



Pathways to Sustainable Energy

Gas in sustainable energy systems

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Role of Gas in Sustainable Energy



- **The core issue:** How to balance the requirements both to develop sustainable energy and also to combat climate change. Their pathways are not identical, with much depending on the financial costs of specific measures and approaches.
- **The core question for gas:** How to develop a strategy that embraces a requirement to rely on gas for the next ten or fifteen years, and possibly increase the use of gas in such a timeframe, with a requirement to reduce gas use thereafter in order to attain such targets as the EU's goal of 80-95% carbon emission reduction by 2050. In sum, how to avert the possibility of stranded infrastructure.

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ENERGY



- How do the **UNECE region** and its sub-regional **elements balance SOx emission reductions and CO₂ reductions?**
- For how long will gas be the **dominant fuel for power?**
- For how long will gas be the **dominant fuel for heat?**

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Technological and commercial:

- How quickly can the power sector decarbonise?
- Can decarbonisation of the power sector serve as a driver for other sectors?
- What kind of timeframe for cost-effective carbon sequestration and storage?
- What do we know regarding new technologies for hydrogen from methane cracking?
- What's the relationship between methane emissions and renewable gases?
- What are the stocks for biomethane? Are there constraints for prospective European producers?
- What is the role of LNG as a transportation fuel, notably in marine transport? Might shipowners consider moving from oil to batteries, without retrofitting for LNG or ordering new LNG vessels?

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Regional and Governmental:

- Does the EU need to intensify/accelerate its efforts to meet its 2050 target of reducing CO₂ emission levels by 80-95% from the 1990 level?
- Is more government aid needed in order to promote biogas over natural gas?
- Are all the UNECE sub-regions really focused on CO₂ emissions?
- What's the best way to ensure that policy initiatives aimed at a particular part of the energy also address the specific needs and opportunities presented by natural gas?
- Can the affordability/environment/security 'trilemma' primarily be addressed by reliance on competitive markets?
- How do we ensure that knowledge and experience gained in one part of the UNECE region is widely shared throughout the UNECE region?
- How do we address the social and economic issues involved in transitioning from fossil fuels to renewables, particularly in countries and communities with a high dependence on fossil fuel extraction?