



## *Should Fortescue buy its way to supremacy in hydrogen?; Due Diligence*

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### **Body**

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Barely three years ago, hydrogen seemed to be the panacea for all the world's problems.

It was touted as the next clean fuel for passenger cars, the chemical catalyst that would decarbonise the steel and alumina industries, an ingredient for clean fertiliser and maybe even the replacement for methane gas in kitchen stoves.

"People thought it was a floor wax and a dessert topping, and it was good for everything," recalls Peter Barrett, the founder of Silicon Valley venture capital firm Playground Global.

"But it ain't."

Barrett isn't a hydrogen sceptic; as a director of Californian company Universal Hydrogen, he believes the "incredibly useful" molecule can cure the carbon footprint of the aviation and maritime industries plus work for fertiliser. But he doesn't hesitate to use the "b" word - bubble - when asked to explain the capitulation in most listed hydrogen stocks over the past three years.

"Some of the valuations were chasing applications that didn't necessarily make sense," he says. "We see bubbles like that, we are seeing one in AI today. People pile in, and they put money into silly shit."

The euphoria in hydrogen stocks peaked between Joe Biden winning the Democratic Party nomination in mid-2020 and his inauguration as president in January 2021.

The prospect of a green political wave at a time of ultra-low interest rates led investors toward riskier investments, particularly those with a decarbonisation theme.

But three years on, the hydrogen tide has receded.

The 97-year-old Norwegian company Nel belongs to the "sensible" end of the hydrogen spectrum; it has manufactured the electrolyzers that turn water into hydrogen for decades, and Australian companies like Woodside and Viva Energy have its order book bursting at the seams.

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But Nel shares are down 86 per cent over the past three years as it endures short-term pain (investment in extra manufacturing capacity) to underwrite a long-term strategy.

The silly end of the hydrogen spectrum was best represented by Nikola Motors, the hydrogen truck aspirant that, among other sins, was forced to admit to US regulators that it had rolled its prototype truck down a hill to make it appear functional for promotional videos.

The incident was one of several lies or exaggerations told to investors about Nikola's progress, and late last year its talismanic founder Trevor Milton was sentenced to jail for fraud.

Nikola shares peaked at \$US65.90 in 2020 but were just US62¢ last week.

Another hydrogen truck aspirant, Hyzon, has lost 96.5 per cent of its value since February 2021 after it, too, fell foul of regulators for misleading investors over its sales performance.

The irregularities found by US regulators in the accounts of Plug Power - a manufacturer of hydrogen-powered forklifts, electrolyzers and other components - were less serious than those at Nikola and Hyzon.

But they haven't helped investor confidence; Plug shares are down 96 per cent over the past three years, and the cash-strapped stock lost almost 12 per cent on Thursday when it revealed plans to issue \$US1 billion (\$1.5 billion) of new shares.

While each stock is affected by individual factors, David Tuckwell from GlobalX says the common thread has been higher interest rates making future cash flows seem less attractive; a painful blow for a sector where almost all cash flows are far from being realised.

Tuckwell manages a hydrogen exchange-traded fund.

Aside from interest rates, he says investors have been scared away from the hydrogen sector by frequent dilutive share issuances and the threat that Donald Trump could scrap President Joe Biden's hydrogen incentives if he regains power.

Amid this market carnage, the International Energy Agency still reckons global demand for hydrogen will more than triple by 2050 if nations keep to their "announced pledges". The IEA believes demand for "low-emissions" hydrogen will rise 25-fold by 2030 if those announced pledges are kept intact, and 246-fold by 2050.

The hard part is determining which of hydrogen's many uses will be adopted at scale, and then how to invest in those applications.

Asset manager Mirova's sustainability equity fund took its first cautious steps into hydrogen last year when it purchased shares in Euronext company Air Liquide.

Air Liquide makes a range of industrial gases, and its hydrogen is made from both fossil fuels and renewable power.

Mirova analyst Cindy Huang reckons investing in incumbents like Air Liquide is the best way to get insights into how the hydrogen sector will evolve, even if that means investing in a stock that currently has a big carbon footprint and does not offer pure exposure to hydrogen.

"We try to learn first from the individual company, and then through that company understand that part of the value chain," she says.

Air Liquide and the other industrial gas producers that dabble in hydrogen, like Linde and US company Air Products, have delivered much better returns for investors over the past three years than pure hydrogen stocks.

"Hopefully over time [we can] expand downwards through the value chain and hopefully identify more investment targets," says Huang, adding that electrolyser makers could offer exciting, medium term growth.

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But Huang believes companies producing hydrogen fuel cells, or hydrogen for power generation, will require much more patience and risk tolerance from investors.

A separate Mirova fund has bypassed stocks to make direct investments in hydrogen businesses like Parisian taxi company Hype, which runs 400 hydrogen fuel cell vehicles refuelling at Hype's own stations.

No conversation about hydrogen is complete - in Australia at least - without mentioning **Fortescue**, the iron ore miner whose founder Andrew Forrest is the nation's biggest hydrogen bull.

**Fortescue** has built an electrolyser factory in Gladstone and has sanctioned its first green hydrogen project, a \$US550 million hub in Arizona that will make low carbon hydrogen and offer refuelling services to hydrogen trucks.

**Fortescue** would need 1363 projects the size of that \$US550 million hub to achieve its goal of producing 15 million tonnes of green hydrogen a year by 2030.

The hub was acquired from Nikola and the two companies are working on a long-term supply agreement. **Fortescue**'s North America boss and former AGL chief executive Andy Vesey is now a director of Nikola.

**Fortescue** is also close to Hyzon, having acquired hydrogen-powered buses from the struggling company.

But **Fortescue**'s most interesting relationship is with Plug; the iron ore miner has ordered electrolyzers from Plug, and has floated the idea of giving Plug a stake in its Arizona hub under an equity swap that would give **Fortescue** a shareholding in one of Plug's projects in Texas.

When Plug boss Andy Marsh updates investors on Tuesday, it will be exactly one year since he bruised **Fortescue** by suggesting the economics of the Gladstone electrolyser factory were not attractive enough for him to invest.

Plug shares have since slumped 84 per cent for a market capitalisation of \$US1.46 billion. **Fortescue**'s shares have risen 22 per cent over the same period for an \$85 billion valuation.

With a power imbalance like that, perhaps it is time for **Fortescue** to consider buying its way to hydrogen supremacy, rather than building.

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