The importance of Guarantees of Origin in cross-border trade of renewable methane

Power-to-Methane
GIE-EBA-ERGaR Joint workshop

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The challenge

- Value of biomethane/renewable methane:

  physical value + intrinsic value

- Physical value: prevailing market value of natural gas
- Intrinsic value: renewable, sustainable, environmentally friendly
- **The intrinsic value gets „dissolved" at the moment of injection but still must be transferred cross-border**
- Conditions for biomethane/renewable methane export/import:
  - The claim for the intrinsic value must be certified in the producer country
  - The qualification from the producer country must be acknowledged in the consumer country

The soft way: „book and claim”

- „Book” injection and „Claim” the intrinsic value
- Product and intrinsic value detached, marketed separately
- No mass-balancing
- No sustainability verification
- Weakness, vulnerability:
  - *RED requirements are not fulfilled*
  - *danger of misuse, multiple sale of certificates*
  - *lack of government mandate for issuing bodies*

The solid way:

- Applying the mass-balance methodology
- Documenting the physical transactions:
  - ***both*** *injection* ***and*** *withdrawal*
- Handling consignments with sustainability verification
- Meeting the RED I requirements
- Qualifying the registered consignments for use as sustainable biofuel in the importing country

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The three pillars

The proper cross-border biomethane/renewable methane administration is based on three main pillars:

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 **Mass balancing of injected and withdrawn biomethane consignments** within the European natural gas network.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** (prior to grid injection) and **cross-border transfer of sustainability claims.**

The proposed solution

ERGaR (European Renewable Gas Registry)

- ✓ **ERGaR aisbl** (non-profit international organisation) established 28th September, 2016 in Belgium
- ✓ **ERGaR BM** - biomethane specific voluntary scheme established and operated by ERGaR aisbl
- ✓ **Function: mass balancing of biomethane** distributed along the European natural gas network with transfer of related sustainability certification
- ✓ **Core documents: Biomethane Proofs of Origin** issued by the national biomethane registries
- ✓ **ERGaR BM seeks recognition by the European Commission** under the RED as a voluntary scheme

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Members

AT – AGCS Gas Clearing & Settlement AG

BE – European Biogas Association (EBA)

DE – German Energy Agency (dena)

Fachverband BIOGAS (FvB)

Landwärme GmbH

DK – Energinet.dk

NGF Nature Energy

FR – Gas Réseau Distribution France (GrDF)

IT – Consorzio Italiano Biogas (CIB)

NL – Vertogas

STX Services B.V.

UK – Renewable Energy Assurance Ltd. (REA)

CH – Swiss Association of Gas Industry (VSG)

Energie 360°

The function of mass balancing

RED Recital (76):

*"According to the mass balance method of verifying compliance, there is a **physical link between the production** of biofuels (and bioliquids) meeting the sustainability criteria **and the consumption** of biofuels (and bioliquids) in the Community."*

The physical link between the production and consumption of biomethane is the natural gas network, the administration must ensure the balancing of every injected consignment with the corresponding withdrawn consignment.

