

EBA STATISTICAL REPORT 2023

Launch webinar



5 December 2023
10:00 – 11:15 CET



Edith Hofer

Deputy Head of Unit DG
ENER, European Commission



Harmen Dekker

EBA CEO



Mieke Decorte

EBA Technical and Project
Manager



Marina Pasteris

EBA Technical and Project
Officer



Giulia Cancian

EBA Secretary General



Welcome

Harmen Dekker

*Chief Executive Officer
European Biogas Association*



Welcome

Get the EBA Statistical Report 2023

The full report is available **for free for all EBA Members** and upon purchase for external parties



Get the Report for
free (EBA members)



Buy the Report
(external parties)

Rules of the webinar

- The webinar is recorded and will be shared with participants, as well as the slides.
- Questions can be written in the Q&A box.

For any questions, please contact us at
info@europeanbiogas.eu

Agenda

10:00 Welcome

Harmen Dekker, EBA CEO

10:05 Keynote

Edith Hofer, Deputy Head of Unit DG ENER, European Commission

10:15 Presentation of EBA Statistical Report 2023

Moderator: Giulia Cancian, EBA Secretary General

- **Biogases production volumes in 2022** – Mieke Decorte, EBA Technical Manager
- **Biogases consumption by sector** – Marina Pasteris, EBA Technical Officer
- **Achieving the 35 bcm target: growth rate and biomethane targets** – Mieke Decorte
- **Digestate potential to displace synthetic fertilisers** – Marina Pasteris

10:55 Q&A

Moderator: Giulia Cancian, EBA Secretary General



We want to hear from you!

Keynote speech

Edith Hofer

*Deputy Head of Unit DG ENER
European Commission*



Presentation of the EBA Statistical Report 2023



Giulia Cancian

EBA Secretary General



Mieke Decorte

*EBA Technical and
Project Manager*



Marina Pasteris

*EBA Technical and
Project Officer*

Overview of the EBA Statistical Report 2023



1 A circular economy with biogases



2 The biogases market



3 Growth prospects and innovations



4 End uses of biogas and biomethane



5 The economics of biogases



6 Completing the nutrient cycle with digestate



7 Country analyses



We want to hear from you!







Biogases production volumes in 2022

Mieke Decorte

EBA Technical and Project Manager



Scope and methodology of EBA's data

	GEOGRAPHICAL SCOPE	EU-27 + Iceland, Norway, Serbia, Switzerland, Ukraine and UK
	DATA INPUTS	National biogas associations National statistical reports Industries present in the respective countries Biomethane map EBA white papers & briefings European research projects
	NOTES ON GRAPHS & STATISTICS	Graphs include figures until end 2022 Bio-CNG and Bio-LNG are counted towards biomethane statistics
	DEFINITIONS	Bcm = natural gas equivalents. Biogas = raw, non-upgraded gas originating from anaerobic digestion Biogases = combined biogas and biomethane

Billions spent on EU energy crisis in 2022

Protection of EU consumers
(2021-2022)

**€ 195
billion**

> 230 temporary
national measures

Fossil fuel subsidies

**€ 123
billion**

+ 120% relative to 2021
as crisis response

Gas imports

**€ 316
billion**

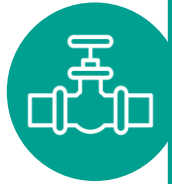
+ 148 % relative to 2021
1/2 of total energy imports bill

Renewables subsidies

**€ 87
billion**

+ 1% relative to 2021

97% of EU natural gas consumption was imported



342 bcm

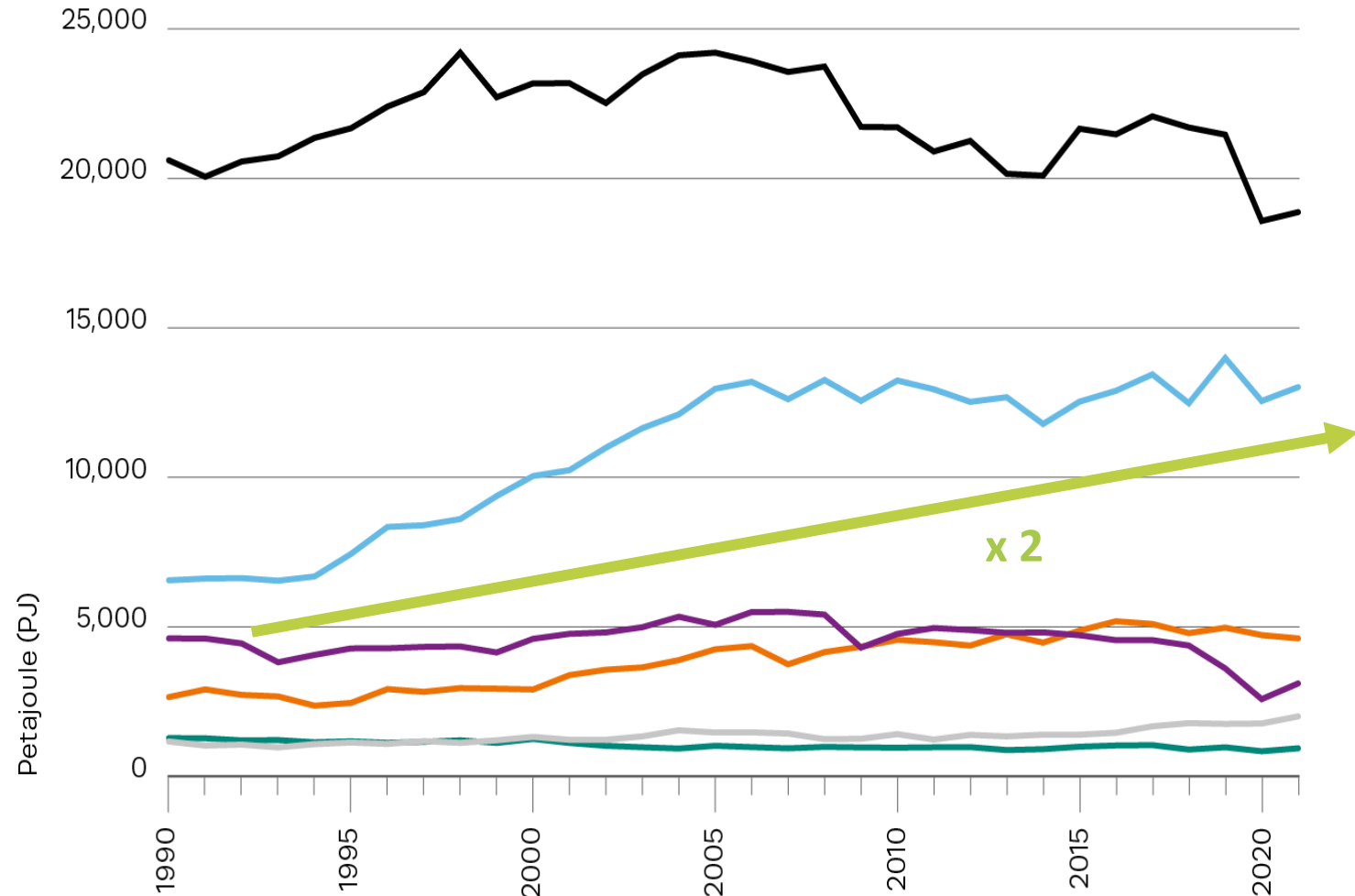
83% in 2021

> 90% in 20 MS

— Solid fossil fuels
— Natural gas
— Crude oil
— Naphtha
— Gas oil and diesel oil
— Fuel oil

Source:
Eurostat (online data code: nrg_bal_c)

