# AGCS Biomethane Registry Austria

Challenges for a European certificate system for renewable gas

IEA Task 37 Workshop, 15.04.2021, Stefanie Königsberger







## Tasks of AGCS Gas Clearing & Settlement AG

- Clearing of the Austrian gas market
- Organisation of the imbalancing market in Austria
- Calculation and settlement of imbalancing energy
- MERIT Order List platforms
- Supplier Switching Platform in Austria
- Tracking of all gas movements and injections in Austria

✓ incl. biomethane

#### Basis of our work

- Austrian Gas Law (GWG 2011)
- Standard Terms and Conditions
- Renewable Electricity Law (ÖSG 2012)
   ✓ AGCS Biomethan Register Austria

## Austrian gas market







## **DSOs**















#### Market participants

- Biomethane Producers
- Electrification plant operators
- **Auditors**
- Registry user (traders)
- Green Power Settlement Agent (OeMAG)

## BIOMETHAN chweise Fred Gorge Anners (C) Biomethannachweise schafft damit die Grundlage für die Förderung von verstrommem Siomethan durch gesicherten Eigentumsübergangs von Biomethan in Österreich Fig. Comm. Amount (C)



#### **Cooperation with competent bodies**







**Green Power Settlement** Agent (OeMAG)

(Environmental Agency)

Biofuel Registry elNa GoO-database (E-Control)

#### **Organisations and Networks** Harmonisation of European exchanges





Registries: AT, DE, DK, IE, LT, NL, UK





Biogas Register Germany **European Association**  **European Commission** 

European Committee for Standardization

#### **Cooperation & Interfaces**

- Systeme of balance group coordinators (all market areas: AGCS & A&B)
- Green Power Settlement Agent (OeMAG)
- Biofuel Registry elNa (Federal Environmental Agency)
- GoO-database for disclosure (regulator E-Control Austria)
- Biogasregistry Germany (dena German Energy Agency)

#### **Partners**











BIOmethane as SUstainable and Renewable Fuel

REnewable GAs TRade CEnter in Europe

#### **Dialogue Partners Austria**



**austropapier** 











#### **Dialogue Partners Europe**



















... for a European certificate system for renewable gas



## **Application Purposes (end uses) of Biomethane**



## **Target Compliance**



Union target 32% (Art 3 REDII)



Transport target 14% (Art 25 REDII)



EU ETS (MRR) **Emission Trading** System



National targets & quotas

Certificate type Proof of Sustainability (PoS)

Sustainbility claim



#### **Disclosure**



Consumer disclosure (Art 19 REDII)

No eligibility for target compliance

price premium to be paid by end consumer

Certificate type Guarantee of Origin (GO)

No sustainbility claim

No target compliance



#### **Subsidy Schemes**



**Examples** 



FiT for electrification



Biomethane injection



Tax exemptions

Certificate type National certificate Biomethane certificate

#### Market initiatives



Initiatives by society and market

Producers to market the green value of their product

Consumers to increase renewable energy shares

#### **Future markets**





? chemical industry

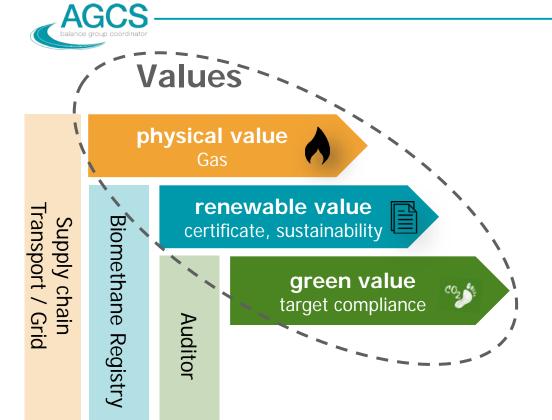


? Upcoming markets

Certificate type

Sustainbility claim





#### Holistic certificate system

- For comprehensive documentation of various application purposes
- To avoid potential multiple counting
- Values on 3 levels (physical, renewable, green)
  - o Transferability of values from producer to consumer?
  - o Sustainability claim?
  - o Eligibility for target compliance?

