

# MAINTAINING SECURITY OF SUPPLY WHILE DECARBONIZING OUR INFRASTRUCTURE WITH RENEWABLE AND LOW-CARBON GASES



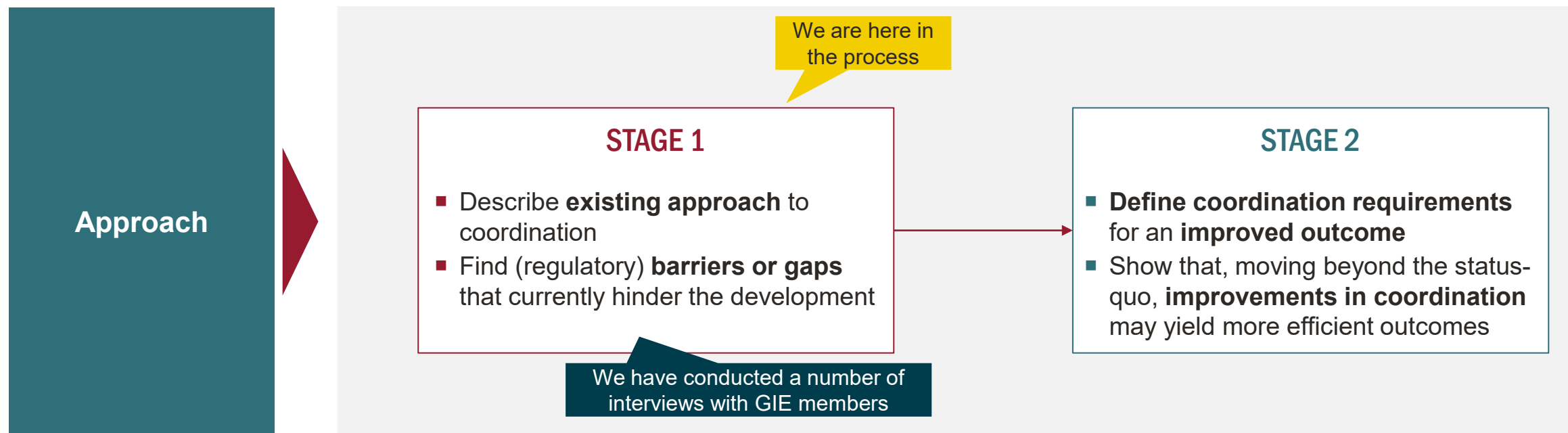
Presentation for the GIE annual  
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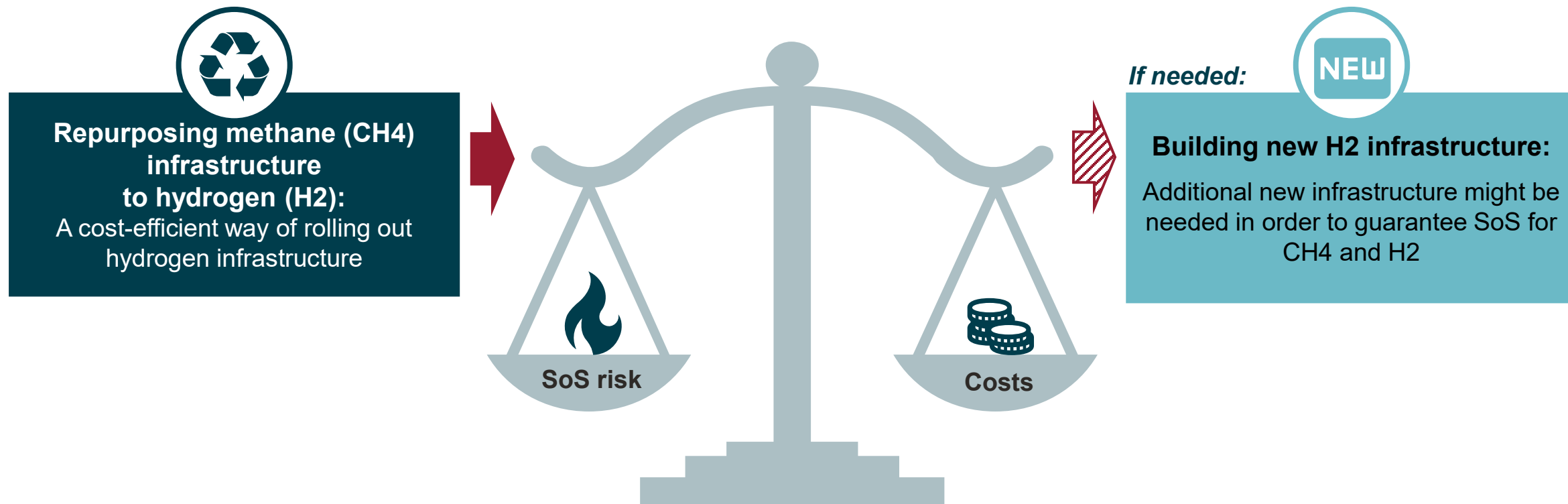


