



The voice of renewable gas in Europe

Inter-Parliamentary Meeting

Renewable energy and energy efficiency

Biogas and its contribution to the heating sector

21st October 2022 – Berlin

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The EBA in a nutshell...



44 national biogas associations
187* organisations representing
the whole biogas and
biomethane value chain.

**As of October 2022*



The EBA is striving to maximise
biogas and biomethane
production and consumption
across Europe in all end-uses,
including transport, buildings and
industry.



37 countries in Europe and
beyond and over 8,000
stakeholders covering the whole
biogas and biomethane value
chain.



Representing the biogas industry
in Brussels since 2009.

REPowerEU target: 35 bcm of sustainable biomethane 2030

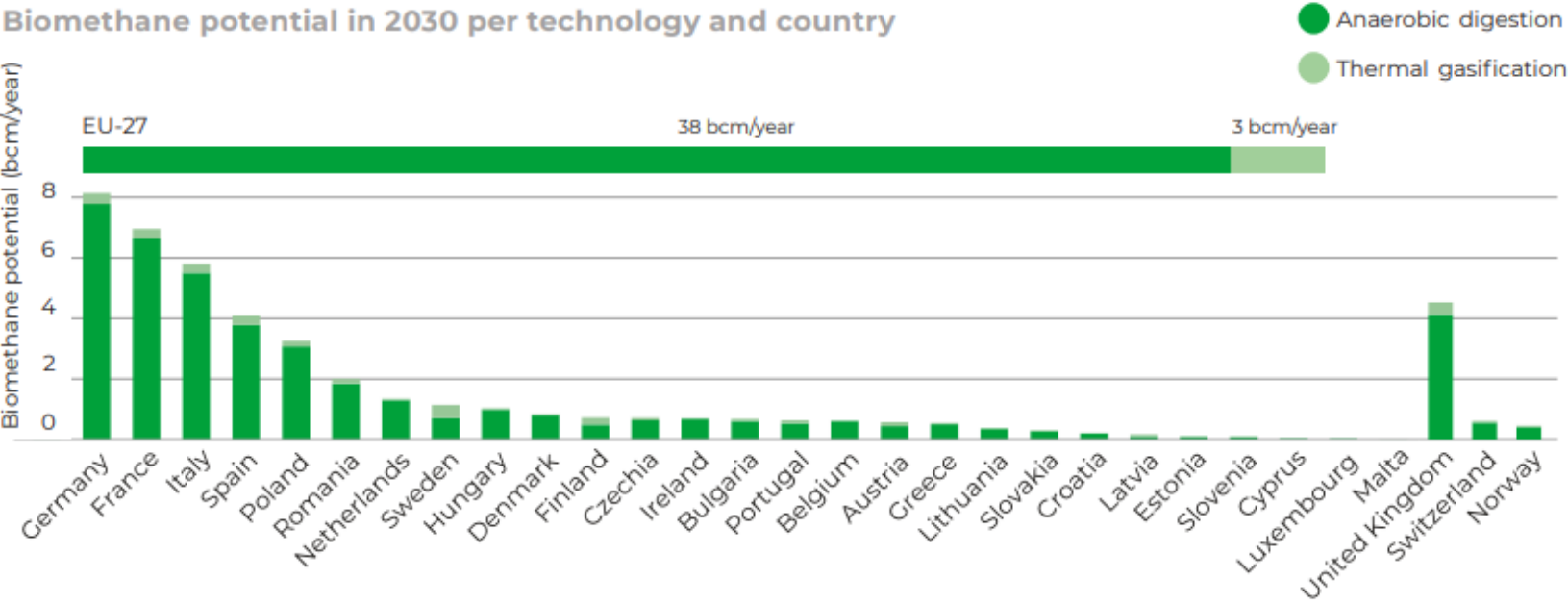
Biomethane Industrial Partnership

A partnership between EC / MS /value chain / Civis society / Academia



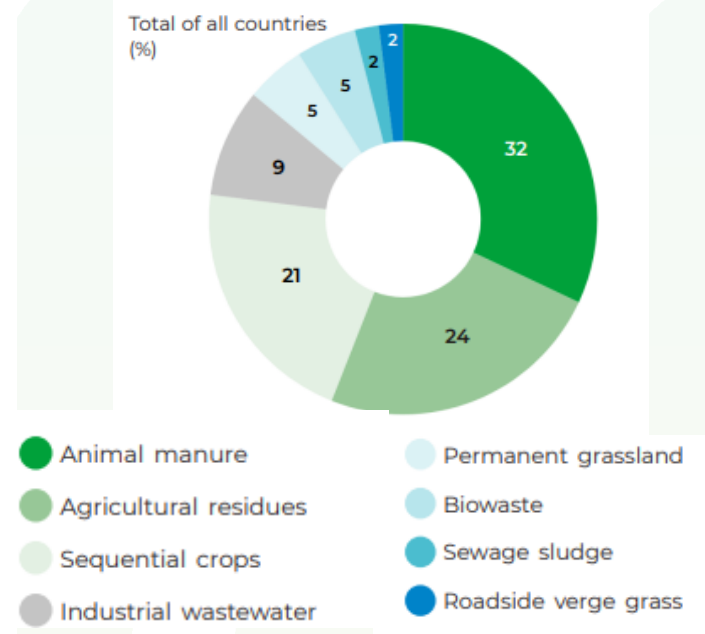
Biomethane pot. in 2030 sufficient to meet the 35bcm target

Figure 1.
Biomethane potential in 2030 per technology and country



Source: Bioemthane production potentials in the EU – GfC 2022

Feedstock potential (all countries)



Supporting the defossilisation of the EU Economy with biomethane



We can replace natural gas with biomethane for the decarbonisation of buildings with hybrid heat pumps.

The possibility to use existing infrastructure provides comfortable adaptation of households to sustainable choices and is financially attractive for users.



Biomethane provides high temperature heat and climate neutral carbon for industrial processes.

There is increasing interest from industry users on the deployment of biomethane right now as a means to decarbonise their industries.