Imports of selected energy products in EU



Renewables are EU's biggest energy supplier



41% of energy from
renewables in 2021

Long-term downward
trend for most fuels

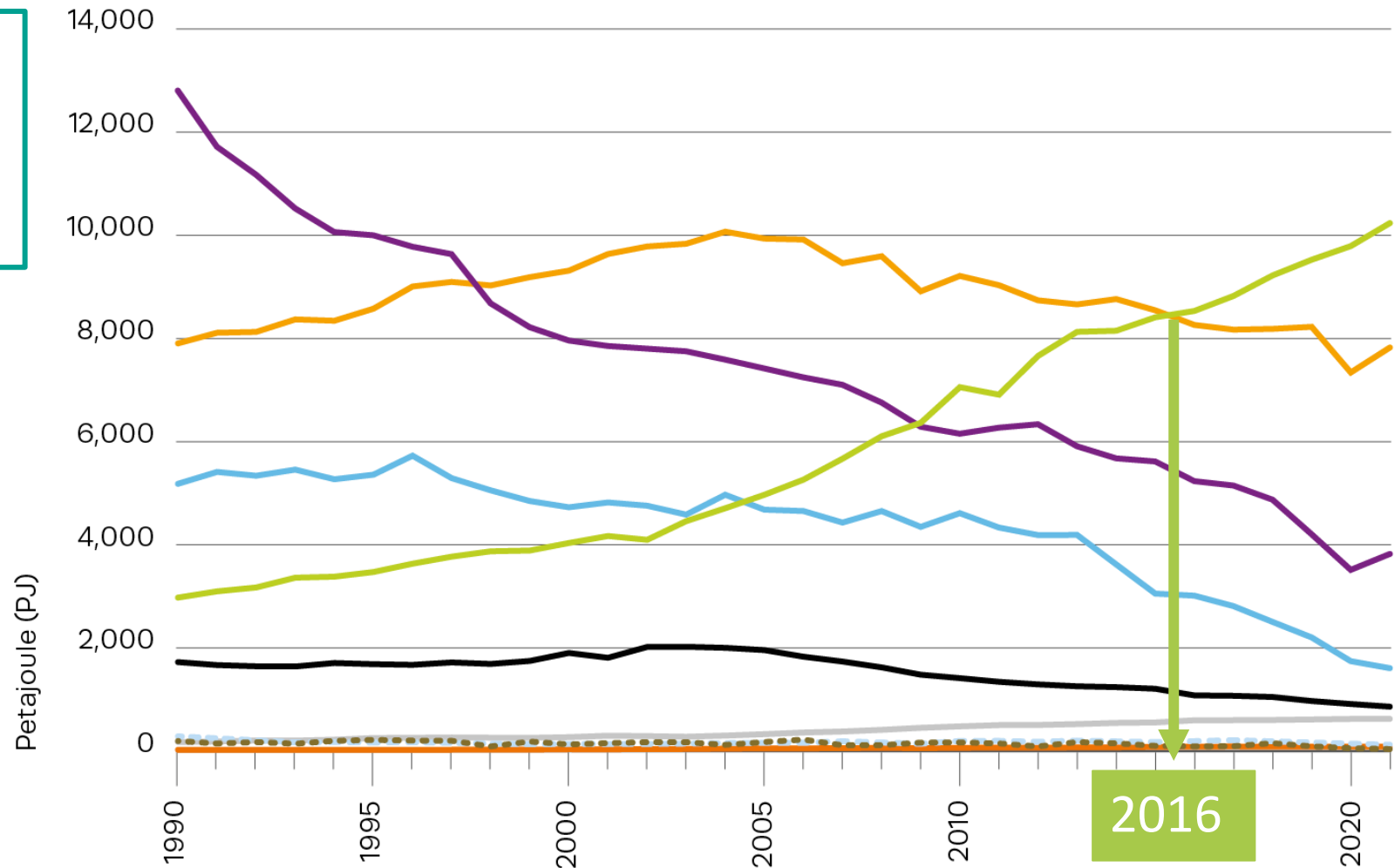
- Solid fossil fuels
- Peat and peat products
- Oil shale and oil sands
- Natural gas
- Oil and petroleum products (excluding biofuel portion)
- Renewables and biofuels
- Non-renewable waste
- Nuclear heat
- Heat

Source:
Eurostat (online data code: nrg_bal_c)



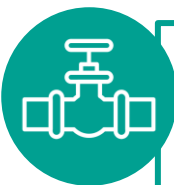
© 2023

EU primary energy production



Europe produced 21 bcm of biogases in 2022

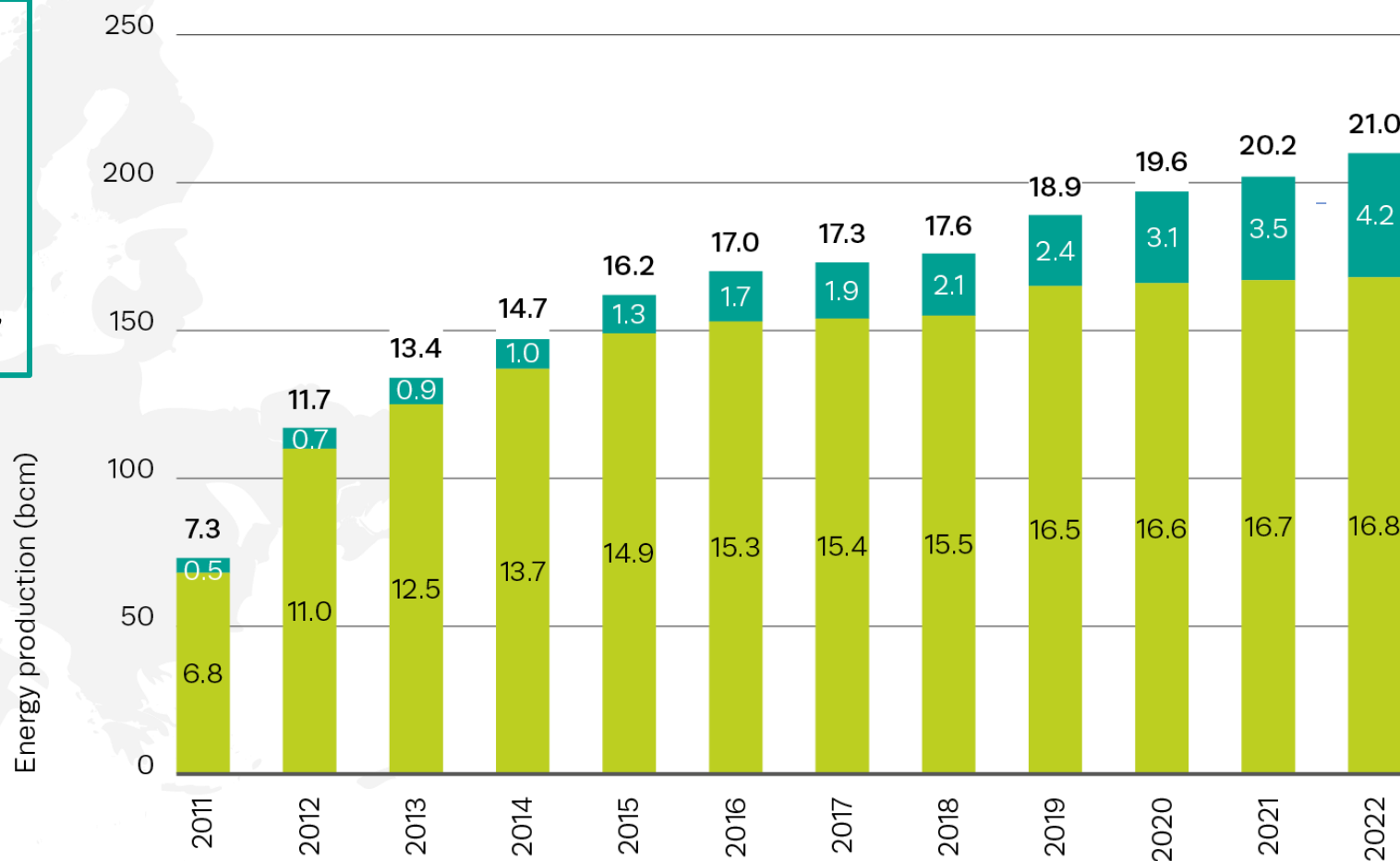
Combined biomethane and biogas production in Europe



