WEBINAR

Dig Deep!

Friday 5 July 2024
10h - 11h30 AM CEST

info@europeanbiogas.eu
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Biomethane scale-up in figures: Mapping new plants and investments across Europe

EBA
European Biogas Association

Biljana Kulisic
Policy Officer
Directorate-General for Energy,
European Commission

Mieke Decorte
Technical Director
European Biogas Association

Annette Kroll
Head of Regulation & Advocacy
ENGIE

Anastasiya Agapova
Technical and Project Officer
European Biogas Association

Pierre Duvieusart
GIE Biomethane Area Sponsor
Gas Infrastructure Europe

Harmen Dekker
CEO
European Biogas Association

Giulia Cancian
Secretary General
European Biogas Association

Welcome

Giulia Cancian

Secretary General, European Biogas Association

Agenda

10:00 – 10:05 Welcome

10:05 – 10:15 Keynote

Biljana Kulisic Phd , Policy Officer, Unit C2 Decarbonisation and sustainability of energy sources, Directorate-General for Energy, European Commission

10:15 – 10:25 2nd EBA Biomethane Investment Outlook

Mieke Decorte, Technical Director, European Biogas Association

10:25 – 10:35 ENGIE's biomethane portfolio

Annette Kroll, Head of Regulation and Advocacy, ENGIE

10:35 – 10:50 Q&A session

10:50 – 11:00 European Biomethane Map 2024

Anastasiya Agapova, Technical and Project Officer, European Biogas Association

11:00 – 11:10 Infrastructure facilitating biomethane growth

Pierre Duvieusart, GIE Biomethane Area Sponsor

11:10 – 11:25 Q&A session

11:25 – 11:35 Concluding Keynote

Harmen Dekker, CEO, European Biogas Association

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European Biogas Association

Keynote

Biljana Kulisic

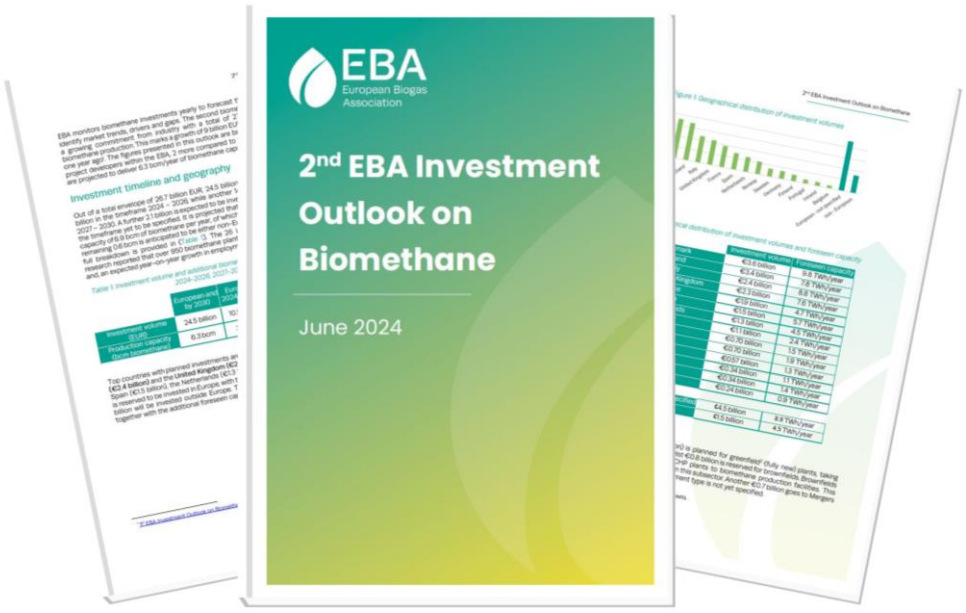
Policy Officer, Unit C2 Decarbonisation and sustainability of energy sources, Directorate-General for Energy, European Commission

2nd EBA Investment Outlook on Biomethane

Mieke Decorte

Technical Director, European Biogas Association

Objectives and methodology



Published on 18.06.2024

Yearly monitoring of biomethane investments in Europe

Identify **market trends**, drivers and gaps

The figures presented are based on replies from **26** investors and project developers

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€27 billion earmarked to be invested in biomethane

6.3

bcm/year

of added biomethane capacity in Europe by 2030

950

biomethane plants

to enter operation in the next 5 years

Denmark, Poland and Italy

are top countries for planned investments

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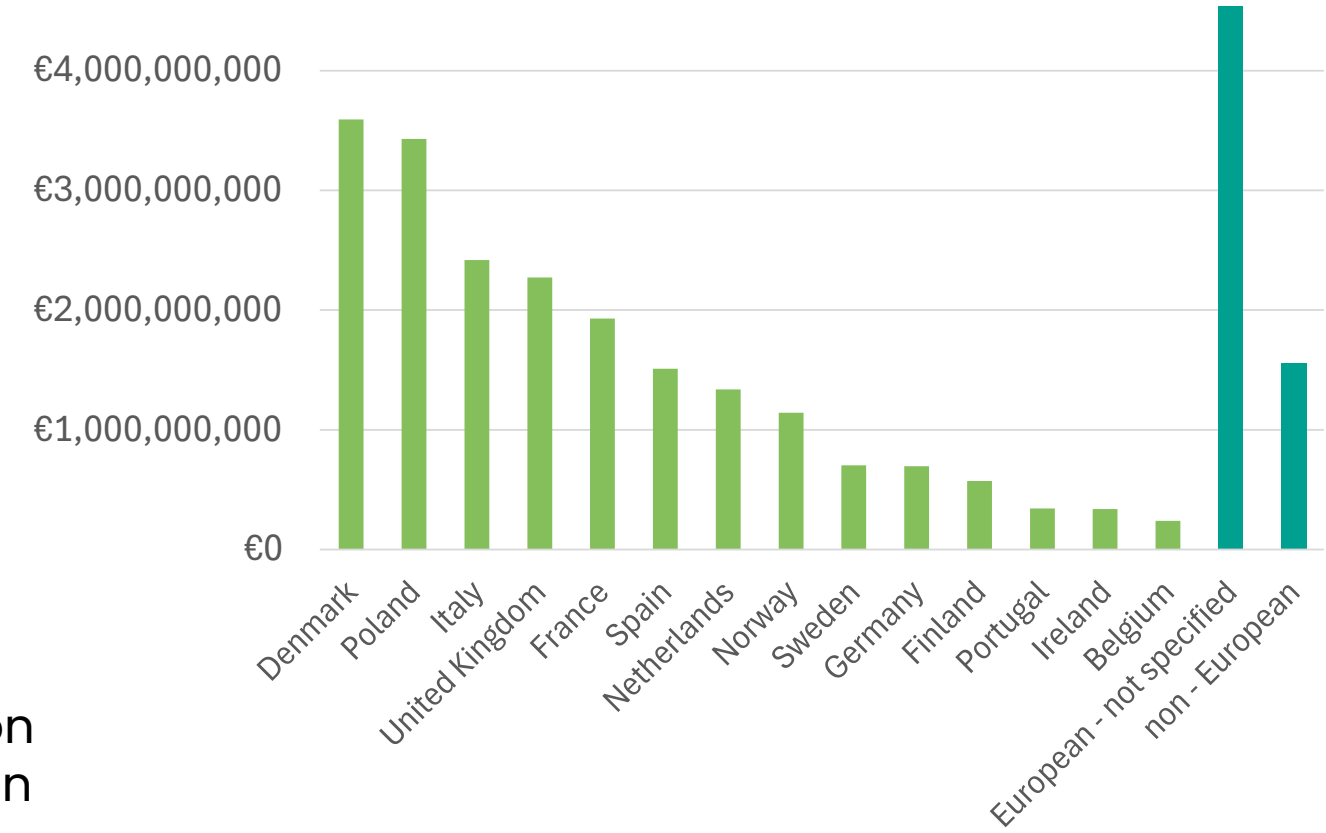
Denmark, Poland and Italy are top countries for planned investments

Top countries

Denmark	€ 3.6 billion
Poland	€ 3.4 billion
Italy	€ 2.4 billion
United Kingdom	€ 2.2 billion
France	€ 1.9 billion

