Energy Traders Europe Biogas Working Group

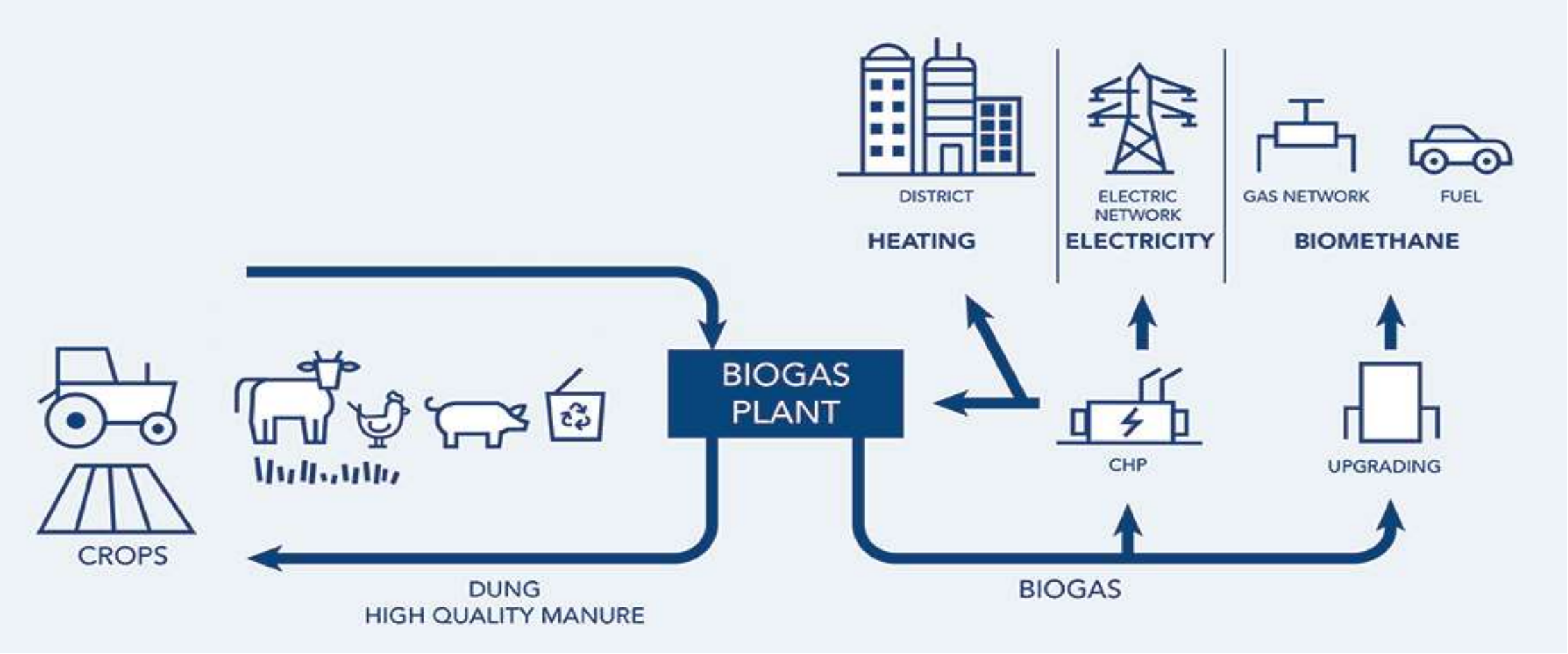
08 March 2024, Paris

Meeting Agenda

- Biomethane trading: country-specific zoom in on the current state of biomethane trading and the national challenges with the regulatory framework to unlock international trade:
  - Germany
  - France
  - Austria
- Introduction: sharing the current status, lessons learned, gathered feedback, and key considerations.
- Development of an action plan.

