

AGCS Biomethane Registry Austria

Driver for European Gas Market Integration of
Biomethane



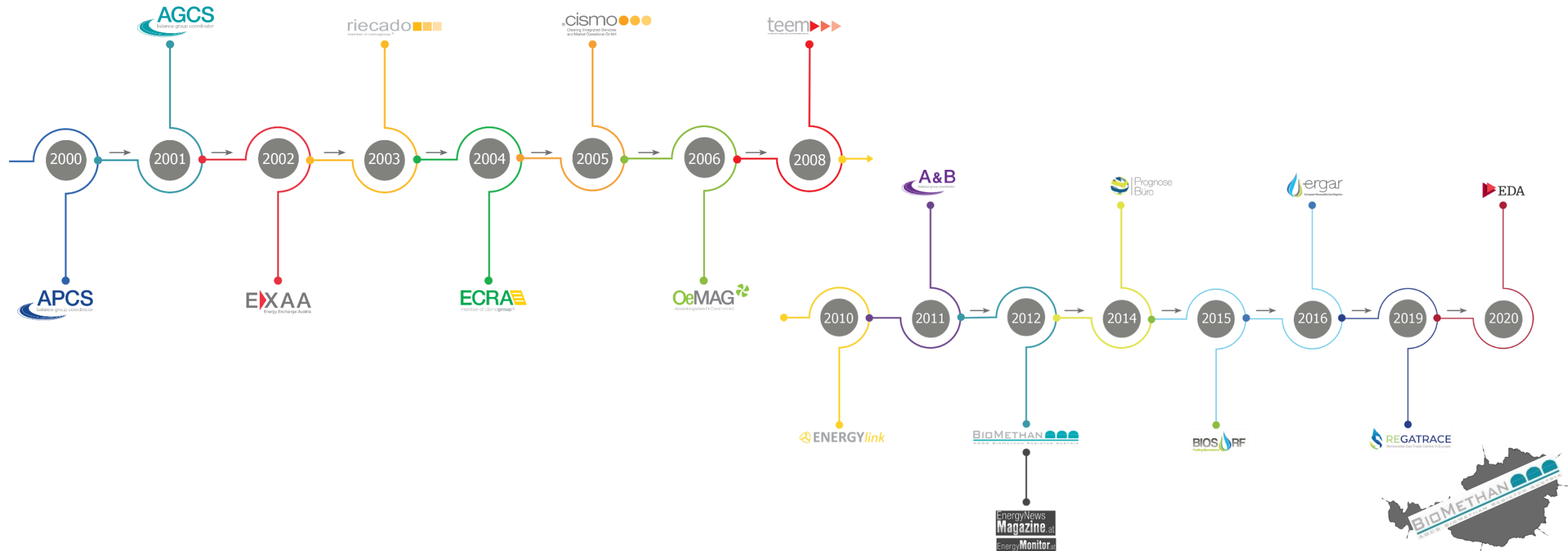
- AGCS Biomethane Registry Austria: introduction & operator
- Biomethane
 - The green element of the gas business
 - Biomethane market Austria
 - Biomethane market Europe
- AGCS Biomethane Registry Austria
 - Legal mandate
 - Stakeholders
 - Tasks & Functionalities
 - Interaction with other Registries
 - Collaborations and international projects

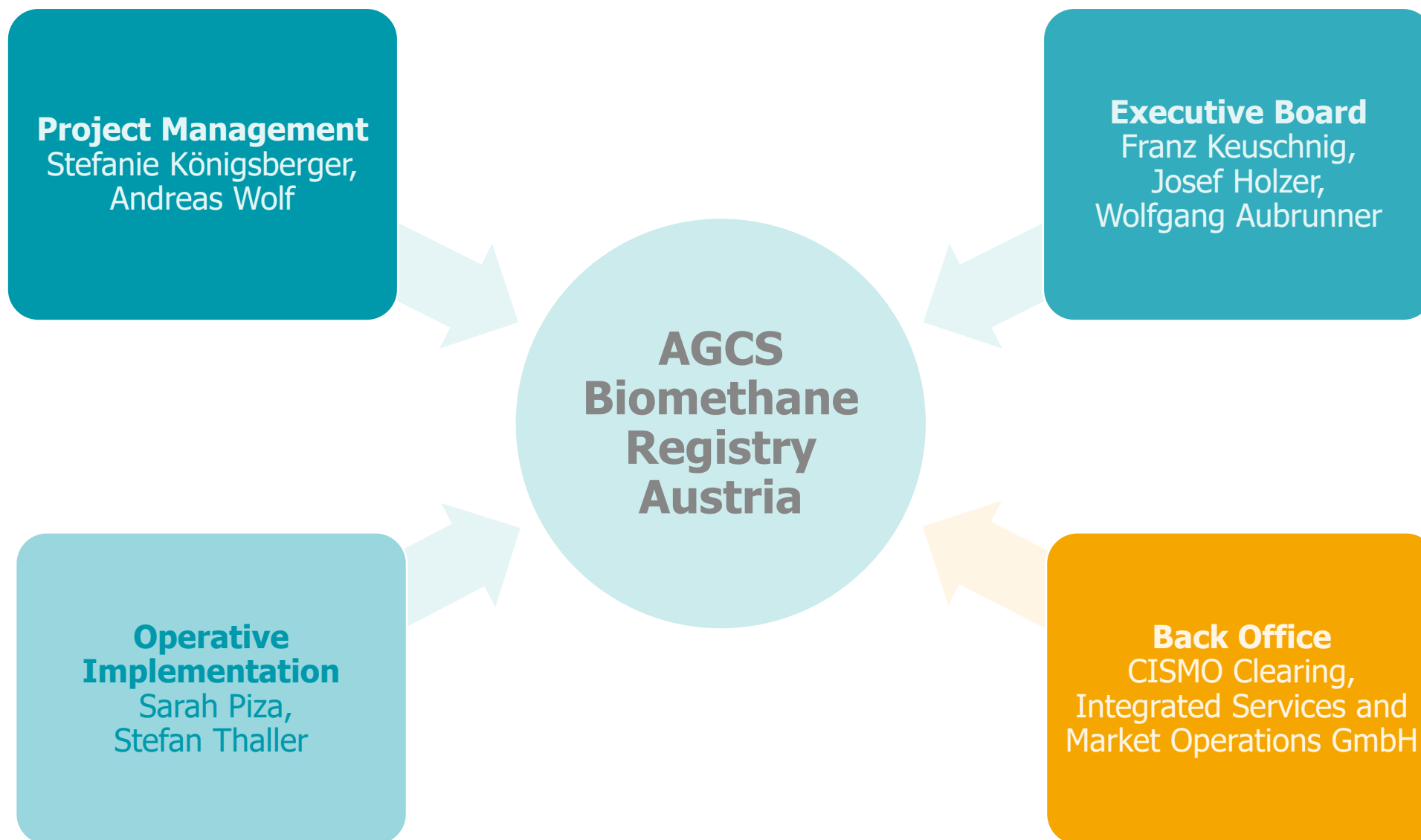
AGCS Biomethane Registry Austria

Introduction and operators



- CISMO provides services and back-office for Austrian energy market; especially for system operators
- Companies were founded and projects have started since 2001 to fulfil specific tasks for the Austrian energy market in the electricity and gas area.





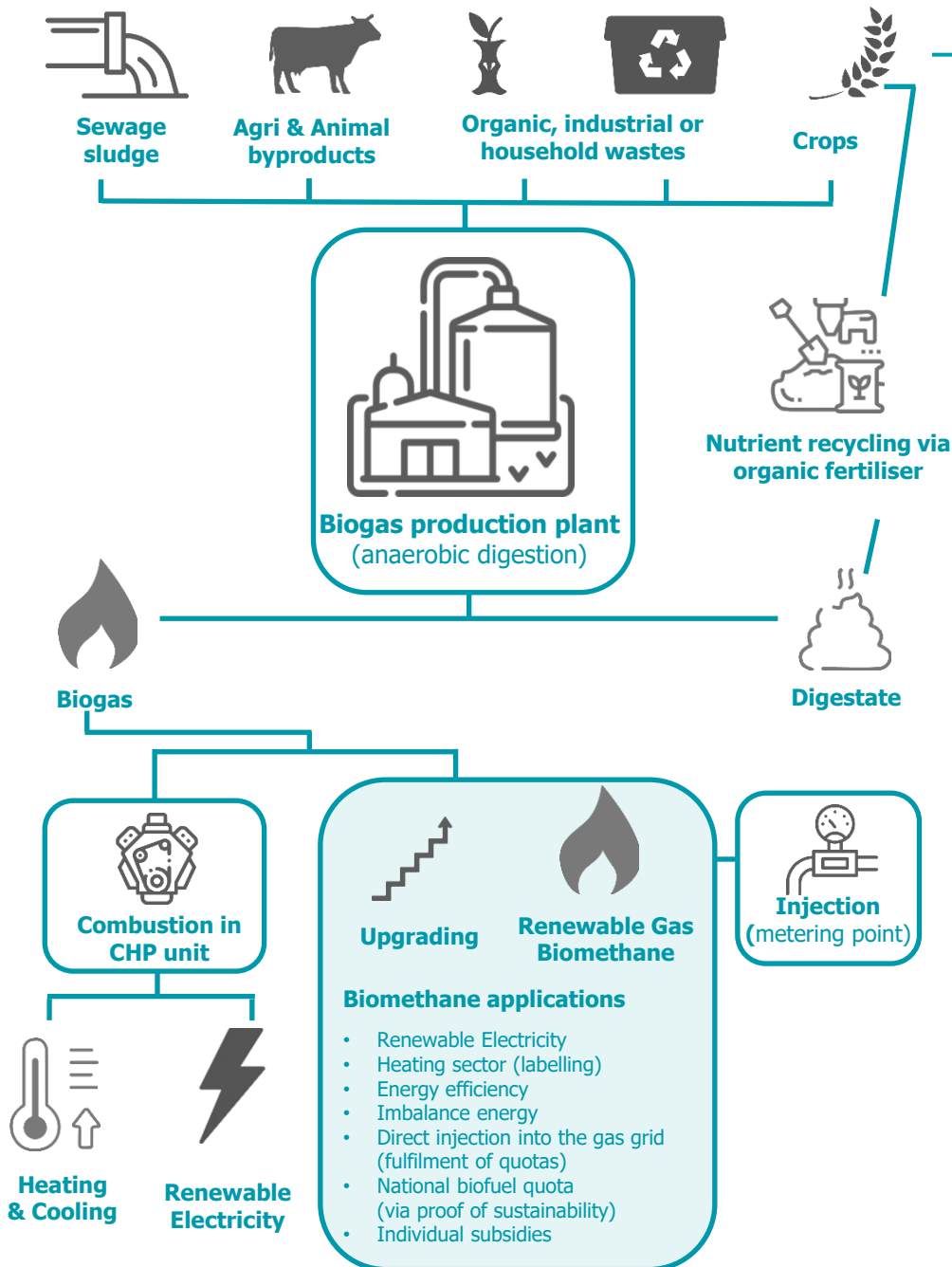
Biomethane

The already existing green element
in the gas business!

