

Hazer Group Ltd

(HZR \$0.31) Speculative Buy

EUROZ

Analyst	Date	Price Target
Seth Lizee	28 th November 2018	\$0.85/sh ▲ from \$0.83/sh

AGM/Shareholder Update

Investment case

HZR remains on track to meet operational duration and product quality hurdles for their FBR Plant by early to mid CY'19. This will precede the announcement of product offtake, funding and location of HZR's demonstration plant. We estimate these milestones to be met in the next 3-6 months with commissioning of HZR's demonstration plant estimated by mid CY'20. In parallel, HZR's graphite focused development path funded by Mineral Resources (MIN) is on track for pilot plant commissioning by end CY'18.

If HZR can gain third party validation in the form of these agreements/technical milestones we feel investors will impute more value on HZR's ability to disrupt two huge global industries. The hydrogen market is worth US +\$130 Billion annually and the graphite market worth US +\$14 Billion annually (HZR Investor presentation Nov'18).

We maintain our Spec Buy recommendation with a price target of \$0.85/sh ▲ from \$0.83/sh.

Key points

Catalysts

Below is a list of the key catalysts for HZR and their associated timing for the next 6 months:

- Completion of front-end engineering design 'FEED' Study** – this study will include details around capital and operational costs for the commercial demonstration plant 'CDP' as well as a concept study for larger-scale commercial plants. The 'CDP' FEED study is due to be completed by the end of this year (Shareholder update, Nov'18).
- FBR' pilot plant re-assembly and restart** – Hazer's fluidized bed reactor 'FBR' pilot plant is currently in the process of being relocated to the Mineral Resources site in order to increase synergies and co-share costs. This is expected to be re-assembled and restarted by Jan'19 (Shareholder update, Nov'18).
- Completion of plant testing** – with capacity targets met (stage 1) HZR is now focused on improving product purity (stage 2) and maintaining operations for durations of greater than 24hrs (stage 3). EZL estimates this to be achieved by mid CY'19 based on stage 1 time, and an expected re-assembly and restart by Jan'19.
- Offtake/Funding** – **this is the single biggest catalyst in our view.** Offtake will provide further third party validation for potential commercial application of the HZR. It's been indicated that the plant will require in the vicinity of ~\$AUD10million (Shareholder update, Nov'18). We expect this to occur in June Half 2019.
- Commissioning of the MIN 1tpa pilot plant** – this will be the first large scale proof of concept for the HZR technology, with the aim to be commissioned by Q4'18

Hazer Group Ltd	Year End 30 June	
Share Price	0.31	A\$/sh
Price Target	0.85	A\$/sh
Valuation	0.85	A\$/sh

Shares on issue	90.7m, undiluted
Options on issue	66.0 m
Market Capitalisation - undiluted	28.1 A\$m
Enterprise Value	22.2 A\$m
Debt	0 A\$m
Cash (CY'18f)	5.9 A\$m

Turnover	223k	sh/day
12 Mth Hi-Lo	0.63 - 0.19	A\$/sh
Balance date	June 30th	

Directors & Management

Geoff Ward	CEO
Dr Andrew Cornejo	CTO
Emma Waldon	CFO
Tim Goldsmith	Chairman
Simon Rushton	NED
Danielle Lee	NED
Dr Andrew Harris	NED

Shareholders

Mineral Resources (MIN.ASX)	11.6%
Andrew Cornejo	7.6%
Geoff Pocock	6.9%

Company details

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Share Price Chart

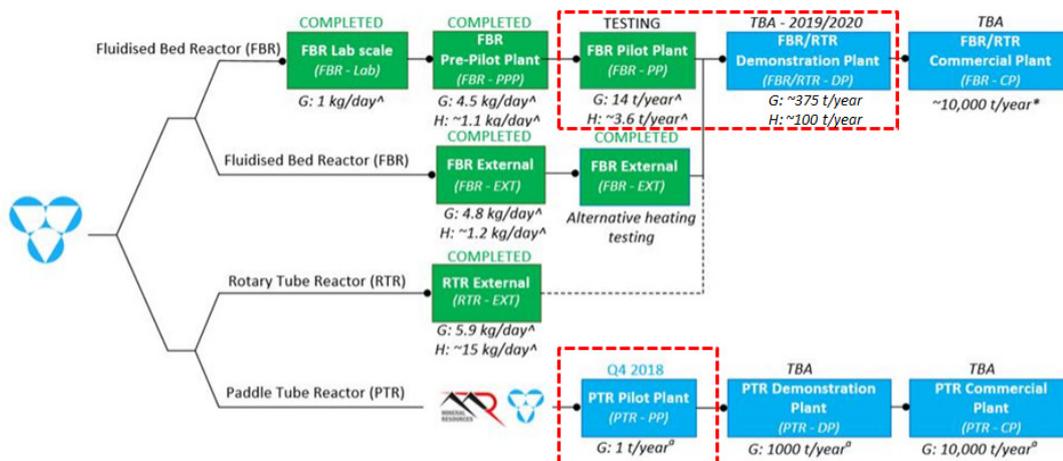


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Source: Hazer Group Ltd, Nov.Shareholder update

The timeline of the items can be seen below.

