Hydrogen Certification: Guarantees of Origin or Proofs of Sustainability?

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Main Questions

- **Main differences between Guarantees of Origin (GOs) and Proofs of Sustainability (PoS)**
- **GOs and PoS in the Hydrogen Supply Chain**
- **Interaction between GOs and PoS**

Main definitions

Guarantees of Origin (GO)

- an **electronic document** which
- has the sole function of **providing evidence** to **a final customer** that
- a given share or quantity of **energy** was produced **from renewable sources**.

RED II https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A02018L2001-20240716

Proofs of Sustainability (PoS)

- a **declaration** by an economic operator,
- made on the basis of a **certificate** issued by a **certification body** within the framework of a voluntary scheme
- certifying the **compliance** of a specific quantity of feedstock or fuels with the **sustainability and GHG emissions savings criteria** set out in Articles 25(2) and 29 of RED III.

IMPLEMENTING REGULATION (EU) 2022/996 https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A02022R0996-20250224

Purpose of Certificates

Guarantees of Origin

Provides transparent environmental information to consumers.

Proofs of Sustainability

Verifies compliance with EU sustainability criteria and targets

Market Impact

Facilitates premium pricing for hydrogen.

Scope of Certificates

Guarantees of Origin (GO)

- Electricity
- **Hydrogen**
- Gas
- Heating and cooling

Proofs of Sustainability (PoS)

- Advanced Biofuels
- Recycled Carbon Fuels (RCF)
- **Renewable Fuels of Non-biological Origin (RFNBO)**

Scope of Information

Guarantees of Origin (GOs)

Art. 19 RED III

A GO shall specify:

- the energy source from which the energy was produced and the start and end dates of production - **in the case of RFNBO, at an hourly or sub-hourly interval**;
- whether it relates to **hydrogen**
- the **identity, location, type and capacity of the installation** where the energy was produced;
- whether the installation has benefited from a **support scheme**, and the type of support scheme;
- the **date** on which the **installation became operational**;
- the **date and country of issue** and a unique identification number.

A GO shall be of the standard size of 1 MWh

A GO shall:

- be **valid** for transactions for **12 months** after the **production** of the relevant energy unit.
- **expire** at the latest **18 months** after the **production** of the energy unit

Scope of Information

Proofs of Sustainability (PoS)

Implementing Regulation (EU) 2022/996

Data to be transmitted through the whole supply chain:

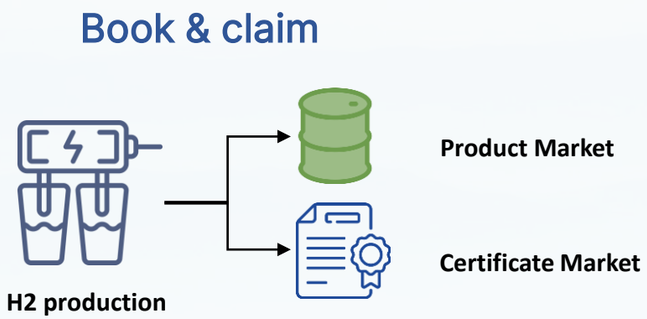
- name of the voluntary or national scheme;
- proof of sustainability number;
- sustainability and GHG emission savings characteristics;
- name of raw material or name of raw material that the fuel is produced from;
- fuel type (for fuels only);
- country of origin of raw material;
- country of fuel production;
- statement on whether the raw material or fuel complies with the criteria set out for low indirect land-use change-risk biofuels;
- information on whether support has been provided for the production of that consignment, and if so, the type of support scheme.

Transaction data:

- supplier company name and address;
- buyer company name and address;
- date of (physical) loading;
- place of (physical) loading or logistical facility or distribution infrastructure entry point;
- place of (physical) delivery or logistical facility or distribution infrastructure exit point;
- volume: For fuels, the energy quantity of the fuel must also be included. For the calculation of the energy quantity, conversion factors in Annex III to Directive (EU) 2018/2001 must be used.