> gas demand of Poland
= 6% EU gas consumption



20% biogases upgraded
18 bcm produced in EU-27



18% more biomethane in Europe in 2022



4.2 bcm (3.4 in EU-27)

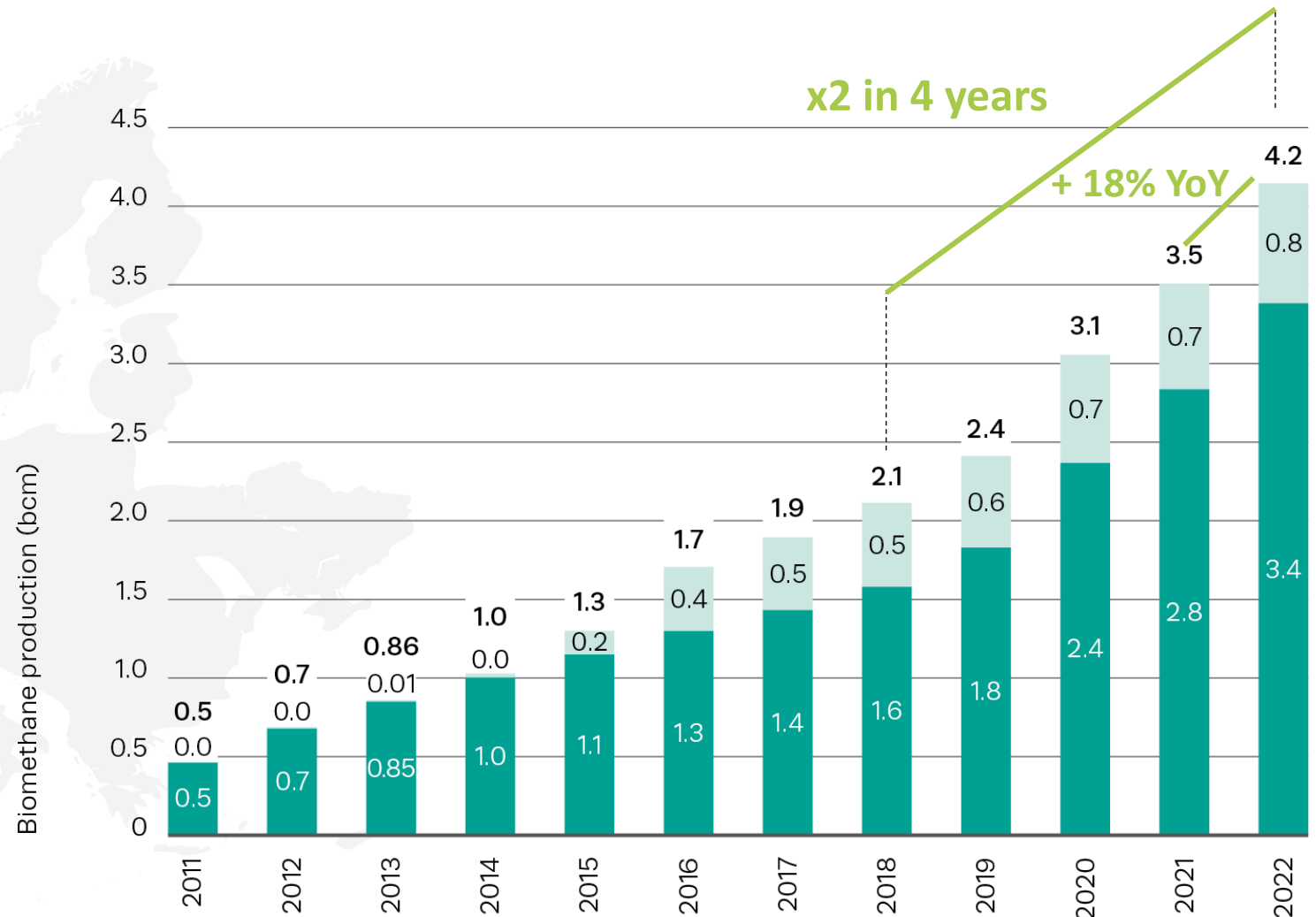
4.5 bcm installed capacity



x2 production since 2018

France, Italy, Denmark, UK
fastest growing countries

European biomethane production in EU-27 and Europe



Record number of new biomethane plants in 2022

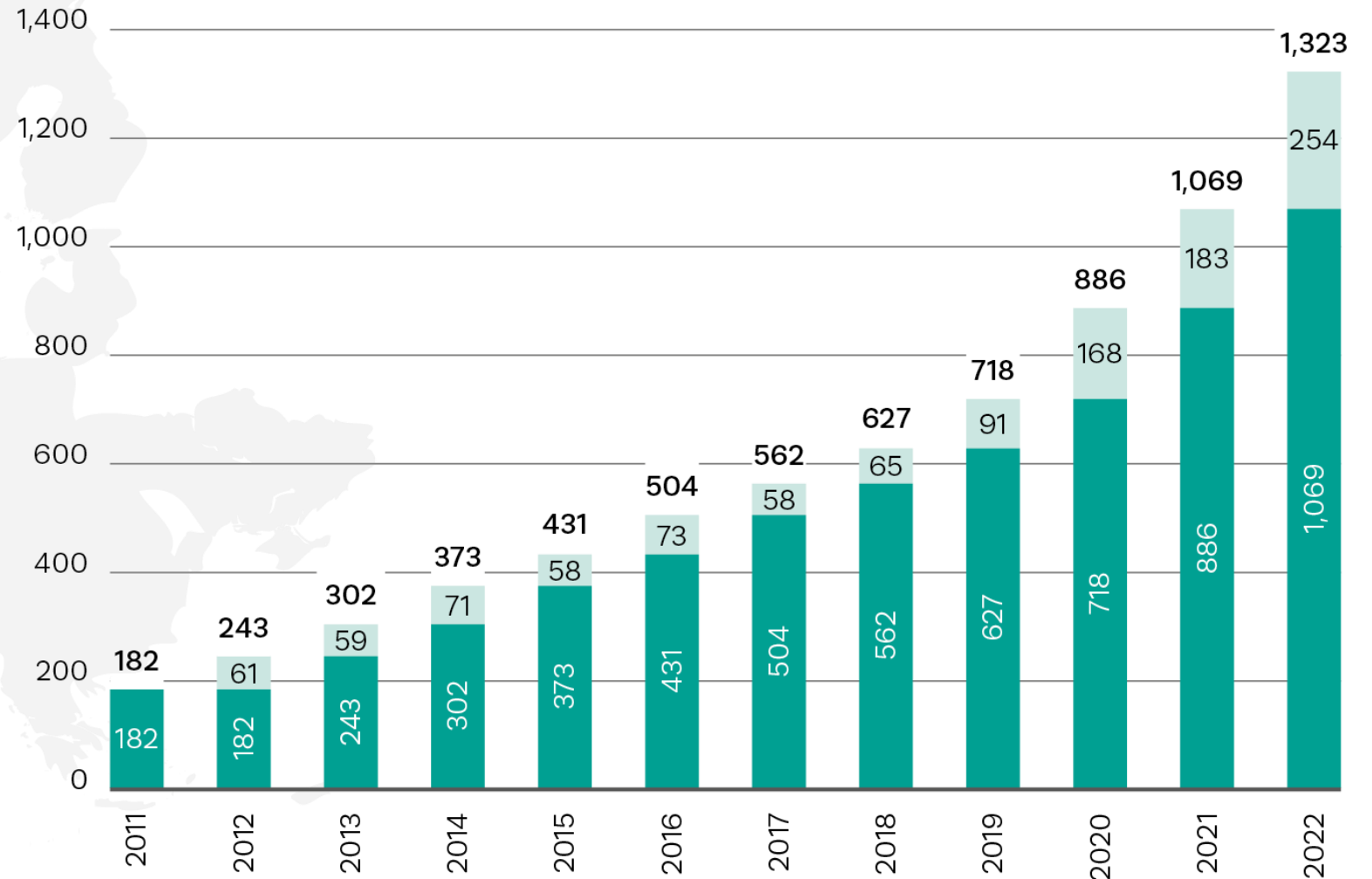
Development of number of biomethane plants in Europe

