 Presented scope

✓ Relevance of securitization, along with its diversification & path-dependency narratives, for a progressively decentralized energy system [electrification + in-sourced green gases.]

✓ Relevance of this energy system context for the rule-based market approach of the EU’s external energy policy.
PRESENTATION OUTLINE

**Literature Review:** SoS in the CH4 system + SoS in the hybrid energy system.

**Question No. 1:** What drives argumentation about the shift from securitization to decarbonization?

**Question No. 2:** Do energy system integration & sector coupling leave SoS out of the picture?

**Question No. 3:** How will the EU's external energy policy shape up in a system comprising electrons + clean/multicolored molecules?
LITERATURE REVIEW – SoS IN THE CH4 SYSTEM

- **Lisbon Treaty**: Link between SoS, competitiveness & sustainability.

- **Reg (EU) 2017/1938 (security of gas supply regulation)**: Supply diversification as a tool against supply disruptions.

- **Renou-Maissant (2012)**: Significant gas market integration, particularly in Western Europe, following the three gas directives.

- **Eurostat (2020)**: Scant domestic production & 89.5% EU gas dependency in 2019.
LITERATURE REVIEW – SoS IN THE CH4 SYSTEM

- **IEA (2019):** 75% of gas consumed within a competitive & liquid EU market, flexible for cross-border supply redirection thanks to bi-directional capacity.

- **ENTSOG (2020) & Artelys (2020):** Resilience of the EU’s CH4 system vs various supply disruption and demand scenarios up to 2030.

- **Seliverstov (2009):** Security of Supply in the EU vs Security of Demand in third-country suppliers + vertical integration vs competitive market model.

→ Issue of path-dependency (Wirl & Yegorov 2008) regarding EU reliance on fossil fuel flows from third countries.

 Sufficiency of the EU’s existing gas infrastructure to meet gas demand in both an on-track and high-demand scenario in 2030, under normal market conditions. Source: Artelys.
**LITERATURE REVIEW – SoS IN THE HYBRID ENERGY SYSTEM**

- **EC H2 Strategy**: Role of infrastructure (cyclical or seasonal storage, e.g. salt caverns) as enabler of SoS, flexible operation of electrolyzers & cross-border trade in an open, competitive and liquid market.

- **ACER Bridge Beyond 2025**: SoS benefits from a technology-neutral, level-playing field between different conversion & storage facilities.

- **ENTSOG 2050 Roadmap**: SoS + resilience from infrastructure synergies & efficiencies between electricity & gas – regulatory sandboxes to kick-start innovation.

- **Liakopoulou (2021)**: GOOs + CBAM as “security valves” safeguarding sustainability of imports of green gases from third countries.

*Source: ENTSOG, 32nd Madrid Forum*
Q1: WHAT DRIVES ARGUMENTATION ABOUT THE TRANSITION FROM SECURITIZATION TO DECARBONIZATION?

- **Energy system decentralization** due to the localized/sectoral feature of biogas/biomethane & H2 technologies (see localized/small-scale production of biogas/biomethane & industrial H2 clusters).

- **Limited access** of many countries to reservoirs & places to store CO2 regarding H2 deployment with CCS.

- The range of pending regulatory and national governance issues.

- The uncertainty over the decline in unabated gas demand & uncertainty over the future market shares of the different green gases.

- The intra-EU pluralism of views about the optimum speed of the energy transition combined with the uneven gas market integration in geographical zones like SEE & CEE (less developed & resilient transmission system than in Western Europe + coal-gas substitution at least by 2030).
Calling on the EC to elaborate and operationalize its H2 Strategy, the Council sees an opportunity to enhance the EU’s energy security by lessening import dependency and by diversifying import options.

- This ties in with Hydrogen Europe’s 2X40GW initiative (also identified in the H2 Strategy under the “Eastern & Southern Neighborhood” umbrella.)

- Diverse H2 import-corridors from third countries abundant in RES, such as offshore wind in the North and solar PV in the South, facilitate energy system integration.

- A single EU market in green gases, supported by cross-border trade & scaled-up imports, would reduce interstate price spreads, considering varying costs of production of green gases & RES development.
Q2: DO ENERGY SYSTEM INTEGRATION & SECTOR COUPLING LEAVE SoS OUT OF THE PICTURE?

THREE CATEGORIES OF EXTERNAL SUPPLIERS TO THE EU

**CATEGORY 1**
Key quantitatively & strategically gas suppliers to Europe.

→ Regional concentration of pipeline trade in green gases via retrofitted CH4 infra.

**CATEGORY 2**
Traditional oil & gas transit states to the EU.

→ From transit states to exporters of biomethane and/or H2 (see European H2 Backbone).

**CATEGORY 3**
Newly emergent suppliers.

→ North Africa, incl., but not limited to Algeria, for green H2 & Mediterranean H2 hubs (e.g. Morocco) + shipping partners (e.g. Australia).
Q3: HOW WILL THE EU’S EXTERNAL ENERGY POLICY SHAPE UP IN AN ELECTRONS/CLEAN MOLECULES SYSTEM?

**SCENARIO 1**

- If the EU assumes **technological leadership** in the production of renewable energy & green gases, it becomes **largely self-sufficient & less prone to supply disruptions**.

- **Geopolitical competition** will focus on **production**, rather than **access** to energy (e.g. with China over electrolyzer manufacturing, or the US over innovation and affordability of green H2 production).

- **Path-dependencies** may solely concern **imports of vital minerals and metals** required for battery manufacturing.
Insofar as third-country imports of biogas/biomethane & H2 remain on the table, the "security of supply" vs "security of demand" conundrum persists.

For this reason, the post-Lisbon guiding principles improving the security of the EU's external energy supplies are of value:

- Import diversification by product and country;
- Promotion of transparency & enhanced governance in the energy sector through partnerships with third countries to create predictability for bi- & multi-lateral investment and trade.
Thus, the EU will likely keep on acting according to its *rule-based market approach* (Council 2011) → extension of the *energy acquis* to third-country energy partners.

This approach encapsulates the EU’s profile in the international relations system as *market power*, trying to shape the energy regulatory space beyond its borders, & *normative power*, interrelating energy diplomacy with normative aims, incl. the fight against climate change.

The EU can be a *norm- and standard-setter on ESI*, for instance, through the proposed *benchmark for euro-denominated transactions in H2*, which would consolidate the *role of the euro in sustainable energy trade*.
Preliminarily, given the ongoing technological development of green gases and the sketchy mapping of coalitions the EU can presently form with external suppliers, of value would be soft law instruments (e.g. MoUs) & hybrid governance formats, involving the Energy Commissioner, the High-Representative flanked by the Council Presidency (e.g. EU-US Energy Council).

In the medium-to-long term formal procedure of Article 218 TFEU could be followed, in which case the European Parliament would also be involved and the ethical dimension of the EU’s external action would be considered.

Given M-S’ Treaty-based freedom of choice on their energy supply, incl. extra-EU imports & associated infra, applicability on dedicated or repurposed infrastructure for green gases of Decision (EU) 2017/684, enabling the EC to assess the impact of M-S’ IGAs with third countries on the internal energy market and the Union’s supply security?
THANK YOU

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