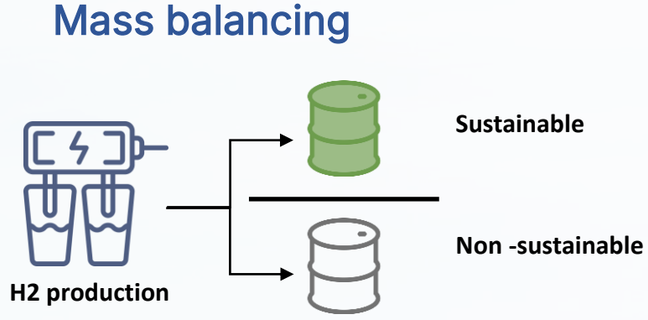
Chain of Custody Model

Guarantees of Origin (GO)



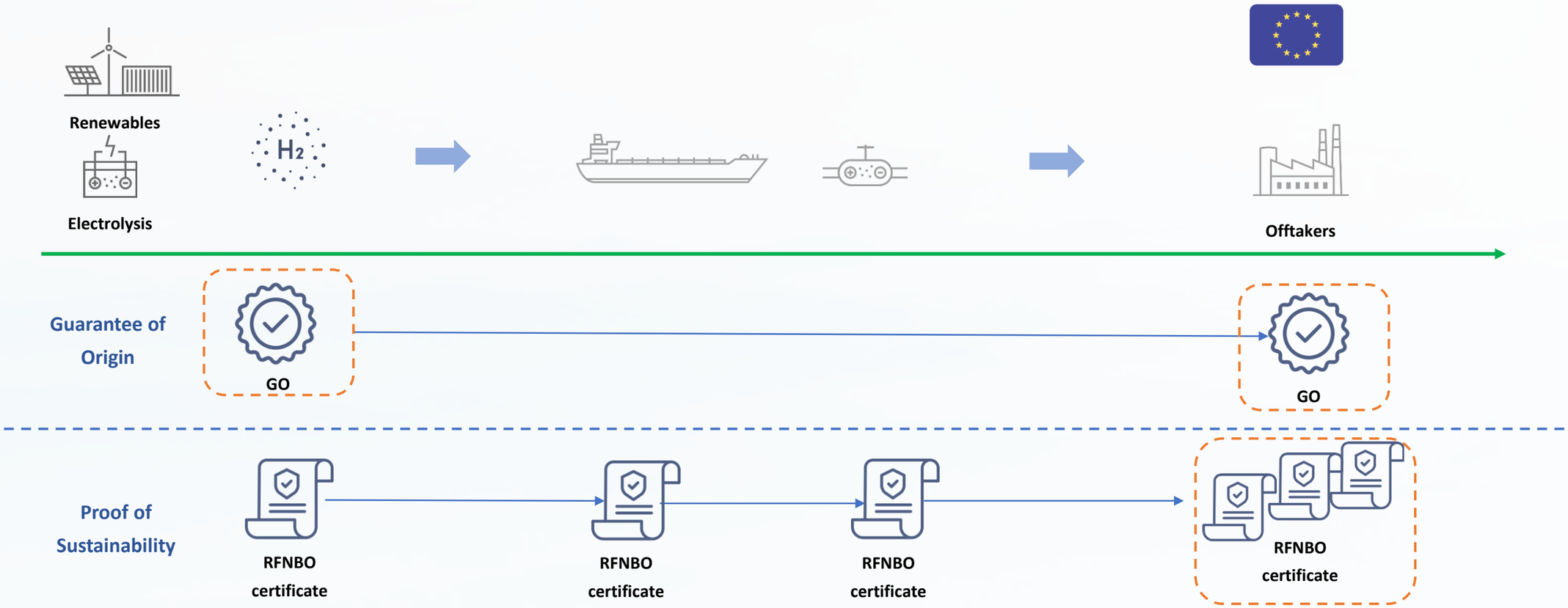
- Separation of physical products from certificates for commercial transactions.
- Customers can purchase certificates issued upon transactions to claim certified hydrogen.

