

Business analysts suggest that renewable hydrogen is already cost competitive in niche applications

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Two business management analysts with the Technical University of Munich and the University of Mannheim have conducted a study of two

wind-power based hydrogen production facilities in Germany and the U.S. to find out if investors should consider such efforts as viable opportunities. In their paper published in the journal *Nature Energy*, Gunther Glenk and Stefan Reichelstein claim that their analysis shows that such efforts are, indeed, cost competitive in niche applications, and thus should be considered as sound investment opportunities.

As scientists continue to search for ways to generate the power needed to run the modern economy, business experts continue to study new power generation schemes to determine whether they are worth the risk of investment. In this new effort, the analysts looked at two energy production facilities that create [hydrogen](#) by using electricity generated from wind turbines.

At first glance, it might seem silly to produce gas for burning using electricity produced via a renewable resource—but as the analysts note, there are applications where such a conversion makes sense—using the hydrogen that is produced to power cars, for example, or to heat homes in the northern latitudes.

Glenk and Reichelstein also note that several previous studies regarding using [renewable energy sources](#) to produce hydrogen have found that doing so is not cost-competitive. They argue that recent developments have made earlier arguments moot. Most specifically, they note that improvements in electrolyzer technology have led to dramatic drops in the cost of conversion—along with improvements in efficiency. They also point out that efforts that take advantage of "optimal capacity size," as was done in the test plants in Germany and the U.S., reduce [costs](#) by preventing waste. They also note that industry experts have predicted that wind energy will become cheaper in the coming years.

The researchers cement their arguments by noting that both of the plants they studied were operating in a cost-competitive mode for small- and

medium-scale users of hydrogen gas who currently pay more for it from other sources. They further note that due to the falling cost of wind [energy](#) and continuous improvements in electrolyzer technology, large-scale hydrogen production facilities will likely become competitive in the near future, as well.

More information: Gunther Glenk et al. Economics of converting renewable power to hydrogen, *Nature Energy* (2019). [DOI: 10.1038/s41560-019-0326-1](https://doi.org/10.1038/s41560-019-0326-1)

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