



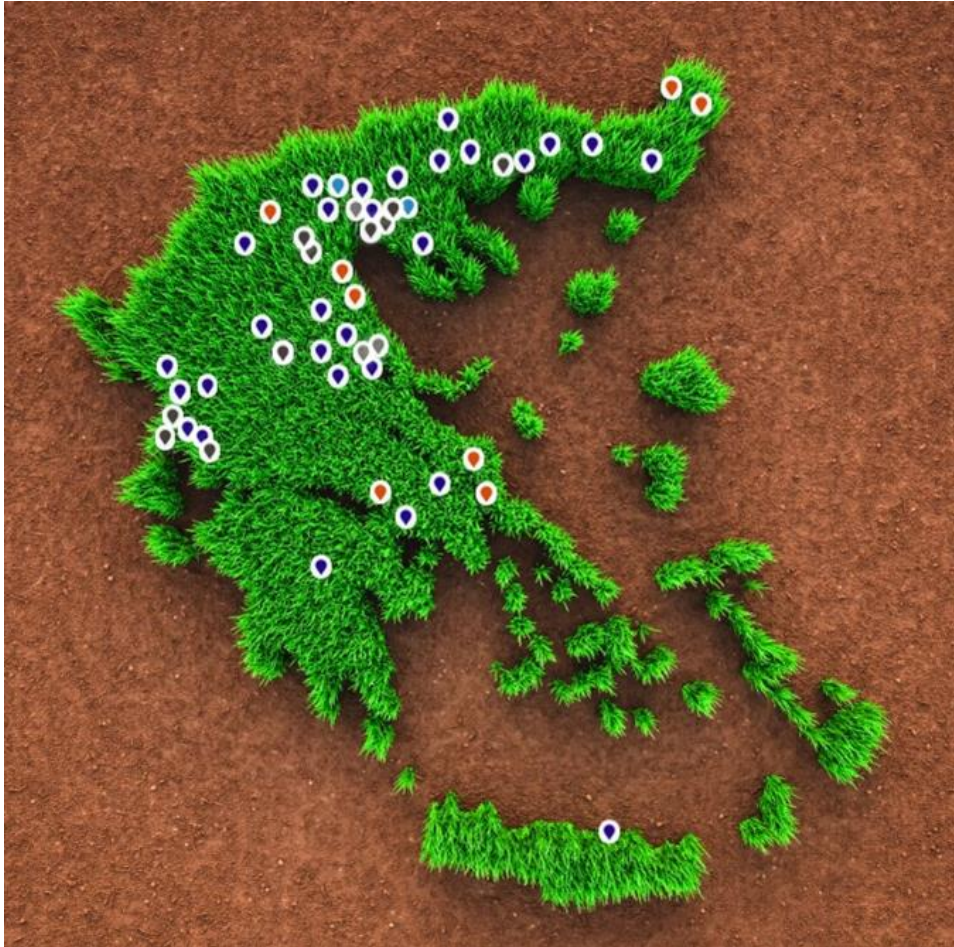
Athens  
Energy  
Summit

HABIO 

**«The Future of Internal and International  
Gas Networks in EU's Energy Policy Agenda»**

***Dr. – Ing. Alexandros Yfantis  
President, Hellenic Association of Biogas  
Producers***

## Biogas Production in Greece



75 Biogas Stations

Total Power: 115 MW

Of which:

13 RES/LANDFILL Units: 53.3 MW<sup>62</sup>

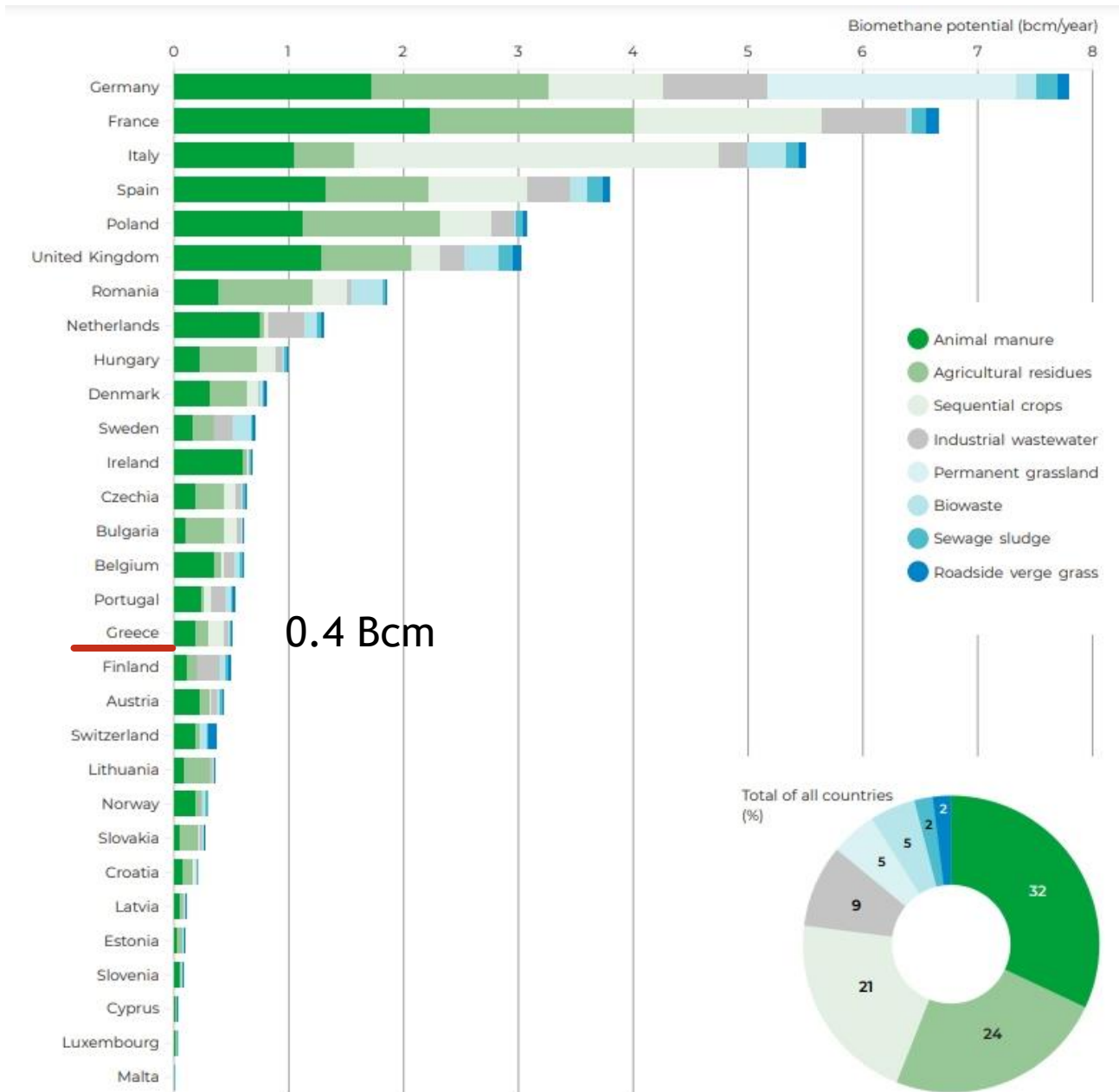
Agricultural and Livestock Units: 61.6 MW