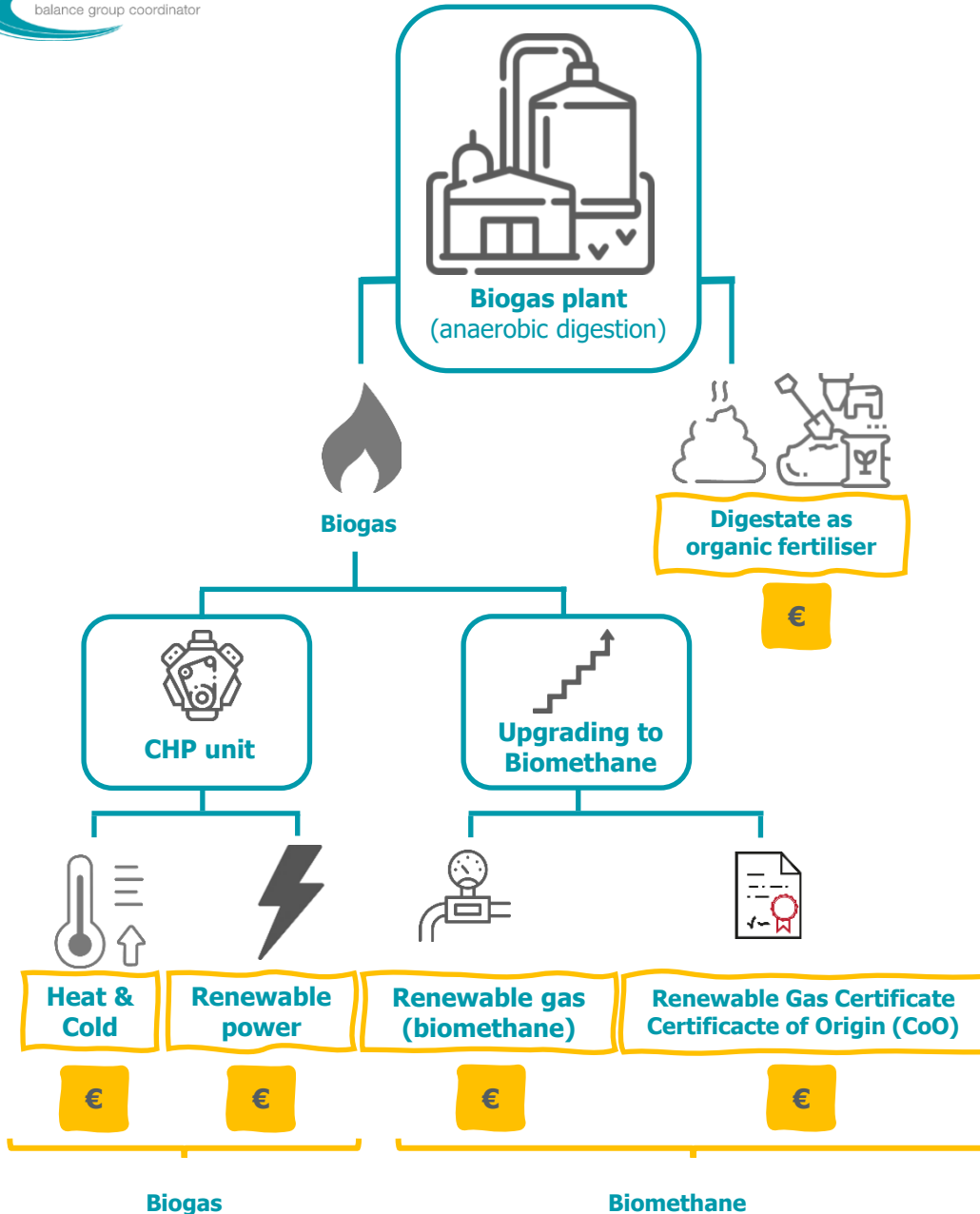


The already existing green element in the gas business!

- **Biomethane does not differ from natural gas**
 - Neither in physical nor in chemical properties
- **Biomethane injection**
 - Injection into the gas grid increases diversity of possible applications / marketing pathways
 - Use of existing infrastructure and grids
 - Conventional gas applications
 - Mixtures of biomethane and natural gas in any ratio possible
 - Local separation of biomethane production and gas consumption possible
 - Ensuring that biomethane can reach every consumer and household in Europe



The already existing green element in the gas business!



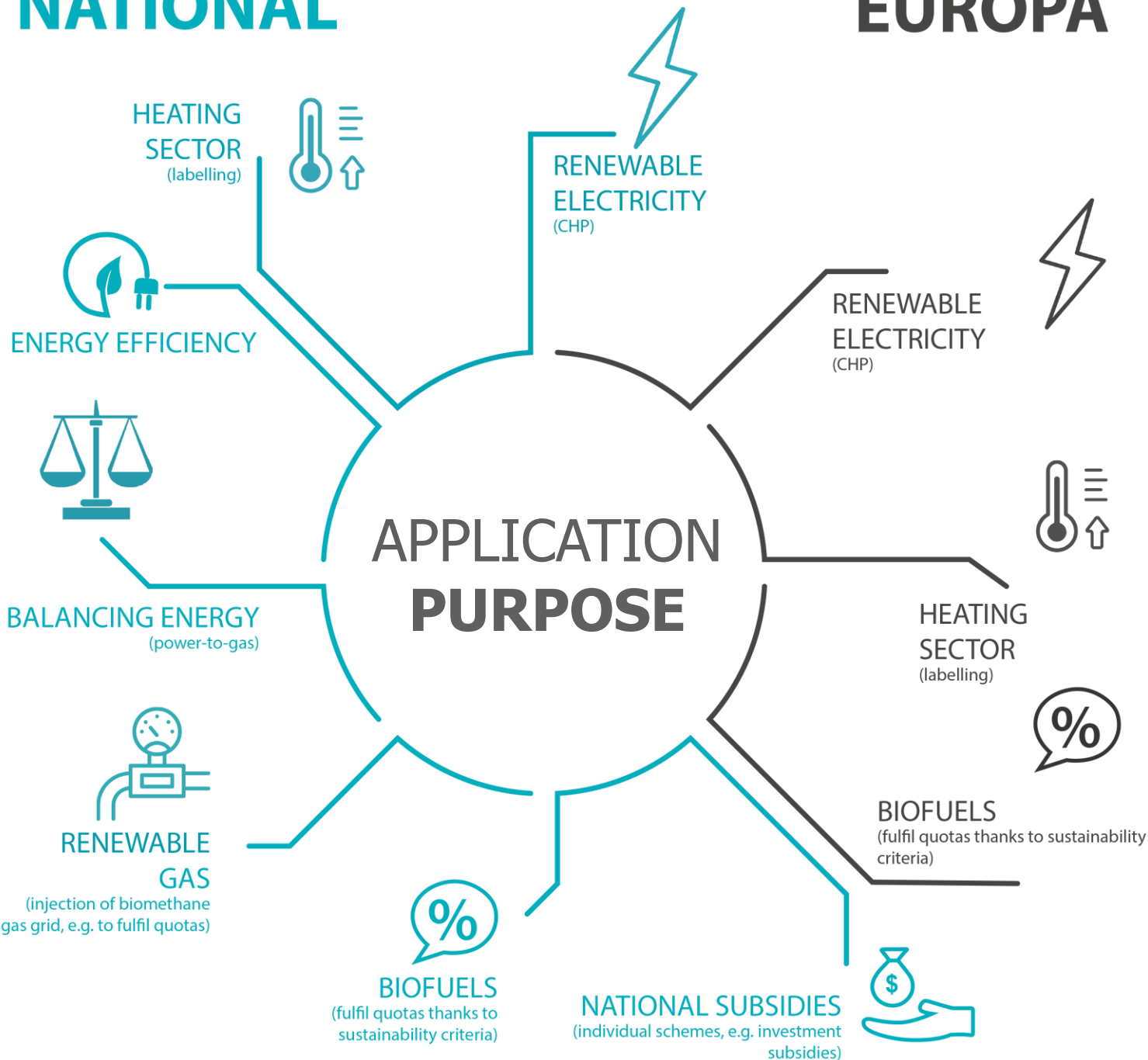
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- **Opportunities for marketing products and creating revenues for plant operators**
 - Specifics for biogas plants
 - Renewable electricity
 - Heat & Cold
 - Specifics for biomethane plants
 - Renewable gas
 - Renewable Gas Certificate holding green value
 - Digestate as organic fertiliser

NATIONAL

EUROPA

Biomethane Certificates

Applications / marketing pathways



Biomethane certificates are the instrument to provide trustworthy and transparent documentation

- For title transfer of the green value of biomethane
- For biomethane to be applied in different marketing pathways on national and European markets



Biomethane market

Austria

Europe



Biomethane in Austria

Austrian Map of Biomethane Plants

AUSTRIA					
AT-1	Asten / Linz	380	SGW	PHS	2009
AT-2	Bruck an der Leitha	650	MSW	MEM	2007
AT-3	Engerwitzdorf	125	ENC	CHS	2010
AT-4	Eugendorf	-	ENC	PSA	2008
AT-5	Leoben	-	SGW	CHS	2010
AT-6	Lustenau	500	MSW	PSA	2013
AT-7	Margarethen am Moos	400	AGR	MEM	2008
AT-8	Rechnitz	-	MSW	PSA	2010
AT-9	Schlitters	150	MSW	PSA	2012
AT-10	Steindorf / Salzburg	120	ENC	PSA	2012
AT-11	Straß - Leibnitzerfeld	-	SGW	PSA	2016
AT-12	Vienna Pfaffenua	-	MSW	MEM	2015
AT-13	Wiener Neustadt	120	SGW	MEM	2011
AT-14	Zell am See	-	MSW	PSA	2014
AT-15	Fastranz	240	MSW	MEM	2017



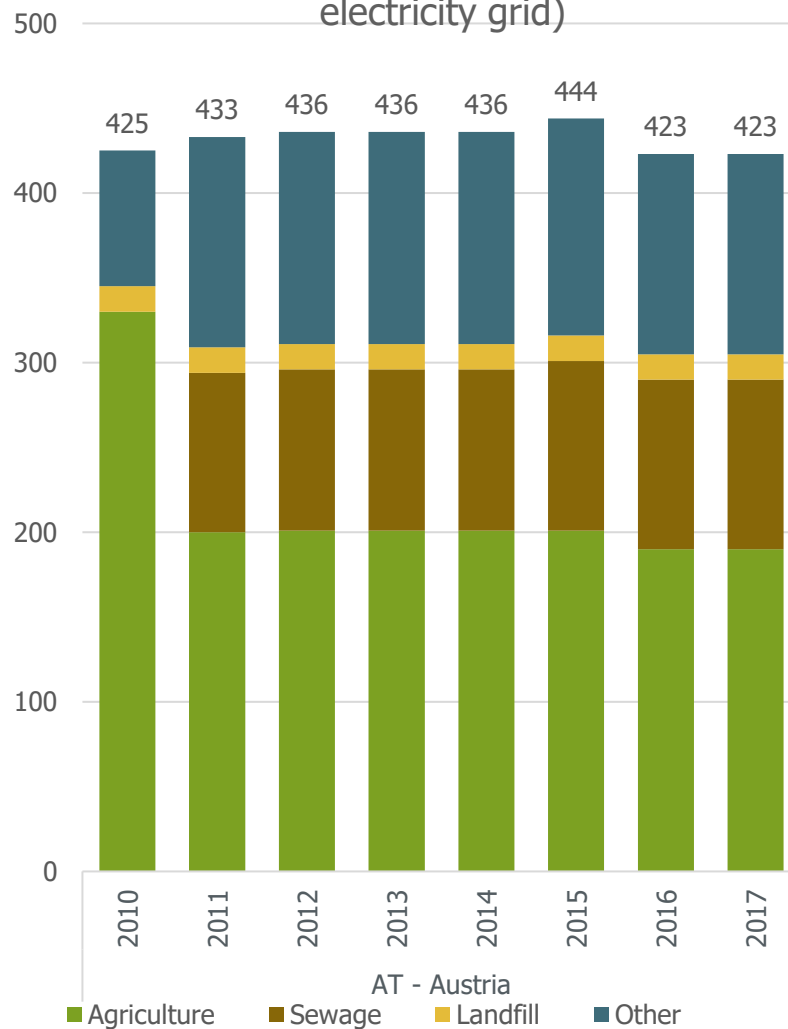
Legend

- Numbering biomethane plants
- Grid connection
- Location
- Name of the biomethane plant
- Feed-in capacity (m³/h)
- Main substrate
- Upgrading technology
- Year of commissioning

Source: Excerpt of GIE & EBA, 2018, European Biomethane Map 2018

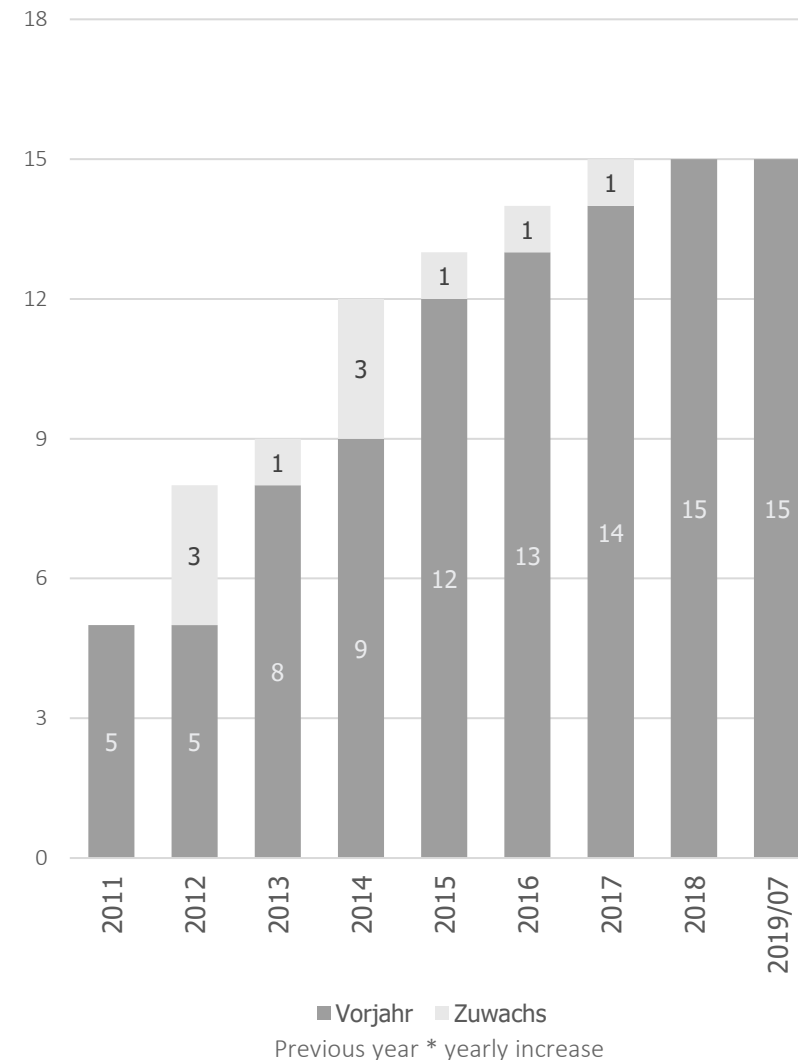
http://european-biogaz.eu/wp-content/uploads/2018/01/2018.01.09.GIE_BIO_2018_A0_1189x841_FULL_415_clean_final.pdf