The future power system requires dispatchable power. Biomethane provides flexibility and high value.

Biomethane can be easily stored and produced at a constant pace, helping balance energy supply from intermittent energy sources of renewable origin, such as solar or wind.



Decarbonisation of maritime and heavy long-distance road transport

Europe will have 78 bio-LNG plants by 2024 producing 10.6 TWh of this renewable fuel. This would allow for the equivalent of 25,000 LNG trucks to be fueled year-round.

Heating Sector in Europe



50% of EU energy consumption goes to heating (residential, industrial and services)



23% RES in heating, out of which c. **85%** is solid biomass



More than **2/3** of the industrial energy demand is heat.

Source: Renewable energy used in heating and cooling in 2020, Eurostat

RED, EED and EPBD together can drive the decarbonization of the heating sector:



Setting **high targets** for RES in heating and buildings in the Renewable Energy Directive.



Making sure through the Energy Efficiency Directive and the Energy Performance of Buildings Directive that **efficiency and integration of renewables** are going hand in hand.



Different solutions may work at their best for different regions.

All solutions are needed to combat the climate and energy crises, fight the energy poverty and create an inclusive transition.



THANK YOU!

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

www.europeanbiogas.eu

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Biogas and biomethane production today

Current production

Europe was producing end of 2020 **18 bcm** (15 bcm of biogas and 3 bcm of biomethane) from **19,654** plants.

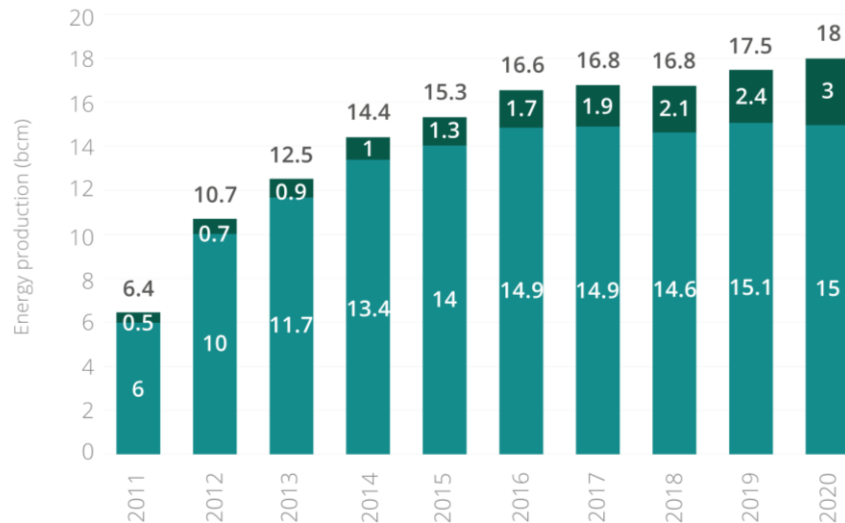


Figure 2.2: Combined biomethane and biogas production in Europe (bcm)

