Japan Society of Public Utility Economics

In co-operation with Denki-Shimbun

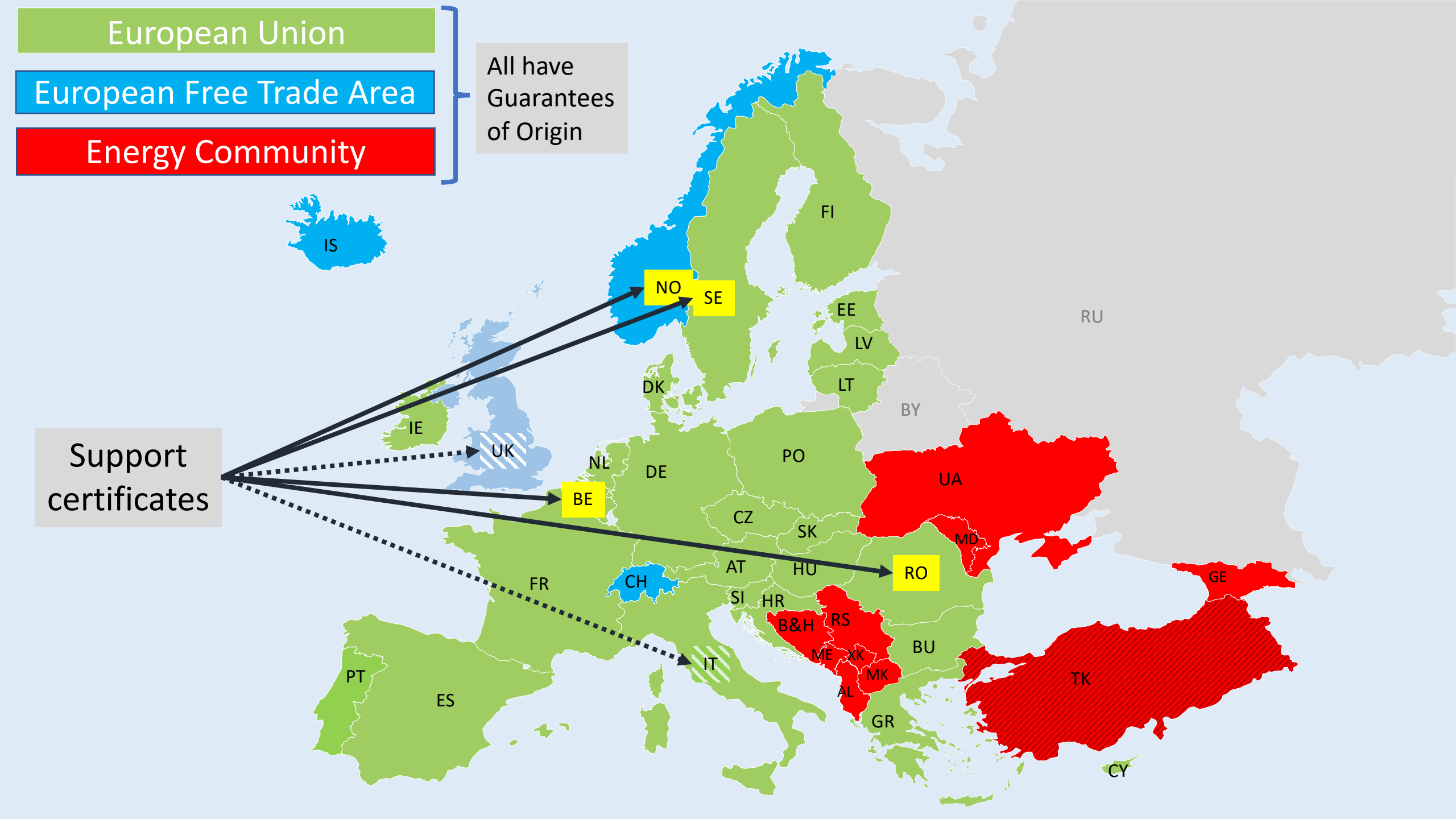
13th September 2021, 08:00-09:30 BST

EnergyTag

Philip Moody

(Chair, EnergyTag Initiative, and Secretary General of AIB 2002-2020)

