What is a Guarantee of Origin?

What is the role of the Association of Issuing Bodies - AIB?
authentic
/ôTHen(t)ik/

adjective

1. of undisputed origin; genuine.
Supplying electricity

Simple right?

Basically, an electricity supplier is acting as a *contractual and financial link* between *producer* and *consumer*.

With the grid taking care of the *physical* supply.
Simple? With 2 production facilities...

...things get a little more complicated already
On the electricity grid, power has neither *smell*, nor *colour*.

That distinguishes electricity from other products: it’s impossible to *label*, nor to *package* the *green* electricity separately!

So, are electricity consumers therefore destined to *passively* accept the grid mix?
And if we now add a second consumer...

...things tend to get really complicated!

How to make the consumption of green electricity reliable?
Guarantees of Origin: the principle...

Issuing body

... is “book and claim”
Now, let’s look at supplier switching

Did switching suppliers change anything to the flow of electricity?

... is also using “book and claim”
Energy Attribute Certificates

Concept of EACs is universal and getting more and more acceptance worldwide

There are many versions:
• Renewable Energy Certificates (RECs)
• iRECs
• Guarantees of Origin
• T-RECs
• ...

Focussing on Europe, we are talking about Guarantees of Origin (GO) here
Association of Issuing Bodies (AIB)

- Not-for-profit Brussels-based association - AiSBL
- 21 countries connected (24 members) so far
- Stakeholders: consumers, markets, governments, EU Commission
- Developer and custodian of the EECS™ standard
- All of the AIB’s members are competent bodies for GOs
- About half of members are also competent bodies for disclosure
- 30% annual RES production is certified with EECS-compliant (AIB) GOs in EU, EEA, Energy Community + Switzerland
- ... and the vast majority of GO-guaranteed renewable electricity production
Association of Issuing Bodies (AIB)

- **Initiator and Governor of EECS**
  European Standard for Guarantees of Origin

- **Maintains the AIB HUB, providing secure inter-registry communication**

- **Why? So consumers can...**
  - Choose the origin of their electricity freely (‘Vote with their feet’)
  - Take **responsibility** for their impact on the environment and are able to influence it
  - Trust that electricity tracking works and does not lead to double-counting
Evolution of the GO

Concept of GO

What is a GO?

What are GOs used for?

GOs are for Disclosure

CEP

2001/77/EC, Art.5

EECS PRO

Agreed by 11 Members

New RES directive:
- Information content of GO
- Electronic
- 1 MWh
- Link with disclosure
- Not for targets

2003/54/EC, Art.3, p.6

EECS Rules

Adaptation to new Directive

PRO → EECS Rules

Revision of the RES Directive in Clean Energy Package

2001

RECS test phase

Birth of GOs

2001/77/EC, Art.5

2002

Electricity Disclosure

2003/54/EC, Art.3, p.6

2003

2005

2009

2011

2018

Go for Disclosure
Power of the Voluntary Market

Annual EECS transactions by transaction date (TWh)
Where do they come from / go to? (2018)

2018 Issue
- Sweden: 9%
- Austria: 2%
- Belgium Flanders: 1%
- Switzerland: 10%
- Germany: 3%
- Denmark: 3%
- Spain: 16%
- Norway: 21%
- Iceland: 3%
- France: 8%
- Italy: 14%
- Netherlands: 4%

2018 Cancel
- Belgium Flanders: 1%
- Belgium Wallonia: 1%
- Switzerland: 11%
- Germany: 19%
- Denmark: 2%
- Spain: 13%
- France: 6%
- Finland: 5%
- Iceland: 1%
- Italy: 9%
- Luxembourg: 1%
- Netherlands: 10%
What is produced / what do consumers buy? (2018)

2018 Issue
- Hydropower: 61%
- Nuclear: 4%
- Fossil - Unknown: 1%
- Fossil - Gaseous - Natural gas: 1%
- Wind-onshore: 11%
- Wind-offshore: 1%
- Wind-unknown: 7%
- Solid municipal waste: 1%
- Black liquor: 1%
- Ind.& Comm.waste: 1%
- Other biogas: 2%
- Solid renewable fuels: 1%
- Solid - agricultural biomass: 1%
- Geothermal: 1%
- Solar: 4%

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Explanation: issued=produced
cancelled=bought
Why have standards?
Implementation of GOs in Europe

What do you mean the energy source is renewable??? It should be either Hydro, Bio, Wind, Solar...