- Energy from biogas (bcm)
- Energy from biomethane (bcm)

Relative to gas consumption

4.6% of EU gas consumption = Close to entire natural gas consumption of Belgium

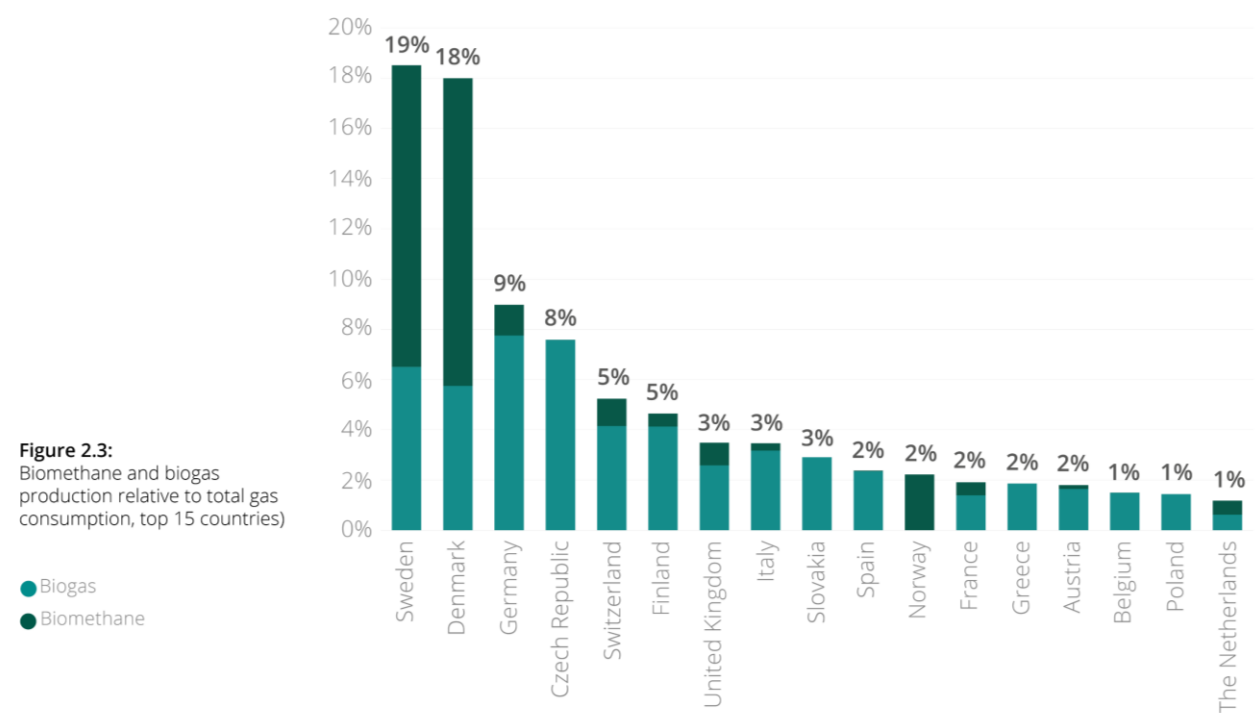


Figure 2.3: Biomethane and biogas production relative to total gas consumption, top 15 countries)

