



Connecter les énergies d'avenir



## European Energy Forum

“EU Green Deal: gas infrastructure as an energy carrier on the road to 2050”

European Parliament

12th November 2019

# The future role of gas infrastructure



Agence de l'Environnement  
et de la Maîtrise de l'Énergie

A theoretical potential of **460 TWh of renewable gas could cover the gas demand in France** in full in 2050 according to all the scenarios constituted of :

- Methanisation (30% of the resource);
- Thermal gasification (40%);
- Power-to-gas (30%).

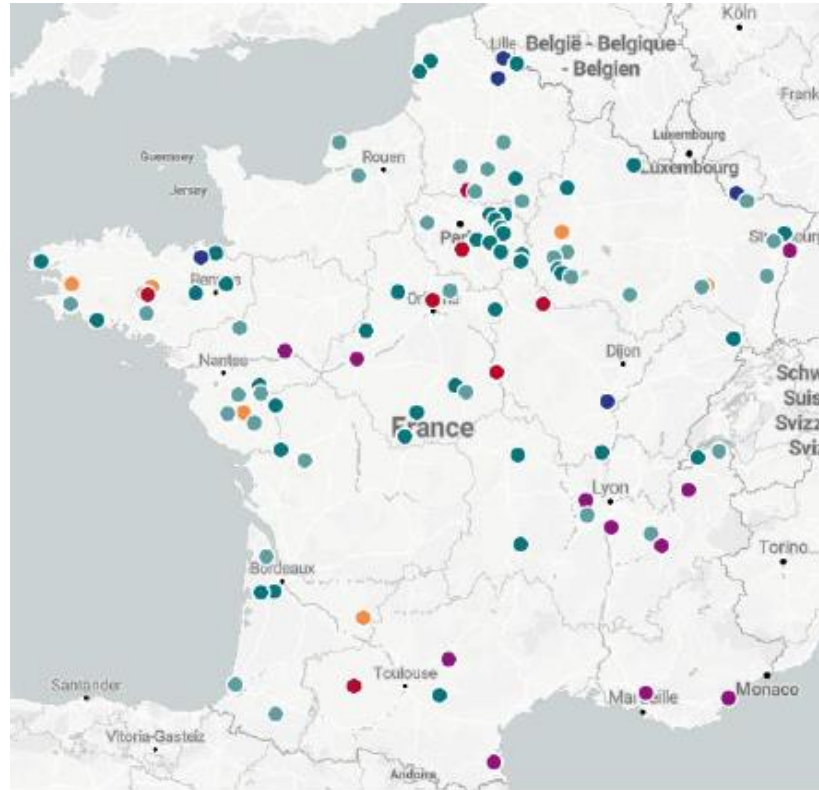


NAVIGANT

Using around **2900 TWh or approximately 270 billion cubic metres** (natural gas equivalent) of green hydrogen and renewable methane through existing gas infrastructure across the EU **saves society €217 billion annually by 2050** compared to an energy system using a minimal amount of gas.

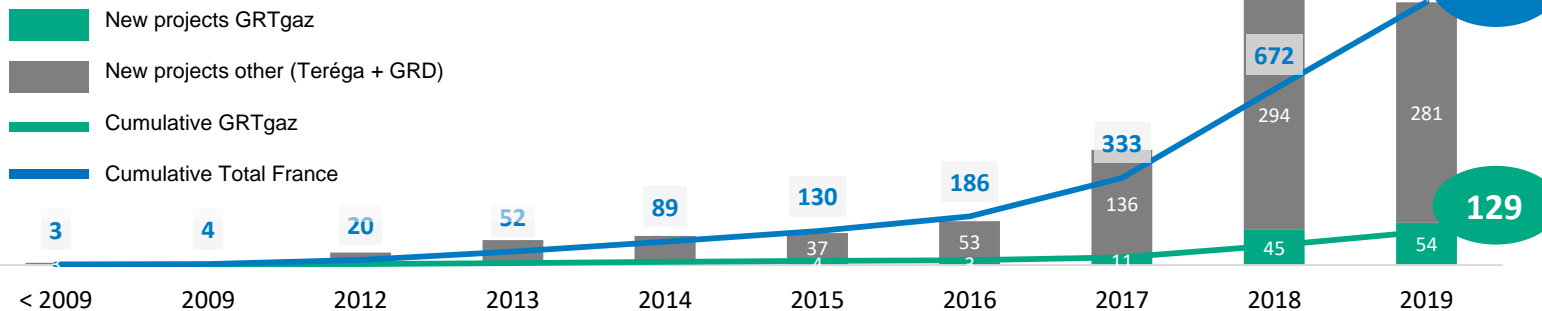
# 107 biomethane injection sites already connected

## More than 1000 projects in capacity management register



- 76 agricultural
  - 44 "autonomous" type
  - 32 "territorial" type
- 5 household waste
- 7 non hazardous waste
- 7 industrial
- 12 treatment plants

