



1st Biomethane Investment Outlook

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3rd GA Biomethaverse
Milan 01/12/23*


innovations in the
BIOMETHA^{ne}
uni**VERSE**




The EBA in a nutshell...

+240 companies 47 National Associations 35 Countries







Advocacy
Representing the biogas and biomethane value chain towards the EU and national policy makers.




Policy updates
Regular updates on the latest policy developments in a wide range of topics.




Publications and research
Promoting biogas and biomethane through solid scientific evidence.



Visibility and networking
Access to an extensive network of close to 8,000 stakeholders in Europe and beyond.




Market intelligence
In-depth assessments of the state of play of the biogas and biomethane sectors in Europe.




Events
High-level events gathering policymakers and key stakeholders in the biogases sector.


+WG structured around 6 areas :




Circular economy




Energy and Industry




Competitiveness



Sustainability



Technology and Innovation



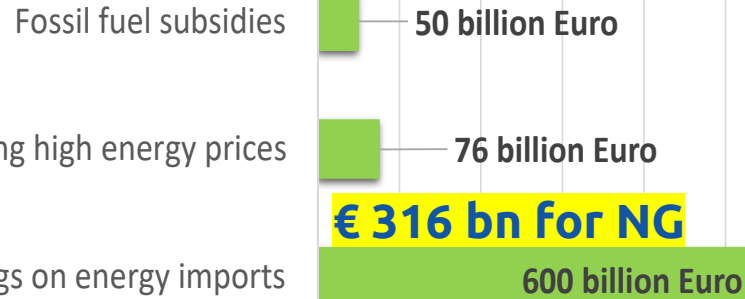
Transport

Outline

1. Introduction into the **CONTEXT**
2. Present- Future of **biomethane production**
3. Overview to decarbonise **multiple end-uses sectors**
4. Economics: benefits **beyond energy**
5. Summary of planned **investments**

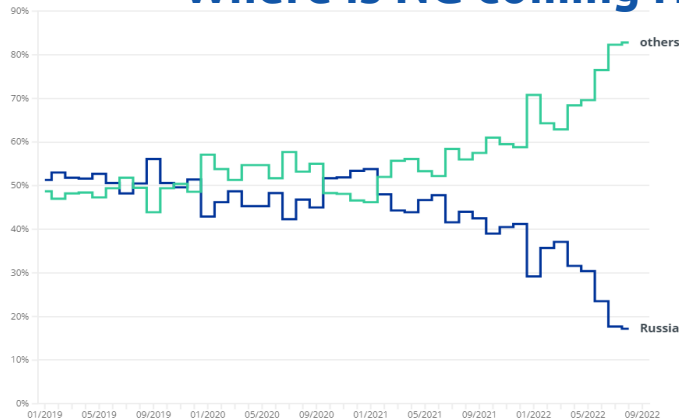
CONTEXT

Europe's spendings on fossils



EU's NG import dependency rate: 97% in 2022 (342 bcm)

Where is NG coming from today?



from Russia
45% (in 2019)
17% (in 2022)

Great efforts in the **diversification of energy supplies** to ensure the **EU's strategic autonomy**.

The voice of renewable gas in Europe

Reducing gas price volatility and gas imports

European Biogas Association

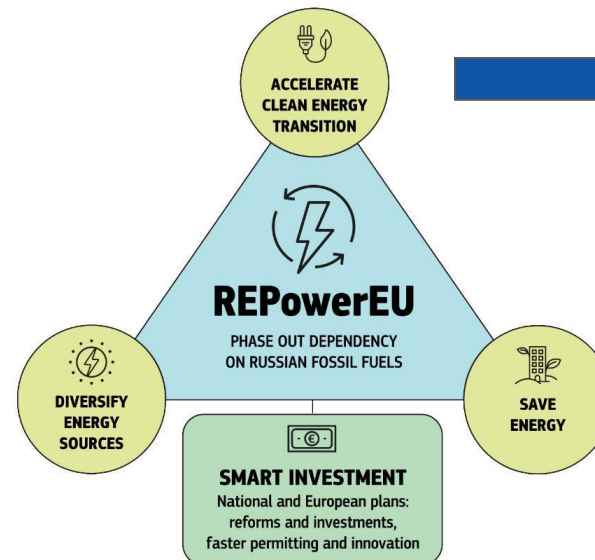


Cost of NG remaining high in 2023
Cost of **bioCH4: €80/MWh** (average)
Cost of green H2: **€180/MWh**