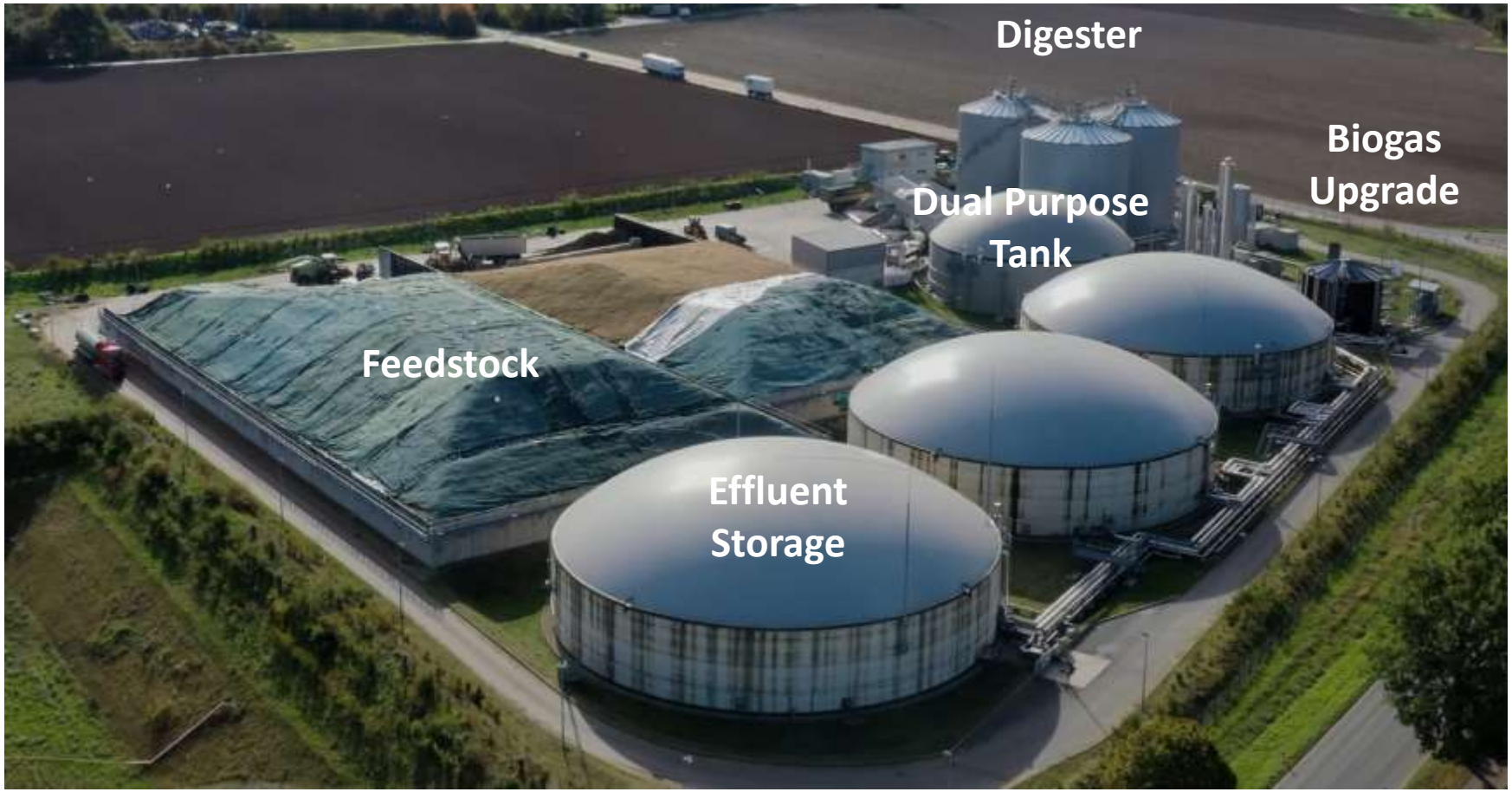
Biomethane at RWEST

Biomethane as a sustainable substitute of natural gas can be fed into the grid and (partially) cover gas demand



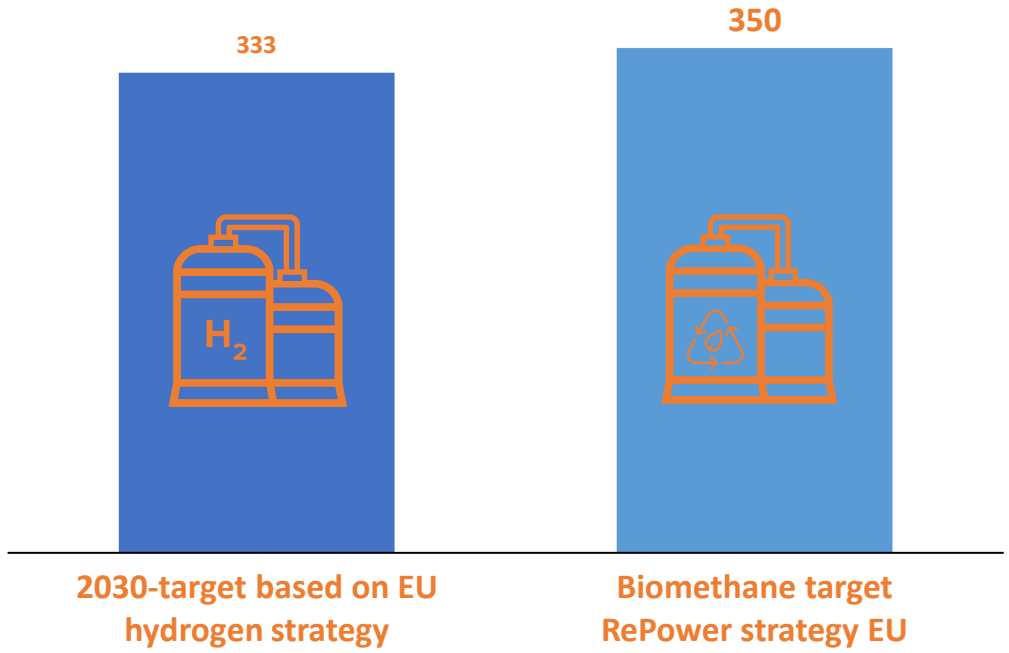
Biomethane plants are modular in design and can thus be adapted to the feedstock quantity and the product type

Core components of a biomethane plant (picture RWE Bergheim Paffendorf)



EU has set a biomethane target on a par with the green hydrogen target for 2030

EU hydrogen and biomethane targets for 2030
in TWh



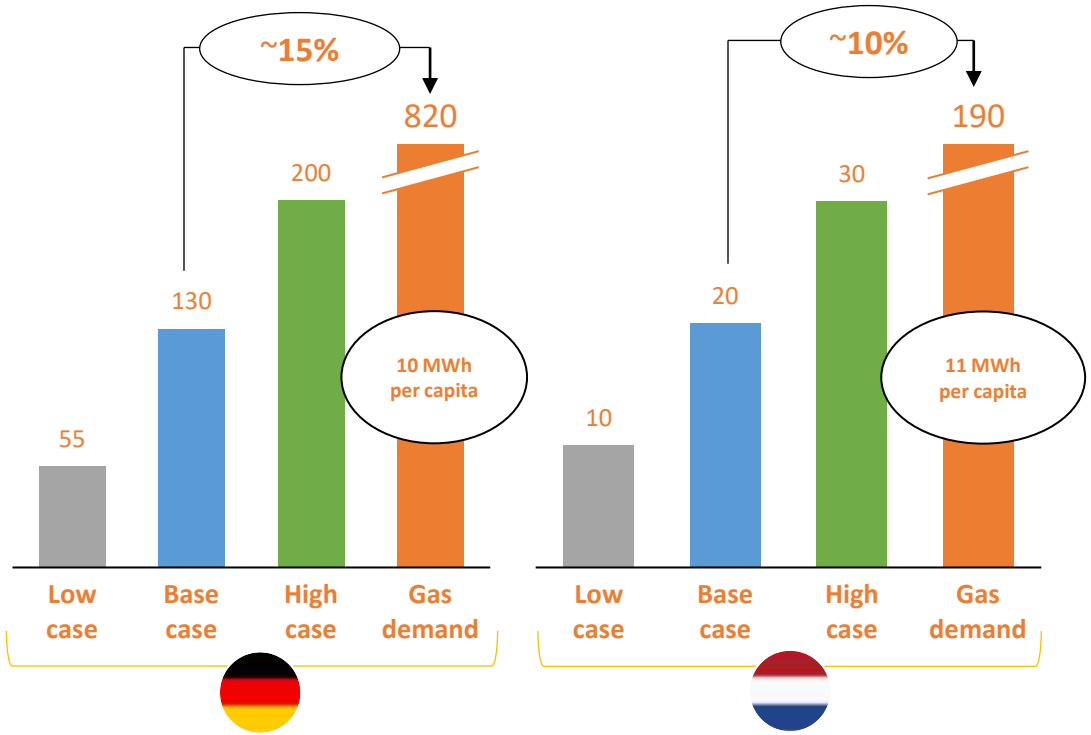
The biomethane target is based on the assumption that the **EU-wide accessible, sustainable feedstock** amounts to at least **150 million t.** Based on the analysis of RWE's core markets, the EU estimation appears conservative.

