



AGGM Austrian Gas Grid Management AG

# Information on Gas Grid Access and Market Rules for Biomethane in Austria

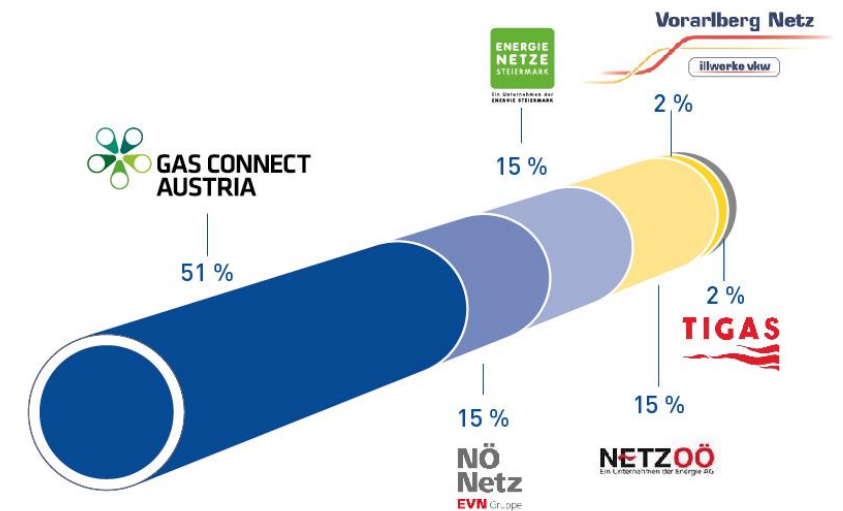
21.04.2022

▶ **AGGM Austrian Gas Grid Management AG** is as the Austrian distribution and market area manager responsible for:

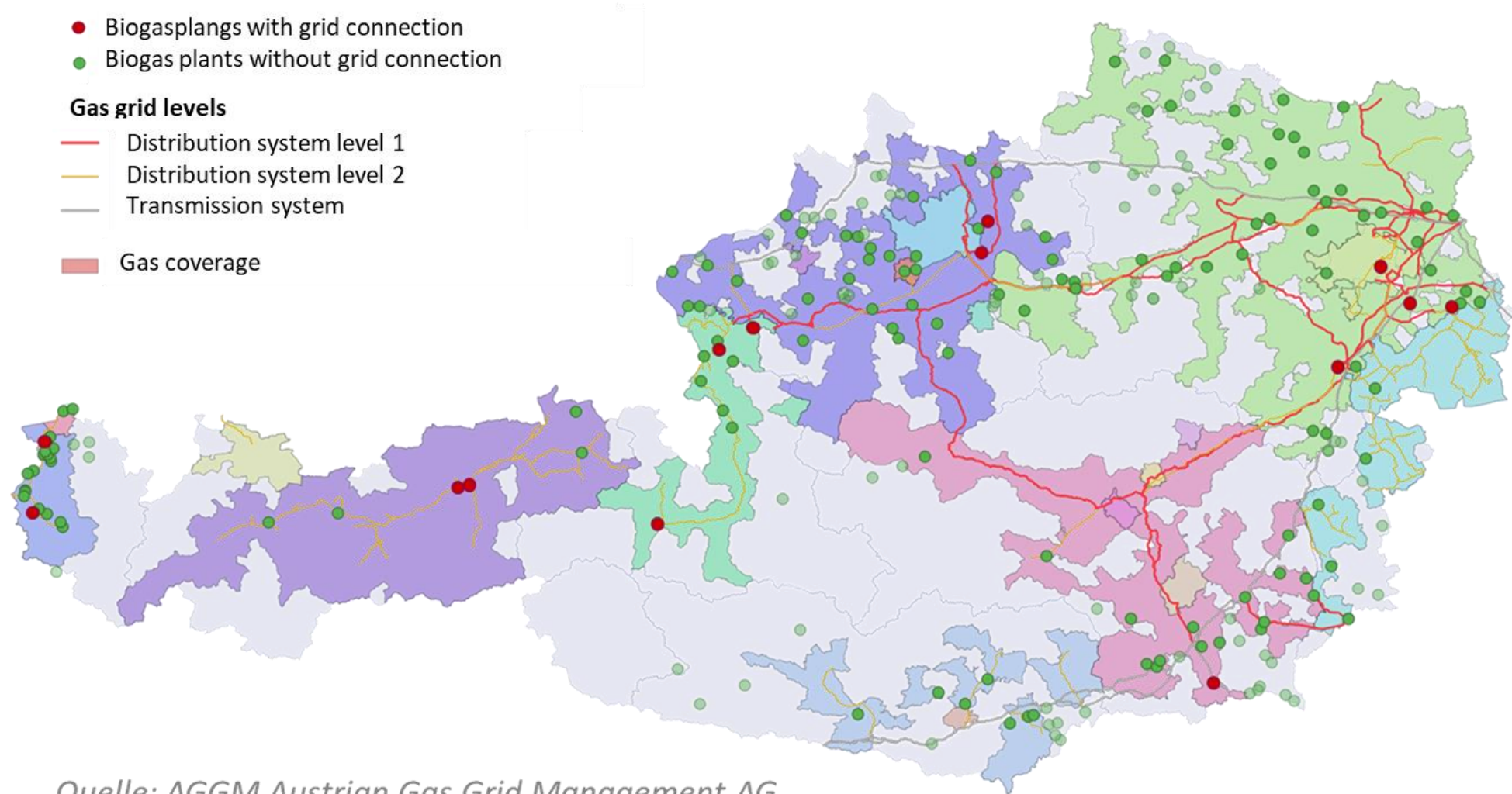
- ▶ **Network access- and capacity management**
- ▶ Preparation of the **capacity calculation model**
- ▶ Permanent **gas flow operation and management**
- ▶ Coordinated **congestion management and planning**
- ▶ Coordinated **network development planning** for transmission system
- ▶ **Long Term Planning** for the level 1 distribution system

