of the issuing process and data management between different organisations

A public consultation conducted in February 2020 provided the project team with input for fine-tuning the descriptions of each of these challenges. This sharpened the thinking for the phrasing of the text proposal for the revised GO standard in task 2, and laid the ground for developments in the other tasks.

2.2. Task 2: Specify technical requirements for extended coverage of GOs

Task 2 is aimed at providing documentation structures for a revised CEN - EN 16325. and text proposals for CEN EN - 16325, taking into account the requirements of Directive (EU) 2018/2001, and the current main challenges for the GO system, respectively. The task 2 report addresses this in 4 parts:

Part 1 entails an explanatory note to part 2;

Part 2 consists of a text proposal for a revised EN16325:

- version 1 provided for FaStGO's initial text proposal sent to the public consultation on 25th May 2020; while
- version 2, published on 8th July 2020, provides for an updated text proposal for a revised EN16325 after integrating the input from the broad sector-wide consultation;

Part 3 summarises the main takeaways from the consultation. It also contains a section with notes to policy makers, mainly on measures for the avoidance of double disclosure, GO cancellation for usage across European borders, carbon footprint information, multipurpose origin tracking and VAT fraud prevention; and

Part 4 lists all responses to the consultation along with a brief reaction of the FaStGO project team to each response.

The text proposal for a revised EN16325 builds on the European Energy Certificate System (EECS™) as this has proven to facilitate a reliable framework for GOs, although it does not elaborate on operational details which should be kept outside of the standard to give issuing bodies scope to adapt them to changing circumstances, as needed. This approach is intended to harmonise essential elements to ensure the establishment of trustworthy GO systems. It maximises efficiency by harmonising the main principles while leaving synchronisation of operational detail to agreement amongst issuing bodies.

Where EN16325 was considered a relevant place to do so, the FaStGO draft for EN16325 integrates solutions to the system management challenges identified in task 1.3. Because of the need to convey information on the energy source and other data in relation to energy carrier conversion, the text proposal for the standard foresees a generic GO system for multiple energy carriers, while preserving some energy-carrier specific rules in dedicated sections. It provides for harmonised principles to handle GOs in relation to energy carrier conversion. Since the purpose of GOs is disclosure of the energy source to consumers, and as GOs are also used by other parties than licenced energy suppliers, the definition of disclosure is extended beyond suppliers. In order to provide an importing issuing body with basic information and quality guarantees, the proposal foresees that a GO scheme assessment may be required by an issuing body when import from a new domain is requested.

The draft for the standard acknowledges that the issuance of guarantees of origin is the beginning of the process of which disclosure of energy origin to an energy consumer is the end. While leaving room to the legislative framework to determine the 'what' and the 'how', the text proposal sets out basic requirements to be installed on disclosure statements and supervision.

In order to maintain consumer trust, the text proposes to maintain the same system perimeter for GO issuing and disclosure rule implementation. The text further strengthens the standard with a distributed requirement to prevent financial fraud in

the GO system, including a specific focus on facilitating the prevention and detection of MTIC (Missing Trader Intra Community) fraud.

The text balances the cost of change for the existing GO system for electricity with wishes for further development of the GO system for other energy carriers. The provision of optional data fields on the GO, in addition to mandatory essential data fields, mitigates concerns from both sides.

2.3. Task 3 Specify IT systems and requirements for associated infrastructure for cross-border exchange of GOs for all energy carriers

Task 3 consists of various subtasks.

Task 3.1 sets out the baseline to further build on for the rest of task 3; while Task 3.2 provides a data protocol for transferring certificates from one registry to another; and Task 3.3 report provides a high-level technical specification for the main developments in the IT infrastructure envisioned in the FaStGO task 3.1 report.

Task 3.1 Develop a vision for the future IT infrastructure

This document seeks to advise member states on the architecture of an IT system infrastructure which supports the features of a guarantee of origin (GO) system as proposed by the Renewable Energy Directive 2018/2001/EC (REDII). This architecture enables the national creation and use of guarantees of origin and the international transfer and trade of GOs, in order to prove to consumers the source of their energy and to prevent double counting, while supporting data analysis. In doing so, it considers different options for system design.

