



GOVERNEMENT

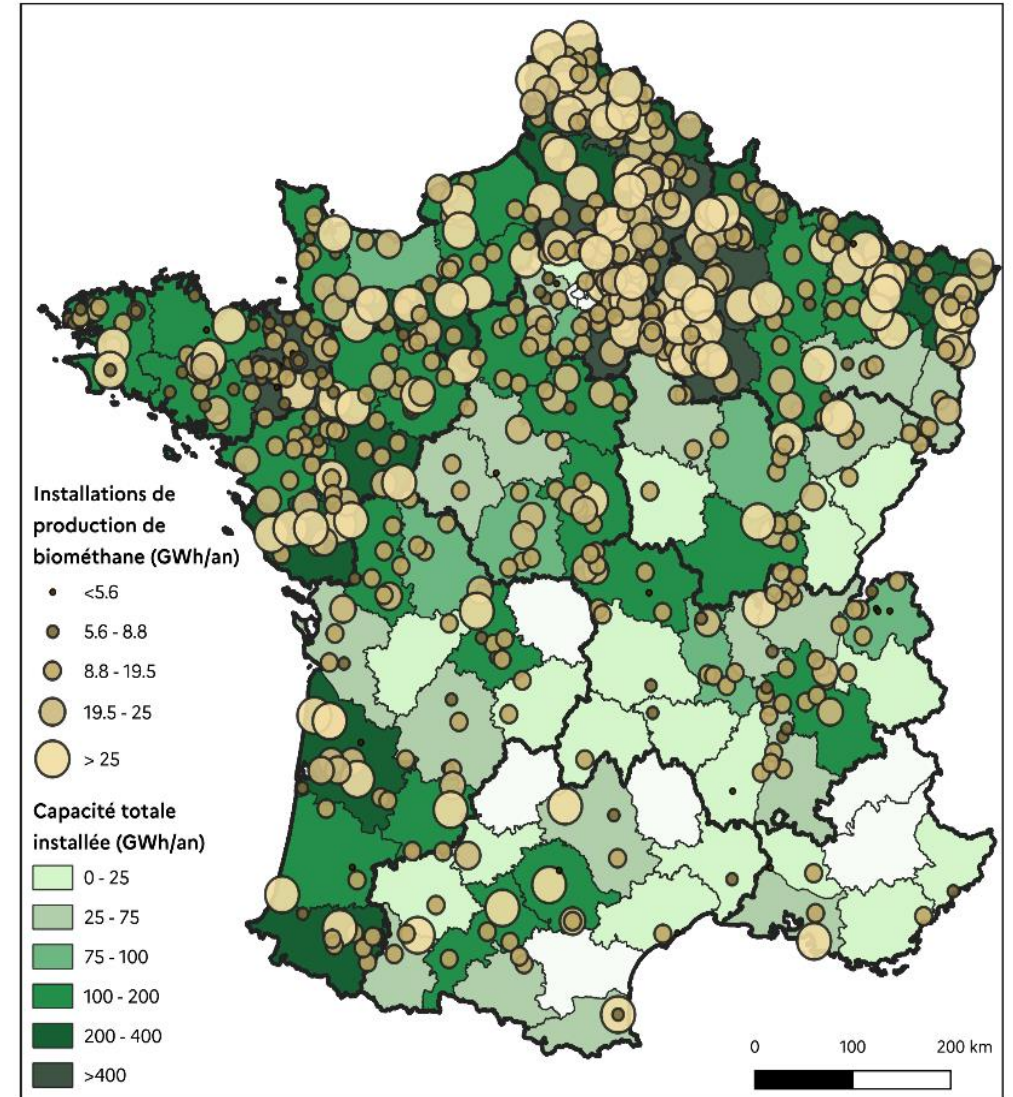
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WEBINAR ON BIOMETHANE EXPERIENCES