Other investment destinations

European (yet to be specified)	€ 4.5 billion
Non-European	€ 1.5 billion



Geographical distribution of investment volumes

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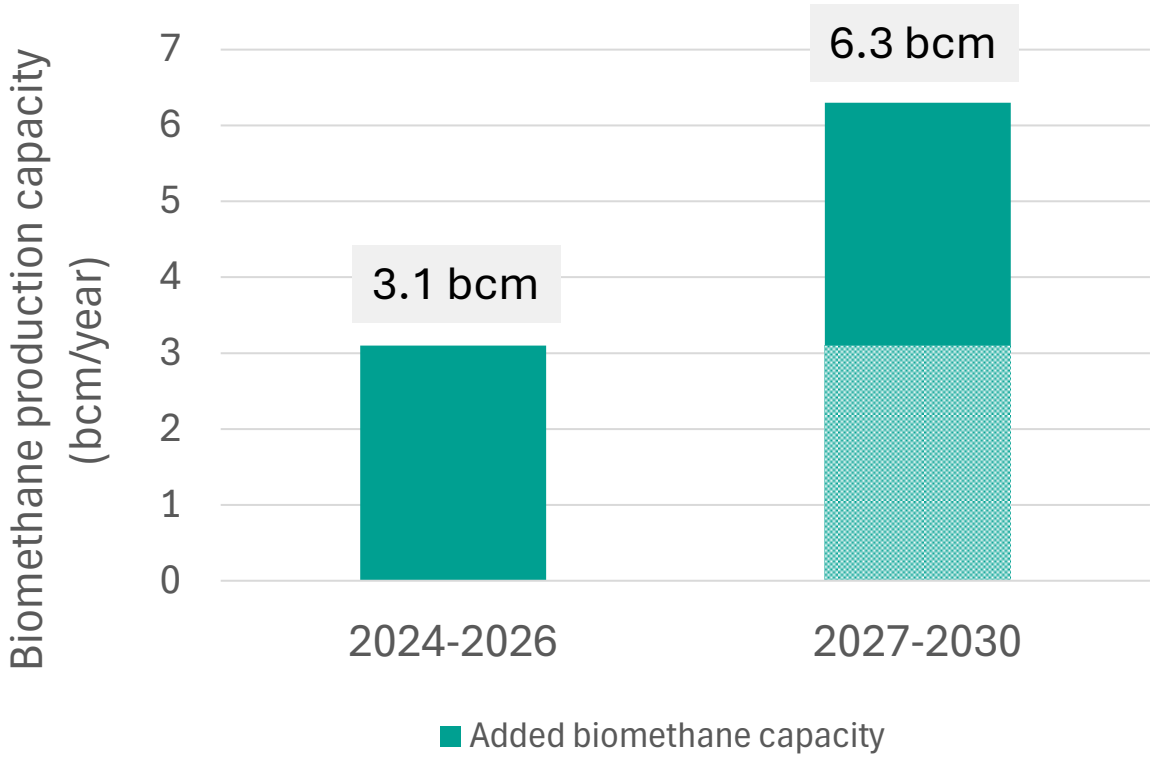
6.3 bcm/year of added biomethane capacity in Europe by 2030

- **3.1 bcm** and **€ 10.5 billion** in Europe added between 2024 and 2026
- **3.2 bcm** and **€ 14.0 billion** additionally added between 2027 and 2030
- **0.6 bcm** and **€ 2.1 billion** non-European, beyond 2030 or yet to be specified



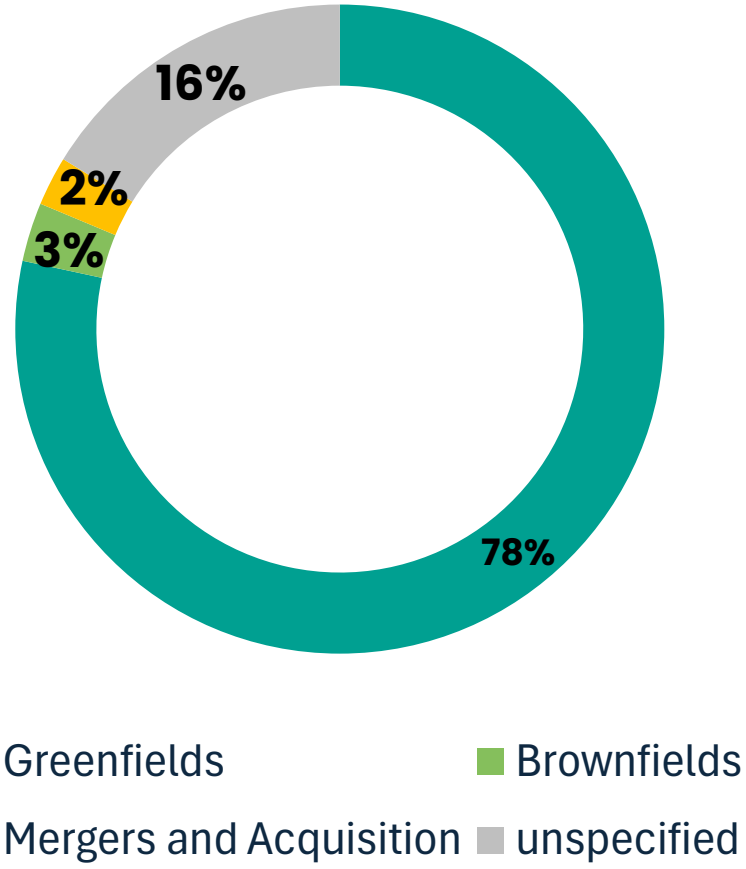
Important newcomers in the European biomethane market

- **Denmark, Italy and Poland** have the highest foreseen added capacities
- **Poland, Spain, Portugal and Ireland** important new markets
- **€4.5 billion** and **8.9 TWh/year** of capacity is yet to be allocated

	Investment volume	Foreseen capacity
Denmark	€3.6 billion	9.8 TWh/year
Poland	€3.4 billion	7.8 TWh/year
Italy	€2.4 billion	8.8 TWh/year
The United Kingdom	€2.3 billion	7.6 TWh/year
France	€1.9 billion	4.7 TWh/year
Spain	€1.5 billion	5.7 TWh/year
Netherlands	€1.3 billion	4.5 TWh/year
Norway	€1.1 billion	2.4 TWh/year
Sweden	€0.70 billion	1.5 TWh/year
Germany	€0.70 billion	1.9 TWh/year
Finland	€0.57 billion	1.3 TWh/year
Portugal	€0.34 billion	1.1 TWh/year
Ireland	€0.34 billion	1.4 TWh/year
Belgium	€0.24 billion	0.9 TWh/year
Europe – not further specified	€4.5 billion	8.9 TWh/year
Non - European	€1.5 billion	4.5 TWh/year

78% of investments are for greenfields plants

- **€20.9 billion** planned for greenfield biomethane plants
- **€0.8 billion** reserved for brownfields
- **€0.7 billion** goes to mergers and acquisition