## ▶ **Main Goals**

- ▶ **Ensuring the uninterrupted supply of gas** to Austrian gas consumers
- ▶ Balancing and **ensuring the stability of the Austrian gas network.**



# Overview of the Austrian gas grid

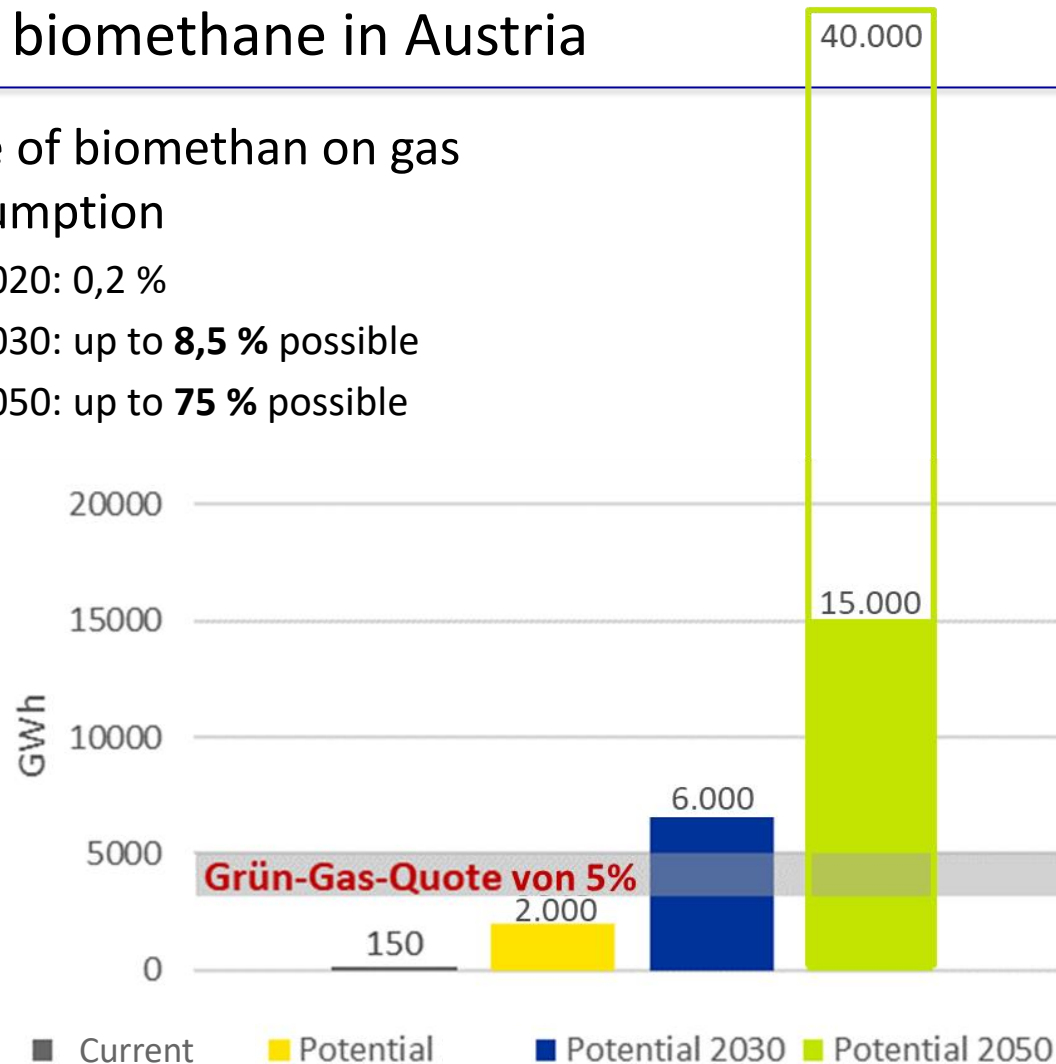


Quelle: AGGM Austrian Gas Grid Management AG

