REGATRACE

Renewable Gas Trade Centre in Europe

AIB, EECS,

and its application to renewable gases

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Milan
5/12/2019

This project receives funding from the European Union's Horizon 2020 Framework Programme Research and Innovation under Grant Agreement no. 857796

Agenda

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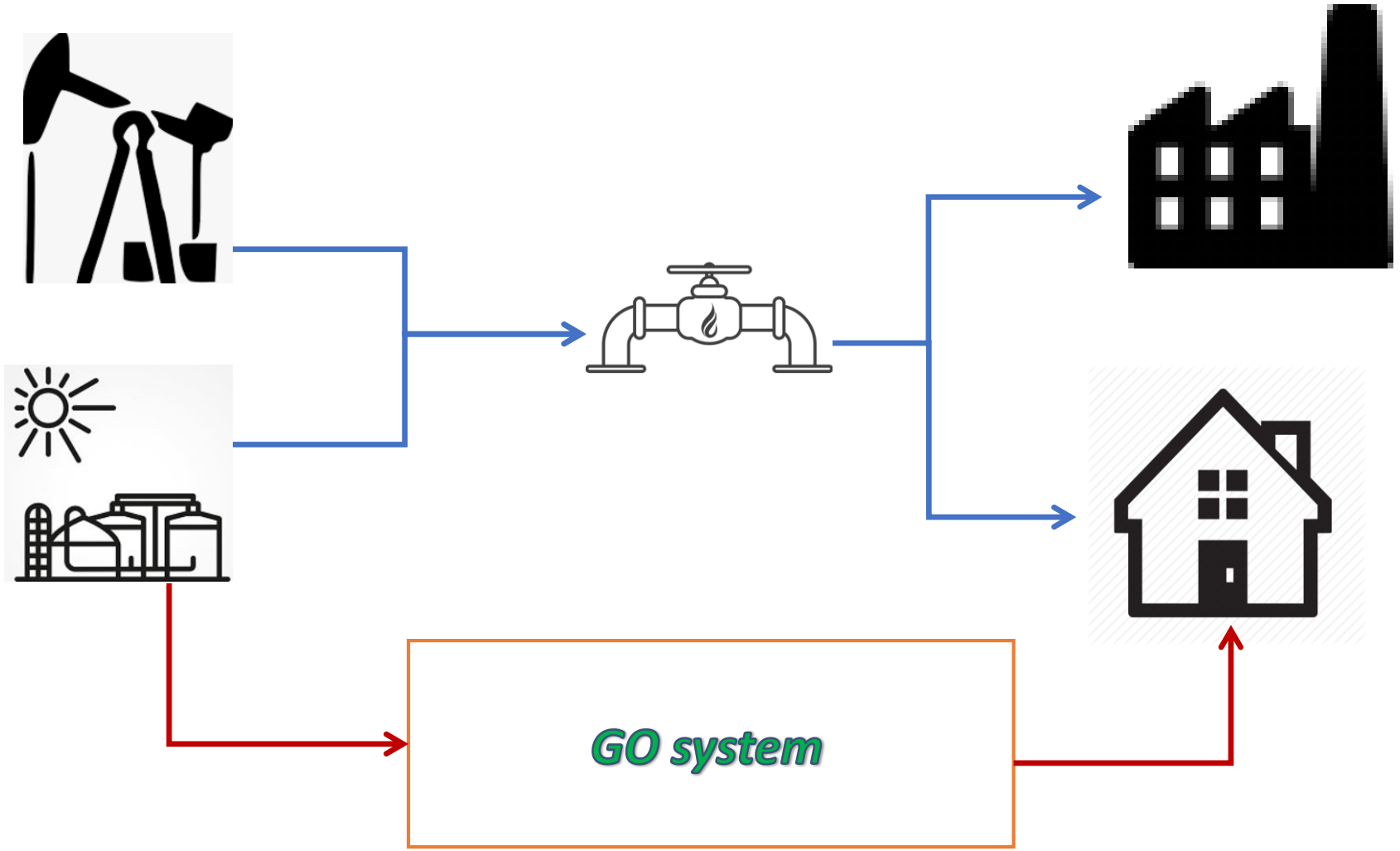
- AIB
  - The AIB & member activity
  - Standards: why are they needed, and EECS
  - History and future
  - Gas

Guarantees of Origin



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Association of Issuing Bodies (AIB)

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Renewable Gas Trade Centre in Europe

- **Not-for-profit Brussels-based association - AISBL**
- **24 countries connected (27 members)**
- **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 AIB's members are also competent bodies for disclosure**

Association of Issuing Bodies (AIB)

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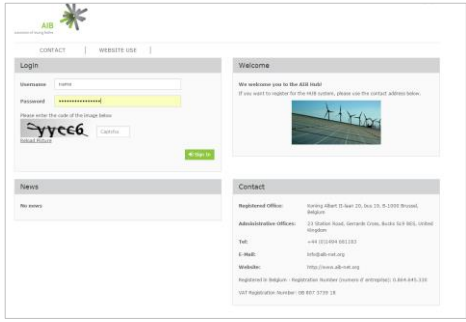
- Initiator and Governor of EECS
  European Standard for Guarantees of Origin

EECS
EUROPEAN ENERGY CERTIFICATE SYSTEM



- 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

Association of Issuing Bodies (AIB)

