futureelement

Leading the transition to a circular metals industry

Business overview

September 2023

Mining

needs to evolve to contribute to future metal & mineral demand

Mining will continue to be core to providing metals and minerals for the future

However, momentum is growing to the industry to reduce environmental and social impacts

Miners' competency lies in exploitation of in-ground deposits, built around maximising net present value

The "fight" for capital means economic recovery of metals from tailings is deprioritised



is a key part of mining's transition to a low carbon future

The potential of tailings to provide metals and minerals critical for the future is enormous

This requires a shift in strategy to minimise impact, progressively rehabilitate & realise value of tailings

At new mines, this will leave a positive legacy, contribute to future industries, & benefit the host economy

For existing mines, there is an opportunity to partner with companies focused to rehabilitation and metal recovery

$\bigcirc \bigcirc \bigcirc \bigcirc$ of global tailings contain metals critical for future industries^{3,4, 5} Copper (200Mt) 225 Nickel (14Mt) Zinc & Lead (130Mt) billion Concentrating solar Gold (380Moz) tonnes Electricity networks & Other metals Electric Vehicles of tailings

(Li, Co, Al, REEs, PGMs)

The future

for tailings requires a holistic solution addressing the needs of all stakeholders

Future Element has proven capability to realise the opportunity in economic rehabilitation globally:



Track record Demonstrated tailings management &



Technology

Adaptable & robust systems using leading technology & data-driven processes



Mobilisation & operation of bespoke, integrated & independently operated solutions



Provision of funding of project off miners' balance sheets

New mines are increasingly difficult to find, permit, develop, take longer and cost more^{1,2}





⁵ Contribution percentage of mineral types with contained metal grades assumed: Cu: 0.15%, Au: 0.2g/t. Zn+Pb: 1.5%, Ni: 0.25%

Batteries

futureelement

leading the transition to a circular metals industry

Leveraging our core competencies in tailings retreatment and mineral processing, Future Element partners with mining companies to provide end-to-end tailings management and metal recovery, integrating key offerings into one holistic solution:

- 1. progressive rehabilitation of current and historic tailings
- 2. treatment & recycling of tailings water, and
- 3. recovery of valuable metals and minerals

Our approach provides:



land and water returned to the environment, allowing mines to operate and close without lasting impacts



sustainable metals

accessing latent or "lost" metals and minerals to enhance a mine's ability to support future industries



economic rehabilitation

miners and Future Element to share economic returns whilst supporting mining's transition to serving the circular economy



Team with track record in acquiring, developing, and operating world-class tailings projects

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John Carr Managing Director & CEO

Co-founder and Chief Development Officer of New Century Resources, responsible for project acquisitions and development strategies

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Through this process, the Company established one of the world's largest tailings reprocessing operations at the Century Mine in just 18 months

Previously, Executive General Manager of Mining at Sunrise Energy Metals, for the acquisition and development of the Sunrise laterite project. Prior to this role, John held senior commercial and technology management roles for a range of metals. Previously, technical roles at Rio Tinto

MBA and a Bachelor in Chemical Engineering



Patrick Walta Executive Director

Founding Managing Director of New Century Resources, leading growth of the Company though mine restart and steady state operations

Through this process, the Century Mine became the world's 13th largest zinc producer, delivering >1Mt of zinc concentrate from tailings reprocessing

Previously, Managing Director of Carbine Resources, CEO of Cradle Resources and various technical roles, with extensive experience in metal extraction

MBA, Masters of Mineral Economics, Bachelor in Chemical Engineering and Science and Australian Institute of Company Directors



Dennis Gibson Chief Technical Officer

Over 40 years international mining experience including with Rand Mines and 20 years with Rio Tinto in various operational and strategic roles, including global Rio Tinto water strategy. Executive Committee member with ASX listed Energy Resources of Australia.

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Former Chief Technical Officer Mining with global engineering, consulting and construction firm Black & Veatch. Dennis has provided strategic market entry advice to clients leveraging his vast international experience, deep industry knowledge and extensive networks. MBA and Bachelors and Masters degrees in Engineering



Brent Slattery Chief Operating Officer



18 years working in the mining industry as a senior leader and consultant

Previously 12 years at BHP in a range of operational & commercial leadership roles in the Coal, Copper & Iron Ore groups including Group Manager for automatous mining as well as responsibility for the Caterpillar relationship globally.

More recently Brent was with Boston Consulting Group as an expert their Industrial Goods & Operations Practices. His focus was operational turnarounds, major capital delivery and operating model transformations

Executive MBA and Bachelor degrees in Mechanical Engineering and Business

Century: a case study in economic rehabilitation

The Future Element team have a track record of converting significant liabilities into profitable rehabilitation operations

The Century Mine (Australia) operated 1999 to 2015, producing c.a. 1 million tonnes per year of zinc concentrate as the 3rd largest zinc mine in the world.