# Potential of biomethane in Austria

## ► Share of biomethane on gas consumption

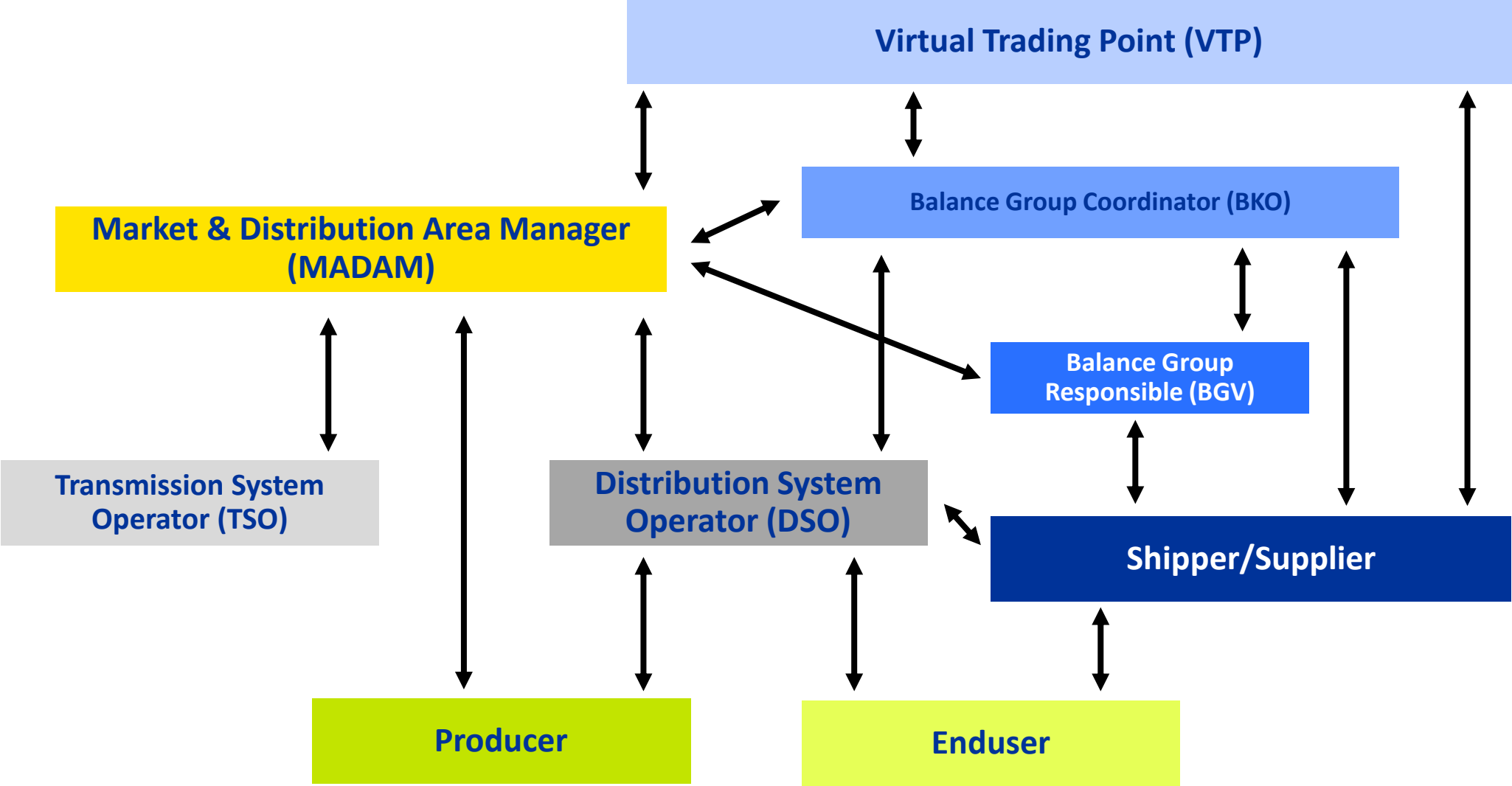
- 2020: 0,2 %
- 2030: up to **8,5 %** possible
- 2050: up to **75 %** possible



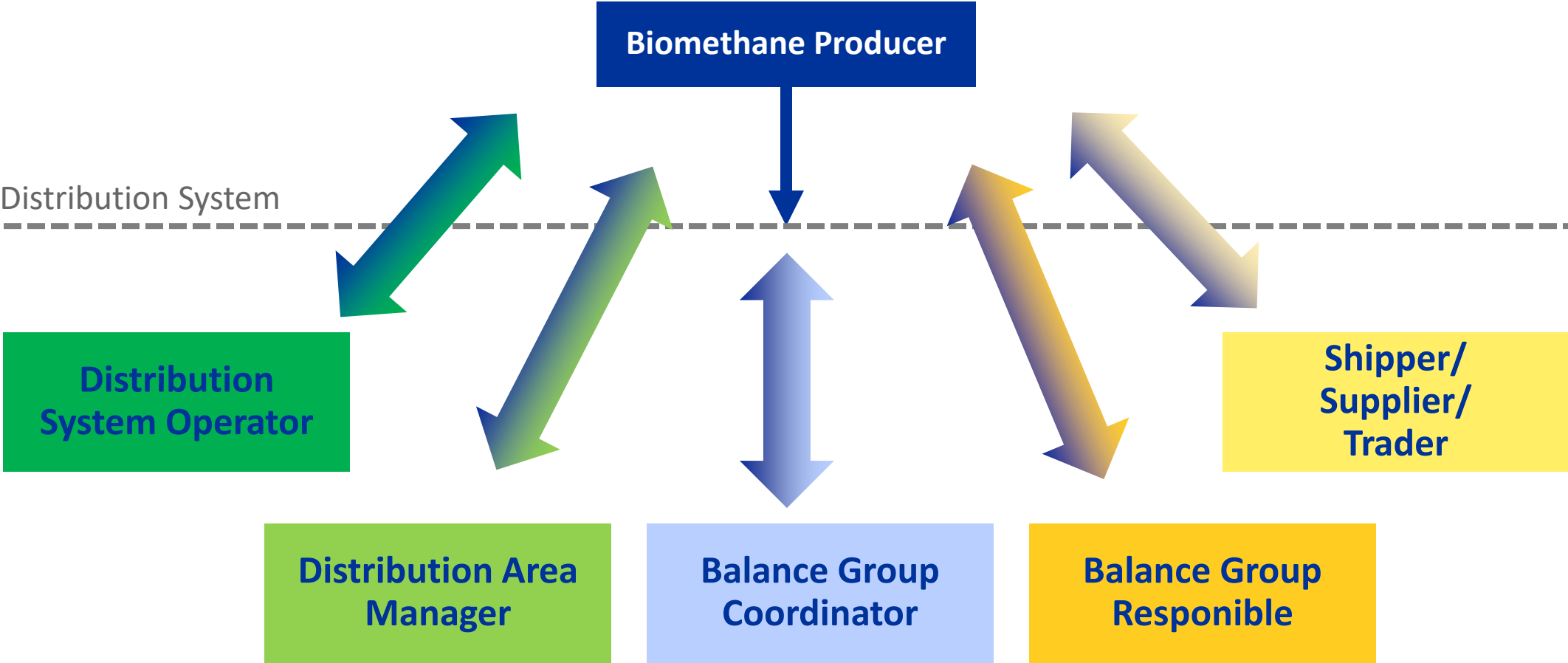
► **Existing and new biogas plants need to be connected to the gas grid!**

