



29 JULY 2022

ASX:FYI | OTCQX:FYIRF

# FYI Resources Activity Report for the quarter ended 30 June 2022

## Key points

- **First significant HPA project development milestone completed**
- **FYI and Alcoa HPA joint development project progresses**
- **Stage Two project development commenced**
- **Marked progress in FYI ESG score including acknowledgement from potential customers**
- **Joint HPA product marketing activities extended**
- **Downstream HPA and other critical mineral opportunities developing**

FYI Resources Ltd (ASX: FYI) ("**FYI**" or "**Company**") is pleased to release its Activities Report for the quarter ending 30 June 2022 (**Quarter**).

FYI has successfully developed an innovative process design for the integrated production of high quality, high purity alumina (HPA). This low carbon emission process is now progressing towards being commercialised in joint development with one of the world's leading alumina producers, Alcoa of Australia Ltd (**Alcoa**) and to be majority funded by their capital commitment of US\$243m of the US\$250m project cost under the binding Terms Sheet (announcement 1 October 2021).

## HPA Project Development

The binding term sheet outlines a three-phased approach for the development of the HPA project, which includes:

- Phase 1 – development;
- Phase 2 – construction and operation of a demonstration facility; and,
- Phase 3 – construction and operation of a commercial facility.

Under the HPA project framework, Phase 1 includes a defined three-stage development schedule which is being executed by the joint development team.

The Stage One scope of works (technology development) was signed off during the quarter following final approval by the joint development committee. This stage completion and sign-off represents a significant milestone in the progress of the HPA project.

The Stage One workstreams included the key base project parameters for the proposed demonstration plant and include the:

- Budget allocation to Stage Two scope of works for continued project de-risking and demo plant development
- Optimised the demo plant's capacity between 100-240 tonnes per annum to meet de-risking requirements

- Optimised the commercial plant to 9,000 tonnes per annum (further optimisation planned for future phases)
- Increasing the project product marketing and outreach program extending from the work commenced by FYI

The Stage One demonstration plant project workstreams commenced following signing of the JV Term Sheet and set the project parameters for the entire HPA development as well as defined the workstreams for The Stage Two scope of works.

The Stage Two (engineering) workstreams are underway and are progressing well. The Stage Two development schedule includes:

- Refining and optimizing of front-end processing
- progress development for the demonstration plant
- Process energy integration and recycling
- Project works approvals and permitting
- HPA product finishing and variation to potential customer requirements
- Continued product marketing and qualification
- Ancillary process technology development

### HPA Product Marketing

During the Quarter FYI continued an active product marketing program in joint collaboration with project partner, Alcoa. The HPA marketing program is expanding its customer outreach capacity to respond to increases in customer inquiries.

The JDP team continues to examine new markets and jurisdictions, as well as receive increasing inbound inquiries for product assessment.

### Innovative HPA Applications

HPA has many diverse markets and product applications. The versatile nature of the material is still being fully appreciated and developed by FYI. The development of these downstream opportunities is complementary to and in parallel with the HPA joint development team's primary HPA project development and is intended to create additional value-add market applications for HPA. These downstream opportunities are consistent with FYI's longer-term business plan and the joint HPA development strategy with Alcoa.

### HPA Coated Anodes

In collaboration with ASX listed graphite company, EcoGraf Limited (ASX:EGR), FYI is developing an innovative HPA enhanced, high density anode coating material for use in the lithium-ion battery industry.

The objective of the anode development is to increase the performance, reliability, longevity, safety and cost effectiveness of an anode and its application in high power density batteries primarily for electric vehicles (EV).

The joint development work focuses on the unique and innovative application of FYI's high-quality ultrafine HPA and EcoGraf's spherical graphite. The test work is being conducted by a leading independent battery materials research group in the U.S., FYI and EcoGraf have demonstrated HPA-doped carbon coatings as a major active anode material (AAM) which



improves battery anode performance by minimising first cycle losses during battery charging cycles.

To determine effectiveness of the jointly developed anode technology, the anode was subjected to extensive electrochemical performance and cycling tests, which reflects pouch and cylindrical battery technologies that are used to power an electric vehicle (EV).

The following table presents the lithium-ion coin cell electrochemical performance results benchmarked against current industry anode material.

