

Hyzon Motors

FINANCIAL VALUATION

HYZN US Equity
Price (05 Nov 2021): \$5.70
TP-22 Optimistic CS: \$23.66
TP-22 Conservative CS: \$15.35

Hydrogen's industry outlook

In a context in which, finally, climate change has entered the group of global priorities, the search for energy sources that favor the transition towards a largely decarbonised era is now open. Natural gas has always been indicated as the only real candidate to replace oil pending a broad and solid diffusion of renewables. An idea that has certainly not faded, but one that has to deal with the growing interest in hydrogen. The International Energy Agency (IEA), in a study, estimated that in the scenario of a global zero-emission economy, the weight of hydrogen from electrolysis will be around 62%, while that of hydrogen from fossil fuels with carbon capture and storage will reach around 38%. With the overall size of world demand about 6 times the current one.

In fact, the market for low-carbon hydrogen will expand exponentially in the years after 2030, according to the IEA's net-zero emissions roadmap, and the supply of hydrogen and hydrogen-based fuels from

low-carbon sources will expand sixfold from today's levels to become a remarkable 10% of total final energy consumption in 2050.¹

Furthermore, the latest pact- agreed at COP26 by nations including the United States, China and India- is one of four so-called "Glasgow Breakthroughs", which set new global goals that aim to make clean technology and sustainable solutions "the most convenient, accessible and attractive "for respective sectors by the end of this decade.

A total of 32 countries, plus the EU, have agreed to work together to accelerate the development and deployment of clean H2 and ensure that "affordable, low-carbon renewable hydrogen is available globally by 2030 ".

The other 2030 objectives of the "Breakthrough Agenda" are to make clean energy "the most convenient and reliable option for all countries"; so that zero-emission road vehicles become "the new normal" and nearly zero-emission steel becomes the "preferred choice in global markets".²

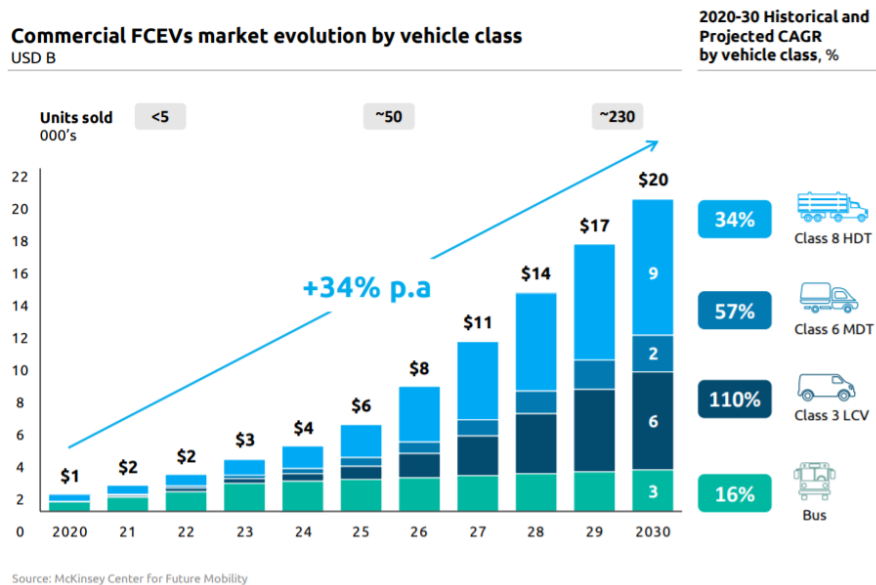
As the world is shifting towards renewable sources i am looking forward to writing about Hyzon Motors.