A parallel development of biomethane and hydrogen offers synergies for both:

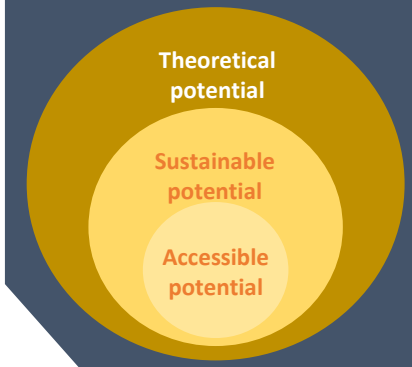
- → **Gas infrastructure** can be used for biomethane and hydrogen transport
- → **CO_2 as a by-product** of biomethane increases Power-to-X potential and there is a market for it in the chemical industry
- → **Industry depends on both**, hydrogen and sustainable hydrocarbons

Germany and the Netherlands offer an accessible biomethane volume of 150 TWh in our 2030 base case

Accessible biomethane supply potential (excl. decentral biogas) vs. total gas demand in 2030
in TWh



Analytical approach:



- **Based on external studies** a solid view on **available feedstock** was developed for DE and NL
- The **sustainable proportion of the feedstock potential** was derived from the current **sustainability regulation** on EU and national level and our expectations on its further development
- The market volume of **accessible biomethane** until 2030 was calculated in **three different scenarios** taking into account the **mobilisation** of feedstock and necessary **infrastructure and plant investments**

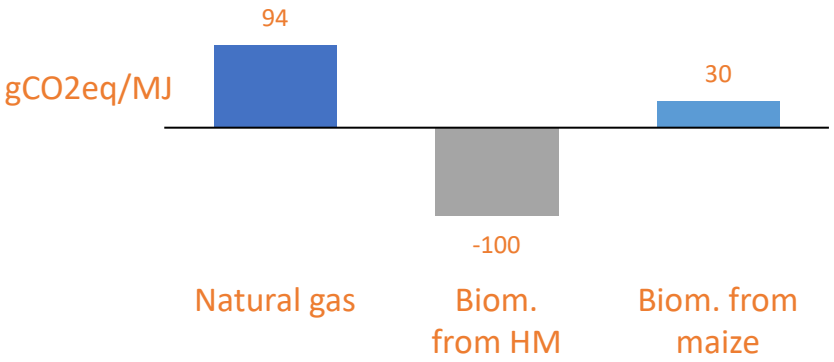
Source: EEO, MOO-S.

The biomethane market is strongly influenced by regulation. Demand for biomethane is coming from various use-cases

Demand

Price of biomethane varies according to
- **Carbon Intensity**
- **Subsidised/ unsubsidised**
- **Certified/ uncertified**

Biomethane certificate expresses Carbon Intensity as compared to fossil gas



Market drivers

- High willingness-to-pay from transport, aviation and chemical sectors due to regulatory quotas
  for biomethane use and penalties for non-compliance
- High feedstock availability from alternative sources (manure, municipal waste, etc.) and restrictions on imports
- Biomethane can use existing gas infrastructure without modifications
- Biomethane supply landscape is still highly fragmented with mostly small-scale producers with a national focus potentially supporting consolidation

By sourcing biomethane and certificates, many sectors can meet decarbonization targets required by stringent regulation under EU ETS

