Gas infrastructure companies present a European Hydrogen Backbone plan

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Today, a group of eleven European gas infrastructure companies from nine EU member states presents a plan for a dedicated hydrogen transport infrastructure. New research shows that existing gas infrastructure can be modified to transport hydrogen at an affordable cost.

The plan has been developed by Enagás, Energinet, Fluxys Belgium, Gasunie, GRTgaz, NET4GAS, OGE, ONTRAS, Snam, Swedegas and Teréga, supported by Guidehouse. The companies foresee a network gradually emerging from the mid-2020s onwards to an initial 6,800 km pipeline network by 2030, connecting 'hydrogen valleys'. By 2040, a hydrogen network of 23,000 km is foreseen, 75% of which will consist of converted natural gas pipelines, connected by new pipeline stretches (25%). Ultimately, two parallel gas transport networks will emerge: a dedicated hydrogen and a dedicated (bio)methane network. The hydrogen network can be used for large-scale hydrogen transport over longer distances in an energy efficient way, also taking into consideration hydrogen imports.

Creating this network has an estimated cost of €27 to €64 billion, which is relatively limited in the overall context of the European energy transition. The levelised cost is estimated to be between €0.09-0.17 per kg of hydrogen per 1000 km, allowing hydrogen to be transported cost-efficiently over long distances across Europe. The relatively wide range in the estimate is mainly due to uncertainties in (location dependent) compressor costs.

This announcement comes one week after the European Commission published its Hydrogen Strategy which highlights the need to create a dedicated hydrogen pipeline network.

"We are glad to see the European Commission's ambitious strategy to scale up hydrogen, already starting in this decade, and we think our initiative can play an important role in facilitating this. A European Hydrogen Backbone provides the opportunity to make large potential EU hydrogen supplies available to various demand sectors emerging during the energy transition. It is essential for a future EU hydrogen market. We recognise that the hydrogen backbone must become a truly European undertaking with strong links going towards eastern Member States," said Daniel Muthmann (OGE).

The group of gas infrastructure companies is convinced that the hydrogen backbone will eventually cover the entire EU. The group invites other European gas infrastructure companies.

The European Hydrogen Backbone paper is available at the link:
https://gasforclimate2050.eu/publications/