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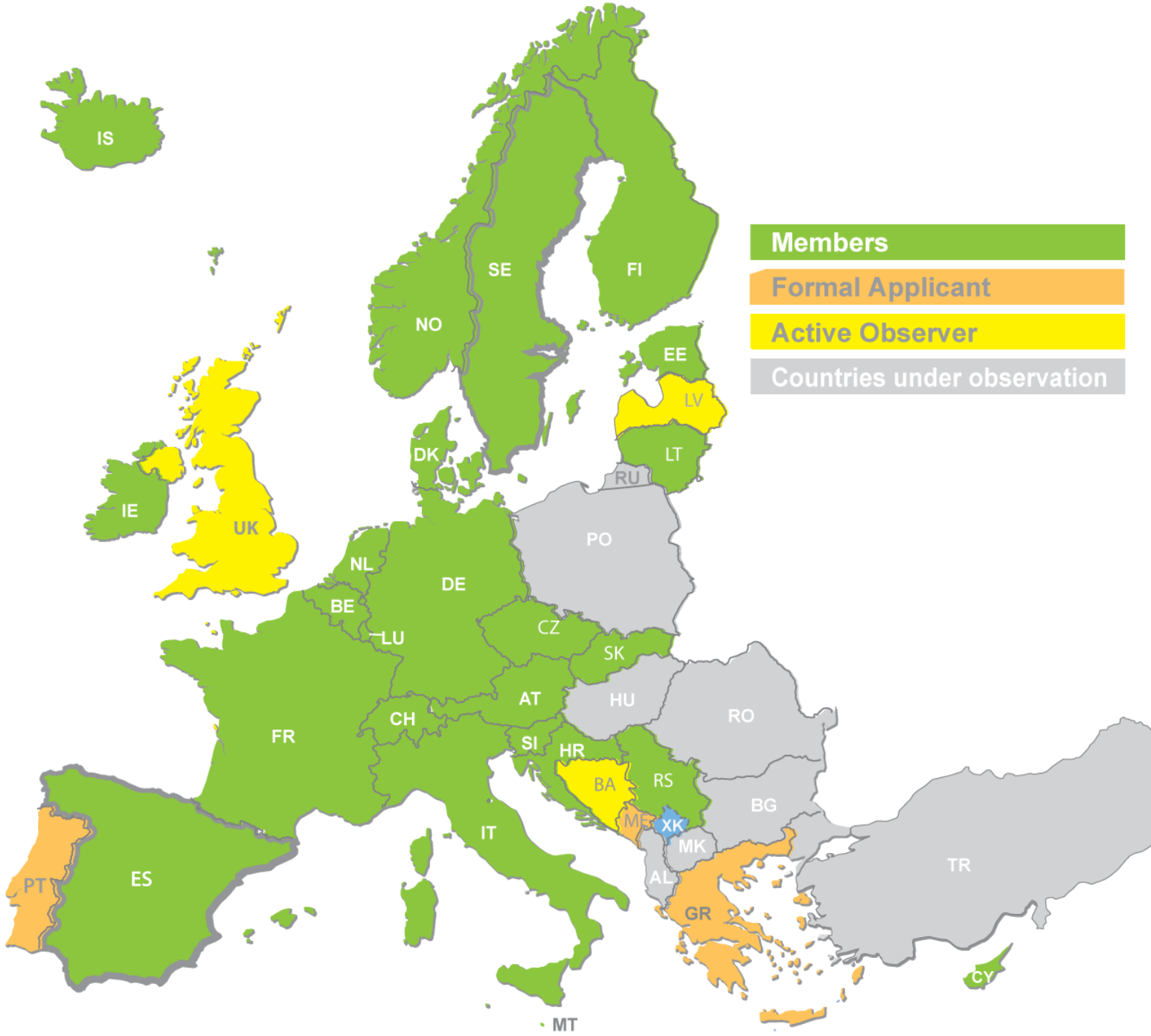
Renewable Gas Trade Centre in Europe

- Common standard (CEN standard EN16325 is embedded into EECS)
- Implements RES, IEM & EE Directives
- Opportunity to influence system & Hub design
- Learning from other members
- Tried and tested system, ready to use ‘straight from the box’
- One-to-many connection through the Hub
- Low-cost implementation

AIB

Member countries:



Latest members: Greece, Slovakia, Serbia
Latest applicants: Montenegro, Portugal

Evolution of EECS GO

Concept of Energy Certificates

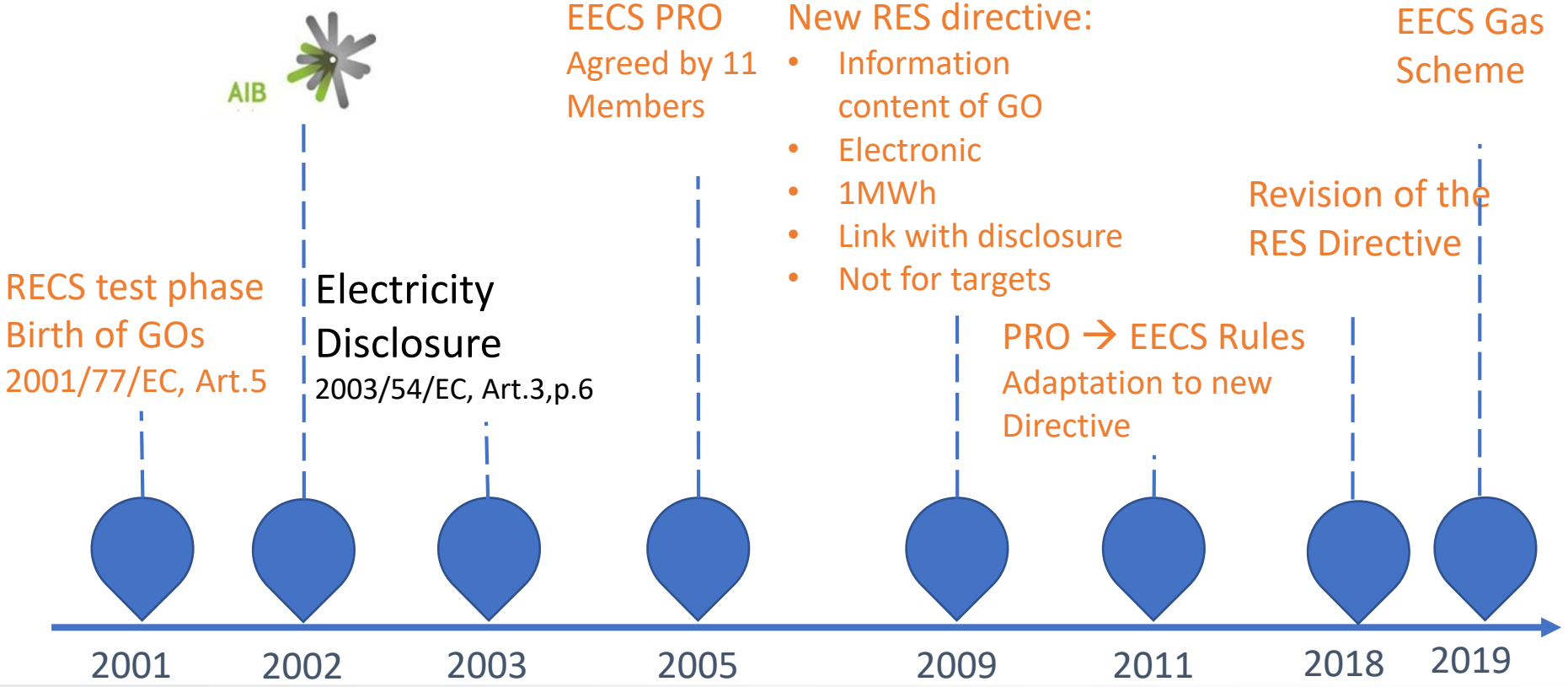
What is an EECS-GO?

Multipurpose and multi energy carrier certificates

What are GOs used for?