Hellenic Association Biogas Producers (HABio)  
Ελληνικός Σύνδεσμος Παραγωγών Βιοαερίου (ΕΣΠΑΒ)

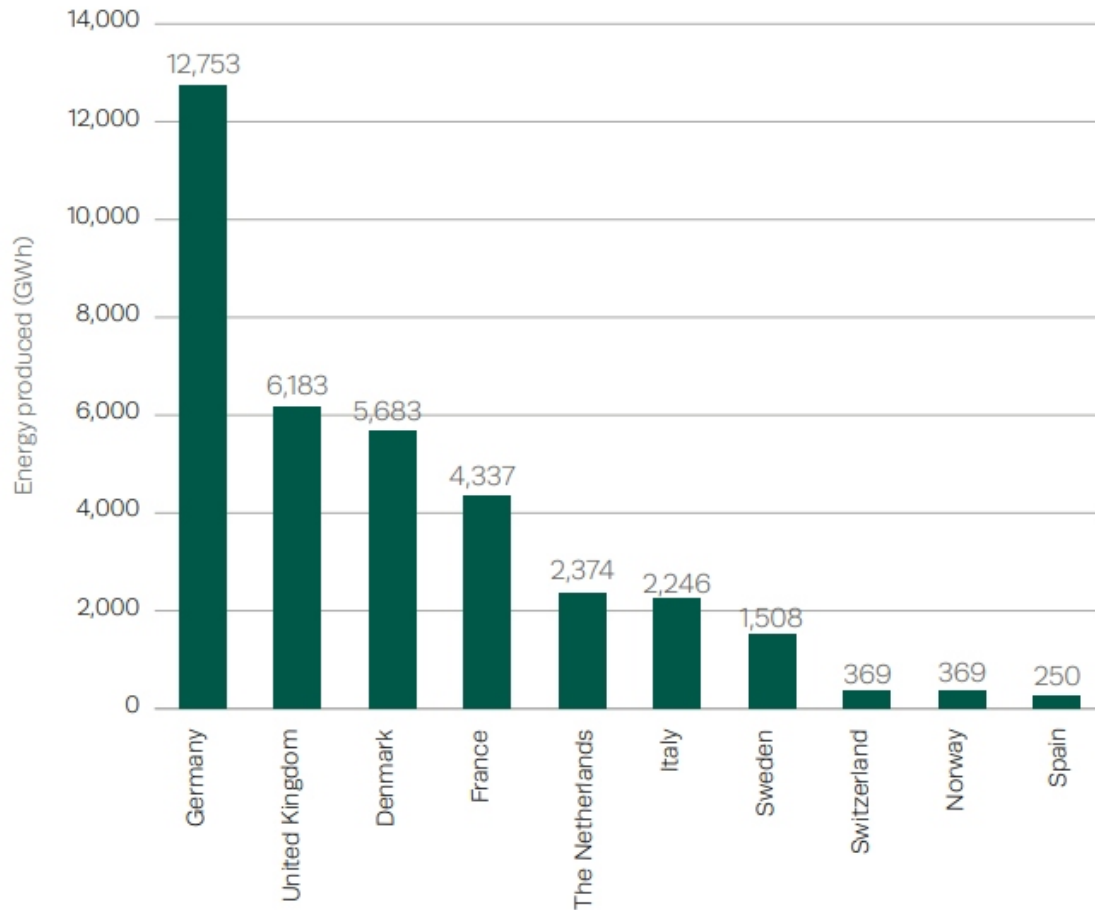
Established: 2018

- 59 Active Members - 21 Associated Members
- Total Installed Capacity 90,8 MW

# Biomethane Potential, Feedstock & Country in 2030



# Biogas-Biomethane