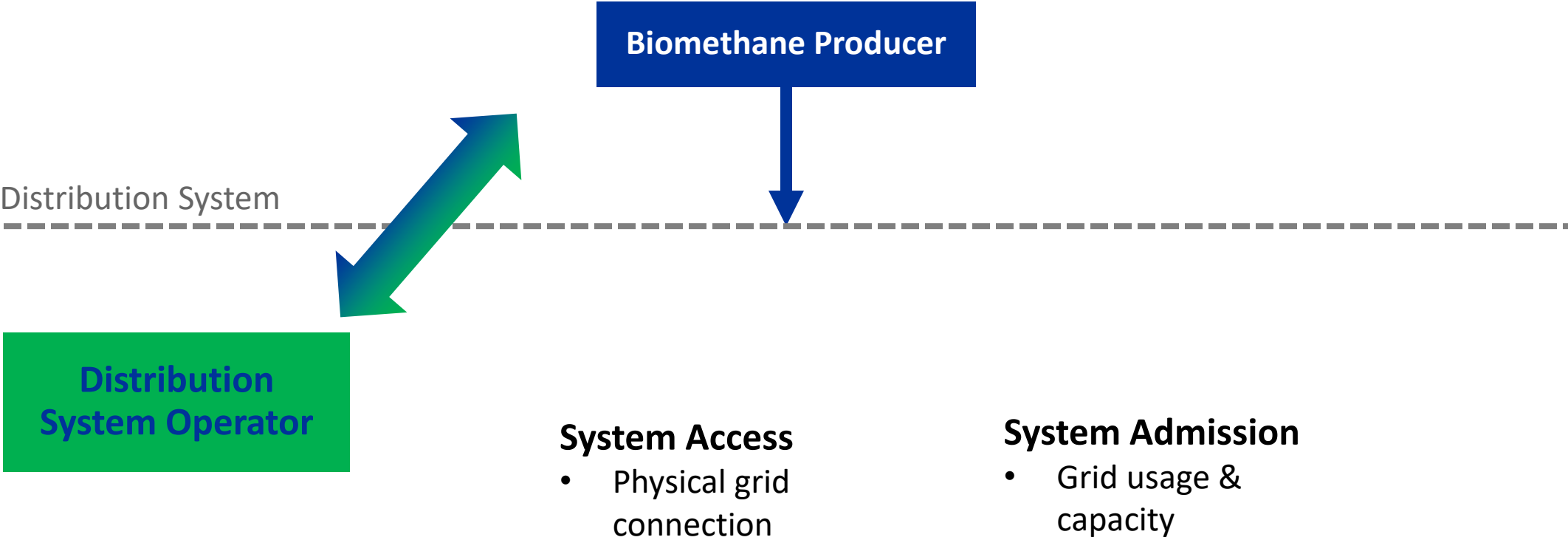
„Erhöhung des Einsatzes von erneuerbarem Methan im Wärmebereich“ Steinmüller et. al., JKU Linz, 2017

„Machbarkeitsuntersuchung aus Biomasse“ Dißauer, Rehling, Strasser; bioenergy 2020+, 2019



# Grid Access & Market Model





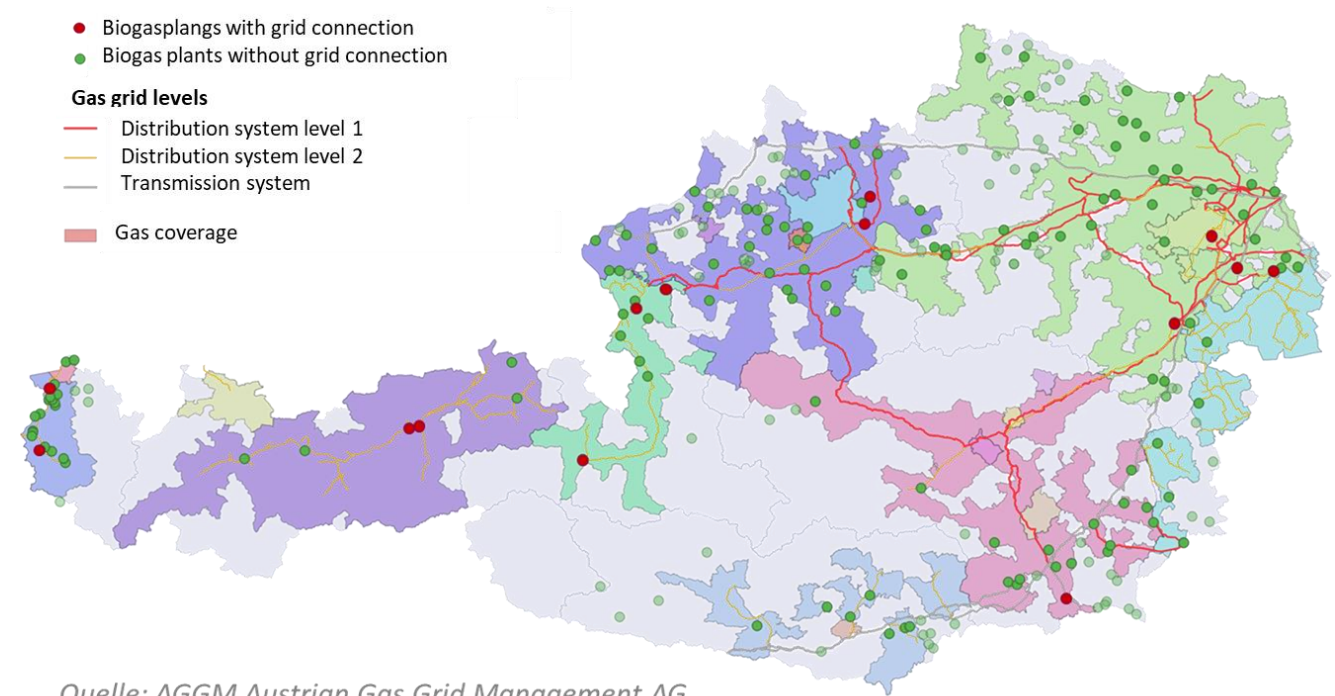
***Gas Market Model Ordinance 2020***

*Annex I System access, system admission and capacity expansion*

## ► First Contact: Local Distribution System Operator

- Possible locations of the Biogas plant
- Delivered pressure after gas conditioning and treatment
- Biomethane quantities (capacity in MW & yearly production in MWh)
- Compression
- Odorization