Proofs of Sustainability (PoS)

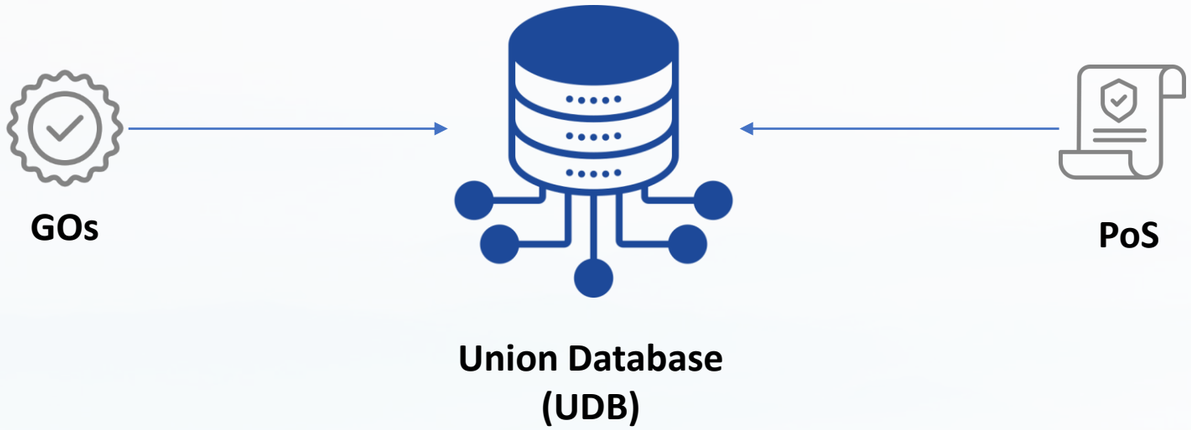


- Sustainable and non-sustainable products are kept separate throughout the value chain, ensuring clear traceability.

Hydrogen Supply Chain Certification



Hydrogen Certification and Union Database



RED III, Art 31a:

- Where **GOs** have been issued for the **production** of a consignment of **renewable gas**, Member States shall ensure that those GOs are transferred to the UDB at the moment when a consignment of renewable gas **is registered in the UDB** and are **cancelled** after the consignment of renewable gas is withdrawn from the Union's interconnected gas infrastructure.

- Such **GOs**, once transferred, **shall not be tradable outside the UDB**.

Issuance of Certificates

Guarantees of Origin (GO)

- GOs are issued **upon request of a producer** by **a governmentally appointed issuing body**.
- GOs must fulfil the requirements set out in the **EN16325 standard** on Guarantees of Origin.

Proofs of Sustainability (PoS)

- PoS should be issued through a **whole supply chain**.
- PoS should confirm a compliance with the **emission threshold**.

Issuing Bodies for GOs

- **24 Issuing Bodies** for gas GOs have been appointed by their governments, spread over **21 EU Member States and Switzerland**.