¹ Source: <https://finance.yahoo.com/news/why-cop26-focused-hydrogen-demand-200000696.html>

² Source: [Hydrogen-news.it](https://hydrogen-news.it)

Hyzon: investment thesis

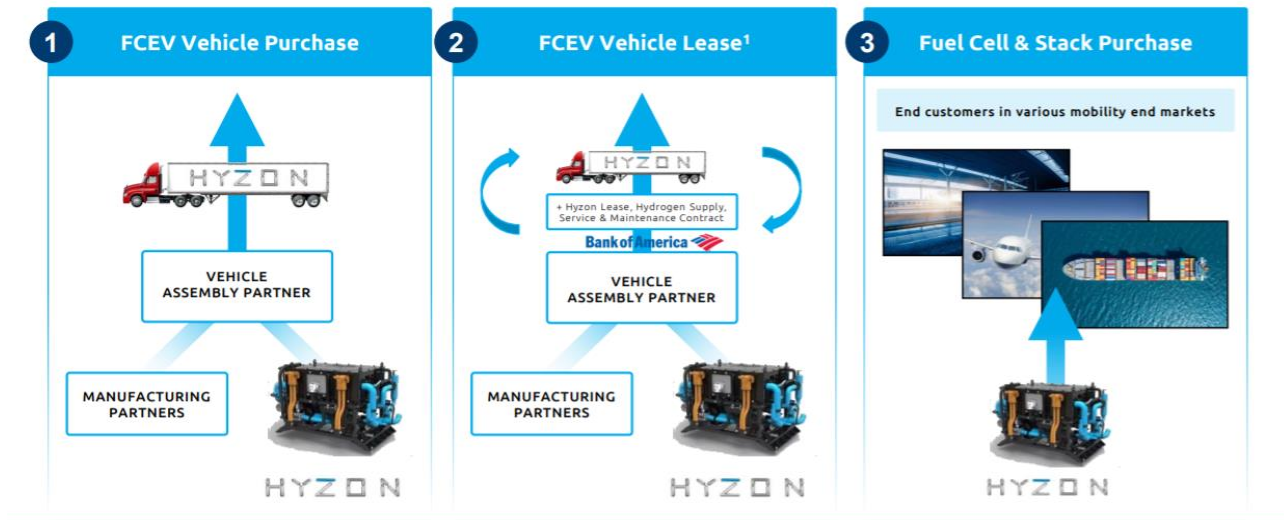
Hyzon is a global supplier of zero-emissions hydrogen fuel cell powered commercial vehicles, including heavy duty trucks, buses and coaches. Hyzon's goal is the decarbonization of the heavy industry as the FCEv market is project to increase by 30% annually, therefore reaching 20bln value by 2030.



Hyzon manages to reach this target by leveraging a flexible business model in order to provide different solutions for its costumers:

- FCEV purchase and lease: during this phase Hyzon manufactures vehicles through external suppliers providing its proprietary fuel cell technology.

- Fuel cell and stack purchase: end costumers in various mobility and markets.



Source: Hyzon investor presentation

Hyzon is leveraging history of knowledge from its parent company Horizon which was founded in 2003 and has already delivered hundreds of hydrogen fuel-cell power systems for commercial vehicles to customers.

Hyzon at this time has 20 owned provisional patents applications and 40 co-owned patents and applications with Horizon.³