Number of biogas production plants
(injection of renewable electricity into Austrian
electricity grid)

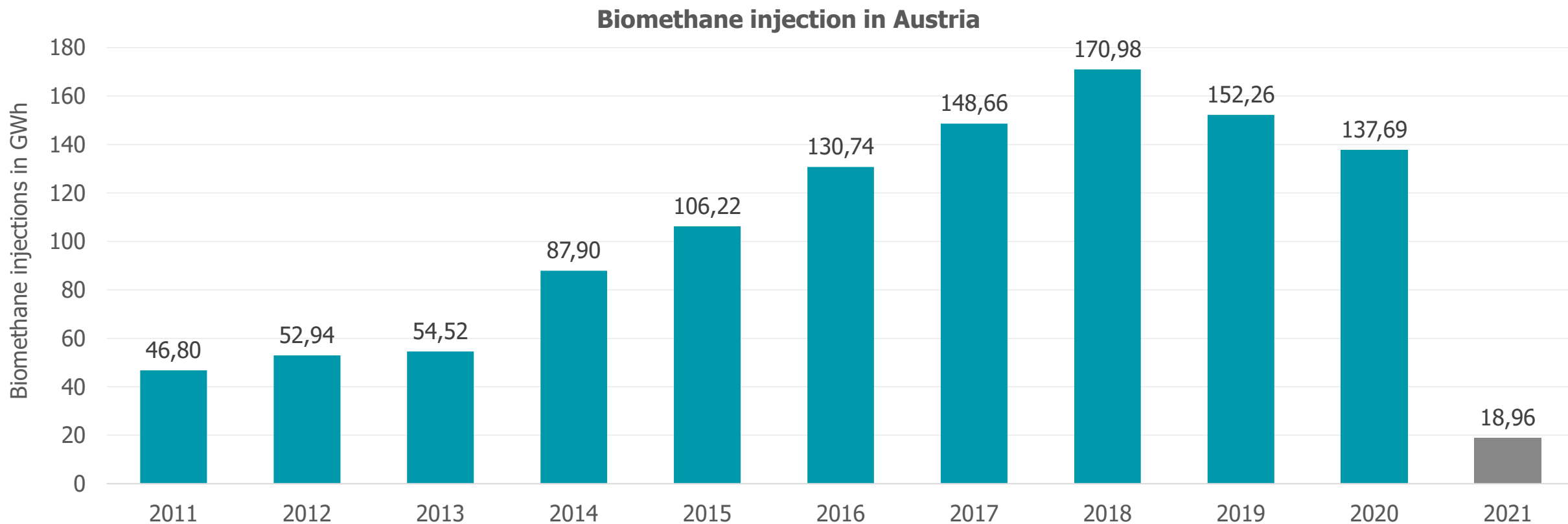


Note: Europe-wide classification, not according to Austrian law
Source: EBA Statistical Report 2018, data status 2017

Number of biomethane production plants
(injection of renewable gas into Austrian gas grid)



Austria	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Yearly gas consumption (TWh)	90,112	91,138	86,559	78,788	84,390	87,882	95,195	90,674	94,209	90,467
Biomethane injection (TWh)	0,047	0,053	0,055	0,088	0,106	0,131	0,149	0,171	0,152	0,138
Ratio biomethane injection vs gas consumption (%)	0,001	0,001	0,001	0,001	0,001	0,001	0,002	0,002	0,002	0,002
total biomethan injection (2011-2020) = 1,089 TWh										

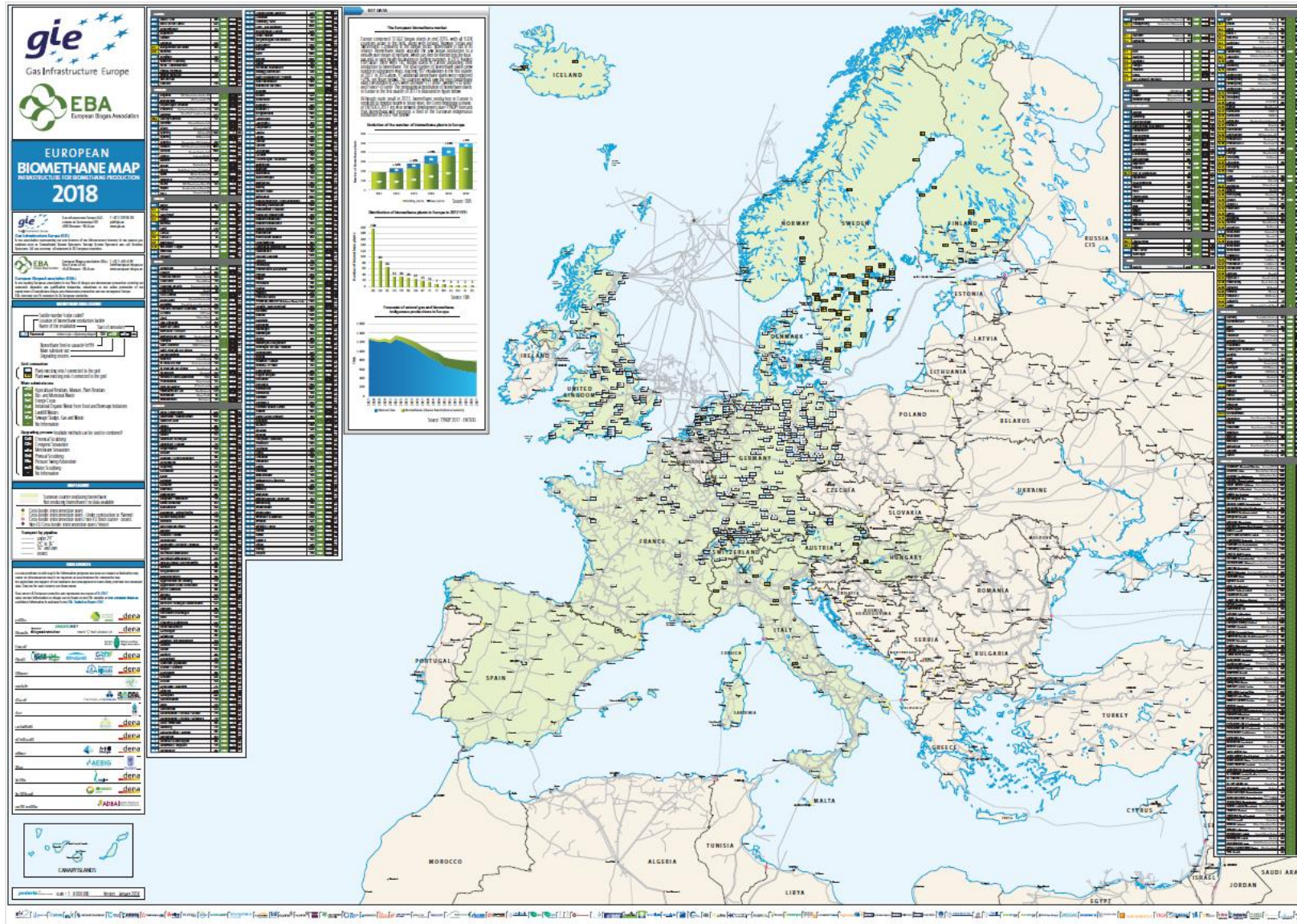


Biomethane market

Austria

Europe





Legend

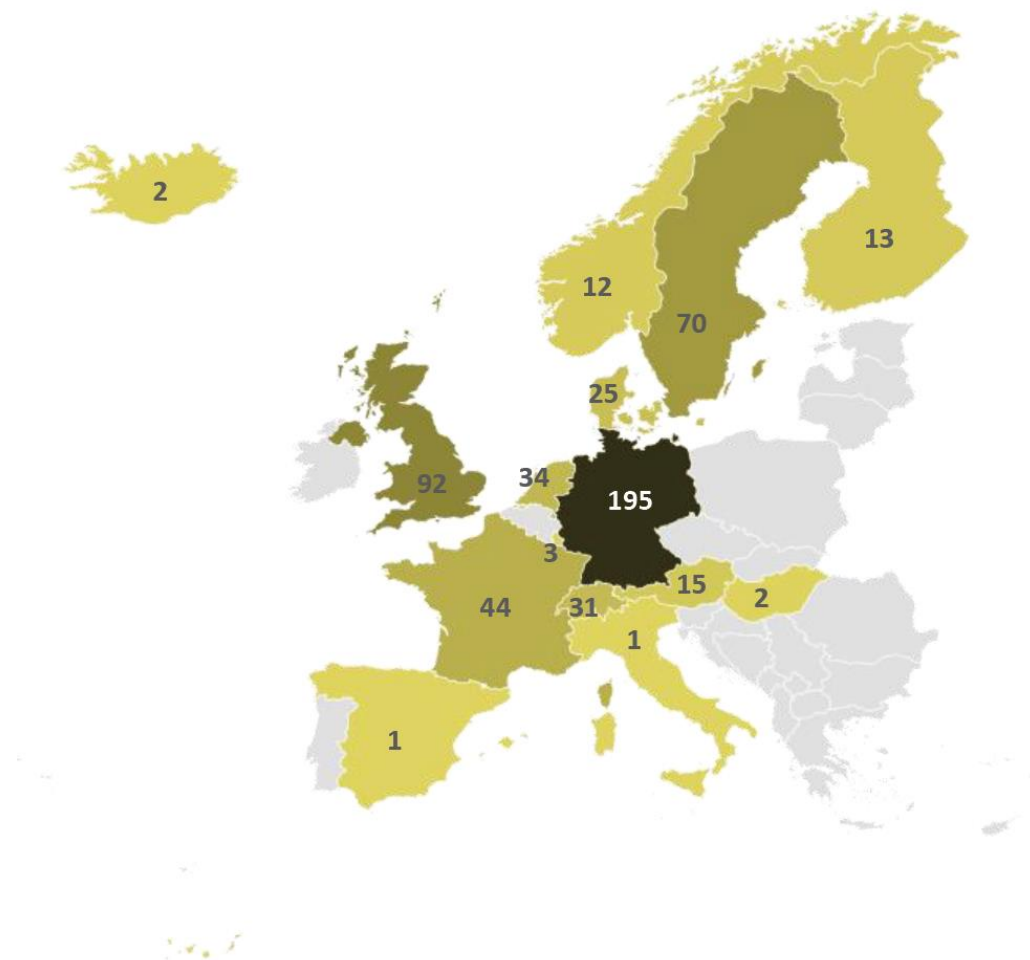
Facility number (color coded)	Location of biomethane production facility	Name of the installation	Start of operation
DK-5	Hammel	(Vicus B ApS - Frijsenborg Biogas)	524 AGR MEM 2016
Biomethane feed-in capacity [m ³ /h]	Main substrate use	Upgrading process	