BioCH4 competitive against NG now and in coming years

REPower EU



Biomethane Action Plan

35 bcm bioCH4 by 2030
as part of an energy mix breaking from the dependency on Russian fossil import

www.europeanbiogas.eu #

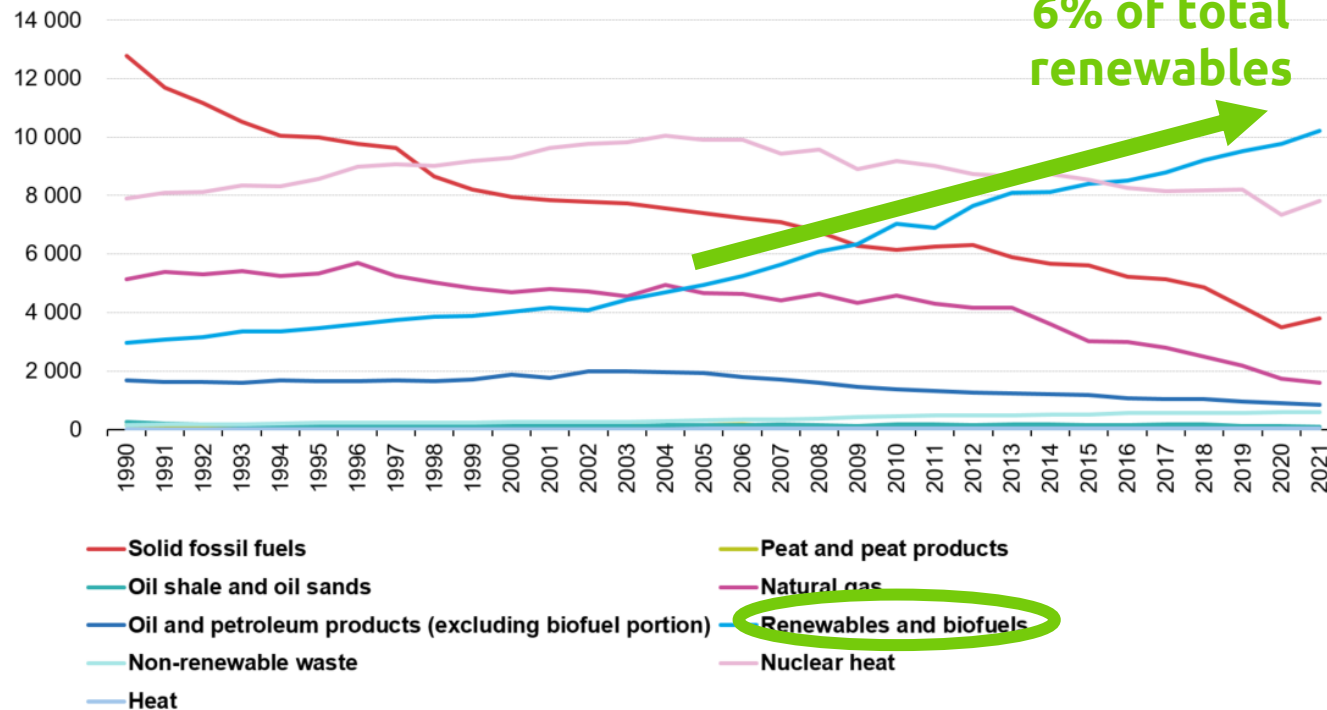
europa.eu Questions and Answers on REPowerEU

CONTEXT - Decarbonising energy production and use in EU

Renewables are Europe's best energy resources

Out of 2,832 TWh of renewables and biofuels, 58% (1,636 TWh) is from bioenergy!

Primary energy production by fuel, EU, in selected years, 1990-2021
Petajoule (PJ)