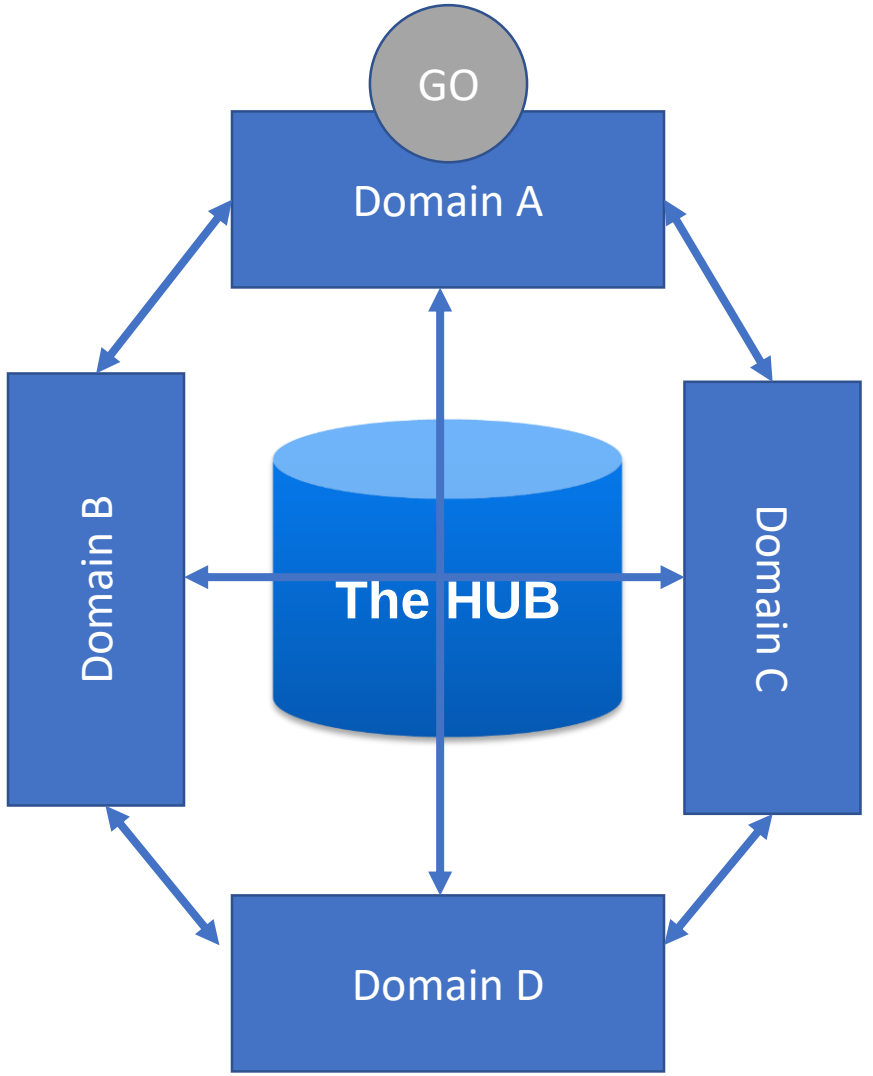
GOs are for Disclosure

GOs for other energy carriers



AIB HUB

- **2005: HubCom**
  - Common technical standard for GO registries
- **2006: Hub v1**
  - Pilot
- **2011: Hub v2**
- **2016: Hub v3**
  - Fully functional
  - Secure
  - Evolving



Power of the voluntary market

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Electricity GOs consumed ("cancelled") till 2018

Market demand for renewable electricity documented with Guarantees of Origin in Europe

