



SEMPRE-BIO

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**SEcuring doMestic PRoduction of cost-Effective
BIOmethane**

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CETAQUA
CENTRO TECNOLÓGICO DEL AGUA



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Pioneering public-private partnership model

Main activities

1. R&D



Water resource management



Environmental, economic and social sustainability



Critical infrastructure management and resilience



Water 4.0



Biofactory and resource recovery

2. KNOWLEDGE -BASED SERVICES



3. DIGITAL SERVICES





SEMPRE-BIO at glance

Goals

1. Demonstrate novel and cost-effective biomethane production solutions and pathways.
1. Increase the market up-take of biomethane related technologies.
1. Support circular economy.
1. Reduce dependence on fossil fuels.

Numbers

42
Months



16
Partners



6
Countries

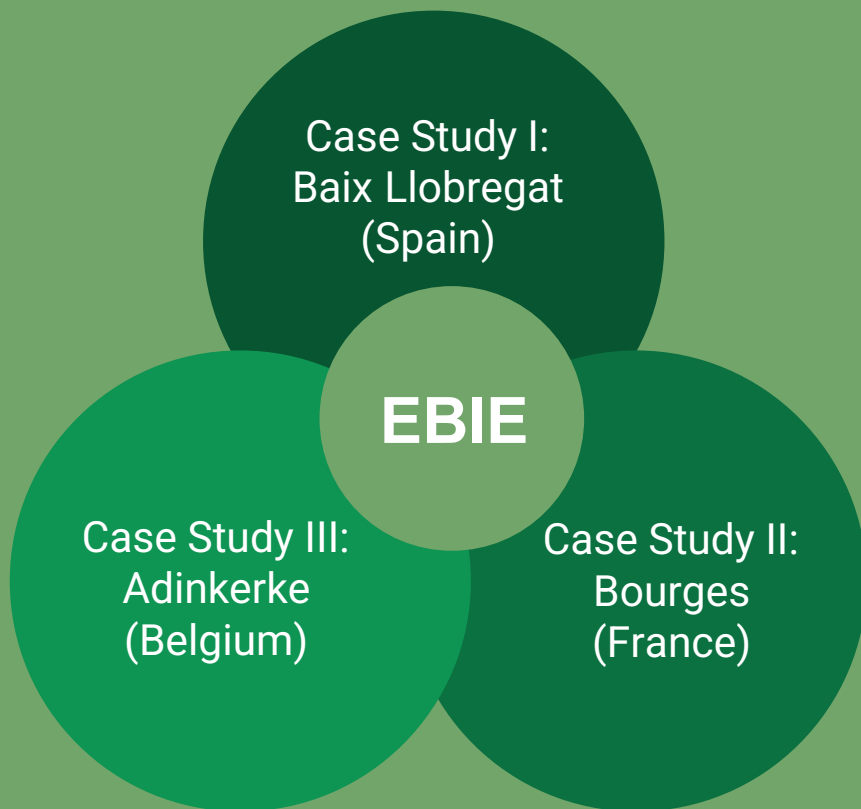


9.9M
Funding



Locations





European Biomethane Innovation Ecosystem





Case Study I: Baix Llobregat (Spain)



Feedstock

Technology

Site

Final use of biomethane

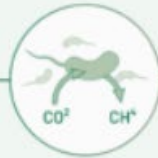
Wastewater

CO₂
Biomethanation

Electrolysis

Case Study 1:
El Prat de Llobregat (ES)

Compression to CNG
for public transportation





Case Study 2: Bourges (France)



Feedstock

Green waste from the city of Bourges



Technology

Pyrolysis



CO
Methanation



Site

Case Study 2:
Bourges (FR)



Final use of biomethane

Grid injection





Case Study 3: Adinkerke (Belgium)



Feedstock

Cattle manure and organic biological waste as co-substrate



Technology

Cryo separation



Site

Case Study 3: TBD (BE)



Final use of biomethane

Stored locally





Work packages

WP4 – Advanced technologies for efficient valorization of CO₂ from biomethane streams

WP2 – Biomethane Production Technologies for Greenfield Scenarios

WP3 – Integrating Biomethane Upgrading Technology in Downscaling and Retrofitting Scenarios

WP5 – Economic Assessment & Market Uptake

WP6 – Connect, Communicate, Exploit, Replicate

WP7 – Project Management

WP1 – European Biomethane Innovation Ecosystems





SEMPRE-BIO Activities

Nov. 2022



Kickoff Meeting

Barcelona, ES.