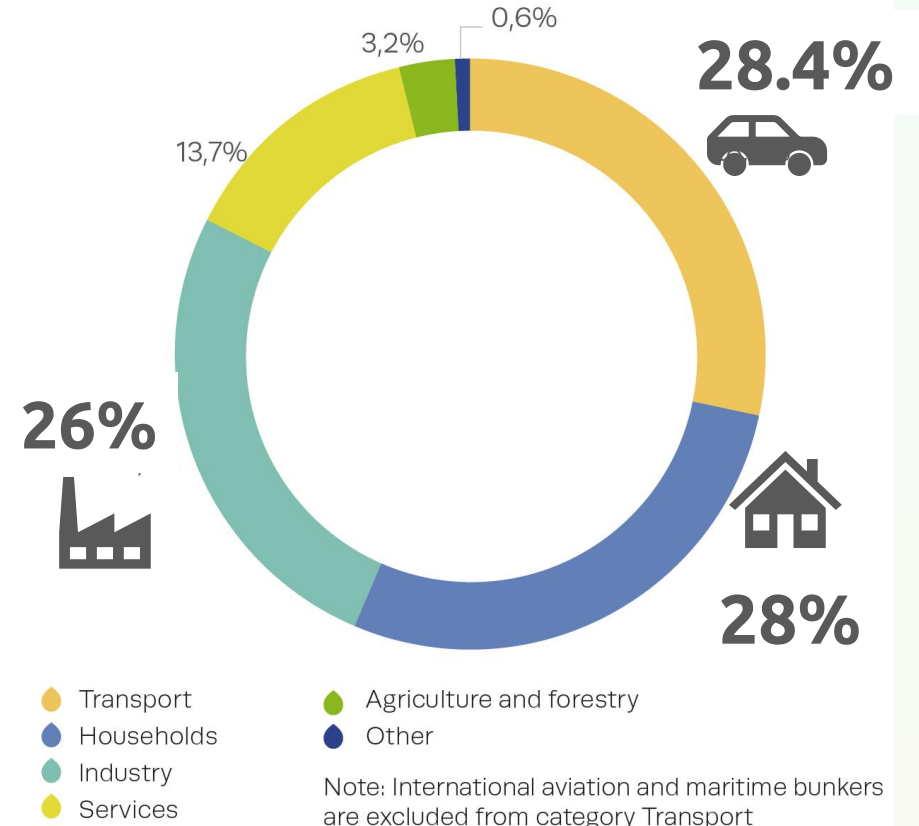


Source: Eurostat (online data code: nrg_bal_c)

eurostat

Final energy consumption by sector

+80% of EU's energy consumption concentrates on 3 sectors



Source: Eurostat (online data code: nrg_bal_s)

+20 bcm of biogases are being produced in EU today:



- **18,843 biogas plants**
- **> 1,300 biomethane plants**



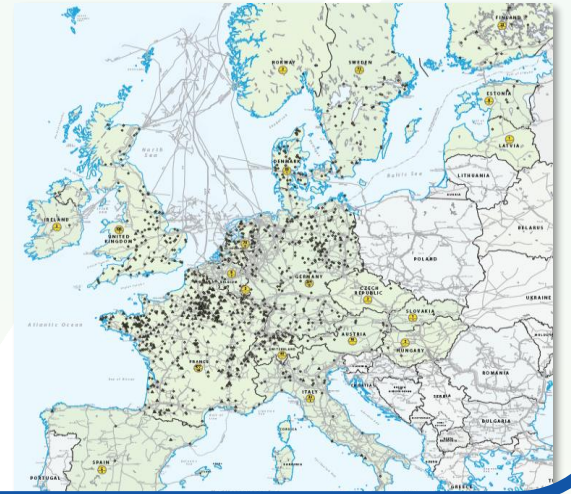
The existing natural gas infrastructure is **biomethane-ready**.



77% plants are grid-connected (Apr23) majority of new plants connected to distribution grid.



The use of **existing infrastructure** could save **€217 bn/year by 2050**



Best practices from Member States to boost the development of the sector

16 national biogases targets in place



IR commitment to triple the ambition in the Climate Action Plan 2023 to deliver 5.7 TWh /yr by 2030.

DK 1.8 bcm, 40% of gas injected in the grid is bioCH4 increase bioCH4 production to substitute 100% of Danish demand by 2030.

NL 2 bcm bioCH4 production target by 2030.

FR set a target for bioCH4 injection between 14 and 22 TWh by 2028

ES 1.9 bcm biogases production set by 2030.