ENGIE’s biomethane portfolio

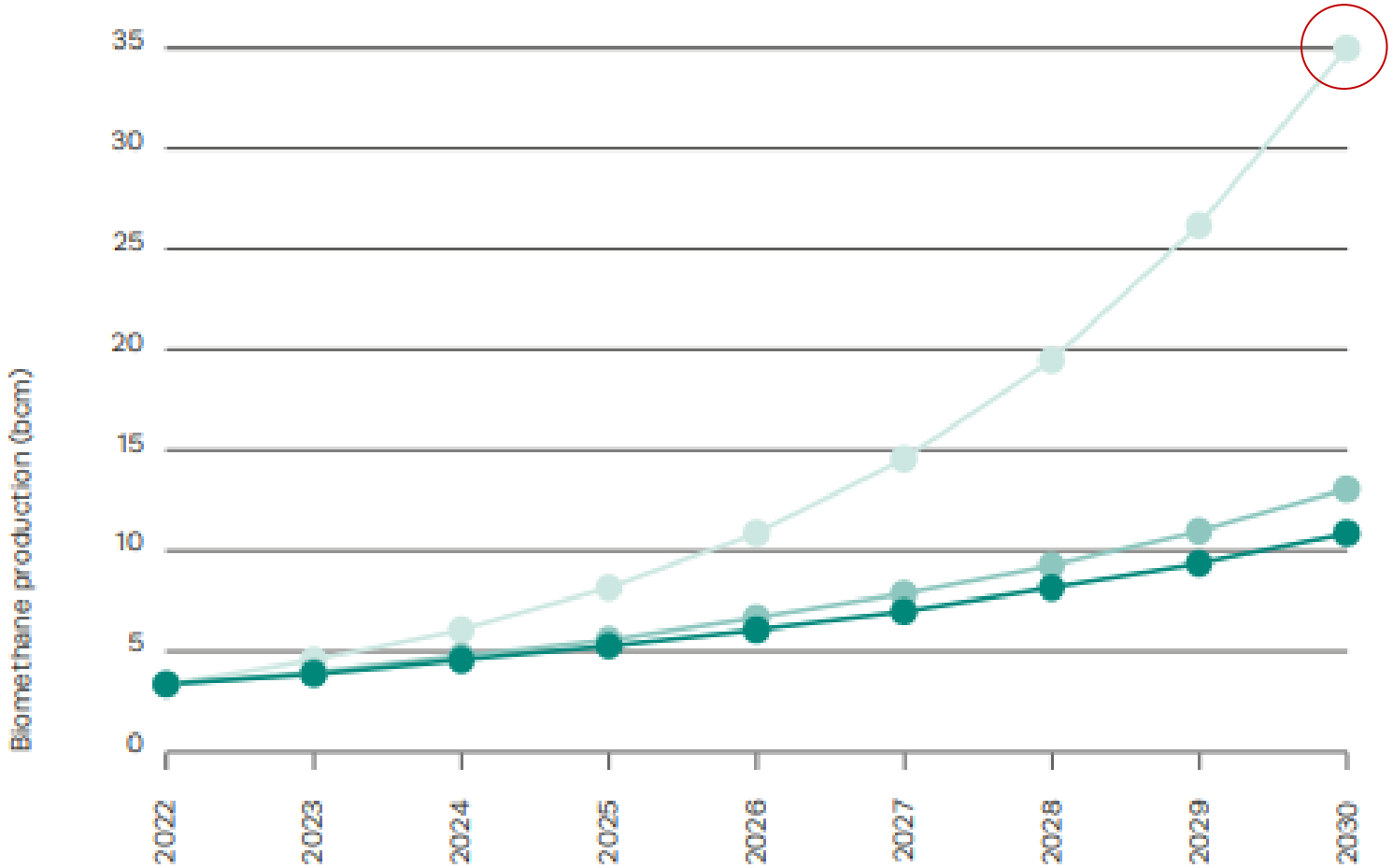
Annette Kroll

Head of Regulation and Advocacy, ENGIE

Annette Kroll
Head of Regulation & Advocacy
Renewable Gases Europe
ENGIE

ENGIE'S BIOMETHANE ACTIVITIES & AMBITIONS

Biomethane capacity must grow 2x as fast to achieve 35 bcm



35 bcm target by 2030

Biomethane production at 5-year-average growth rate (15.7%)
Biomethane production at 2022 growth rate (18.3%)
Biomethane production at required growth rate (33.8%)

Source: EBA

ENGIE is a major biomethane player in France, UK, NL

State of play

PRODUCTION

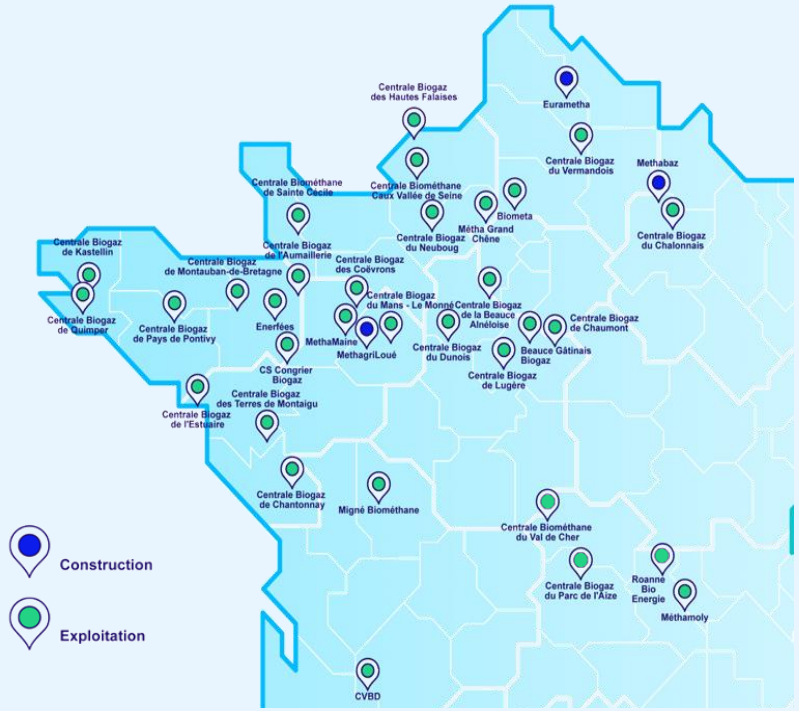
32 SITES & 670 GWh/year

4 SITES & 217 GWh/year

2 SITES & 140 GWh/year

> 1 TWH/YEAR IN TOTAL

ENGIE Production sites in France



Map January 2024

ENGIE Production sites in UK

Ixora Energy

Condate Biogas (South Molton, Devon)

Gorst Energy (Clyst St Mary, outskirts of Exeter)

Sustainable Energy Generation (South Somerset)

Rainbarrow farm (Dorset)

ENGIE Production site in NL

Sustenso BV, Alkmaar

Hardenberg

With great ambitions to accelerate across Europe

10 TWh of biomethane production capacity in Europe by 2030 **focused in 8 countries**

€3bn invested in the production of renewable methane by 2030

30 TWh of biomethane trading in Europe by 2030

Sustainability and partnerships are key for us!

Enhancing sustainable farming

- ✓ RED-certification
- ✓ Digestate returning nutrients to the soil

A comprehensive offer

- ✓ Waste management solution
- ✓ Renewable energy supply
- ✓ Biogenic CO2

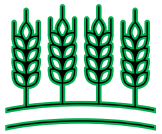
Strong link with local stakeholders

- ✓ More than 250 partners in food industry
- ✓ More than 500 farmers partners

Our sector has major barriers to overcome …

Demand and willingness to pay

Policy and regulation



Feedstocks

By-products and externalities

Public acceptance

Let’s work together to promote the solutions!

- Create long-term **visibility** and **incentives** for decarbonization and biomethane development
- Facilitate **permitting** and grid connection (gas and power)
- Set up an integrated **European market** (certificates trade)
- Support mobilization of **feedstocks** (RED, CAP, …)
- Complete and improve the regulatory framework for **valorization of byproducts** (digestate, biogenic CO2)

engie.com

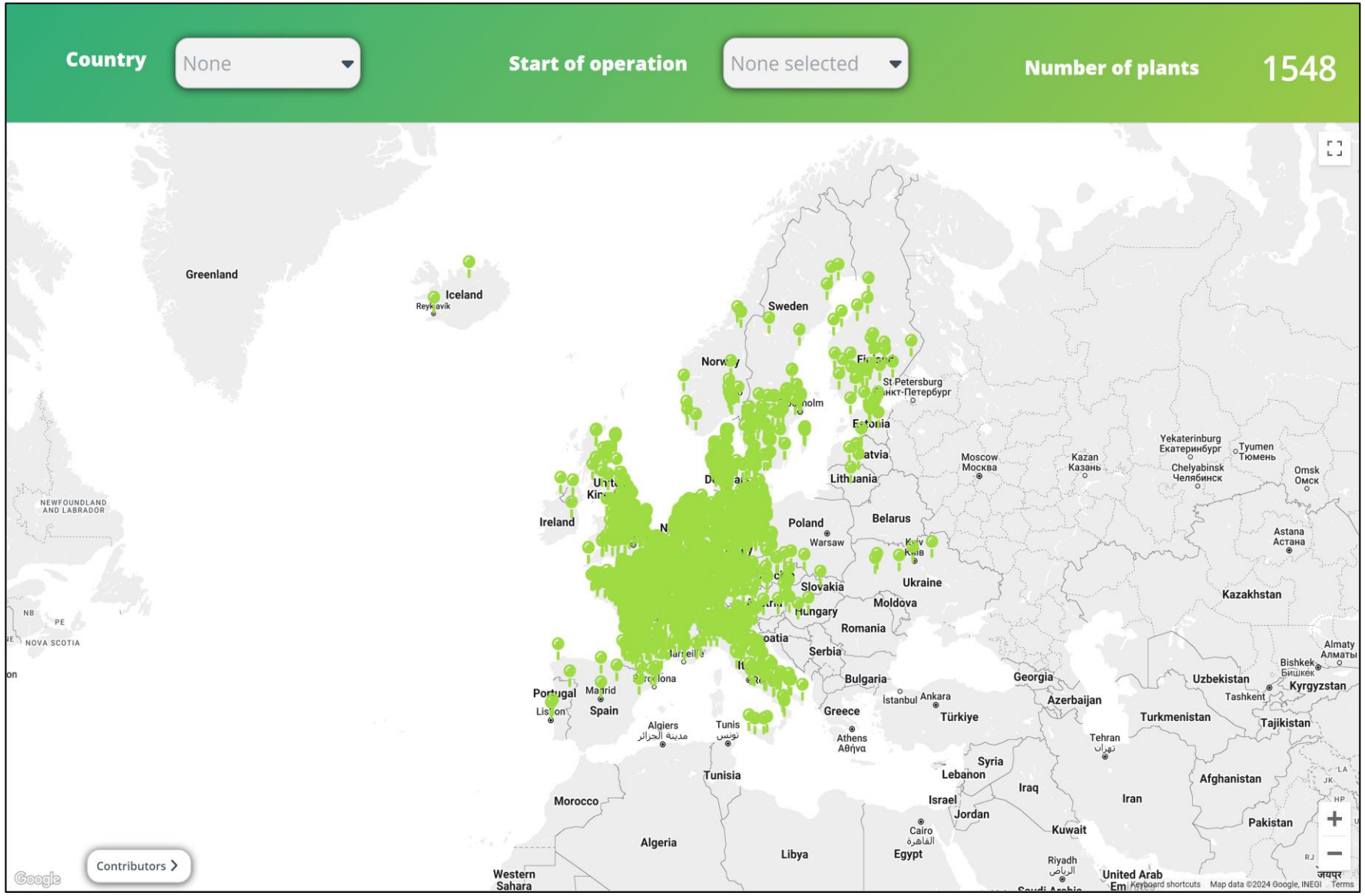
We want to hear from you!

