



# 5E Advanced Materials

## Investor Presentation

*The future of Boron is 5E*

May 2023

# Disclaimer

## FORWARD-LOOKING STATEMENTS

The information in this Presentation includes “forward looking statements”. All statements other than statements of historical fact included in this Presentation regarding our business strategy, plans, goals and objectives are forward looking statements. When used in this Presentation, the words “believe”, “project”, “expect”, “anticipate”, “estimate”, “intend”, “budget”, “target”, “aim”, “strategy”, “estimate”, “plan”, “guidance”, “outlook”, “intend”, “may”, “should”, “could”, “will”, “would”, “will be”, “will continue”, “will likely result” and similar expressions are intended to identify forward looking statements, although not all forward looking statements contain such identifying words. These forward looking statements are based on 5E’s current expectations and assumptions about future events and are based on currently available information as to the outcome and timing of future events. We caution you that these forward looking statements are subject to all of the risks and uncertainties, most of which are difficult to predict and many of which are beyond our control, incident to the extraction of the critical materials we intend to produce and advanced materials production and development. These risks include, but are not limited to: our limited operating history in the borates and lithium industries and the fact that we have not yet realized any revenue from our proposed extraction operations at our properties; our need for substantial additional financing to execute our business plan and our ability to access capital and the financial markets; our status as an exploration stage company dependent on a single project with no known Regulation S-K 1300 mineral reserves and the inherent uncertainty in estimates of mineral resources; our lack of history in mineral production and the significant risks associated with achieving our business strategies, including our downstream processing ambitions; our ability to obtain, maintain, and renew governmental and environmental permits in order to conduct development and mining operations in a timely manner; our incurrence of significant net operating losses to date and expectations to incur continued losses for the foreseeable future; risks and uncertainties relating to the development of the 5E Boron Americas Complex, including our ability to timely and successfully complete Phase 1 of our 5E Boron Americas Complex; our ability to obtain, maintain and renew required governmental permits for our development activities, including satisfying all mandated conditions to any such permits; and other risks. Should one or more of these risks or uncertainties occur, or should underlying assumptions prove incorrect, our actual results and plans could differ materially from those expressed in any forward looking statements. No representation or warranty (express or implied) is made as to, and no reliance should be placed on, any information, including projections, estimates, targets and opinions contained herein, and no liability whatsoever is accepted as to any errors, omissions or misstatements contained herein.

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## MARKET AND INDUSTRY DATA

This Presentation has been prepared by 5E and includes market data and other statistical information from third party sources, including independent industry publications, government publications or other published independent sources. Although 5E believes these third party sources are reliable as of their respective dates for the purposes used herein, neither we nor any of our affiliates, directors, officers, employees, members, partners, shareholders or agents make any representation or warranty with respect to the accuracy or completeness of such information. Although we believe the sources are reliable, we have not independently verified the accuracy or completeness of data from such sources. Some data is also based on 5E’s good faith estimates, which are derived from our review of internal sources as well as the third party sources described above. Additionally, descriptions herein of market conditions and opportunities are presented for informational purposes only there can be no assurance that such conditions will actually occur or result in positive returns.

## CAUTIONARY NOTE REGARDING RESERVES

Unless otherwise indicated, all mineral resource estimates included in this Presentation have been prepared in accordance with, and are based on the relevant definitions set forth in, the SEC’s Mining Disclosure Rules and Regulation S-K 1300 (each as defined below). Mining disclosure in the United States was previously required to comply with SEC Industry Guide 7 under the Exchange Act (“SEC Industry Guide 7”). In accordance with the SEC’s Final Rule 13-10570, Modernization of Property Disclosure for Mining Registrant, the SEC has adopted final rules, effective February 25, 2019, to replace SEC Industry Guide 7 with new mining disclosure rules (the “Mining Disclosure Rules”) under sub-part 1300 of Regulation S-K of the Securities Act of 1933, as amended (the “Securities Act”) (“Regulation S-K 1300”). Regulation S-K 1300 replaces the historical property disclosure requirements included in SEC Industry Guide 7. Regulation S-K 1300 uses the Committee for Mineral Reserves International Reporting Standards (“CRIRSCO”) - based classification system for mineral resources and mineral reserves and accordingly, under Regulation S-K 1300, the SEC now recognizes estimates of “Measured Mineral Resources”, “Indicated Mineral Resources” and “Inferred Mineral Resources”, and require SEC-registered mining companies to disclose in their SEC filings specified information concerning their mineral resources, in addition to mineral reserves. In addition, the SEC has amended its definitions of “Proven Mineral Reserves” and “Probable Mineral Reserves” to be substantially similar to international standards. The SEC Mining Disclosure Rules more closely align SEC disclosure requirements and policies for mining properties with current industry and global regulatory practices and standards, including the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves, referred to as the “JORC Code”. While the SEC now recognizes “Measured Mineral Resources”, “Indicated Mineral Resources” and “Inferred Mineral Resources” under the SEC Mining Disclosure Rules, investors should not assume that any part or all of the mineral deposits in these categories will be converted into a higher category of mineral resources or into mineral reserves.

