

7 REASONS WHY BLENDING HYDROGEN WITH NATURAL GAS IS A BAD IDEA

1. Directs investments into a false hope

The progressive transition from gas to hydrogen is a false narrative. This narrative used in REPowerEU and many net-zero approaches disregards the fact that if we used all the electricity production in Europe to produce electrolytic hydrogen, we would still only produce enough to substitute 45% of the energy that is delivered through natural gas today. **Completely substituting natural gas with hydrogen is not only unrealistic but also inherently inefficient.**



Blending implies investment in grids that are not fit for a decarbonised world.

2. Makes targeted use harder



Hydrogen is a valuable and scarce resource that some hard to abate sectors, such as maritime shipping and fertiliser production, can use to achieve full decarbonisation.

By not being able to target the use—since many uses require pure H₂, which is made impossible by blending—**hydrogen risks being wasted in sectors that could be decarbonised far more efficiently by other means** such as direct electrification for home heating.

3. Does not achieve significant emissions cuts

20% blending achieves 7% emissions reductions¹, at best. Given the lower energy density of hydrogen, blending achieves very limited emissions reductions for the final consumer.



However, to produce such an amount of hydrogen, one would need roughly a sixth of current EU electricity demand. This is a very high resource use for a very low reward.

¹ *We assume 70% as the efficiency of the electrolyzers.

4. Increases fossil gas dependency and prices



Despite increasing gas prices, hydrogen remains a very expensive energy carrier. The **cost of the blended fuel will be higher than the cost of methane.** Consumers will bear the cost, either through increased energy bills or taxes, while increased fossil fuel dependency creates further risks of geopolitical tensions.

Blending has a very high climate mitigation cost: limited CO₂ benefits and high production costs entail very high mitigation costs for hydrogen. Above 500 USD per abated ton of CO₂ ([IRENA](#)).

5. Decreases the purity of the gas

Industrial equipment that runs on methane can be very sensitive to hydrogen. Thus, even relatively low levels of blending might mean that industrial players will need to adapt their equipment, requiring big investments.



It renders methane from the grid unusable as a feedstock because processes that use CH₄ as a feedstock can accept maximum 1.5% H₂ content ([Cefic](#)).

Electrolytic hydrogen has a high value because it's extremely pure, as opposed to natural gas-based hydrogen. Once blended, the purity and therefore value, is lost.

6. Has health & safety risks



Hydrogen ignites more easily and is more explosive than methane.

Burning a blended fuel in home appliances increases local NO_x emissions. This increases the risk for respiratory diseases, especially for vulnerable populations with poor home ventilation systems.

7. Increases the likelihood of greenhouse gas leaks

Hydrogen's interaction with other gasses generates an increased GHG effect: recent scientific research demonstrated that increased hydrogen in our air results in methane, the second-most important global warming gas, staying in our air for longer and having more impact. Moreover, more hydrogen would also change the amount of ozone (third-most important climate-warming gas) in our atmosphere ([BEIS](#)).



Widely distributing hydrogen through the gas grid increases the likelihood of leaks, which has a direct climate impact.