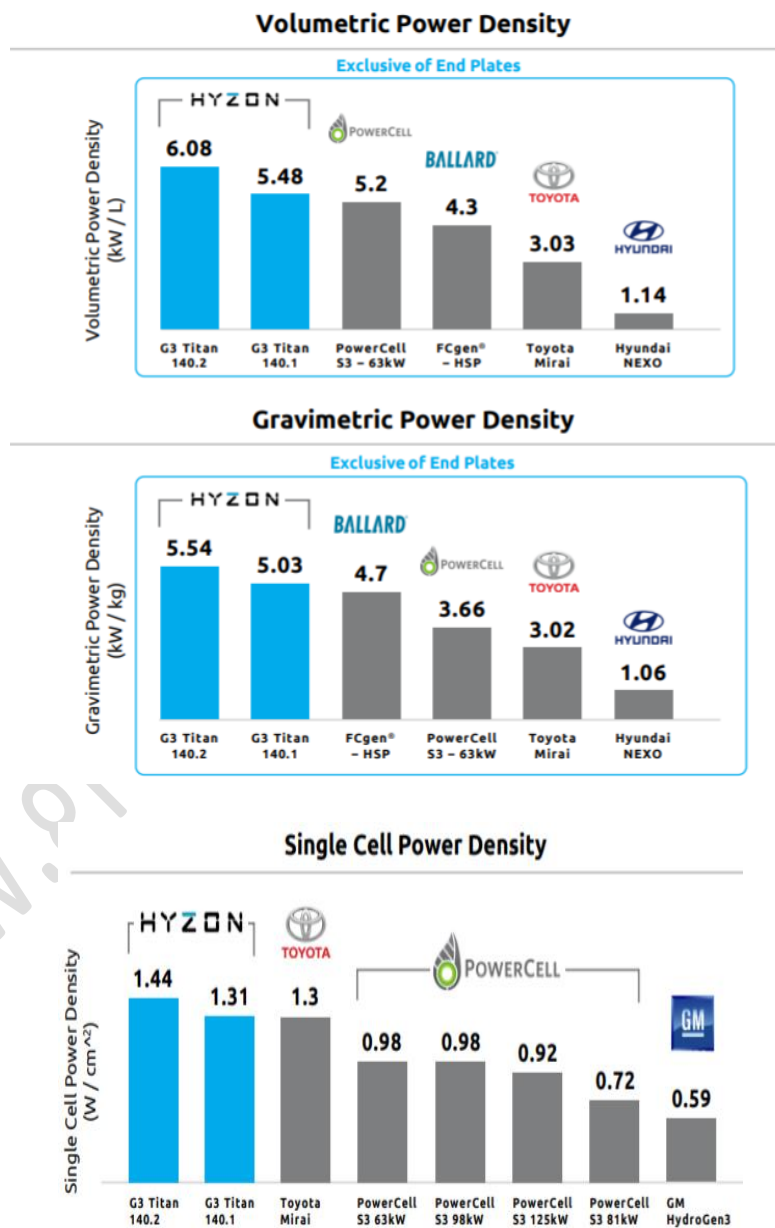
Hyzon's competitive advantage

Like all-electric vehicles, fuel cell electric vehicles (FCEVs) use electricity to power an electric motor. In contrast to other electric

³ Source: Hyzon presentation

vehicles, FCEVs produce electricity using a fuel cell powered by hydrogen, rather than drawing electricity from only a battery.

In this context what actually makes a FCEv desirable is its fuel cell power density and Hyzon's fuel cells are far ahead of the competition as reported below.



