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Guarantee of origin (GO) for electricity from RES – German and Georgian experiences

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Energy Supply vs GO Trade

1. Introduction to Energy Certification and GO
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Energy Certification

Energy Certification

Energy Certificates provide a reliable method for the tracking of energy origin. The certificate is not attached to physical energy. Instead, energy attribute certificates are separate commodities. This allows consumers to choose which energy they want to consume. This helps generate market demand for clean energy.

What are Energy Certificates?

Energy Certificates track the origin of energy. Each certificate carries the information on how the energy it relates to was produced. The certificates can be issued for different energy carriers. For instance, the European Guarantees of Origin system includes electricity, gas but also hydrogen.

These certificates can be traded independently from the physical energy.

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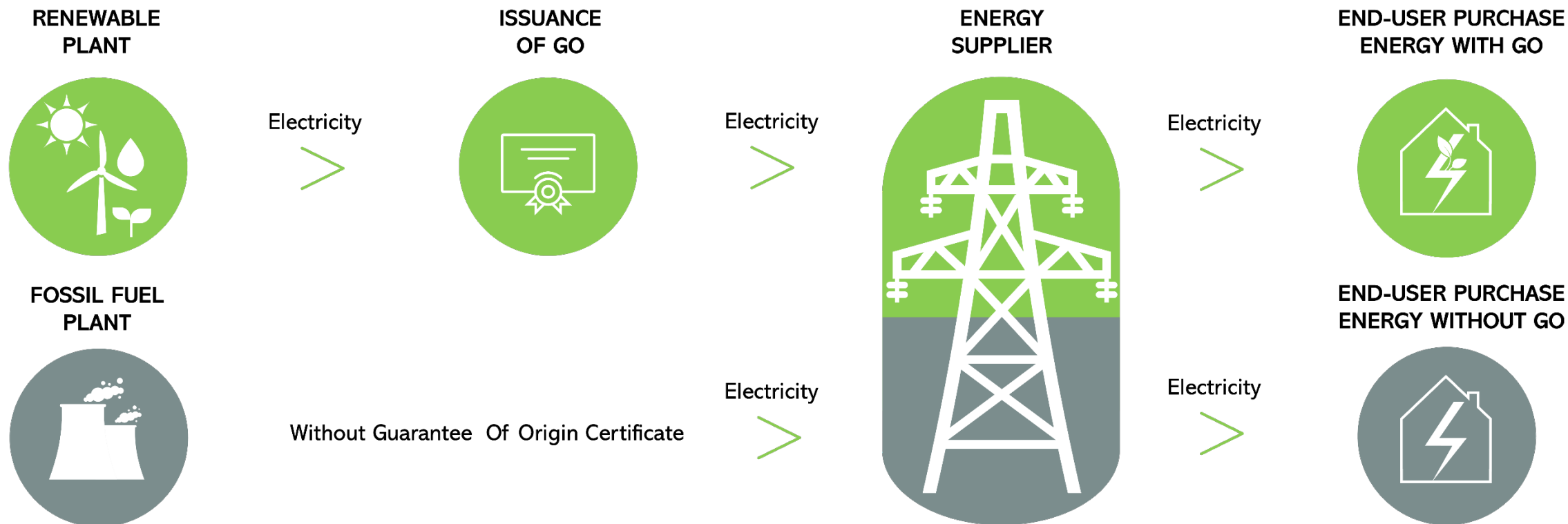# Energy Certification – GO

Certification Process

A competent body mandated by the government issues certificates according to an energy certification scheme, such as the European Energy Certificate System (EECS). The certificates can then be traded nationally and internationally, according to the rules of the certification scheme.