For additional information regarding these various risks and uncertainties, you should carefully review the risk factors and other disclosures in our Form 10-K filed with the U.S. Securities and Exchange Commission (SEC) on September 28, 2022, as amended by our Form 10-K/A filed on October 31, 2022, as well as our Form 10-Qs filed on November 10, 2022 and February 9, 2023. Additional risks are also disclosed by 5E in its filings with the Securities and Exchange Commission throughout the year, as well as its filings under the Australian Securities Exchange.

# Technical Report Updates

# 5E Boron Americas Complex: By The Numbers

## S-K 1300 Initial Assessment - Technical Report Summary



**31 Years**  
Life of Mine



**\$2.41B**  
After-tax NPV<sub>8%</sub>



**23%**  
After-tax IRR



**US\$13.0B**  
LOM Net Cashflow



**US\$101.2M – 62.1%**  
EBITDA - EBITDA  
margin in FY2027



**90ktpa Boric Acid**  
Initial Production  
(2<sup>nd</sup> calendar Q2026)



**\$373M**  
Initial CAPEX



**74.3Mt at 4.15% B<sub>2</sub>O<sub>3</sub>,**  
**7.37% H<sub>3</sub>BO<sub>3</sub> & 356ppm LCE**  
M & I Resource



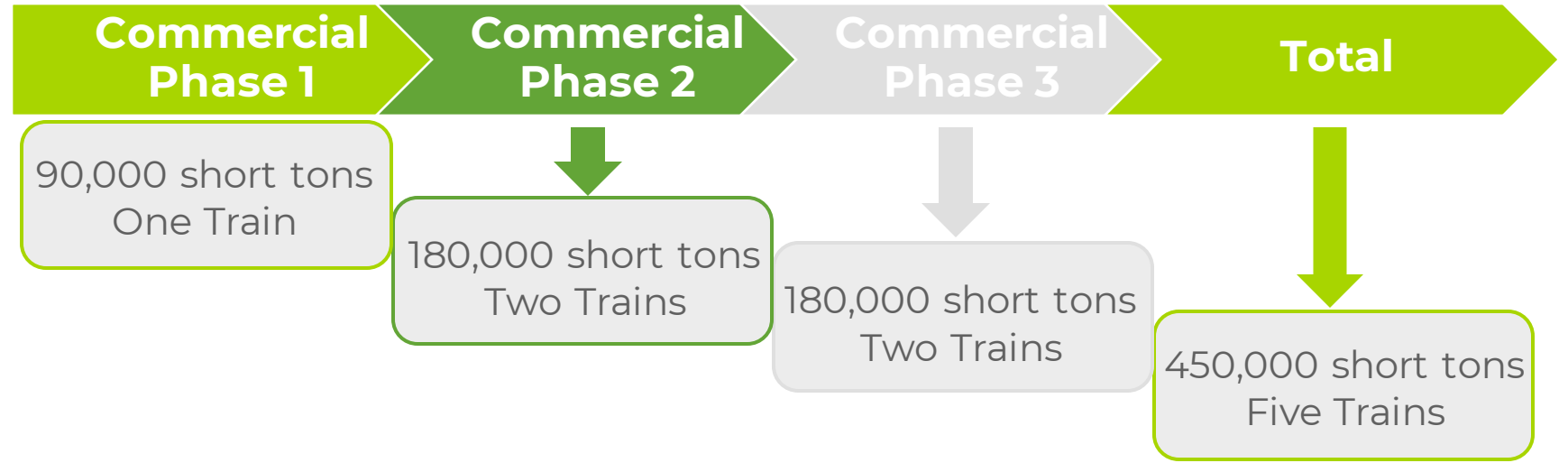
**450ktpa Boric Acid**  
Full Production



**US\$621.9M – 58.2%**  
EBITDA - EBITDA  
margin FY2032

# Phased CAPEX Schedule

- Each 90kstpA train will have **2-step crystallization** (crude and final) to achieve technical grade boric acid purity
- **25% CAPEX Contingency** included
- **Increased CAPEX due to** additional dual crystallization, boiler, boric acid filters and dryer, storage tanks, lithium extraction units, and other utility and packaging equipment.