> 250 new plants

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

24 producing countries

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



Existing plants
New plants



Biogases consumption by sector

Marina Pasteris

EBA Technical and Project Officer



Final energy consumption by sector in EU

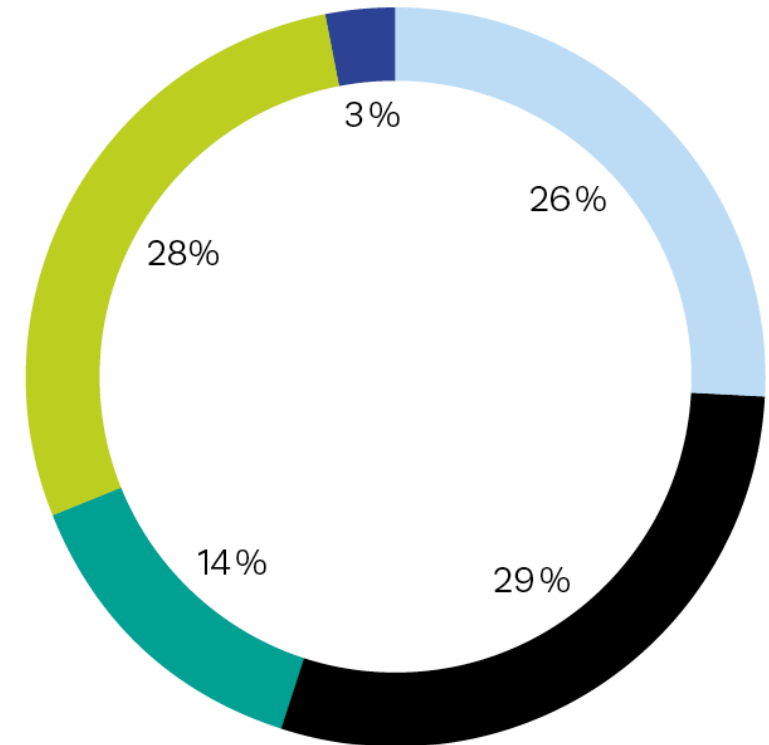
TOTAL CONSUMPTION
39,351 PJ (or 10,931 TWh)

 Transport **29%**

 Households **28%**

 Industry **26%**

Final energy consumption EU 2021



■ Industry
■ Transport
■ Services
■ Households
■ Other

© 2023






Biomethane: a versatile low-carbon fuel


Percentage of biomethane used per sector overall and per country

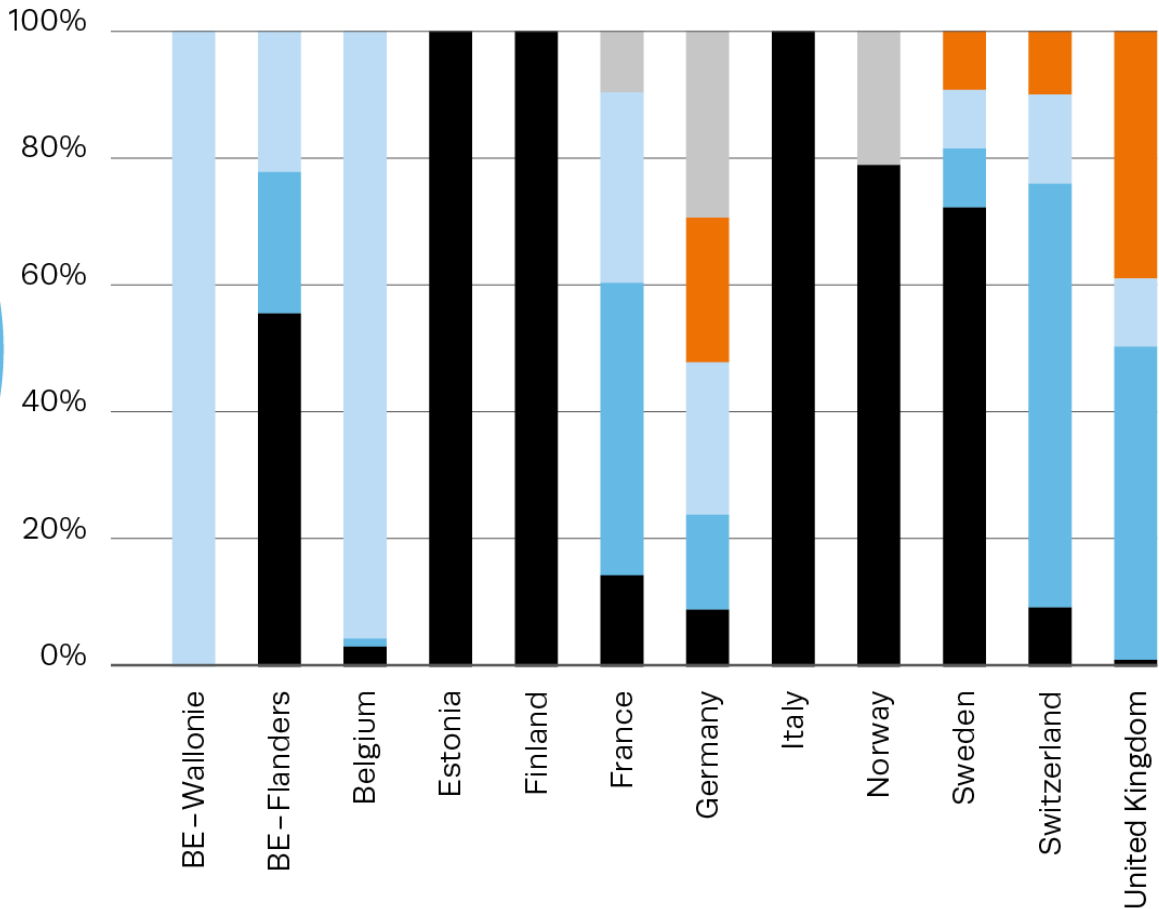
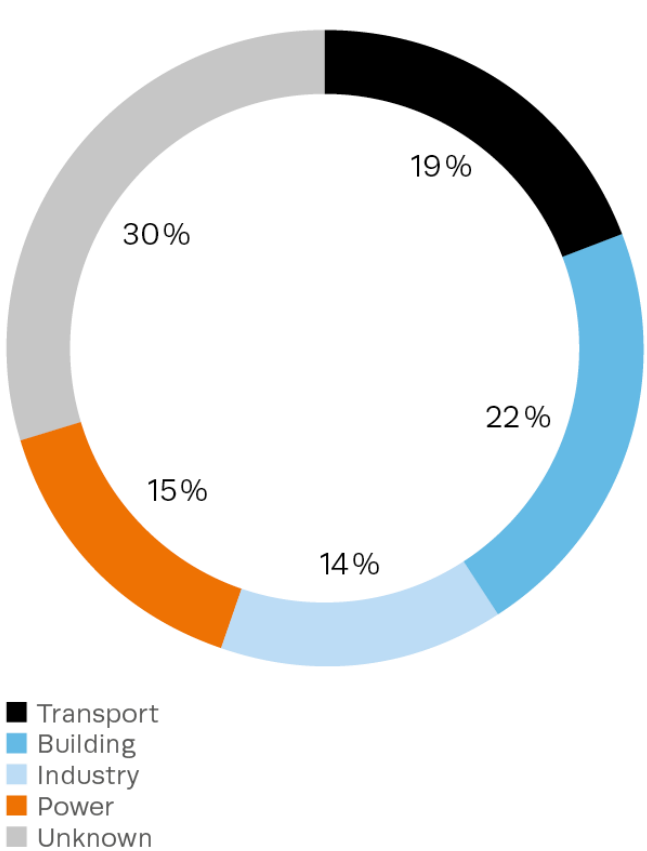
End-uses depend on country