The conclusions are that, based on a single hub connecting different registries, an evolutionary approach to system architecture is the most appropriate, whereby some facilities are provided centrally to all member states, other facilities are provided to those member states that require them, while those features that are specifically national in nature are kept at a local level.

The following figure illustrates the elements for gradual consideration of increased centralisation under the evolutionary approach, for which it is recommended that consensus of the participating issuing bodies is the driving force in the decision whether or not to organise a specific responsibility at the central level.

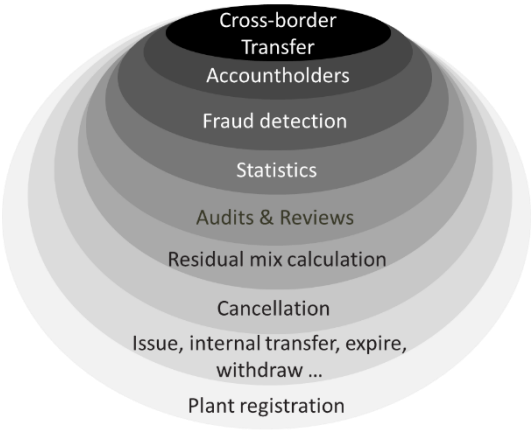

Figure 1: An evolutionary approach to the ongoing development of the IT infrastructure for guarantees of origin, with the consensual support of the issuing bodies

Task 3.2 Data protocol that facilitates certificates for multiple energy carriers and multiple purposes

The emphasis of this task is on implementing the data fields foreseen in the EN 16325 proposal provided in part 2 of the FaStGO task 2, and builds further on the data protocol specified in EECS Subsidiary Document 03 'HubCom'. These data fields enable the transfer of GOs issued for different energy carriers (electricity, heating/cooling, and gas including hydrogen).

Task 3.3 High-level requirements specification

Requirements are provided for extending an existing certificate registry interconnector hub with automated residual mix calculation and centralised cancellation facilities. In addition to specifying requirements for the hub extensions as envisaged in task 3.1, this report studies and evaluates the technical concept for transforming an interconnector hub into a multi-domain registry. Finally, a concept of the central collection of transactions is explored.

2.4. Task 4 Develop systems for EU-based market supervision statistics

Task 4.1 Design specifications for statistics

A stakeholder survey confirmed the value of the GO market activity statistics published by the Association of Issuing Bodies and assisted the project team in defining areas for improvement regarding the usability and content of GO statistics. The report highlights development opportunities which can be bundled in the main categories for improvement as are shown in the following figure:

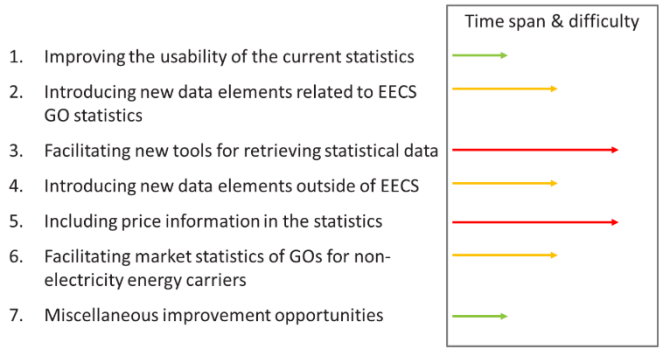

Figure 2: Main categories for development opportunities of the GO statistics

The report considers the feasibility of these opportunities and makes recommendations.

Task 4.2 Methodologies for an updated Residual mix calculation

The first part of task 4.2 consisted of a wider consultation of the updated methodology for the residual mix calculation for electricity. A well attended webinar, targeted mainly at competent authorities for supervision of origin disclosure, together with a written consultation, enabled the project team to finetune some aspects of the report. It provided the support which strengthened the AIB to implement the updated (Issuing Based) method for the 2020 residual mix calculation regarding electricity consumption in 2019.

The second part of task 4.2 proposes a rationale for a residual mix for gas, hydrogen, and heating and cooling.