Insert your question(s) in the Q&A

European Biomethane Map

Anastasiya Agapova
Technical and Project Officer, European Biogas Association

European Biomethane Map 2024: 1,548 plants in operation



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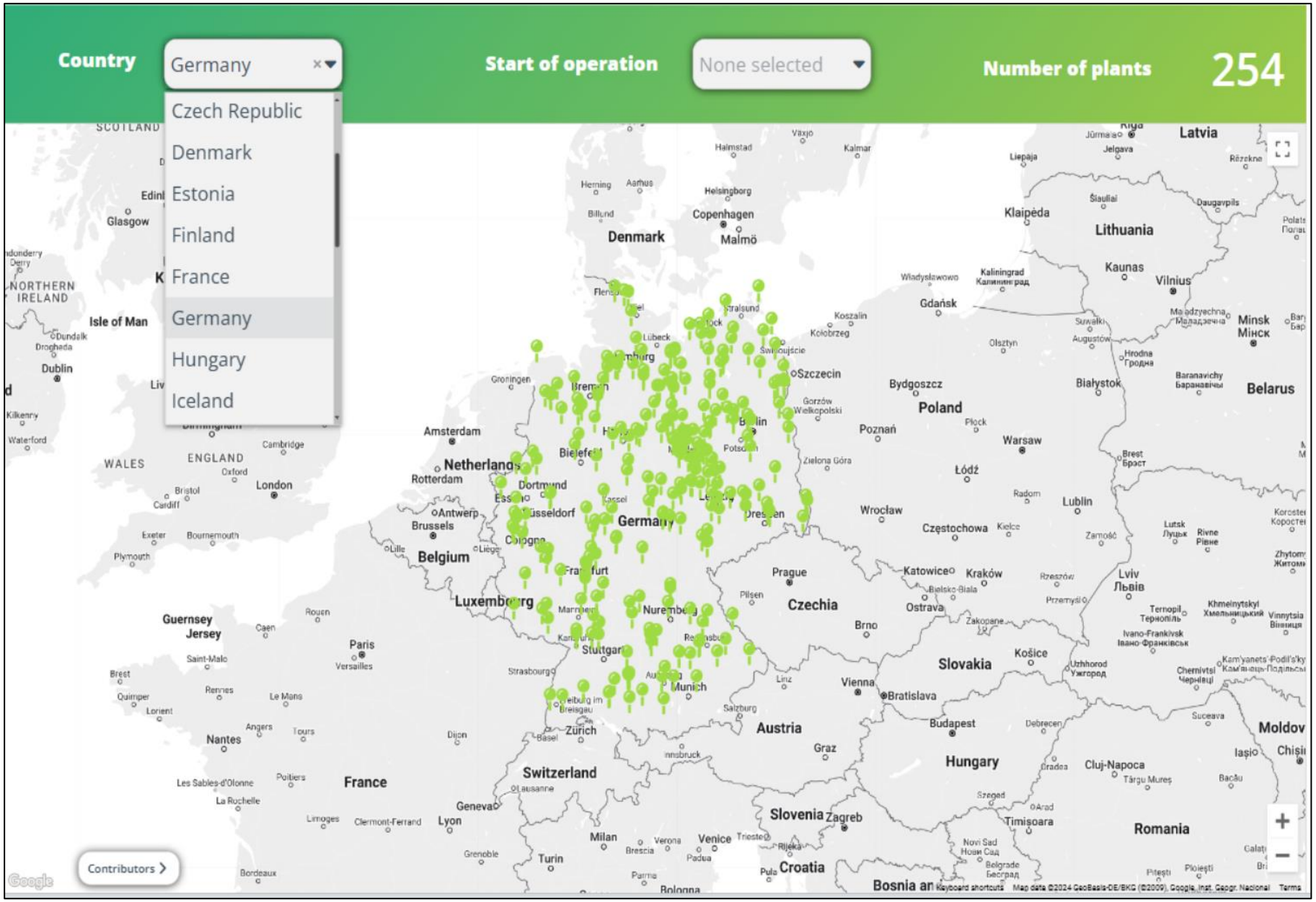
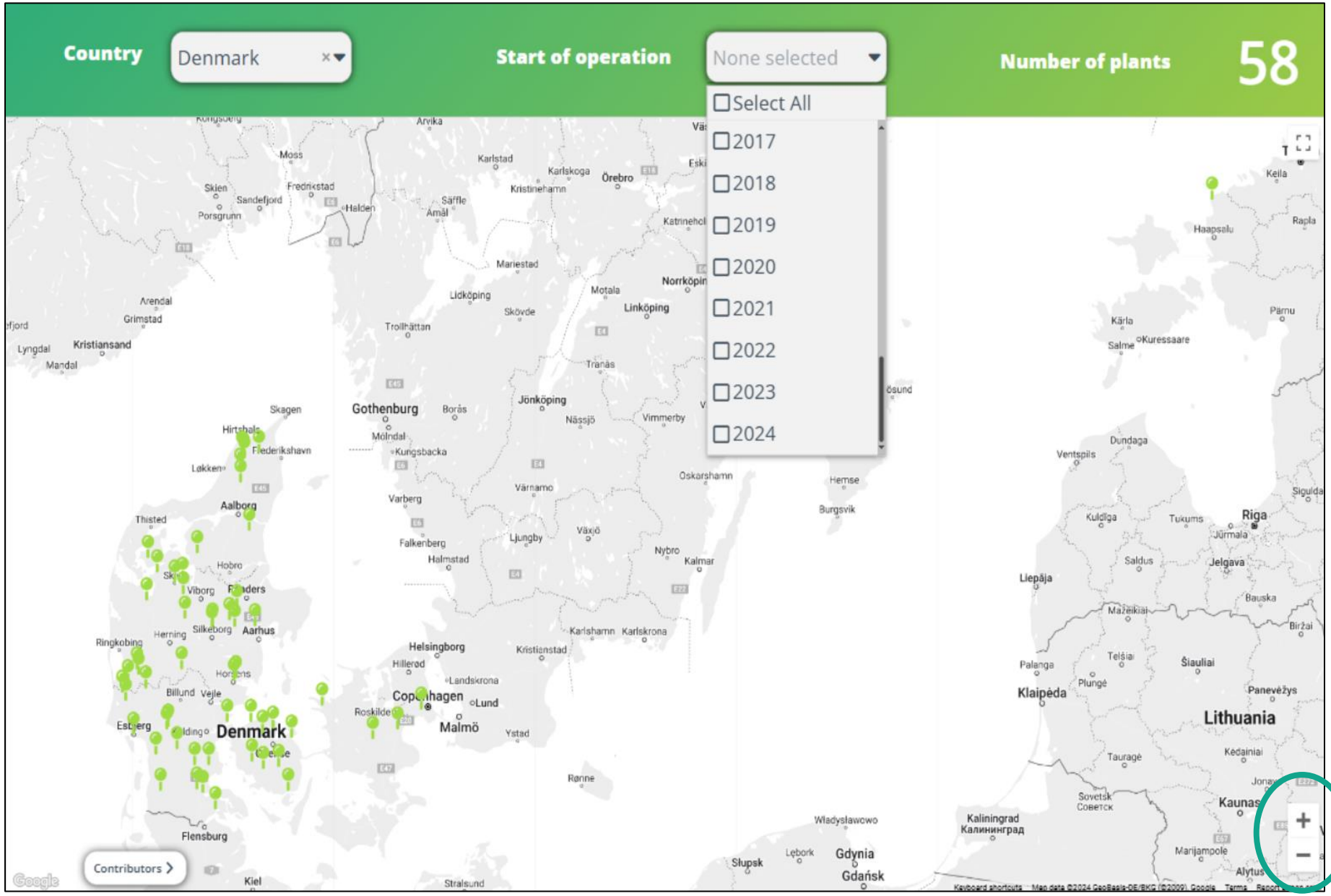
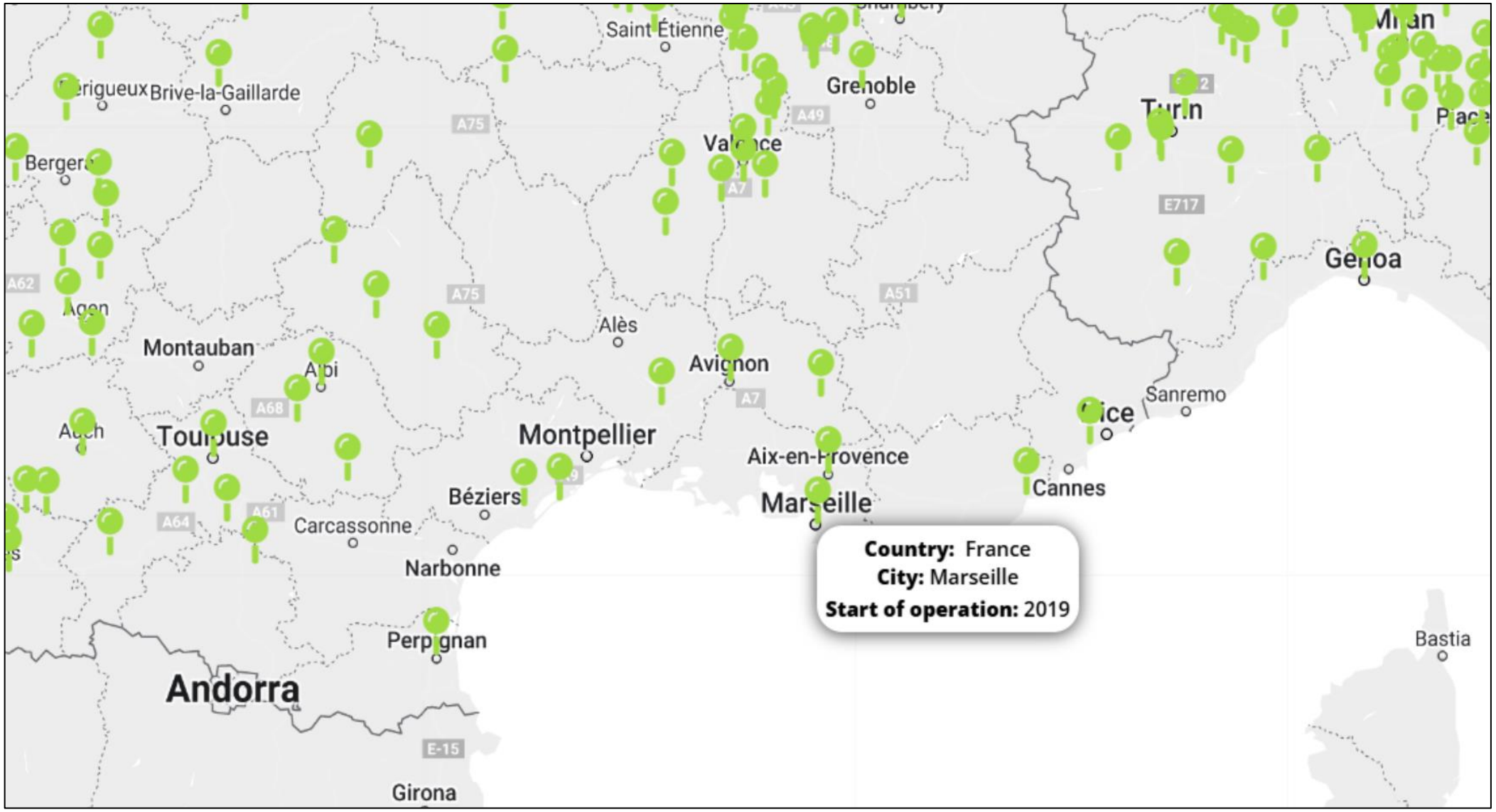
Functionality: country filter



