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Asia's Hydrogen Fuel Future May Be Coalescing

Hyundai's news of a hydrogen partnership with Ineos and Chinese government incentives indicate more investment is coming



Hyundai hydrogen fuel-cell trucks in Switzerland last month.

PHOTO: DENIS BALIBOUSE/REUTERS

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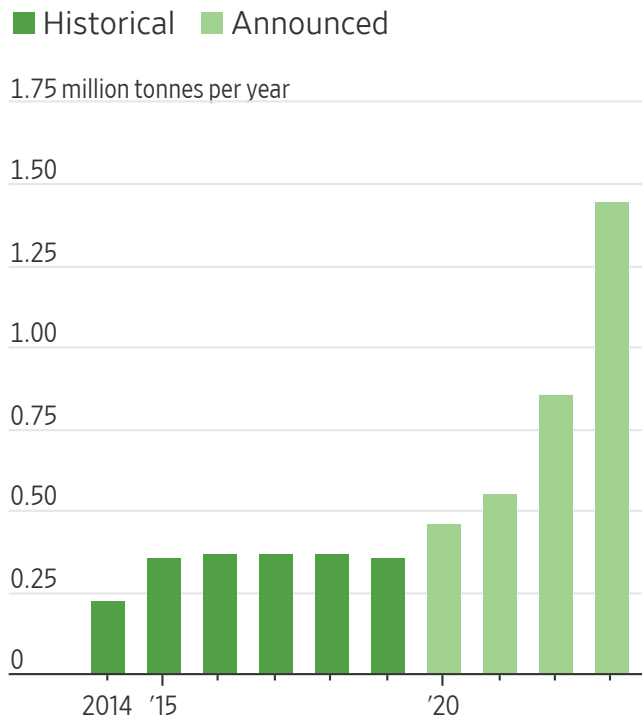
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There is still a long way to go for hydrogen to justify the hype as the next big thing in transportation. But Asia may hold the key to any eventual success.

Korean car giant Hyundai said Monday it will partner with European chemical giant Ineos, controlled by the U.K.'s richest man, James Ratcliffe, to explore opportunities in new hydrogen technologies. That could involve Hyundai buying hydrogen from the Ineos,

or the Korean car maker selling its hydrogen fuel-cell technology to the latter. Toyota TM [0.86%](#) ▲ Motor of Japan and Hyundai Motor of South Korea are the two most enthusiastic car makers in fuel-cell technology.

Low-carbon hydrogen production



Source: International Energy Agency

There were only around 25,000 fuel-cell electric vehicles on the road globally in 2019, according to the International Energy Agency. But things are starting to look like they could move ahead fast. Sales of fuel-cell EVs last year almost doubled from a year earlier. Improvements in technology have made fuel cells more durable and efficient.

Hydrogen certainly holds promise as the ultimate green fuel: it's abundant, light and doesn't emit carbon directly. But fuel cells, which convert hydrogen and oxygen into electricity, remain costly. Most of the production of hydrogen currently relies on fossil fuels, which defeats the purpose of using hydrogen to reduce carbon emissions. Producing green hydrogen is more expensive and not a cost-competitive alternative fuel yet. Storing and transporting hydrogen is also relatively costly.

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Government support will be the key to whether hydrogen can finally fulfill its promise after many false starts since bigger scale should help cut costs significantly, making the technology more viable. Apart from China, Japan and Korea also have ambitious targets supporting fuel-cell technology.

Fuel-cell trucks and buses are likely the first that could take off, rather than passenger cars, because of their higher range and energy density, compared with battery cars. Their regular routes also mean lack of refueling stations is less of a problem.

Currently China has almost all the world's fuel-cell buses and trucks, driven by its supportive policies. China has also tripled the number of refuelling stations—still low at 61, but the government has been providing support to the industry as it aims to lower carbon emissions drastically. Toyota has partnered with a few Chinese car makers to develop full-cell systems for commercial cars.

Hydrogen has been the energy of the future for so long that a healthy degree of skepticism is warranted. But the big Asian economy—China—and big industrial conglomerates like Hyundai are starting to make more decisive moves. The future might arrive sooner than expected.

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