in EU (2022)

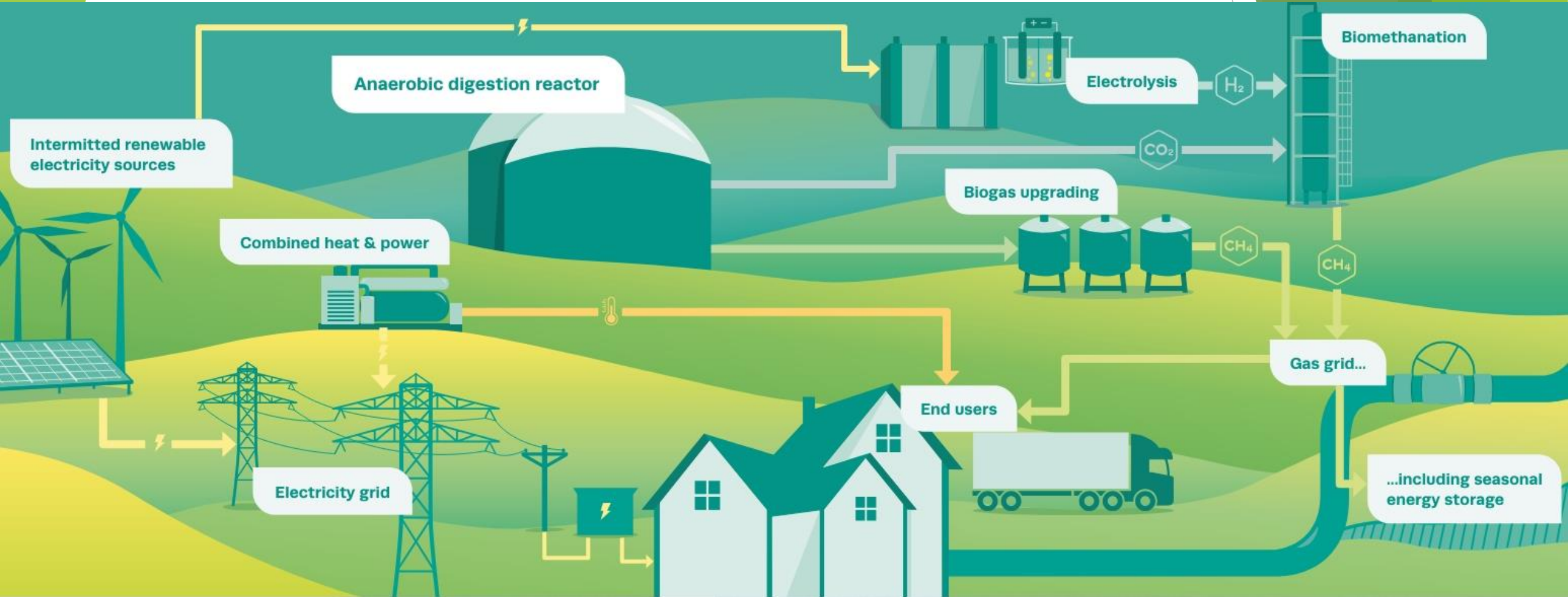


Top 10 countries in biomethane production

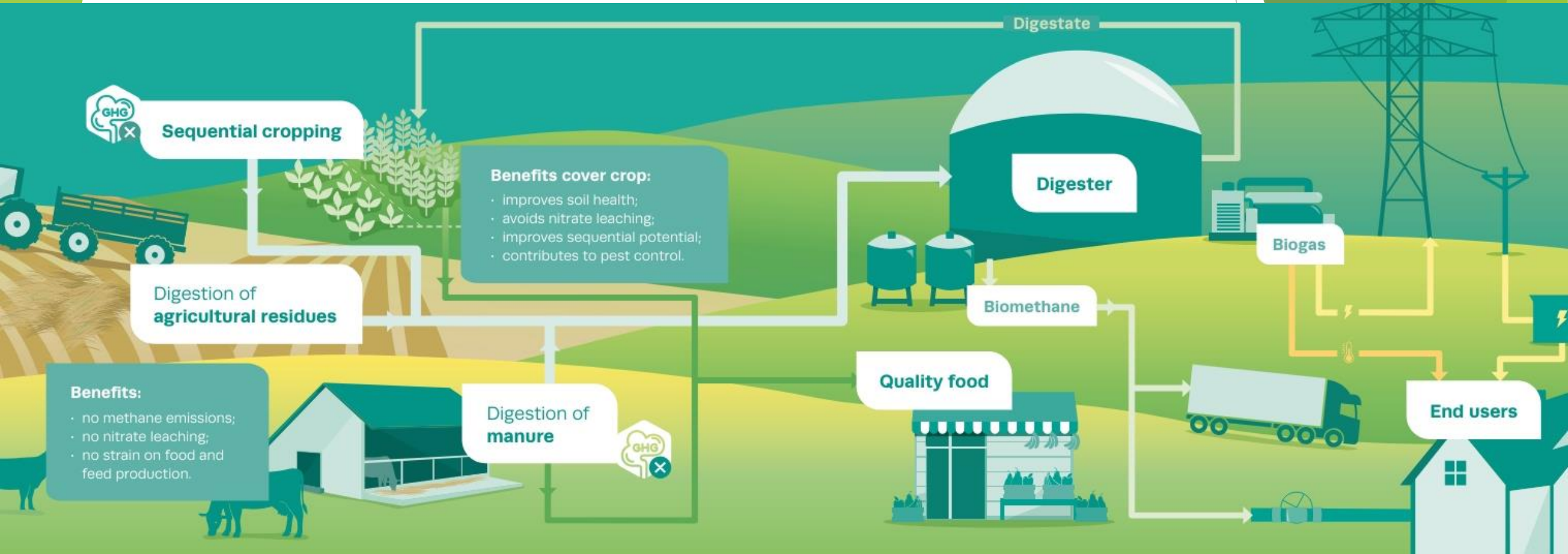
- 18,843 Biogas Units
- 196 TWh or 18.4bcm total biogas production
- 1,067 Biomethane units
- 184 New biomethane stations
- 3.71 GW Estimated power from biomethane