Functionality: start of operation filter



Functionality: individual plants



Statistics: installed capacity

	2024
Germany	147,749
France	132,818
United Kingdom	114,358
Italy	97,757
Denmark	85,117

	2022
Germany	147,711
United Kingdom	107,029
France	87,691
Denmark	70,105
Sweden	45,421

Countries with the biggest biomethane installed capacities per year in 2024 vs 2022 ***(in Nm³/h)***

	2024		2022	
	EU-27	Non-EU	EU-27	Non-EU
Installed capacity	5.2	1.2	3.8	1.0
% of total	81	19	79	21

Biomethane plant installed capacities in EU-27 and non-EU countries in 2024 vs 2022 ***(in bcm/year)***

Total installed capacity of biomethane plants:

6.4 bcm/year

Growth from EBA Biomethane Map 2022 data:

32%

Growth for EU-27:

37%

Growth for non-EU:

20%

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Statistics: number of plants

	2024
France	675
Germany	254
Italy	133
United Kingdom	119
The Netherlands	79

	2022
France	477
Germany	254
United Kingdom	106
Sweden	72
The Netherlands	70

Countries with the largest number of plants in 2024 vs 2022

	2024		2022	
	EU-27	Non-EU	EU-27	Non-EU
Number of plants	1,364	184	1,023	151
% of total	88	12	87	13

Biomethane plants in EU-27 and non-EU countries in 2024 vs 2022

Total number of biomethane plants:

1548

Growth from previous EBA map:

32%

Growth for EU-27:

33%

Growth for non-EU:

22%

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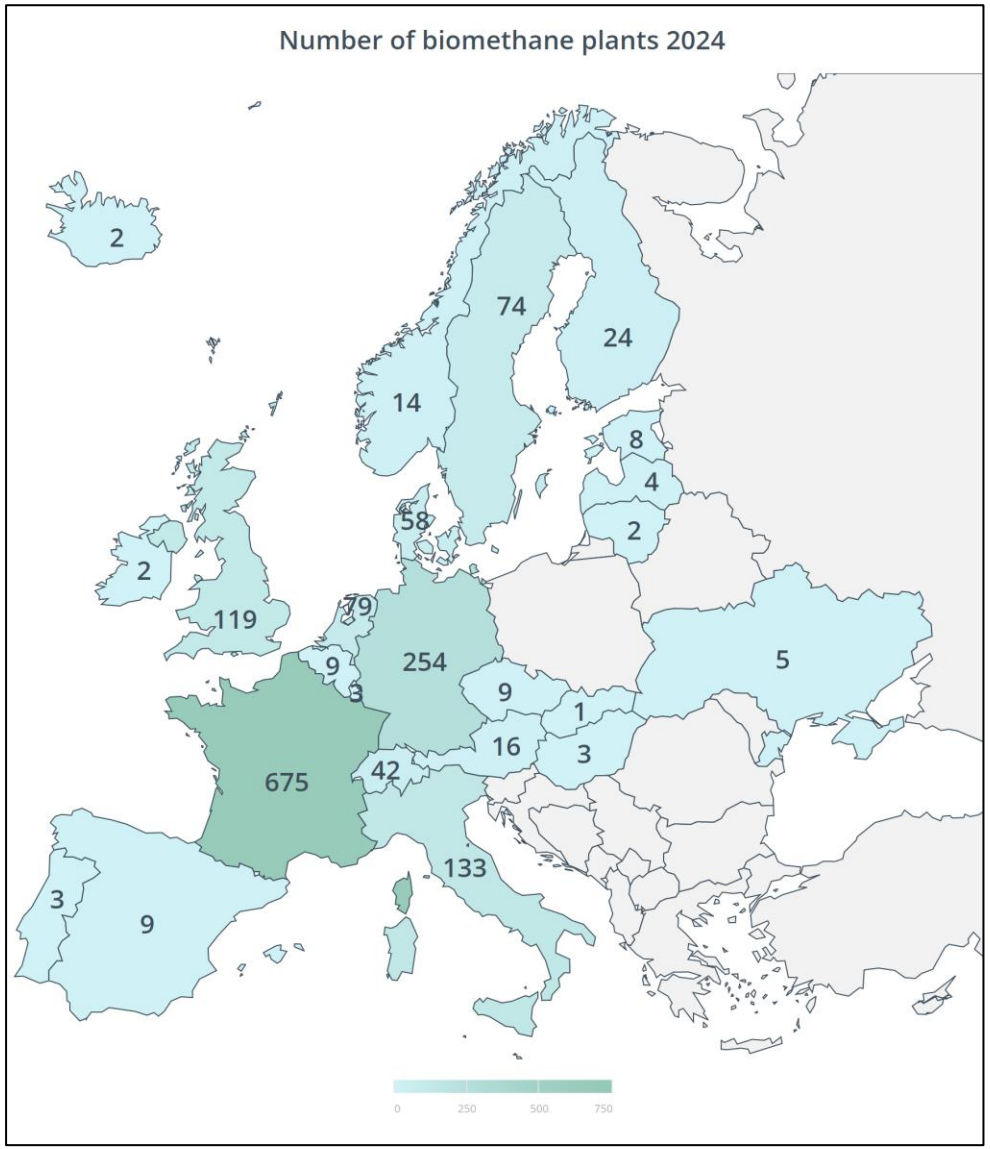
Statistics: geographical distribution



