

Ticker: RBW LN
Market cap: £57m

Net cash: £2m
Price: £0.119/sh

Project: Phalaborwa
Country: South Africa

RECOMMENDATION (unc): BUY

TARGET: £0.35/sh (unc)

RISK RATING: HIGH

Rainbow's announcement today has three key takeaways in our view. First, by gaining exclusive rights to licence K-Tech's IX technology, Rainbow has enhanced its first mover advantage in seeking to develop REEs from phosphogypsum, particularly in South Africa where high grade phosphogypsum from carbonatites may be available. Second, this confirms our prior expectation that Rainbow will seek to produce separated rare earth oxides to capture ~90-100% payability vs stopping at a mixed REO carbonate for ~60-70% payable. In our view this is logical on a standalone basis and also could present an opportunity for Rainbow to become an upgrader of third party concentrates as well. Finally, continuous IX is a well understood process for uranium extraction and, noting Rainbow's stated intention to develop a separated REE oxide pilot plant as part of pre-development DD, we believe this represents a highly attractive risk-reward opportunity for the company. The most proximate major catalyst for Rainbow remains the PEA, which we expect in Q4. **We maintain our BUY rating and 35p/sh price target based on 0.5x NAV_{8%-80/kg}.** Stepping back, we believe that Rainbow offers a significantly better risk adjusted return profile for critical NdPr due to infrastructure in place and the already treated nature of the mineralisation.

Continuous IX and CIC route selected for downstream processing

Rainbow Rare Earths announced it has entered an exclusive IP licensing agreement with K-Technologies (K-Tech), a company based in Lakeland, FL, USA.

Agreement Terms: Rainbow has secured exclusive IP licencing rights for use on separation of rare earths from phosphogypsum, for a period of four years, across the South African Development Community region, including South Africa, Botswana, DRC, Madagascar, Malawi, Namibia, Tanzania, Zambia and Zimbabwe among others. A licencing fee of up to US\$5.5m per project will be paid as part of construction capital.

Technology: Rainbow has secured IP rights on continuous ion exchange (CIX) and continuous ion chromatography (CIC) IP for separation of rare earths into separated rare earth oxides or carbonates. The K-Tech process uses fewer stages and reagents than traditional solvent extraction technology. The process eliminates the use of toxic and highly flammable solvents and diluents. The technology has undergone successful bench and pilot scale testing in separation REEs from leach solutions.

Why we like Rainbow Rare Earths

1. Tailings project located on existing industrial facility results in low capex and opex
2. High per tonne value due to NdPr, Dy, Tb assemblage and ability to produce beneficiated product
3. Proven management team that has built numerous mines and tailings projects

Catalysts

- 4Q21: PEA
- 2022: DFS, pilot plant and end of year financial investment decision
- 2023: Construction
- 2024: SCPe ramp up, commercial production in 2025

Research

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Ticker: RBW LN	Price / mkt cap: £0.12/sh, £57m	Market P/NAV: 0.16x	Assets: Phalaborwa
Analyst: J Chan / B Gaspar	Rec / PT: BUY / £0.35	1xNAV₂₀₂₂ FD: US\$1.03/sh	Country: South Africa

Group-level SOTP valuation					Resource / Reserve						
	2021	3Q21E			Mt	% TREO	000t REO	000t NdPr	EV/t NdPr		
	US\$m	US\$m	O/ship	NAVx	£/sh						
Phalaborwa NPV 3Q21E		530	80%	0.50x	0.40	38	0.43%	165	48	1,569	
Central SG&A & fin costs 3Q21E	(106)	-	-	0.50x	(0.11)	38	0.43%	163	48	1,586	
Tonnes outside mine plan (5% insitu value)	2	100%	-	0.50x	0.00						
Cash and restr. cash 2Q21	3	-	-	0.50x	0.00						
Cash from options	1	-	-	0.50x	0.00						
Debt 2Q21	(1)	-	-	0.50x	(0.00)						
Gakara	75	-	-	0.50x	0.08						
1xNAV8% spot fully diluted, pre-funded	504				0.37						
Assumed equity raised to first production	65	-	-	0.50x	0.08						
1xNAV8% spot fully funded	569				0.36						