"Key Catalysts"	Calendar Year	CY 2018				CY 2019		
		Month	November	December	January	February	March	April
1.	'CDP' FEED Study							
2.	FBR' Pilot Plant Re-assembly & Restart							
3.	'FBR' Pilot plant testing							
4.	Offtake/Funding							
5.	Com. Of MIN 1tpa Pilot plant							

*Source(s): Sept. investor presentation, HZR AGM, Oct. qrtly. & CEO letter to shareholder, 2018 MIN annual report, and Nov. shareholder update.

Corporate

- HZR finished the Sept quarter with \$5.4m in cash and at the time of publication had a further \$0.8m of in the money options.
- Additionally HZR recently completed 'R&D tax incentive assessment' and have stated they anticipate on receiving a cash rebate of ~\$1m by end Q1'19.
- We see this as more than sufficient to carry HZR through to mid next year when additional funding is likely required for the Demonstration plant.

Operational Update

Hazer's 'FBR' pilot plant re-location

Hazer's fluidized bed reactor 'FBR' pilot plant is currently in the process of being relocated to the Mineral Resources site in order to increase synergies and co-share costs. It's understood that the pilot plant should be ready to resume operations by the end of the year.

Third party operated fluidized bed reactor 'FBR'

Hazer has recently completed testing and validation of the Hazer process in a third party operated 'FBR'. Key takeaways from the independent testing were:

- Hazers proprietary 'FBR' design outperformed third party's un-optimised reactor design by +600% in nominal capacity
- Alternative heating methods successfully tested
- Key engineering design parameters required for scale-up design
- Testing showed operations to be very robust and stable (Key requirements for large scale fluidization plants)

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	External FBR rig	FBR Pilot Plant
	<i>Achieved</i>	<i>Achieved (ongoing)</i>
Reactor size (diameter)	100 mm	75 mm
Graphite - Nominal capacity	4.8 kg/d	29 kg/d
Graphite - Single run production	1.5 kg	12.4 kg
Graphite - Maximum purity	80% by wt	80% by wt
Hydrogen - Nominal capacity	~ 1.2 kg/d	~ 8 kg/d
Hydrogen - Maximum purity	Not tested [^]	49% by vol

[^]Estimate of average hydrogen concentration ~30%vol

Source: Hazer Group Ltd

Valuation

Our 12 month valuation of HZR is \$0.85/sh ▲ from \$0.83/sh.

We have re-assessed our valuation based on changing dynamics and believe our previous model is no longer applicable on the basis of its assumptions.

Based on this we have decided to re-design our valuation of HZR from the ground up. We believe returning to a high level comparable analysis would better suit assessing the value of HZR, this due to the fact that key variables and assumptions are not yet available – and therefore attempting to value HZR through conventional methods would yield indefinite results.

Our high level comparable valuation is built from an extremely basic comparison of mean enterprise value (EV) across a group of comparable peers, these comparable specifically grouped based on the following attributes:

- Early stage companies
- Commercially unproven technologies and;
- Very large addressable markets if successful.

Due to the fact that HZR is so early stage and comprises of a completely new technology we have decided to include comparable companies ranging from sectors such as industrials and biotech

We have found the following companies on the ASX we believe fit this criteria.

Company Name	Ticker	Sector	“Brief description“	“Total Adressable Market Size (\$Am)”
Phylogica Ltd	PYC	Biotechnology	Development of next generation intracellular biological therapeutics	~350,000*
“Fastbrick Robotics Ltd”	FBR	Industrials	Robotic construction technologies	100,000-200,000**
“Sky and Space Gloval Ltd”	SAS	Technology	Affordable communications via nano-satellite technology	~7,000†
Biotron Ltd	BIT	Biotechnology	treatment of HIV-1 and Hepatitis C Virus infections	~40,000‡

Sources:

* PYC 2017 AGM presentation

** FBR investors presentation

† SAS Sept 18 company presentation; incl. African, Asian and central/south American markets only

‡ Biotron Oct 2018 Investors presentation

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We understand that the above companies have nothing to do with hydrogen or graphite but our strategy with this technique is to try and assess how the market values early stage and commercially unproven technologies that have massive potential markets they can capture if successful.

Company Name	Ticker	Sector	Last Price	Market Cap	Cash	Debt	Net Debt	EV
Fastbrick Robotics Ltd	FBR	Industrials	0.17	211.1	21.7	0.0	(21.7)	189.4
Sky and Space Global Ltd	SAS	Technology	0.06	114.4	5.5	0.0	(5.5)	108.9
Phylogica Limited	PYC	Biotechnology	0.03	68.6	5.5	0.0	(5.5)	63.0
Biotron Limited	BIT	Biotechnology	0.16	112.0	0.9	0.0	(0.9)	111.1
							Average	118.1
Hazer Group Ltd	HZR		0.31	28.1	5.9	0.0	(5.9)	22.2
							Discount to avg.	-81%

EZL High level comparables Valuation		
	A\$m	A\$/sh*
Comparable EV	118.1	0.75
+ Unpaid Capital from Opt.	8.2	0.05
+ R&D Tax Rebate	1.0	0.01
- Debt	0.0	0.00
+ Cash	5.9	0.04
Total	133.2	0.85
*Fully diluted		
Price target		0.85

At this stage we maintain our Spec. Buy recommendation and place a target price of \$0.85/sh. Although once we receive details of the 'CDP' FEED study and the completion of the FBR pilot plant we plan to conduct and complete a thorough valuation of HZR.

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