Countries with biggest growth in installed capacity:

Italy	238%
France	51%
The Netherlands	23%

Average biomethane plant in Europe:

468 Nm^3/h

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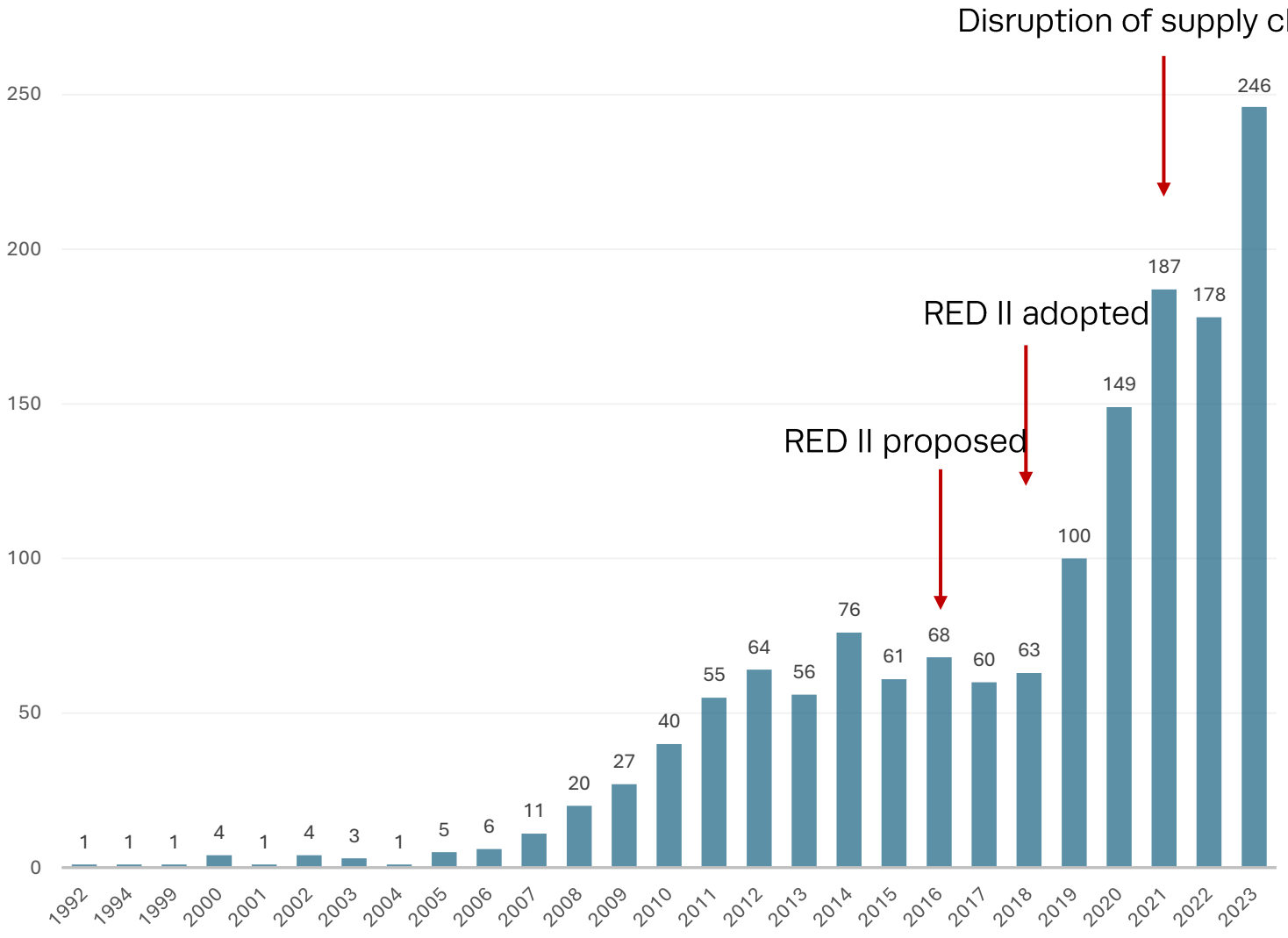
Statistics: historical distribution



Number of biomethane plants (that are still operational) per their start of operation year

Key takeaways:

- Noticeable increase after 2018 RED II adoption
- Increase despite disruption of supply chains in 2020-2022

Identified new plants in 2024: 56

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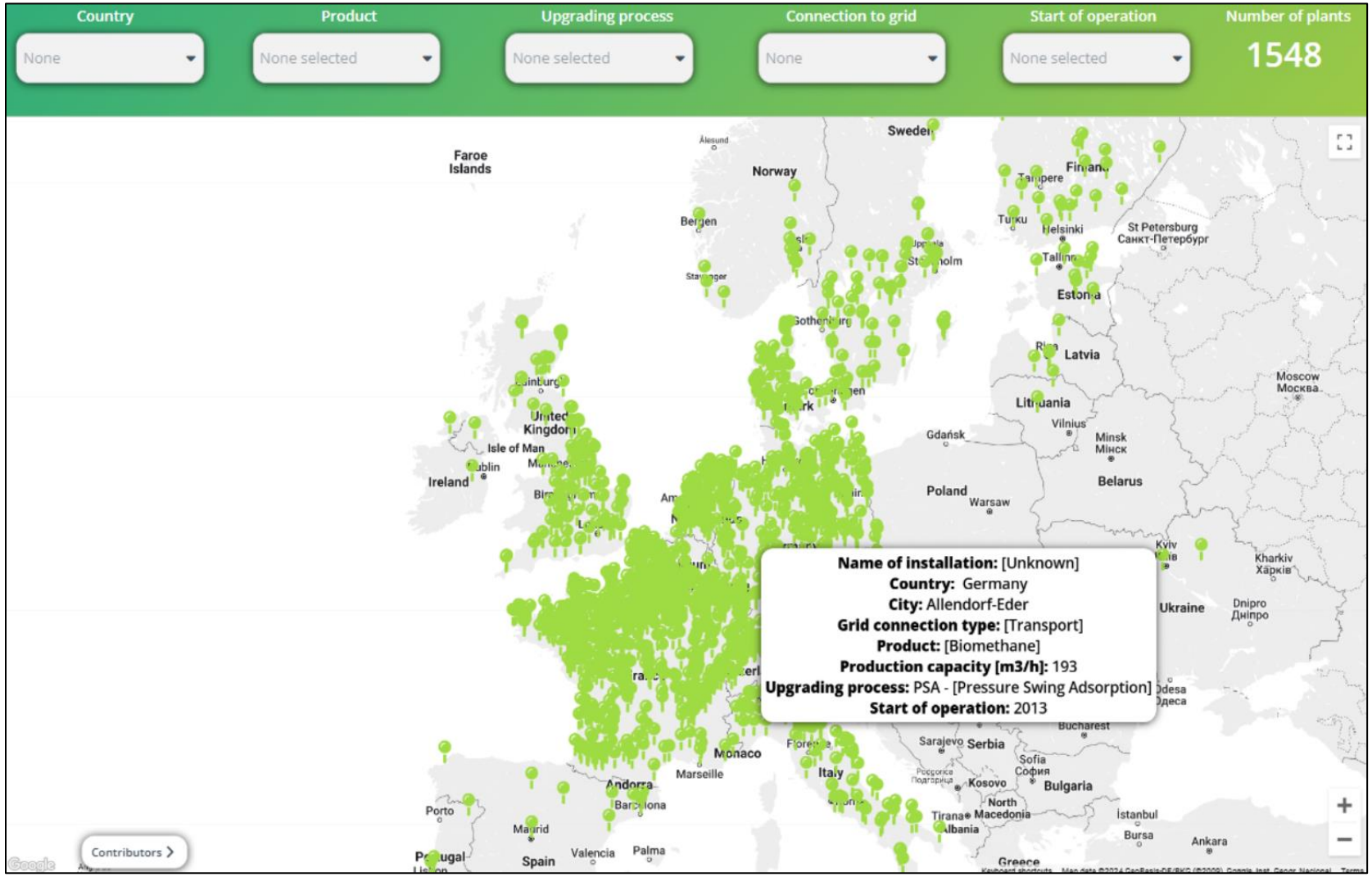
Members-only Biomethane Map 2024