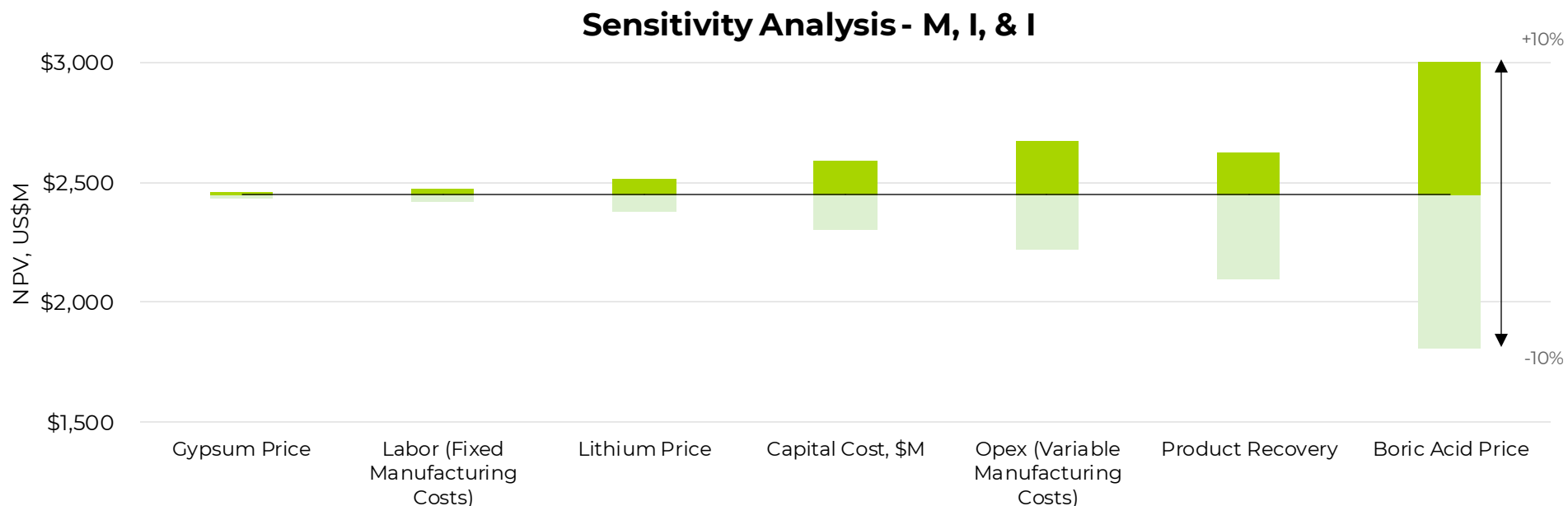


<i>USD-M<sup>1</sup></i>	Total	2024	2025	2026	2027	2028	2029	2030	2031
<b>1. Boric Acid/Li 90K CAPEX</b>	<b>\$389</b>	\$37.3	\$149.8	\$201.8					
<b>2. Boric Acid/Li 180K CAPEX</b>	<b>\$620</b>			\$2.9	\$129.9	\$417.0	\$70.5		
<b>3. Boric Acid/Li 180K CAPEX</b>	<b>\$947</b>						\$90.8	\$364.6	\$491.1
<b>Total CAPEX Rollout</b>	<b>\$1,955</b>	<b>\$37.3</b>	<b>\$149.8</b>	<b>\$204.7</b>	<b>\$129.9</b>	<b>\$417.0</b>	<b>\$161.3</b>	<b>\$364.6</b>	<b>\$491.1</b>