- Numbering biomethane plants
- Grid connection
- Location
- Name of the biomethane plant
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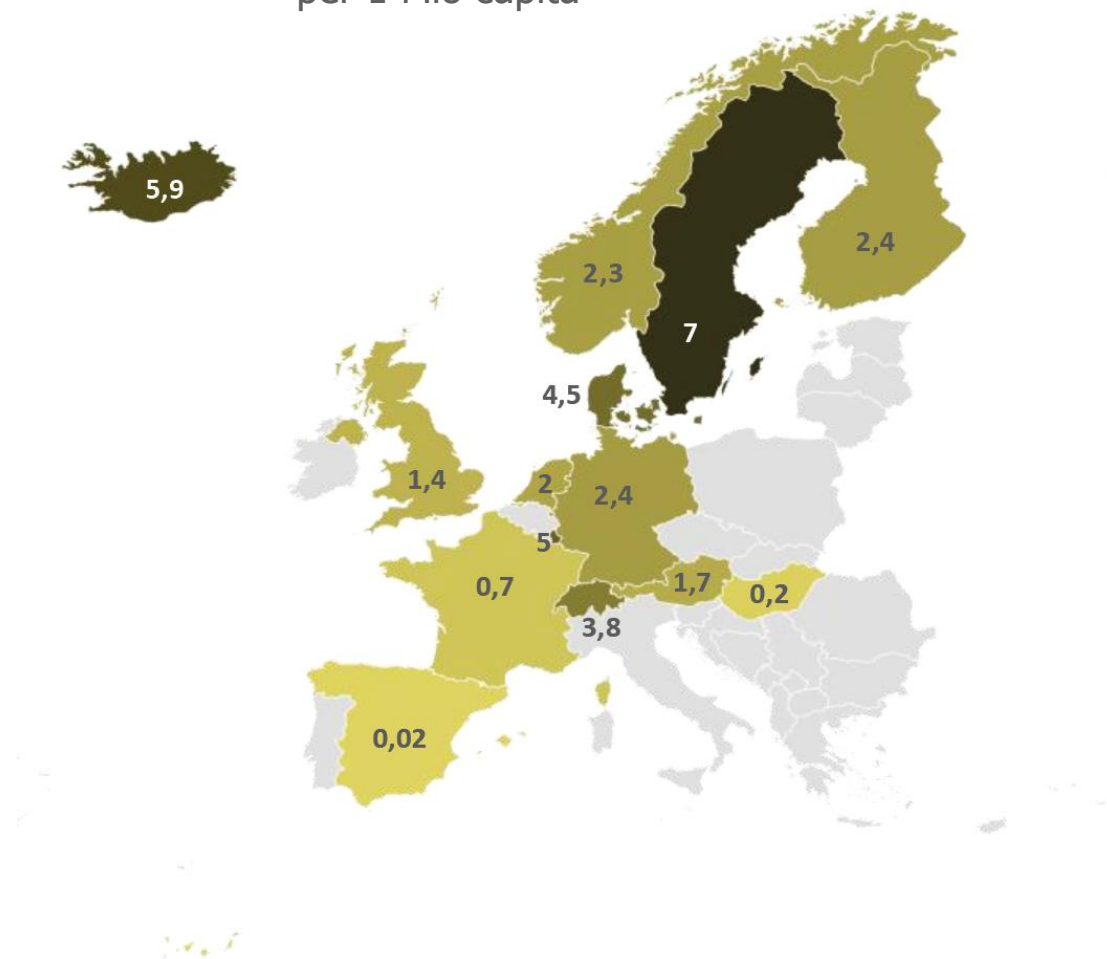
Number of biomethane plants in Europe



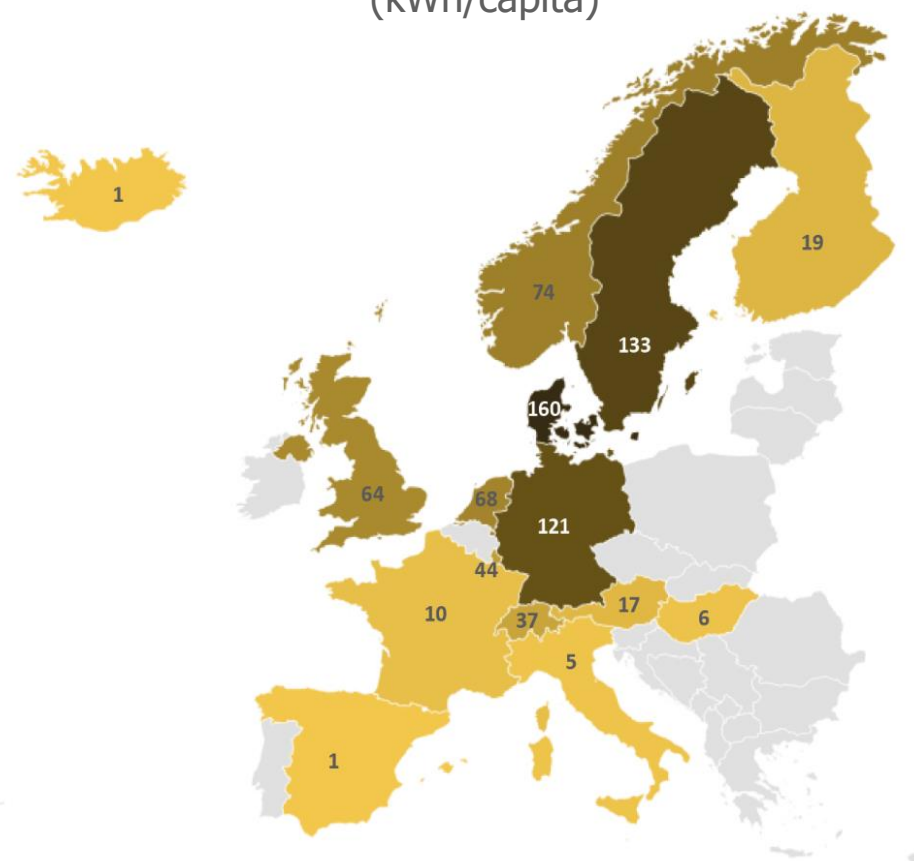
Number of biomethane plants in Europe



Number of European biomethane plants per 1 Mio capita



European per-head biomethane production
(kWh/capita)



AGCS Biomethane Registry Austria

Legal mandate
Stakeholders
Tasks & Functionalities

Interaction with other Registries
Collaborations and international
projects

Basis of our work

- Austrian Gas Law (GWG)
- Standard Terms and Conditions
- **Renewable Electricity Law (ÖSG)**

Tasks of AGCS Gas Clearing & Settlement AG

- Clearing of the Austrian gas market
- Organisation of the balancing market in Austria
- Calculation and settlement of balancing energy
- **Tracking of all gas movements and injections in Austria (incl. biomethane)**

Bilanzgruppenkoordinator
Wir beschaffen die Regelernergie, ermitteln und verrechnen die Ausgleichsenergie Ihrer Bilanzgruppen im Verteilergesamt Ost. >>

Unsere Aufgaben
Verrechnung der Ausgleichsenergie im Verteilergesamt Ost, Ausgleichsenergiemarkt >

Bilanzgruppenmodell
Wir führen das Bilanzgruppensystem im Verteilergesamt Ost >

Ausgleichsenergie
Ein liquider, wettbewerbsorientierter, transparenter Ausgleichsenergiemarkt >

EnergyNews Magazine.at
Alle News & Entwicklungen auf einen Blick! Zum Magazin >

Neues Marktmodell
BGV
Versorger
Verteilernetzbetreiber
Biogasanlagenbetreiber
Regelenergieanbieter

Über AGCS
Eigentümer
Organisierungen
Beteiligungen
Geschäftsberichte

Team
Vorstand
Mitarbeiter
Jobs und Karriere

Service
Clearingkalender
Statistik
Biomethanregister
Energy Monitor

Mit uns vernetzen
Kontakt
Schulungen
CISMOgroup

- **Key Facts AGCS Biomethane Registry Austria**

- In operation since July 2012
- All gas market areas covered in Austria
- Monthly issuing of biomethane certificates
- Handling of biomethane certificates:
 - Splitting and title transfer possible
 - Creation of cancellation documents for final consumption of biomethane
- Cooperation with Environment Agency Austria (UBA) for use of injected biomethane as biofuel in transportation sector
- Cooperation for cross border exchange of biomethane certificates with German Biogas Registry operated by dena, German Energy Agency
- Handling of mass balancing and auditing



Balance Group Coordinator (AGCS) is forced by the Renewable Electricity Law to create documents for written proof for volumes of biomethane injected into the Austrian gas grid



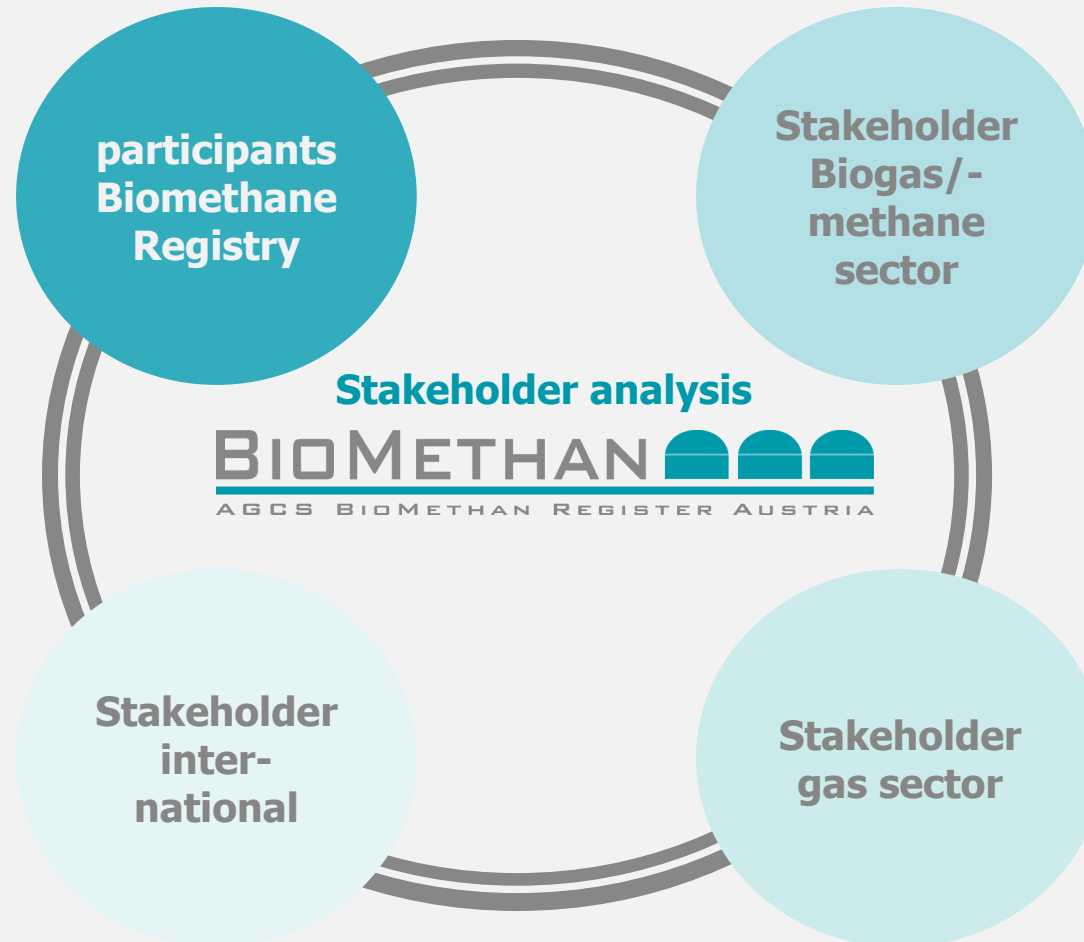
AGCS Biomethane Registry Austria

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- Operators of biogas/biomethane plants, electrification plants
- Auditors
- Registry users / Trader
- Supply industry
- Public Authority (OeMAG)

- National renewable Gas Register: CH, DE, DK, EE, FR, NL, SE, UK
- Countries interested in establishing a national renewable gas register (SK)
- ERGaR, European Renewable Gas Registry
- EU Commission (DG ENER)
- Regulators



- Operators of biogas/biomethane plants, electrification plants
- Industry representatives and associations
- Ministries
- Public Authority
- Grid operators
- Research and Consultancy

- Power supply industry
- Grid operators
- Industry representatives and associations
- Ministries
- Public Authority
- Regulator

Tasks of OeMAG

- Checking eligibility of all applications for funding
- Management of the yearly budgets for subsidies for green power, verification whether each additional application still fits within the available support budget
- Purchasing green electricity and thus payout of corresponding feed-in tariffs
- Clearing and settlement of subsidies for existing and new renewable energy plants

The Green Power Settlement Agent (OeMAG) purchases biomethane certificates from electrification plant operators and cancels those certificates. The final payment is calculated based on biomethane volumes according to the issued biomethane certificates.





The Biomethane Registry Austria is in direct contact with experts of the Austrian gas and biomethane market.

Since 2012, AGCS provides transparent, market-orientated and targeted services to the Austrian biomethane market by operating the AGCS Biomethane Register Austria.