Source: Hyzon investor presentation

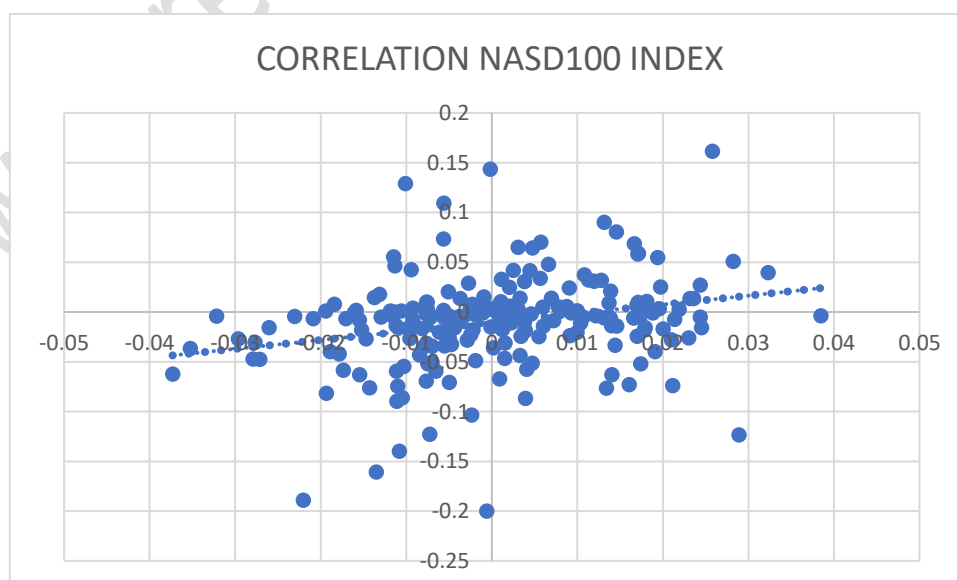
2021: hydrogen stock market

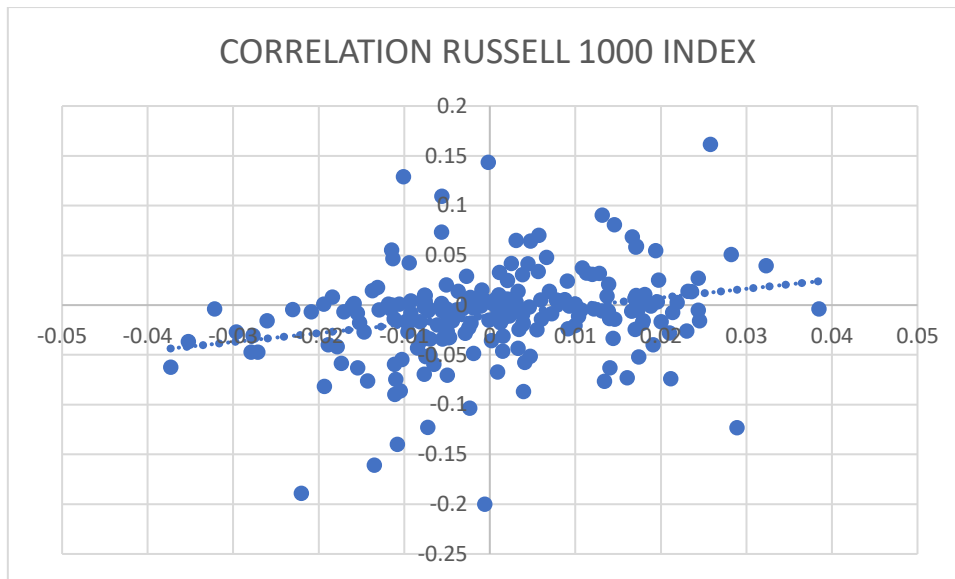
As shown below this is a short review about what happened during the year. For the analysis i have selected pure hydrogen players:

Ticker	Price	Mkt Cap	Price to Book	Current Periodic Enterprise Value	YTD
<u>HYZN US Equity</u>	6	1.5B	0.4	1,240.0	-46%
<u>FCEL US Equity</u>	9.31	3.4B	5.1	3,160.0	-40%
<u>BLDP CN Equity</u>	22.73	6.8B	3.9	4,220.0	-37%
<u>PLUG US Equity</u>	40.07	23.1B	4.8	19,100.0	-18%
<u>NKLA US Equity</u>	15.12	6.2B	7.1	4,440.0	-26%
<u>CMI US Equity</u>	235.42	33.6B	4.2	36,000.0	-1%
<u>MEAN</u>			4.25	11,360.0	-28%
<u>MEDIAN</u>			4.5	4,330.0	-32%

Source: my estimates

Hyzon's performance has been guided by different shorts sellers report, which have impacted stock's momentum, and by the overall industry trend. In fact the stock's correlation approaches to 0 when compared to major indexes.





Source: my estimates

Financial valuation

My intent is to give Hyzon a conservative fair value using different methodologies.