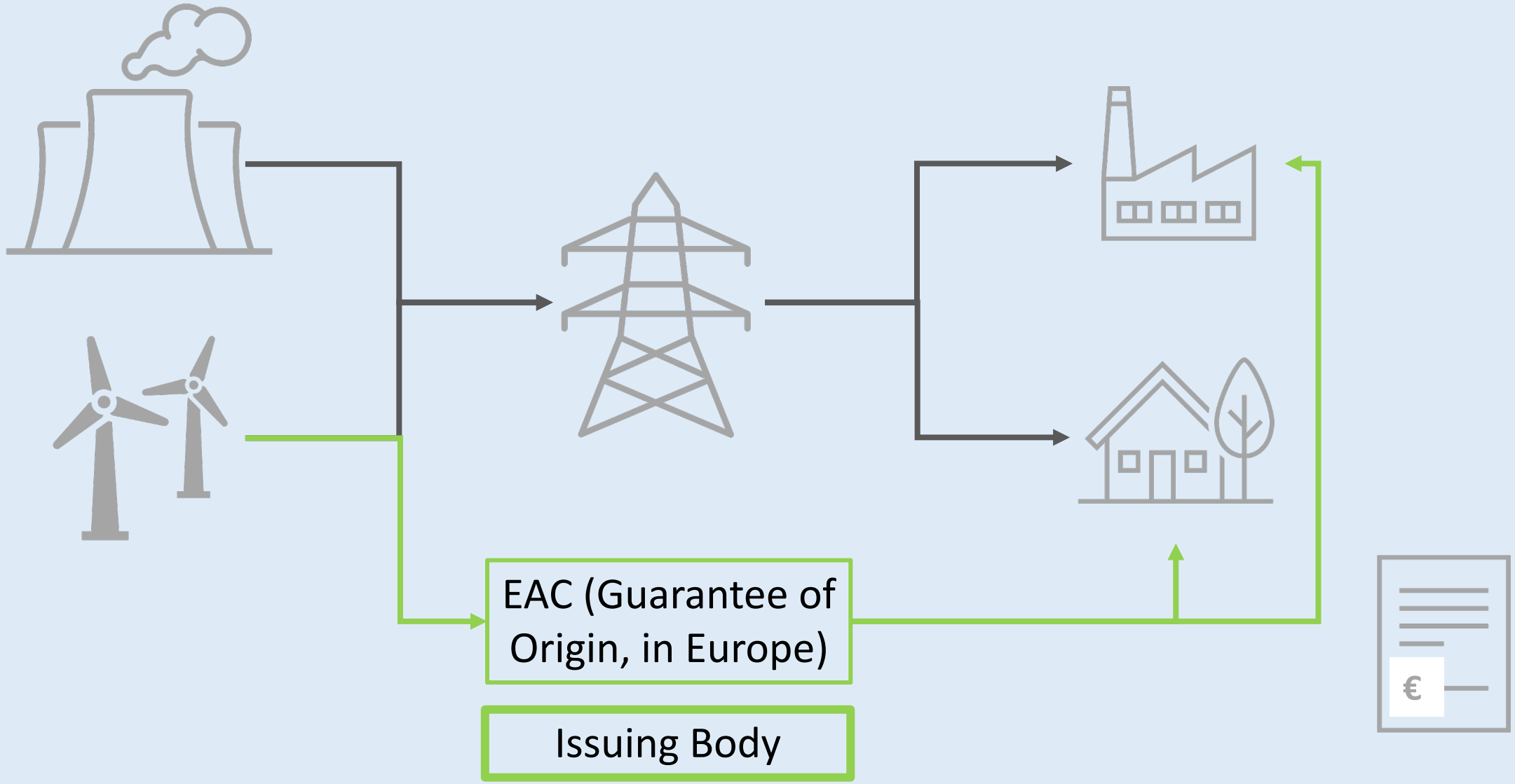
Overview of renewable energy certificates (RECs) in EU and related countries


