

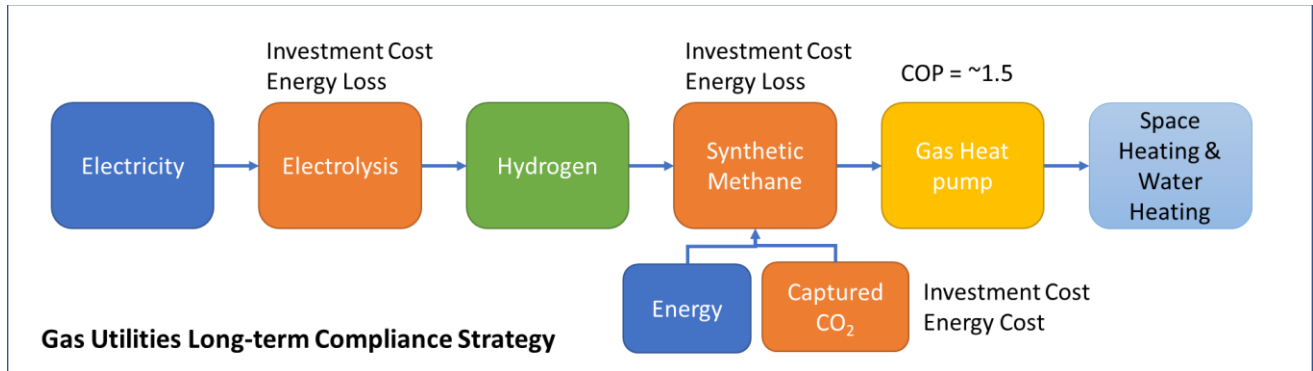


Natural Gas Factfinding: UM 2178

Additional Comments on Workshop 3 – Preliminary Compliance Modeling Results

Oregon PUC Staff,

The gas utilities compliance modeling results have essentially crafted a long-term strategy based on hydrogen blending and synthetic methane, but they have downplayed the investment costs and energy penalties associated with that strategy. These costs occur at the electrolysis stage, and the methanization stage, which also includes the cost to capture CO₂. That gas mixture is then used in a gas heat pump at a COP of about 1.5, as illustrated in the figure below.



Electrification alternatives are illustrated in the next figure. Note this compliance pathway avoids significant investment and energy losses to use the same energy source (electricity) to provide not only space and water heating but space cooling as well - and at a COP of about 4.0. This is why all the integrated energy systems analysis produce results saying that complete electrification of our building stock is a cornerstone of least-cost decarbonization pathways.

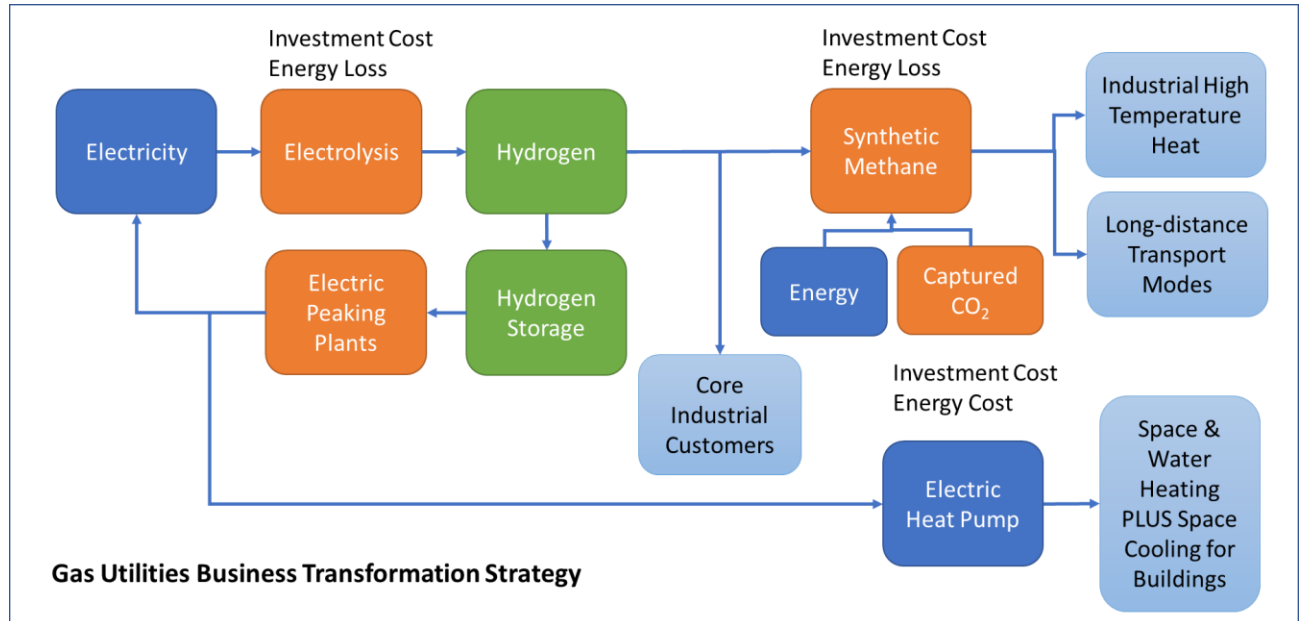


The concerns that the gas utilities raise about peak demands and reliability are correct, but not immediate problems, and should not be used as reasons for not embarking on the most societally cost-effective transition of our gas system. The figure below illustrates my best vision for a gas public utility in the future. The long-term storage capability of our current gas infrastructure will retain its critical importance, but needs to be transitioned to a GHG-free fuel, and green hydrogen appears to be one of the best candidates for that function. This hydrogen could be distributed to core industrial customers



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who need high temperature heat where electricity is not a viable alternative. Synthetic fuels are also a possibility for some industrial customers as well as long-distance transportation modes. It will take time and investment to develop hydrogen and synthetic methane, during which time the early markets for these fuels will emerge, but again, embarking on such a business model transition is not a reason to not aggressively start **now** to accelerate the electrification process for residential and commercial customers.



Thank you for the opportunity to comment on this important docket.

Sincerely,

Dr. Pat DeLaquil
DecisionWare Group LLC
Gresham, OR 97080