## 1. physiscal value

- Provision to all consumers
- ➤ On-grid: supply chain incl. grids
- ➤ Off-grid: resp. supply chain

## 2. renewable value

- > Transferability via verification system
- Document sustainability & mass balance

## 3. green value

- ➤ Quality criterium "sustainability"
  - GHG minimum savings
  - Mass balance
- ➤ Eligibility for compliance with targets and quotas

## Administer movements of renewable products

**DSO** 

data delivery;

Closing the mass balance

CONSUMER

Competent

body

**Biomethane** 

Certificate

interface

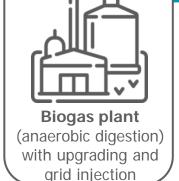
& BGC

Withdrawal

Metering Point







Level: renewable value certificate & registry



data delivery; interface

Metering Point

**PRODUCER** 

Plant operator

**Biomethane** 

Certificate

**AUDITOR** 

- on-grid: Gaseous fuels along the gas grid
- off-grid: along the respective supply chain
  - on-grid: linked, along the gas grid
- off-grid: along the respective supply chain

## **REGISTRY SYSTEM**

AGCS BIOMETHAN REGISTER AUSTRIA

- Traceability of the renewable value (quantitative and qualitative properties)
- Traceability of green value: sustainability criteria & mass balance
- Transparent, secure, trustworthy

data delivery

- on-grid: quality criteria
- off-grid: energy amount & quality criteria

Level: green value quality & sustainability



For quality criteria "sustainability"

- Audit of the whole supply chain
- Mass balance

## **CONSUMER** Application purpose



**Subsidies** Renewable Power FiT (ÖSG 2012)



Target compliance Union target (Art 3 RED II) Fuel quota (Art 25-31 RED II) Green Gas Quota



Consumer disclosure Disclose supply mix (Art 19 RED II)



Future markets









#### **Audit Level 1**

- Third-party audit
- Audit of plant
  - o Initial audit
  - After construction measures
- Regulatory notice for renewable plant



Attributes Level 1

## Plant specific

- Static data
- Country, metering point, plant type;

Attributes Level 3

## **Quality criteria**

- Dynamic data
- Qualitative data
- Substrates / Input, supply chain, process;Audit reports:

plausibility check <-> sustainability criteria



#### **Audit Level 3**

- Third-party audit
- Regularly (annual)
  - For specific production period
  - o For specific certificate
- According to national regulations
- Min: plausibility check
- Max = PoS according to voluntary scheme

#### **Audit Level 2**

- Based on DSO/TSO meter readings
- Registry specific: first-level by DSO/TSO, auditors, balance group coordinator;
- Regularly: before certificate issuance

#### Attributes Level 2

#### Gas specific

- Dynamic data
- Quantitative data
- Energy carrier type
- Energy amounts
- Basis: metering data

#### Attributes Level 4

#### **Transfer specific**

- NO product data
- Enables IT-processes for title transfer



#### **Audit Level 4**

- Responsibility of market participants
- First-level audit: data verification by registries



... for a European certificate system for renewable gas



## Legal Framework for Renewable Gas





- RED: Renewable Energy Directive (EU) 28/2009
- FQD: Fuel Quality Directive (EU) 2009/30
- RED II: Renewable Energy Directive recast (EU) 2018/2001
- MRR: Monitoring and Reporting Regulation (EU) 2003/87



- ÖSG 2012: Ökostromgesetz (Renewable Electricity Act)
- KVO 2012: Kraftstoffverordnung (Fuel Quality Regulation)
- G-KenV 2019: Gaskennzeichnungsverordnung (Gas Disclosure Regulation)
- SteuerreformG 2020: **Steuerreformgesetz 2020** (Tax Reform Act)
- EAG: Erneuerbaren Ausbau Gesetz (Renewables Expansion Act as government bill)
- Future Legislation? Renewable Gas Act?