At completion of mining, the tailings contained 78.9 million tonnes @ 3.02% zinc and 12.4q/t silver 2,380,000t contained zinc & 31,500,000oz contained silver

New Century Resources acquired company in 2017 from MMG for \$0 plus A\$46.6m in contributions. Tailings reprocessing commenced in 2018 after 8-month refurbishment. The process includes 10Mtpa hydraulic mining of tailings, followed by flotation, producing ~270ktpa zinc concentrate, with reprocessing to be completed by 2027

Sibanye Stillwater acquired New Century Resources in 2023

	Original rehabilitation plan	New Century Resources economic rehabilitation		
Rehabilitation method	Cap & seed tailings dam	Subaqueous deposition of tailings in original pit		
Land disturbance	Impacted Land form as at mine closure with increased monitoring requirements	Minimised Tailings dam and evaporation dam returned to natural landform		
Employment	~20 On site staff for closure activities	>300 Employees of continued economic activity		
Closure cost (USD)	317 million MMG's provision ⁴ for closure of the mine site at time of cessation of operations at mine	50 million Estimated provision ⁵ for closure at the end of tailings retreatment activities		

¹ Based on Mineral Resource announced by New Century Resources (ASX:NCZ) on 12 Sept 2017, US\$2,400/t Zn, US\$18/oz Ag, 50% Zn recovery, 35% Ag recovery, 85% Zn payability, 26% Ag payability, ² Image from New Century Resources' public presentations released to the ASX. ³ Based on New Century ASX announcements to Q1 FY23, Q2 FY estimates based on mid-range annual guidance for the quarter, 0.67USD:AUD exchange rate applied. ⁴ MMG (ASX:MMG) 2016 annual report. ⁵ NC2 ASX announcement dated 27 October, investor presentation Side 16. ⁶ Based on NCZ ASX quarterly filings. Operational cash flow defined as: receipts plus QP settlements plus change in inventory value less production costs, SG&A and sustaining capex, excl.

Delivered from restart (Sept 2018) to Dec 20223:

of zinc

sold

million million tonnes tonnes of tailings reprocessed & concentrate rehabilitated produced &

18 . Call the

\$830

million

of revenue from sold zinc

\$135 USD

million

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operational cash flow since commercial production (June 2020)

Value chain

From initial scoping, through to financing, execution and operation, Future Element takes on current and historic tailings at operating or legacy mine sites, processes and recovers valuable metals and minerals, treats and recycles contained water and delivers rehabilitated land to standards required for relinquishment





is the key to unlocking value

Future Element's focus on assembling and integrating the best-in-class technical solution to deliver a superior outcome, via partnership with a suite of leading technology suppliers & OEMs

Core to Future Element's offering are technologies that:



Maximise recoverable value of metals and minerals in tailings



Provide a platform for a range of tailings types & applications



Use data-driven processes to predict & optimise performance Future Element has formed its first strategic relationship with Clean TeQ Water, providing world-leading platform technologies for metal recovery, advanced dewatering and mine water treatment



Unlock latent value of metal in tailings

Clean-IX[®] is a key metal extraction technology for a wide range of key metals for future industries

Clean-IX® Direct Metal Extraction

Ion exchange resin¹ is contacted with slurry or solution to extract target metals

Loaded resin is sent to concentration desorption to produce a concentrated metal solution

Resins and slurries/solutions are moved continuously and counter-currently to maximise recovery and efficiency

Process is specifically designed for mining solutions & slurries



Benefits

Platform for a wide range of tailings & metals:

- ✓ Applicable for every leach stream, from unclarified solutions (i.e., heap and ISL) to slurries (i.e., atmospheric and pressure leach)
- Highly efficient for low metal concentration, significantly improving economics of tailings
- Resins and processes for half the periodic table of elements

Benefits over other metal extraction systems:

- ✓ Maximises metal loading & minimises impurities
- ✓ U-Column increases concentration and purity, significantly reducing downstream purification
- ✓ Minimal to no filtration required, simplifying process and increasing uptime
- ✓ Customised processes using a range of proprietary contactor designs



Opportunity for Future Element

Technology unlocks value in several key and critical metals in tailings

- Low concentration metals in ore and solutions are traditionally difficult to make economic
- Clean-IX[®] extends and lowers the concentration range for economic extraction
- Provides a key to access several metals in tailings, providing a broader potential for economic rehabilitation to be achieved

Potential target metals:



No more tailings dams

ATA[™] incentivises every mine to transition to dry disposal & progressive rehabilitation of tailings

Activator Tether Anchor

ATA[™] is a polymer-based technology rapidly separating tailings into reusable high strength solids and clarified water for immediate recycling

ATA™ captures fine tailings with coarse tailings, providing a novel dewatering solution



Benefits

A platform of fit-for-purpose solutions for every type of tailings, particularly for "fine" tailings

Simple filtration and direct to final storage, with rapid water recovery & progressive rehabilitation (surface) or backfill (underground)

Benefits over standard wet tailings:

- ✓ Increased rate of water recovery
- ✓ Lower tailings footprint & eliminated tailings ponds
- Increased ability to back-fill material (underground)

Benefits over high-pressure filtration:

- ✓ Significantly reduced capital cost
- ✓ Significantly reduced energy costs
- ✓ Smaller plant footprint