Biomethane development in France

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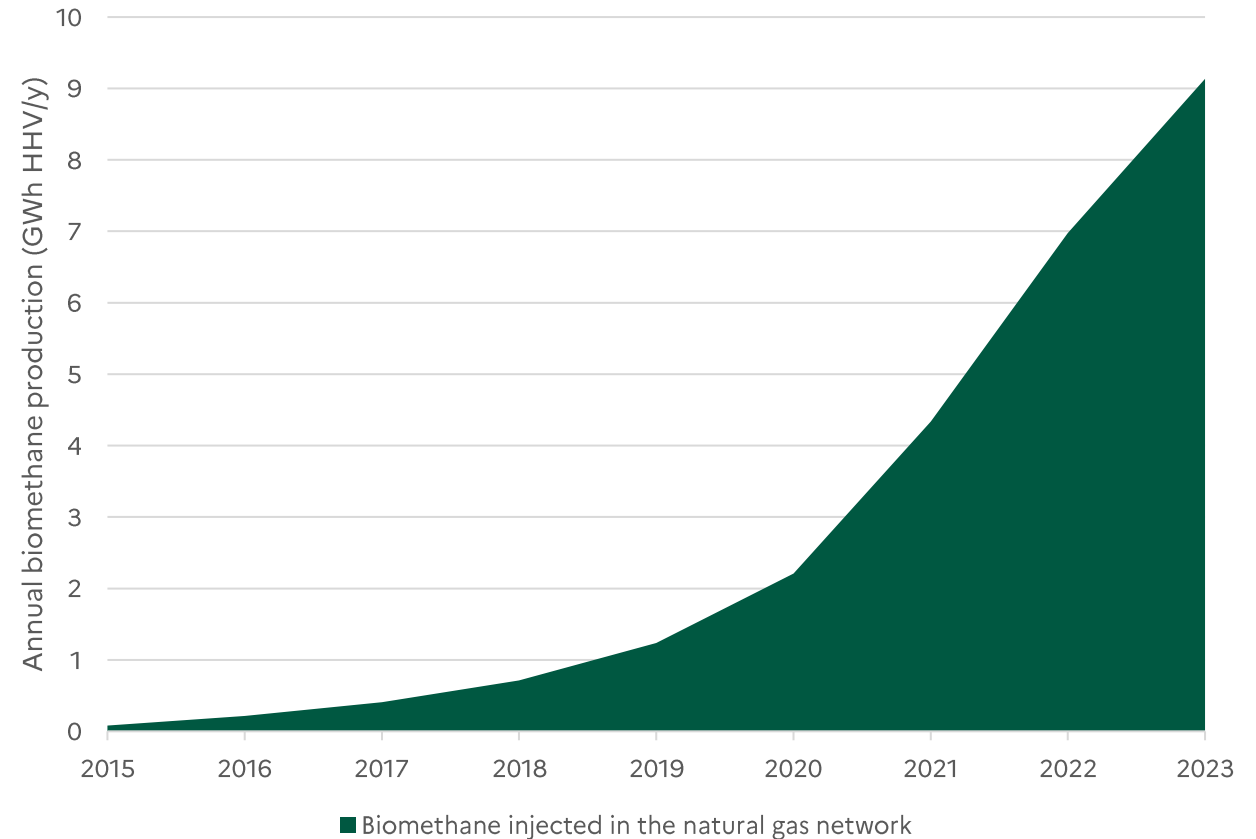
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Status of biomethane in France

- ❑ On the mainland national territory:
 - **710 biomethane plants** (methanizers) were connected to gas grids on September 30th
 - Cumulative **connected capacity of 13 TWh HHV**
 - ❖ Production of **9,1 TWh** in 2023
 - ❖ Expected production of **11,5 TWh** in 2024

- ❑ France plans to set an ambitious objective for **2030** that could be up to **44 TWh HHV**.