Q4 2018

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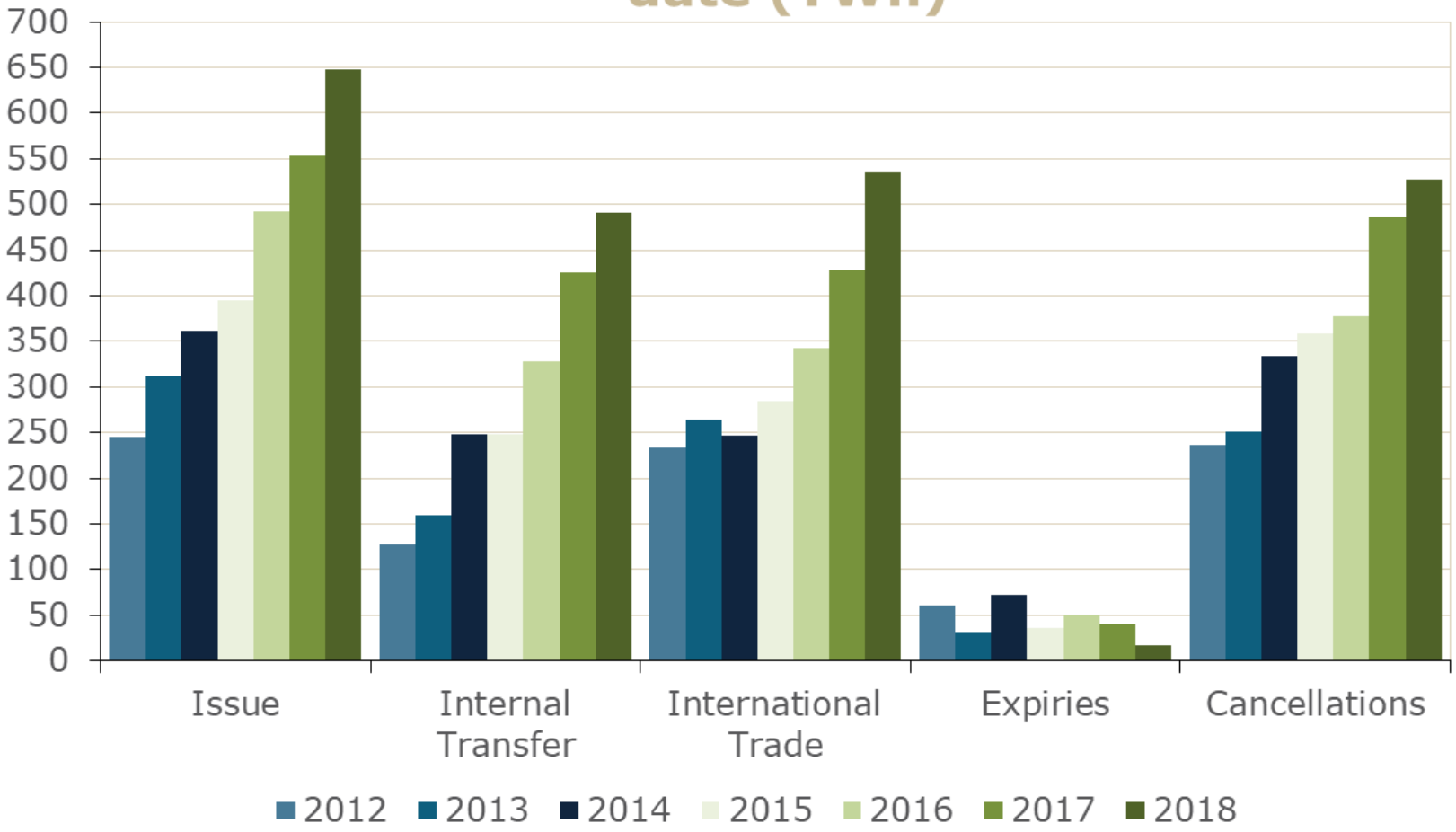
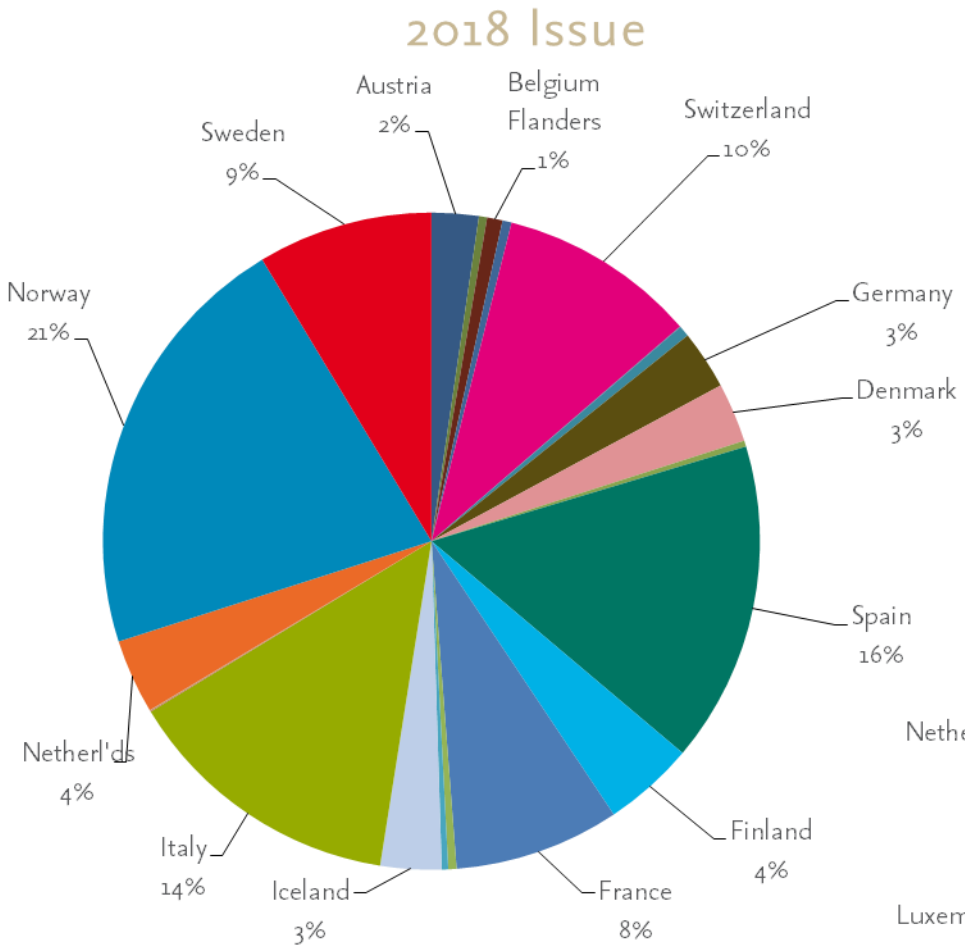
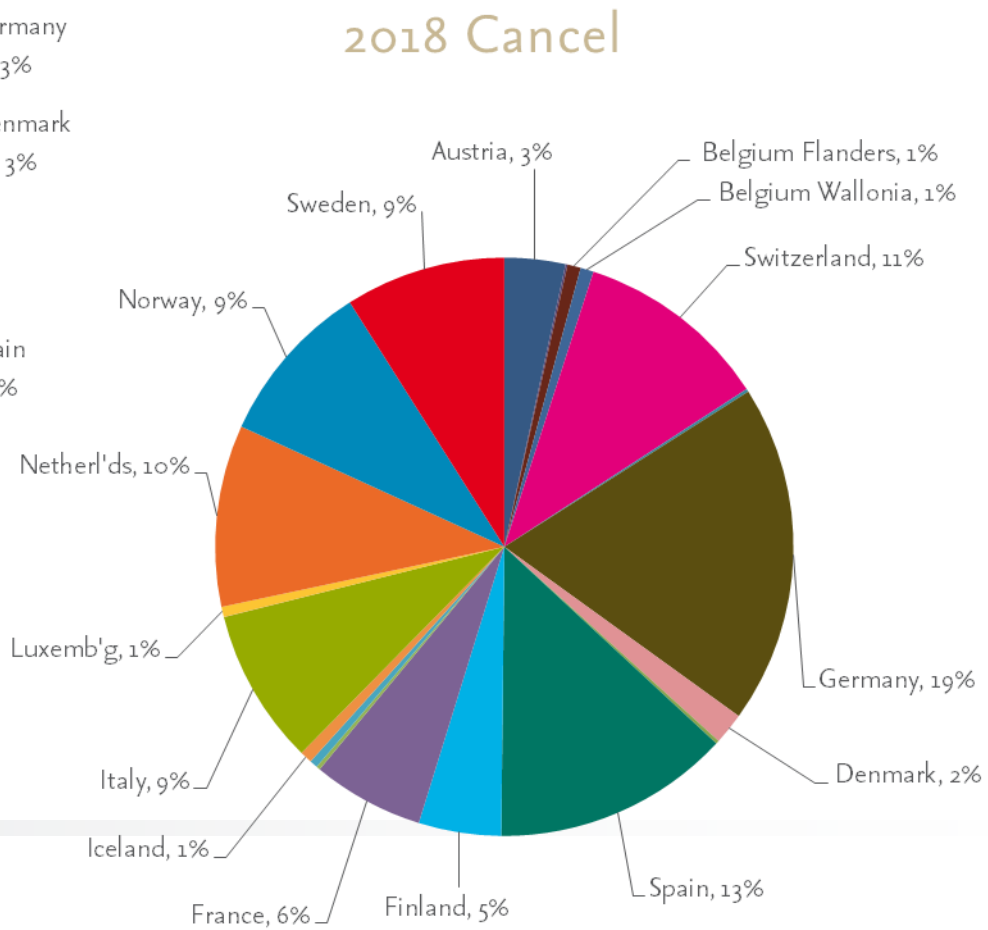
Annual EECS transactions by transaction date (TWh)