#### Independent Anode Performance Testwork Results

	Industry Market Anode	Ceramic Coated Anode	FYI HPA Coated Anode
Reversible capacity (mAh/g)	355	353.4	362.7
First cycle loss (%)	7.0%	5.2%	4.5%
First Charge efficiency (%)	93.0%	94.8%	95.5%

First cycle charge-discharge curves were developed for the FYI anode coating materials which demonstrated higher first charge capacity, reduced first cycle loss and increased charge efficiency resulting in better performance over current "best in class" industry material.

The FYI HPA coated anode achieved a reversible capacity in the order of 362.7 mAh/g with irreversible first cycle loss amounting to only 4.5%. These are excellent results and makes the FYI and EcoGraf coated anode a superior performing Lithium-ion anode material.

#### Environment Social Governance (ESG)

ESG is a fundamental principal to FYI's business model. FYI believes the ability to manage ESG risks and opportunities is increasingly important to FYI's license to operate, the shaping of its business and the future impact on the Company's bottom line. Providing sustainable options, visibility and accountability is equally important to our customers as well as other stakeholders.

Through the directives and guidance of our ESG Director, Dr Sandy Chong who is providing practical, value driven sustainability strategies for FYI. In addition to incrementally improving our ESG position, FYI will be exploring further opportunities that strengthen its environmental standing, community engagement and sustainability.

#### ESG Reporting and Quarterly ESG Activity Summary

FYI acknowledges its responsibilities as an emerging low carbon producer and the project's sustainability and ESG obligations.

Under the Company's globally recognised ESG rating framework, FYI has established a baseline standard and intends to improve on these standards, reduce its legacy and potential environment impacts, as well as other sustainability project risks. FYI has made the commitment to incrementally improve upon its ESG score of 23.8 (ESG ranking of 5th out of 153 peers) reported on 16 June 202.



## FYI's Quarterly ESG Progress Report





## Quarter Activities Summary

### Activities Achieved during June Quarter Include:

The activities completed during the quarter include:

- ✓ Stage 1 project development signed off
- ✓ Development progress of the Demonstration facility
- ✓ Continued product market qualification and assessment in collaboration with Alcoa
- ✓ Continued with identified downstream opportunities for battery separator and anode applications
- ✓ Progressed ESG rating and reporting

### Planned September Quarter Activities Include:

The planned activities for the quarter include:

- Stage Two work streams progress for demonstration plant
- Engineering services provider (ESP) to be finalised and appointed
- HPA marketing initiatives to continue
- Continue HPA-doped carbon coated battery spherical graphite study
- HPA product market qualification and assessment in collaboration with Alcoa
- Continual improvement of ESG rating and reporting
- Review additional critical minerals opportunities

### Treasury

The Company ended the June Quarter with a cash balance of ~ \$11.6m.

### ASX Additional Information

ASX listing rule 5.3.1 and 5.3.2 - Exploration and evaluation cash payments (net of GST) during the quarter were approximately \$193k. Details of exploration, evaluation and development activities during the June 2022 quarter are set out in this report.

There were no substantive mining production activities during the quarter.

ASX listing rule 5.3.5 - Appendix 5B, Section 6.1 – description of payments: During the quarter \$186k was paid to Directors for director fees and applicable superannuation.

This announcement is authorised for release by Roland Hill, Managing Director.

### For more information please contact:

Roland Hill  
Managing Director  
Tel: +61 414 666 178  
[roland.hill@fyiresources.com.au](mailto:roland.hill@fyiresources.com.au)



## Interest in Mineral Tenements as at 30 June 2022

Tenement	Location	Interest at the beginning of the quarter	Interest at the end of the quarter
E70/4673	Western Australia	100%	100%
M70/1388		100%	100%
WMM SPLs (6)	Thailand	100% (under application)	100% (under application)

### About FYI Resources Limited

FYI's is positioning itself to be a significant producer of 4N and 5N HPA in the rapidly developing high-tech product markets.

FYI applies both an ESG and economic overlay of the Company and its operations to ensure long-term sustainable and shareholder value is created via the development of the Company's innovative, high quality, ultra-pure HPA project.

HPA is increasingly becoming the primary sought-after input material for certain high-tech products principally for its unique properties, characteristics and chemical properties that address those applications high specification requirements such as LED's and other sapphire glass products.

The longer-term driver for HPA, with forecasts of >17% CAGR\*, is the outlook for the burgeoning electric vehicle and static energy storage markets where the primary function is in the use as a separator material between the anode and cathode in batteries to increase power, functionality and safety of the battery cells.

