

European Biogas Association

Concept for cross-border biomethane trade administration

Paris, 23rd November, 2016



EBA
European Biogas Association

BIOS  **RF**
Fuelling Biomethane

Introduction

- *Value of biomethane:*

physical (in use) value + intrinsic („bio”) value

- *Physical value: corresponds to prevailing market value of natural gas*
- *Intrinsic value: „green”, renewable, sustainable*
- The intrinsic value can be only partially quantified (GHG emission data)
- The **intrinsic value must be realised on the market**, in case of international trade it must be transferred cross-border
- **Conditions for biomethane export/import:**
 - The „bio” quality must be certified in the producer country
 - The „bio” qualification from the producer country must be acknowledged in the consumer country

Cashing the intrinsic value

Art of trade	Market	Source of bonus payments	Addressed in:
Physical product	Regulated by EU and national governments	State aid: financial support/ incentives	WP3 Tasks 1-3.
Product Certificate	Free market	willing consumers	WP3 Tasks 4-6.
Emission Certificate	Emission Trading System	environment polluters	WP5

Three pillars of cross-border biomethane administration

1. **European natural gas network** (consisting of the transmission and distribution systems) **treated as single logistical facility** with regard to injected biomethane.
2. **Mass balancing of injected and withdrawn biomethane consignments** within the European natural gas network
3. **Sustainability verification** (covering production) prior to grid injection and **cross-border transfer of sustainability claims**.

Virtual European biomethane grid

BioCH₄ value = physical value + intrinsic value

BioCH₄ grid = NG grid + mass balancing

*European natural gas grid to bring the **physical value** to the market*

+

*Administrative system for transferring the **intrinsic value** from the producer country to the consumer country (applying the mass balancing method)*

Proposed solution for cross-border mass balancing and transfer of sustainability claims

ERGaR (**E**uropean **R**enewable **G**as **R**egistry)

- ERGaR aisbl established 28th September, 2016
- Special purpose voluntary scheme
- **Function:** mass balancing of biomethane distributed along the European natural gas network
- European Biomethane **Guarantees of Origin** issued by the national biomethane registries
- **To be recognised by the Commission** under the RED

ERGaR members

- **AT** – AGCS Gas Clearing & Settlement AG
- **BE** – European Biogas Association
- **DE** – German Energy Agency (dena),
Landwärme GmbH
- **DK** – Energinet.dk
- **FR** – Gas Réseau Distribution France
- **IT** – Consorzio Italiano Biogas (CIB)
- **NL** – STX Services B.V.
- **UK** – Renewable Energy Assurance Ltd.
- **CH** – Swiss Association of Gas Industry (VSG)
Energie 360° AG

ERGaR will

- be the Europe-wide recognised organisation for **administering and mass balancing volumes** of biomethane virtually distributed along the European natural gas network,
- **rely on the national biomethane registries** as primary source of documentation,
- follow **jointly agreed procedures** for issuing and cancelling Guarantees of Origin for consignments with export destinations,
- provide for **cross-border transfer of sustainability claims** (GHG emission characteristics) attached to the consignments