Participants of / Account holders at the Biomethane Registry

- Industry representatives and associations (Fachverband Gas & Wärme, Kompost & Biogas Verband)
- Supply companies (EVN, Wien Energie, Salzburg AG, Energie Steiermark, etc.)
- Governmental agents (OeMAG)
- Biomethane producers, biomethane plant operators (Bruck an der Leitha, etc.)
- Registry user / Trader (Energieallianz, etc.)
- Renewable gas registries from other countries
 - Especially within the cooperation with ERGaR (European Renewable Gas Registry)
 - Particularly with dena, German Energy Agency, as operator of the German Biogas Registry

AGCS Biomethane Registry Austria

Legal mandate

Stakeholders

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Interaction with other Registries

Collaborations and international projects

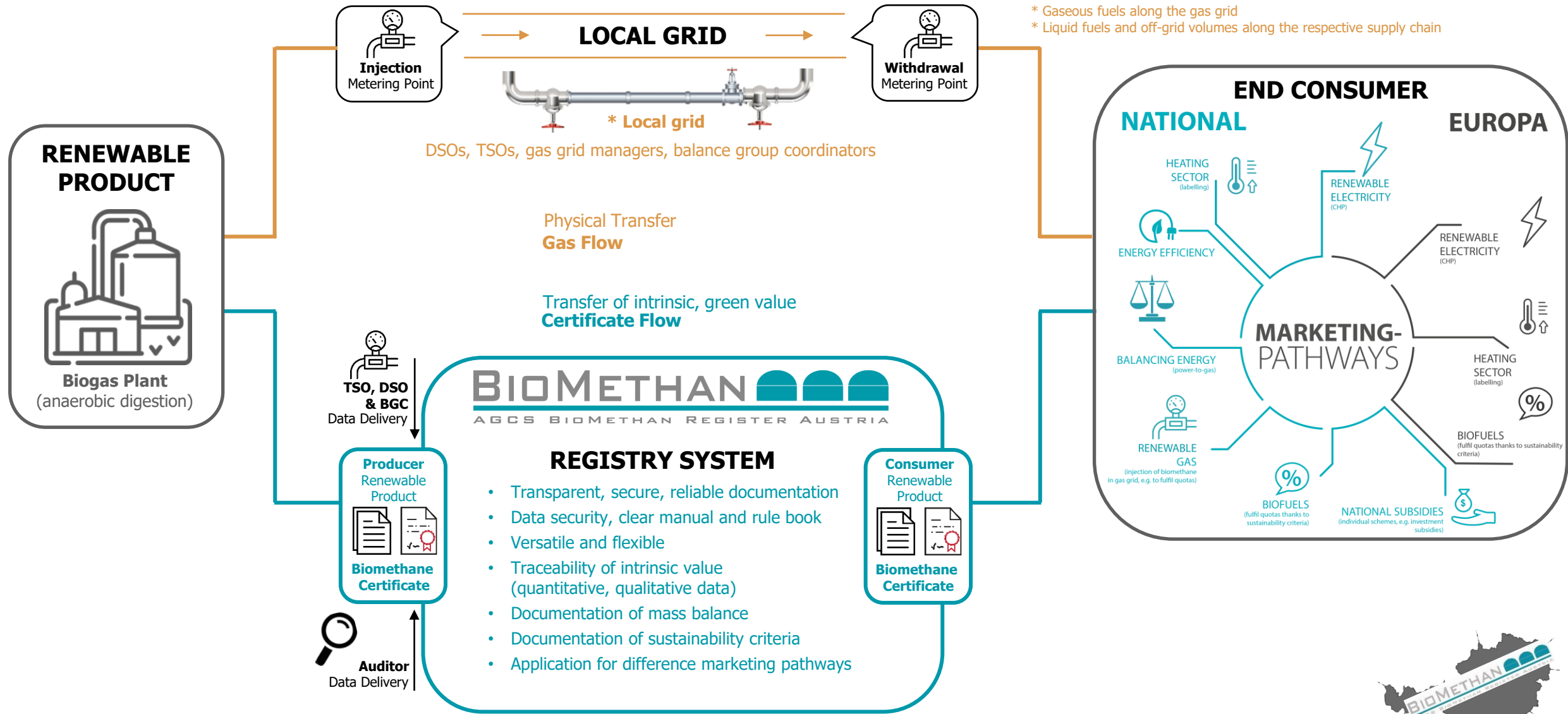


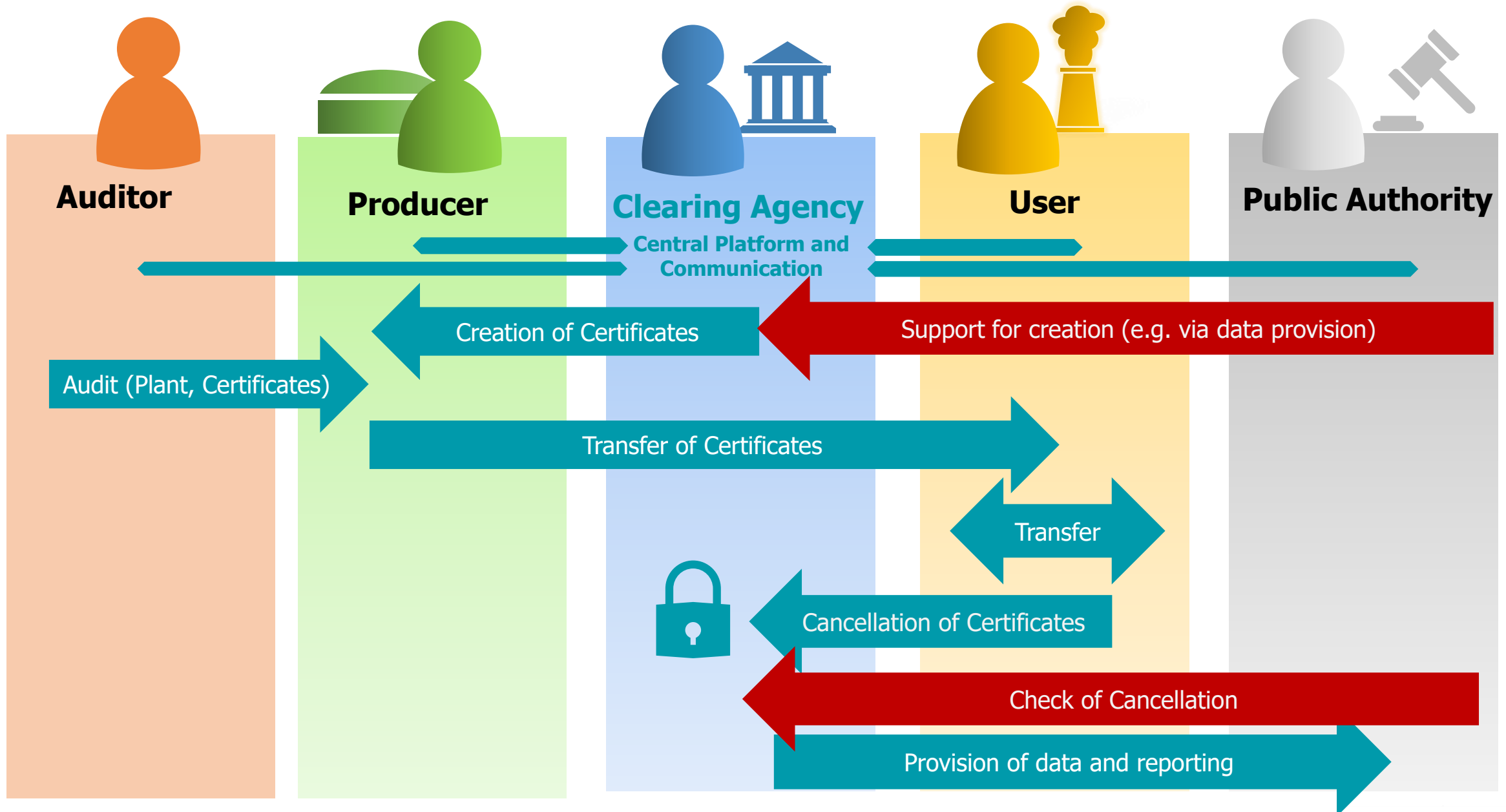
- Free choice of market participants to use our solution of the Biomethane Registry for the movements of their biomethane volumes within the Austrian gas grid; trustworthy and transparent documentation provides maximum trust
- Functionality of the biomethane registry
 - Centralised data base for biomethane certificates with direct link to gas clearing system
 - Monthly issuing of biomethane certificates based on clearing data from network providers
 - Possibility to transfer, split and cancel
 - Separated handling of physical value (gas) and intrinsic, green value (biomethane certificates)
- Attribute of a biomethane certificate
 - Origin (Country)
 - Volume (metering data from biomethane injection)
 - Plant type (biogas plant with upgrading, Power-to-Gas plant)
 - Sustainability criteria
 - Auditor proof



**Interface to ERGaR Hub and German Biogas Registry (dena)
for cross-border transactions of biomethane certificates is provided!**

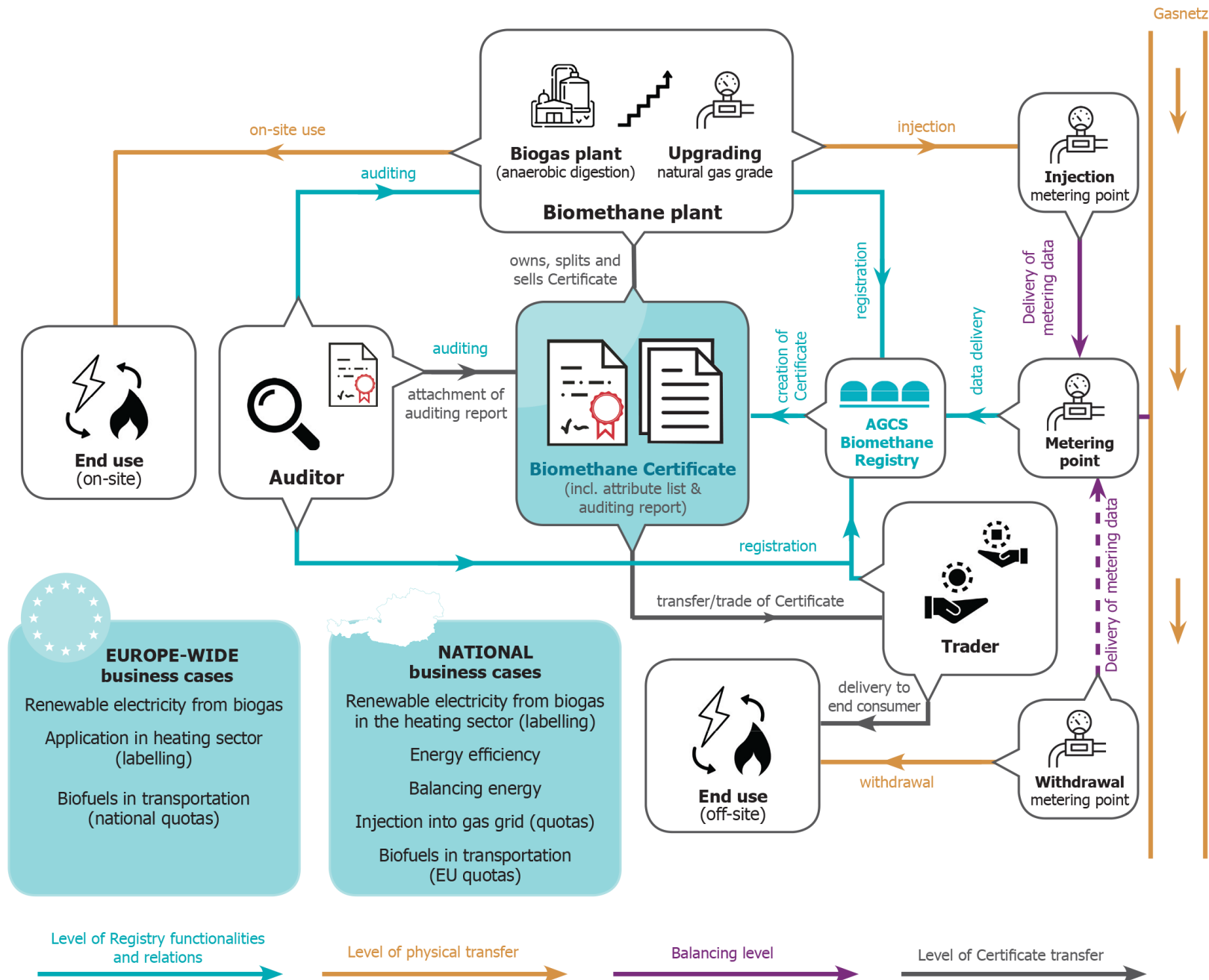
- The use of the Biomethane Registry Austria is fee-based for registry users only (= traders).
- EUR 2.000,-- p.a. per account
- Remission for biomethane plant operators, biomethane electrication plant operators and auditors:
 - **Biomethananlagenbetreiber, Biomethanverstromungsanlagenbetreiber und technische Sachverständige** („Gutachter“) iSd § 21 Abs 1 ÖSG 2012, BGBl. I 75/2011, sind von der Pflicht zur Zahlung dieser Gebühr **befreit**.