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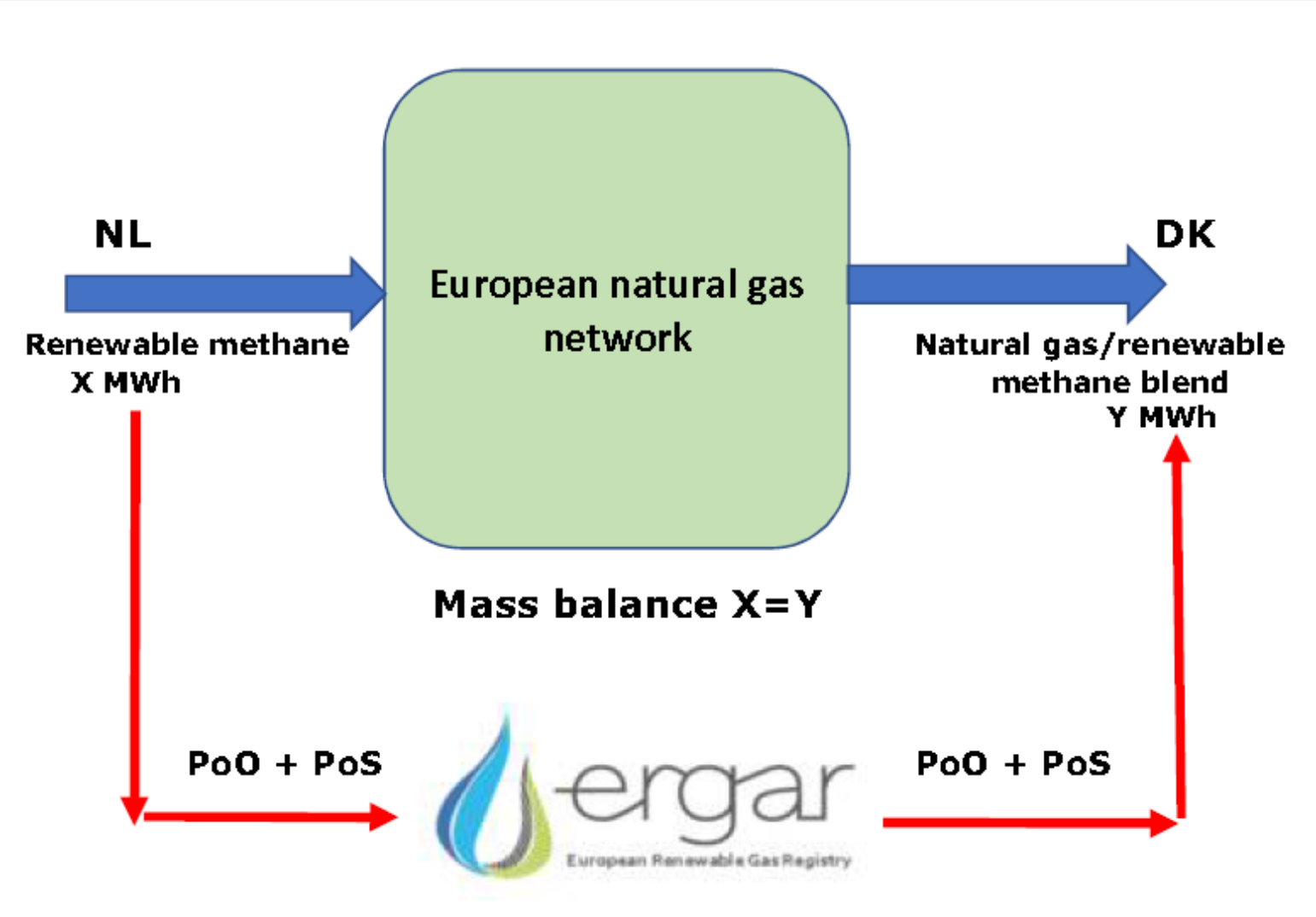
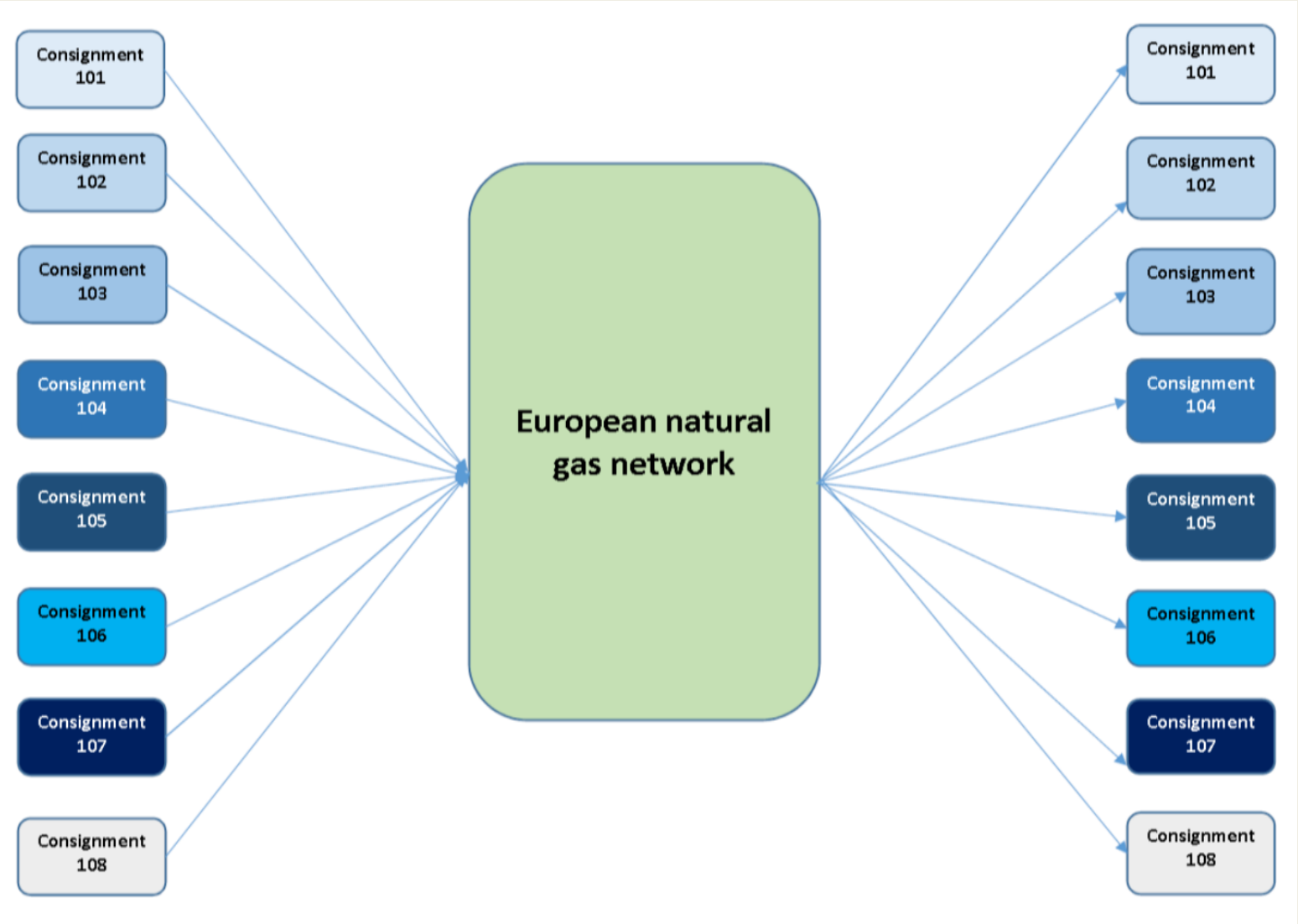
Mass balancing by ERGaR