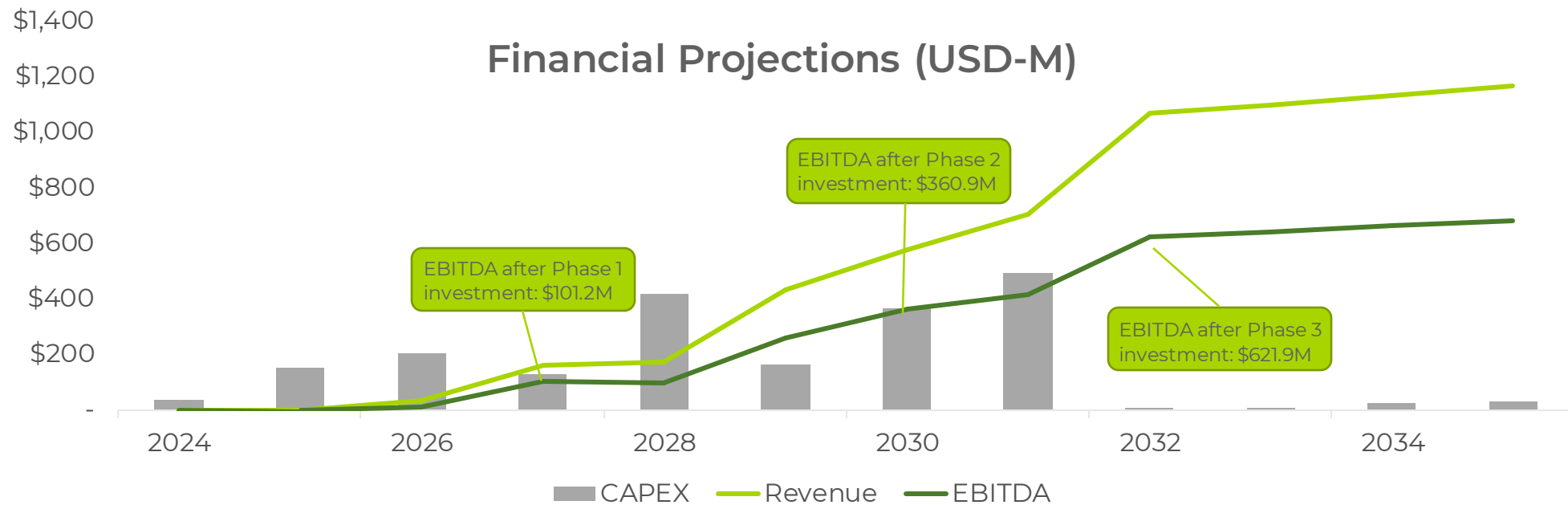
<sup>1</sup> Includes 3% escalation assumption; CAPEX without escalation: Phase 1: US\$373M, Phase 2: US\$553M, Phase 3: US\$783M

# Key Economics

	2027	2030	2035	2040	2045	2050
<b>Revenue (\$m)</b>	<b>\$162.9</b>	<b>\$575.0</b>	<b>\$1,168.4</b>	<b>\$1,354.5</b>	<b>\$1,570.2</b>	<b>\$1,820.3</b>
<i>Average Sales Price / st</i>	\$1,810	\$2,130	\$2,596	\$3,010	\$3,489	\$4,045
<i>Operating Margin (\$m)</i>	\$64.4	\$264.3	\$480.2	\$644.4	\$850.1	\$991.2
<i>Cash Cost / st</i>	\$686	\$793	\$1,079	\$1,250	1,444	1,667
<b>EBITDA (\$m)</b>	<b>\$101.2</b>	<b>\$360.9</b>	<b>\$682.9</b>	<b>\$791.9</b>	<b>\$920.5</b>	<b>\$1,070.3</b>
<i>EBITDA Margin</i>	62.1%	62.8%	58.5%	58.5%	58.6%	58.8%