# Objective and status of the study

Present possible answers to the question how infrastructure operators (TSO, SSO, LSO) may – via **coordination - integrate more renewable/low-carbon gas** in a cost-efficient way **while maintaining security of supply** (in the gas system)

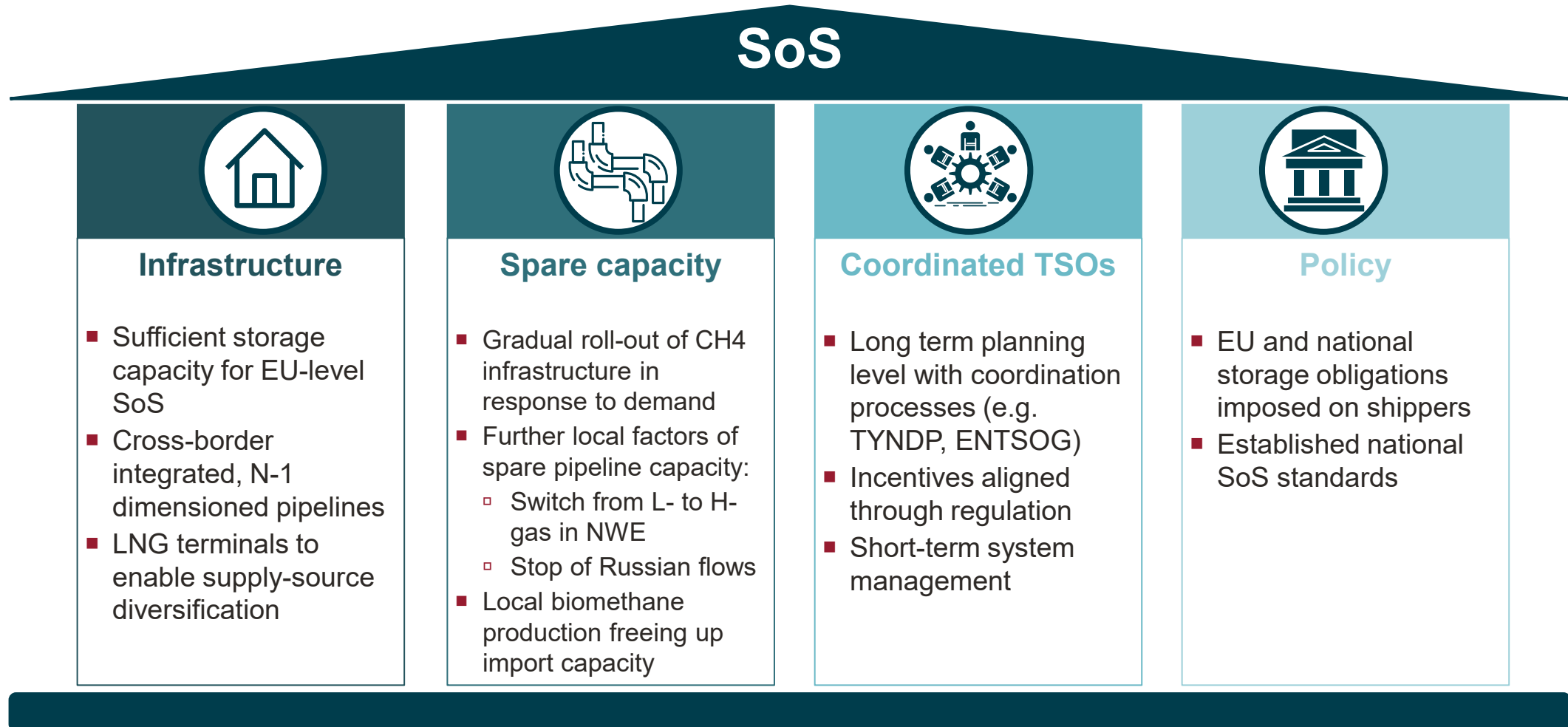


# Rolling-out hydrogen infrastructure requires a balance between cost-efficiency and security of supply...



... and effective cross-border coordination will need to strike the right balance in the transition.