- ❑ Priority is given to biogas injection into gas grids in order to decarbonize gas consumption



Biomethane production targets

- Multi-annual energy planning for the 2018-2028 period defines an objective of **7% of biomethane in gas grids in 2030** if production costs targets are reached:

Targets for production (TWh HHV)	2018	2023	2028
Biogas		14 TWh	24 – 32 TWh
Biomethane	1,7 TWh	6 TWh	14 - 22 TWh

- Actual figures for biomethane:

Production (TWh HHV)	2018	2019	2020	2021	2022	2023
Biomethane	0,71 TWh	1,24 TWh	2,21 TWh	4,34 TWh	6,97 TWh	9,13 TWh

- New strategy on energy and climate under development may define higher targets. It could set the ambition up to **44 TWh of biomethane produced in France in 2030, which is equivalent to 15% of biomethane in gas grids in 2030.**
- The introduction of the green certificate mechanism starting in 2026 will enable **the emergence of large-scale installations in France.** Until now, **biomethane production has been driven by the on-farm digestion model, which involves small to medium scale installations.**



Aid schemes for biomethane production

Since the cost of producing biomethane is significantly higher than the price of natural gas, the development of biomethane production requires financial support.

Natural gas price on the French markets have decreased up to 40 €/MWh in average in 2023. Therefore, the gap between biomethane production costs and natural gas prices increases, so does the feed-in tariff.

Feed-in tariff defined by decree, open counter (historical mechanism)

- ❑ State aid (national budget)
- ❑ Biomethane plants producing **less** than 25 GWh per year
- ❑ First tariff formula in 2011, tariffs adjusted several times (2020; 2021 and 2023)
- ❑ 15 years contracts

Feed-in tariff following a call for tender (from 2024 to 2026)

- ❑ State aid (national budget)
- ❑ Biomethane plants producing **more** than 25 GWh per year
- ❑ First call launched in 2023 for a cumulative production capacity of 500 GWh HHV/year.

Biomethane certificates (starting in 2026)

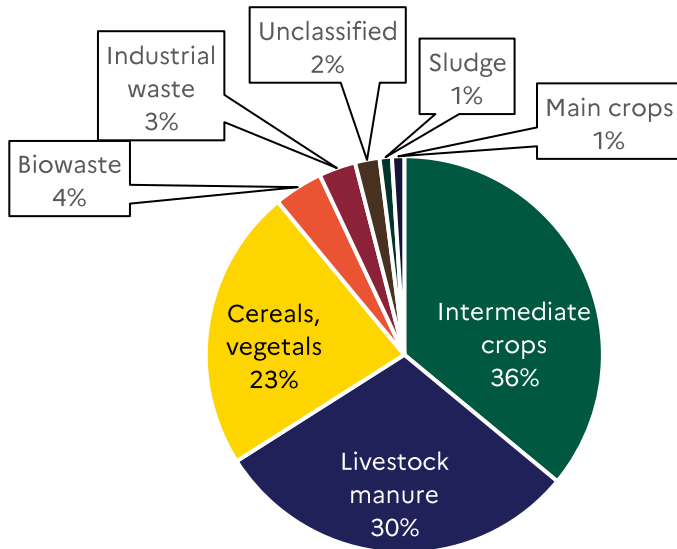
- ❑ **Incorporation system**
- ❑ Based on green certificate system
- ❑ Gas suppliers return certificates to French State according to their obligation based on the quantity of gas delivered to their customers
- ❑ **Final consumer pays the price of biomethane development**



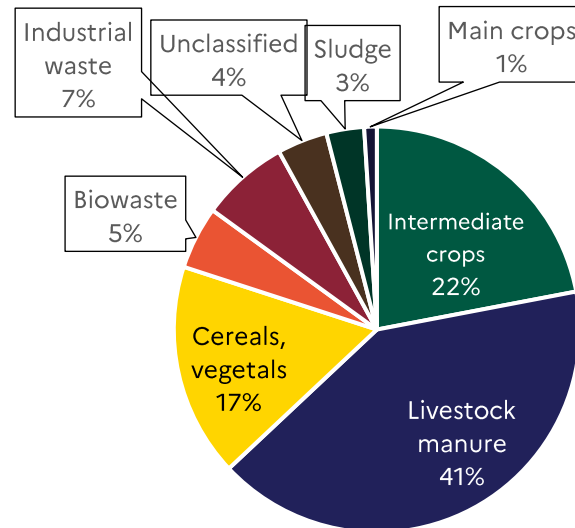
Substrates used for biomethane production