For this purpose i have selected 3 metrics in order to evaluate asset fair value:

- *Market-cap to Sales*
- *EV/Ebitda*
- *EV/Sales*

In order to evaluate the long term potential my analysis has been focused on 2025E. For each metholody i have constructed a conservative scenario and an optimistic scenario which is based on Hyzon's financial provided in its investor presentation pdf.

For this sector would be unsense using a dcf model as positive fcf are expected to be positive on a medium period time frame.

- **MARKET-CAP TO SALES**

Sales data provided below have been provided by Bloomberg estimates.

SALES	2021E	2022E	2023E	2024E	2025E
HYZN US Equity	\$ 37.00	\$ 198.00	\$ 972.00	\$ 2,242.00	\$ 3,286.00
growth rate		435%	391%	131%	47%
FCEL US Equity	\$ 76.95	\$ 116.80	\$ 178.00	\$ 231.00	\$ 328.67
growth rate		52%	52%	30%	42%
BLDP CN Equity	\$ 103.16	\$ 146.60	\$ 213.11	\$ 318.13	\$ 448.36
growth rate		42%	45%	49%	41%
PLUG US Equity	\$ 496.84	\$ 815.40	\$ 1,220.24	\$ 1,820.81	\$ 2,792.07
growth rate		64%	50%	49%	53%
NKLA US Equity	\$ 4.99	\$ 165.18	\$ 787.89	\$ 1,596.14	\$ 2,824.14
growth rate		3210%	377%	103%	77%
CMI US Equity	\$23,939.20	\$25,923.33	\$27,208.29	\$27,327.83	\$28,773.00
growth rate		8%	5%	0%	5%

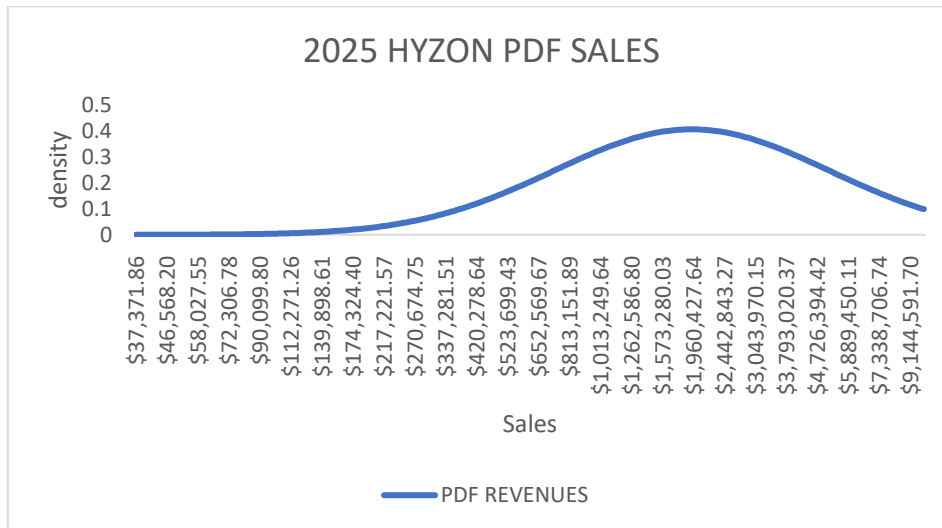
Source: Bloomberg

For this type of analysis i have set 2025 estimates as an optimistic scenario as they have been set up by the company. At the same time as data must be stress tested i have assumed that revenues growth rate will be equal to $0.8 \times \text{growth-normal-rate}$ “best scenario case”, growth rate displayed below are lognormal.