- Biogas
- Biomethane

Significant sustainable potential to scale up biomethane

European biomethane potential to 2050

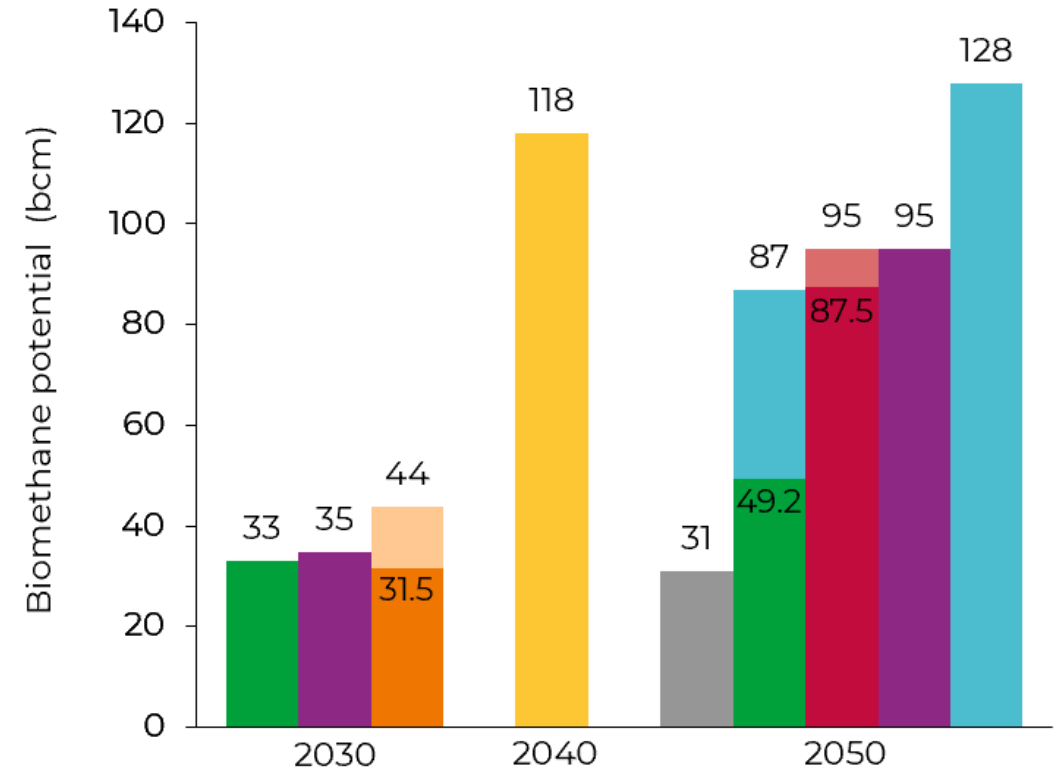
2030

Several studies see a potential that corresponds well with REPowerEU target

2050

Most studies assume a significant further scale up to 2050, but the picture that emerges is varied

Source: Biomethane production potentials in the EU – GfC 2022



European Commission (2018)

GfC (2019/2020)

CE Delft (2016)

IEA (2020)

ICCT (2018)

DNV-GL/Eurogas (2020)

ENGIE (2021)

Producing organic fertilisers and using biogenic CO2 as feedstock

Digestate and carbon storage

Digestate offers an alternative to commonly used synthetic fertilisers.



- We can **store in the soil 50 to 80%** of carbon from digestates used as organic fertiliser.
- The EU is largely dependent on imports for most of **synthetic fertilisers** and **30%** of them **come from Russia**.

Carbon capturing and use of biogenic CO2 as feedstock

The sector is a real opportunity for the exploitation of the biogenic CO2 market. From 1 ton of biogas we obtain almost 2 tons of biogenic CO2. If all CO2 from the biogas industry was captured and stored...



Biogas and biomethane production in Europe

- 18 bcm today
- 35 bcm by 2030
- 95 bcm by 2050



Biogenic CO2 obtained

- 24 Mton
- 46 Mton
- 124 Mton

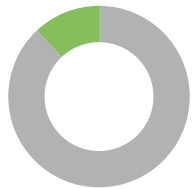
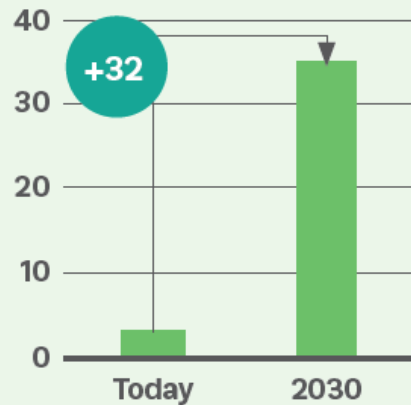


Biogenic CO2 can be used in...