Mar. 2023



Workshop WP5

París, FR.

May. 2023



Ist General Assembly

Online meeting.

Nov. 15th 2023



Ist Webinar

Barcelona, ES.

Evento híbrido

Nov. 2023



2nd General Assembly

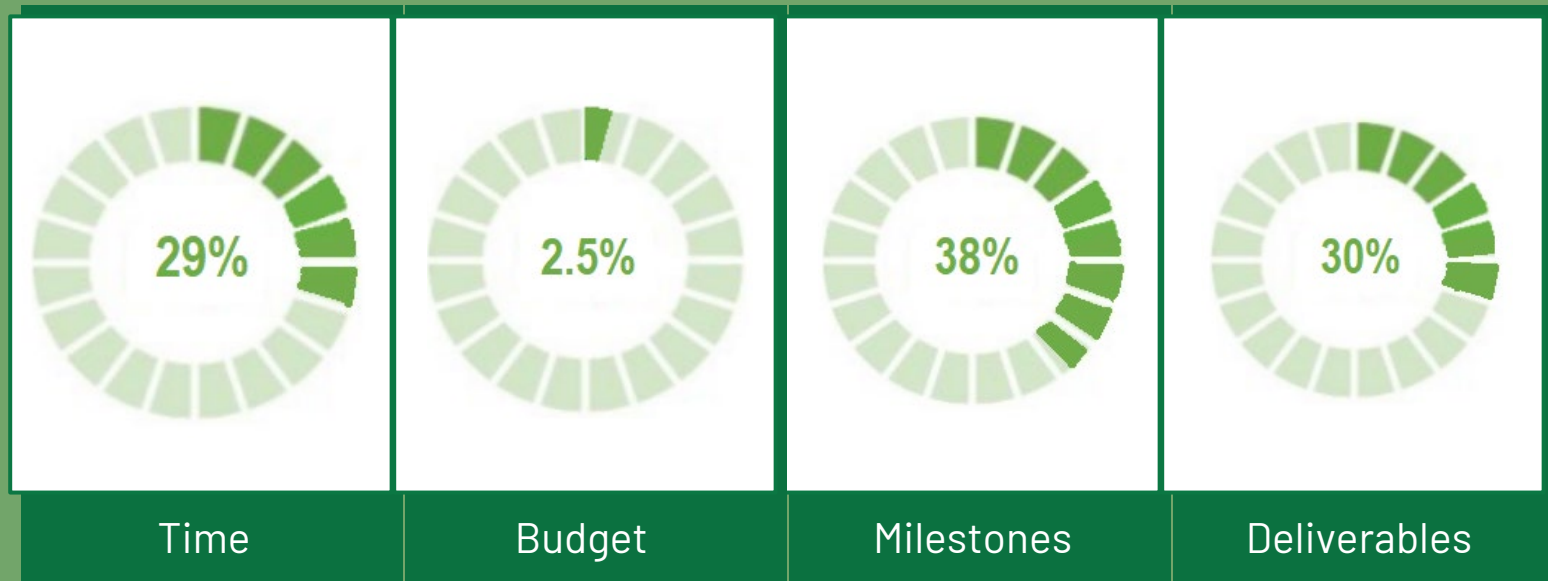
Leipzig, DEU.



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SEMPRE-BIO Advance





Expected outcomes



- 01** Increase the cost-effectiveness of conversion in biomethane production.
- 02** Diversify conversion technologies for biomethane.
- 03** Contribute to the acceptance of biomethane technologies in the gas market.
- 04** Contribute to the demonstration on a semi-industrial scale of new conversion technologies to produce biomethane from wastewater, wood biomass and manure.





Expected impacts



Biomethane as a substitute for imported LNG.



Biomethane as a fuel substitute in transportation.



Reduction of CO₂ by 213 million tons/year by 2050.



Diversify energy sources and new routes.



Reduce the need for strategic reserves.



Smaller extension of critical infrastructure to protect.





¡Thank you for your attention!

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