Transport



Heating or electricity





Transport: 27 bio-LNG active plants in 2022

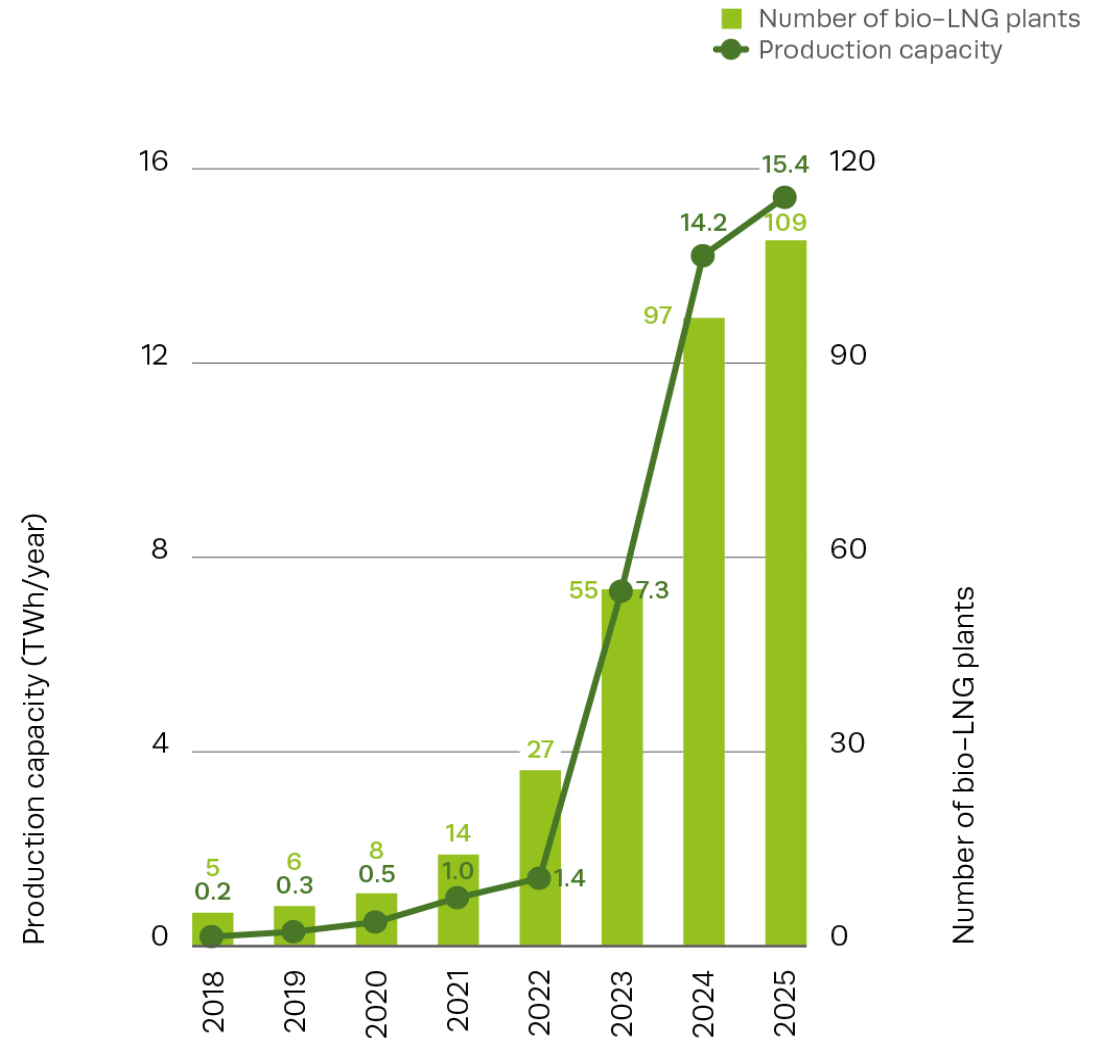


By 2025:

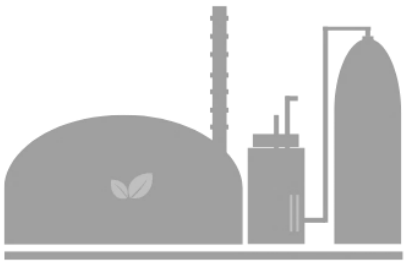
+109 bio-LNG plants scheduled
15.4 TWh

10 countries producing bio-LNG

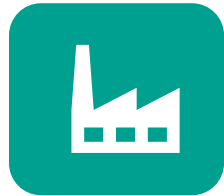
Belgium	Italy
Denmark	Netherlands
Finland	Norway
France	Sweden
Germany	UK



Biogases for industrial uses, heating & electricity



Biogases accounted for **over 6%** of the renewable electricity produced in the EU-27 2022.
They also provide **flexibility and storage** for the energy system



Biomethane is well suited to use as a **feedstock** or for **high-temperature industrial process**



Biomethane can complement the electrification of household heating, (i.e. by using **hybrid heat pumps**)
It is compatible with existing gas-based heating systems which can **save over € 500 billion per year**

Achieving the 35 bcm target: growth rate and biomethane targets

Mieke Decorte

EBA Technical and Project Manager



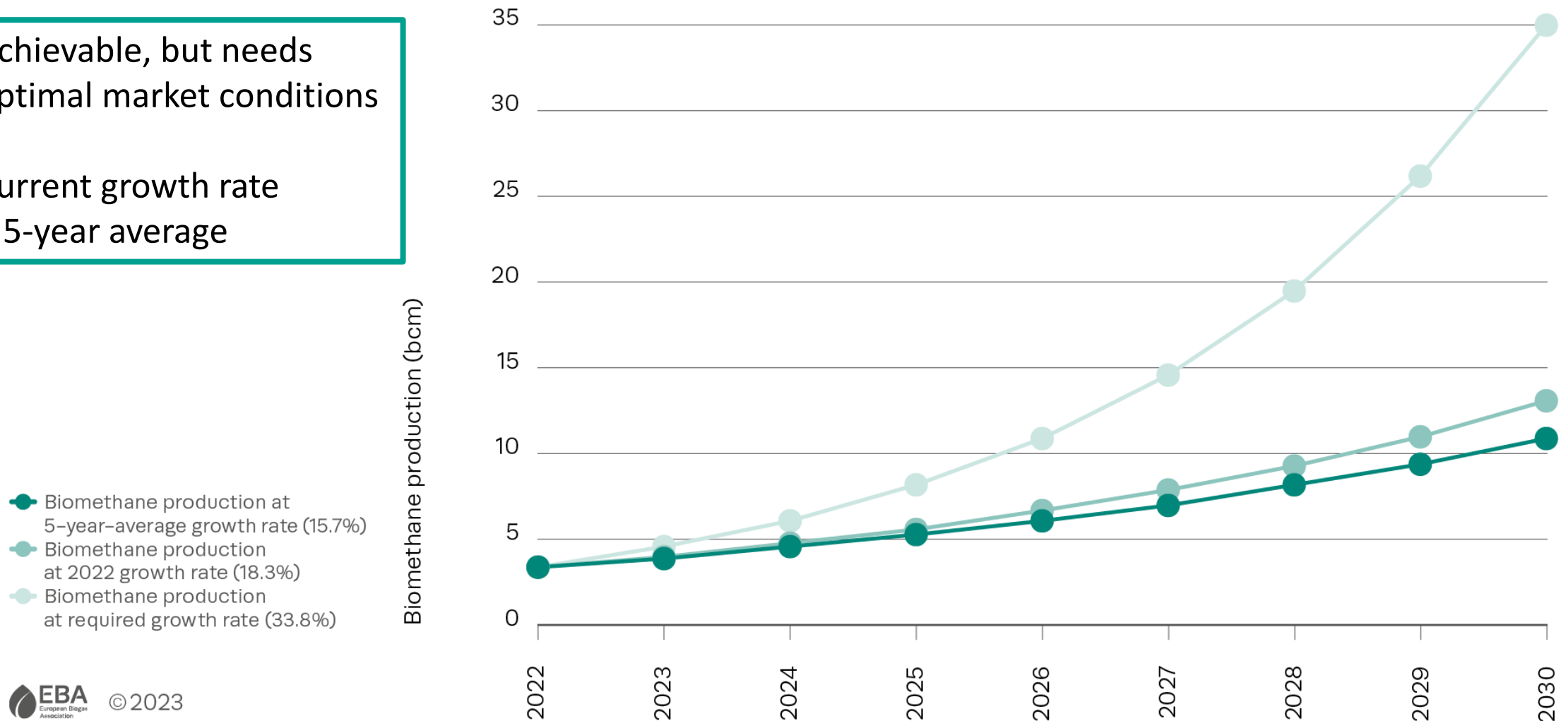
30% annual growth required to reach 35 bcm