The foundation of the HPA strategy the Company's moderate temperature, atmospheric pressure innovative process flowsheet. The strategy's quality attributes combine resulting in world class HPA project potential.

\* CRU HPA Industry Report 2021





## Appendix 5B

### Mining exploration entity or oil and gas exploration entity quarterly cash flow report

Name of entity

FYI Resources Limited

ABN

85 061 289 218

Quarter ended ("current quarter")

30 June 2022

Consolidated statement of cash flows	Current quarter \$A'000	Year to date (12 months) \$A'000
<b>1. Cash flows from operating activities</b>		
1.1 Receipts from customers	-	-
1.2 Payments for		
(a) exploration & evaluation	(193)	(2,625)
(b) development	-	-
(c) production	-	-
(d) staff costs	(186)	(501)
(e) administration and corporate costs	(99)	(692)
1.3 Dividends received (see note 3)	-	-
1.4 Interest received	4	20
1.5 Interest and other costs of finance paid	-	-
1.6 Income taxes paid	-	-
1.7 Government grants and tax incentives	-	1,078
1.8 Other (provide details if material)	-	-
<b>1.9 Net cash from / (used in) operating activities</b>	<b>(474)</b>	<b>(2,720)</b>

<b>2. Cash flows from investing activities</b>		
2.1 Payments to acquire or for:		
(a) entities	-	-
(b) tenements	-	-
(c) property, plant and equipment	-	-
(d) exploration & evaluation	-	-
(e) investments	-	-
(f) other non-current assets	-	-



## Mining exploration entity or oil and gas exploration entity quarterly cash flow report

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (12 months) \$A'000
2.2	Proceeds from the disposal of:		
	(a) entities	-	-
	(b) tenements	-	-
	(c) property, plant and equipment	-	-
	(d) investments	-	-
	(e) other non-current assets	-	-
2.3	Cash flows from loans to other entities	-	-
2.4	Dividends received (see note 3)	-	-
2.5	Other (provide details if material)	-	-
<b>2.6</b>	<b>Net cash from / (used in) investing activities</b>	-	-

<b>3.</b>	<b>Cash flows from financing activities</b>		
3.1	Proceeds from issues of equity securities (excluding convertible debt securities)	-	-
3.2	Proceeds from issue of convertible debt securities	-	-
3.3	Proceeds from exercise of options	-	5,305
3.4	Transaction costs related to issues of equity securities or convertible debt securities	-	-
3.5	Proceeds from borrowings	-	-
3.6	Repayment of borrowings	-	-
3.7	Transaction costs related to loans and borrowings	-	-
3.8	Dividends paid	-	-
3.9	Other (provide details if material)	-	-
<b>3.10</b>	<b>Net cash from / (used in) financing activities</b>	-	<b>5,305</b>

<b>4.</b>	<b>Net increase / (decrease) in cash and cash equivalents for the period</b>		
4.1	Cash and cash equivalents at beginning of period	12,121	9,062
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(474)	(2,720)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	-	-
4.4	Net cash from / (used in) financing activities (item 3.10 above)	-	5,305

## Mining exploration entity or oil and gas exploration entity quarterly cash flow report

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (12 months) \$A'000
4.5	Effect of movement in exchange rates on cash held	-	-
4.6	<b>Cash and cash equivalents at end of period</b>	<b>11,647</b>	<b>11,647</b>

5.	Reconciliation of cash and cash equivalents at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts	Current quarter \$A'000	Previous quarter \$A'000
5.1	Bank balances	3,647	2,892
5.2	Call deposits	-	-
5.3	Bank overdrafts	-	-
5.4	Other (term deposit)	8,000	9,229
5.5	<b>Cash and cash equivalents at end of quarter (should equal item 4.6 above)</b>	<b>11,647</b>	<b>12,121</b>

6.	Payments to related parties of the entity and their associates	Current quarter \$A'000
6.1	Aggregate amount of payments to related parties and their associates included in item 1	186
6.2	Aggregate amount of payments to related parties and their associates included in item 2	-
<i>Note: if any amounts are shown in items 6.1 or 6.2, your quarterly activity report must include a description of, and an explanation for, such payments.</i>		

7.	Financing facilities <i>Note: the term "facility" includes all forms of financing arrangements available to the entity. Add notes as necessary for an understanding of the sources of finance available to the entity.</i>	Total facility amount at quarter end \$A'000	Amount drawn at quarter end \$A'000
7.1	Loan facilities	-	-
7.2	Credit standby arrangements	-	-
7.3	Other (please specify)	-	-
7.4	<b>Total financing facilities</b>	-	-
7.5	<b>Unused financing facilities available at quarter end</b>		-
7.6	Include in the box below a description of each facility above, including the lender, interest rate, maturity date and whether it is secured or unsecured. If any additional financing facilities have been entered into or are proposed to be entered into after quarter end, include a note providing details of those facilities as well.		