AU 5 TWh in 2030

SE proposed 10 TWh

FI 4 TWh in 2030

EE 0.04 bcm

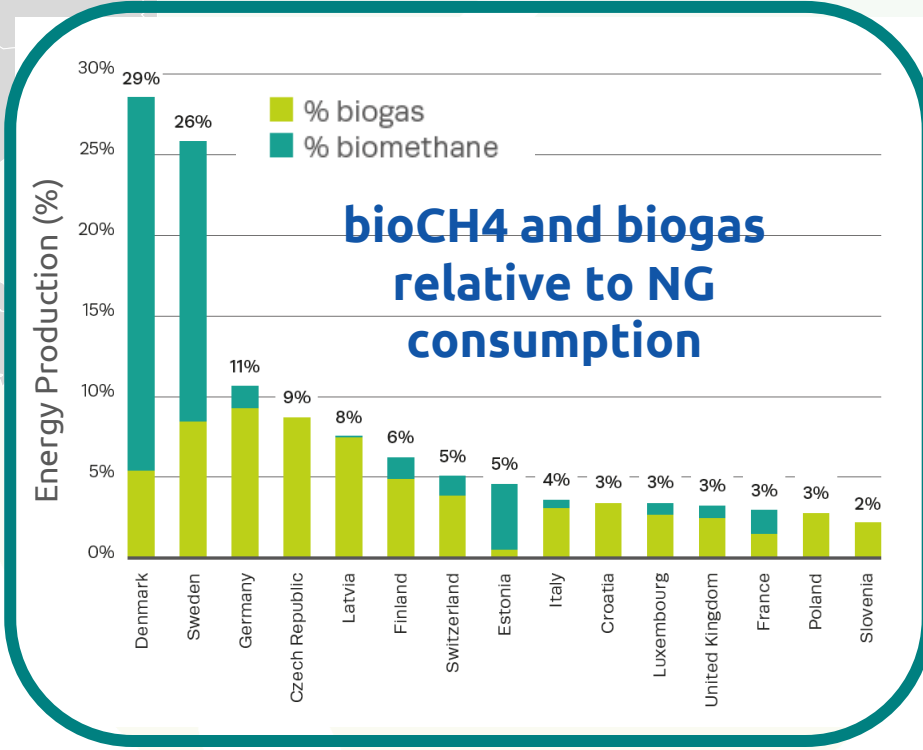
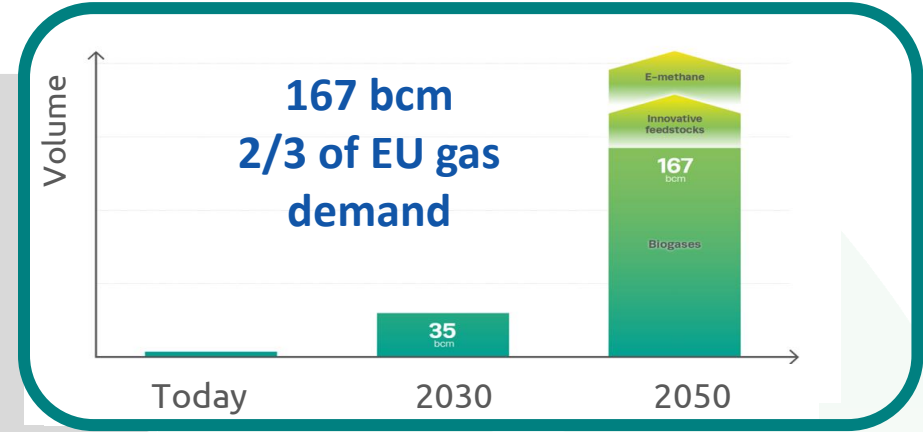
LT 0.13 bcm

PL 10% of gaseous fuels transported via gas grids should be renewable and low carbon by 2030.

CZ SK 0.5 bcm, 0.05 bcm

IT In 2022, the EC approved a 4.5 bn € scheme to support bioCH4 production. NPRR funds have been allocated to reach 5.6bcm /yr by 2030

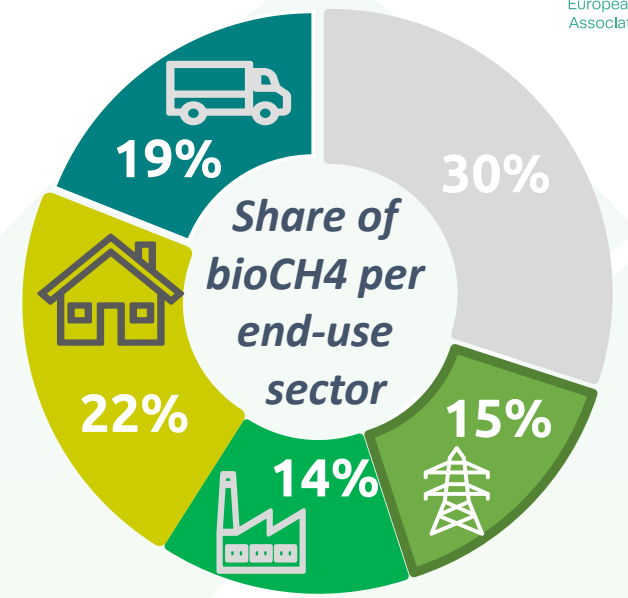
EL 0.2 bcm



21 draft updated NECPs are published

Overview 2022 Biogas and biomethane can support the decarbonisation of multiple end-uses

		POWER	BUILDINGS	INDUSTRY	TRANSPORT
Total energy consumption	TWh	2,785	4,500	2,784	3,196
Total NG consumption		546	1,280	910	43
Renewables in tot energy consumption		1,097 (39.4%)	1,031 (23%)	270 (9.7%)	291 (9.1%)
Energy from bioCH4		74.7	9.7	6.5	8.6



End-uses of biogas and bioCH4



Replace NG with bioCH4 for **decarbonisation of buildings** with hybrid heat pumps.



