Biogases Market in Europe:
Overview of the state of the market and support schemes

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George Osei Owusu, Technical and Project Officer

EBA
European Biogas Association

What's in for you?

- **Biomethane Production Statistics**
- **End Uses of biomethane**
- **Support Scheme Analysis:**
    - Categories of Support Measures
    - Tariffs and end of supports
    - Mandates/quotas
    - Country Analysis
- **Conclusions**

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Biogases covered 7% of EU gas demand in 2023

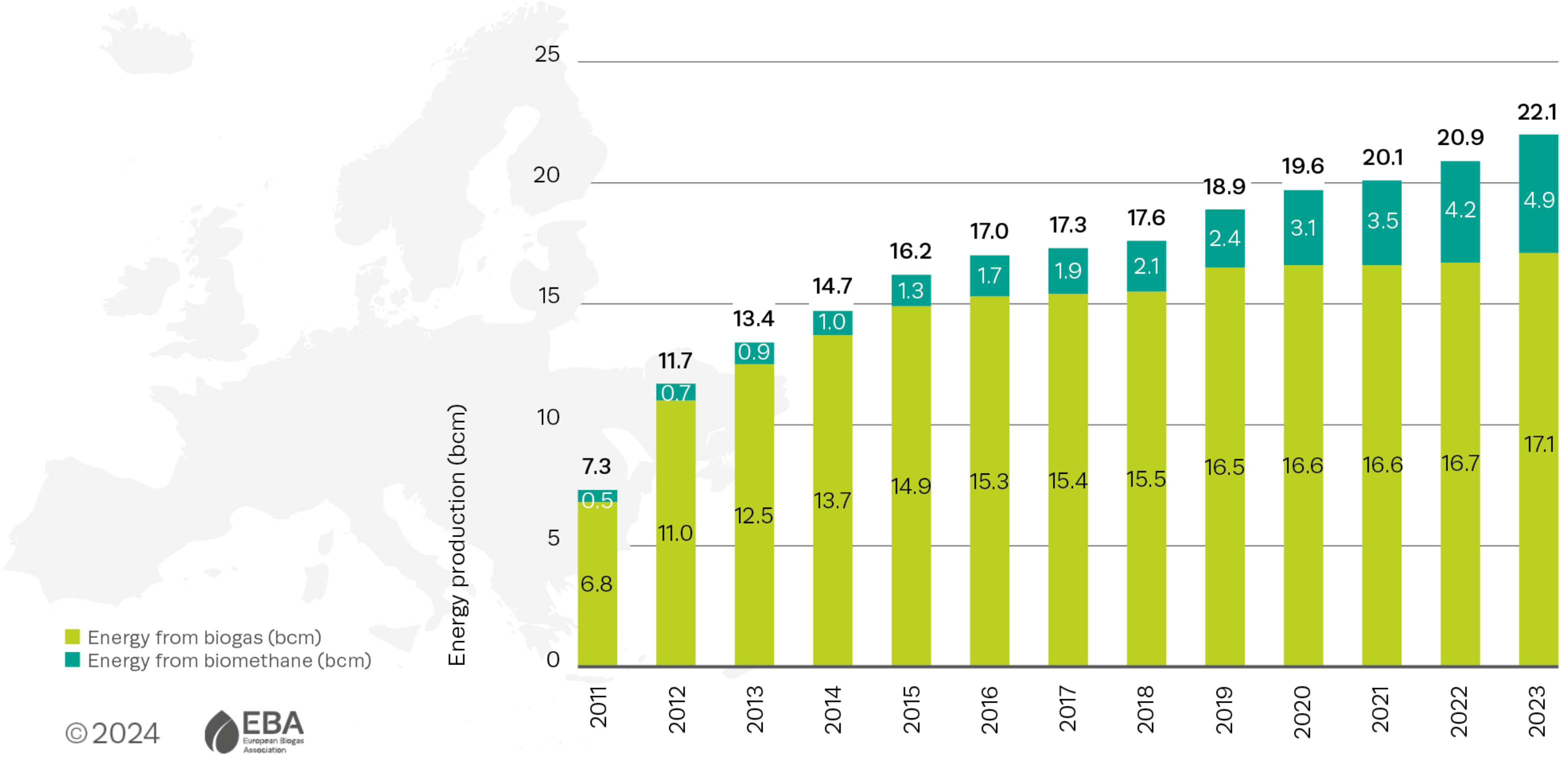
Combined biomethane and biogas production in Europe

22 bcm of combined biogas and biomethane production are produced today in Europe

= Gas consumption of Belgium, Denmark and Ireland combined

= 7% EU gas consumption in 2023

Combined biomethane and biogas production in Europe (bcm)