Achievable, but needs optimal market conditions

Current growth rate
> 5-year average

Achieving the 35 bcm target: current growth rate version required growth



Biomethane targets per Member State

Governance of the Energy Union

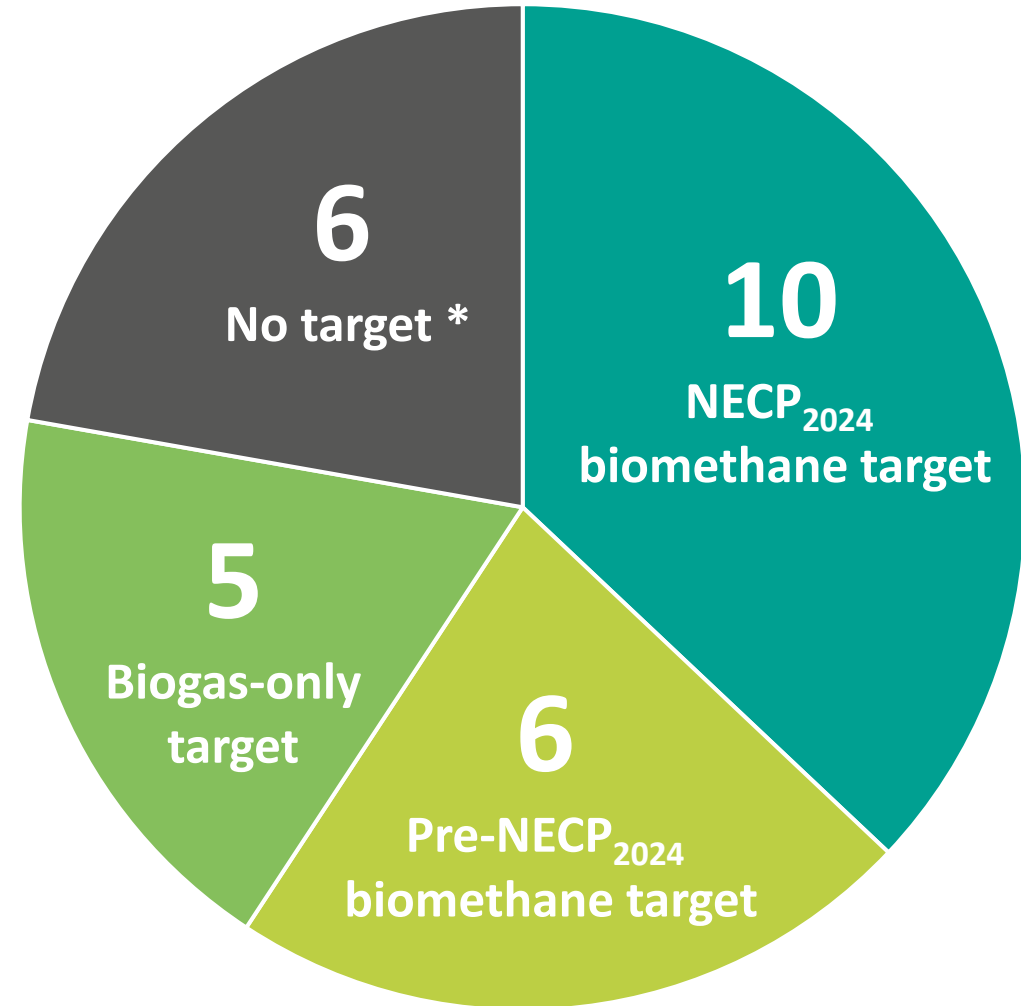
Legal requirement to develop
National Energy and Climate Plans (NECPs)
to outline climate and energy goals

Expectations December 2022:

Guidance EC encourages including
component on biogases and biomethane in
NECP updates