– **Establishing of optimal grid connection point**



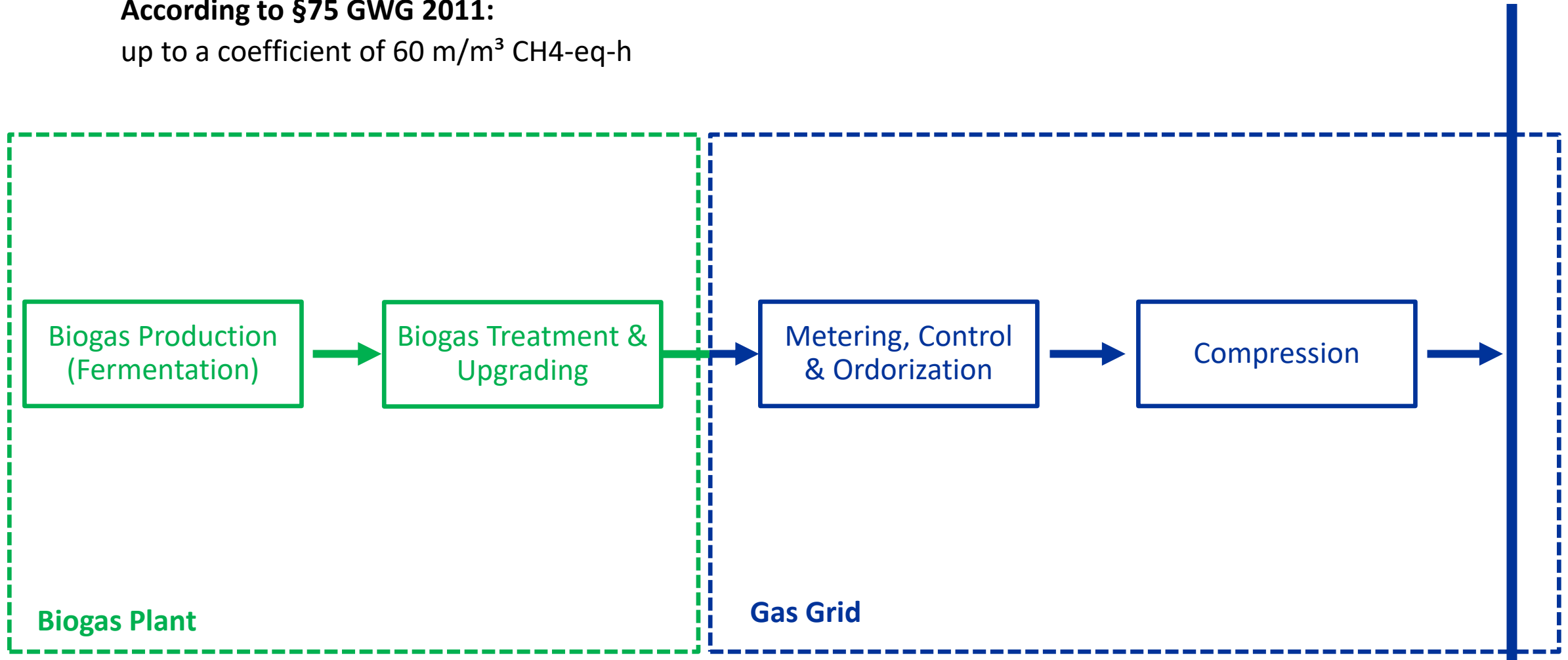
Quelle: AGGM Austrian Gas Grid Management AG



# Interface between Biomethane plant and Gas Grid

**According to §75 GWG 2011:**

up to a coefficient of  $60 \text{ m/m}^3 \text{ CH}_4\text{-eq-h}$



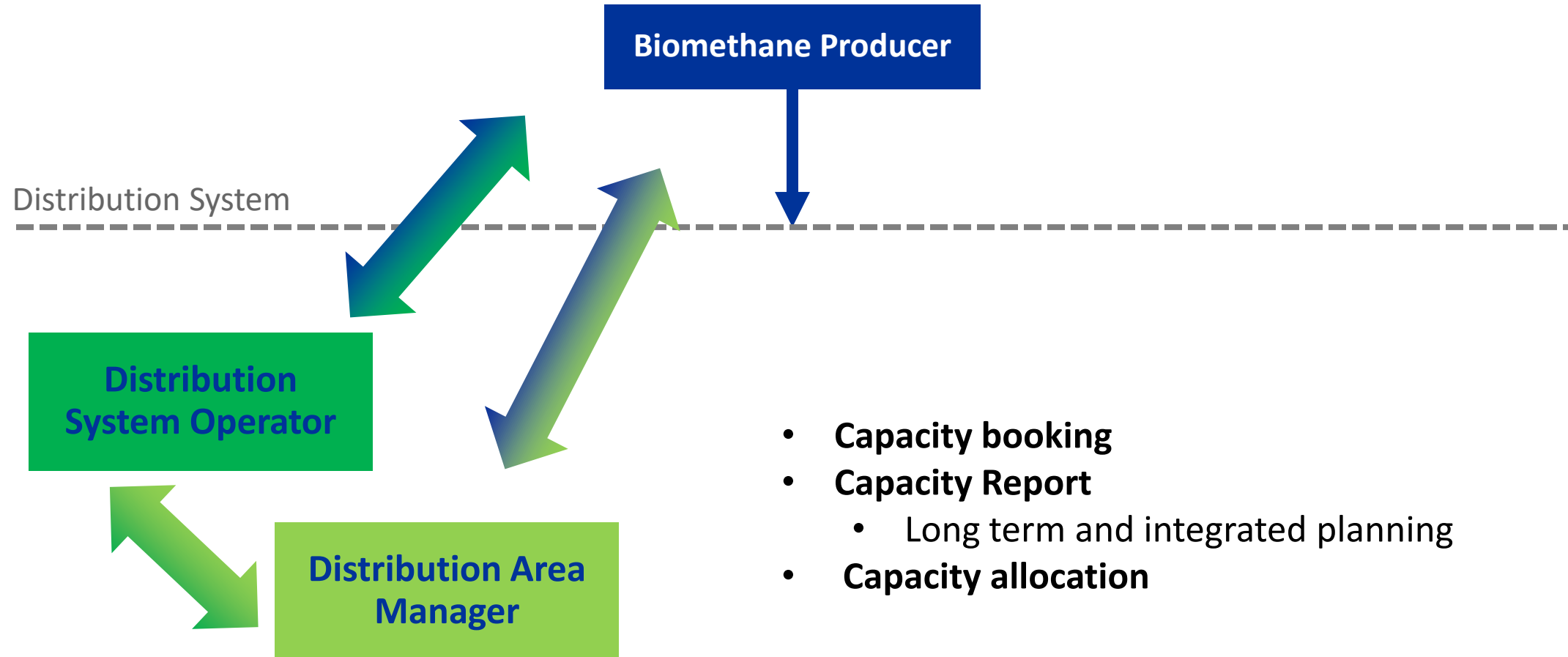
## ▶ ÖVGW Guideline GB210 (Excerpt)