European Union
European Free Trade Area
Energy Community
All have Guarantees of Origin
Support certificates
IS
NO
SE
FI
EE
LV
LT
RU
BY
DK
IE
UK
NL
DE
PO
BE
UA
CZ
SK
MD
AT
HU
RO
FR
CH
SI
HR
B&H
RS
BU
ME
XK
MK
AL
GR
TK
GE
IT
PT
ES
CY

History of Energy Attribute Certificates (EACs) – the early days

1990	Swap contracts between electricity producers and suppliers in administrations with different eligibilities for public support
1994-95	Concept of commoditising “greenness” appears
1997	USA Renewable Portfolio Standards, to encourage renewable energy Dutch Green Certificate System, only in Netherlands
1999-2002	RECS Initiative: international trade in EACs across western Europe Formation of Association of Issuing Bodies to design & manage the system
	Australian renewable energy certificate system
	UK Climate Change Levy Exemption certificates (LECs) UK Renewable Obligation Certificates (ROCs)
	… and others

The principles of Energy Attribute Certificates (EACs)



Guarantees of Origin

Concept of GO

What is an EECS-GO?

What are GOs used for?

GOs are for Disclosure to consumers

AIB

Basic Commitment - concept

Principles & Rules of Operation

European Energy Certificate System Rules

Birth of GOs
RES Directive
2001/77/EC (Art. 5)

Electricity Disclosure IEM Directive
2003/54/EC (Art. 3)

Directives
- RES: 2009/28/EC
  Define GO and its data
- Disclosure: 2009/72/EC
- CHP: 2003/54/EC