Number of projects in capacity management register



Declared capacities  
21,4 TWh

**+ Different technologies available to contribute towards achieving 2050 objectives**



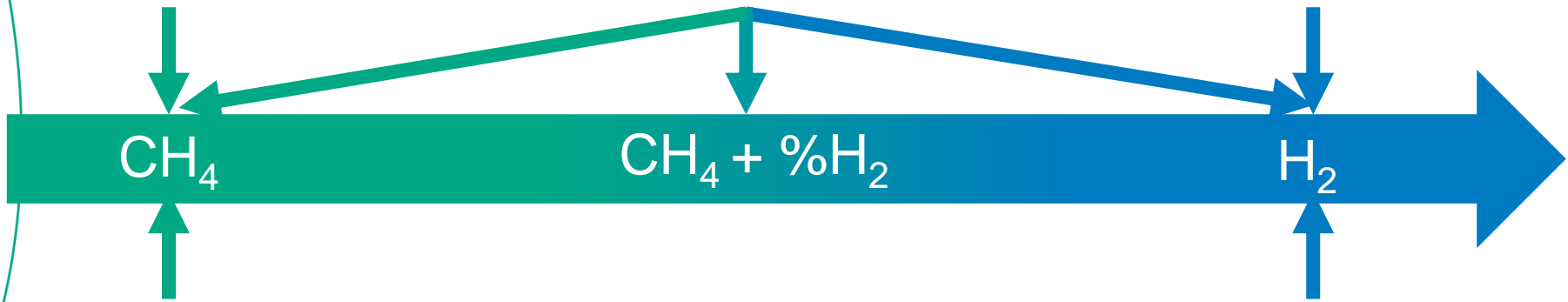
**Methanisation**



**Thermal gasification**



**Electrolysis /  
power to gas**



**Hydrothermal  
gasification**



**Methane pyrolysis  
Or SMR + CCS**

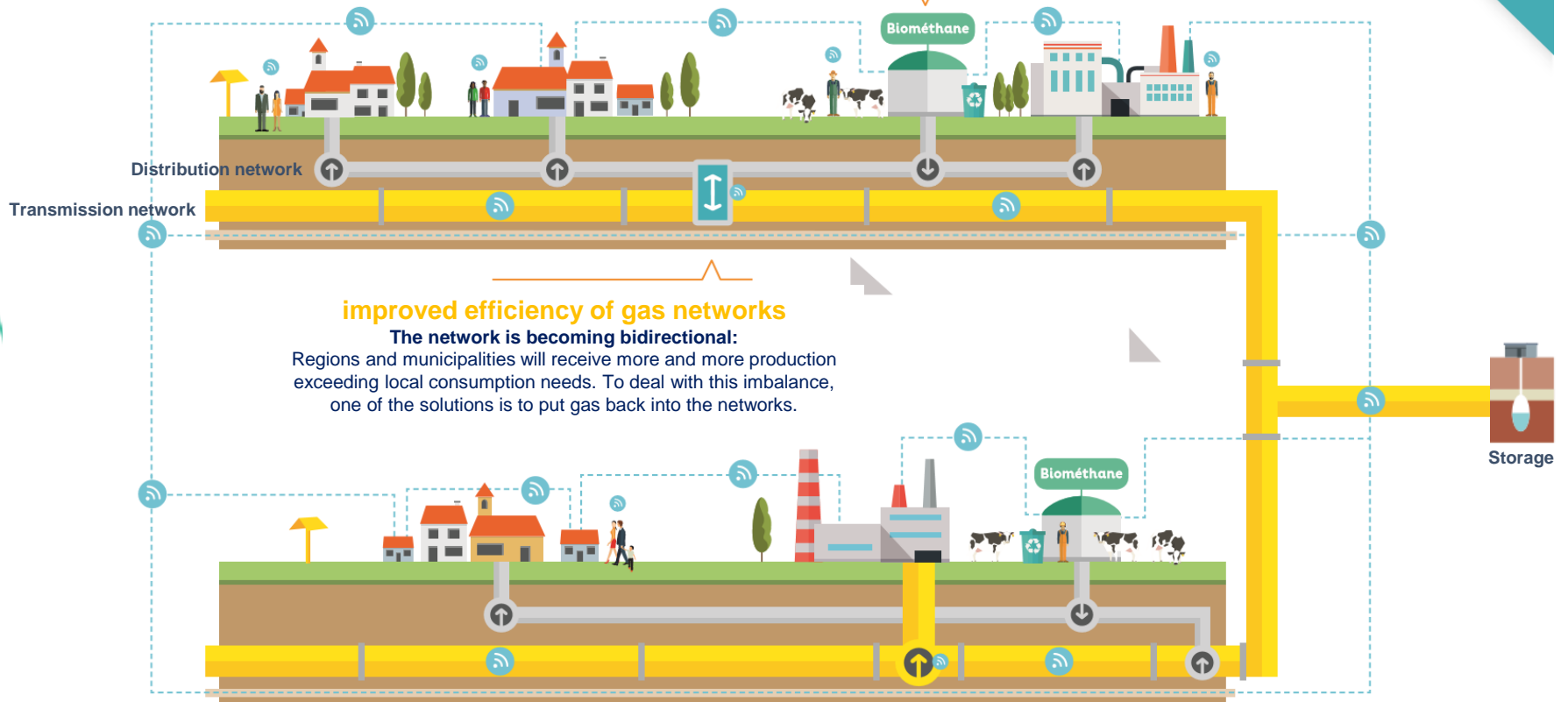


# The gas system of tomorrow

The **West Grid Synergy** project is a leading demonstrator that enables regions and territories to become “**SMART**”

## via the insertion of renewable energies

**Biomethane:** the fermentation of organic matter produces a fertiliser, digestate, and biogas of which only methane is preserved to obtain biomethane. This can be injected into the gas grid.