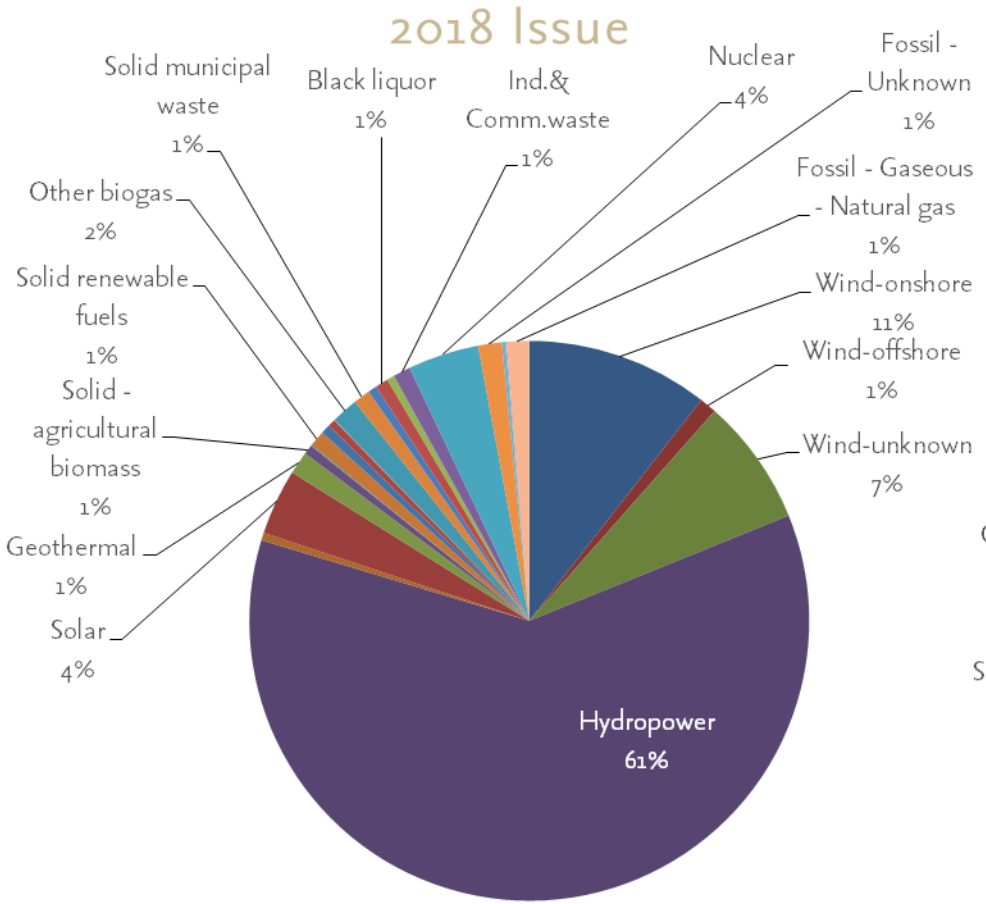


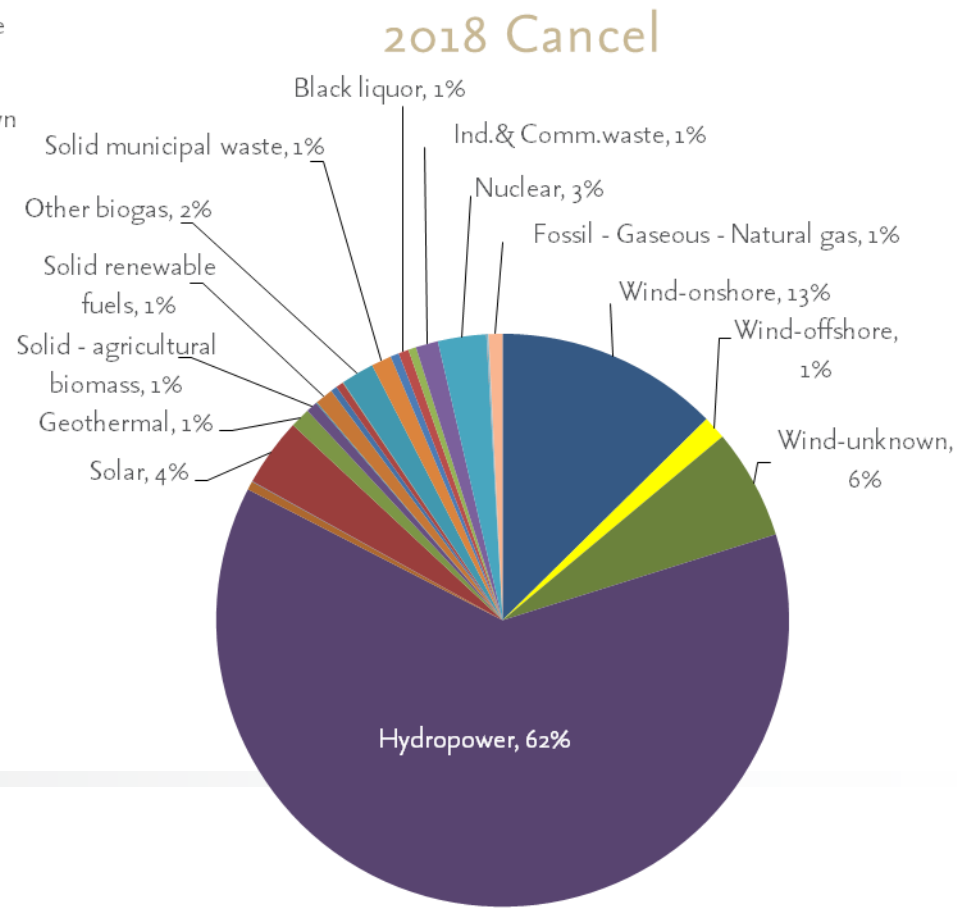
Where do they comes from / go to? (2018)





What is produced / what do consumers buy? (2018)





Why have standards?

Why isn’t the law enough?