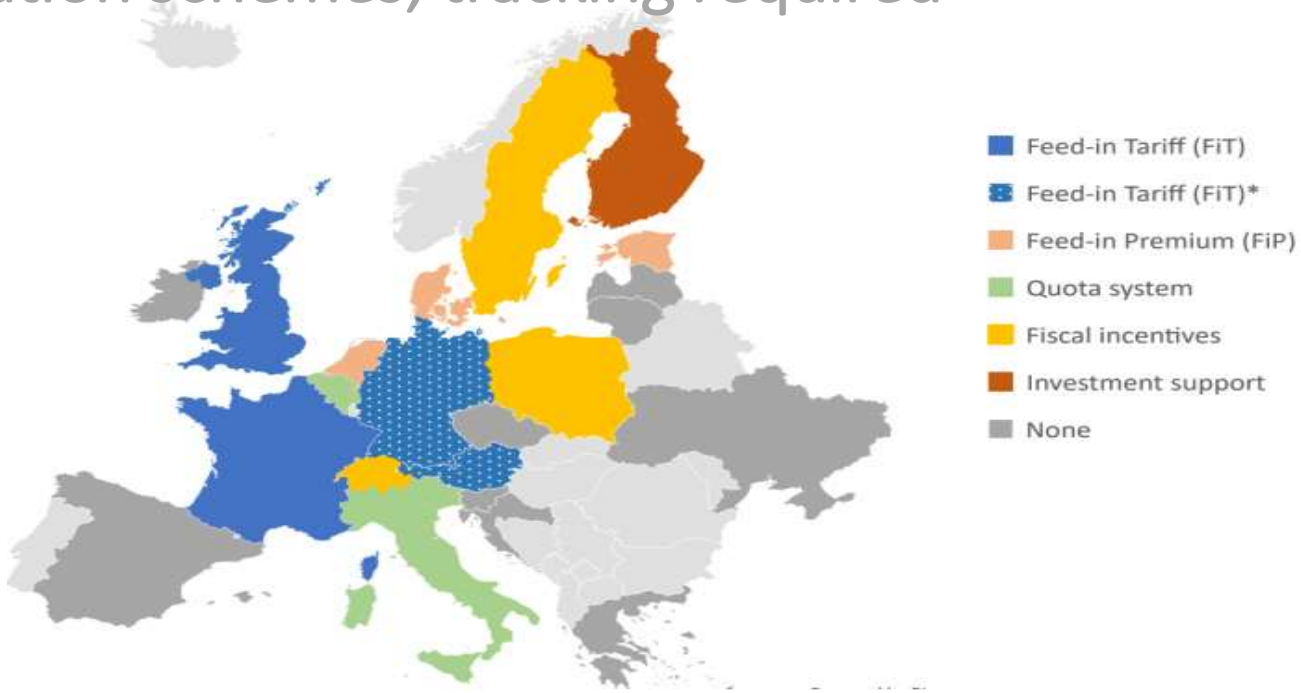
Scope	Sector			
Outside ETS	Transport	National emission trading for transport, buildings and waste (from '24)	HBE scheme to increase renew. fuel share to 28% by '30	Ban on sale of ICE cars from 2035 onwards
	Buildings	E.g. transport emission steering (GHG quota) penalty of 600 €/t CO2 not avoided	Blending obligation: 20% biomethane share in network by 2030 (1.6bcm)	REDII/REDIII decarbonization pathway
EU ETS	Industry	Biomethane lowers overall emissions and hence reduces costs for EUAs		Refuel EU: blending obligation fuel suppliers 2% SAF '25, 5%'30, 32%'40
	Aviation			
	Electricity & Heat			

Non-exhaustive

- Biomethane can be used to **fulfil EU ETS decarbonisation targets**
- **Renewable fuel tickets** are **traded across Europe** and across sectors, depending on **geography, subsidy, certification, feedstock and carbon intensity**, prices vary
- As national **implementation** of EU RED II/III is increasingly adjusting towards **emission steering**, **negative Carbon Intensity** of **biomethane** is **incentivised**

Why is biomethane a complex commodity to trade?

Many different types and certification schemes; tracking required



1. **Quality:**

   Carbon intensity and emission savings can vastly differ among biomethane types due to the technology or feedstock used

2. **Origin:**

   Country of origin is frequently a determining factor, as countries often impose restrictions on imported biomethane

3. **Recognition:**

   There are many different certification schemes available in the market, which don't guarantee uniform quality and calculation of emissions savings

4. **Ensure single use:**

   Often countries require mass balance and traceability throughout the supply chain from consumer back to the biomethane producer or even feedstock producer

Across EU several certification schemes exist to monitor compliance with sustainability criteria

RWEST is set up and active across the main markets

National GOs schemes

- National level
- Own standards of details included
- CO_2 intensity and GHG savings often indicated. Calculation methodology can differ
- Data can be used to meet national obligations
- Via e.g. ErGaR the transfer across registries following same standards possible

EUR recognised schemes

- ISCC and REDcert most prominent
- Follow mass-balance principle
- Standardized under REDII (CEN -EN 16325)
- Encourages cross-border trading
- Traceability through whole supply chain
- CO_2 intensity indicated
- Waste base: materials indicated