1x fully funded NAVPS sensitivity to gold price and discount / NAV multiple						
Valuation (£/sh)	\$60/kg	\$70/kg	\$80/kg	\$90/kg	\$100/kg	
0.25xNAV	0.13	0.16	0.19	0.22	0.25	
0.50xNAV	0.23	0.29	0.36	0.42	0.49	
0.75xNAV	0.33	0.43	0.53	0.63	0.72	
1.00xNAV	0.43	0.56	0.69	0.83	0.96	

Phalaborwa NPV8% (US\$m)						
	\$60/kg	\$70/kg	\$80/kg	\$90/kg	\$100/kg	
12% discount	249	306	362	419	475	
10% discount	303	368	434	500	565	
8% discount	370	447	524	601	678	
6% discount	455	546	638	729	821	
5% discount	506	606	706	806	907	

Phalaborwa 1xNAV sensitivity to recovery and payability					
Phalaborwa NPV8% (US\$m)	Recov: 65.0%	70.0%	75.0%	80.0%	85.0%
Payability: 60%	163	201	239	277	315
Payability: 70%	245	290	334	378	423
Payability: 80%	328	378	429	480	530
Payability: 90%	410	467	524	581	638
Payability: 100%	492	556	619	682	745

Valuation over time					
	Jun '21	Jun '22	Jun '23	Jun '24	Jun '25
Mines NPV (US\$m)	519.7	565.6	671.7	766.9	738.4
Cntrl G&A & fin costs (US\$m)	(108.1)	(98.4)	(105.1)	(86.7)	(69.4)
Gakara & other	77.1	77.1	77.1	77.1	77.1
Net cash at 1Q (A\$m)	(0.6)	8.3	2.6	(59.2)	(2.5)
1xNAV (US\$m)	488	553	646	698	744
P/NAV (x):	0.12x	0.10x	0.09x	0.08x	0.08x
1xNAV share px FD (US\$/sh)	1.00	1.13	1.33	1.43	1.52
ROI to equity holder (% pa)	744%	209%	124%	86%	67%

Sources and uses of cash			
SCPe evaluation costs	US\$10m	SCPe current cash + options	US\$3m
SCPe capex	US\$100m	Debt package	US\$80m
SCPe contingency	US\$16m	Equity Raised	US\$65m
SCPe G&A + fin. cost to first Au	US\$13m		
SCPe working capital	US\$9m		
Total uses	US\$148m	Total proceeds	US\$148m

*Cash from options expiring pre first pour

Production profile					
Production (kt REO)	2024	2025	2026	2027	2028
Rev / Cost (US\$/t)	2029	2030	2031	2032	2033
	2034	2035			

Production (100%)					
	Jun '24	Jun '25	Jun '26	Jun '27	Jun '28
Phalaborwa (kt TREO)	968	5,321	7,095	7,095	7,095
Phalaborwa (kt Nd+Pr)	281	1,548	2,064	2,064	2,064
Phalaborwa cash cost (US\$/t)	11,886	7,752	7,752	7,752	7,752
Phalaborwa AISC (US\$/t)	15,317	10,852	10,619	10,619	10,619
Group cash cost (US\$/t)	12,466	8,332	8,332	8,332	8,332
Group AISC (US\$/t)	19,104	9,986	9,495	9,495	9,495

Balance sheet					
	Jun '22	Jun '23	Jun '24	Jun '25	Jun '26
Cash (US\$m)	10	44	23	79	150
Accounts receivable (US\$m)	1	2	5	13	14
Inventories (US\$m)	0	3	6	18	6
PPE & exploration (US\$m)	15	71	121	117	111
Other (US\$m)	0	0	0	0	0
Total assets (US\$m)	26	121	155	228	281
Debt (US\$m)	2	42	82	82	67
Other liabilities (US\$m)	1	9	2	5	5
Shareholders equity (US\$m)	49	99	99	99	99
Retained earnings (US\$m)	(24)	(28)	(28)	43	111
Minority int. & other (US\$m)	(1)	(1)	(1)	(1)	(1)
Liabilities+equity (US\$m)	26	121	155	228	281
Net cash (US\$m)	8	3	(59)	(3)	83
Net debt to NTM EBITDA (x)	4.1x	(0.2x)	0.6x	0.0x	(0.6x)

Source: SCP estimates

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BUY:	46
HOLD:	0
SELL:	0
UNDER REVIEW:	0
TENDER:	0
NOT RATED:	0
TOTAL	46

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