- Differences between national markets
- Impact of related legislation
- Infrastructure / technology differences
- Lack of precision
- Interpretation

RES Directive: data on a GO

A GO must specify at least:

(a) the source of the energy, and period of production

(b) whether it relates to electricity or heating or cooling

(c) the identity, location, type and capacity of the installation where the energy was produced

(d) the extent to which plant and each unit of supplied energy have benefited from support received, and the type of support scheme

(e) the date when the installation became operational

(f) the date and country of issue and a unique identification number

Topics for standardisation

Topic	Issue	Standard
Accredit plant	- Really renewable? - Can you prove it? - Can you measure it?	- inspection procedure - acceptance criteria
Issue GO	- What is being burned? - What energy content? - What to record?	- GO format - data definitions & validation criteria - issuing procedure & calculations
Audit plant	- Did they prove it? - Has it changed?	- audit practices & criteria - auditing periods - correction procedures
Transfer GO	- Who got the certificate? - Did they want it?	- message definitions - inter-registry GO transfer protocols - correction procedures
Cancel GO	- Did it get withdrawn from the market? - What happened to it?	- cancellation procedures - disclosure best practice

Components of the standard

EECS Rules

- *Certificate Administration*
  - Core principles – objectives & aspirations
  - Plant registration
  - Certificate issue, transfer and cancellation
- *EECS participation rules*
  - Membership, admission, compliance, disputes & change
- *Scheme specific rules*
  - e.g. electricity, gas …

Detail ("subsidiary documents")

- *Decision-making – disputes, voting etc*
- ***Registry system & networking standards***
- *Approval of agents*
- *Change management*
- *Assignment of codes*
- *Audit & periodic reviews*

Dynamic information ("fact sheets")

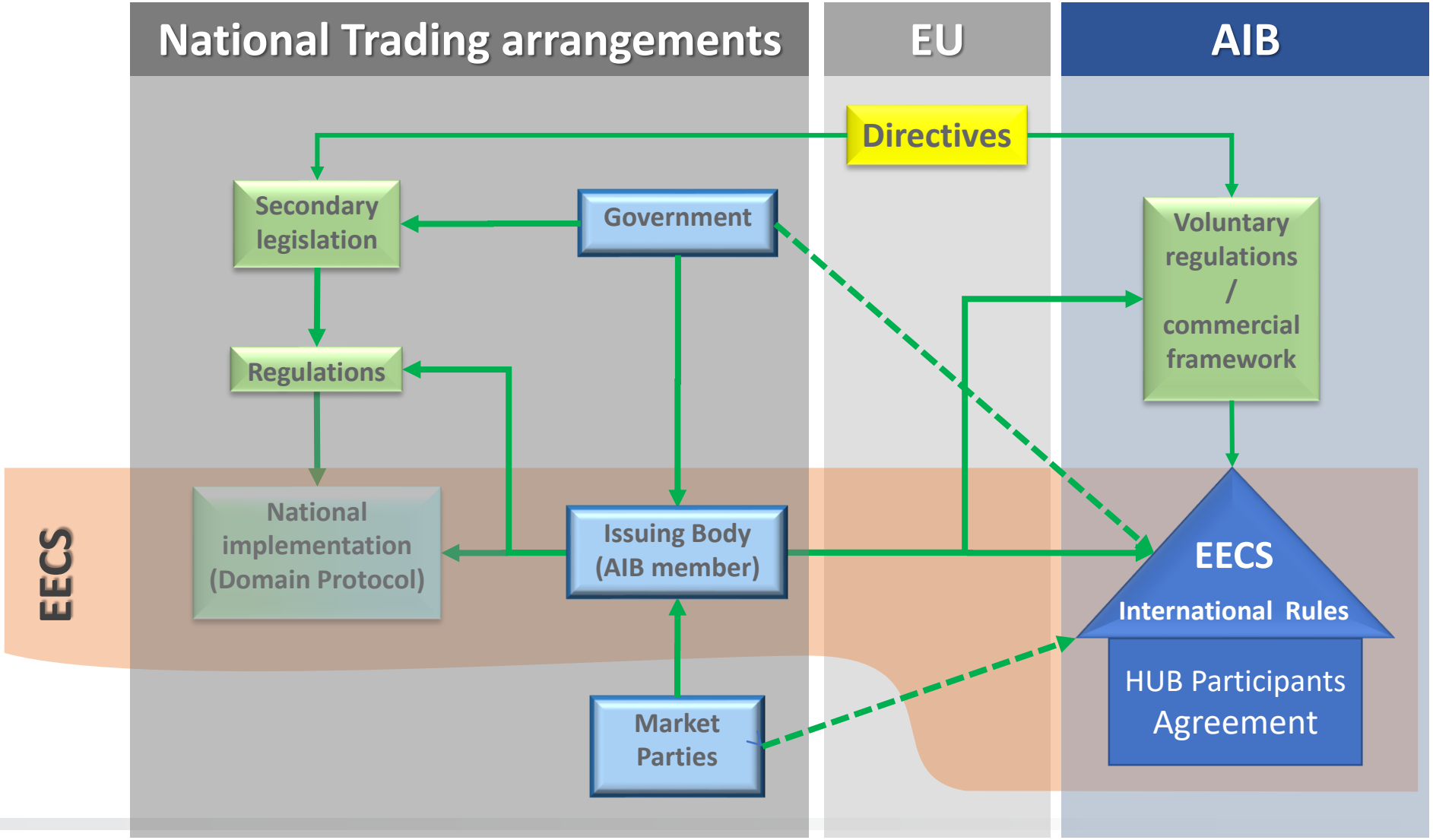
- *Addresses, membership details, codes, guidelines …*

Domain protocols

- *Description of regulations in a specific country*


E E C S
EUROPEAN
ENERGY
CERTIFICATE
SYSTEM

Legal structure of EECS



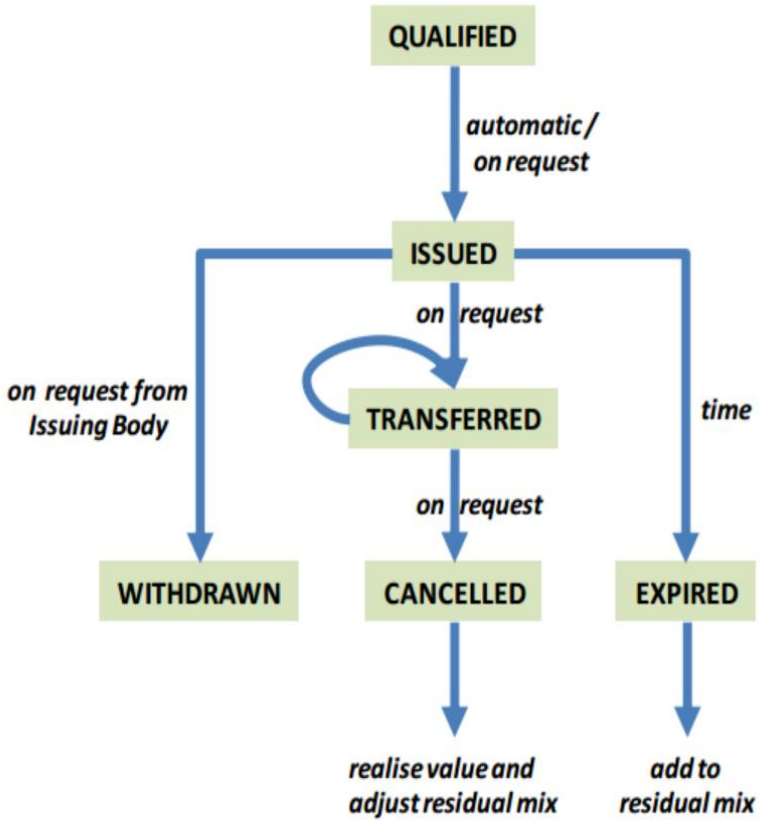
EECS Rules structure

- **Chapters A-M: generic on energy certificates**
- **Chapter N: Electricity Scheme**
- **Chapter O: Gas Scheme**
- **Room for extra chapters**
- **Subsidiary Documents**
- **Fact Sheets**