# Biogas: Beyond Energy



# Biogas: Contribution to Agriculture



# Europe produced 21 bcm of biogases in 2022

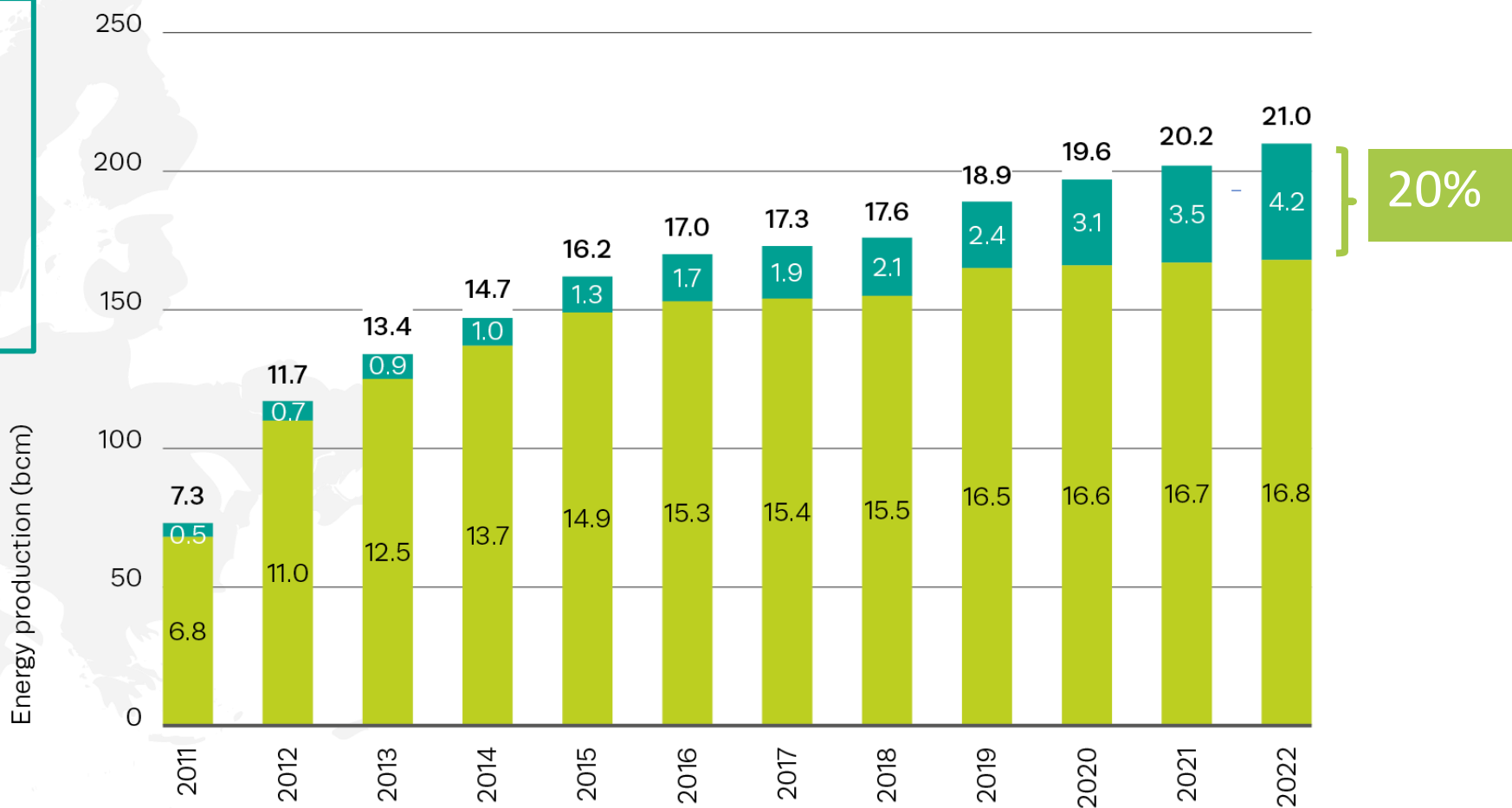
## Combined biomethane and biogas production in Europe



> gas demand of Poland  
= 6% EU gas consumption



20% biogases upgraded  
18 bcm produced in EU-27



■ Energy from biogas (bcm)  
■ Energy from biomethane (bcm)