GLOBAL ENERGY MANAGEMENT & SALES

Current situation of biomethane trading and regulatory challenge

Country: France

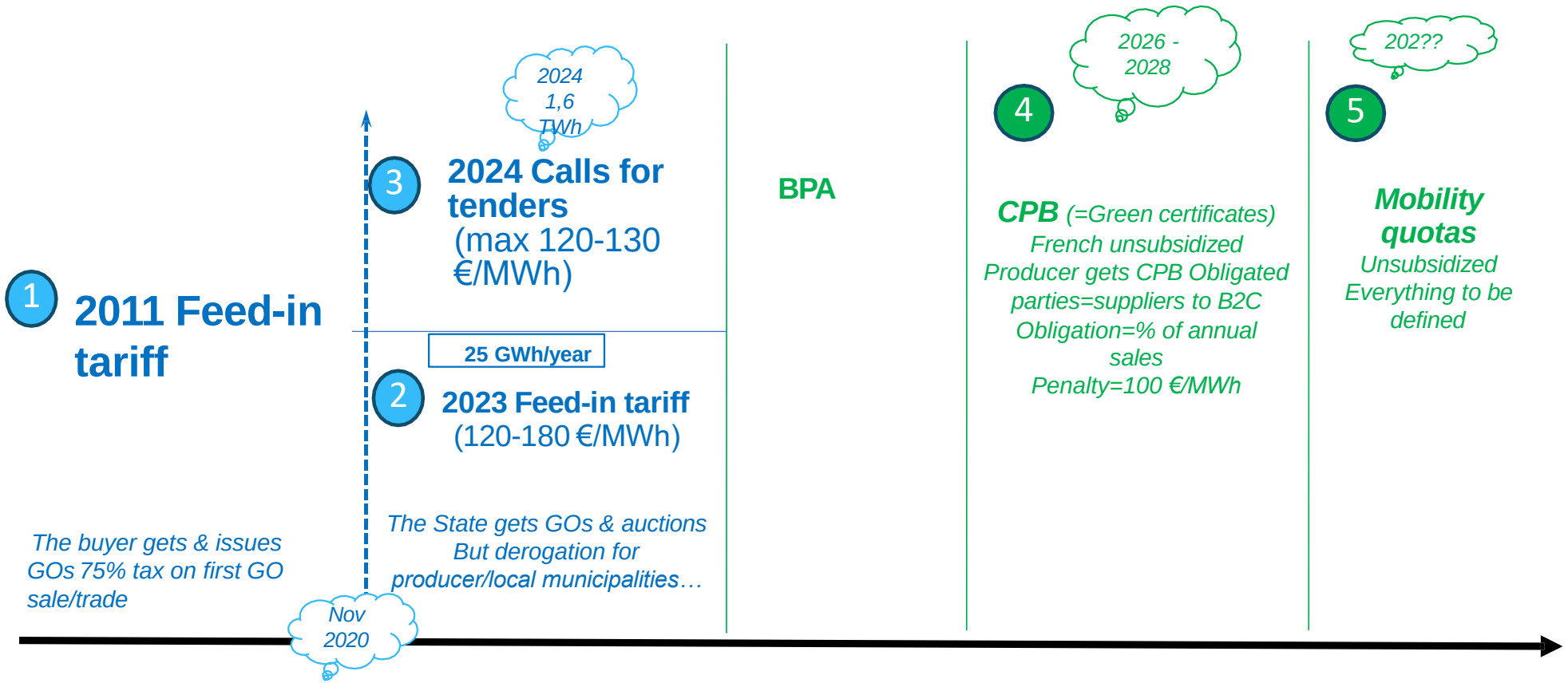
EFET Legal Committee

08/03/2024

RESTRICTED | INTERNAL | SECRET



Focus on existing schemes in France



Focus on certificates

✓ *GOs*

- Subsidized GOs
  . X% flagged as usable in EU-ETS
  . (100-X%) flagged as accounted for French ESR

- Unsubsidized GOs
- Imports: yes if no double counting

✓ *CPB*

- Sustainable
- Usable in ETS

✓ *Sustainability (POS)*

- For all plants producing > 19,5 GWh/y

- Dedicated crops < 15%

- GHG emissions: unique threshold

- Declarations to be done by producers to Minister

Biomethane Guarantees of origin (GOs)– French Register issues

✓ *Exportation GOs*

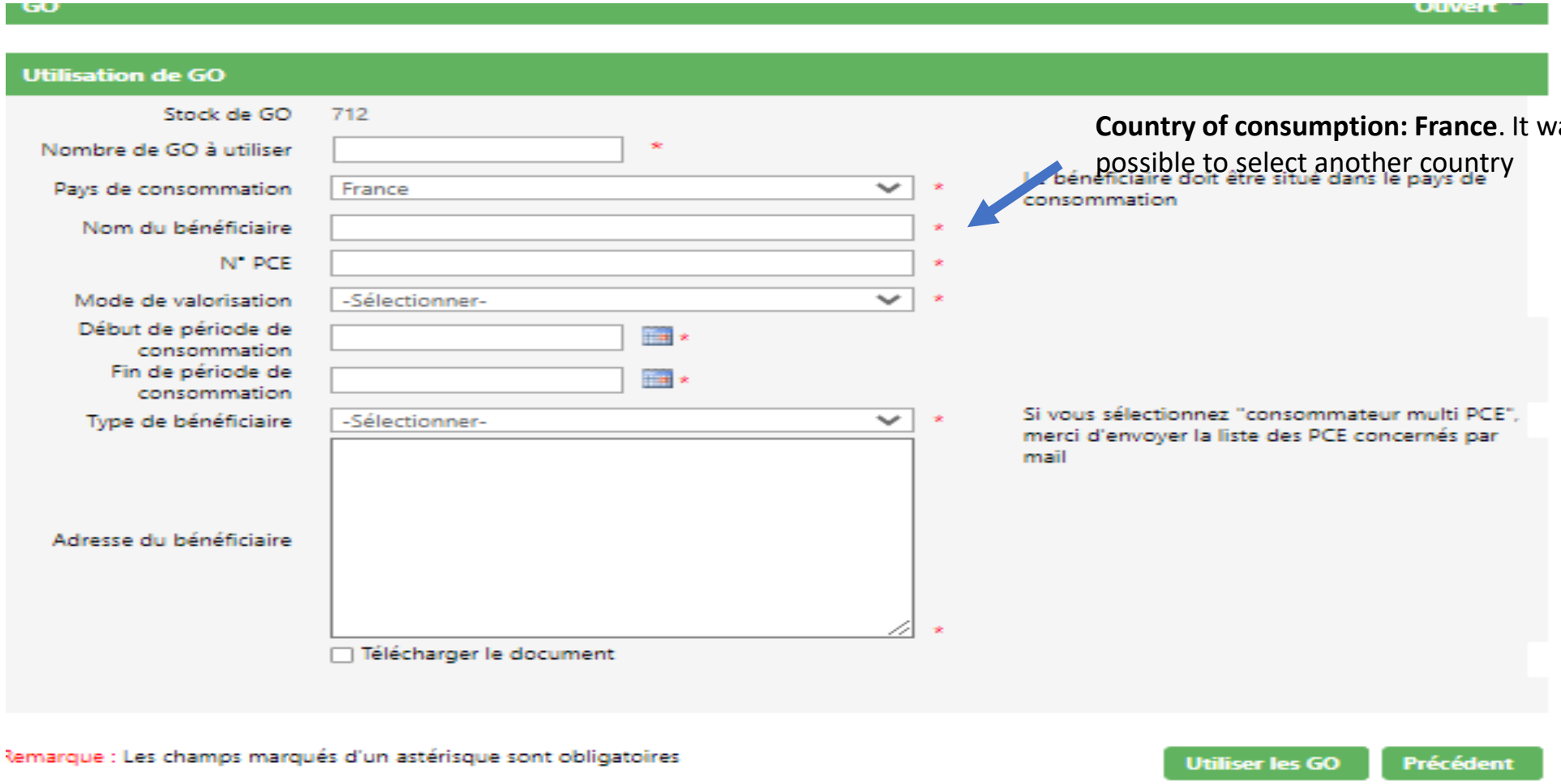
The register did not allow the export of GOs (although this possibility is provided for by RED II and transposed into French law). The tool was not adapted for this export; Only transfers within France were possible (see extract).