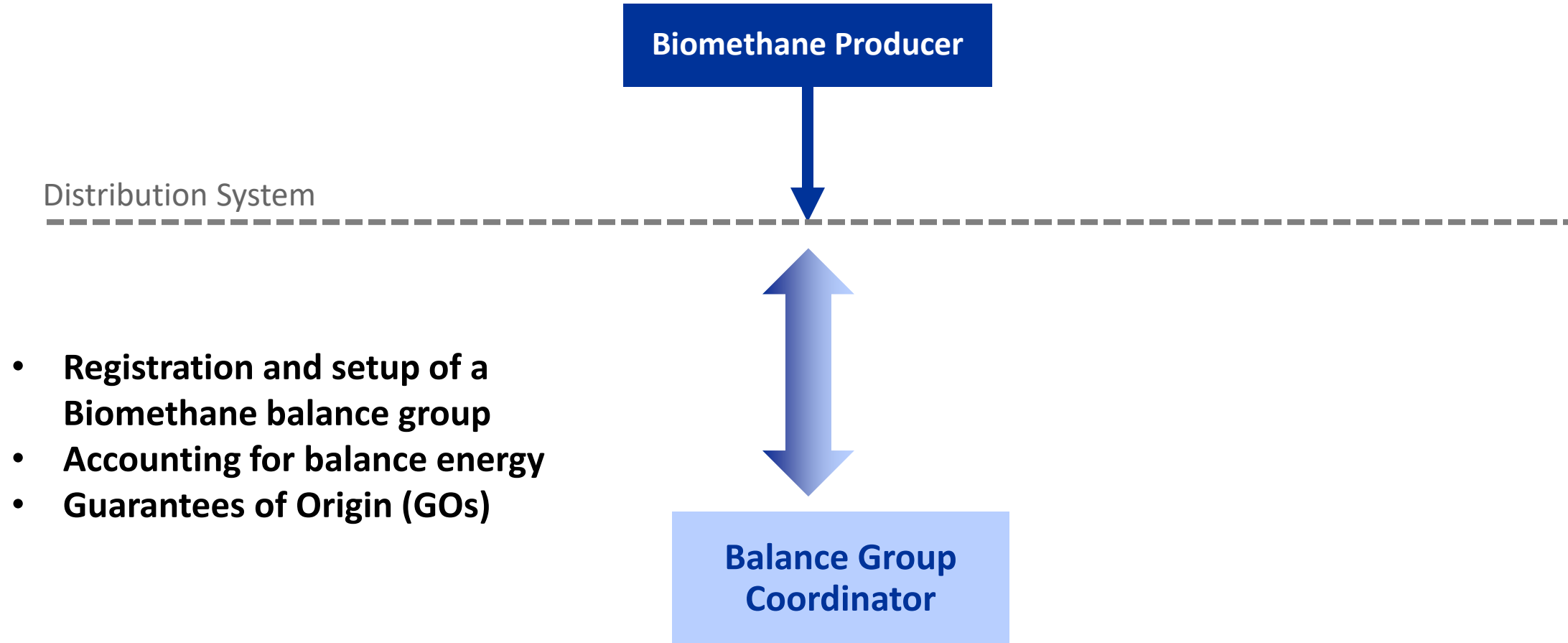


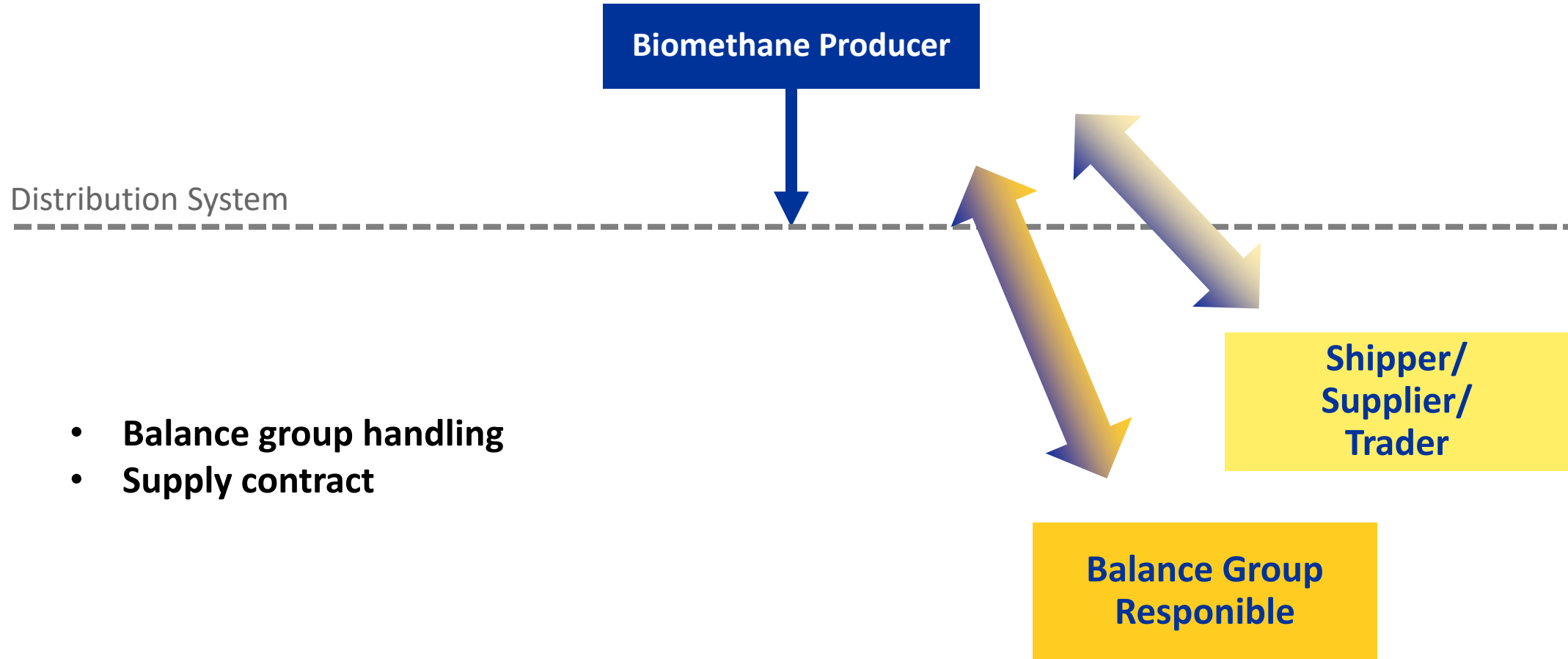
	Min	Max.	Unit
Sulphur	-	21	mg/m <sup>3</sup>
Hydrogen sulphide	-	5	mg/m <sup>3</sup>
Mercaptan sulphur	-	6	mg/m <sup>3</sup>
Oxygen	-	0.001% or 1%*	mol/mol
Carbon dioxide	-	2,5% or 4%*	mol/mol
Carbon monoxide	-	0,1%	mol/mol
Ammonia	-	10	mg/m <sup>3</sup>
Amine		10	mg/m <sup>3</sup>
Nitrogen	-	5%	mol/mol