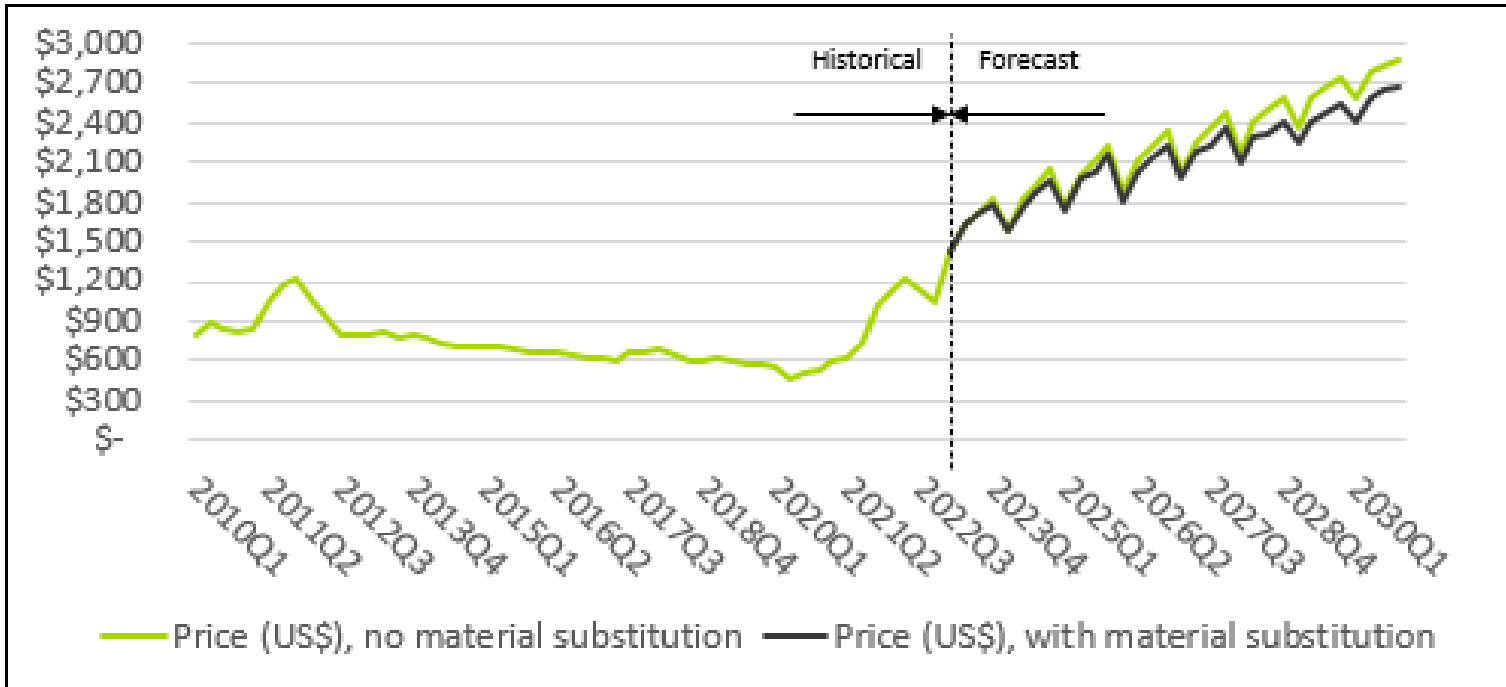
# Robust Financial Profile



- ✓ Phased CAPEX allows for near-term revenue generation, risk-adjusted approach to scale
- ✓ Lithium co-product provides low OPEX and allows high EBITDA margins of +50%
- ✓ After-Tax NPV<sub>8</sub> of US\$2.41B and After-Tax IRR of 23%