Biggest growth on biomethane production to date

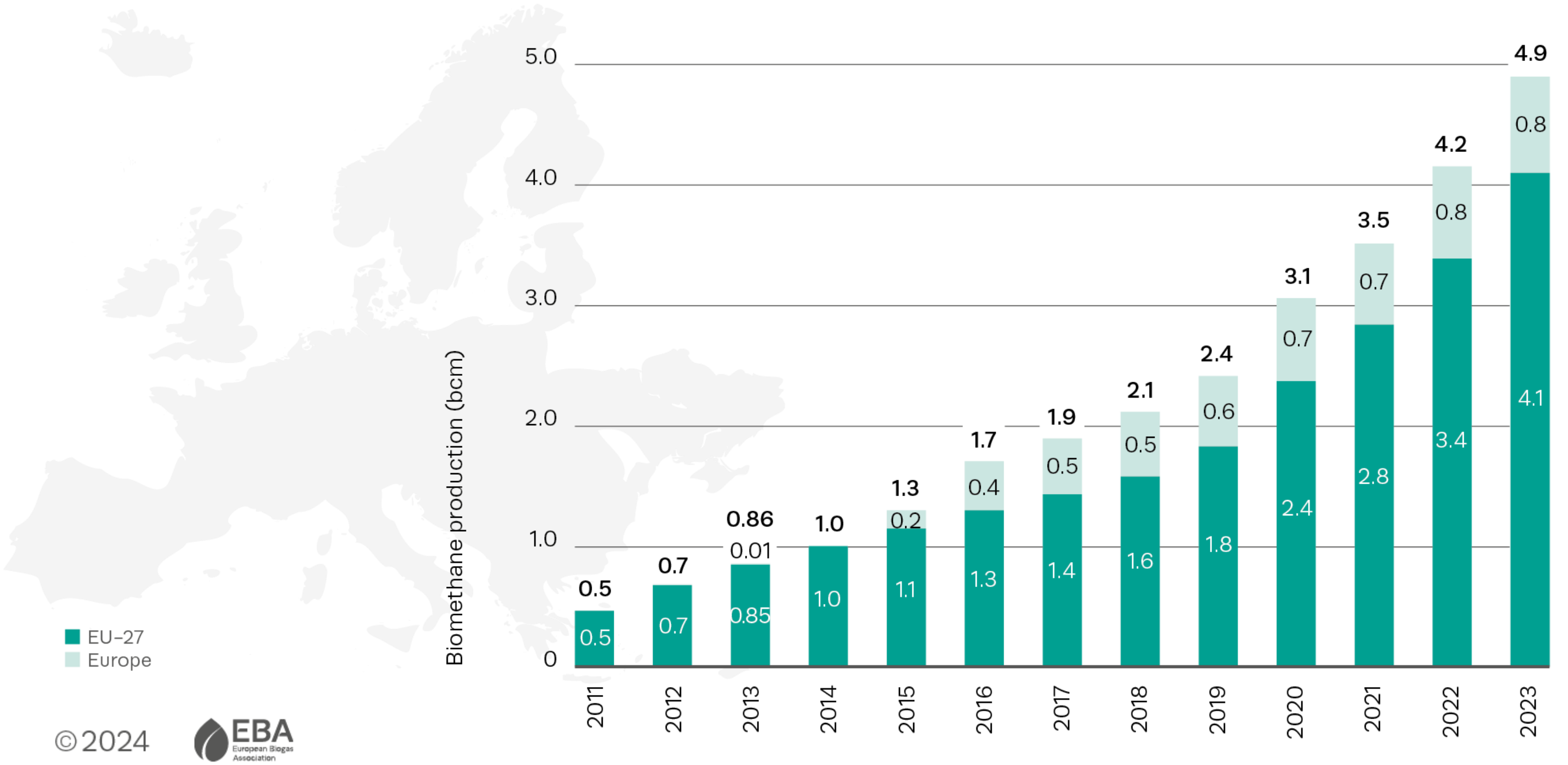
In 2023: 4.9 bcm biomethane production (4.1 bcm in EU-27)

- 18% YoY growth in Europe
- 21% YoY growth in EU-27

In Q1 2024: **6.4 bcm biomethane installed capacity**

Italy, France, Denmark, and the UK are leading the production and scale-up of biomethane

Biomethane production in the EU-27 and Europe (bcm)



› 200 new biomethane plants in 2023

Development of number of plants in Europe

In 2023:

- **1,510 biomethane plants in Europe**
- **1,324 biomethane plants in EU-27**

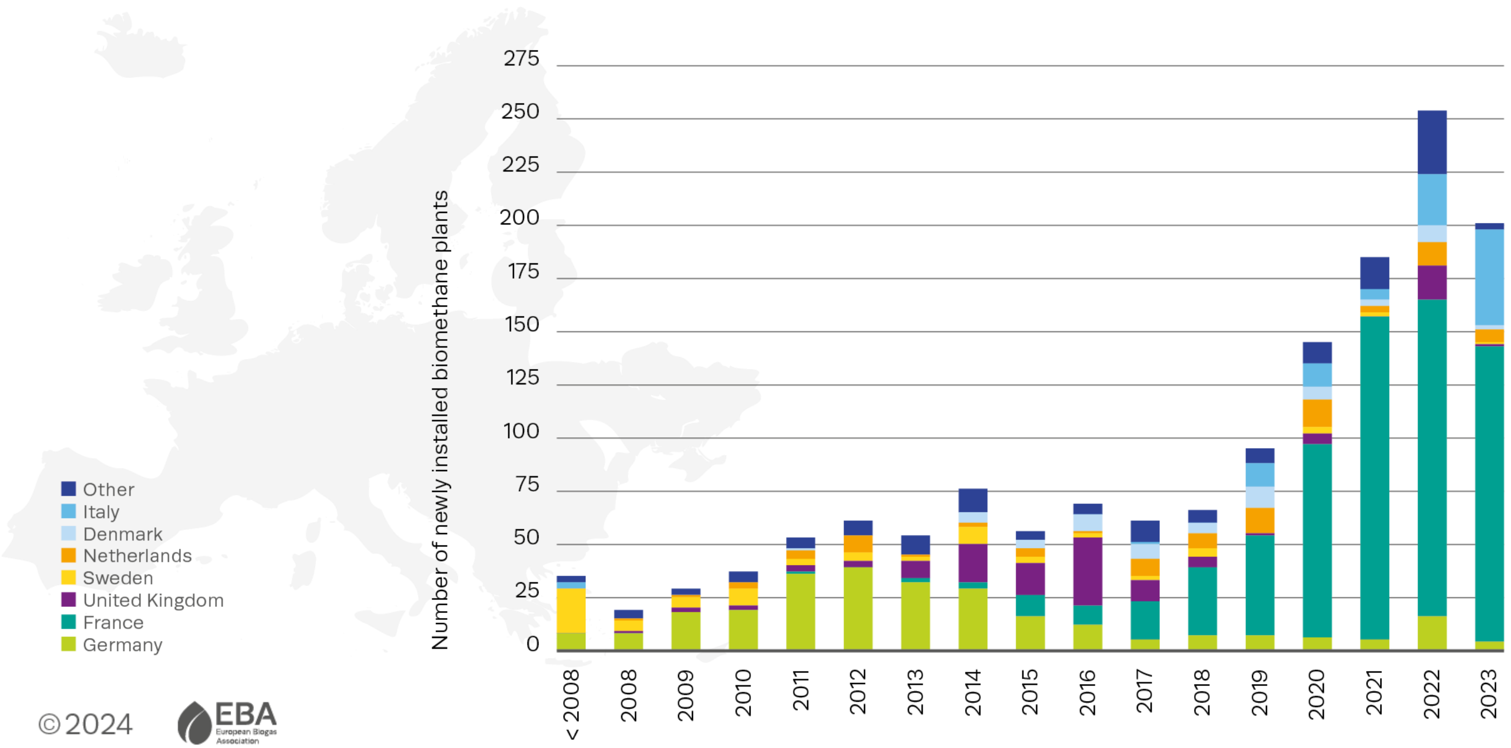
25 biomethane-producing European countries.

The most recent additions are:

- Portugal (2022)
- Lithuania and Ukraine (2023)

› 85% connected to gas grid, mainly distribution grid

Number of new biomethane plants in Europe each year, 2008 - 2023, overall per country



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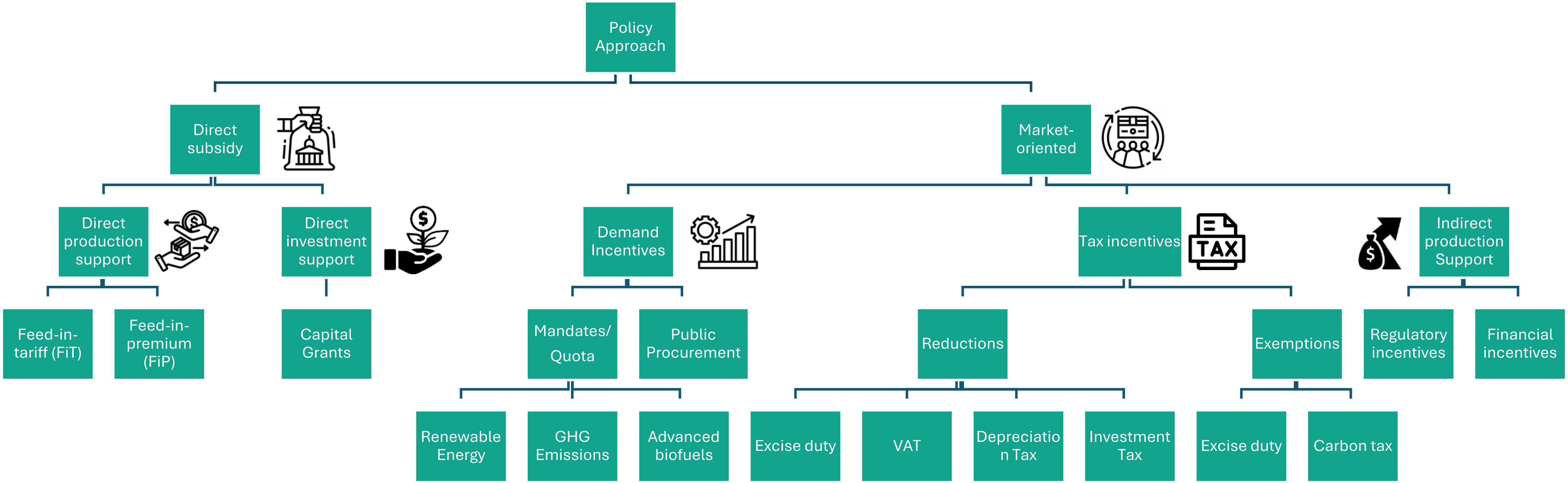
Biogases backed by support schemes