Methane number	-	85	
Wobbe-Index	13.25	15.81	kWh/m <sup>3</sup>
Calorific value	9.37	13.23	kWh/m <sup>3</sup>
Relative density	0.555 or 0.5**	0.7	-
Hydrogen	-	10%	mol/mol

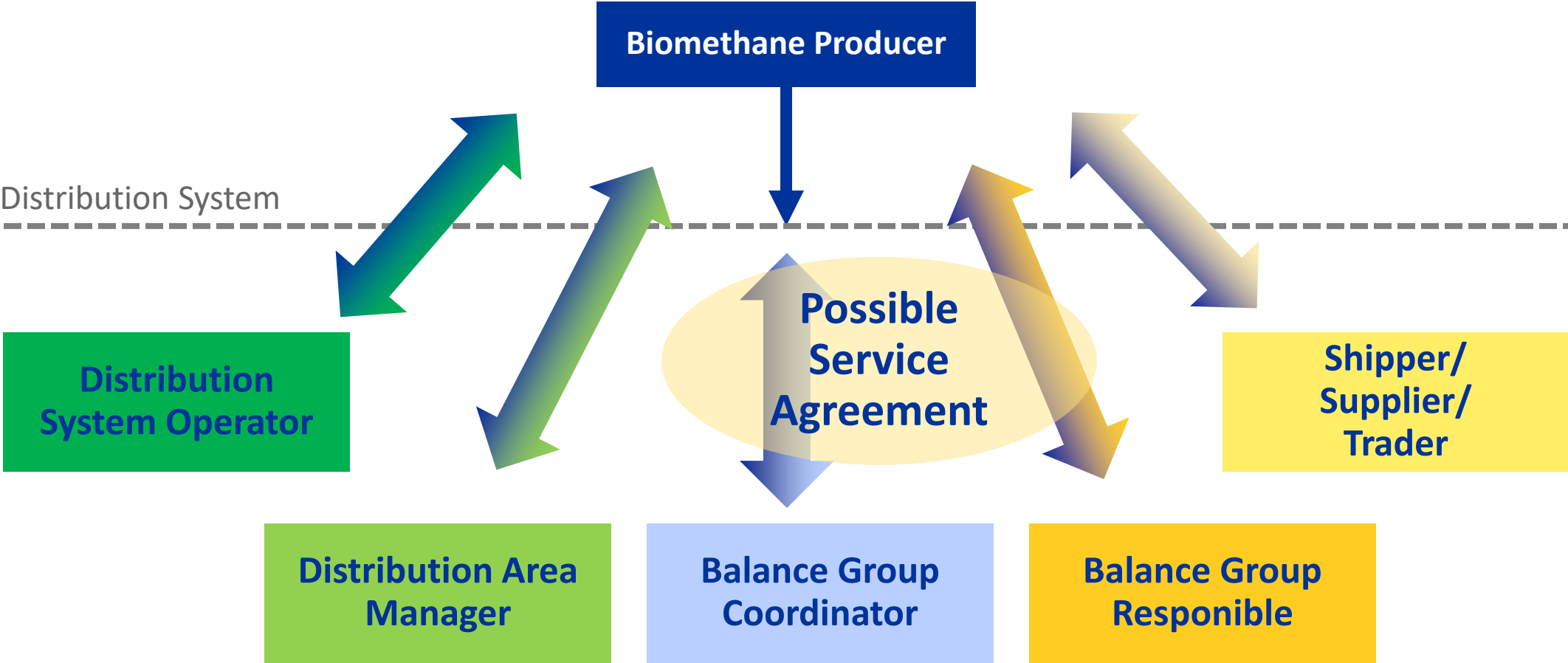
\*) However, where it can be proven that the gas does not flow to facilities that are sensitive to higher concentrations, such as underground storage facilities, a higher limit may be applied.