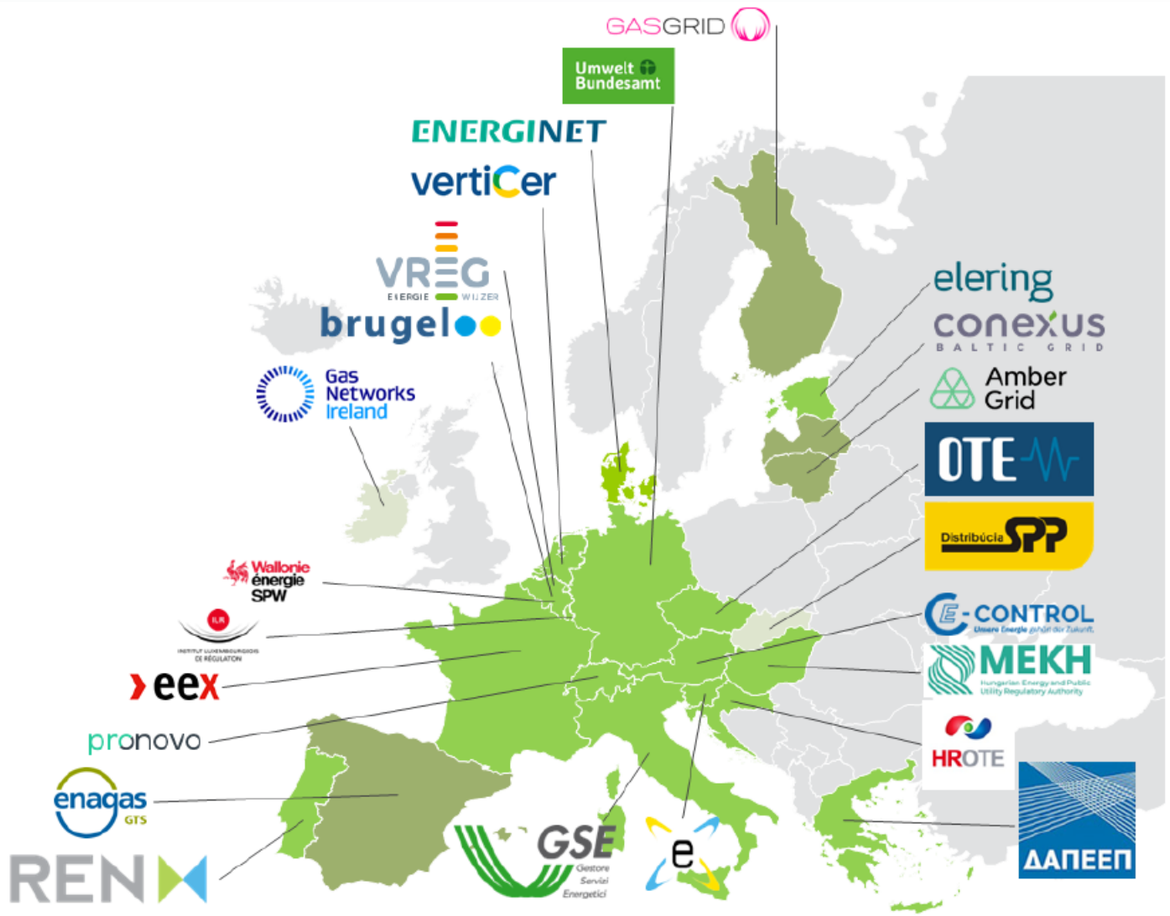


Figure 4: Countries where a Competent Body for gas GOs has been appointed. Countries in lime green have the same Competent Body for electricity and gas GOs, which is a Member of AIB. Dark green countries have separate Competent Bodies, both of which are AIB Members. Pale green countries (Slovakia and Ireland) have separate Competent Bodies, where the gas Issuing Body is not (yet) an AIB Member.

https://op.europa.eu/en/publication-detail/-/publication/3e25cfa2-03b3-11f0-9503-01aa75ed71a1/language-en?WT.mc_id=Searchresult&WT.ria_c=153343&WT.ria_f=8810&WT.ria_ev=search&WT.URL=https%3A%2F%2Fenergy.ec.europa.eu%2F

Recoglised Certification Schemes for RFNBOs

- Type of fuel(s): RFNBOs
- Geographic coverage: Global

- Type of fuel(s): All. The scheme covers biofuels, bioliquids and biomass fuels as well as RFNBOs and RCFs.
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- Geographic coverage: Global (selected countries for which REDcert has adopted a “country profile”)

https://energy.ec.europa.eu/topics/renewable-energy/bioenergy/voluntary-schemes_en

Interaction between GOs and PoS

GOs and PoS must work together, each fulfilling a unique but complementary role in tracking renewable gas.

GOs:

- are government-mandated instruments designed to prevent double counting by ensuring that claims are supported by a secure database.
- can be traded separately through a book-and-claim system or together with the gas via a mass-balance approach.

PoS:

- confirm compliance with sustainability criteria for specific production devices.
- is often a prerequisite for meeting certain policy targets at both the EU and national levels.

https://www.linkedin.com/posts/aib---association-of-issuing-bodies_gasdisclosure-guaranteesoforigin-sustainability-activity-7310582578321780736-RShe?utm_source=share&utm_medium=member_desktop&rcm=ACoAAAJiimABV4CnQ-gR5OP45J_DUi4JM0L6ThE

Interaction between GOs and PoS

GOs and PoS should be inseparable at the point of energy consumption where that specific unit of energy is claimed

- Where both exist for the same unit of energy, their separate trade risks double claims of the same unit of energy,
- Where no GO is issued, the energy covered in an PoS is already included in the residual mix.

https://op.europa.eu/en/publication-detail/-/publication/3e25cfa2-03b3-11f0-9503-01aa75ed71a1/language-en?WT.mc_id=Searchresult&WT.ria_c=153343&WT.ria_f=8810&WT.ria_ev=search&WT.URL=https%3A%2F%2Fenergy.ec.europa.eu%2F

Conclusions

- **GOs and PoS have differences in purposes, scope, chain of custody and issuing bodies;**
- **GOs and PoS issue in a different way through a hydrogen supply chain.**
- **GOs and PoS must work together, each fulfilling a unique but complementary role in tracking renewable gas.**