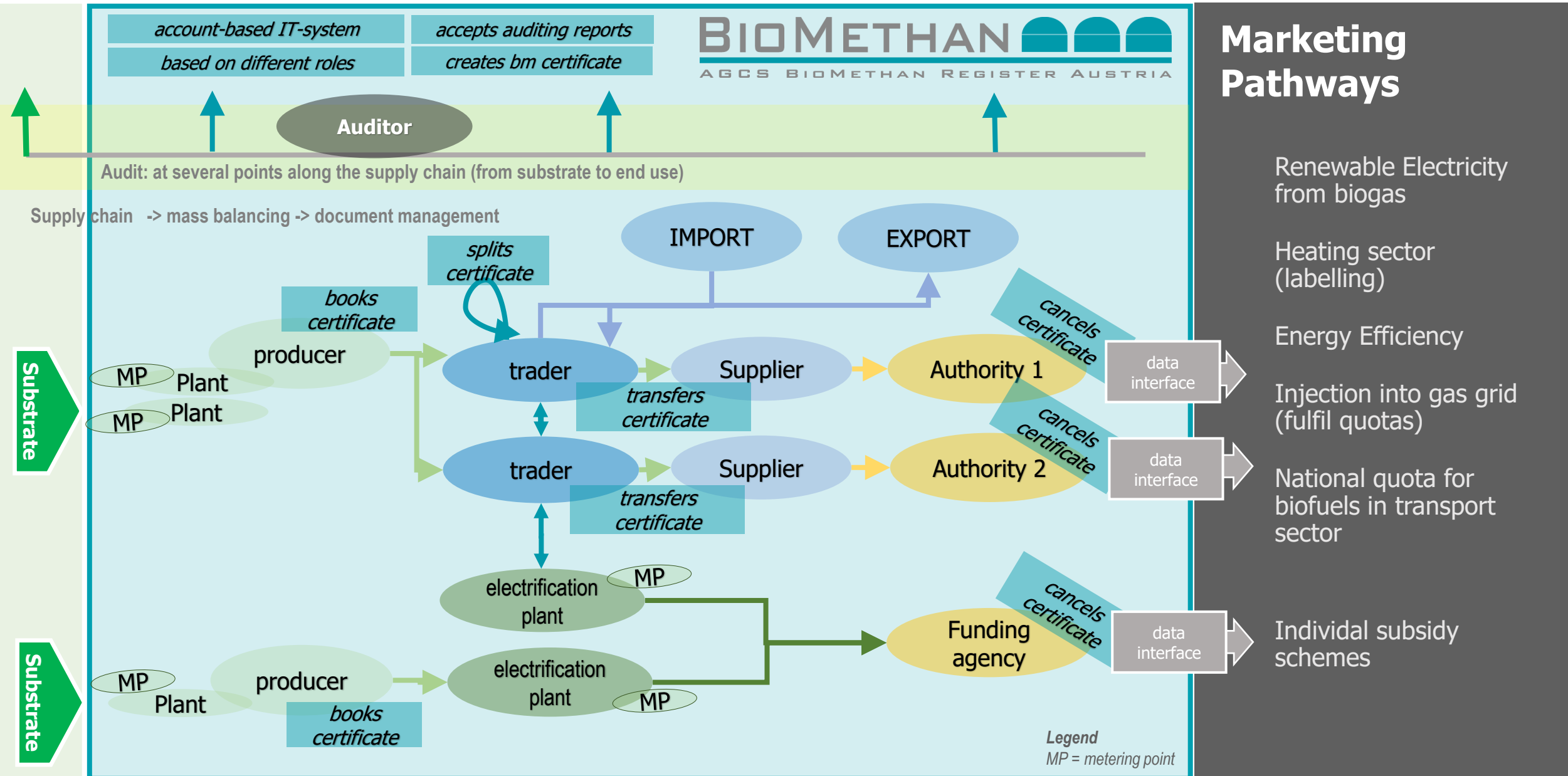
Functionalities

Generic functionalities of the AGCS Biomethane Registry Austria



- Level of registry functions
- Level of physical gas transfer
- Level of balance group coordination
- Level of biomethane certificate transfer





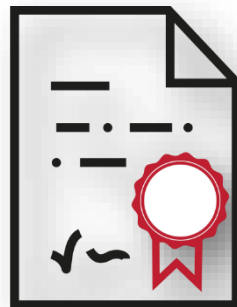
Issuing of Biomethane Certificates – process over the course of time according to registry schedule

Working days within the months of injection					
5	11	11	12	13	ab 13
Submission deadline for additives	Provision metering data of injection volumes	Clearing deadline Clearing Agency AGCS	Creation biomethane certificates	Creation biomethane certificates	Biomethane certificates are tradable
By biomethane producer	By grid operator	By AGCS Cas Clearing & Settlement AG	By AGCS Biomethane Registry Austria	By AGCS Biomethane Register Austria	By owner (for example: Biomethane producer)

Issuing and cancellation of Biomethane Certificates – process steps



Biomethane Certificate



Auditing document

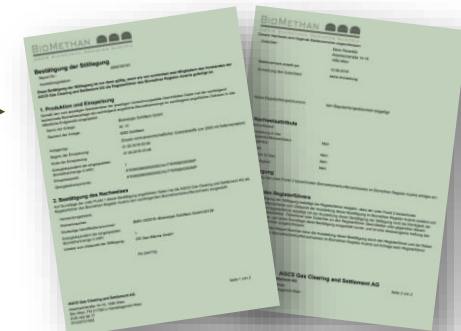


Cancellation document (PDF)

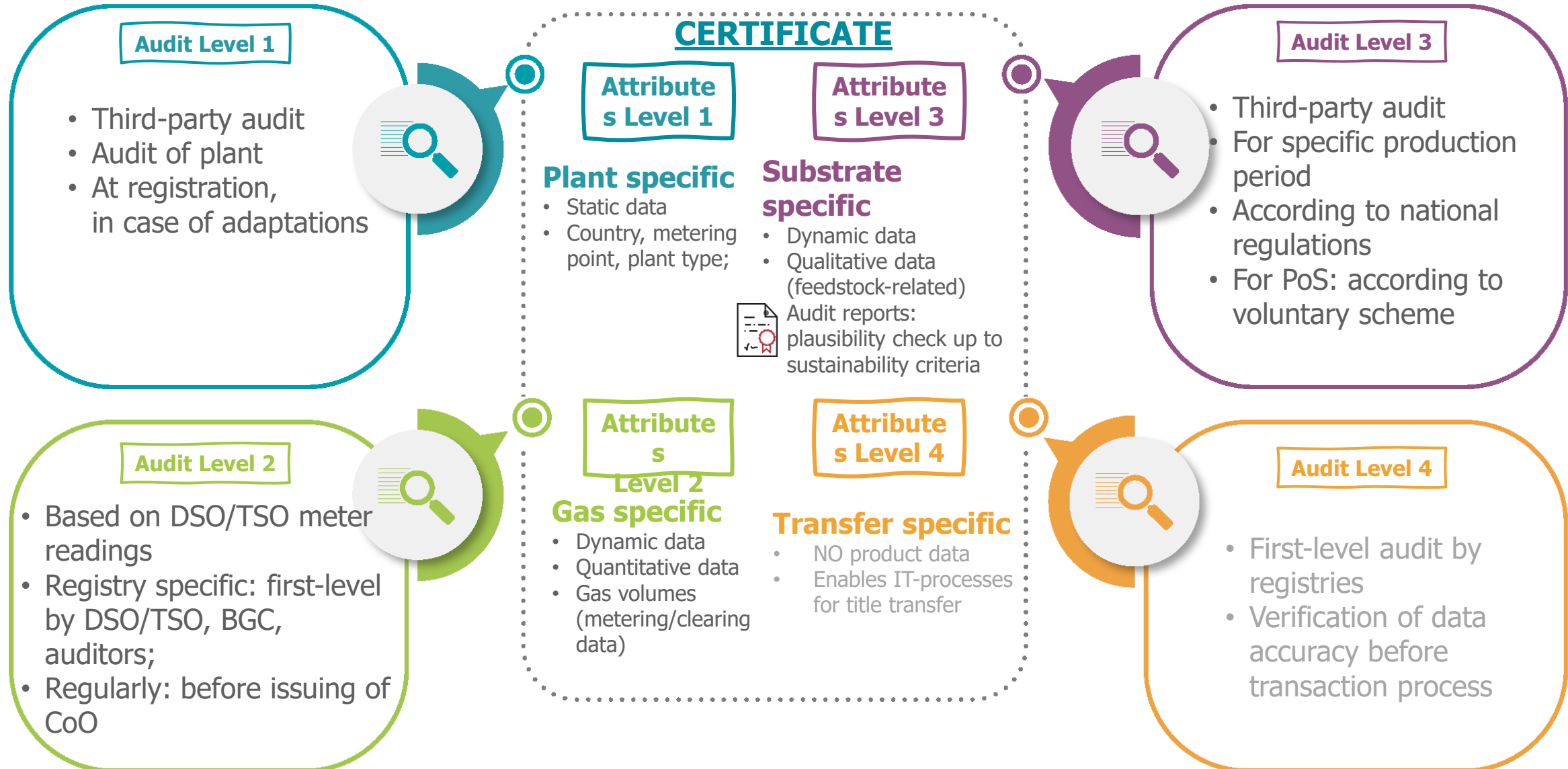


Added value

- Issuing date
- Signature of 2 AGCS Managers
- Paper format
- Emphasis (green paper)
- (issuing on request)



Confirmation of Cancellation document (on green paper)



- **Challenges**

- Different requirements due to different application purposes for renewable gases

- **Proposed solution => harmonisation of auditing requirements**

Registry systems

E.g.: auditing according to:
ISO/IEC 27001 : 2003 & DIN EN ISO 9001 : 2015

Attributes Level 2

✓ Measured values from metering points

Attributes Level 1 & 3

✓ ONE harmonised auditing
✓ eligibility for different certificate types & eligibility for target compliance

- **Advantages**

- ✓ Simplified administrative efforts for producers and auditors
- ✓ Decreases costs for biomethane
- ✓ Eases the harmonisation of laws

Functionalities

Biomethane Certificates and respective auditing documents

Application of biomethane certificates

- to receive payment from feed-in tariffs for injected electricity from biogas plants
- To sell to traders and end consumers

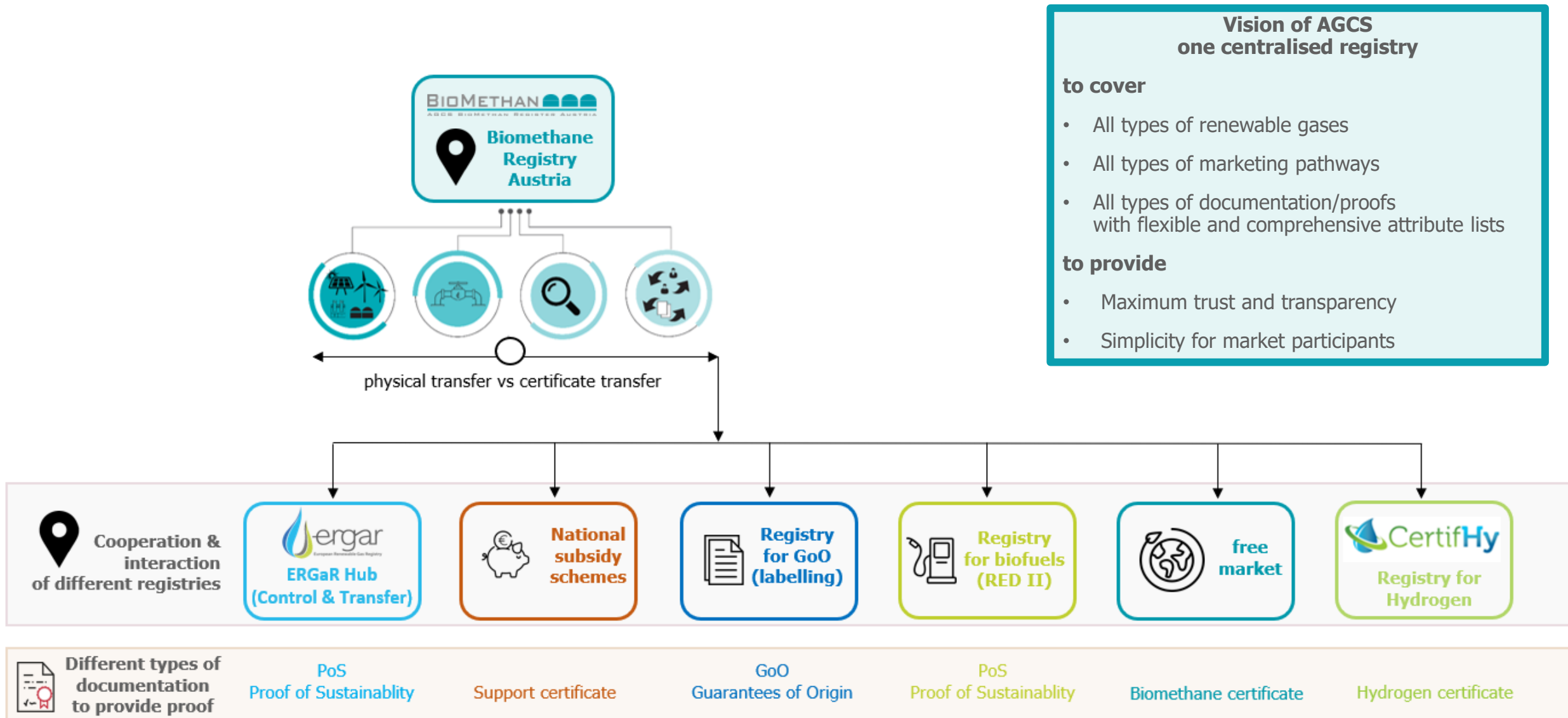
Biomethane plant



AGCS Biomethane Registry Austria

Legal mandate
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Interaction with other Registries
Collaborations and international
projects