\*\*\*) If it can be ensured that the K-number calculation (e.g., according to ÖNORM EN ISO 12213) complies with the legal requirements, the limit value of 0.5 can be applied.



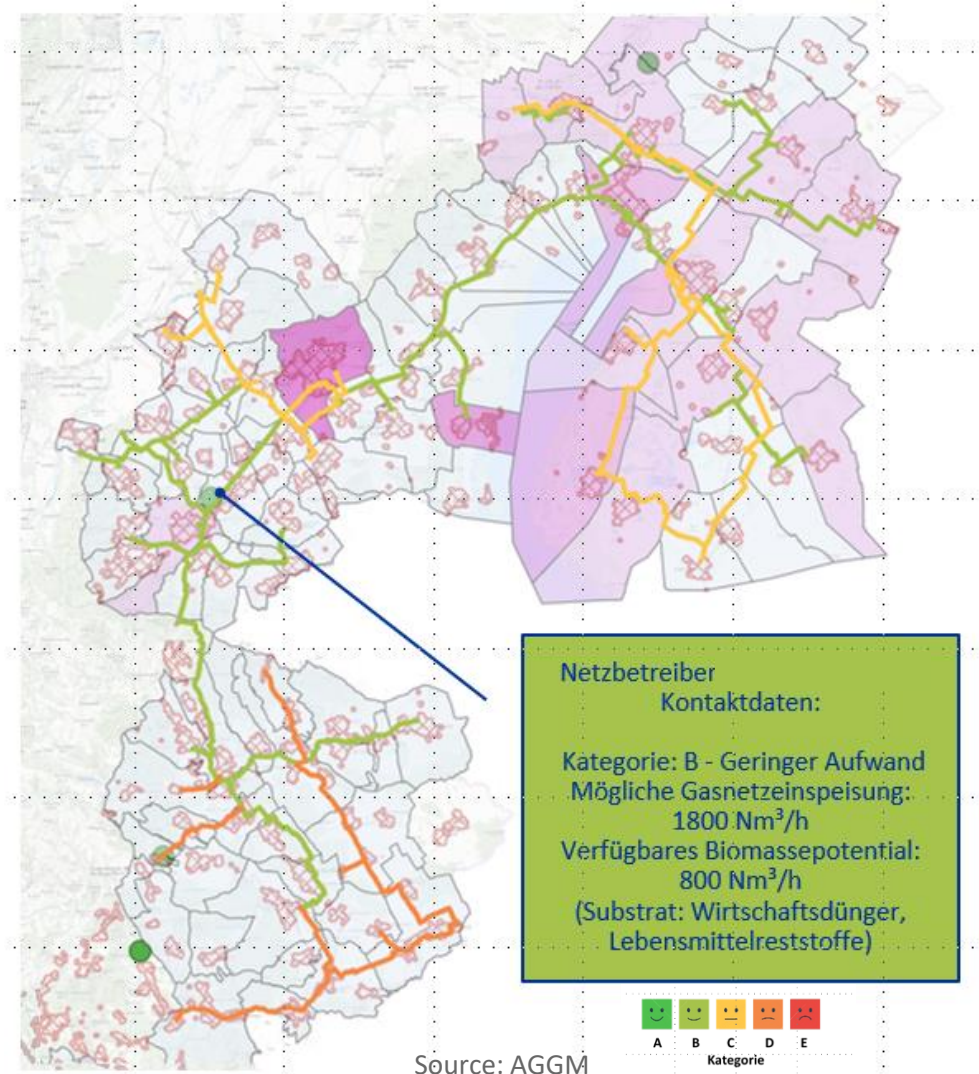






- ▶ GWG 2011 (Natural Gas Act)
- ▶ GMMO-VO 2020 (Market Model Ordinance)
- ▶ GSNE-VO (Gas System Utilization Fee Ordinance)
  
- ▶ ÖVGW Rules of Technology: Guideline GB210 on gas quality and properties for grid injection
  
- ▶ General Terms and Conditions of balance group coordinator (AGCS and A&B)
- ▶ General Terms and Conditions of the market and distribution area manager (AGGM)
- ▶ General Terms and Conditions of distribution system operator
  
- ▶ <https://www.e-control.at/bereich-recht/verordnungen-zu-gas> (German)
- ▶ <https://www.e-control.at/en/recht> (English)
- ▶ <https://www.ris.bka.gv.at/GeltendeFassung.wxe?Abfrage=Bundesnormen&Gesetzesnummer=20007523>

- ▶ **Project: Entry Points for renewable gases**
  - ▶ <https://www.aggm.at/en/energy-transition/entry-points-for-renewable-gases>
  - ▶ The aim of the project is to create a web-based map showing the optimal feed-in (entry) points for renewable gases and the regional production and demand potential.
  - ▶ This map will provide **guidance to potential renewable gas producers on where their products can best be injected into the gas grid**. The map will be continuously maintained and adapted to current conditions.





**The future is biomethane**  
**The gas grid is ready!**



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