EECS Rules Chapters A-M:
Generic on energy certificates

A. Core principles
   - *Uniqueness, Immutability, operational reliability, …*
B. Definitions
C. Harmonisation measures
   - *Production Device registration, Issuing, Transfer, End of Life, Cancellation,…*
D. EECS Products
E. EECS Schemes
F. Admission and Expulsion Procedures
G. Probity of Members
H. Members Agents and Measurement Bodies
I. Compliance
J. Disputes
K. Assessment Panels
L. Change Procedures
M. General

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
- …

Certificates

- Single certificate for support, disclosure and target counting?
  - Consistency,
  - Simpler and
  - Cheaper to operate

- Or one certificate for each (support, disclosure, target counting)?
  - Flexibility

Contents of an EECS GO

- Energy Medium (e.g. electricity/ gas/ heat)
- Product (e.g. GO / non-governmental certificate/…)
- Unique certificate number
- Production period (start and end dates)
- Type of installation (e.g. CHP, wind turbine ...)
- Production device
  - Identity
  - Location
  - Capacity ((capacity unit, and date operational)
- Face value (i.e. Certificate size – e.g. 1MWh)
- Identity and country of originating member (e.g. issuing body – e.g. Statnett, Norway)
- Identity and country of relevant competent body (e.g. Statnett, Norway – can be different to member)
- Purpose of certificate (i.e. Disclosure, Support or Target)
- Issue date
- Relevant Independent Criteria Schemes (e.g. Naturemade, EKOenergy)
- Support received by type (none, Production, Investment, both, unknown)
- Energy source (e.g. Biomass: energy crops : rapeseed oil)
- (If High Efficient Cogeneration
  - Use of heat (category)
  - Lower Calorific value (MJ/kg)
  - Primary Energy savings (*Percent and actual amount)* *(MJ/MWh)*

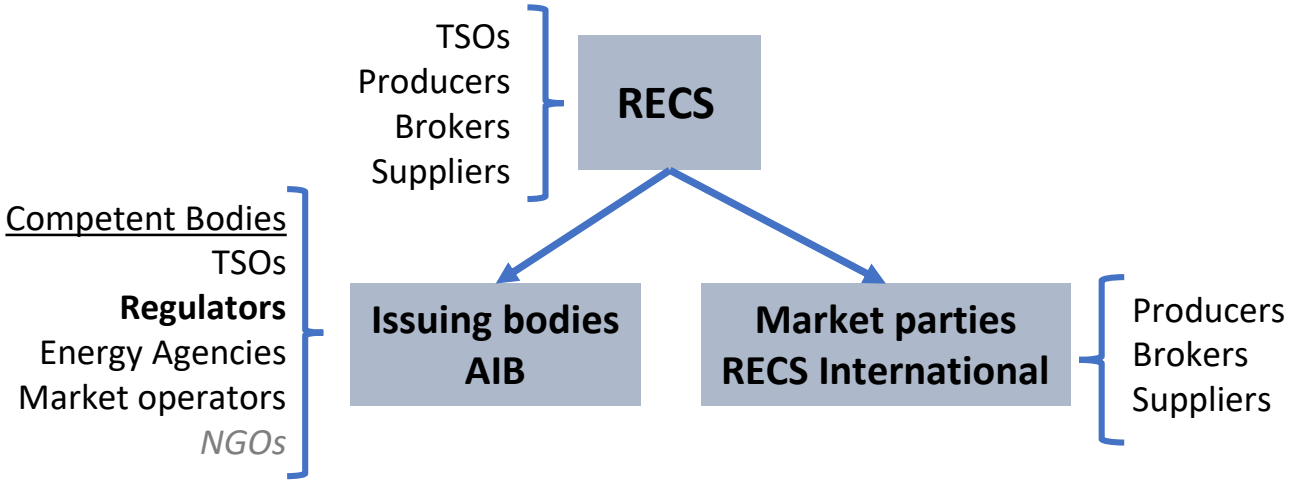
Preparing for EECS: Regulatory framework

- **Define Roles and responsibilities for organisations in country/Domain**
  - Competent authority
    - Tasks: Issuing, transfer and cancellation of certificates
    - Independent of production, trade and supply
  - Registry operator
  - Production Registrar / auditor
    - Register production devices + re-registration after 5y
  - Measurement body(s)

Procedure for setting up AIB infrastructure in a country

1. Draft a framework that avoids for double counting of energy attributes
2. Appoint an Issuing Body
3. Appoint agents to support the activities of the Issuing Body (if required)
4. Select, implement and configure Registry Software
5. Fill in AIB Application Form and Questionnaire
6. Draft a Domain protocol, setting out how the market will work in your country
7. Test the interconnection of your registry with the AIB Hub
8. Gain the approval of membership of the AIB General Meeting

AIB History



Governance of AIB

2001	AIB & RECS = same body
6/2002	AIB formed
12/2002	RECS international formed Memorandum of understanding between AIB & RECS
2005	Bodies formally separate Consultation with market parties and COM
2012	Discussions with CA-RES
2014	Hub Participant Agreements
2016	Professional Reviewers Group

1999	**Concept**
2001 - 2002	**Test phase**
COM project: voluntary RECS certificates	
2003 - 2007	**Directives**
RES-GO	2001/77/EC
CHP-GO	2004/8/EC
	2003/54/EC
2008 - March 2013	
RES-GO	2009/28/EC
	2009/7/2EC
2012 – March 2013	
CHP-GO	2012/27/EC
2014 – 2016	
End of RECS certificates	