High temperature renewable heat and bioCO2 for industrial processes



bioCH4 stored and produced at a constant pace, helps balance **power supply** from intermittent renewables



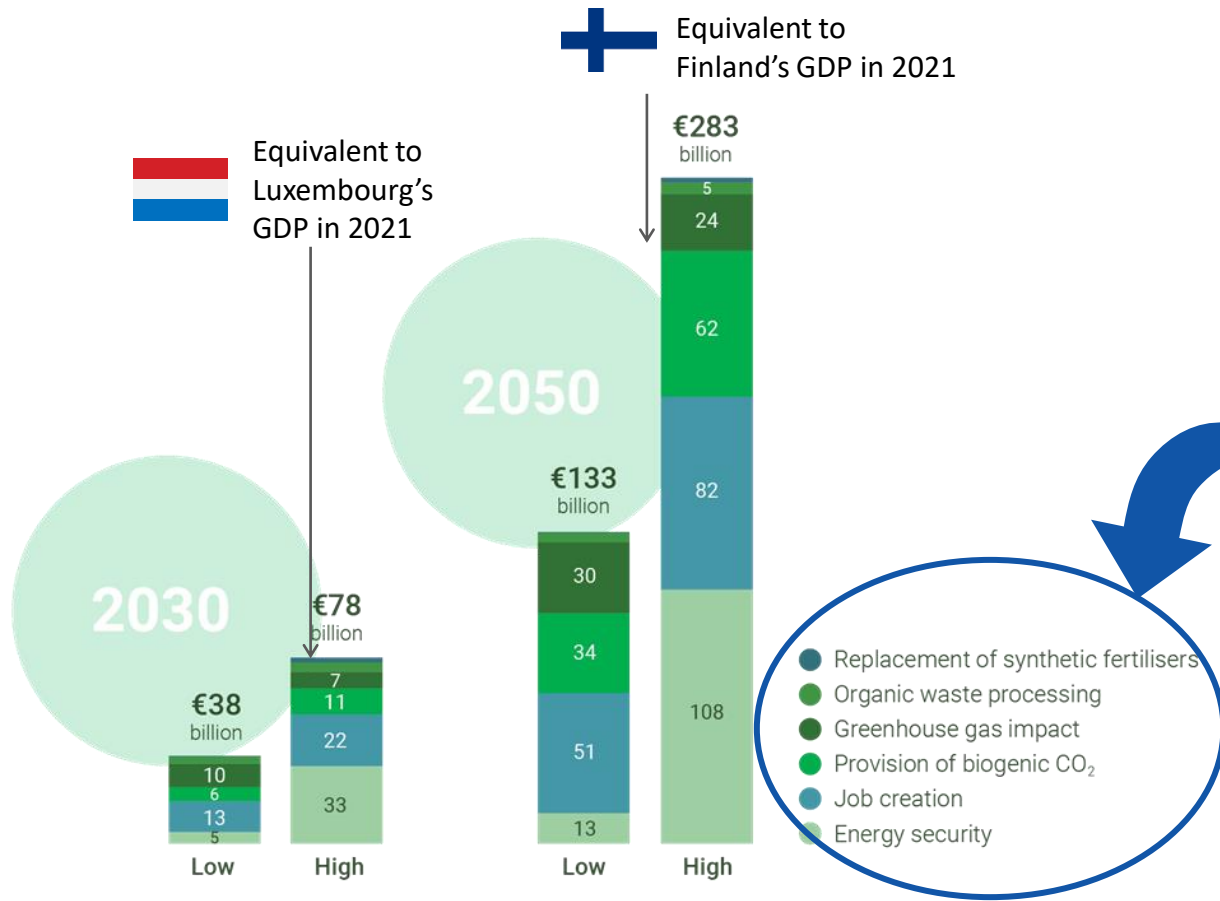
in **transport (bio-LNG or bio-CNG)**.
in maritime and heavy long-distance road transport