Categories considered



Policy mixes implemented in the past 5 years - Biogases

107 schemes introduced:

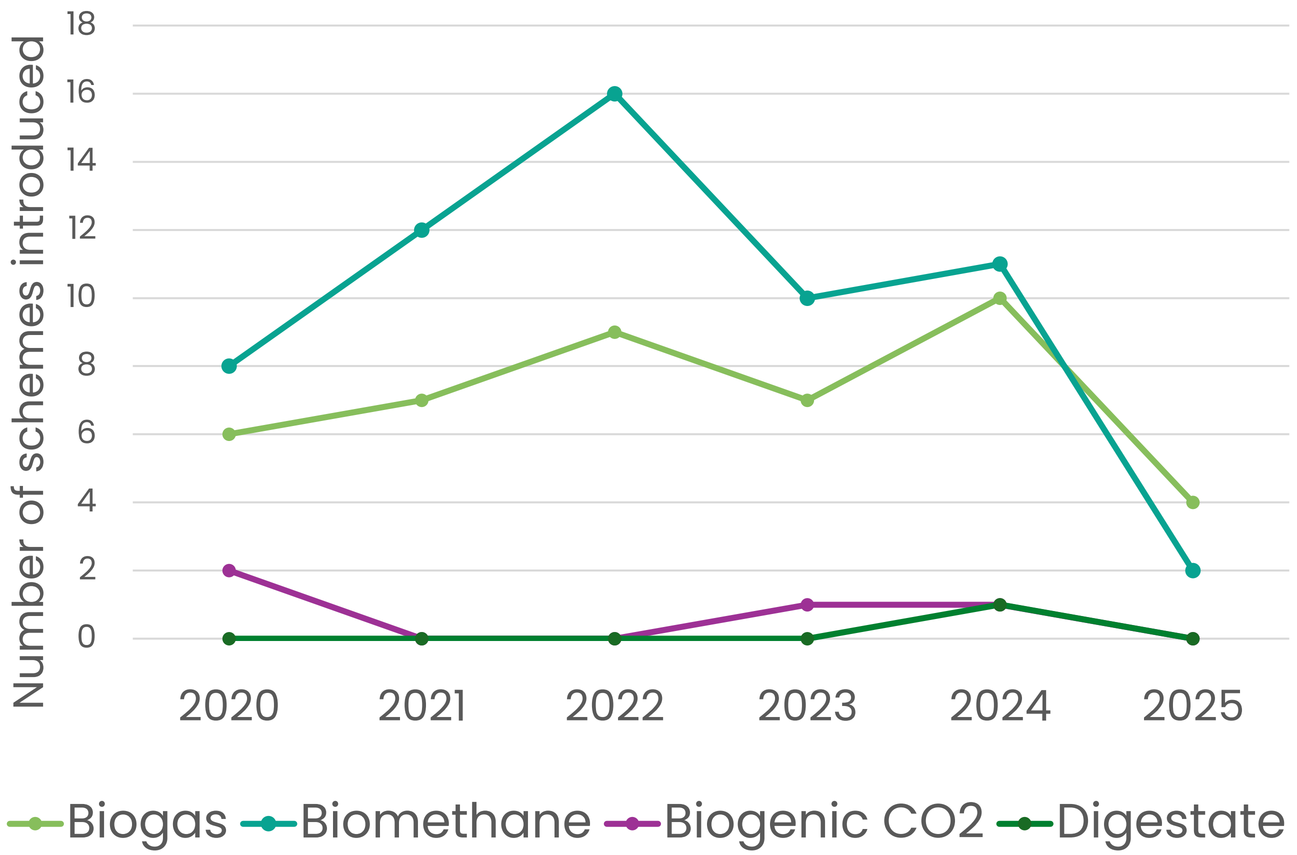
- 59 biomethane
- 43 biogas

Lack of targeted support for:

- Digestate
- bioCO2

- Clear switch to biomethane support

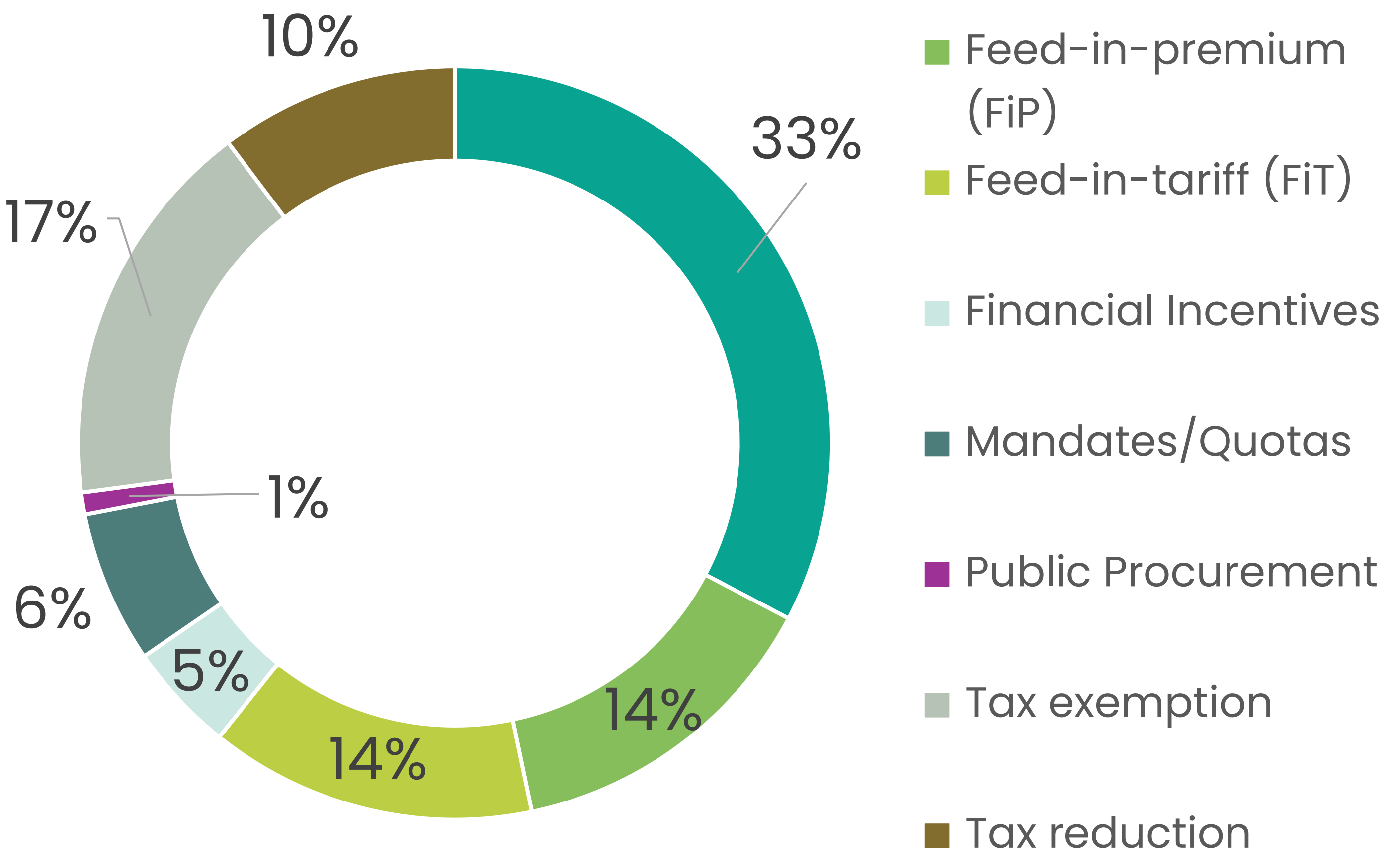
Number of schemes introduced in the past 5 years based on the end product



Only 21 countries analysed

Policy mixes implemented in the past 5 years - Biogases

Share of introduced schemes in the past 5 years



- Design of capital grant schemes is relatively simple.
- Tax incentives available only in limited countries.
- Tariffs account for 28% of the schemes introduced.
- Mandates are slowly increasing.

Analysis based on 21 countries

59 schemes introduced for Biomethane in the past 5 years

- 18 countries have implemented at least one support
- Capital grants biggest share of introduced schemes (32%)
- 14 Tariffs introduced in 12 countries

Country	Capital Grants	Feed-in-premium (FiP)	Feed-in-tariff (FiT)	Financial Incentives	Mandates /Quotas	Tax exemption	Tax reduction
Germany		1			1		
France			2				
Italy	1	1	1		1		
United Kingdom			1			1	
Netherlands	1	2			1		
Sweden	1		1			6	
Norway						2	
Switzerland			1				
Spain	3			1			
Finland	2				2	2	4
BE - Flanders							1
BE - Wallonia	1			1			
Austria	3						
Czech Republic		1			1		
Slovakia	1		1				
Ireland	1						
Portugal	1		1		1		
Ukraine	1						
Poland	3	1					

- Policy mix **must always be prioritised**
- Other factors may hinder market development