- ❑ Intermediate energy crops use is expected to grow next years. Livestock manure is also used for biomethane production, and a premium is given to producers under feed-in-tariff to compensate their difficult management. Organic waste are also used as substrates, to a lesser extent.
- ❑ Waste water is also used as a substrate in water treatment plants.
- ❑ Biomethane can also be produced from landfill gas.

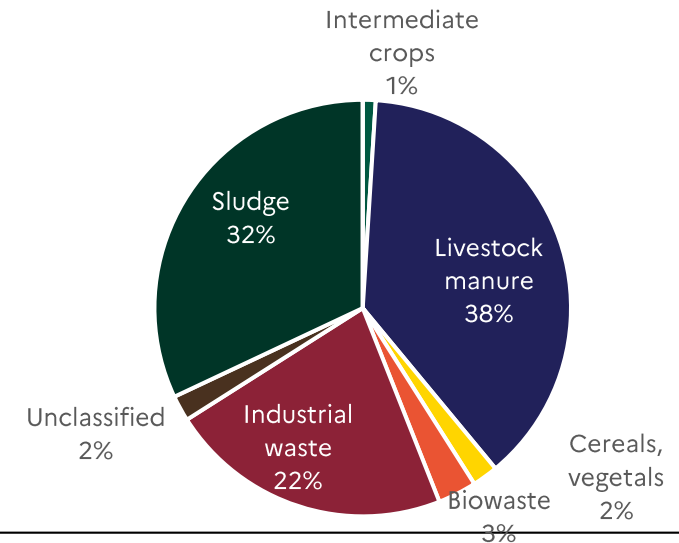
Agricultural plants, >90% substrates issued from the farm



Agricultural plants, >50% substrates issued from the farm



Industrial plants





Sustainability

- ❑ Renewable Energy Directive of the European Union (RED II) defines criteria for sustainability and greenhouse gas emissions to meet in order for a biomethane plant to be credited as sustainable

- ❑ Specific requirement to France, besides **sustainability** and **reduction of GHG emissions**:
 - Less than **15% in mass of main crops in input of biomethane plants**
 - ❖ In order to avoid competition with food production, France decided to define a threshold on main crops as a source for methanization

- ❑ Producers send RED II declarations to administration for each batch of biomethane produced
 - ➔ Proof of sustainability (PoS) are delivered if production meets sustainability and GHG requirements
 - ➔ **If production also meets requirements on biomass feedstock, French administration agrees to deliver feed-in tariff**



Guarantees of Origin (GOs)

- ❑ GOs have been implemented since the start of State support for biomethane production. For biomethane under State aid scheme :
 - Contracts signed **before 2020** : **gas suppliers** who signed biomethane purchase contracts can **ask for GOs emission to the issuing body on their account**. They have to refund the State up to 75% of the value they benefit from the GOs.
 - Contracts signed **after 2020** : **GOs belong to the State**. The issuing body put them to auction on behalf of the State.

 - ❑ **Some GOs can be used by industrial consumer in the EU-ETS to account for biomethane consumption.** In 2024, **42% of GOs emitted for biomethane under State aid scheme** can be used in the EU-ETS, under the condition to show the corresponding PoS. This percentage matches the share **of industrial consumers under the EU-ETS regulation in total consumption.**

 - ❑ For biomethane produced under the biomethane production certificate scheme (CPB), **a batch of biomethane will not result in a GO emission.** Biomethane certificates will include information that GOs usually carry.
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