Additional information

- Grid connection type
- Product
- Production capacity
- Upgrading technology

+ **Analytical report**

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Thank you to data contributors!

The accuracy of the biomethane plant data is under the purview of the data sources. Statistical analysis accuracy is under the purview of EBA.

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Infrastructure facilitating biomethane growth

Pierre Duvieusart

GIE Biomethane Area Sponsor

Building a greener & resilient Europe with Gas infrastructure & Biomethane

EBA webinar

5 July

Gas Infrastructure Europe


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Gas Infrastructure Europe
70 member companies
25 countries
3 observers
GASSCO
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Biomethane: A green solution for today

1. Biomethane & Gas infrastructure: a fast & cost-effective match

2. Benefits & concrete projects

3. Policy levers to go further

A green solution for today

Biomethane & Gas infrastructure: a fast & cost-effective match

The synergies that exist between natural gas and biomethane.

At a technical level:

- Biomethane can be injected into today's gas infrastructure with almost no additional investment.
- It can be done in the existing gas grid, either at the transmission or distribution level
- Efficiently exploiting all gas infrastructures.

Gas infrastructure assets:

- Ability to accommodate large volumes of renewable molecules
- Connect consumption centres with limited costs.
- Requirement achievable: network operators to provide bottom-up designs and increased flexibility

Benefits & concrete projects

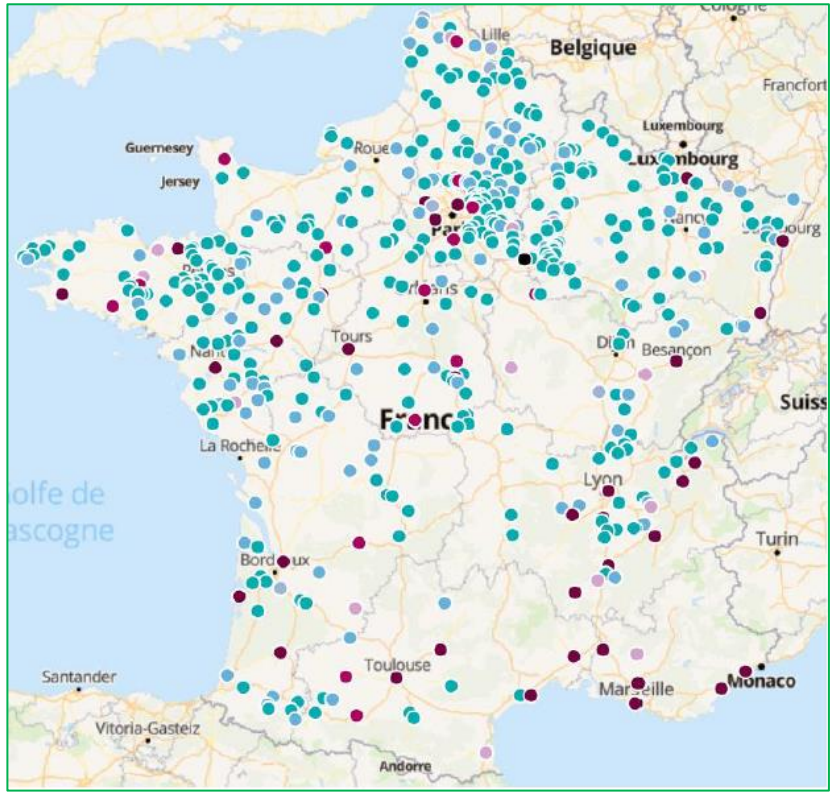
Biomethane: a key decarbonisation partner for industries & citizens.

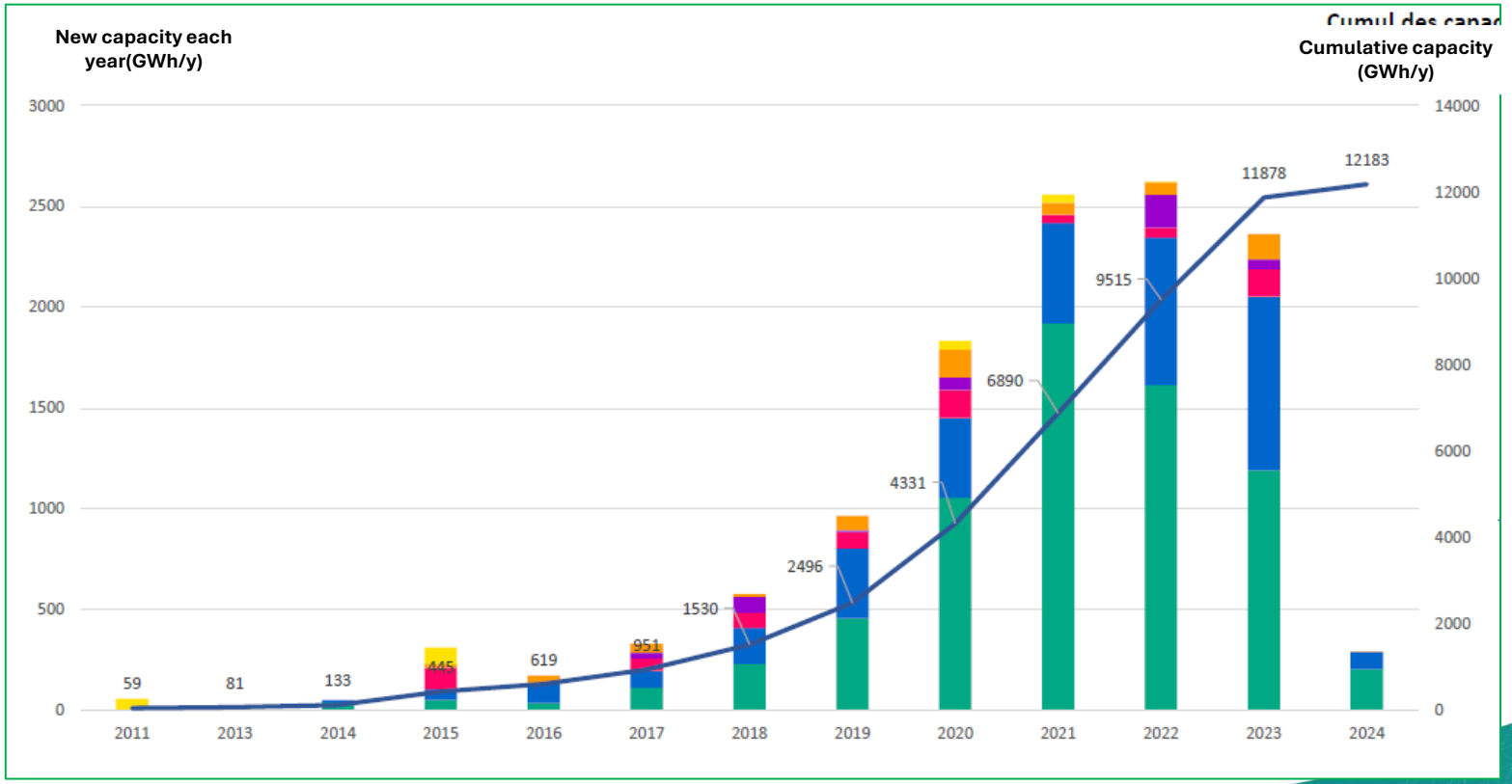
GIE
Gas Infrastructure Europe

Zooming on the French case: A significant growth of biomethane capacities in recent years

