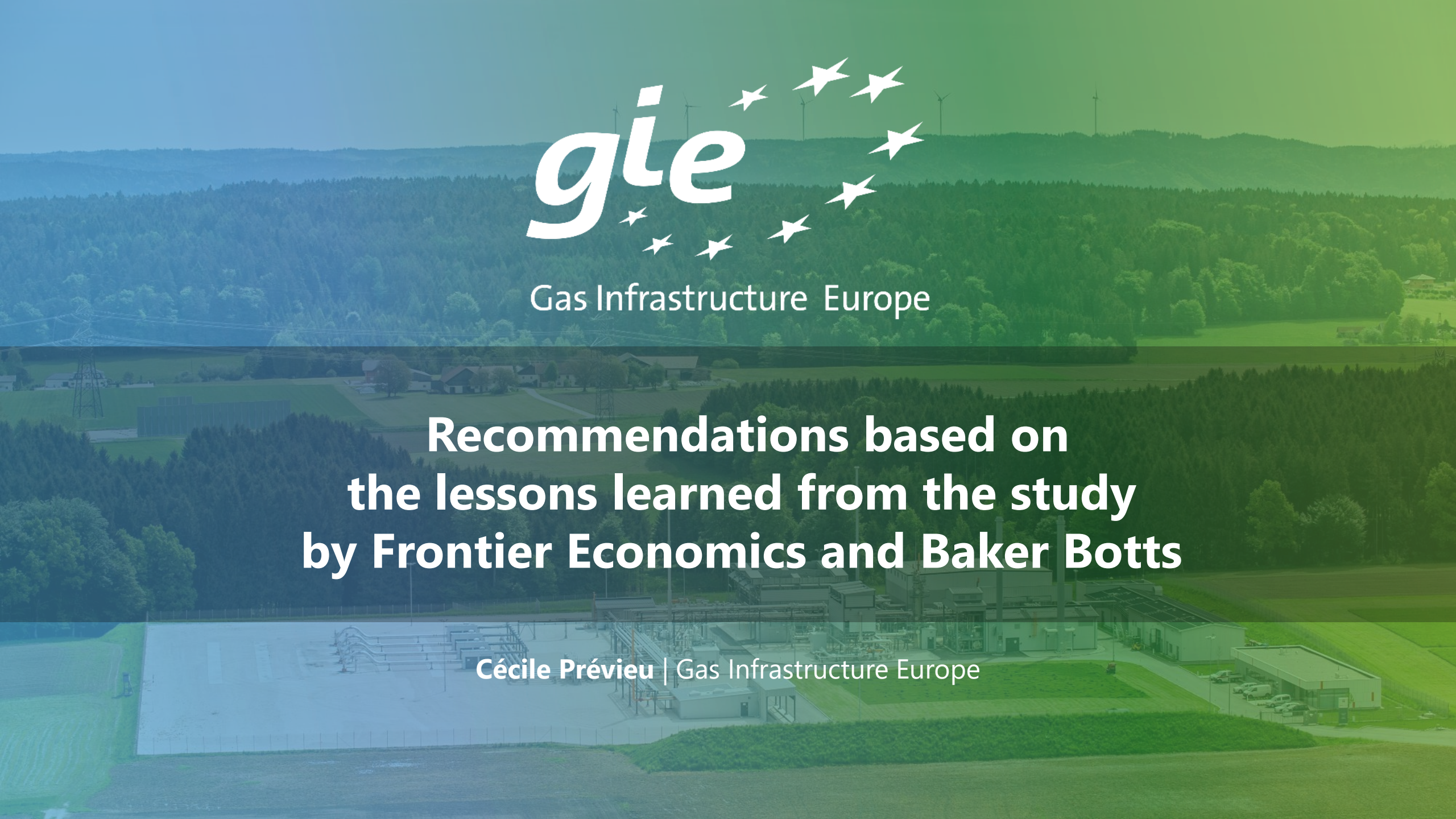


Gas Infrastructure Europe

Recommendations based on the lessons learned from the study by Frontier Economics and Baker Botts

Cécile Prévieu | Gas Infrastructure Europe

Setting the scene of the study

Inputs for Madrid Fora
(2017 – 2020)

Quantitative
studies

Result
- Risk of **gas demand curtailment**

Result
- Risk of **electricity demand curtailment**
- Value of gas storage (*avoided elec capacity cost*)