It builds on the principles illustrated in the figure below:

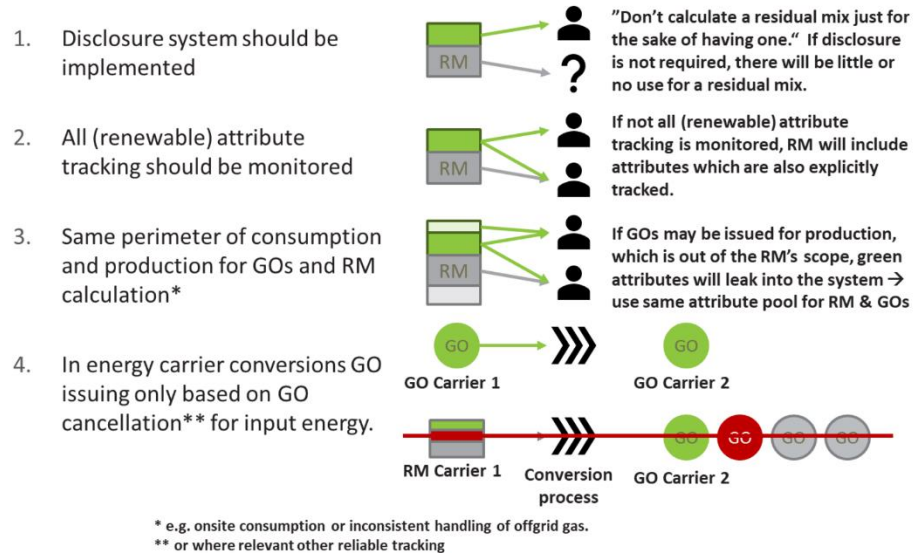

Figure 3: Basic principles for determining a residual mix

While not all conditions mentioned in the above figure are met, as an interim solution the report proposes that the residual mix for gas, hydrogen, and heating and cooling consist of fossil energy sources. For gas and hydrogen this 'fossil' residual mix can immediately be further detailed down to natural gas. The report maps energy carrier specific needs and elaborates options for future further development when: 1) volumes of renewable and cross-border transferred energy increase; and 2) a non-electrical energy carrier related energy origin disclosure regime is more established.

2.5. Task 5 Develop methodologies for enhanced prevention of financial fraud

The report for task 5 presents the risks of financial fraud in the GO markets, with a special focus on VAT or Missing Trader Intra Community (MTIC) fraud. The report proposes a series of entry barriers to prevent MTIC fraud, along with methods to detect it through the monitoring of registries' data.

2.6. Task 6 Processes for stakeholder consultation and organisation of workshops to validate deliverables

The project organised three public stakeholder workshops and four public consultations. It regularly integrated input from open dialogues with a broad range of stakeholders. A dedicated logo, webpage and e-mail address supported the public positioning of the work. The process in CEN was followed closely through intense cooperation inside CEN.

3. Overview of project deliverables

All reports are available on https://www.aib-net.org/news-events/aib-projects-and-consultations/fastgo/project-deliverables. They are also annexed to this report.

3.1. Task 1: Mapping of currently existing standardisation frameworks

The delivery consists out of five Reports:

1. Task 1.1 Comparison between EN16325 and EECS
2. Task 1.2 Comparison of EN16325 and EECS Rules with (EU) 2018-2001 on GOs
3. Task 1.3 Mapping GO system management challenges
4. Task 1.3 Mapping GO system management challenges - Annex 1 Consultation
5. Task 1.3 Mapping GO system management challenges - Annex 2 Financial Fraud Consultation results.

A draft for task 1.3 was put out to public consultation in February 2020.

3.2. Task 2: Specify technical requirements for extended coverage of GOs

Task 2 delivery is set up as a report consisting out of four reports:

1. Part 1 Explanatory Notes (published on 25/5/2020)
2. Part 2 Text proposal for a revised EN16325 (v1 published on 25/5/2020, v2 published on 8/7/2020)
3. Part 3 Takeaways from consultation (published on 8/7/2020)
4. Part 4 Overview of all responses to the consultation and FaStGO reaction (published on 8/7/2020).

The text of part 2 was put out to public consultation in May-June, and the headlines of the text proposal were presented in a stakeholder workshop on June 11th, 2020.