Cooperation between AGCS and UBA

Cooperation since June 2017: AGCS (Austrian biomethane registry) and UBA (Environmental Agency Austria, operator of eINa)

- Specific cooperation of biomethane registry and eINa sustainable certificate registry for biofuels
- **Target:**
 - prevent double-counting and double-sale
 - create interface between both organisations
- **Title:** Exchange of information on volumes of biomethane injected into the gas grid and subsequently uses as biofuel in the transportation sector
- **Implementation:** system for exchange of information on biomethane certificates
- No direct ownership transfer
- No additional costs

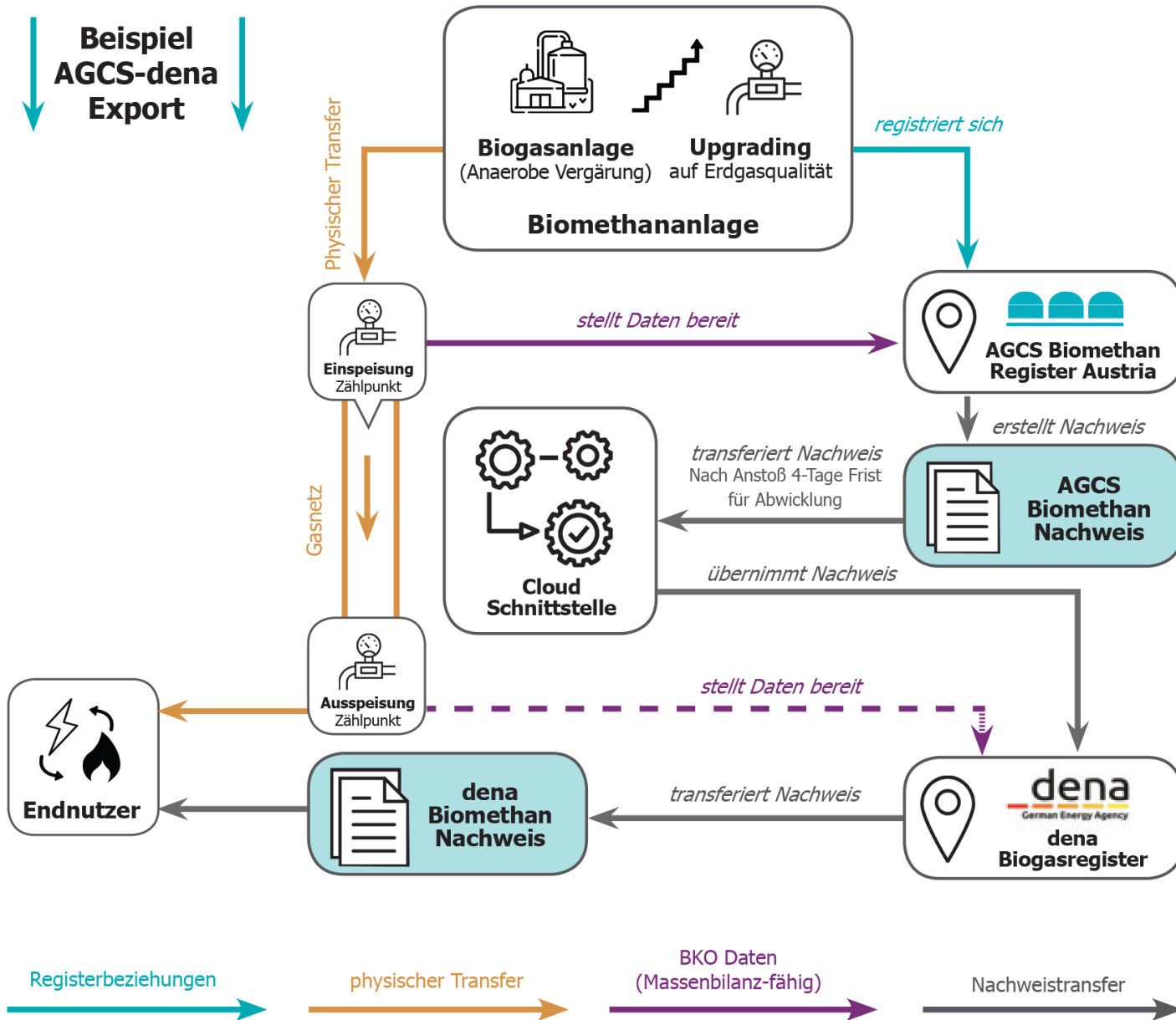




Bilateral cooperation between AGCS and dena

- dena: the German Energy Agency, operates the German Biogas Registry
- First bilateral cooperation for the exchange of biomethane certificates in Europe
- Cooperation since June 2016
- Based on process descriptions and documentation of this cooperation agreement, two further bilateral cooperation agreements were signed:
 - DE <-> DK
 - DE <-> UK
- Internal processes are ISO certified





German Biogas Registry



dena German Energy Agency

Bilateral cooperation between AGCS and dena

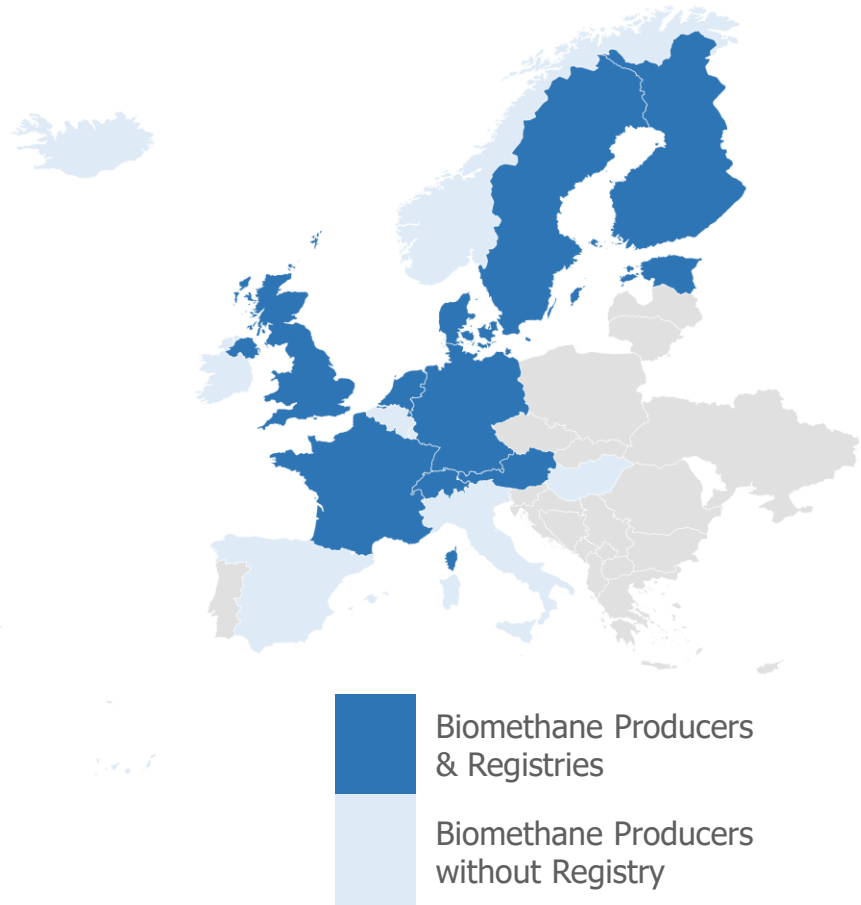
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Registries established in several European countries:
AT, CH, DE, DK, FI, FR, IE, LT, NL, SE, UK

ERGaR aisbl **European Renewable Gas Registry**

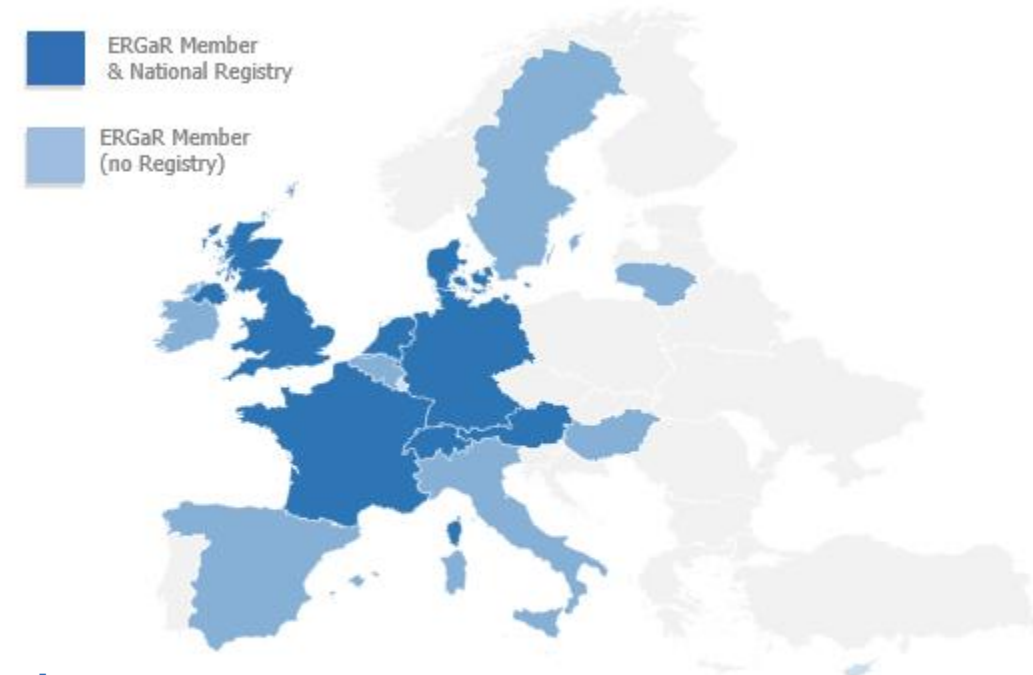
- European, non-governmental, non-profit organisation
- Cooperation between all existing biomethane registries in a dedicated European organisation
- Purpose: enable cross-border transfer and trade of biomethane certificates among the participating national registries
- targets
 - Holistic, European approach on the harmonisation of organisational, technical and processual requirements of existing registries to allow transfer of certificates
 - Recognition as voluntary scheme by the European Commission
- AGCS is founding member and Executive Board member
- AGCS supports the development and establishment of Renewable Gas Registries in European countries



→ International non-profit, non-governmental organisation (BE law) established in September 2016.

28 ERGaR members in 15 European Countries

- Established biomethane / renewable registries
- Gas DSOs & TSOs
- Biogas associations
- Stakeholders of the European biomethane market



Amongst the members: 7 national registries for biomethane green certificates

- Providing harmonised and transparent electronic documentation of biomethane / renewable gas consignments
- Scope: Generate confirmations for the volumes of renewable injected into domestic gas grids and documentation of the final consumption via proof of withdrawal
- Members of ERGaR with the purpose of promoting the cross-border title-transfer of certificates and the development of the renewable gas sector in Europe.

Vision

- Renewable gas certificates will be transferred across border in an **increasingly integrated European market along the natural gas network reaching all end customer segments.**
- ERGaR will be the **Europe-wide recognised organisation for administering and mass balancing volumes of biomethane** virtually distributed along the European gas network