The certificates reach the end of their lifecycle either through cancellation or expiration. When the certificates are cancelled, they are labelled to represent either sold or consumed physical energy.
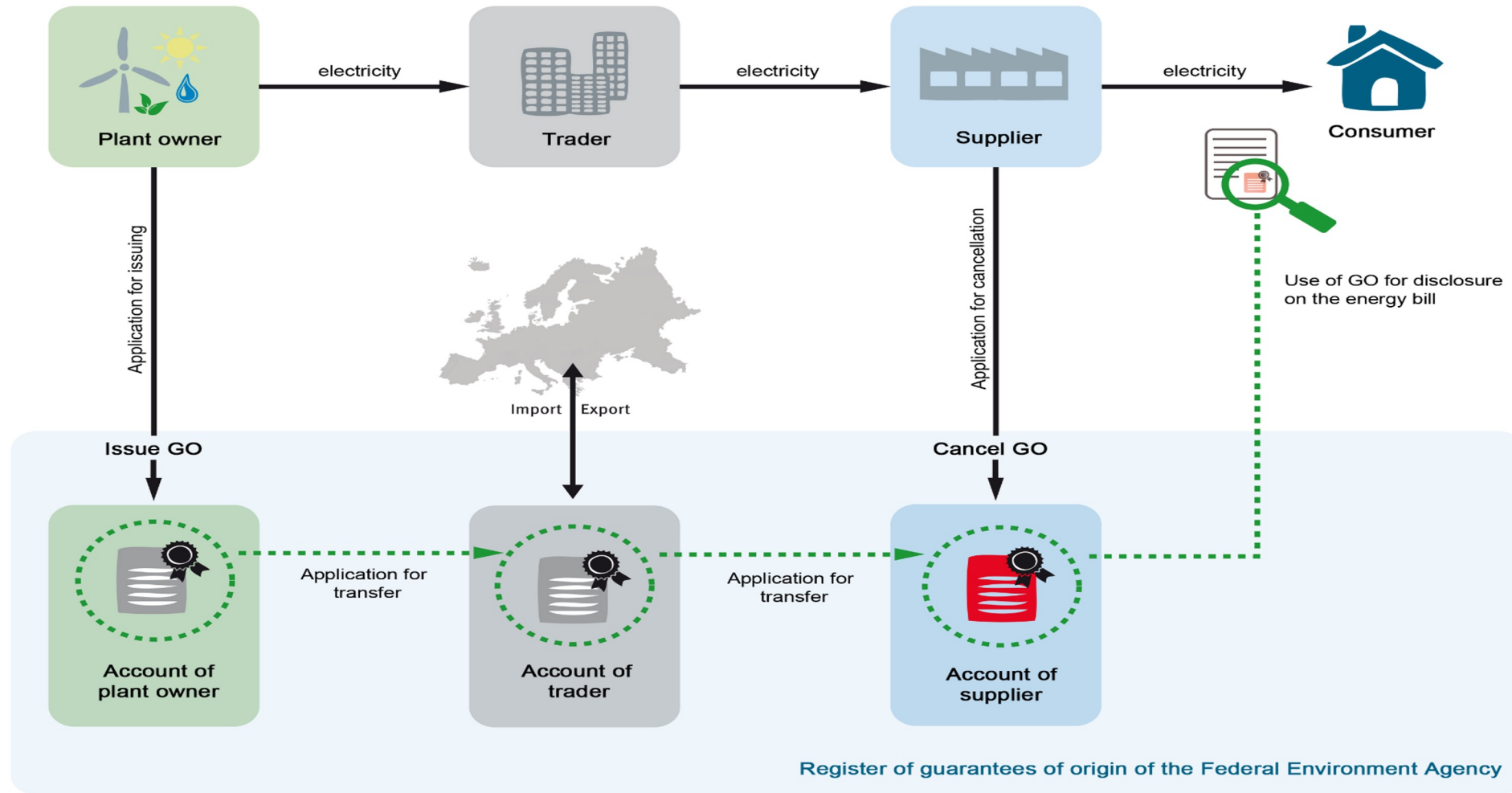
Energy Certificate

The European Guarantee of Origin (GO) is the most common Energy Certificate in the European market. Under Renewable Energy Directive II it can be issued to several energy carriers (electricity, gas, hydrogen, heating and cooling) and traded independently from physical energy to which it relates. In addition to RED II, the field is regulated by the CEN-EN 16325 standard and EECS.

Energy Supply vs GO Trade

RENEWABLE PLANT

Electricity >

ISSUANCE OF GO

Electricity >

ENERGY SUPPLIER

Electricity >

END-USER PURCHASE ENERGY WITH GO

FOSSIL FUEL PLANT

Without Guarantee Of Origin Certificate >

Electricity >

Electricity >

END-USER PURCHASE ENERGY WITHOUT GO

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Real World Examples: The GO System in Germany

First Summary

- GO is EU certification ensuring the renewable origin of energy

- It certifies that energy comes from sustainable sources like wind, solar, hydro, or biomass

- GO serves as a critical instrument in the promotion of renewable energy adoption, offering transparency in the energy market by guaranteeing the credibility of the energy's renewable origin

- By enabling consumers (businesses or individuals wishing to document the origin of their electricity consumption and its greenhouse gas footprint) to make informed choices about the energy they use, GO contributes to the broader sustainability goals of reducing carbon emissions and dependence on fossil fuels