Guarantees of Origin
2009/28/EC, Art. 15 Par.9: Member states shall recognize guarantees of origin issued by other Member States...

National GO Legislation

We can’t accept strange versions of GOs

What do you mean by ICS: Naturemade-GO? Is it a GO or not???

Don’t send us JSON messages! We can only read XML. How can the plant ID number be 1? What is "Product Status"?

You also allow Contract-Based Tracking??? Are you crazy?

Please don’t tell me the plant hasn’t been audited! How can we ensure its reliability?

What do you mean the energy source is renewable??? It should be either Hydro, Bio, Wind, Solar...
AIB HUB

- One to many Hub and spoke model
- Cost efficient international transfers
- Uniform (but can get even better)
- Trustworthy

Standardised!
Are you making a difference when you buy green electricity?

Greenwashing?
‘Greening coal power’ is not possible, you can only buy electricity and buy GOs to make sure that you use green electricity. But electricity suppliers should inform consumers to the extent they desire!

Additionality?
A rising demand for electricity from renewable sources will contribute to more production. It’s basic economics!

GO is not a homogeneous, generic instrument: you can ask for locally produced, for specific technologies,...!
Google it! Additionality

“Additionality is a tricky concept”

Imagine a power company built a wind farm many years ago. They built it because they thought it was good business at the time, but the fact that it was a renewable resource was not important to their decision. They currently sell the power into the grid, and they’re happy with their investment. Moreover, this power company has no plans to build any more wind farms. The company figures it could sell Google the output of their wind farm; for their existing customers, they would just make up the difference by buying some other source of energy, perhaps from the coal plant down the street.

Say the wind project doesn’t yet exist. There is a company that wants to build one, but they need a reliable customer to help them make the project financially sound. In this scenario, signing up would spur the development of additional renewable power.

Perhaps a company does own an operating wind project, and is known to be a serial developer of renewable energy projects. They use the cash flow from the project to finance the next one or to convince Wall Street that they have bankable income. In this case, we would consider the power from this wind farm as additional since we have confidence that the proceeds will be used to finance additional renewable power.
Corporate consumers are getting pickier and rightly so!

*Trends:*

Locally produced

From particular (renewable) sources:

- Solar
- Wind
- Hydro
- ...

Unsupported production

From recently build facilities

Or a combination of all of the above...

GOs facilitate such choices!
RED II

GOs in the Clean Energy for All Europeans Package
GO Process Reliably Harmonised from Cradle to Grave

- Uniqueness
- Immutability
- Plant registration
- Information content
- Issue, transfer, cancel
- Error handling
- Measurement criteria
- National subsidiarity
- Legal Framework
- Reviews and audits
- ...
What’s good in RED II?

- Use of GOs for disclosure of RES electricity
- GOs contribute to Residual Mix
- Role of High Efficiency Cogeneration (HEC) GOs clarified
- Extension to Renewable Gas
- Simplified info on GOs for small production devices
- Allows purchases of GOs direct from producers
- GOs for Heating and Cooling from renewable sources
- Explicit possibility to issue GOs for fossil and nuclear at MS level
What’s not so good?

- Residual Mix still needed

Compliance with CEN-CENELEC - appropriate?

Minimum Capacity for GOs

Variable lifespan of a GO

Scope of GO still isn’t fully regulated

Rules for issuing and cancelling RES, HEC and Non-RES GOs should be consistent
AIB - guaranteeing the origin of European energy

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