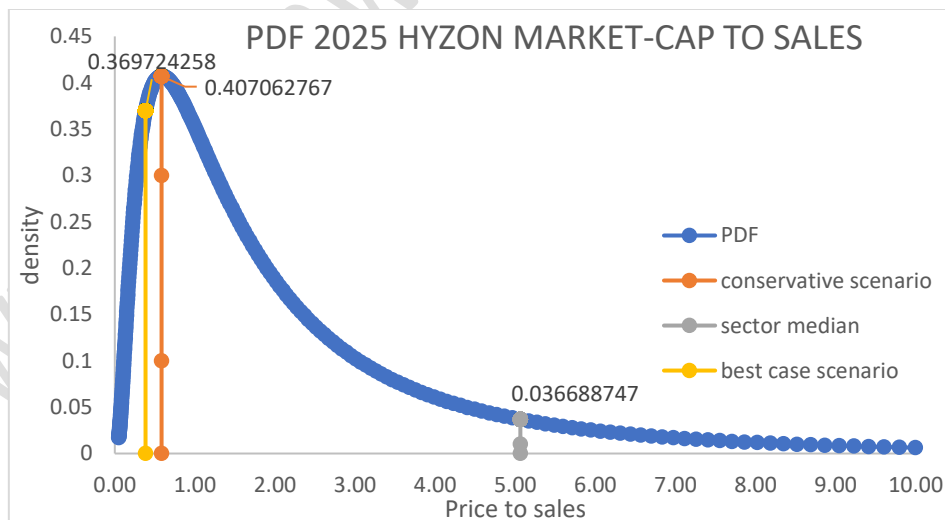
SALES	2021E	2022E	2023E	2024E	2025E
HYZN US Equity	\$ 37.00	\$198.00	\$972.00	\$ 2,242.00	\$ 3,286.00
growth rate	\	168%	159%	84%	38%
<i>BEST CASE SCENARIO</i>					
HYZN US Equity	\$ 37.00	\$165.80	\$684.30	\$ 1,399.58	\$ 1,920.96
growth rate	\	150%	142%	72%	32%
<i>CONSERVATIVE CASE SCENARIO</i>					

Source: my estimates

In order to evaluate Hyzon's equity I constructed a log normal distribution of 2025 sales and 2025 market-cap to sales based on the conservative case scenario distributed with given mean and variance.



Source: my estimates



Source: my estimates

As shown above the sector median is grey displayed, extrapolated by peer analysis.

<u>MARKET-CAP TO SALES</u>	<u>2021E</u>	<u>2022E</u>	<u>2023E</u>	<u>2024E</u>	<u>2025E</u>
HYZN US Equity	39.19	7.32	1.49	0.65	0.44
FCEL US Equity	44.05	29.02	19.04	14.68	10.31
BLDP CN Equity	52.35	36.83	25.34	16.97	12.04
PLUG US Equity	46.29	28.21	18.85	12.63	8.24
NKLA US Equity	1096.19	33.12	6.94	3.43	1.94
CMI US Equity	1.42	1.31	1.25	1.24	1.18
MEAN	\	22.64	12.15	8.27	5.69
MEDIAN	\	28.62	12.90	8.03	5.09

Source: my estimates

In order to evaluate the equity value i assumed that hyzon will have that multiple on 2025, on a forward basis. Therefore i discounted the equity value back to 2022 using a 24% discount rate having a market beta equal to 1.20.

<u>SECTOR MEDIAN MARKET-CAP TO SALES 5.09x</u>					
<u>RATIO</u>	<u>MARKET CAP TO SALES</u>	<u>EQUITY 2025E(mln)</u>	<u>DISCOUNTED 2022 EQUITY VALUE</u>	<u>IMPLIED PRICE</u>	
MULTIPLE BEST CASE SCENARIO	0.38	\$ 16,725.74	\$ 8,772.44	\$	35.48
MULTIPLE CONSERVATIVE SCENARIO	0.58	\$ 9,978.57	\$ 5,233.63	\$	21.17

Source: my estimates

- **EV/EBITDA**

As shown below Hyzon margins will be solid in the coming years, with its final goal which sets 500 million Ebitda by 2025.