- One Guarantee of Origin is equivalent to 1 MWh of electricity produced

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Legal Framework and Process

- The certification process for GO is regulated by specific directives within the European Union (the RES Directive 2018/2001/EC and its predecessor 2009/28/EC)
- These directives set out the standards and procedures for verifying and certifying the renewable origin of energy
- The process includes rigorous verification from energy generation through to obtaining the GO certification, ensuring transparency, credibility, and traceability of the energy's origin
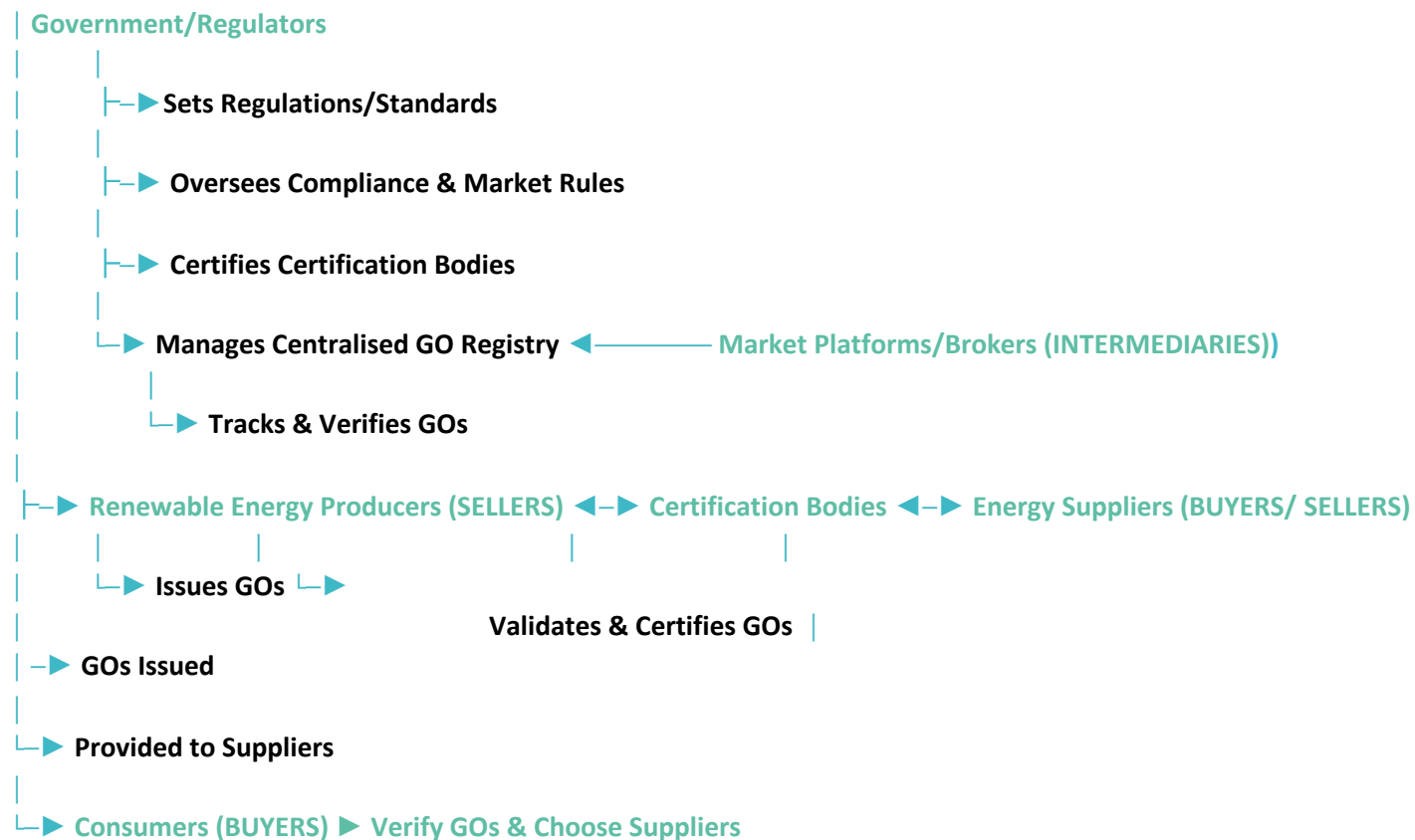
Standardized process:

Application for GO	Verifications of Energy Source	Certification Process	Issuance of GO Certificate

Ensures consumers and stakeholders that the energy they use or invest in is actually derived from renewable sources

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Overview of the GO Ecosystem and Roles

Government/Regulators

├─▶ **Sets Regulations/Standards**

├─▶ **Oversees Compliance & Market Rules**

├─▶ **Certifies Certification Bodies**

├─▶ **Manages Centralised GO Registry** ◀──── **Market Platforms/Brokers (INTERMEDIARIES))**

