

Fifth International Forum on Long-Term Energy Scenarios (LTES) for the Clean Energy Transition

Session 9: Integrating Hydrogen Development into LTES: Addressing Key Policy Questions

1. Description

Hydrogen, as an energy source, has emerged as a key element in the global energy transition. Governments worldwide are increasingly integrating hydrogen into their Long-Term Energy Scenarios (LTES), recognizing its potential as both a domestic energy resource and a potential export commodity.

LTES play a crucial role in guiding policy decisions, enabling governments to explore different pathways for hydrogen development, assess the potential impacts and design adaptive policies that support hydrogen's integration into the energy mix.

As countries work to meet their climate and transition targets, alongside sustainable development goals, the role of hydrogen has become more relevant. Its versatility—ranging from use in heavy industry, heavy duty transport, power generation and long duration energy storage—makes it a critical component of energy planning. However, the development and integration of hydrogen into national energy frameworks also introduces significant challenges, such as aligning hydrogen strategies with existing policies, ensuring technological readiness, securing investments, and creating a conducive regulatory environment.

This session will provide a platform for governmental energy planners to discuss and share best practices on how these different policy decisions have been featured in their LTES.

2. Objective

This session will provide a comprehensive overview of the role of hydrogen in Long-Term Energy Scenarios (LTES) and its implications for national energy planning. This session aims to achieve the following objectives:

- i. Discuss how hydrogen development can be aligned with broader national and international energy and climate goals.
- ii. Explore key policy questions related to hydrogen development within energy planning.

3. Expected outcomes

During this session, participants will get a deeper understanding of how to integrate hydrogen development into national LTES, as well as insights and strategies for addressing key policy challenges for advancing hydrogen adoption in scenarios.

4. Proposed Agenda (90 minutes)

Time	Content
5 min	Welcome remarks and introduction Moderator: James Walker, IRENA
7 mins	Scene-setting presentation (5-6 slides) <ul style="list-style-type: none"> Francisco Domenech Guzman, Chile
7 mins	Scene-setting presentation (5-6 slides) Presenter: <ul style="list-style-type: none"> Jessica Arias Gaviria, Colombia
7 mins	Scene-setting (5-6 slides) Presenter: <ul style="list-style-type: none"> Florian Knobloch, Germany
50 mins	Panel discussion (see section 5) Panellists: <ul style="list-style-type: none"> Francisco Domenech Guzman, Chile Jessica Arias Gaviria, Colombia Florian Knobloch, Germany
15 mins	Q&A
4 mins	Closing remarks

5. Suggested guiding questions

- What are the key hydrogen-related challenges – or opportunities - you're addressing in the planning process?
- How are you coordinating with different institutions and developers to represent hydrogen in your scenarios, ensure alignment, and manage the integration of hydrogen across different sectors?
- How are you prioritizing hydrogen export opportunities, targeting international markets, and ensuring alignment with global demand alongside considering the best way to address the decarbonisation of hard to abate sectors in your domestic energy systems? How are you coordinating with the power and gas regulators and planning for the integration of hydrogen-related infrastructure?

- What hydrogen-related commodities (e.g., green hydrogen, ammonia, methanol) are you focusing on, and what factors influence your choice and prioritization of these commodities?
- How does your hydrogen strategy align with national and international development, energy and climate targets?