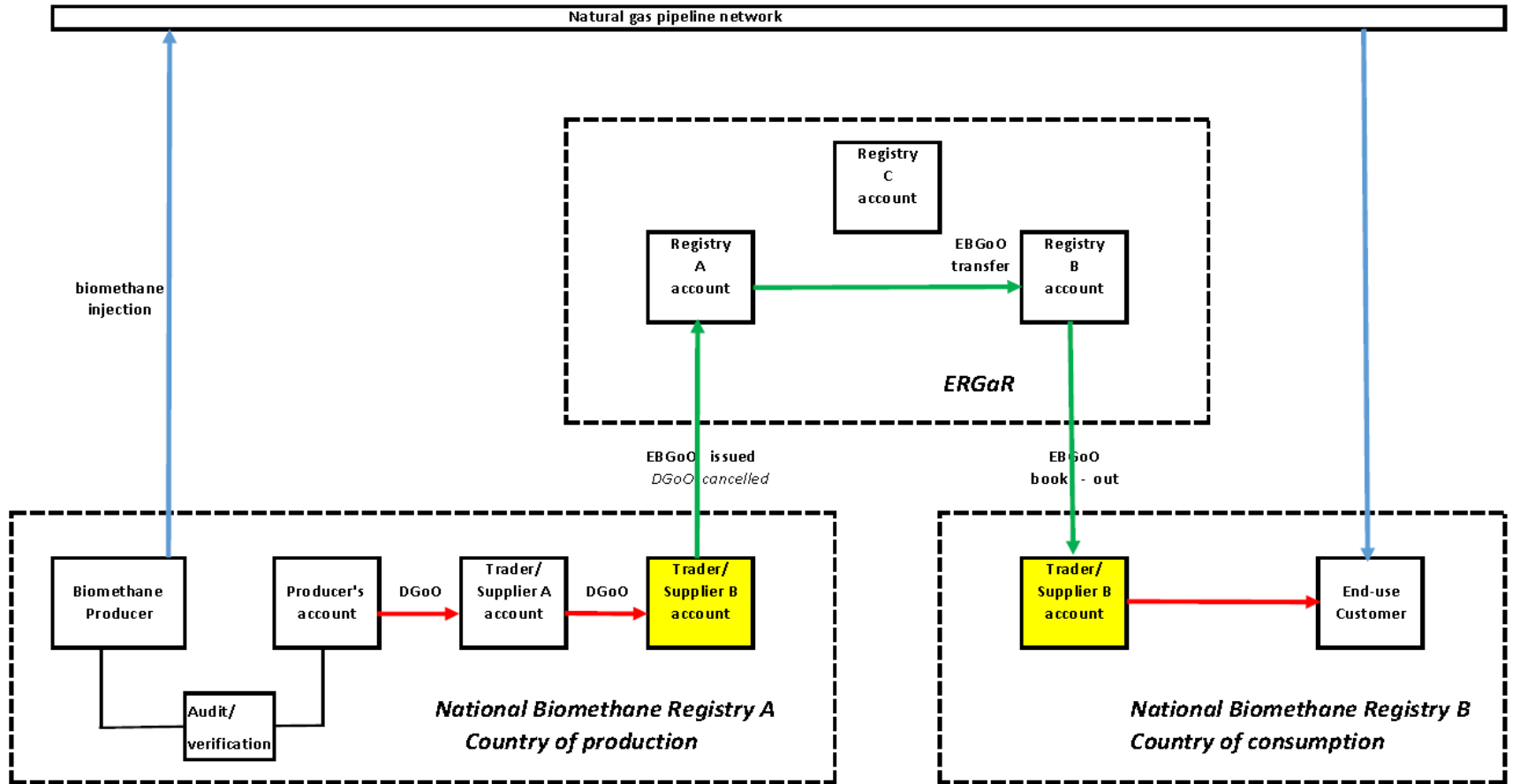
Support requested

The ERGaR undertaking serves the interests of the entire European biogas/biomethane industry and can be successfully implemented only upon strong intellectual and financial support by all stakeholders

Working on key issues

1. **Rules, procedures**, distribution of activities and responsibilities between ERGaR and the national biomethane registries
2. Content, verification and **transfer of sustainability characteristics**
3. **Mass balancing of biomethane consignments forwarded virtually** along the European natural gas pipeline system

ERGaR potential flow chart



Condition for EBGoO book-out: National Biomethane Registry B confirms to ERGaR that the physical transaction (Trader/Supplier B supplied the corresponding volume of natural gas to end-consumer)

— physical flow

— domestic GoO

— European GoO

Biomethane grades ?