June 2023: Deadline for NECPs update

November 2023: 22 NECPs submitted



* Belgium, Bulgaria, Germany, Hungary, Portugal, Romania

22 draft updated NECPs are published

NECPs with 2030 biomethane target

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

TOTAL 15 bcm

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

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

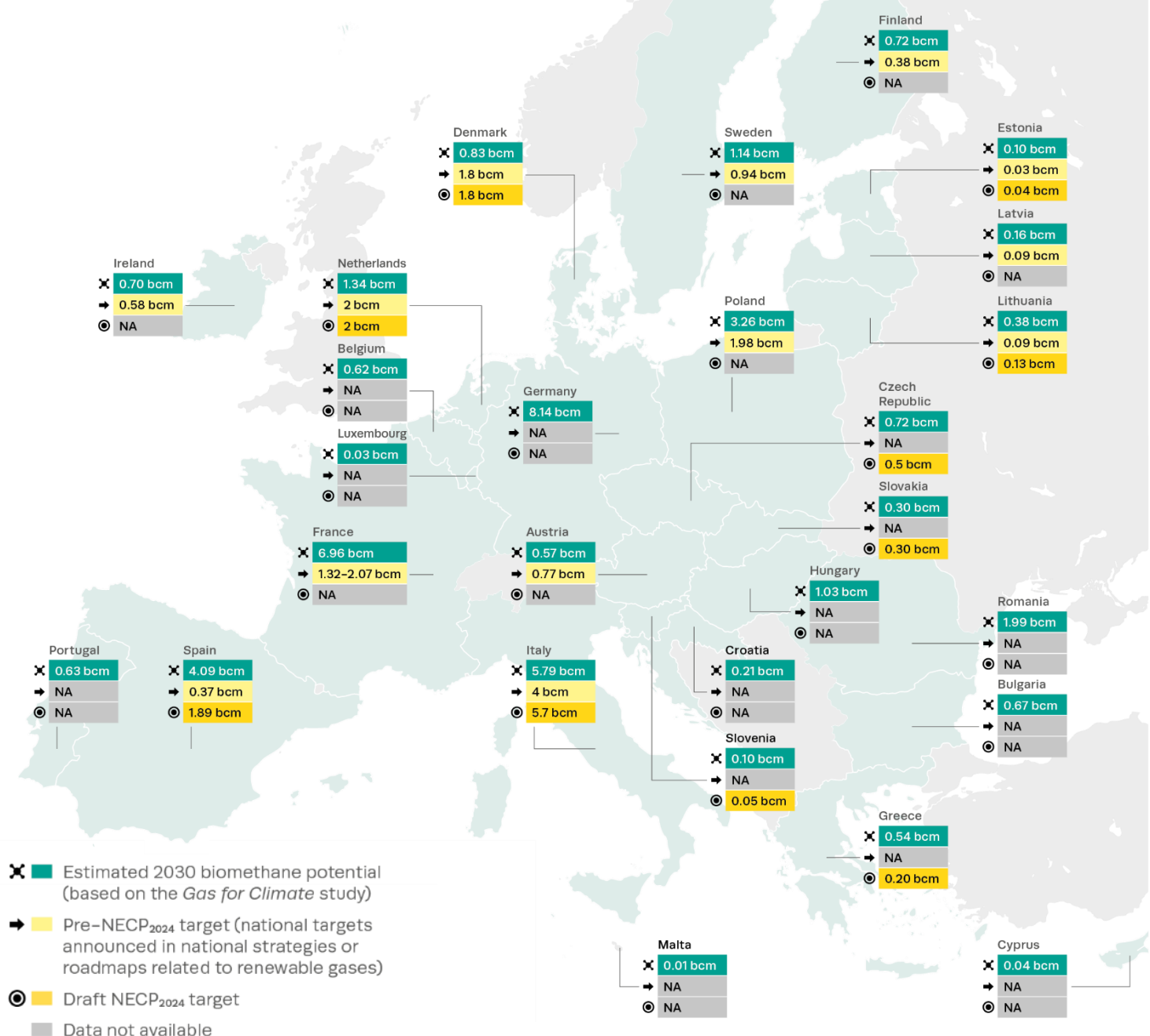
TOTAL 3.4 bcm

Anticipated 2030 biomethane production

Methodology

1. Draft updated NECP₂₀₂₄ target
2. Pre-NECP₂₀₂₄ target
3. Current production

20.2 bcm



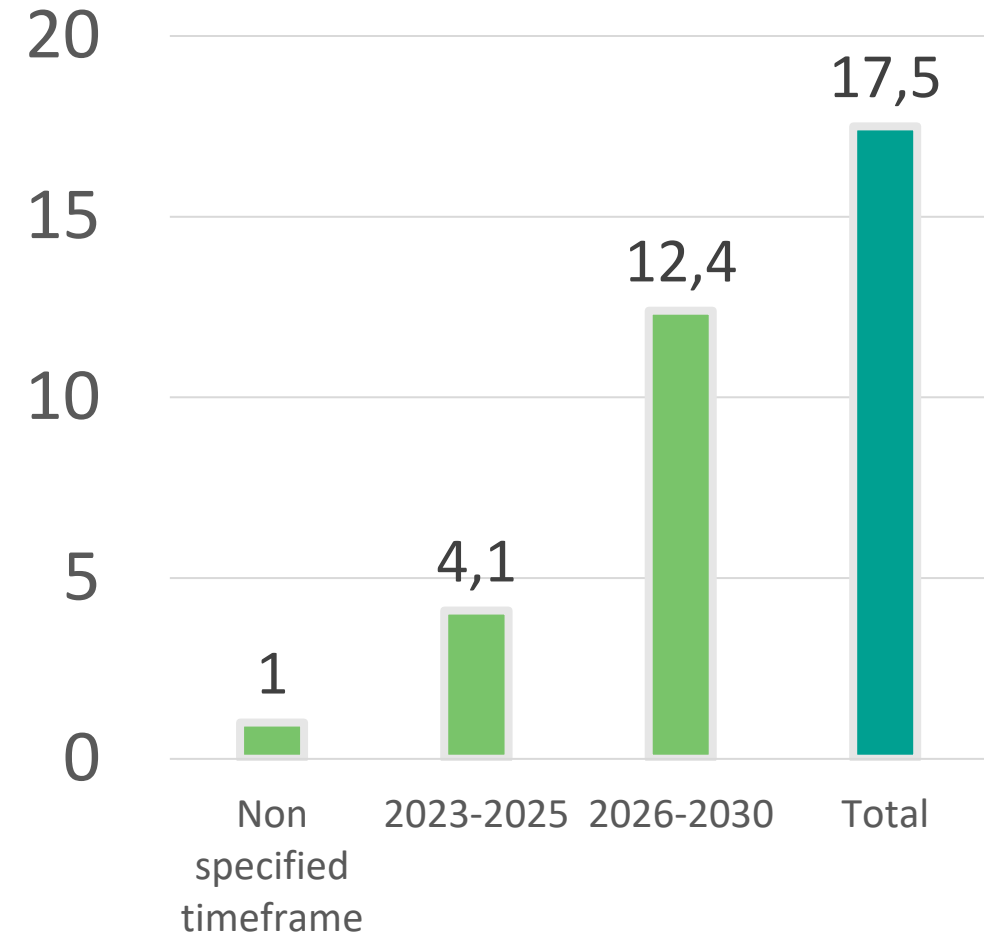
€ 18 billion investments for biomethane

1st EBA Investment Outlook for biomethane

Based on voluntary survey of investors

Almost 18 billion planned by end of 2030

Faster pace on 2nd half of this decade





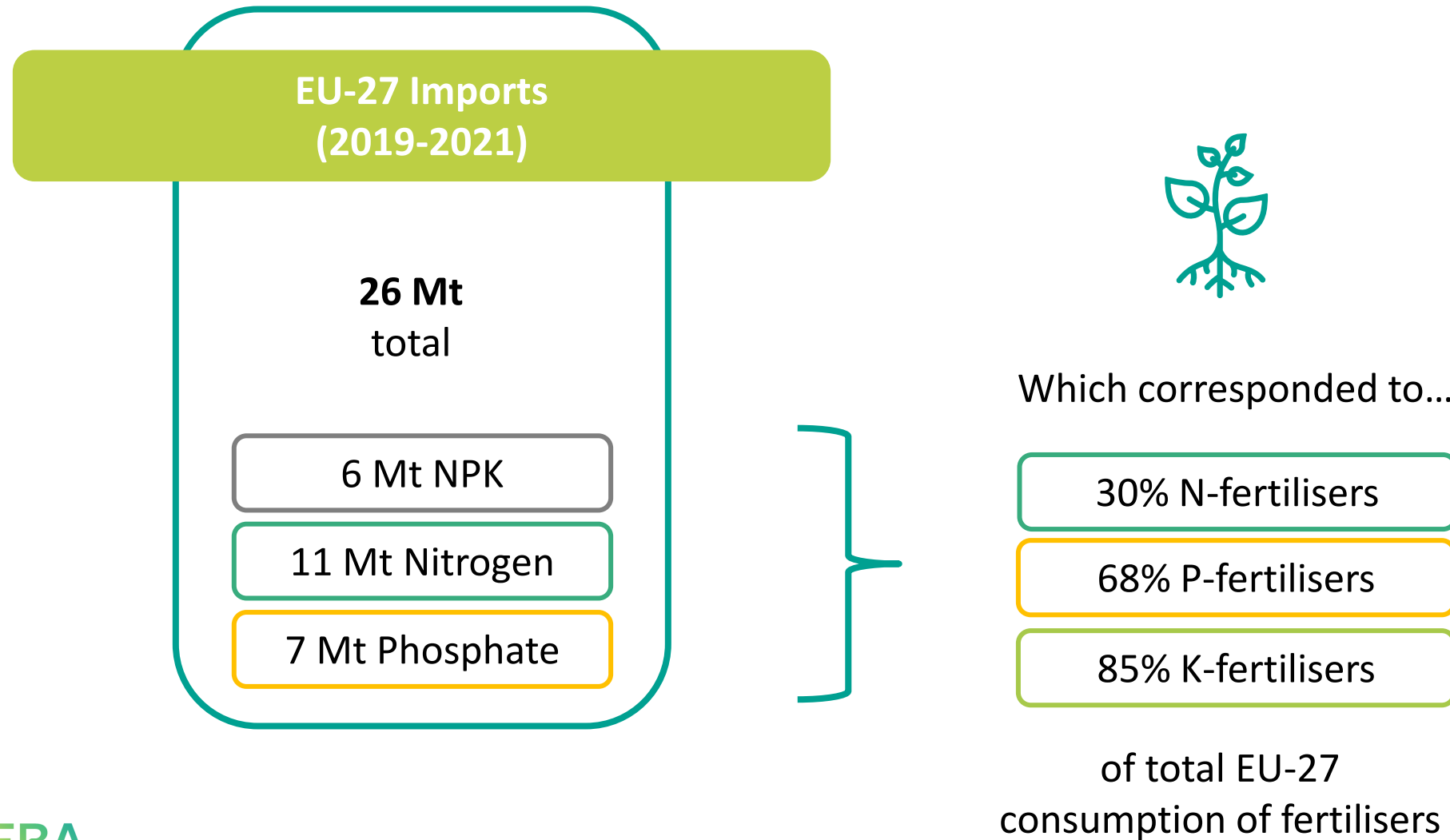
Digestate potential to displace synthetic fertilisers

Marina Pasteris

EBA Technical and Project Officer



European dependence on fertiliser imports



How much digestate is Europe producing?