✓ *Traders*

Sale of GOs to third parties which are not consumers ("*acheteurs non consommateurs*") by purchasers not suppliers ("*acheteurs non fournisseurs*") was not allowed by the former register. Sale of GOs to traders was subject to the trader holding a gas supply licence ("*autorisation de fourniture*"). After exchanges with GRD-F, we have put in place mandate agreement with each trader declaring acting on behalf of a final consumer.

Since last October, the operator of the French Register and its tool have changed (EEX) : Export is easier but not yet perfect and no restriction on trading between intermediaries.

Extract from the former register



Country of consumption: France. It was not possible to select another country

Biomethane in Austria

Current situation of biomethane trading and national challenges

Michael Dellmour

Biomethane in Austria
Current situation

1.7 %
of domestic renewable energy production comes from biogas

6 %
of all biogas plants currently feed biomethane into gas grid

5 TWh
of green gas to be fed into grid by 2030 (RES-Expansion-Act)

0.13 TWh
of renewable gas was fed into Austrian grid in 2023

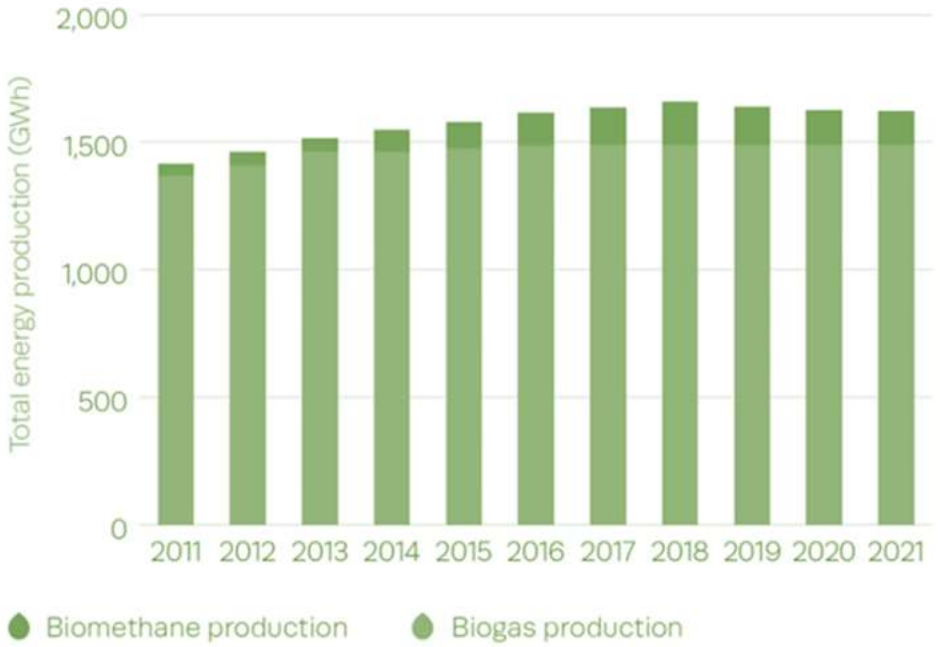
Status quo:

- (Expiring) financial support (only) for electricity generation from biogas plants
- High investment costs for upgrading to biomethane and feed-in
- Fuel quota (KVO 2022): Compensation payment of EUR 600 per ton of CO2
- Biomethane currently plays a marginal role in the Austrian market

Future legal framework:

EGG (Erneuerbare Gase Gesetz) - entry into force outstanding*

- Increasing mandatory quotas for commercial suppliers who supply end consumers, initially until 2030 (2030 – 9,75%); **Target 7.5 TWh by 2030**
- Proof of the quota by means of a green gas seal (Grüngassiegel)
- Domestic production, **imports not included**
- Compensation payment by supplier for non-compliance (**15 cents/MWh**)