<u>EBITDA</u>	<u>2021E</u>	<u>2022E</u>	<u>2023E</u>	<u>2024E</u>	<u>2025E</u>
HYZN US					
Equity	\$ -73.00	\$ -25.00	\$ 87.00	\$ 326.00	\$ 505.00
growth rate	\	66%	448%	275%	55%
FCEL US Equity					
Equity	\$ -27.14	\$ -7.14	\$ 6.02	\$ 13.68	\$ 43.70
growth rate	\	74%	184%	127%	220%
BLDP CN					
Equity	\$ -68.50	\$ -54.57	\$ -31.02	\$ 8.51	\$ 39.45
growth rate	\	20%	43%	127%	363%
PLUG US					
Equity	\$ -117.19	\$ 26.62	\$ 162.59	\$ 323.47	\$ 610.71
growth rate	\	123%	511%	99%	89%
NKLA US					
Equity	\$ -347.71	\$ -439.80	\$ -297.44	\$ -113.26	\$ 181.76
growth rate	\	-26%	32%	62%	260%
CMI US Equity					
Equity	\$ 3,658.06	\$ 4,158.00	\$ 4,416.15	\$ 4,238.40	\$ 4,627.33
growth rate	\	14%	6%	-4%	9%

Source: Bloomberg

As i did in the previous analysis i have set an optimistic scenario and a conservative scenario assuming a deceleration of the normal growth rate.

<u>EBITDA</u>	<u>2021E</u>	<u>2022E</u>	<u>2023E</u>	<u>2024E</u>	<u>2025E</u>
HYZN US Equity	\$ -73.00	\$ -25.00	\$ 87.00	\$ 326.00	\$ 505.00
growth rate	\	66%	448%	275%	55%
<i>BEST CASE SCENARIO</i>					
HYZN US Equity	\$ -73.00	\$ -34.60	\$ 89.41	\$ 285.89	\$ 411.48
growth rate	\	53%	358%	220%	44%
<i>CONSERVATIVE CASE SCENARIO</i>					

Source: my estimates

I have reported below a short tabel comprehensive of the actual multiples paid by peers. Also in this case, it is evident that standing to financial projections hyzon's enterprise value is paying 2,46x againt a median of 27.85x.

<u>EV/EBITDA</u>	<u>2021E</u>	<u>2022E</u>	<u>2023E</u>	<u>2024E</u>	<u>2025E</u>
HYZN US					
Equity	-16.99	-49.60	14.25	3.80	2.46
FCEL US Equity	-116.43	-442.39	525.18	231.08	72.31
BLDP CN					
Equity	-61.61	-77.33	-136.04	495.71	106.97
PLUG US					
Equity	-162.99	717.45	117.47	59.05	31.27
NKLA US					
Equity	-12.77	-10.10	-14.93	-39.20	24.43
CMI US Equity	9.84	8.66	8.15	8.49	7.78
MEAN					40.87
MEDIAN					27.85

Source: my estimates

In order to evaluate the equity value i assumed Hyzon will have in the future a financial structure made of 0,7 net-debt to equity ratio, as of today Hyzon has not debt.

<u>SECTOR MEDIAN EV to Ebitda 27,85x</u>					
<u>RATIO</u>	<u>EV/ebitda</u>	<u>EV 2025E(mln)</u>	<u>DISCOUNTED 2022 EQUITY VALUE</u>	<u>IMPLIED PRICE</u>	
MULTIPLE BEST CASE SCENARIO	2.46	\$ 14,064	\$ 4,426	\$	17.90
MULTIPLE CONSERVATIVE SCENARIO	3.01	\$ 11,460	\$ 3,606	\$	14.59

Source: my estimates

Again, i have used the median in order to evaluate the enterprise value and i discounted the equity value using a 24% rate given its beta.

- **EV/SALES**

Lastly my analysis has been focused on ev/sales multiple and reported below are the results of the analysis based on peers.