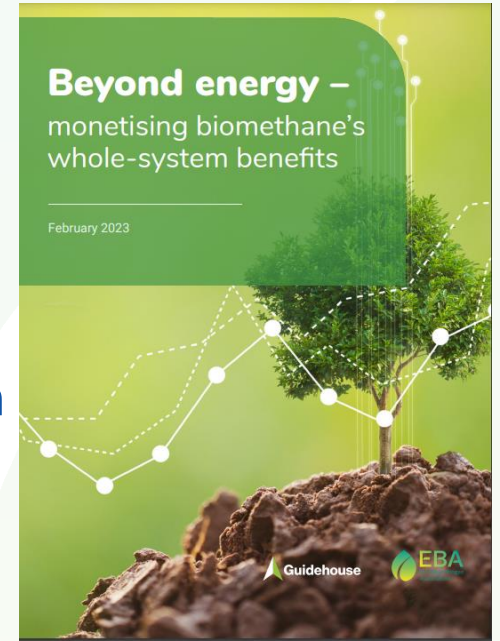
Digestate, an organic fertiliser, allows the displacement of synthetic fertilisers

Economic benefits of a full scale-up of biomethane: €133-€283 billion by 2050

EBA-GUIDEHOUSE Study monetised environmental, economic and social benefits



identification
quantification
monetization of **externalities** that biomethane production delivers based on production potential in 2030 and 2050.

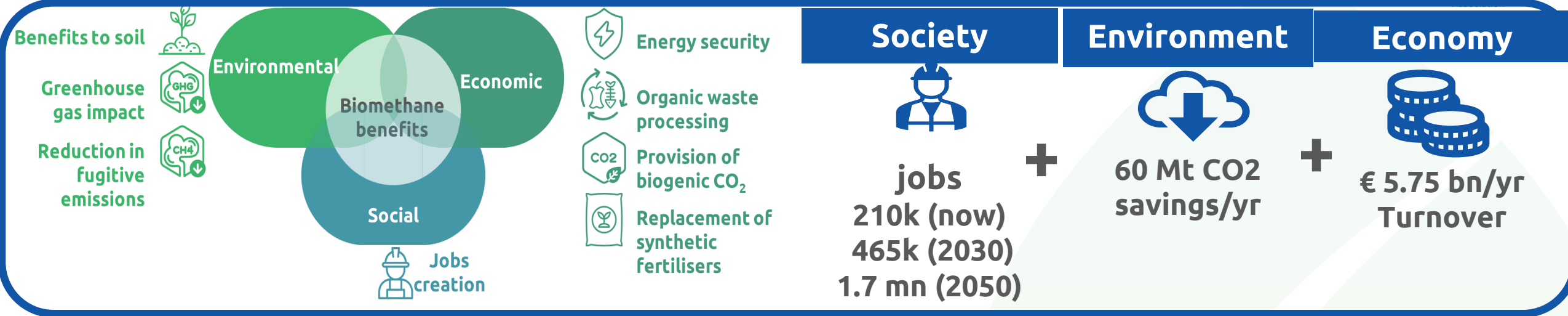


https://www.europeanbiogas.eu/wp-content/uploads/2023/02/20230213_Guidehouse_EBA_Report.pdf

Total quantified benefits AD 60% and gasification 40% of total

*Based on biomethane production of 42 bcm in 2030, and 162 bcm in 2050 (EU27 + UK)

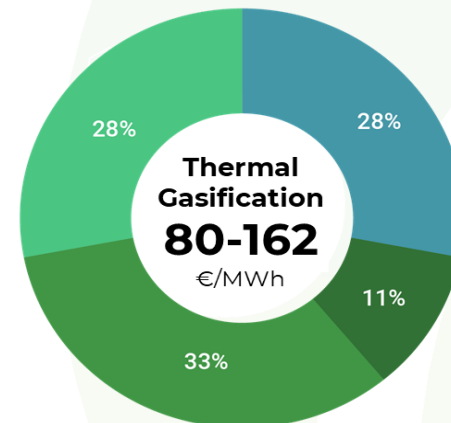
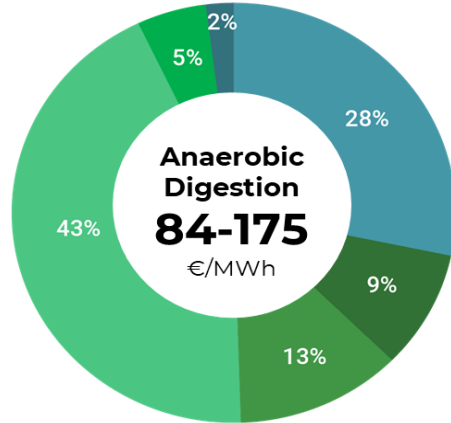
BEYOND ENERGY: significant economy wide benefits



Biogases drives energy security and sustainable transitions

Monetizing the whole-system benefits

Value of benefits outweighs production costs



Energy security, job creation biogenicCO₂ provide the greatest benefit with > 80% share



- Job creation
- Energy security
- Greenhouse gas impact
- Organic waste processing
- Provision of biogenic CO₂
- Replacement of synthetic fertilisers