PRO → EECS
Adapt to latest Directives
CEN standard agreed

Directives
- RES: 2018/2001/EC
- Internal Energy Market: 2019/944/EC

CEN std & GO system revision

2002 | 2006 | 2010 | 2014 | 2018

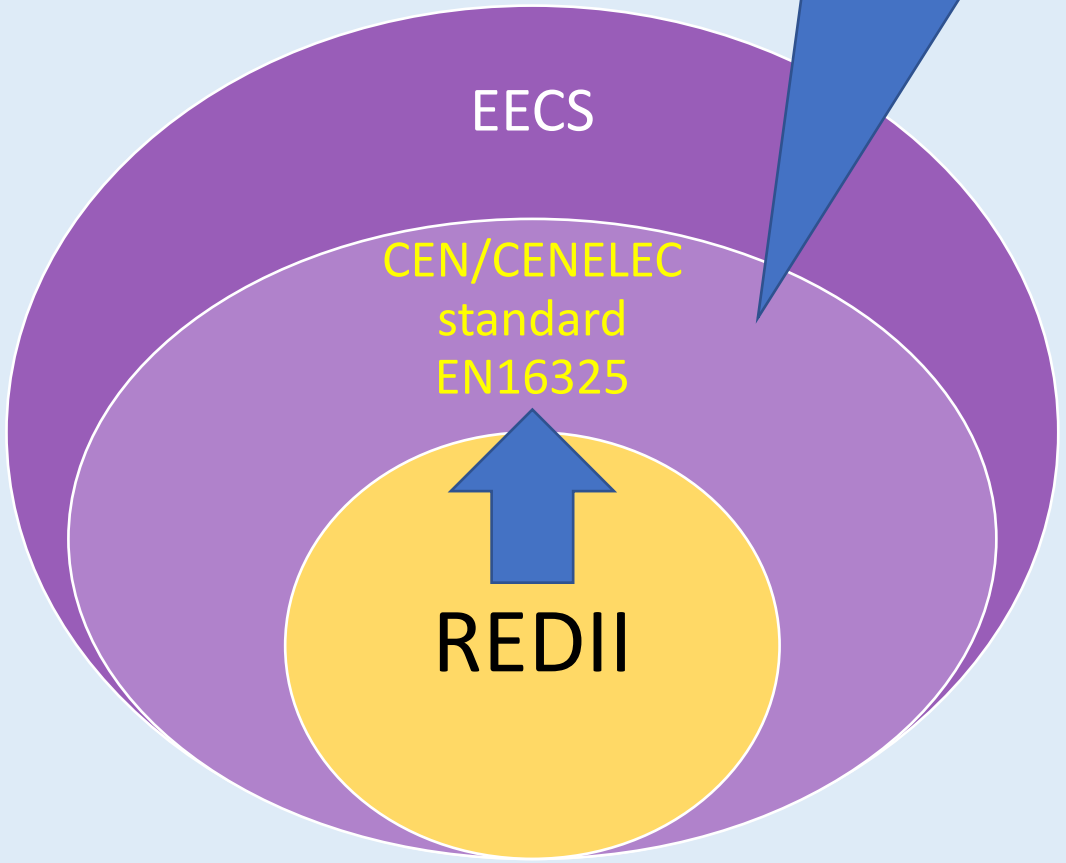
Guarantees of origin

3. Efficient and reliable GO system – voluntary standard

2. Reliable GO system – mandatory standard

1. GOs are for disclosure – legislation

New version will:
- ✓Facilitate multi-energy carrier
- ✓Support REDII
- ✓Integrate improvements from practice



Size of the market for electricity GOs

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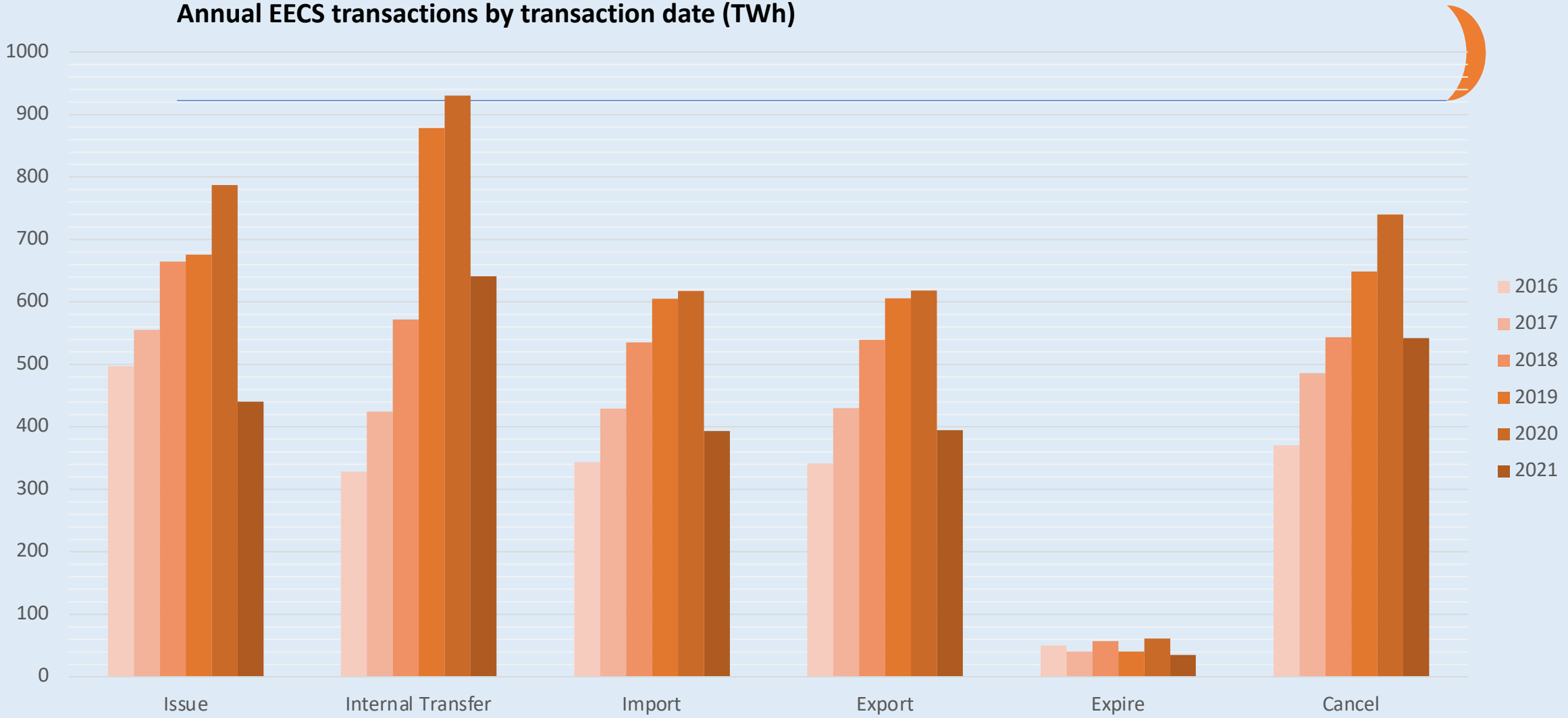
Price of a GO varies with energy source & year
- Currently €0.40-0.80
- Peaked in 2018 at €2.10