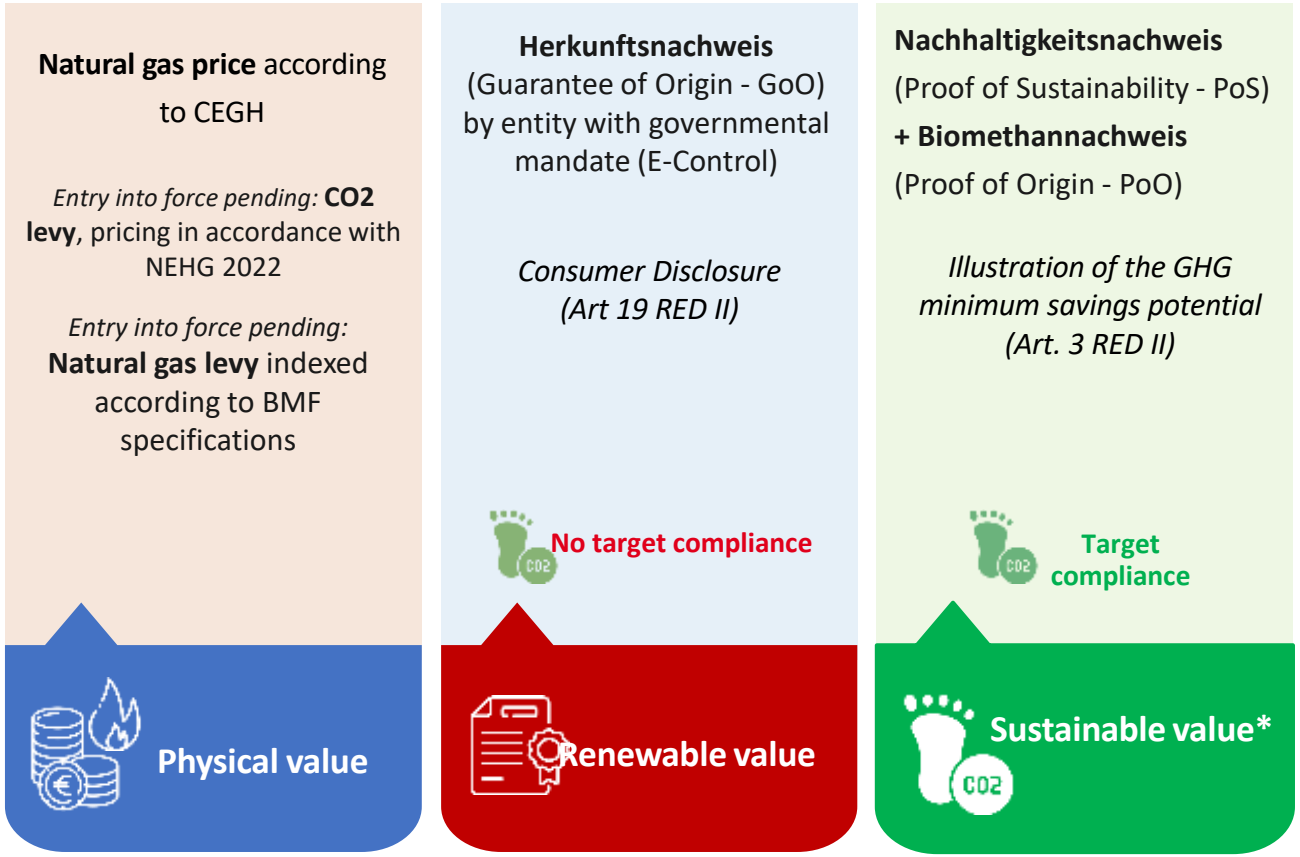


EBA 2022: Statistical Report

*Renewable Gases Act

Sustainable biomethane in Austria

Verification and certification system for sustainable biomethane



*No liquid trading possible at the moment!

I. Consumer disclosure of the supplier mix *(= renewable value)*

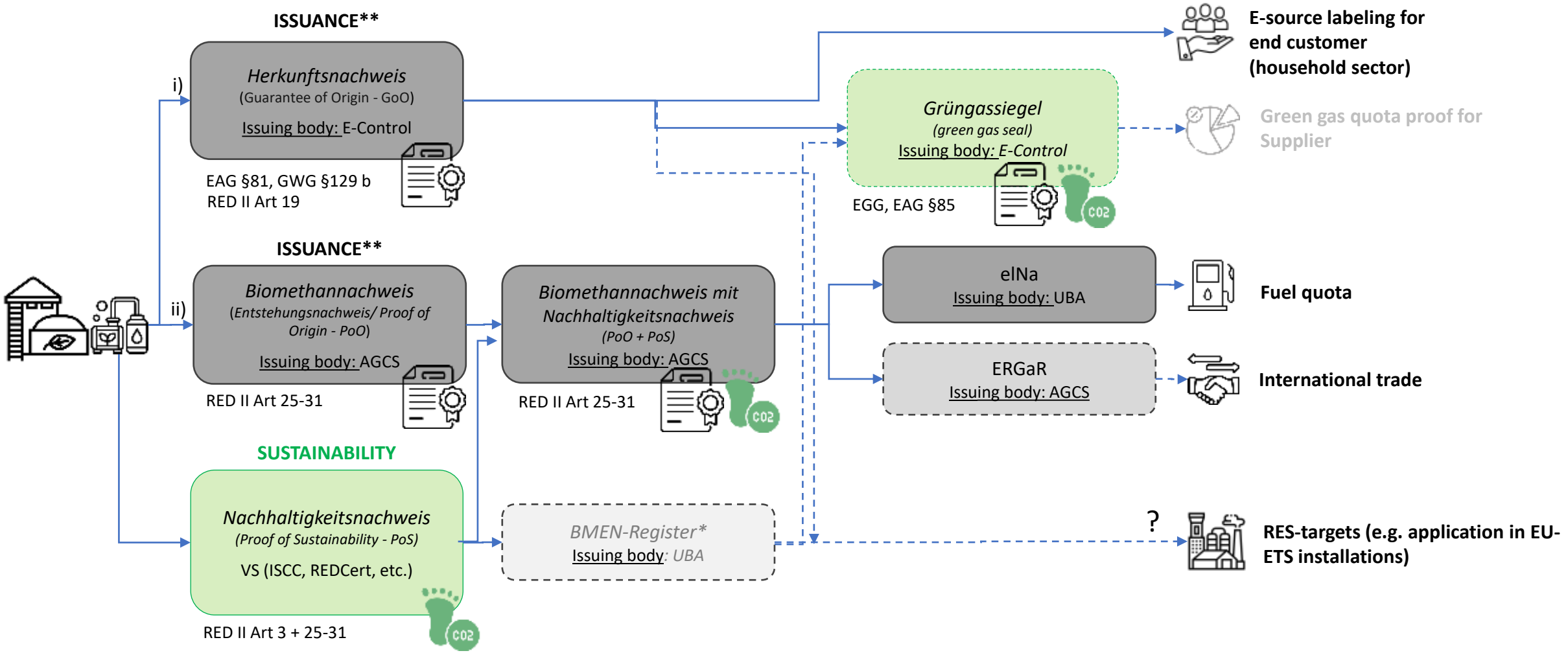
- Verification type = Guarantee of origin (GoO)
- No effect on compliance with sustainability criteria, cannot be used for targets/quotas