Consignment by consignment



Why do we need the transfer of sustainability characteristics?

The principal answer is in the RED which makes it mandatory:

"Biofuel production should be sustainable. Biofuels used for compliance with the targets laid down in this Directive, and those that benefit from national support schemes, should therefore be required to fulfil sustainability criteria."

The business reasoning is also formulated in the RED:

*"Sustainability criteria will be effective only if they lead to changes in the behaviour of market actors. Those changes will occur only if biofuels meeting those criteria command a **price premium** to those that do not."*

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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**:

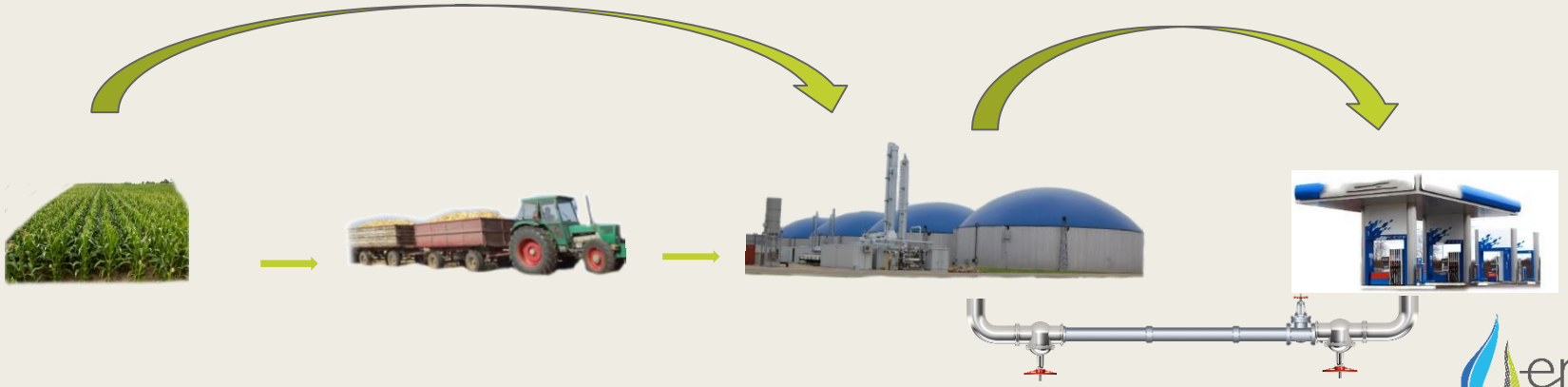
1. The **first part of the chain of custody** – *from raw material supplies through production/upgrading to grid injection* – will be covered by one of the established sustainability verification procedures, exactly like in case of liquid biofuels.

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

Chain of custody for biofuels

Liquid biofuels:

Biomethane:



Key messages

- **The administrative system developed by ERGaR** is fully adaptable to handle renewable methane consignments and – as such – is capable to assist the distribution of this product through the European natural gas network;
- **New projects of renewable methane production can be developed** with a higher chance of success if not limited to the domestic market;
- **Adequate sustainability verification** is essential for cashing the intrinsic value of renewable methane;
- **The ERGaR system transferring the Proofs of Origin together with GHG characteristics** supports the use of renewable methane as a transportation fuel.

THANK YOU !

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ERGaR flow-chart