Only 21 countries analysed

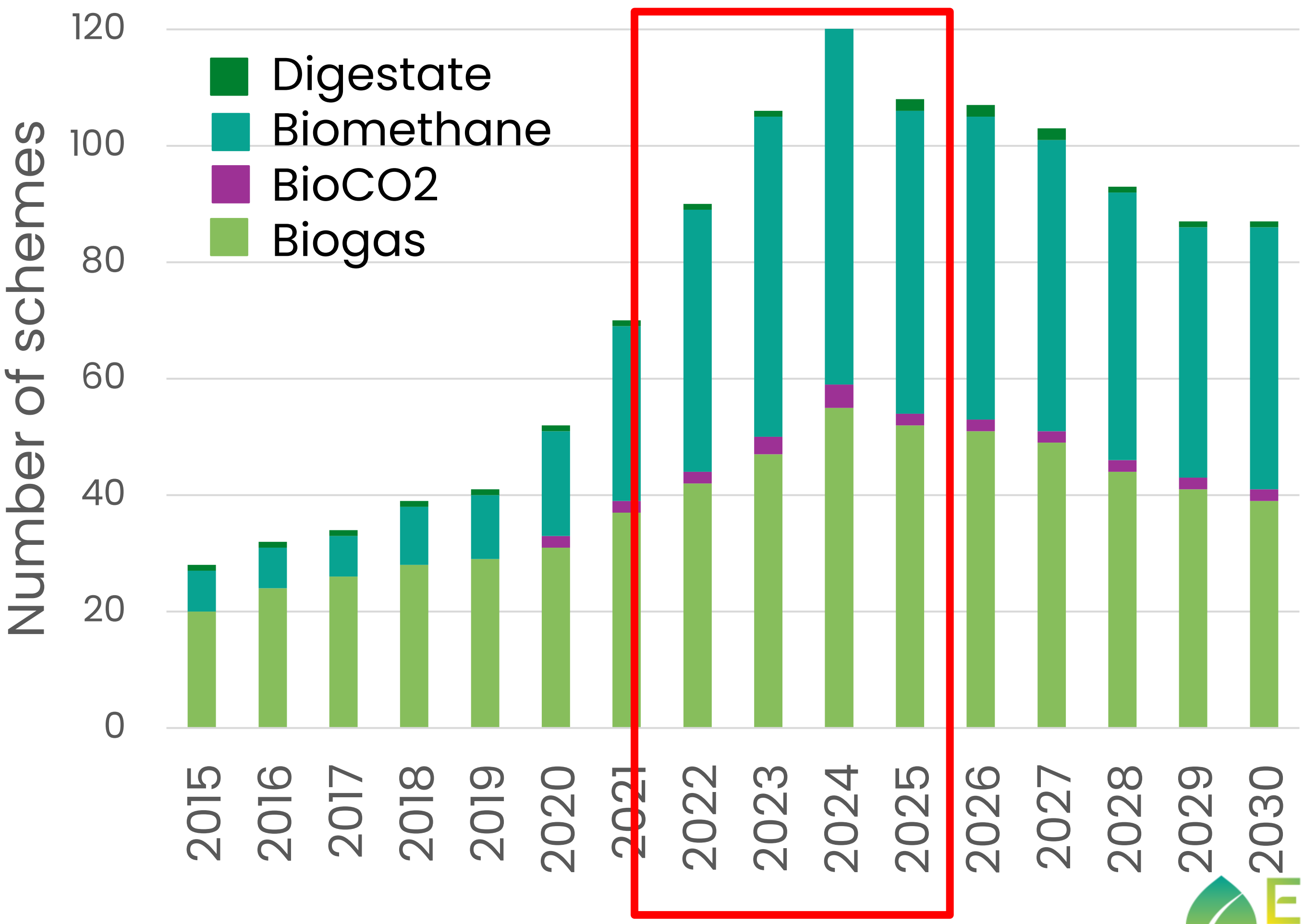
Evolution of supports open for applicants (2015–today)

Implementation period:

- Opening year
- Year of closure to new applications

- **2022**, largest increase in number of operational schemes.
- **2024**, highest number of Capital Grants and Tariffs were available.