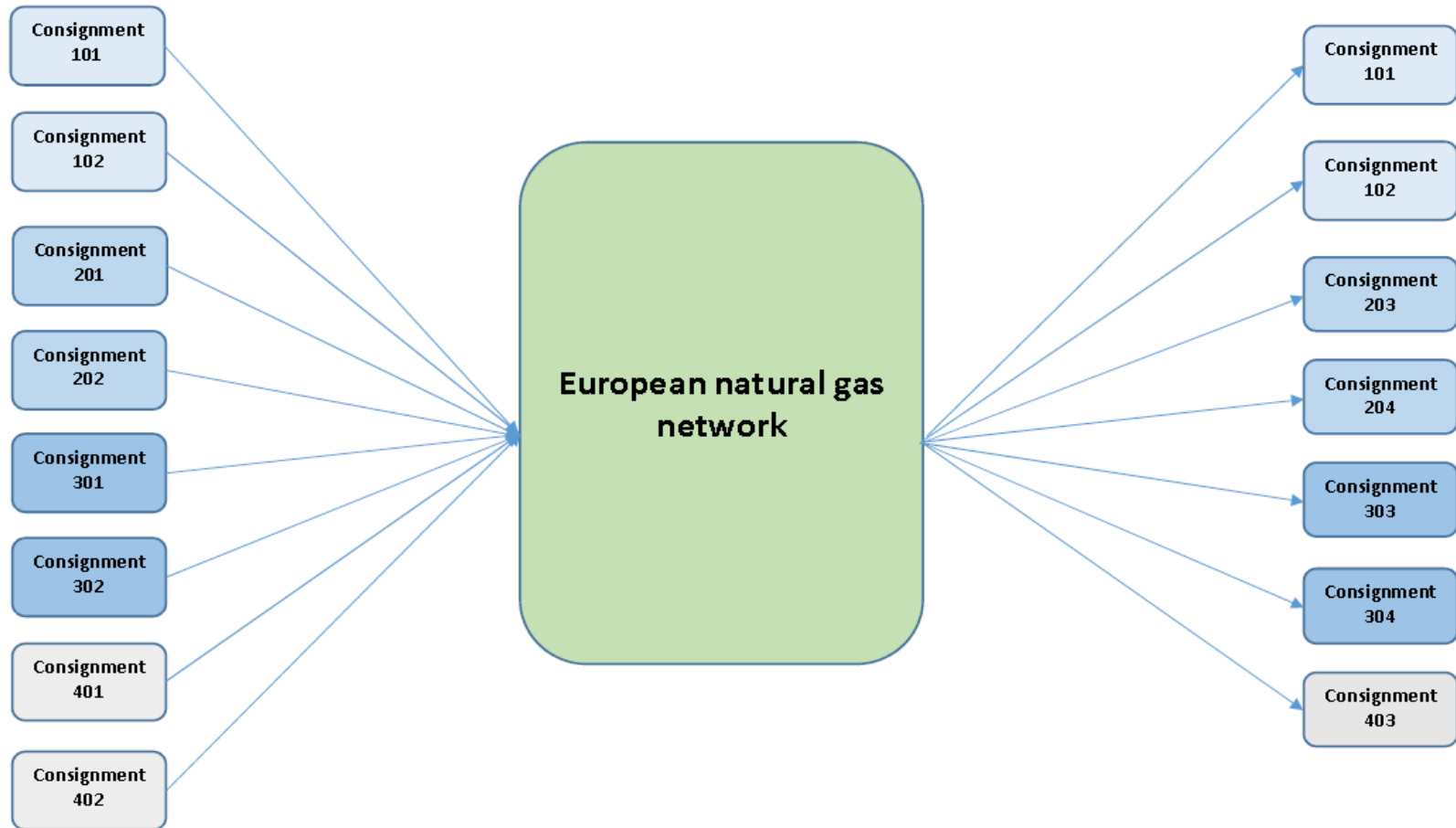
Grade	A	B	C	D
Popular name	Extra	Premium	Super	Normal
GHG emission* gCO _{2eq} /MJ	< 20	< 50	< 80	non-certified
<u>Substrate categories allowed</u>				
1. Human/municipal waste	+	+	+	+
2. Animal extrements	+	+	+	+
3. Non-food cellulosic material	+	+	+	+
4. Agriculture and food industry by-products	+	+	+	+
5. Food/feed/energy crops	-	< 30%	+	+
RED Art. 17. 3. High biodiversity value area	requirements fulfilled			
RED Art 17.4. High carbon stock area	requirements fulfilled			
RED Art 17.5. Undrained peatland	requirements fulfilled			
RED Art 17.6. Good agricultural practice	requirements fulfilled			
* from raw material supplies till pipeline injection				

Biomethane mass balancing 1

Input			NG network/Logistical facility			Output		
Consignment	Category	Volume	Consignment	Category	Volume	Consignment	Category	Volume
101	Grade A	1.000	1001	Mixture	6.400	101	Grade A	1.000
102	Grade A	800				102	Grade A	800
201	Grade B	700				203	Grade B	600
202	Grade B	800				204	Grade B	900
301	Grade C	1.000				303	Grade C	800
302	Grade C	600				304	Grade C	800
401	Grade D	1.000				403	Grade D	1.500
402	Grade D	500						

Grade	GHG emission
A	< 20 gCO _{2eq} /MJ
B	< 50 gCO _{2eq} /MJ
C	< 80 gCO _{2eq} /MJ
D	non-certified

Biomethane mass balancing 2



Thank you

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Back-up files

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National biomethane registries

- Are needed in every biomethane producing country
- Independent, neutral, professional organisations
- Established through government actions *or* voluntary cooperation of market players (preferably with government mandate)
- **Track, confirm and document the biomethane transactions along the contractual chain**
- Administrative support in meeting regulative requirements
- **Independent audit controls**
- Assisting development of trade through building market confidence

Existing biomethane registries

- AT: Biomethan Register Austria
- CH: Federation of Swiss Gas Industry
- DE: Biogasregister
- DK: Energinet
- FR: Gaz Réseau Distribution
- FI: Gasum
- NL: Vertogas
- UK: Green Gas Certification Scheme

Biomethane Certification Scheme

BIOMethane as SUSTAINABLE Renewable Fuel



- **Horizon 2020** project initiated by EBA
- **7 countries:** AT, BE, DE, FR, HU, IT, UK
- **3 years: 2015 – 2017**
- To address all important issues related to developing the European biomethane industry and market

www.biosurf.eu



Cross-border transfer of sustainability claims

The **sustainability verification** for biomethane injected into the European natural gas network for export purposes should consist of **two steps**:

1) the **first part of the chain of custody** – *from raw material supplies through production/upgrading till grid injection* – will be covered by one of the established sustainability verification procedures, exactly like in case of liquid biofuels,

2) the **second part of chain of custody** – *from the moment of grid injection till the withdrawal by the end-user* – will be covered by the new voluntary scheme applying the mass balancing methodology

ERGaR organisation chart