2017 **Gas storage market failures**

2018 **Sensitivity analysis on storage reduction**

2018 **Measures for a sustainable gas storage market**

2019 **Sensitivity analysis on storage reduction**

2020 **Elaborating concrete European legislative proposals on gas storage**

Qualitative
studies

Result
- **Storage market not sustainable** under stress conditions
- while generating positive **social benefits**

Result
- Market-based measures
- **along with** measures to **internalize** the system and insurance values

Result
- **Lessons learned** from the electricity sector

Our recommendations

Market-based cross-sectoral regulatory interventions to enhance energy system integration through the flexibility provided by gas storage

1. Ensuring better coordinated network planning (including electricity, gas, hydrogen infrastructures and storage)

2. Providing regulatory incentives to avoid increasing electricity capacity costs

3. In case of residual gas storage market failures - **Government interventions**

1st recommendation

Ensuring better coordinated network planning (including electricity, gas, hydrogen infrastructures and storage)

Assessment of **the avoided capacity costs** generated by storage

- Avoided **operational** capacity costs = more expensive generation units to generate more electricity
- Avoided **investments** capacity costs = forcing additional investments in alternative flexibility solutions to be built and operated

Unnecessary additional capacity cost

- **Generation** *(generation power plants) (*)*
- **Transmission** *(electric lines)*

To be combined **with incentives to achieve system cost savings** in cross-sectoral tariff setting procedures

Main benefits

- Preventing **unnecessary investments** in electricity from materialising
- Avoiding **any risks of security of supply** (cross-sectoral impacts) from materializing while accelerating RES penetration

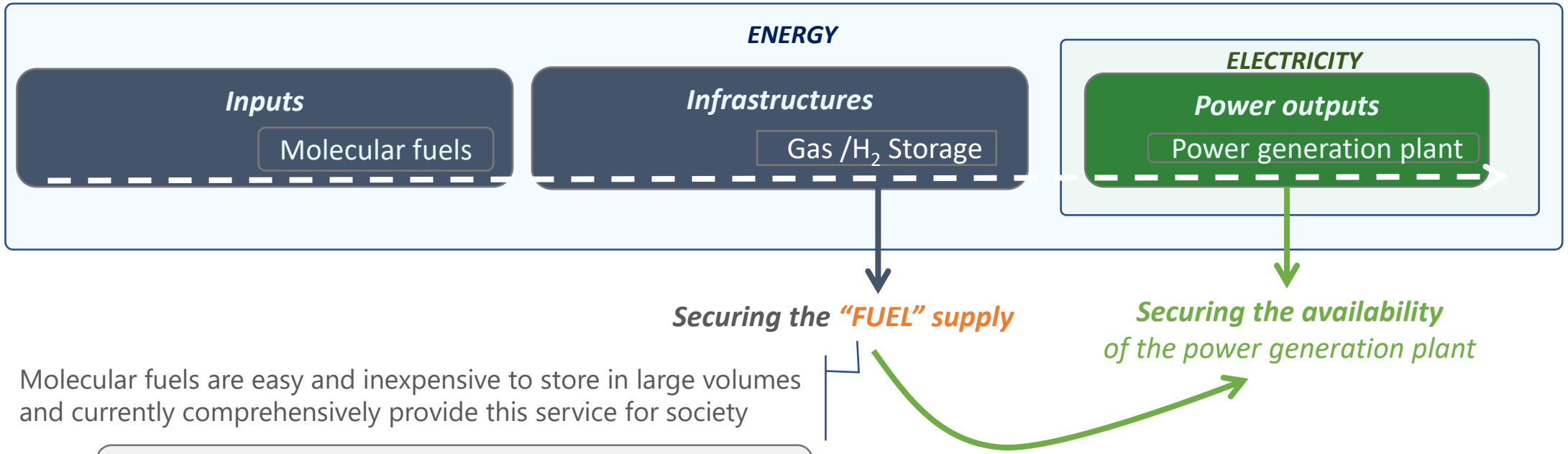
(*) GIE 2019 (Artelys study)

2nd recommendation

Providing regulatory incentives to avoid increasing electricity capacity costs: the regulatory framework must reflect security of fuel supplies in electricity generation

Helicopter view >
Having the ***benefits generated*** by storage ***integrated in*** the value chain

from an electricity system perspective



Molecular fuels are easy and inexpensive to store in large volumes and currently comprehensively provide this service for society

Today	**Tomorrow**
By storing gas	By storing zero carbon energy from RES

3rd recommendation

In case of residual gas storage market failures, government interventions as further measures could be required to secure a reliable energy system.

Dynamic regulation:

- Adequacy of supply in gas **not solely to be borne by "gas" consumers**

Thank you for joining us.

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