EBA  
European Biogas  
Association © 2023



# 18% more biomethane in Europe in 2022

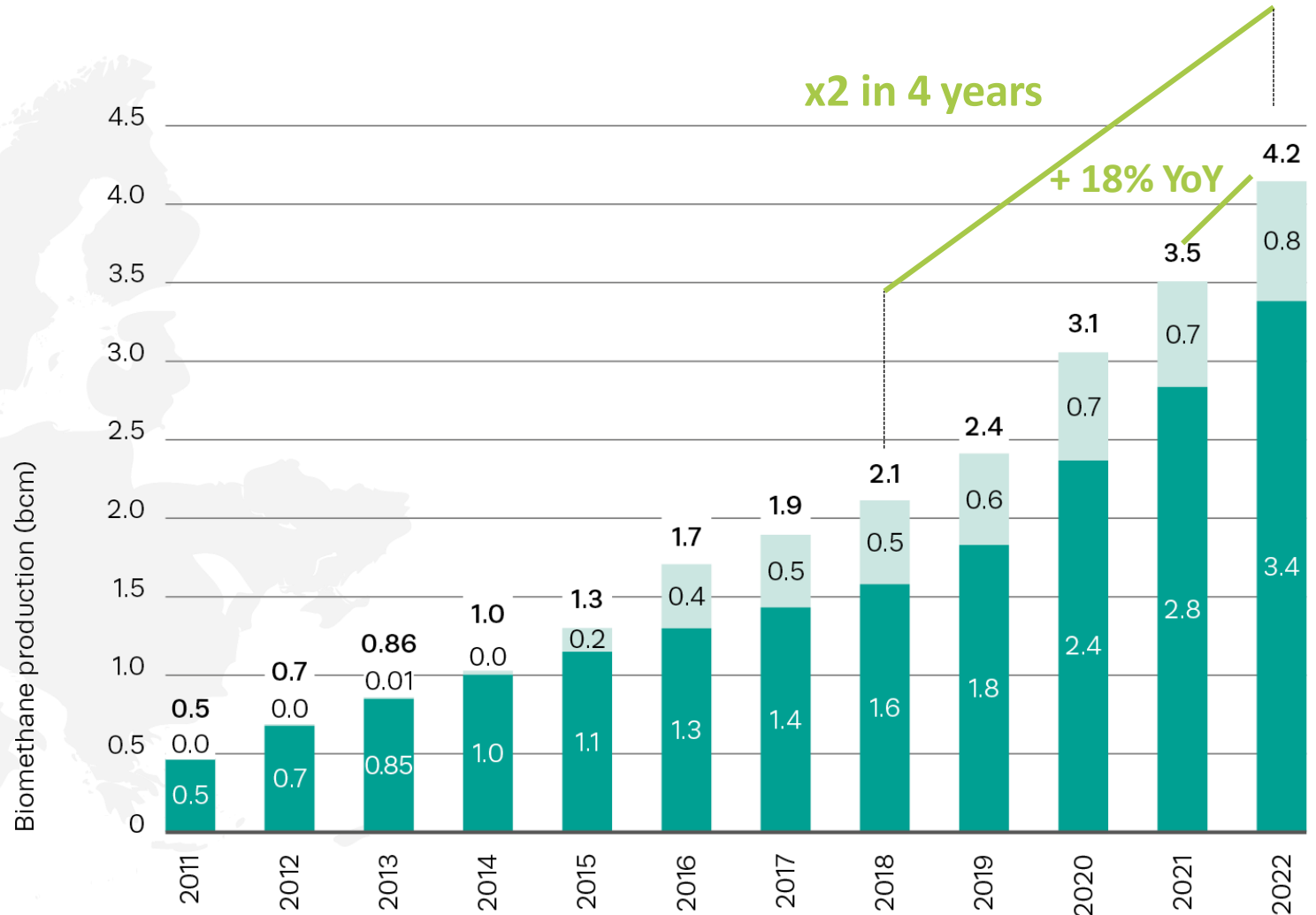


**4.2 bcm** (3.4 in EU-27)  
4.5 bcm installed capacity



x2 production since 2018  
France, Italy, Denmark, UK  
fastest growing countries

## European biomethane production in EU-27 and Europe



■ EU-27  
■ Europe

# Record number of new biomethane plants in 2022



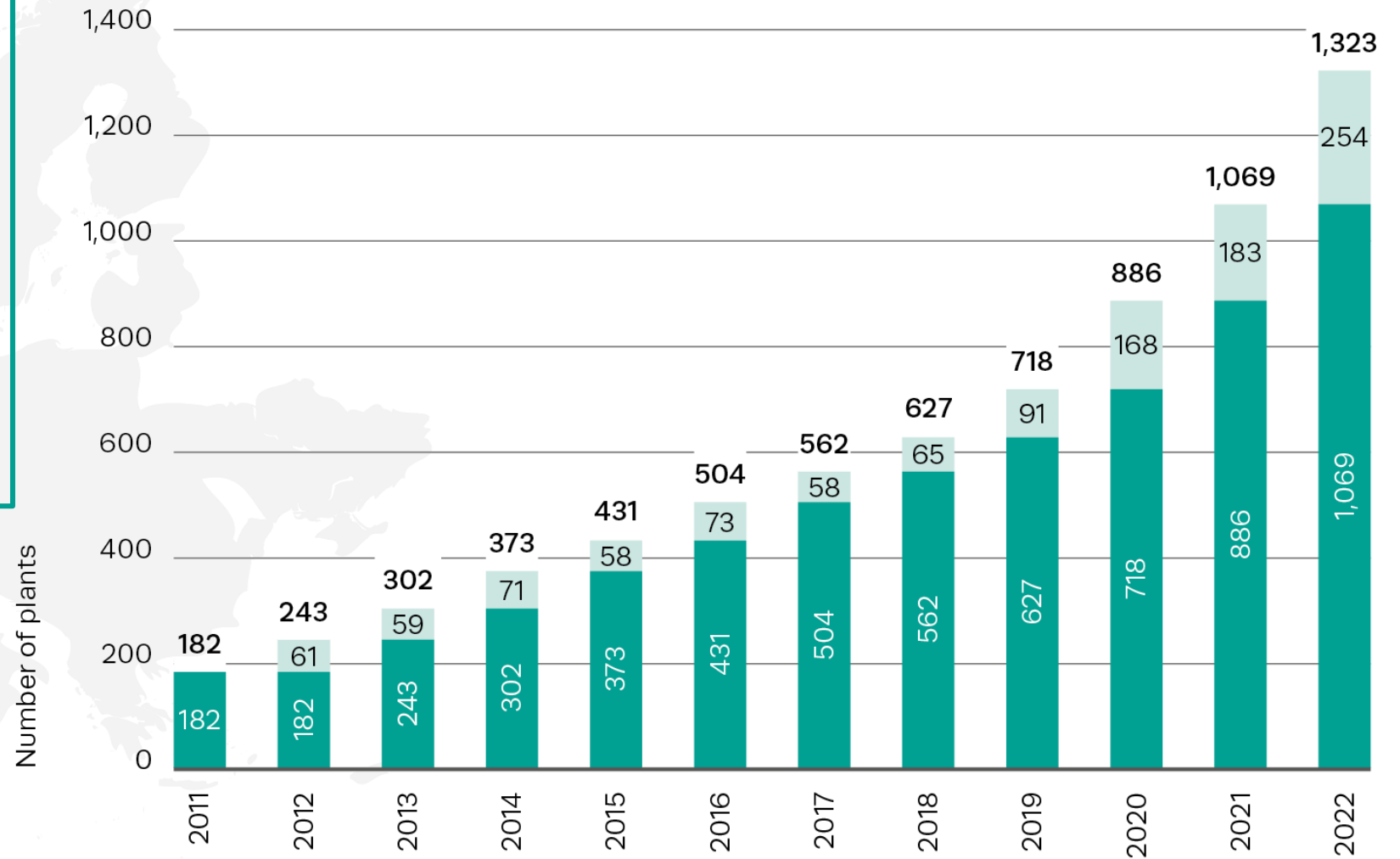
> 250 new plants  
> 1,300 in Europe  
(1,124 in EU-27)