History

- 2017 New Hub live. AIB develops position on RED II. Internal reorganisation commences.
- 2016 Completion of Hub redevelopment. Work starts evaluating linking GOs with carbon. Replacement of website. Install Professional Reviewers Group.
- 2015 Replacement of the Hub. Reflection paper proposes "Full Disclosure".
- 2014 RECS certificates cease to be issued. From now on all EECS certificates are GOs and EECS Disclosure certificates
- 2012 Ten years of AIB!
- 2011 Implement EECS Rules and new Hub
- 2008-10 Re-design PRO into the EEC Rules incorporating new RES Directive 2009/28/EC, enabling energies other than electricity and simplifying the regulations
- 2007 Implement inter-registry Hub
- 2006 Develop new chapters for CHP certificates, and revise all member domain protocols to support the new EECS regulations
- 2005 Definition of a more robust business model for EECS and develop new chapters for disclosure
- 2004 Redevelop Basic Commitment to address Guarantees of Origin, certificates for other forms of energy and new, clearer rules
- 2003 Live running / Guarantees of origin
- 2002 Registry interfaces agreed, international trade commences, AIB and RECS International founded. End of test phase (18M certificates issued)
- 2001 Basic Commitment agreed - drafting of domain protocols, first certificates issues (Finland) and national trade commences
- 2000 Preparation commences - resolution of many detailed issues
- 1999 Foundation of RECS and test phase conceived to prove the concept

2019

- **Implementing REDII**
- **Organisational restructuring**
- **Relation with Disclosure Competent Bodies**
- **Facilitating energy carrier conversion**
- **EECS Gas chapter**
- **Participation status for gas GO issuing bodies**

Gas Scheme

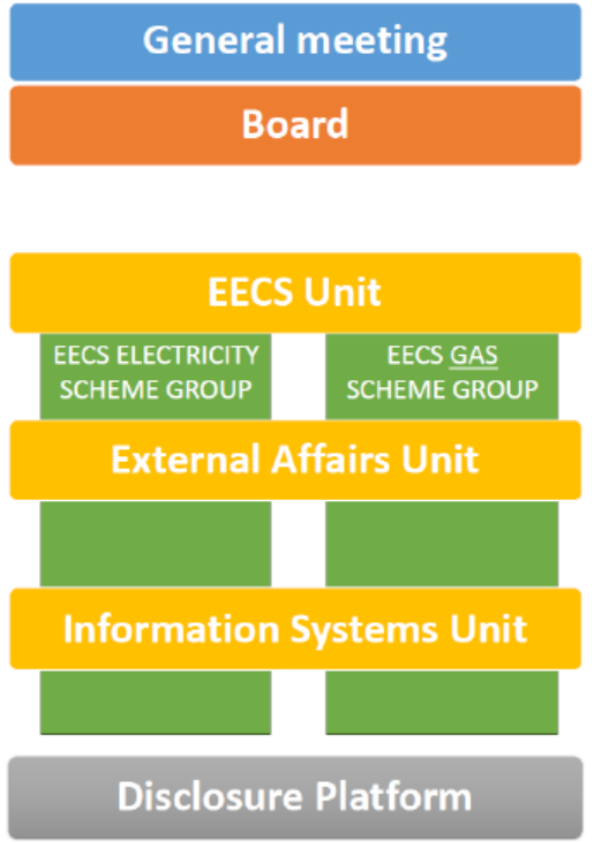
- **EECS Gas Scheme: Chapter O of the EECS Rules**
  - Accepted by AIB General Meeting on 29/11/2019
  - Publicly available on https://www.aib-net.org/eecs/eecsr-rules

- **Gas workgroup**
  - Existing members
  - Observer status - Scheme co-developer status

- **Reorganisation**

AIB Gas group

- Existing and future issuing bodies of gas certificates
  - Members
  - Observers
- Incremental improvement of the EECS Rules on Gas Certification
- Jointly shape the framework



Observer status in AIB

- Issuing Bodies (legislative or voluntary Certificates)
- Application to be sent to Secretary General or Board Chair
- Board grants Observer status
- Written Observer agreement incl. confidentiality and non-competition
- (Limited) access to website and meetings
- No voting rights
- First calendar year: free/cost-covering attendance fee
- After that: minimum membership fee (5,000 euro)

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Renewable Gas Trade Centre in Europe

Thanks for your attention!

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This project receives funding from the European Union's Horizon 2020 Framework Programme Research and Innovation under Grant Agreement no. 857796

EECS Gas Scheme – History and outlook

<2011: draft gas scheme

2018: REDII

2019: WGIA gas subgroup

2020: Incremental improvements

EECS Gas Scheme - some elements

- Definition
  - Methane : *a gas, fulfilling the technical criteria for injection in the natural gas grid of the respective country*
  - Hydrogen: *a gas with a composition of at least 99,9%* vol hydrogen

- PD Inspections are mandatory
- Net gas production
  - Deduct auxiliary consumption of gross gas production
  - Non-gaseous auxiliary consumption to be converted to equivalent gas consumption

Data fields on a generic EECS certificate

- Energy Medium
- Product
- Unique certificate number
- Production period (start and end dates)
- Type of installation
- Production device
  - Identity
  - Location
  - Capacity ((capacity unit, and date operational)
- Face value
- Identity and country of originating member
- Identity and country of relevant competent body
- Purpose of certificate
- Issue date
- Relevant Independent Criteria Schemes
- Support received by type
- Energy source
- (If High Efficient Cogeneration
  - Use of heat
  - Lower Calorific value
  - Primary Energy savings (*Percent and actual amount)*
  - CO2 (*emitted and actual savings (hidden))*

How to recognise a gas GO – values on existing data fields

- Energy Medium = Gas
- Energy Source = see Fact Sheet 5
- Technology = see Fact Sheet 5 – new technology codes for gas
- Type of certificate?
  - “Product Status” = GO
  - “Product Status” may contain an Independent Criteria Scheme
- Purpose = Disclosure
  - Like for electricity GOs
  - Alternative potential purposes: Support, Target

More specific identification of gas GO type

New data fields:

- Type of Gas =
  - Methane, Hydrogen, other gas
    - Methane: natural grid quality gas (mainly composed out of methane?)
    - Hydrogen: 99,9% purity (CertifHy)
    - Other gas
    - Note: hydrogen injected into the natural gas grid: type of gas ==methane

- Means of Supply
- Higher calorific value

Optional “products”

1. Product on CO2:

(a) CO2 emissions saved

(b) CO2 emissions produced

relating to the Nett Gas Production and including a reference to the methodology used to calculate this information, as identified in EECS Rules Subsidiary Document “Methodology for calculating CO2 impact of production”;

2. Product on sustainability criteria:

(a) Whether or not the Production Device complies with the applicable sustainability criteria referred to in the Renewable Energy Directive, together with an indication as to whether these criteria have been met, a reference to the certification body which confirmed that this is the case, and a reference to the relevant report produced by this certification body;

(b) Whether or not the CO2 emission savings criteria are met, as referred to in the Renewable Energy Directive;

(c) End-use of the Gas as set out in EECS Rules Fact Sheet “Use of Gas”.