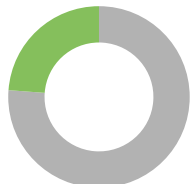
- Greenhouses
- Beverage industry
- Green hydrogen

Biomethane production can contribute to energy security by replacing 10% of today's EU gas demand by 2030

From 3 bcm biomethane production today to 35 bcm EU-27



Equivalent to 10% of today's natural gas demand



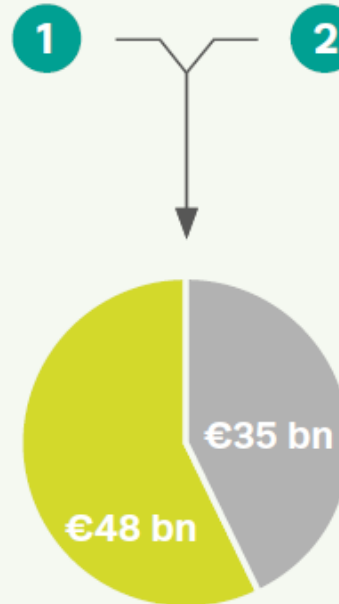
20% of gas imports from Russia

Capital investment of €83 billion in biomethane production capacity

Waste and agricultural residues **1**



4000 medium-size anaerobic digestion based biomethane units
4 mln m³ p/y and €12 million CAPEX per installation, producing at €80/MWh



2 Use of sequential crops



1000 large-scale anaerobic digestion based biomethane plants 16 mln m³ p/y and €35 million CAPEX per installation, producing at €55/MWh

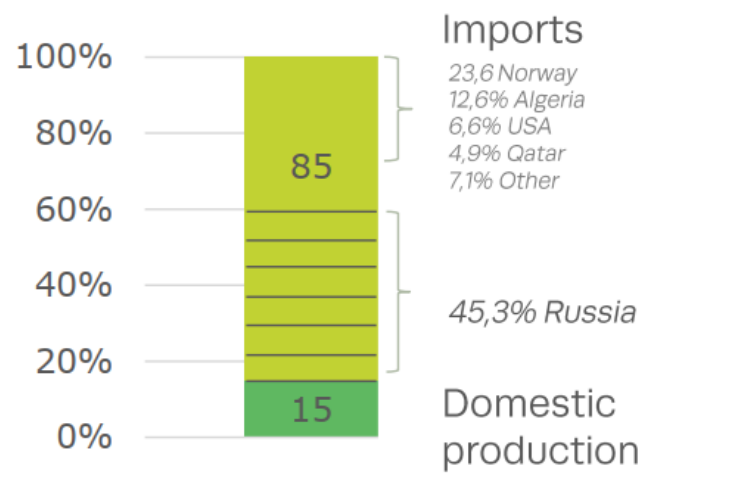
→ Fostering the rapid scale up of biomethane means:

- » Supporting climate change mitigation
- » Reducing dependency on external gas supplies
- » Dealing with an unprecedented natural gas price increase

→ A clear legislative framework will provide certainty for long-term investments on the roll out of sustainable biomethane.

Biogas and biomethane for a resilient transition to net zero

EU dependency on natural gas



Cost of biomethane vs natural gas

- Cost of **biomethane**:
From **€55/MWh** to €120/MWh
- Expected cost of **natural gas** to remain **high** throughout 2022 and 2023
- Cost of **green hydrogen** production today: **€180/MWh**



REPOWER EU IN SHORT



More rooftop solar panels, heat pumps and energy savings to reduce our dependence on fossil fuels, making our homes and buildings more energy efficient.



Speeding up renewables permitting to minimise the time for roll-out of renewable projects and grid infrastructure improvements.



Decarbonising industry by accelerating the switch to electrification and renewable hydrogen and enhancing our low-carbon manufacturing capabilities.



Diversifying gas supplies and working with international partners to move away from Russian gas, and investing in the necessary infrastructure.