24 producing countries



>75% plants **grid connected**, most to distribution grid

## Development of number of biomethane plants in Europe



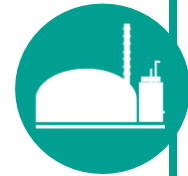
Existing plants  
New plants

# Transport: 27 bio-LNG active plants in 2022



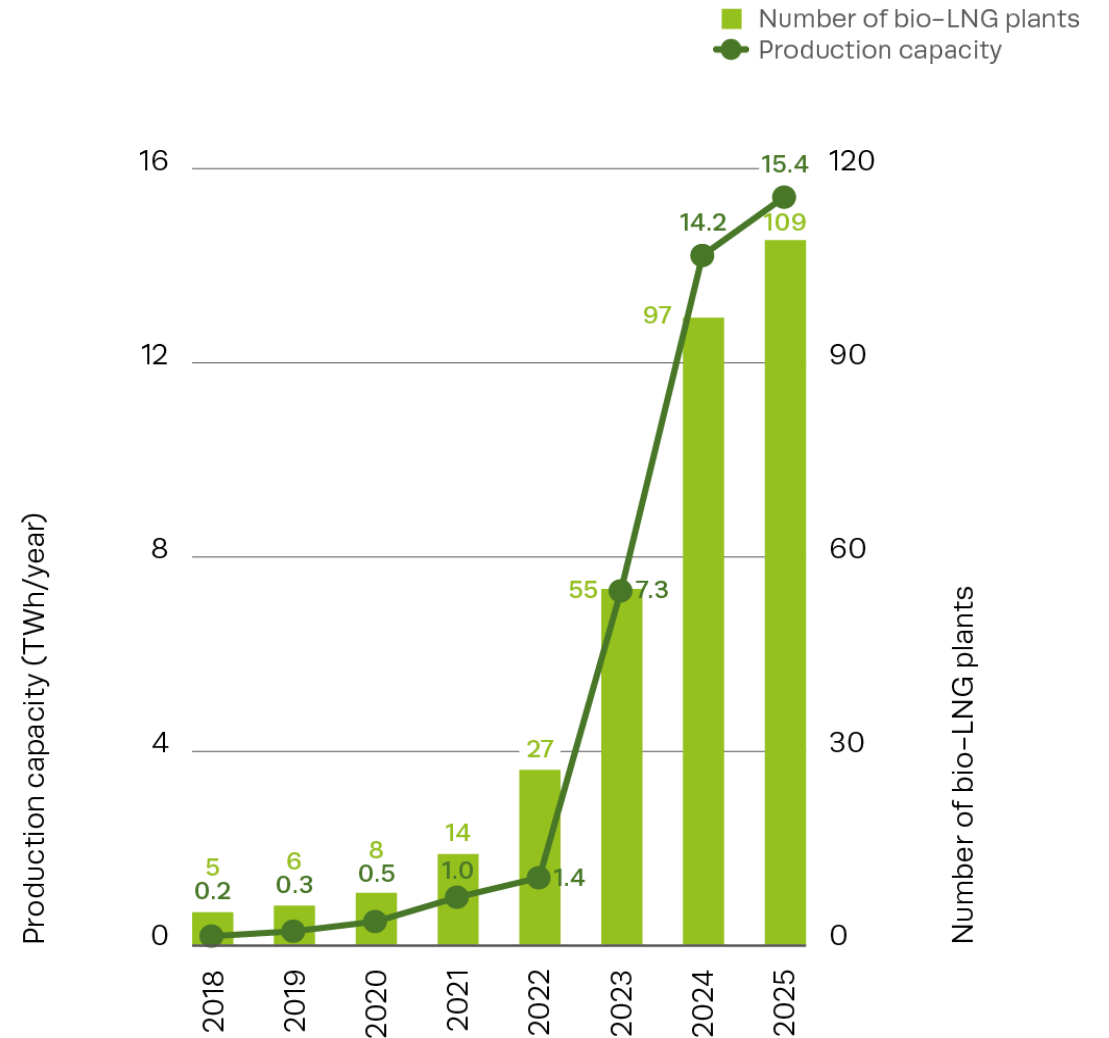
## By 2025:

+109 bio-LNG plants scheduled  
15.4 TWh



## 10 countries producing bio-LNG

Belgium	Italy
Denmark	Netherlands
Finland	Norway
France	Sweden
Germany	UK



# BIOMETHANE IN TRANSPORT IN EUROPE

Table 4.1 – Key figures of the usage of Bio-CNG and Bio-LNG in selected European countries

Country	Amount of biomethane used in transport (GWh)	Share of biomethane used in transport (percentage)	Bio-CNG and Bio-LNG filling stations	CNG and LNG filling stations
Sweden	1,509 GWh	73 %	272 Bio-CNG stations 26 Bio-LNG stations	272 CNG stations 26 LNG stations
Italy	2,246 GWh	100 %	Unknown	1,493 CNG stations 124 LNG stations
Germany	985 GWh	8 %	980 Bio-CNG stations 29 Bio-LNG stations	980 CNG stations 147 LNG stations
Norway	359 GWh	97%	9 Bio-CNG stations 1 Bio-LNG stations	27 CNG stations 4 LNG stations
Finland	156 GWh	Almost all	67 Bio-CNG stations 11 Bio-LNG stations	67 CNG stations 15 LNG stations
Estonia	152 GWh	100 %	26 Bio-CNG stations no Bio-LNG stations	26 CNG stations 1 LNG stations

Several countries are promoting the use of biomethane in transport.