<u>EV/SALES</u>	<u>2021E</u>	<u>2022E</u>	<u>2023E</u>	<u>2024E</u>	<u>2025E</u>
HYZN US Equity	33.51	6.26	1.28	0.55	0.38
FCEL US Equity	41.07	27.05	17.75	13.68	9.61
BLDP CN Equity	40.91	28.79	19.80	13.27	9.41
PLUG US Equity	38.44	23.42	15.65	10.49	6.84
NKLA US Equity	889.78	26.88	5.64	2.78	1.57
CMI US Equity	1.50	1.39	1.32	1.32	1.25
MEAN	\	18.97	10.24	7.01	4.84
MEDIAN	\	25.15	10.64	6.64	4.21

Source: my estimates

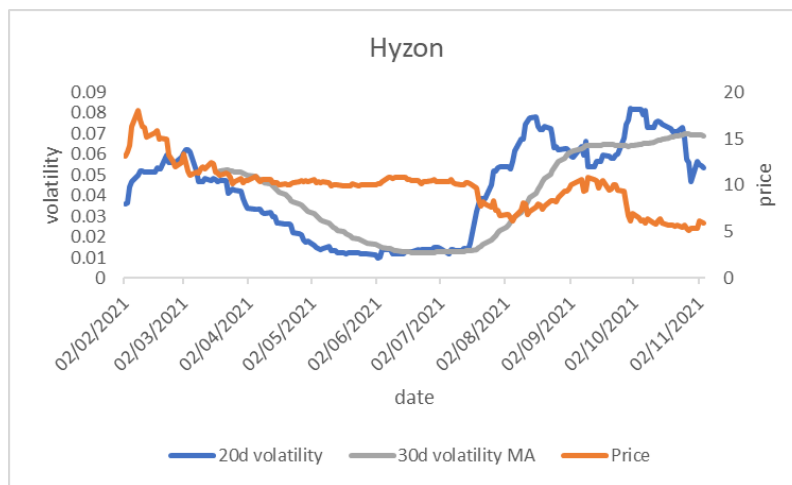
As the sector pays 4.21x median, i have calculated the implied equity value following the same approach used in the previous methodology.

<u>SECTOR MEDIAN EV TO SALES 4.21x</u>					
<u>RATIO</u>	<u>EV TO SALES</u>	<u>EQUITY 2025E(mln)</u>	<u>DISCOUNTED 2022 EQUITY VALUE</u>	<u>IMPLIED PRICE</u>	
MULTIPLE BEST CASE SCENARIO	0.38	\$ 8,300.4	\$ 4,353	\$	17.61
MULTIPLE CONSERVATIVE SCENARIO	0.65	\$ 4,849.9	\$ 2,544	\$	10.29

Source: my estimates

Conclusion

Based on my valuations, Hyzon has the potential to disrupt the fuel cell market and its attractive valuation makes Hyzon a good stock , despite the recent stock turmoil.



Source: my estimates

The stock is experiencing an high volatility scenario and it is down 43% on a 6 month basis.

As shown in the previous chapter valuations may suggest upside potential both for the optimistic scenario and the conservative case scenario, even assuming a growth rate lower than expected.

PRICING VALUATION 2022E						
	MARKET-CAP TO SALES	EV/EBITDA	EV/SALES	average	upside	
OPTIMISTIC SCENARIO	\$ 35.48	\$ 17.90	\$ 17.61	\$ 23.66	315%	
CONSERVATIVE SCENARIO	\$ 21.17	\$ 14.59	\$ 10.29	\$ 15.35	169%	

Source: my estimates

NO INVESTMENT ADVICE

The Content is for entertainment purposes only, you should not construe any such information or other material as legal, tax, investment, financial, or other advice. Nothing contained on my website constitutes a solicitation, recommendation, endorsement, or offer by Green whale Equity Research to buy or sell any securities or other financial instruments.

www.greenwhaleresearch.com