Source: Guidehouse 2023 'Beyond Energy: monetizing biomethane's whole-system benefits'

1st Biomethane Investment Outlook

AIM

- Overview of **investment volumes** planned in our sector
- Demonstrate **impact of regulatory** drives on growth trends
- Help strengthening **commitment with investors** and **value chain**

APPROACH:

- Launch of a data gathering campaign (March-April '23)
- Response from **investors** and **project developers**
- Data analysis



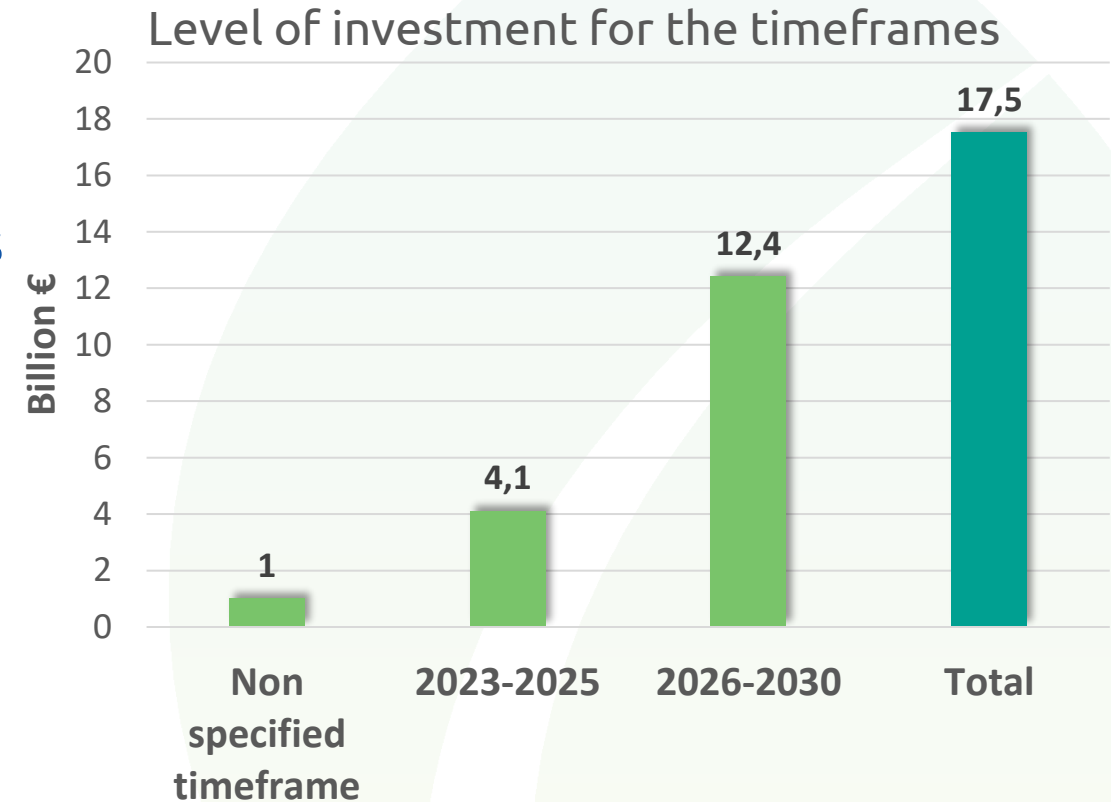
	Country/ Location	Investment Volume (Euro)	Foreseen capacity (GWh/year)	Timeframe	Type of Output	Type of Investment	Status
Example	Greece	10.000.000	50	2023-2025	Biomethane	Greenfield	Construction started

Market interest confirmed: €18 billion of planned investment by 2030

Biomethane Industrial Partnership (BIP) estimates 83bn€ of investments are required by 2030 to reach the 35 bcm as set by the REPowerEU targets

□ **4.1 bn €** is due to be invested **between '23 and '25**
□ **Quickening pace in the 2nd half of this decade,** with **12.4 bn€** already committed.