ATA solutions lower environmental footprint and accelerate release of environmental bonds or liabilities

Opportunity for Future Element

Provides a key-enabler to move towards dry disposal of tailings at every site

- ✓ ATA[™] integrated into every Future Element process allows for a leading process to readily produce low-cost dry disposal tailings
- A market-differentiated offering, when combined with metal/mineral recovery, provides a significant advantage over other rehabilitation strategies
- ✓ As the process can be retrofitted to existing dry-stack processes, even current drydisposal sites can integrate ATA[™] to improve their performance

Multiple dewatering options:

Option 1:	Option 2:	Option 3:		
Dewatered	Dry	Dry		
Stack	stack	Stack		
Direct to TSF	Combined with	Combined with		
(surface) or	low pressure	high pressure		
stope (backfill)	filtration	filtration		
~60% solids	~75% solids	~80% solids		



Commercial models

Tailings management and rehabilitation via two broad contract structures, customised for each project

		Joint Venture	Build-Own-Operate-Maintain	
Contract structure	Contract scope management development, execution, operation	Future Element	Future Element	
	Contract length	Life of tailings	Life of tailings	
	Ownership of plant and equipment	Joint Venture	Future Element	
Commercials	Operating profit	Distributed to Joint Venture shareholders, subject to any agreed loan-carry agreements	Distributed to miner, subject to any performance-based payments to Future Element	
	Saleable products	Sold by Joint Venture either to miner or to third party on arm's length commercial terms	Sold by miner, with Future Element receiving production performance- based payments	
	Operating cost accountability	Joint Venture	Future Element, with agreed key performance metrics	
Capital	Capital contribution, incl. working and sustaining capital	Relative to % ownership of JV	By Future Element	
	Capital payback	Potential for loan-carry between JV shareholders	Built into contract, tiered payments for capital payback	
Environmental liability	Liability ownership and bonding responsibility ¹	Remains with mining company	Remains with mining company	

Benefits to clients:

- Single-source accountability for tailings and water management
- ✓ KPIs structured to minimise cost and maximise rehabilitation
- ✓ Revenue from metal recovery offsets rehabilitation costs
- ✓ Increases site reportable metal production
- Allows flexibility in fee structure and funding options via metal exposure

Process

Future Element is responsible for the complete scope from concept development through to operational execution and ultimate relinquishment The following is an indicative program of work, including commercial and funding structures

Development step:



Funding & Commercial:



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Our world is changing, and the way we produce, and use, metals and minerals must adapt.

As our global community continues to evolve, the pivotal role metals and minerals play in the world will become ever more apparent. These elements will continue to underpin industries and technologies which ensure our quality of life.

At the same time, intractable challenges such as climate change and social inequality demand greater accountability for all impacts from current and future mines, including externalities that have remained unaddressed in the past.

At Future Element, we believe that the right amounts of the right metals and minerals can be made more readily, more equitably, and more affordably available to contribute to the future needs of society.

Our journey starts by combining low-impact recovery of metals units from mine tailings with the restoration and preservation of pristine landscapes and water bodies.

Over time, sustainability imperatives and a proactive focus on tailings will open range of possibilities for the mining industry to develop interconnected value chains with downstream processing and recycling.

We bring the future element to accelerate mining's transition into sustainable providers of metals and minerals.

Traditional rehabilitation

creates a growing liability issue

Conventional valuation models for mining companies defer rehabilitation until the end of economic life, creating a growing issue for the operator



Economic rehabilitation

creates sustainable sources of metal

Combining best-in-class tailings management and harnessing latent value in tailings provides a new perspective on the 'cost' of rehabilitation



Activator Tether Anchor (ATA)

A platform for the complete spectrum of tailings storage requirements

ATA™ in action:



Identical tailings san ATA [®] and compa	nples treated with red to standard
ATA™ thicke	Thickening
~1,000 Pa yield strengthStackable material	~30 Pa yield strengthSoupy material
Maximum water recovery	Requires containment

Fines Fraction Activated Fines Hydrocyclone Tailings Stream Tether Activator Coarse Fraction Tethered Anchors Water Stackable Solids Multiple dewatering Stackable Solids					ing		
Technology	Unthickened slurry in TSF	Thickened slurry in TSF	Paste in TSF	Pressure filtration	Option 1: Dewatered Stack Direct to TSF / stope (backfill) ~60% solids	Option 2: Dry-stack Low pressure filtration ~75% solids	Option 3: Dry Stack High pressure filtration ~80% solids
Capital Cost	High	High	Moderate	High	Low	Low	Low
Operating Cost	Low	Low	Moderate	High	Moderate	Moderate	Moderate
Tailings Risk	High	High	Moderate	Low	Moderate	Low	Low
Water Recovery	Low / Slow	Low / Slow	Moderate / Rapid	High / Rapid	Moderate / Rapid	High / Rapid	High / Rapid
Power	Low	Low	Moderate	High	Low	Low	Moderate
Dry-stack equivalent	None	None	Eventual (with compaction)	Dry	Within one year	Dry	Dry