\* Source EBA

# 22 draft updated NECPs are published

## NECPs with 2030 biomethane target

Czechia	<b>0.5 bcm</b>
Denmark	<b>1.8 bcm</b> 100% green gas in grid
Estonia	<b>0.04 bcm</b> (380 GWh)
France	<b>4.15 bcm</b> (44 TWh)
Greece	<b>0.2 bcm</b> (2.1 TWh)
Italy	<b>5.7 bcm</b>
Lithuania	<b>0.13 bcm</b> (1.4 TWh)
Netherlands	<b>2 bcm</b>
Slovakia	<b>0.3 bcm</b>
Slovenia	<b>0.05 bcm</b> (480 GWh)

**TOTAL 15 bcm**

## pre-NECP 2030 biomethane target (but no NECP target)

Austria	<b>0.39 bcm</b> (50% renewable gas target)
Finland	<b>0.38 bcm</b> (4 TWh)
Ireland	<b>0.58 bcm</b> (5.7 TWh)
Latvia	<b>0.09 bcm</b> (10% fossil natural gas)
Poland	<b>0.99 bcm</b> (50% renewable gas target)
Sweden	<b>0.94 bcm</b> (10 TWh)

**TOTAL 3.4 bcm**



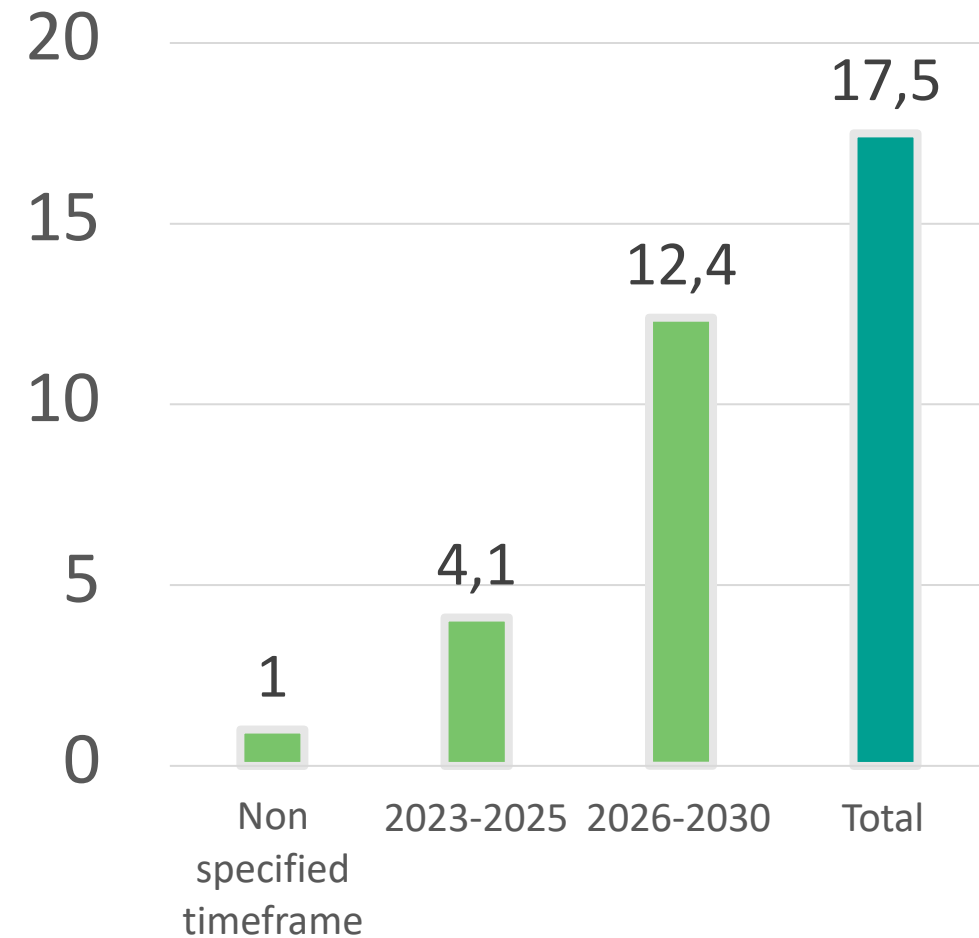
# € 18 billion investments for biomethane

## 1<sup>st</sup> EBA Investment Outlook for biomethane

Based on voluntary survey of investors

Almost 18 billion planned by end of 2030

Faster pace on 2<sup>nd</sup> half of this decade



# European dependence on fertiliser imports

EU-27 Imports  
(2019-2021)

26 Mt  
total

6 Mt NPK

11 Mt Nitrogen

7 Mt Phosphate



Which corresponded to...