3.3. Task 3 Specify IT systems and requirements for associated infrastructure for cross-border exchange of GOs for all energy carriers

Delivery on task 3 consists of reports for each of the three subtasks:

1. Task 3.1 Develop a vision for the future IT infrastructure
2. Task 3.2 Data protocol that facilitates certificates for multiple energy carriers and multiple purposes
3. Task 3.3 High-level requirements specification.

The reports for task 3.1 and 3.2 were published on October 15th, 2020, while the report for task 3.3 was published on December 3th, 2020.

The headlines of task 3.1 and 3.2 were presented in a public stakeholder workshop on October 29th, 2020.

3.4. Task 4 Develop systems for EU-based market supervision statistics

Task 4 published 2 reports:

1. Task 4.1 Design specifications for statistics
2. Task 4.2 Methodologies for an updated Residual mix calculation.

The reports for task 4.1 and 4.2 were published on November 13th, 2020.

The update in the residual mix calculation method for electricity was out for public consultation in February and March 2020, and presented in a stakeholder webinar on March 10, 2020.

The headlines of task 4.1 and 4.2 were presented in a stakeholder workshop on October 29th, 2020.

3.5. Task 5 Develop methodologies for enhanced prevention of financial fraud

The task 5 report was submitted on December 8th, 2020. Its dissemination is restricted to relevant experts upon motivated request.

3.6. Task 6 Processes for stakeholder consultation and organisation of workshops to validate deliverables

The work performed under task 6 consists of the following:

- Stakeholder strategy report submitted in February 2020.
- Public stakeholder consultations:
  - Task 1.3 Overview of challenges in GO system management (February 2020)
  - Task 2 Text proposal for EN16325 (May-June 2020)
  - Task 4.1 Statistics survey (September 2020)
  - Task 4.2 Updated Residual Mix method (March 2020).
- Public stakeholder workshops:
  - FaStGO Webinar on electricity residual mix calculation methodology on March 10th, 2020
  - Presentations and recording are available on https://www.aib-net.org/news-events/aib-projects-and-consultations/fastgo/residual-mix-webinar-march-2020
  - FaStGO Webinar on June 11th, 2020: Presentation of the FaStGO text proposal for a revised EN16325 on guarantees of origin (task 2)
    - Programme, presentations and recording are available on https://www.aib-net.org/news-events/aib-projects-and-consultations/fastgo/stakeholder-webinar-june-2020
    - 204 registered attendees, 163 real-time attendees
  - FaStGO webinar on October 29th, 2020

  - Presentation of task 3.1 &3.2 (Vision on IT infrastructure and data protocol for cross border transfers), 4.1 (Design specifications for GO statistics), 4.2 (Residual mix for gas, hydrogen, and heating and cooling)
  - Programme, presentations and recording are available on https://www.aib-net.org/news-events/aib-projects-and-consultations/fastgo/stakeholder-webinar-october-2020.

- Follow-up of the work in CEN and provide technical advice on implications on proposals brought forward in JTC14 WG5:
  - Attend weekly meetings of the project teams for the generic GO, electricity, hydrocarbon gas, hydrogen, and heating and cooling groups
  - Attend the meetings of the steering group
  - Attend the plenary workgroup 5 meetings.
- Presentations to stakeholder groups on the process in CEN and FASTGO:
  - Masterclass on GOs in Eurogas
  - Meeting with EFET members
  - Workshop in AIB
  - Presentation to RECS International.
- Continuous dialogue with stake holders and stakeholder groups, including:
  - Entsog Prime Movers Group on gas GOs
  - Ergar standardisation group
  - AIB EECS Unit, Information Systems Unit and Gas Scheme Group
  - Consultation of DG Clima on requirements for GOs to facilitate EU-ETS and learnings from the centralisation of the IT registry for EU-ETS
  - Individual stakeholders and experts.
- Set-up of an e-mail address fastgo@aib-net.org and a mailing list with more than 300 addressees on updates of the FaStGO work.
- Set-up of a dedicated webpage with publicly available information on the FaStGO project: https://www.aib-net.org/news-events/aib-projects-and-consultations/fastgo.
- Regular posts on the linked in page of the AIB (https://www.linkedin.com/company/aib---association-of-issuing-bodies/), the project leader and the project participating organisations with updates on the work of FaStGO and invitations to participate in consultations and workshops.