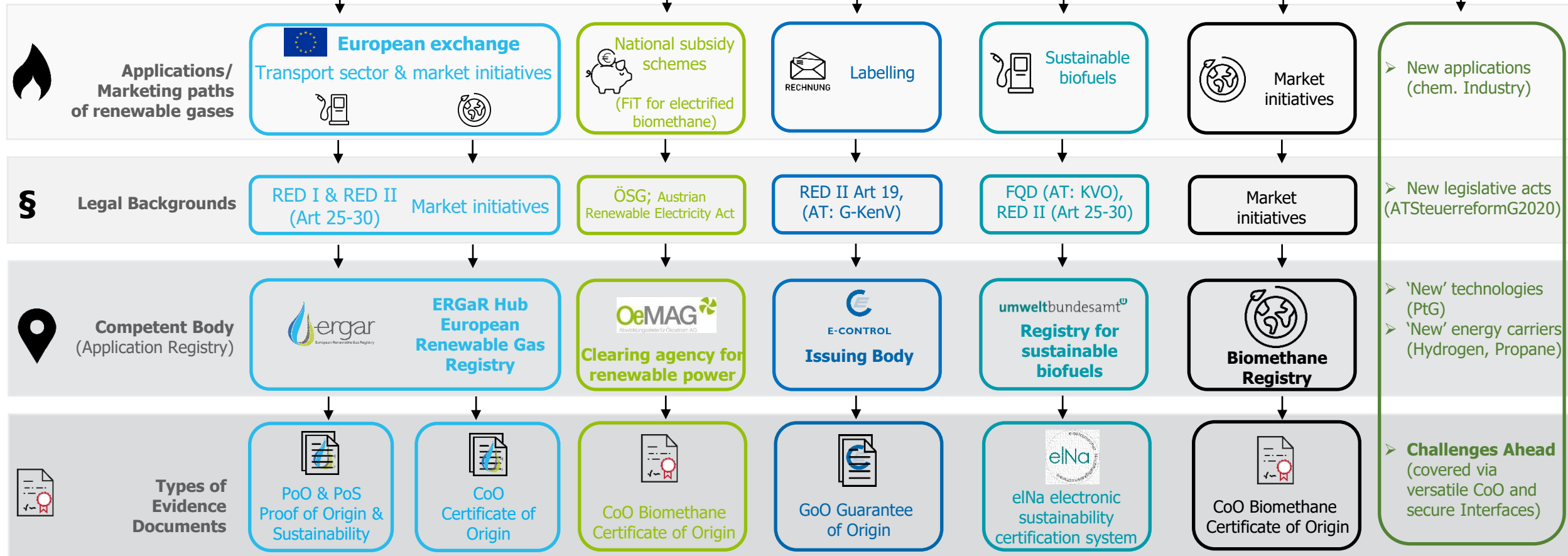
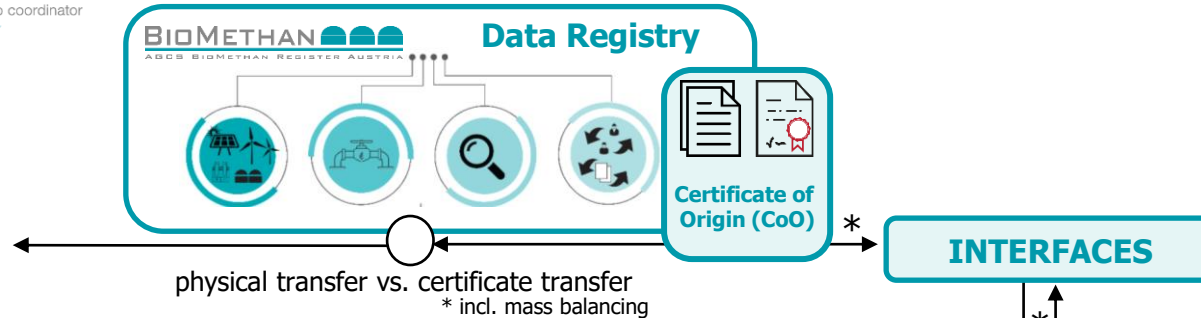
Mission

- **Building on national registries** to establish an **independent, transparent and trustworthy documentation scheme for cross border transfer and mass balancing of renewable gas** injected into the European natural gas network securing the exclusion of double sale and double counting.





Collaboration of Biomethane Registry as Data Registry and other Competent Authorities as Application Registries via cooperation agreements, interfaces and versatile design of CoOs



AGCS Biomethane Registry Austria

Legal mandate
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Interaction with other Registries
**Collaborations and
international projects**



- Objectives are to evaluate the necessary market conditions and legislative framework and initialise a unique European frame for hydrogen certificates
- AGCS actively supports the project with knowhow on certification systems and operation of registries
<https://www.certifhy.eu/>



BIOSURF - BIOmethane as SUsustainable and Renewable Fuel www.biosurf.eu

- 2015 - 2017
- Horizon 2020 programme
- AGCS was one of 10 international partners
- Objective was to increase the production and use of biomethane for grid injection and as transport fuel by **removing non-technical barriers** and by **paving the way towards a European biomethane market**
- The processes needed and documentation for European Cross-Border title transfer of Biomethane Certificates (GoO - Guarantees of Origin) were developed.

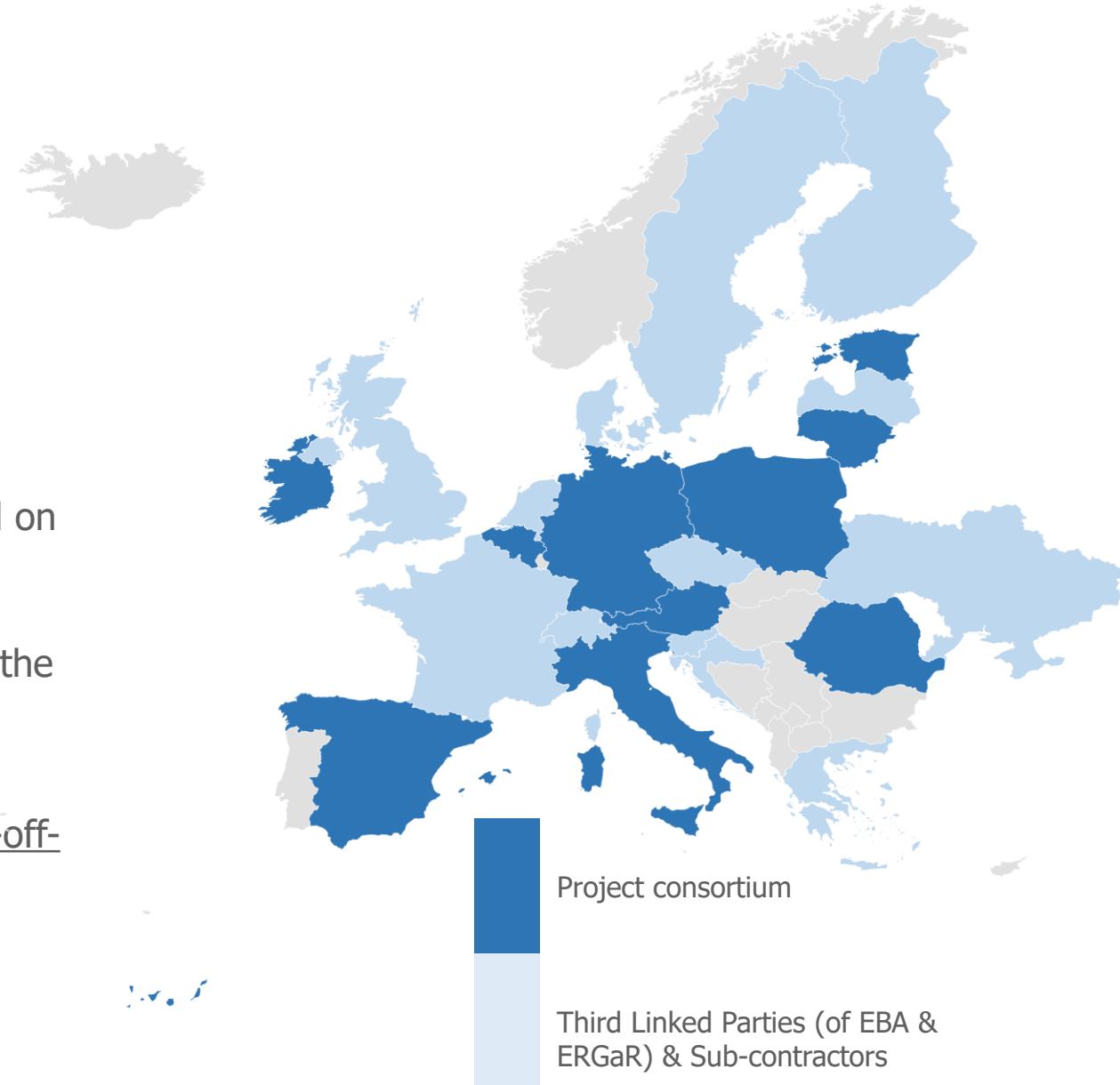


REGATRACE – REnewable GAs TRade CEnter in Europe

- 2019 – 2022
- Follow-up project of BIOSURF
- AGCS is one of 15 internationale project partners
- Objective: Establishment of an efficient trading system based on the issuing and trade of Biomethane Certificates (GoO, Guarantees of Origin).
- This project will enable the easier access of biomethane into the European gas market.
- www.regatrace.eu
- <http://www.ergar.org/2019/06/new-h2020-eu-project-kicked-off-dublin-27062019/>

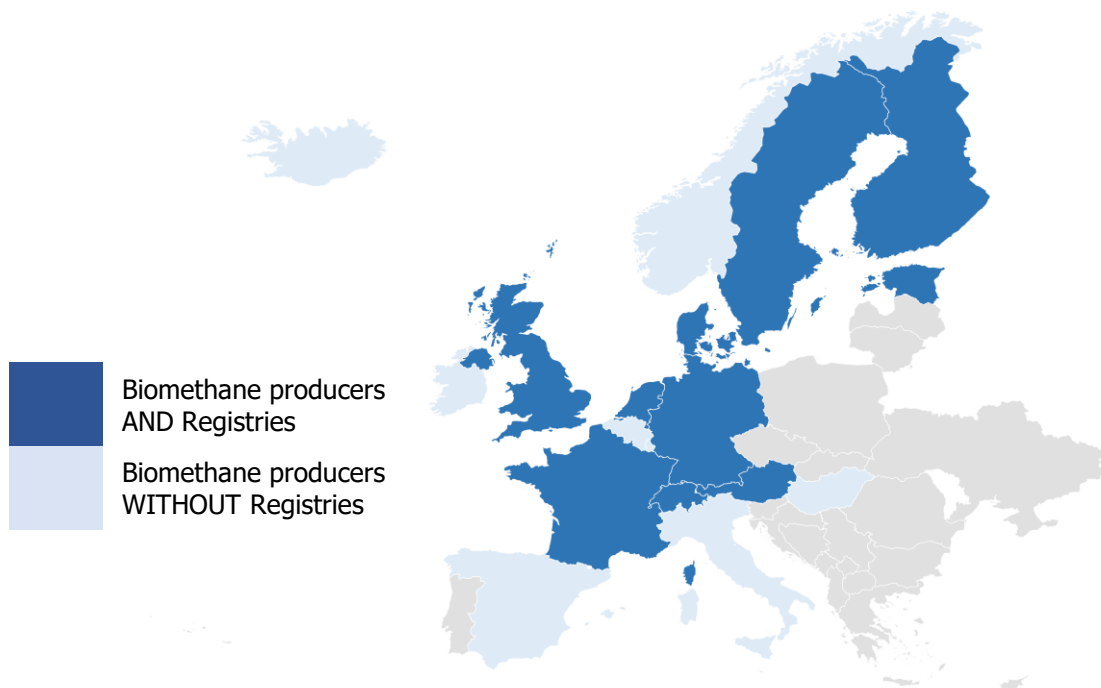
Biomethane in Europe

Projects funded by the European Commission

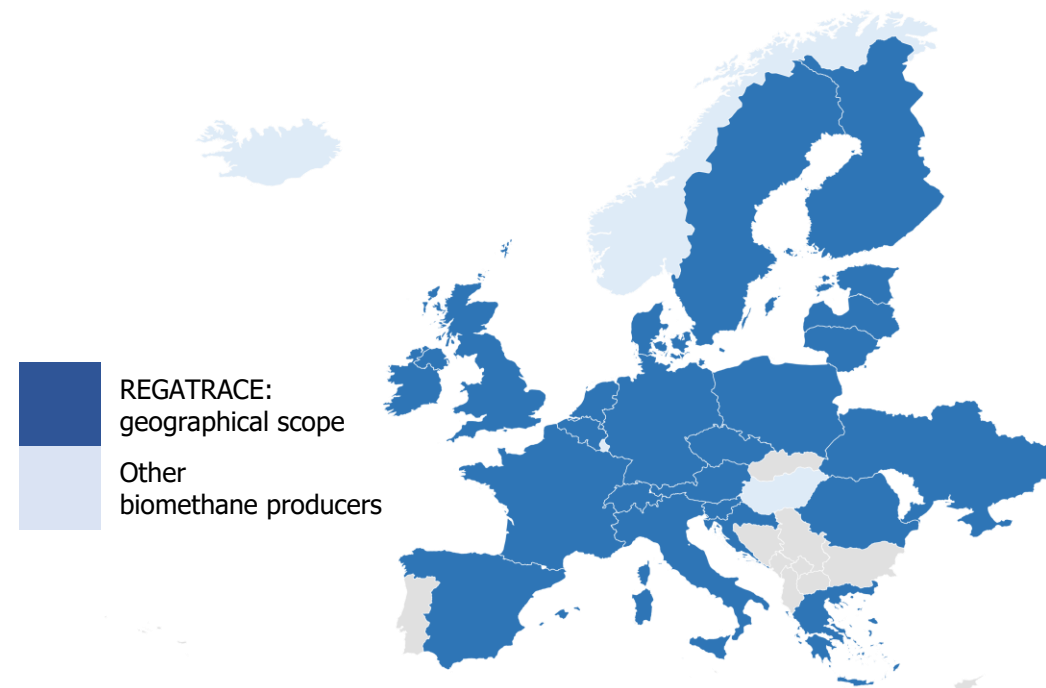


Potential development of the European biomethane market 2022 (final objective)

Biomethane activities 2019
(Biomethane producers & registries)



REGATRACE impact
Potential Biomethane market 2022



The geographical scope of the EU-funded REGATRACE project will enable the development of a European biomethane market with the potential to cover whole Europe.

REGATRACE aims at creating an integrated European renewable gases market by 2022.

Contact

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