# Security of supply is robust in the natural gas system thanks to a range of pillars...



...some of which are being leveraged to initiate H2 infrastructure developments

# There will nonetheless be challenges to manage a cost effective transition and ensure SoS

## Challenges identified for an effective transition



### Cross-vector coordination

- Aligning visions across vectors (CH<sub>4</sub>, H<sub>2</sub>, elec.) to enable transition (heating mix, PtG location)
- Biomethane potentially competing for infrastructure (at least in regions with little spare capacity)
- Transferring know-how between CH<sub>4</sub> and H<sub>2</sub>



### Cross-border coordination

- Considering SoS on cross-border routes when defining the optimal level and timing of repurposing
- EU intervention solely focused on cross-border angles incompatible with need of consistency in corridor roll-out



### (Re)-defining SoS

- Time and location of H<sub>2</sub> demand and supply differ from CH<sub>4</sub> – degree of concentration too
- Sector coupling complexifies SoS (standards, options to achieve them, rewards)
- Shipper roles likely change
- Logistical options to manage the last customers



### New governance for hydrogen

- Not all NRAs have a mandate and lack of clarity on future development of mandate
- Integration of new hydrogen players (producers, users, infrastructure operators) into the existing energy world

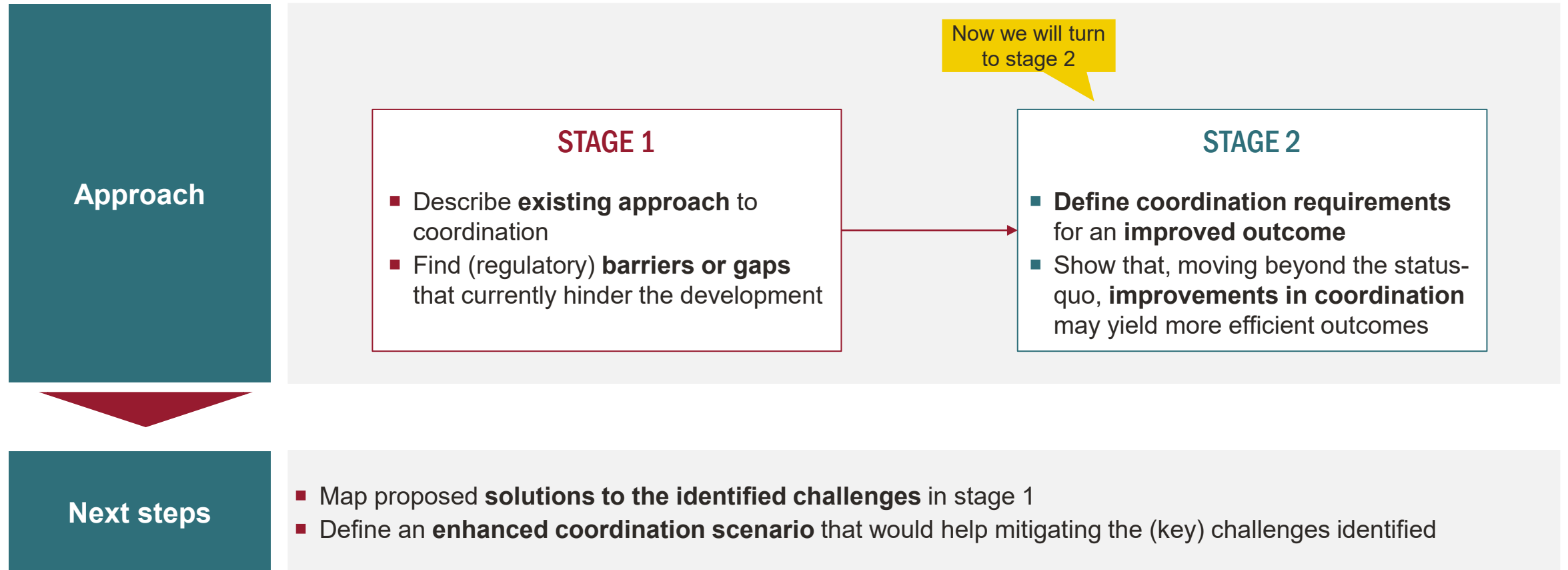


### Aligning incentives to repurpose

- Piecemeal subsidies drive heterogenous financial attractiveness along corridors
- TSO/SSO incentives driven by national regulation (existing and to be created e.g. asset transfer values and horizontal unbundling)
- Challenges exacerbated by long lead-times

...which are likely to become more prominent as the H<sub>2</sub> market ramps up

# Next steps of the project



# Thank you!



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