Number of schemes open for new applicants per year based on the end product



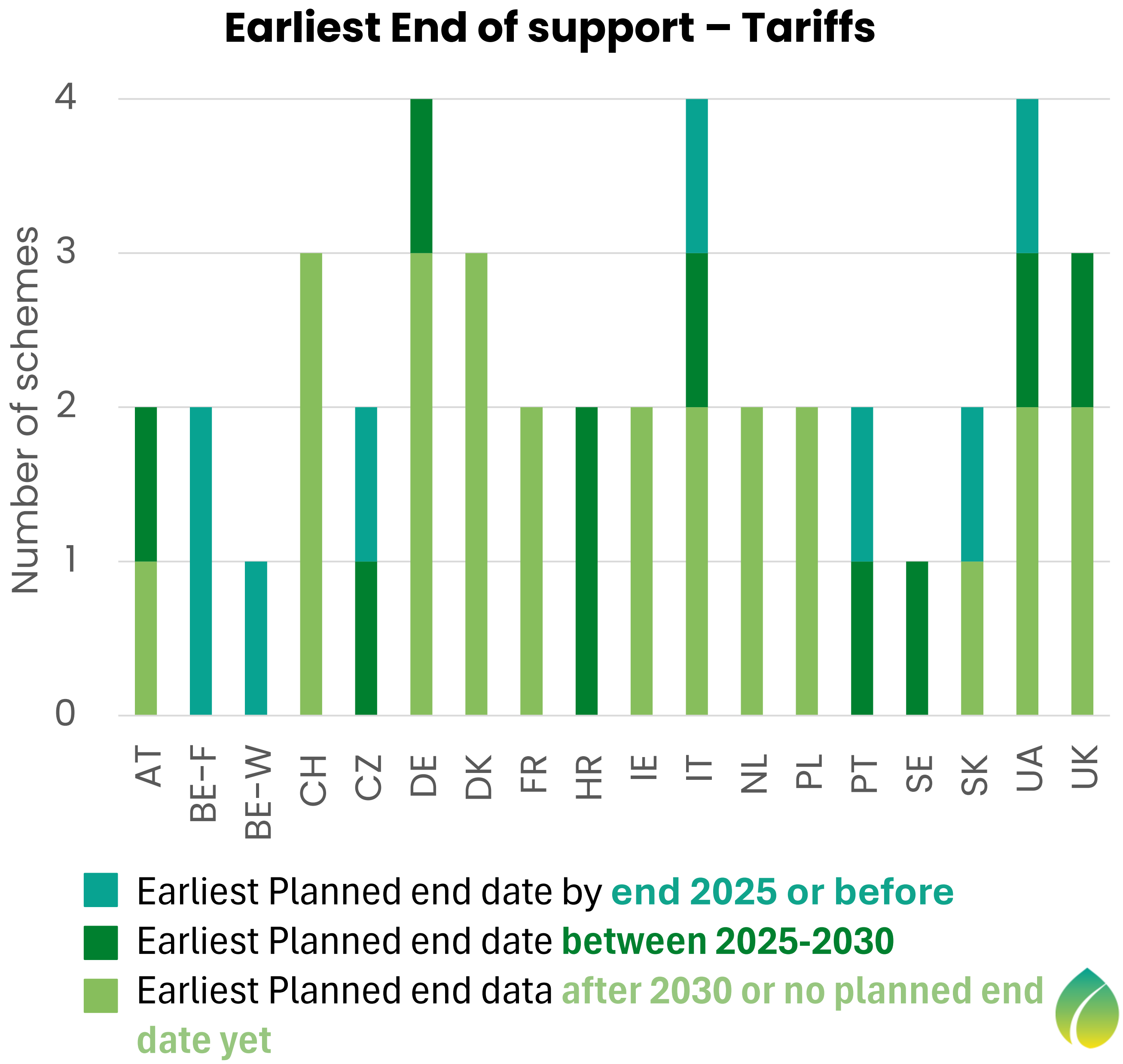
Only 21 countries analysed

Biogas Tariffs - Earliest end of support

- **9 schemes** by **end 2025 or before**
- **10** Planned end date between **2025-2030**
- **24 after 2030** or **no planned end date yet**

- Schemes are necessary to:
    - Transition to biomethane
    - Extend the lifetime of AD
- MS have already acted:
    - **DE, IT, NL, SK, AT**