Production figures at end Q1 2024:

- 674 production sites in operation. 80%/20% DSO/TSO connection
- Total injection capacity is 12,1 TWh/y – 60 TWh as a 2030 target
- >3% french gas consumption



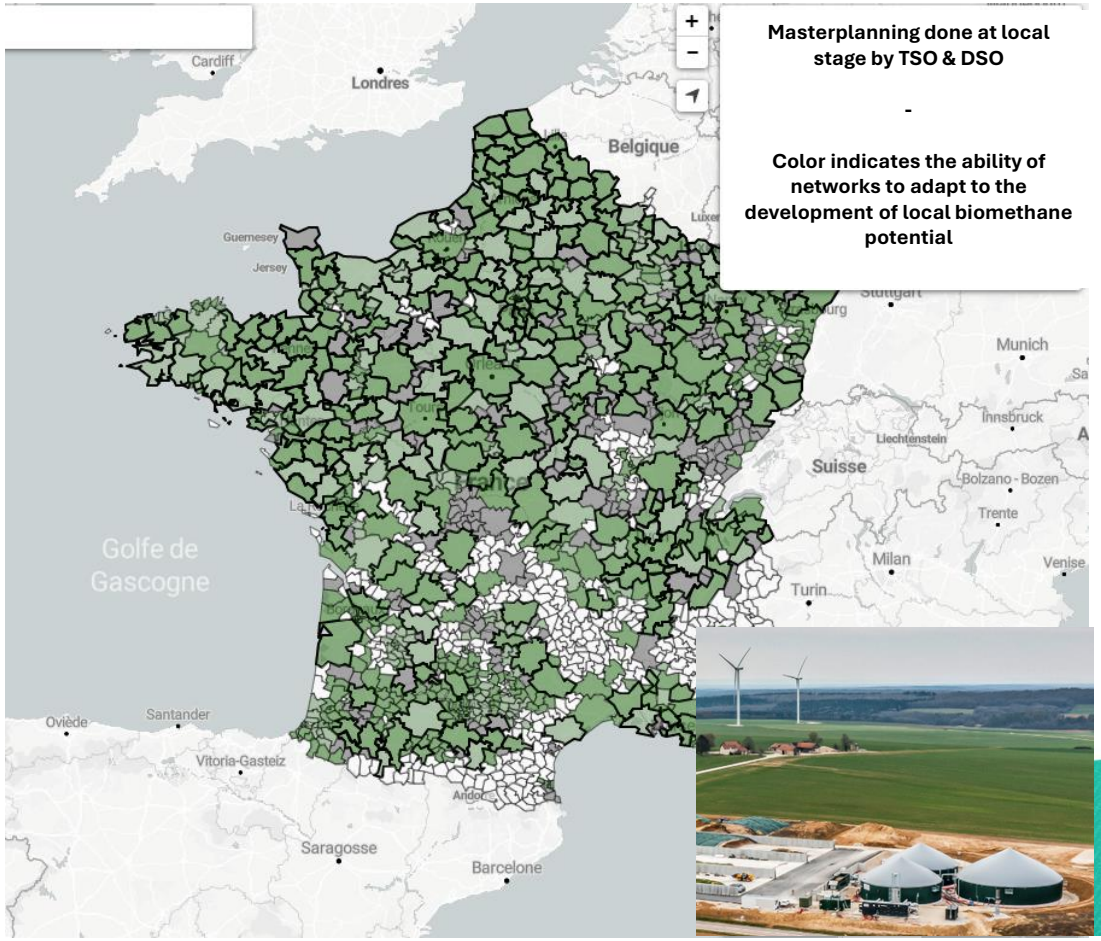


Zooming on the French case: A regulatory framework enabling smooth network adaptations

Key features of the “right to inject” framework:

- DSO/TSO coordination: Masterplanning at local level
- Network adaptations borne by TSO/DSO regulated tariff subject to an economic test (Investment vs Volumes)

Current reverse flow facilities portfolio: 23 in operation – 28 at project stage



Policy levers

Levers for optimal results

1. Equivalent supports (regulatory, financial) should be offered for green molecules as green electrons. Gas and Electricity infrastructures shall work side by side in the transition towards a carbon neutral energy system.

2. EU-wide approach to certification in transport is key to facilitating cross-border activities.

3. Recognition with the EU ETS of renewable gases is necessary to encourage thermal electricity plants and industries to migrate to renewable solutions.

4. Accessing feedstock needs to be addressed, whereby it should be urged towards AD plants to increase production.

5. Moreover, this green gas potential should be increased by supporting new biomethane production technologies (such as pyrogasification and hydrothermal gasification) at the industrial level, which do not exploit the limited biomass potential.

6. Reducing permitting time is a challenge for all infrastructure developments.

7. Connection policies should not be punitive and should recognise externalities and the direct economic benefits of renewable gas.

8. Last but not least, we should keep our efforts in raising awareness of biomethane benefits towards society and end-users.

Gas Infrastructure Europe

Thank you for your attention.

Stay tuned to decarbonisation & security of supply news
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We want to hear from you!

Insert your question(s) in the Q&A

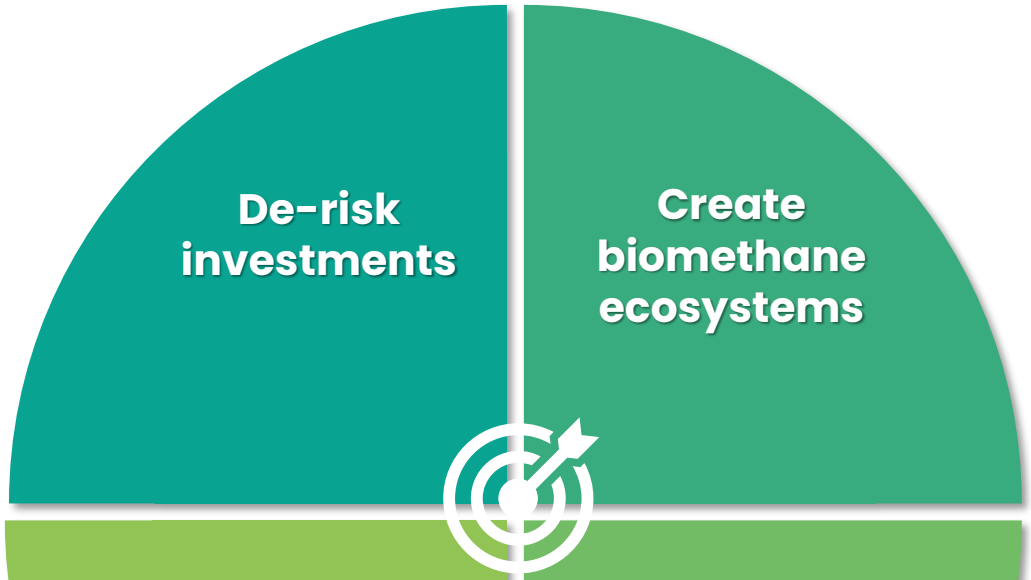
Concluding Keynote

Harmen Dekker

CEO, European Biogas Association

4 recommendations to sustain the acceleration

- Provide long-term targets
- Create demand pull from all sectors
- Ensure solid planning frameworks



- Biomethane at the heart of circularity
- Development of synergies

Fast implementation of H2 Hydrogen and Decarbonised Gas Market Package.

- Biomethane Accelerator
- Taxonomy fit for a cross-cutting sector

WEBINAR

Dig Deep!

Mapping e-methane plants and technologies: The role of e-methane in the total energy mix

9 SEPTEMBER 2024
10h-11h30 AM

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EUROPEAN BIOMETHANE WEEK

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21-25 October 2024: Brussels and across Europe

Inspiration CHALLENGE
Present your innovative idea to a broad biogas industry audience
Discover the 3 topics

EBA AWARDS
Recognising leaders in advancements in the biogas sector
Step into the spotlight
Discover the 4 categories

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Step into the spotlight
Submit your photos

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