30% N-fertilisers

68% P-fertilisers

85% K-fertilisers

of total EU-27  
consumption of fertilisers

# Development of Biogas in Greece 2012-2022

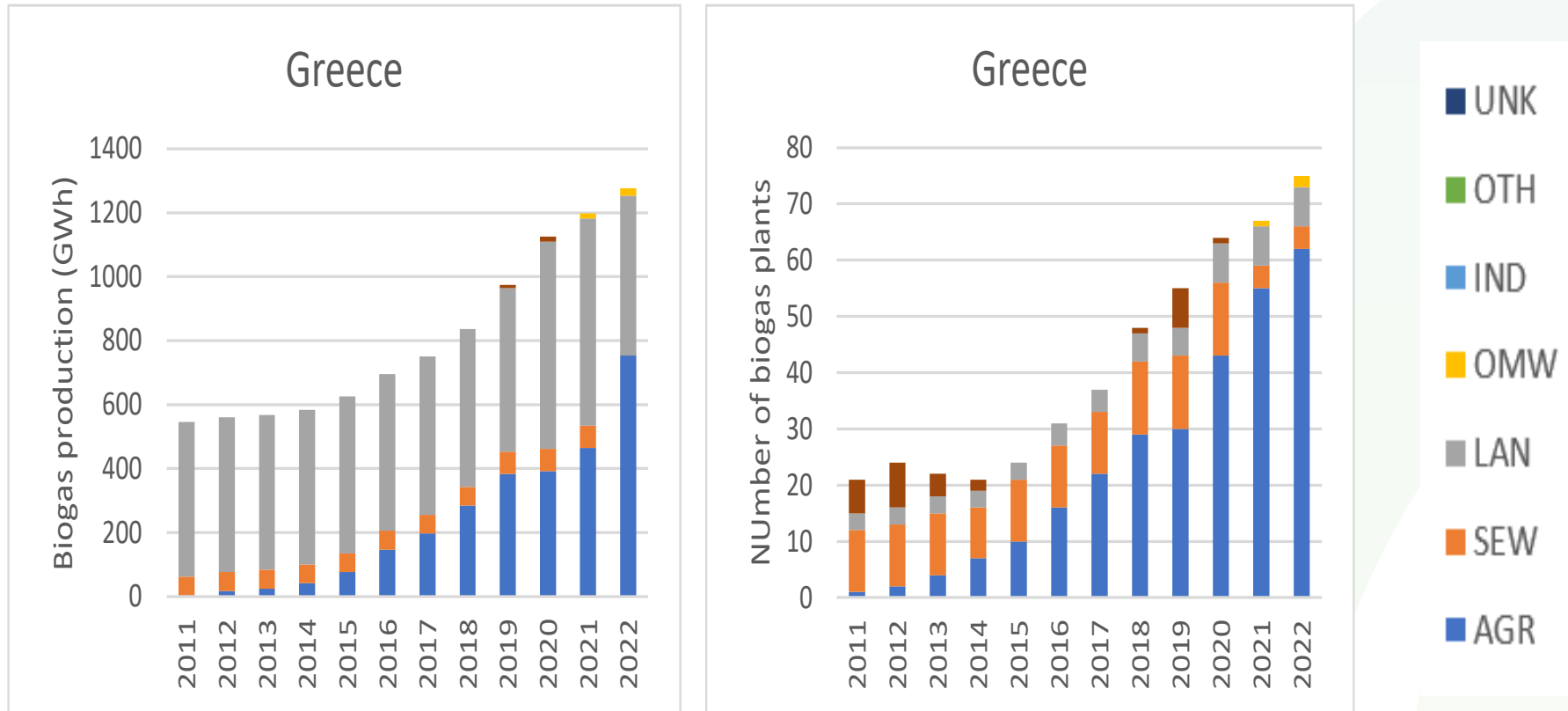
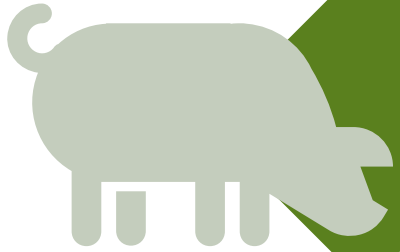


Figure 1: Development of biogas production (GWh) (left), and development of number of biogas plants (right)

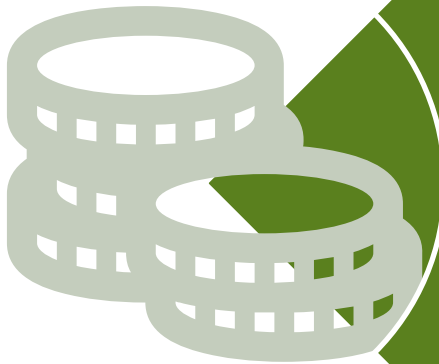
If all biogas production today turned into biomethane, the production would be only 1.3 TWh

# Major Issues in Biogas/Biomethane Development



## Collection of Raw Material

- Small scattered facilities
- No incentives, no control



## High Cost of Raw Material

- Competition distortion due to biogas plants location and limitations of raw material
- Lack of alternative raw materials
- Small and dispersed biogas plants

# Major Issues in Biogas/Biomethane Development

## **PROBLEMATIC & COSTLY TREATMENT MANAGEMENT OF LIQUID DIGESTATE**

Lack of Information and incentives for the use of liquid digestate

- Fragmented agricultural economy and extremely large number of bilateral disposal agreements
- High Transportation costs
- Lack of legislative framework for the production of fertilizers and soil conditioners

## **NO INCENTIVES FOR BIOMETHANE PRODUCTION**



# SUGGESTIONS

**Legislative framework for biomethane** with emphasis on existing plants, with provisions for new plants in order to avoid further distortion of competition.

**Incentives and controls** in relation to the management of agricultural residues with a direct link to subsidies (change of farming model).

**Incentives and controls** regarding the use of **alternative sources of raw material** (food waste from hotels, restaurants and the food industry).

# SUGGESTIONS

**Legislative framework and incentives** for the creation of fertilizers and soil improvers from the digested residue other than bulk disposal on the fields, such as financing demonstrative actions for renewable fertilizers and permitted use in organic crops under clear conditions that will not be related to whether the by-products come from organic farming as it is today.

**Creation of certificates of origin** and regulation of CO2 rights.

**Flexibility regarding the production of biomethane to the grid** and the production of BioLNG by creating a market for certificates of origin in Greece with an emphasis on commercial shipping within Greece.



HELLANIC ASSOCIATION OF BIOGAS PRODUCERS

**Habio.gr**