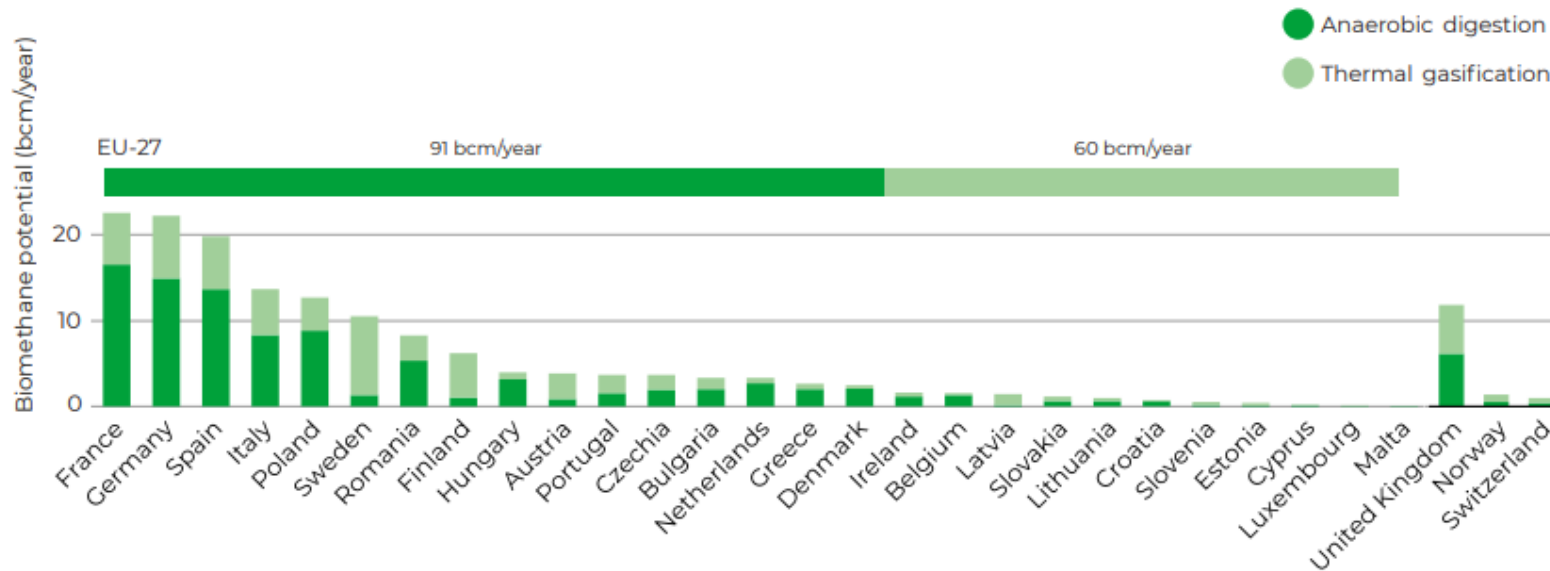
Hydrogen Accelerator to develop infrastructure, storage facilities and ports, and replace demand for Russian gas with additional 10 mt of imported renewable hydrogen from diverse sources and additional 5 mt of domestic renewable hydrogen.



Doubling the EU ambition for biomethane to produce 35 bcm per year by 2030, in particular from agricultural waste and residues.

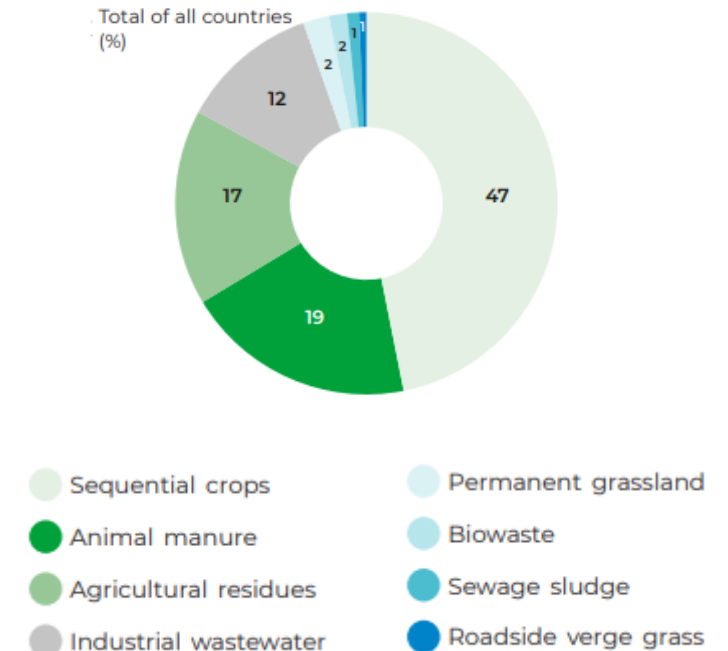
The sector can expand production up to 151 bcm by 2050

2050 national biomethane potentials: *Gas for Climate 2022*



Source: Bioemthane production potentials in the EU – GfC 2022

Feedstock potential (all countries)



The EU-27 countries with the highest potentials in both 2030 and 2050 are broadly similar and include France, Germany, Italy, Spain and Poland