NECP National Energy and Climate Plan





## Challenges for a legal Framework for Renewable Gas

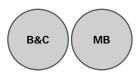
- Biomethane/Renewable Gas is currently not addressed with a holistic system
- Biomethane/Renewable Gas is defined by its application purpose
  - → Producer has to know application purpose already at production to choose suitable audit criteria
    - Eligibility for target compliance
      - o Union target
      - Sustainable biofuels for transport
      - o Combustion fuel for EU-ETS
    - Combustion fuel for consumer disclosure





## Different application purposes pose different quality criteria

o Disclosure of origin vs Sustainability criteria



- Different application purposes require different modes of transfer
  - o Book & Claim (no physical link and thus no target compliance)
  - Mass balancing (physical link, tracking of whole supply chain, eligibility for target compliance)



- Different application purposes pose different time horizons for recognition of certificates
  - o validity period vs eligibility for recognition vs capability for storage



- Different application purposes might be documented by different competent bodies
- OeMAG\* Production/Injection + renewable power FiT: Biomethane Registry Austria + OeMAG
  - Sustainable biofuels: Biofuel Registry elNa (Environmental Agency)
  - Gas disclosure: GO Issuing Body (E-Control Austria) @:control



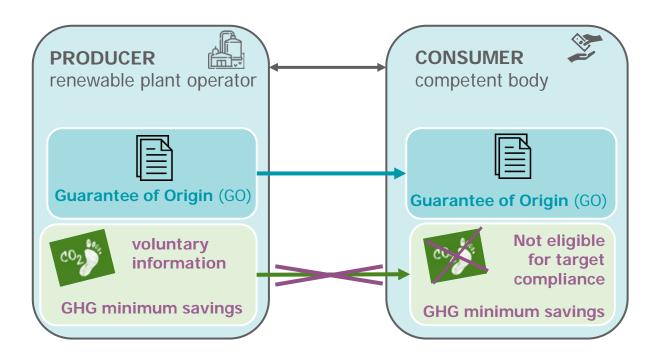


## **Challenge: Different Modes of Transfer**

**Book & Claim** <-> Mass Balance **◯** GHG minimum savings

#### **Book & Claim**

- So far for voluntary disclosure
- In the future for Guarantees of Origin (GO) for consumer disclosure of energy supply (Art 19 RED II)



#### Levels

## 1. physical value

Trade: producer and consumer in contract

## 2. renewable value

Certificate <u>decoupled</u> from physical gas flow

## 3. green value

Excludes: transfer of GHG minimum savings

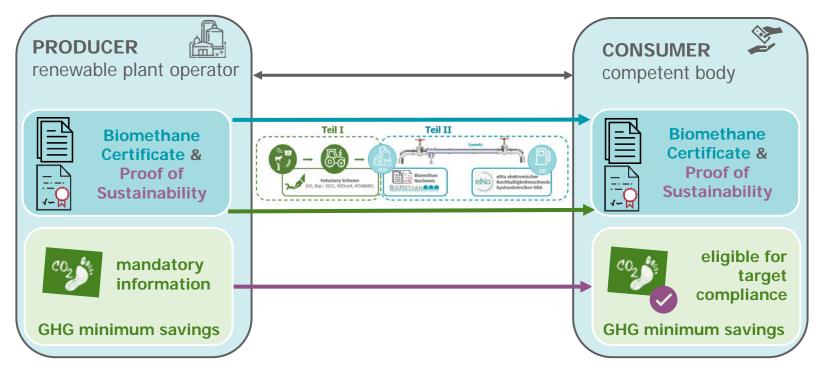


## **Challenge: Different Modes of Transfer**

## Book & Claim <-> Mass Balance ◯ GHG minimum savings

#### **Mass Balance**

- Proof of Sustainability (PoS) for target compliance
- Documentation of physical flow within the respective system boundaries
- National easily traceable via balance group model
   theoretical break down to metering point level possible
- Europe-wide: within the European, interconnected gas grid (Voluntary Scheme pending)