- Around **5,000 new plants in the next 7 years** will enter in operation



Preparing the future: Summary of planned investments

HIGHLIGHTS

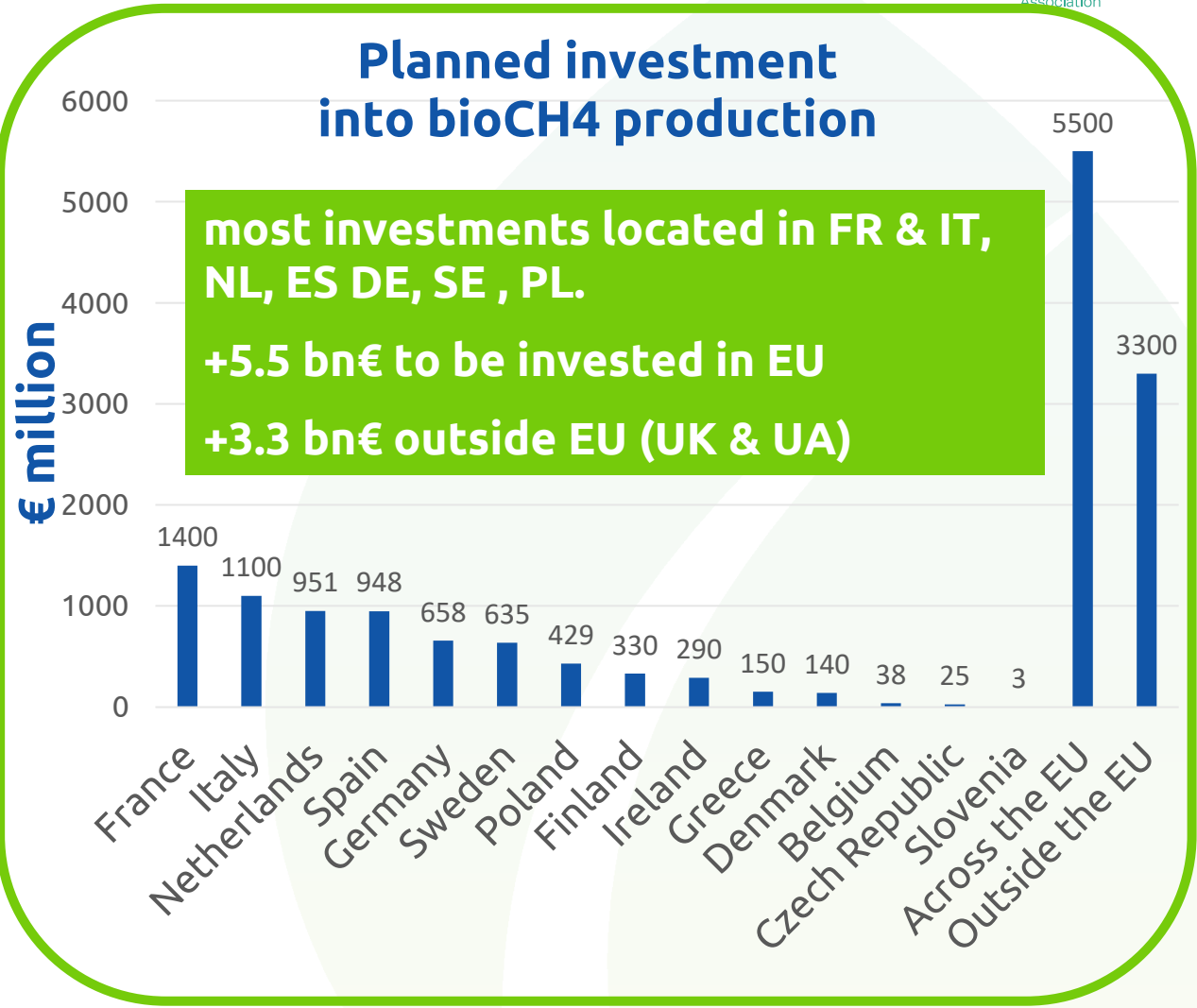
largest portion of investments for **GREENFIELD PLANTS (16 bn €)** **BROWNFIELDS(0.4 bn €)**

Measures to promote brownfield investments in:
Italy (Biomethane Decree)
Austria (Renewable Expansion Act)

Compliance with **EU Taxonomy in line w/ RePower EU** to leverage sustainable investments

Investors aim to use bioCH4 in:
40% : TRANSPORT
35% INDUSTRY & HEATING

Most investors are planning to use **SUPPORT SYSTEMS** FIT, FiP, quota or green certificates schemes, fiscal incentives, CAPEX support and market mechanisms

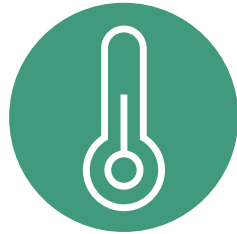


Action is needed to fully realise benefits from biogas production

To fully realise the benefits from the biogas and biomethane production will require a concerted effort. We recommend that **focus should be directed at the following areas:**



Ensure benefits are recognised by policy makers



Support further commercialisation of thermal gasification



Mobilise waste and residue feedstocks



Incentivise sustainable agricultural production



Maximise valorisation of biomethane co-products

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5 December 2023

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