II. Proof of Sustainability (PoS) *(= sustainable value)*

- For targets/quotas – sustainable biomethane in accordance with RED II
- Meets the sustainability and greenhouse gas saving criteria according to RED II
- Additionally Proof of origin (PoO) to prove gas flow / transportation in gas grid

Sustainable biomethane in Austria

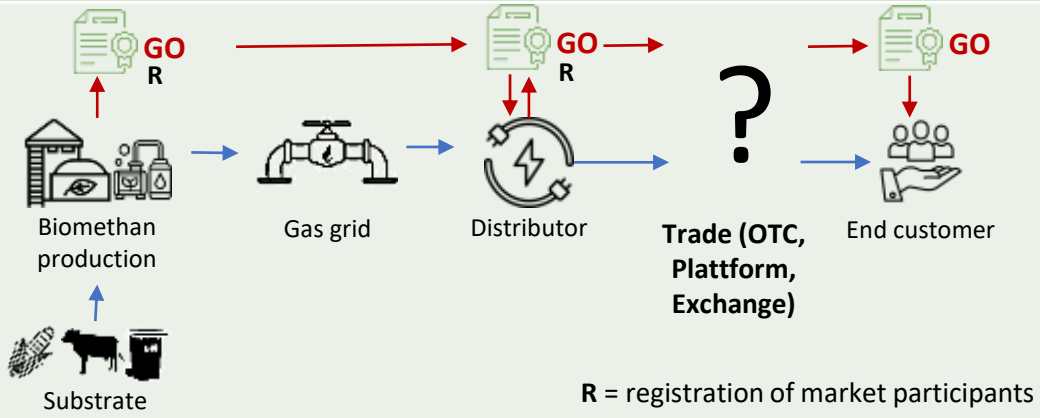
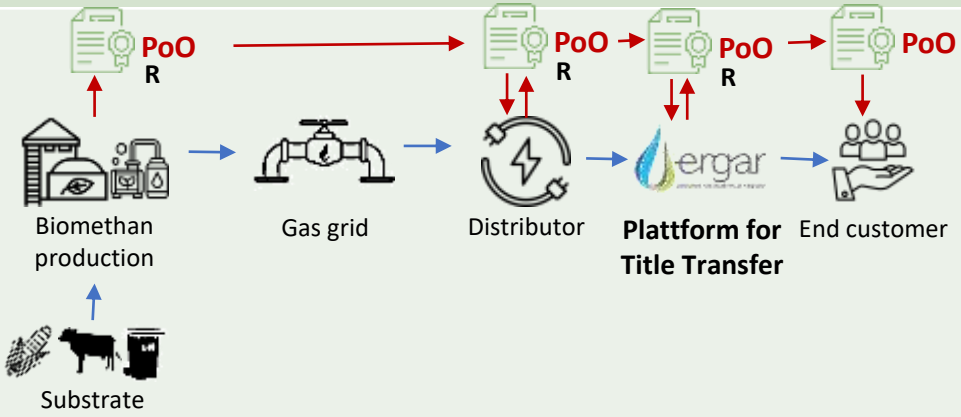
Verification and certification system for sustainable biomethane



* for the generation of electricity, heating and cooling; from 2024; nothing is planned for biomethane for the time being

**Responsible body is balance group coordinator (BGC) or grid operator; can be chosen by the plant operator whether BGC or grid operator is responsible for quantity reporting

Sustainable biomethane in Austria
Summary of the legal framework from a trading perspective

	Guarantee of Origin (GoO) Executing agency: E-Control	**Proof of biomethane (Proof of Origin - PoO)** Executing agency: AGCS
Function	• GaskennzeichnungsVO(G-KenV) -Novelle 2023: regulates the issuing of guarantees of origin and consumer disclosure • E-Control is entrusted with the supervision of electricity and gas labeling	• AGCS = Clearing house and balance group coordinator Gas • Austrian Biogas & Biomethan registry • Recording of all gas movements, injections and withdrawals, including biomethane • **Cooperates with ERGaR**
Transfer	 **R** = registration of market participants	
Challenges from a trading perspective	– §7 -Validity of evidence: – GOs are only valid for 1 calendar year, which would mean that those issued in December are **only valid for 1 month** vs. Art. 19 RED II: GOs for energy from renewable sources are valid for at least 12 months – E-Control member of AIB gas scheme group AIB EECS gas scheme supports currently only Spain and Latvia! – E-Control does not allow to communicate with other GO registries via ERGaR – ERGaR and AIB are actively seeking cooperation agreement – Does **not function as a mass balancing system** → EU-ETS not eligible – Link with PoS questionable (Link UDB & Grüngassiegel) – PoS is sent by E-Mail between participants	✓ **Cooperates with ERGaR:** international cross-border title transfers via ERGaR scheme possible" ✓ Does **function as a mass balancing system** – Link with PoS possible but not yet applied by market participants (due to lack of legal rules for mass balancing) – PoS is sent by E-Mail between participants

Sustainable biomethane in Austria

National challenges with regulatory framework from a trading perspective

Lack of legal framework

- **Unclear about financial support** (quota via EGG, market premiums, investment subsidy, ...)
- Difficult financing (subsidies, securities...)
- Complex approval procedures and certification

Price discrepancy

- Price pressure compared to natural gas + CO2-certificates
- Biomethane price demanded from the customer's perspective: natural gas price + CO2-certificate vs. significantly higher production costs for operators
- **Austrian biomethane prices are not competitive with EU prices without financial support**

Lack of a standardized verification and transfer system

- Questionable tradability of GOs (currently only possible in Austria, Spain and Latvia) via the regulatory authority E-Control
- Time limit for GOs to the calendar year produced vs. seasonal storage function & trading

The market **urgently needs clarity and predictability** so that investments can be made and production plants built and the biomethane stock can thus be expanded.

Regional - sustainable - environmentally friendly

Contact Details

Mag. Michael Dellmour, BA

Energy Trading
EVN AG
M + 43 676 810 33665
michael.dellmour@evn.at

Thank you!