#### Levels

## 1. physical value

> Trade: producer and consumer in contract

## 2. renewable value

Certificate <u>coupled with</u> physical gas flow

## 3. green value

➤ <u>In</u>cludes: transfer of GHG minimum savings



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## Sustainability OGHG Minimum Savings OM Mass Balance

## Legal definition of "sustainability criteria"

- > Art 18 RED I: particularly addressing liquid, sustainable biofuels
- > (EU) 2009/30 Fuel Quality Directive
- ➤ Art 25-31 RED II: extension towards renewable gases

## Significance in theory and practice

- ➤ Cultivation criteria Art 29 (2-7) RED II
- > GHG minimum savings Art 29 (10) RED II
  - Total GHG emissions along the whole supply chain
  - Undercutting the respective reference value of the Fossil Fuel Comparator (FFC)
  - Specific reference values per application purpose published by EC
  - Total GHG emissions biomethane < GHG emissions FFC reference value

## ➤ Mass Balance Art 30 (1) RED II

- Documentation of the entire supply chain
- From substrates via production plant to the end user









## **Challenge: Harmonised Auditing**

enalbes uniform documentation of different application purposes

- Challenge: Different application purposes pose different quality criteria
- **Proposed solution approach:** Legal anchoring of harmonised auditing criteria for renewable gas

Registry System AGCS is certified: ISO/IEC 27001: 2003 & DIN EN ISO 9001: 2015 Regulatory notice for **Production Plant:** Biomethane, electrification renewable plant Producer has to know. **MASTER DATA Attribute Level 1** Registration Certificate of competence, application purpose already **Auditor** certification voluntary scheme at production to choose Meter data by suitable audit criteria On-grid **ENERGY** grid operators Attribute Level 2 -CARRIER ONE comprehensive and -AMOUNTS Off-grid Meter data by <u>auditors</u> uniform audit enables validity for FiT renewable power Auditing reports (ÖSG 2012) ✓ Several certificate types **QUALITY** Confirmation by certification **CRITERIA** ✓ Several application Gas disclosure Attribute Level 3 Substrates. body according to the (Art 130 GWG 2011, G-KenV) Technology, purposes Accreditation Act 2012 Supply Chain ✓ Target compliance **Proof of Sustainability** Sustainability, mass balance (Art 25-31 RED II) EU voluntary scheme **Advantages** 

- - ✓ Simplifies administrative burden for renewable gas producers and auditors
  - ✓ Reduces costs for producers of renewable gases
  - ✓ Legal harmonisation ÖSG 2012 (renewable power FiT), GWG 2011 (gas disclosure), Steuerreformgesetz 2020 (tax), EAG (renewables increase), Building regulation, etc.



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#### National Challenge: interaction of different competent bodies **Austrian Example** BIOMETHAN --**Data Registry** Collaboration of Biomethane Registry as Data Registry and other Competent Bodies as Application Registries via cooperation agreements, interfaces and versatile certificate design **Biomethane** Certificate **INTERFACES** physical transfer vs. certificate transfer \* incl. mass balancing \* National subsidy Initiatives Sustainable Consumer New applications **Applications** scheme by society biofuels in disclosure (chem. Industry) purposes (renewable and market transport power FiT) RED II Art 19, ➤ New legislative acts ÖSG 2012: Renewable FQD (AT: KVO 2012) voluntary § (AT: Art 130 GWG Framework (AT: EAG. **Electricity Act** RED II (Art 25-30) basis 2011, G-KenV 2019) SteuerreformG2020) > 'New' technologies BIOMETHAN umweltbundesamt<sup>o</sup> (PtG) **OeMAG**<sup>₹</sup> **Biomethane Competent Body** 'New' energy **Registry for** E-CONTROL Registry (Application Registry) carriers (Hydrogen, sustainable Clearing agency for **Issuing Body Biomethane** Propane) biofuels renewable power Registry Challenges Ahead elNa: (covered via Types of versatile CoO and elNa electronic **Evidence Biomethane** Guarantee of secure Interfaces) **Biomethane** sustainability **Documents** Certificate Origin (GO) Certificate certification system