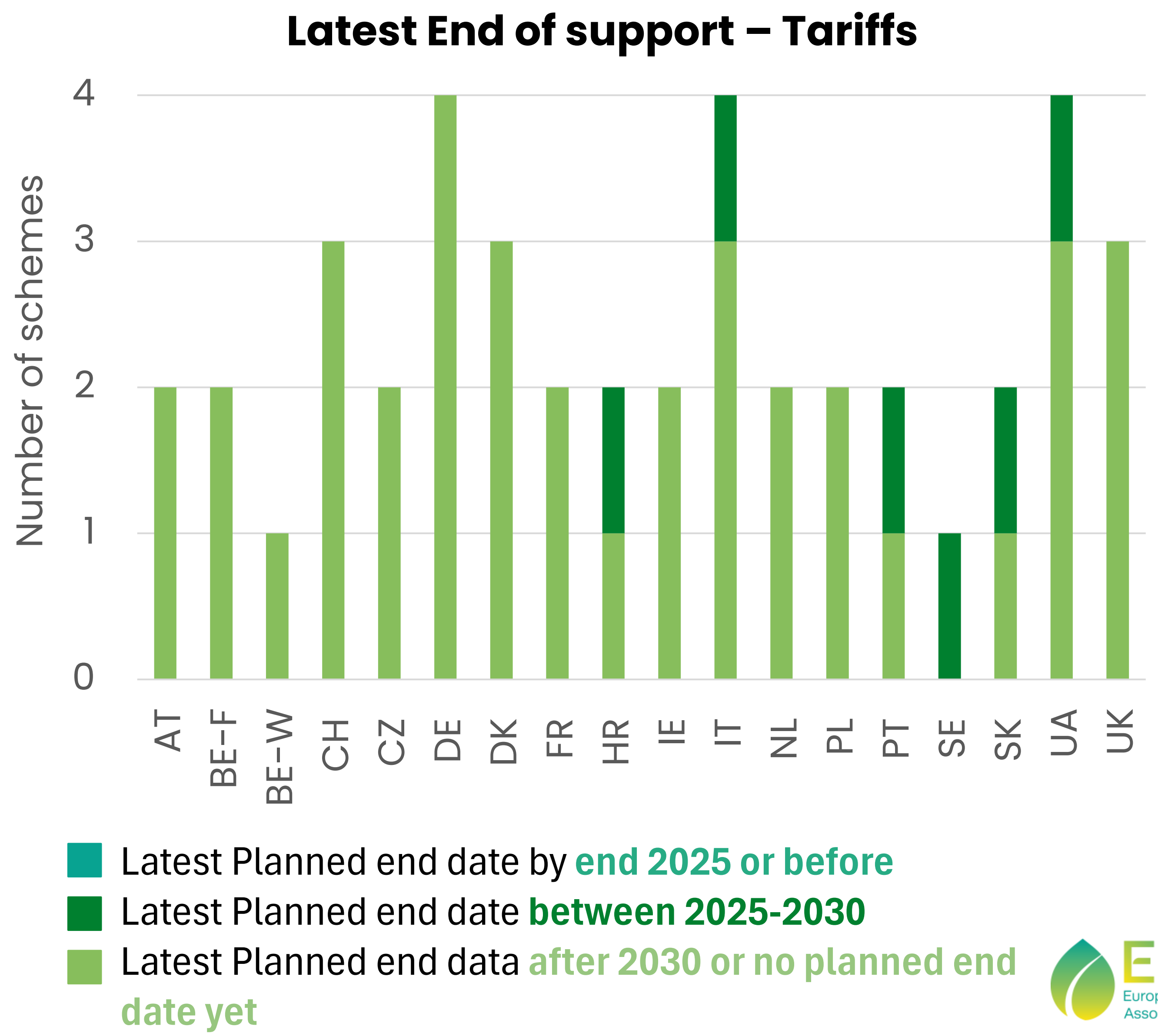
Only 21 countries analysed



Biogas Tariffs – Latest end of support

- **0 schemes** by **end 2025 or before**
- **5** Planned end date between **2025-2030**
- **37 after 2030** or no planned end date yet

Only 21 countries analysed



Cross Country Analysis

Cross country analysis – FiT Biomethane in France

Direct production support

Feed-in-tariff (FiT) - For facilities < 25 GWh/year

Implementation Period: ongoing

Length: 15 years

Max. support (EUR/MWh): 153

Min. support (EUR/MWh): 74

Feed-in tariffs are not fixed in time. They are subject to a dual indexation mechanism, ensuring stability while taking account of economic fluctuations.

- One-off indexation when the contract is signed (Coefficient K)
- Recurrent indexation from commissioning (Coefficient L): Every six months, tariffs are revised in line with labour cost indices, prices linked to industrial production and an index reflecting energy costs. This periodic update keeps tariffs in line with production costs.

Type of Installation	Power	Base Tariffs (EUR/MWh)	Premium Feedstock
Biomethane	<5 GWh HHV/y	153	Livestock manure premium up to €13 / MWh or Wastewater subsidy up to €25 / MWh
	<25 GWh HHV/y	110	
Landfill	<5 GWh HHV/y	124	-
	<25 GWh HHV/y	74	

Cross country analysis – FiT Biomethane in Italy

Feed-in-tariff (FiT) - 2022 Biomethane Decree ($\leq$250 m^3/h)

Total budget: 2.2 bcm/year supported for both FiT and FiP

Implementation Period: 2022-2025

Length: 15

Max. support (EUR/MWh): 115

Min. support (EUR/MWh): 62

The 2022 Biomethane Decree introduced three new schemes:

Capital grants
Feed in Tariff for facilities with a capacity of ≤250 m3/h
Feed in Premium for facilities with a capacity of >250 m3/h

Type	(m^3 /h)	€/MWh
A	<100	115
	>100	110
B	Any	62

The value of the FiT varies according to the size of the system and the biomass used (type A: agricultural and type B: organic waste); the values are indicated in the following table:

GSE, (2024). 'Biomethane production - DM 15/9/2022' <Link>

Cross country analysis – FiT for Biogas in Italy

Direct production support

Feed-in-tariff (FiT) – Decree of 19 June 2024

Implementation Period: 2024-2028

Length: 20 years

Max. support (EUR/MWh): € 233

Min. support (EUR/MWh): N/A

The value of the incentive was set at a ceiling price of €233/MWhelec (88.58 EUR/MWh biogas)

Available only for new biogas plants with a nominal production capacity of 300 kWelec or lower.

The possibility of adjusting the tariffs if the envisaged level of aid proves to be ineffective.

Direct production support

Feed-in-tariff (FiT) – Minimum Price Guarantee

Implementation Period: 2024 - ongoing

Length: No time limitation implemented yet

Max. support (EUR/MWhelec): Depends on plant

Min. support (EUR/ MWhelec): Depends on plant

Objective: ensure continuity of biogas plants, which were beneficiaries of support from the Decree of 6 July 2012 (set to end in 2027), to continue operating after the incentive expires

- $PMGs_{balancing} = PMG_{comb} + PMG_{O\&M}$
- $Equivalent_{annual} = R_{MG} - R_{CONV}$
- $R_{MG} = PMG_{sbalancing} \times$ net electricity production

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SDE++ – CCU and CCS

CCU:

- Only for Greenhouses
- Only available for 4,000 hours during summer
- Discount 50 EUR of the tariff

- **CCU** scheme, insufficient to drive widespread adoption
- **CCS,** not expected to have an impact

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CCU pre-combustion tariffs for biogas

Type of installation	Type of transport	Base Tariffs (EUR/t CO2)
CCU existing installation	Existing pipeline	80.91
	New pipeline	95.35
	Liquid	121.15
CCU new installation	Existing pipeline	80.20
	New pipeline	94.64
	Liquid	120.44

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Conclusions

- Policy mixes must always be prioritised
- An isolated scheme is insufficient without addressing other barriers.
- End of support strategies are needed
- Mandates/Quotas based on:
  - GHG reductions
  - Specific targets only for biomethane
- Tax incentives impacts on competitiveness
- Tariffs have historically proven to assist growth

Upcoming Publication: Members Only

- Chapter 1. How state aid works
- Chapter 2. Different kinds of support scheme, for biogas and biomethane
- Chapter 3. Cross country analysis
  - Statistical analysis
- Chapter 4. Full country analysis

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George Osei Owusu

Technical and Project Officer

owusu@europeanbiogas.eu

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