└─▶ **Tracks & Verifies GOs**

├─▶ **Renewable Energy Producers (SELLERS)** ◀─▶ **Certification Bodies** ◀─▶ **Energy Suppliers (BUYERS/ SELLERS)**

├─▶ **Issues GOs** └─▶

Validates & Certifies GOs

├─▶ **GOs Issued**

└─▶ **Provided to Suppliers**

└─▶ **Consumers (BUYERS)** ▶ **Verify GOs & Choose Suppliers**

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Energy Relations Enhanced by GO

GO Purchasing Options

- Through suppliers or wholesale markets
- Purchases directly from manufacturers or brokers

Impact on Cash Flow, not Grid Dynamics

- GOs don't affect electricity sales or grid operations
- Ensures transparent financial support to producers

Empowering Consumer Choice

- Customers support specific plants, technologies and locations
- Support recent projects or certified labels

Tailored Renewable Energy Solutions

- Meets renewable energy needs within a country or multiple markets
- Adapts based on business location and preferences

Power to Choose: Consumers are Empowered by GO in Energy Relationships

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Benefits and Impact of GO on Electricity Producers and Consumers

Aspect	Electricity Producers	Consumers (Businesses/Individuals)
Certification of Renewable Energy	Allows certification of energy from renewable sources	Ensures transparency in the use of renewable energy
Market Credibility	Enhances credibility by showcasing commitment to renewables	Builds trust and credibility in energy sourcing
Access to Green Markets	Provides access to green energy markets and improves market opportunities	Enables informed choices in purchasing renewable energy
Compliance with Regulations	Ensures compliance with regional and national mandates	Supports Corporate Social Responsibility initiatives, aligning with sustainability goals
Encouragement for Investment	Encourages investments in renewable energy infrastructure	Reduces carbon footprint and supports cleaner energy, environmentally responsible choices

GO
- Increased Trust
- Higher Transparency

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Expected Future Trajectory of GO Development

→ **Technological Advancements:** Ongoing technological advancements, including blockchain and smart grid integration, are revolutionizing GO tracking and certification, ensuring heightened accuracy and transparency in renewable energy sourcing

→ **Policy Evolution and Market Integration:** Anticipated policy evolutions are poised to streamline GO frameworks, fostering cross-border trade and the integration of renewable energy markets

→ **Consumer-Centric Solutions:** Simplified GO certification procedures are set to cater to rising consumer demand for green energy, enhancing accessibility and participation

→ **Global Expansion and Harmonisation:** The potential for GOs to become a global benchmark underscores challenges in aligning diverse systems while aiming for harmonisation and broader international acceptance

→ **Environmental Impact and Climate Goals:** GOs continue to play a pivotal role in reducing emissions and advancing renewable energy sources, driving progress toward global climate objectives

→ **Industry Collaboration:** Collaborative efforts among energy sectors, technology innovators, and policymakers are propelling innovations within GO systems, fostering future advancements

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Some Examples of '100% renewable' Companies

Name			Joining year	Target year	ℹ	Industry	Headquarters	
3M	3M	GOLD MEMBER	2019	2050		Materials	United States of America	+
accenture	Accenture	GOLD MEMBER	2019	2023		Services	Ireland	+
Adobe	Adobe	GOLD MEMBER	2015	2025	↓	Services	United States of America	+
airbnb	Airbnb	GOLD MEMBER	2021	2021		Hospitality	United States of America	+
ABInBev	Anheuser-Busch InBev	GOLD MEMBER	2017	2025		Food, beverage & agriculture	Belgium	+
Apple	Apple	GOLD MEMBER	2016	2021		Manufacturing	United States of America	+
AstraZeneca	AstraZeneca	GOLD MEMBER	2016	2025		Biotech, health care & pharma	United Kingdom	+

EY	EY	GOLD MEMBER	2022	2025		Services	United Kingdom	+
First Solar	First Solar	GOLD MEMBER	2020	2028		Manufacturing	United States of America	+
Fujitsu	Fujitsu	GOLD MEMBER	2018	2030	↓	Services	Japan	+
gm	General Motors	GOLD MEMBER	2016	2035		Manufacturing	United States of America	+
Google	Google	GOLD MEMBER	2015	2017		Services	United States of America	+
BIMBO	Grupo Bimbo	GOLD MEMBER	2018	2025		Food, beverage & agriculture	Mexico	+
HYUNDAI	Hyundai Motor Company	GOLD MEMBER	2022	2045		Manufacturing	Republic of Korea	+

THANKS FOR YOUR ATTENTION

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