## improved efficiency of gas networks

**The network is becoming bidirectional:**

Regions and municipalities will receive more and more production exceeding local consumption needs. To deal with this imbalance, one of the solutions is to put gas back into the networks.

## the integration of digital

**Stakeholders are more connected:** data sharing and new digital technologies enable players to better control their activities: connected maintenance, remote control, open data, intelligent sensors, etc.

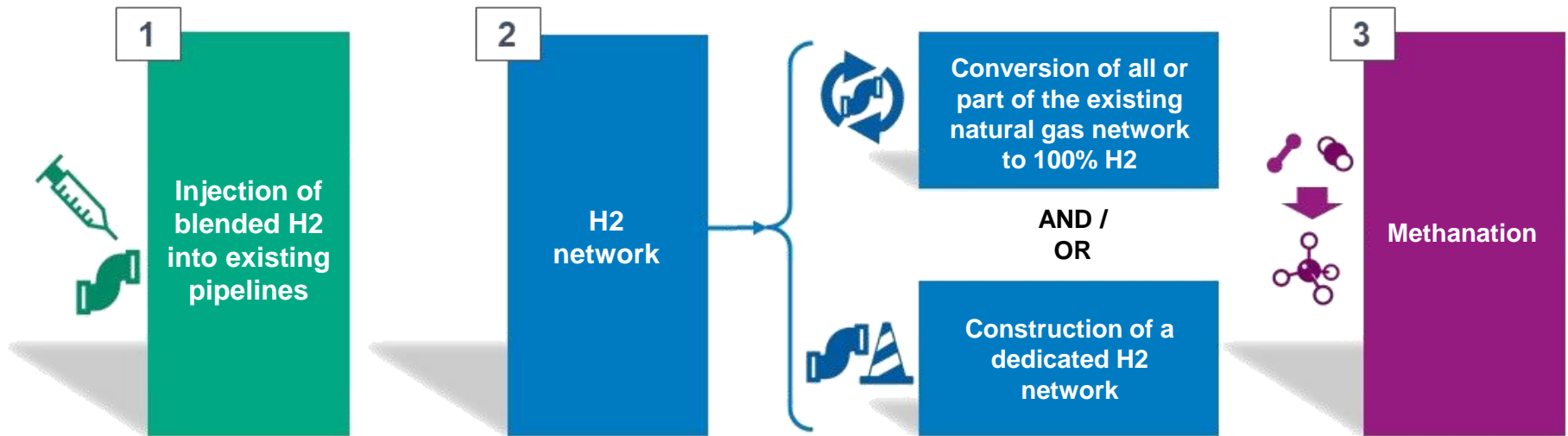




# Considerations for the development of hydrogen and sector coupling

Coupling the electricity and gas sector is important for deep decarbonisation and can ensure security of supply and affordability. **Power to gas technologies are at the heart of sector coupling.**

- To achieve maximum economic benefit of sector coupling the following requirements need to be met:
  - **Right scale:** large dimension to relieve electricity grid effectively.
  - **Right place:** location between gas and electricity transmission systems before congestion and to avoid future grid expansion.
  - **Right time:** installations must run when needed for system integrity (and may run when requested by the market).
  - **Right legislation:** ensure in legislation that therefore conversion units or storage units are not end-users of electricity or gas. Therefore, end-user taxation and levies shall be excluded.





# Connecting the Energy of Tomorrow

## Key policy asks:

- Green gas projects should contribute towards achieving the 2030 renewable target.
- Specific and transparent Guarantees of Origin (GoO) / certification process that enables cross-border and cross-energy trading of green energy.
- An EU wide basis for the injection of H2 into the gas grid should be a priority to ensure a level playing field amongst renewable technologies.
- Criteria for Projects of Common Interest (PCI) should value sector coupling projects, contribution to decarbonisation and efforts towards making cost-efficiencies.
- Ten Year Network Development Plans (TYNDPs) for gas and electricity ought to be fully aligned and coordinated to ensure cross-sectoral optimisation of investments and cost-efficiency.
- EU finance should be geared towards projects that will contribute towards achieving energy and ecological transition.
- EU Taxonomy for sustainable investments should enable investments in green gases.
- A carbon border adjustment mechanism for imports emanating from countries that do not tax their domestic emissions.
- EU LNG strategy should be revised to take into account the role of bio-LNG and hydrogen.



Connecting the energy of tomorrow

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