EnergyTag

Need for change

- **Should match production & consumption in real time, not averages**
  - Inappropriate to match average production with summer consumption
- **Matching period should be an hour or less**
  - Inappropriate to match night-time production with afternoon consumption
- **Need to support storage & demand flexibility**
- **Calculated carbon emissions should relate to actual plants at specific season & time of day**
  - Current practice of deriving emissions from fuel source does not account for:
    - *The efficiency of the generator producing electricity at that time*
    - *Whether or not that plant was operating at the time of consumption*
- **Restricting EACs to renewables, and excluding fossil and nuclear fuel, makes it hard to calculate the residual mix (supply which is not supported by EACs)**

EnergyTag objective

A 24/7 hourly accounting period for EACs lets consumers understand exactly where their energy comes from, and what their carbon emissions are, at any given moment:

- Builds trust by linking production to consumption in ‘real-time’
- Supports storage and flexibility by providing a new price signal
- Enables accurate carbon accounting by tracking hourly carbon data
- Supports new market models such as nodal pricing

Our goal is to establish a common, tradable instrument that provides traceability across markets for power, flexibility and carbon.

Google, Microsoft, other companies pursue new certification to back 24/7 clean energy claims

Whitepaper Launch:

- Whitepaper published 19th May
- More than 40 press mentions
- 110 organisations publicly mentioned in the report
- More than 100 new organisations have signed up since then

Current activities:

1. **Develop more detailed guidelines for hourly certificates**

2. **Oversee progress on demonstrator projects:**
   - Progress reports on six projects live by end 2021
   - Add 4 new projects

3. **Continue to build awareness, and gain participants in hourly certificate systems**

Hot Topics under discussion

Section	Issue
Fundamentals	Basic purpose of Granular Certificates
	Granular Certificate System Boundaries
	Relationship between transfer of GCs and physical energy transmission
Major Issues	Link/integration with an existing energy attribute certificate (EAC) system
	Transition from existing to proposed GC systems
	Role allocation
	Attributes on a granular certificate (GC)
	Size of GC - fractions etc.
	Methodology for determining greenhouse gas (GHG) emissions
	Time zones
	Metering data
	Prevention of double counting
	Storage
	Period of validity of a granular certificate

Section	Issue
Other Issues	Systems architecture
	Consumption matching (=cancellation “timebox”)
	Fraud detection and prevention
	Market design
	Linkage with support systems
	Sector coupling
	Eligibility of energy / onsite demand/production (also known as “self-consumption”)
	Definition of auxiliaries
	Residual mix calculation

For more information or to express interest see:

www.energytag.org

Also see:

www.aib-net.org