8.	Estimated cash available for future operating activities	\$A'000
8.1	Net cash from / (used in) operating activities (item 1.9)	(474)
8.2	(Payments for exploration & evaluation classified as investing activities) (item 2.1(d))	-
8.3	Total relevant outgoings (item 8.1 + item 8.2)	(474)
8.4	Cash and cash equivalents at quarter end (item 4.6)	11,647
8.5	Unused finance facilities available at quarter end (item 7.5)	-
8.6	Total available funding (item 8.4 + item 8.5)	11,647*
8.7	<b>Estimated quarters of funding available (item 8.6 divided by item 8.3)</b>	24.6
	<i>Note: if the entity has reported positive relevant outgoings (ie a net cash inflow) in item 8.3, answer item 8.7 as "N/A". Otherwise, a figure for the estimated quarters of funding available must be included in item 8.7.</i>	
8.8	If item 8.7 is less than 2 quarters, please provide answers to the following questions:	
8.8.1	Does the entity expect that it will continue to have the current level of net operating cash flows for the time being and, if not, why not?	
	Answer: N/A.	
8.8.2	Has the entity taken any steps, or does it propose to take any steps, to raise further cash to fund its operations and, if so, what are those steps and how likely does it believe that they will be successful?	
	Answer: N/A.	
8.8.3	Does the entity expect to be able to continue its operations and to meet its business objectives and, if so, on what basis?	
	Answer: N/A.	
	<i>Note: where item 8.7 is less than 2 quarters, all of questions 8.8.1, 8.8.2 and 8.8.3 above must be answered.</i>	

\* The Company also has an equity finance/capital commitment facility of up to A\$80 million (less A\$3.13 drawn down to date) in place with GEM Global Yield LLC SCS for funding the development of the HPA project and working capital purposes. Refer to announcement 11 March 2020.

### Compliance statement

- This statement has been prepared in accordance with accounting standards and policies which comply with Listing Rule 19.11A.
- This statement gives a true and fair view of the matters disclosed.

Date: 29 July 2022

Authorised by: Roland Hill, Managing Director  
(Name of body or officer authorising release – see note 4)

## Mining exploration entity or oil and gas exploration entity quarterly cash flow report

## Notes

1. This quarterly cash flow report and the accompanying activity report provide a basis for informing the market about the entity's activities for the past quarter, how they have been financed and the effect this has had on its cash position. An entity that wishes to disclose additional information over and above the minimum required under the Listing Rules is encouraged to do so.
2. If this quarterly cash flow report has been prepared in accordance with Australian Accounting Standards, the definitions in, and provisions of, *AASB 6: Exploration for and Evaluation of Mineral Resources* and *AASB 107: Statement of Cash Flows* apply to this report. If this quarterly cash flow report has been prepared in accordance with other accounting standards agreed by ASX pursuant to Listing Rule 19.11A, the corresponding equivalent standards apply to this report.
3. Dividends received may be classified either as cash flows from operating activities or cash flows from investing activities, depending on the accounting policy of the entity.
4. If this report has been authorised for release to the market by your board of directors, you can insert here: "By the board". If it has been authorised for release to the market by a committee of your board of directors, you can insert here: "By the [name of board committee – eg Audit and Risk Committee]". If it has been authorised for release to the market by a disclosure committee, you can insert here: "By the Disclosure Committee".
5. If this report has been authorised for release to the market by your board of directors and you wish to hold yourself out as complying with recommendation 4.2 of the ASX Corporate Governance Council's *Corporate Governance Principles and Recommendations*, the board should have received a declaration from its CEO and CFO that, in their opinion, the financial records of the entity have been properly maintained, that this report complies with the appropriate accounting standards and gives a true and fair view of the cash flows of the entity, and that their opinion has been formed on the basis of a sound system of risk management and internal control which is operating effectively.