Consultation with
EBA members & experts

Conversion factor
(ton of digestate (DM) per GWh
of biogases production)

Feedstock specific

Agricultural
residues
factor

Biowaste factor

193
tons
DM/GWh

253
tons
DM/GWh

Calculation
total digestate
production
in Europe



Calculation
synthetic fertiliser
displacement
potential
(N, P, K)



Digestate offers an alternative to synthetic fertilisers



31 Mt (DM)
digestate produced
Europe, **2022**

Digestate can already displace:
15%

Nitrogen-based fertilisers
(N demand in EU-27: 11.1 Mt/year)

11%

Phosphorus fertilisers
(P demand in EU-27: 2.8 Mt/year)

6%

Potassium fertilisers
(K demand in EU-27: 3.1
Mt/year)



GHG reduction potential when displacing
synthetic N-fertilizers with digestate

10 Mt
of CO₂ equivalent
in 2022

Natural gas is the main feedstock and
energy source to produce **synthetic**
fertilisers

The replacement of 15%
of **synthetic nitrogen fertilisers** with
digestate could save today around
2 bcm of natural gas

European digestate production



Most common end-use:
directly applied biofertilizer

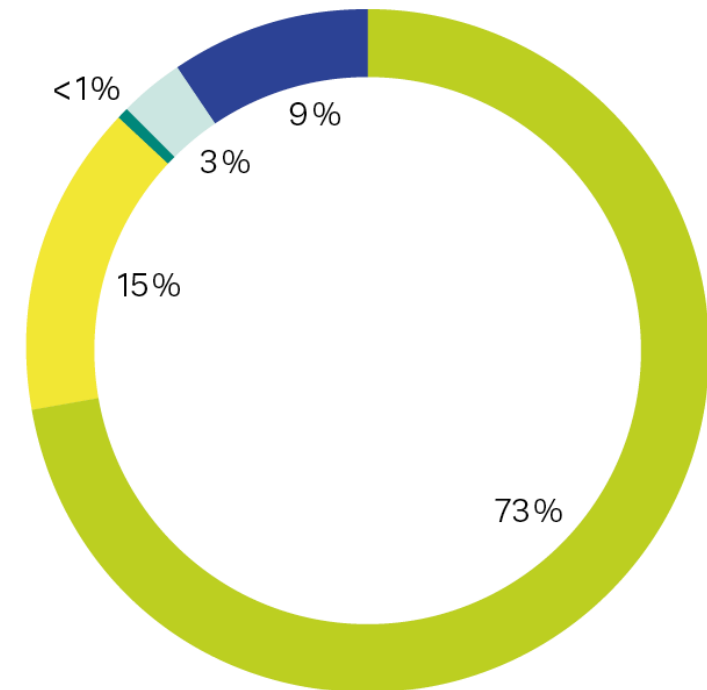


Mostly non-separated digestate
Austria, Denmark, Germany, Poland,
Slovakia, Sweden, and Ukraine



Mostly liquid digestate
Serbia, Croatia, Slovenia, UK,
Switzerland and Belgium

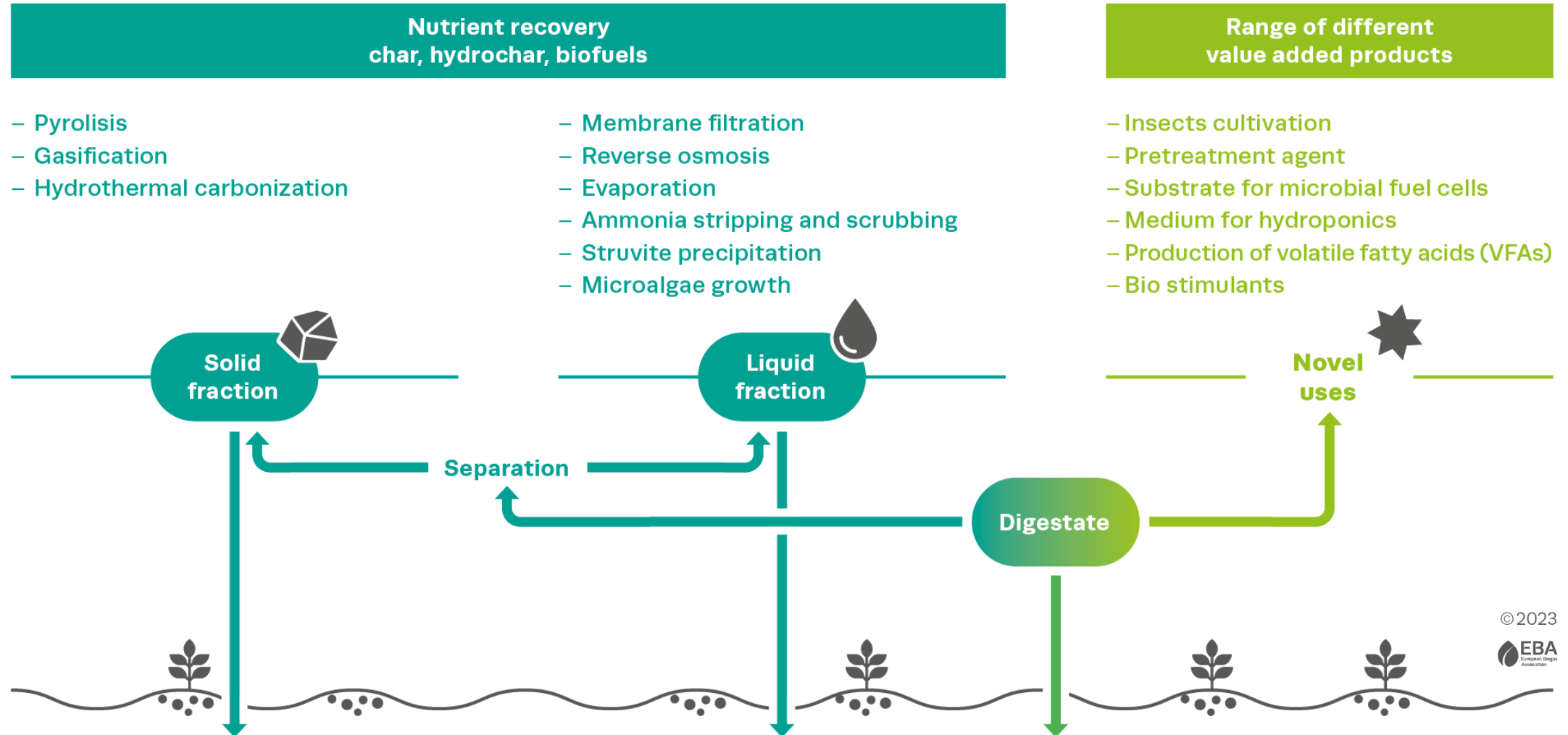
Digestate end-uses in Europe



- Usage as a biofertiliser (direct)
- Usage as a biofertiliser (after upgrading)
- Biological processing (nitrification/denitrification)
- Exported
- Other usage

© 2023

Digestate valorization routes





Q&A session

Please write your questions
in the Q&A box

Moderated by
Giulia Cancian, EBA Secretary General





Get the EBA Statistical Report 2023

The full report is available **for free for all EBA Members** and upon purchase for external parties



Get the Report for free (**EBA members**)



Buy the Report (**external parties**)

For any questions, please contact us at info@europeanbiogas.eu



Thank you for your attention!

Re-thinking our economy. Making the energy transition happen.

www.europeanbiogas.eu

Follow us on