## EU Challenge: interaction of different competent bodies

cooperation agreements & interfaces

### **COUNTRY 1**

**SCHEMES** administration of European data exchanges and ownership transfers

> Information and exchange via



 ERGaR European Renewable Gas Registry

ERGaR Schemes

 Mass Balance along the interconnected, European gas grid



 AIB Association of **Issuing Bodies** 

**Competent body A** 

 EECS Scheme (European Energy Certificate System)

## Certif Hy

**INTERFACES** 

CertifHv

- Consortium of Experts
- Certificate system for H2

#### **EU ETS**

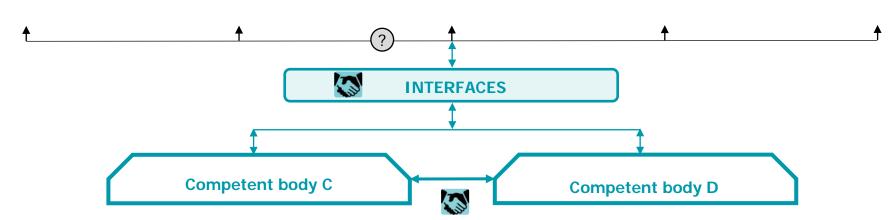
**Competent body B** 

- European Commission
- EU 2003/87/EC & 2018/410
- Trade of EU-ETSallowances for ETScompanies

## **EU-BIOFUELS**

- European Commission
- Art 28 (2) & 28 (4) RED II (2018/2001)
- Responsibility of **European Commission**





**COUNTRY 2** 



... of the European certificate system for renewable gas



## proposed solution approach: holistic certificate system



## Target compliance

- Union target Gross final energy consumption

(Art 3 RED II)

Cert: Green gas seal (Grüngassiegel AT), PoS (EU)

Sustainable Biofuel

(Art 25-31 RED II)

Cert: elNa (AT), PoS (EU)

Competent body: Biofuel Registry elNa (on-grid: Biomethane Registry)

- EU ETS

combustion, aviation

(MRR, Monitoring and Reporting Regulation)

Cert: PoS (EU)

## Gas consumer disclosure for supplier mix

(Art 19 RED II)

Cert: HKN (AT), GO (EU)

Competent body:

GO-data base E-Control (AT)



## Subsidy scheme

Renewable Power FiT

(ÖSG 2012)

Cert: Biomethane Certificate

**Competent Bodies:** 

AGCS Biomethane Registry & OeMAG

## Tax advantages

Natural gas delivery refund

**Future applications** 

e.g.: chemical industry

e.g.: recognition for

**Initiatives of society** 

Framework: voluntary basis

Certificate of Origin (EU)

Cert: Biomethane certificate (AT),

CO<sub>2</sub>/GHG savings

and market

Body: AGCS (AT)

(bio methanol)

(Steuerreformgesetz 2020)

Cert: PoS

Competent Body for biofuels: elNa



## proposed solution approach: holistic certificate system

Integration into European Energy Market

acknowledge biomethane as green market pillar

... for a European certificate system for renewable gas

**Legal Framework** 

harmonisation of crosssectional legal matter



Competences and Responsibility

central clearing agency / cooperation agreements

Certification and Sustainability

harmonised auditing procedures

# Contact AGCS Gas Clearing & Settlement AG

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## **Project Management**

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