# Pricing – Boric Acid Forecast and Price Drivers

## Boric Acid Price Forecast<sup>1</sup>



**~\$55 Trillion**  
"Green" Energy Infrastructure Investment (2016-2050)



**~145M**  
Global Electric Vehicle Growth (2020-2030)



**~30% CAGR**  
Global Electric Vehicle Stock Growth (2020-2030)



**5.8% CAGR**  
Global Installed Wind & Solar Capacity (2019-2050)

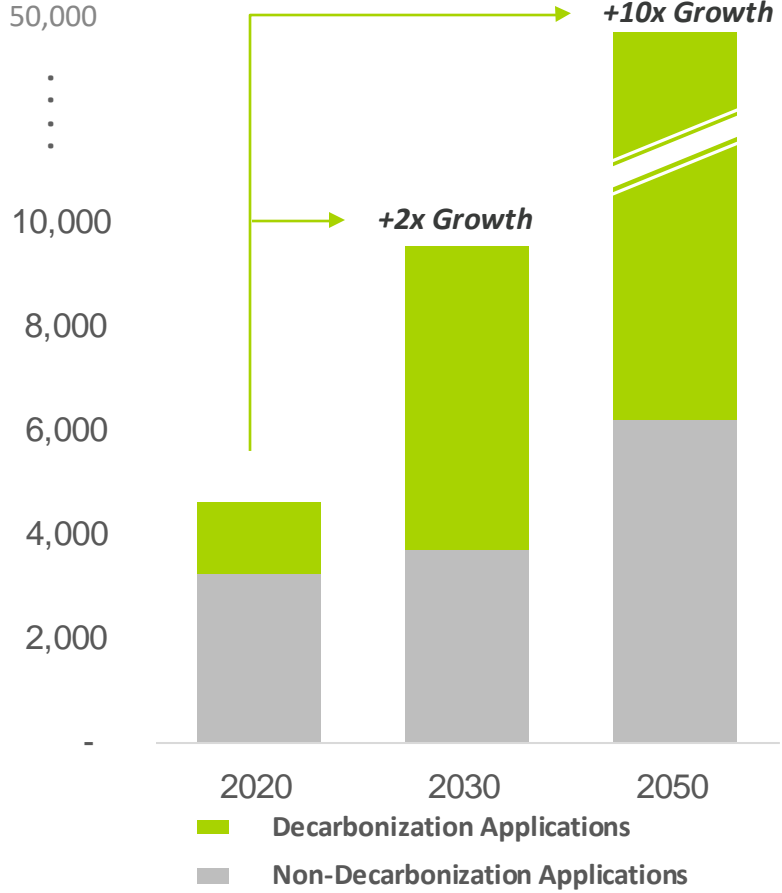




# Confluence of Demand Growth and Growing Supply Shortfall

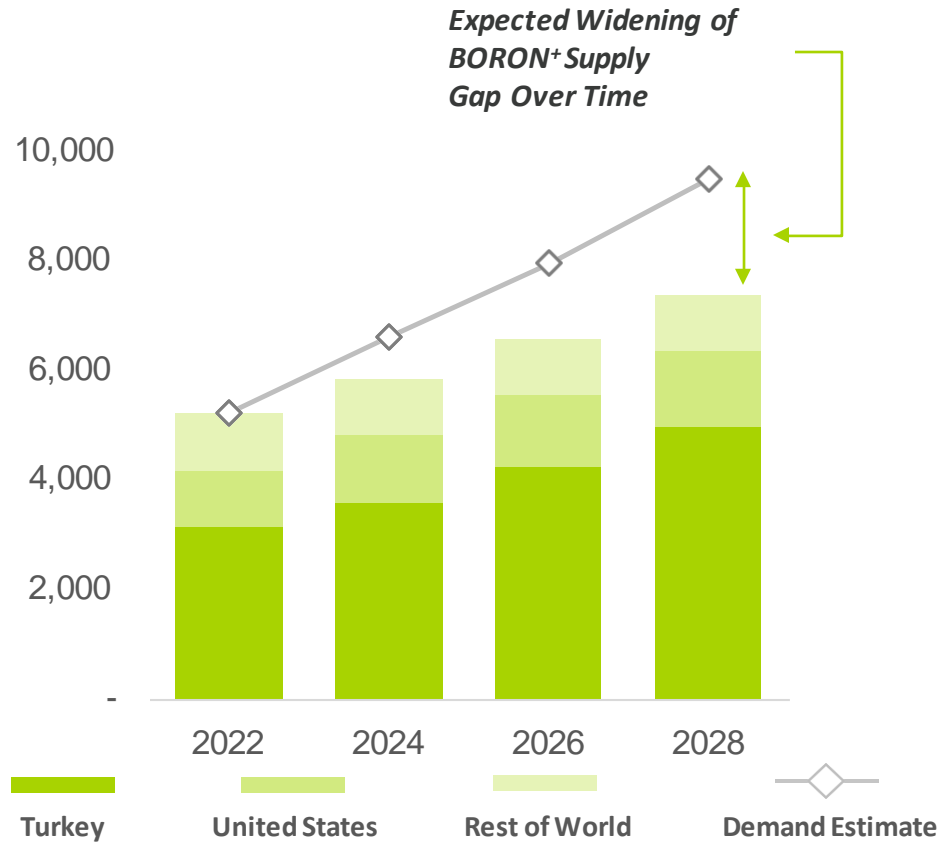
**Boron Demand Growth<sup>(1)</sup>**

(k tonnes; boric acid equivalent)



**Supply / Demand Imbalance<sup>(1)</sup>**

(k tonnes; boric acid equivalent)



**Expected Demand Growth Driven by Key Decarbonization Sectors**

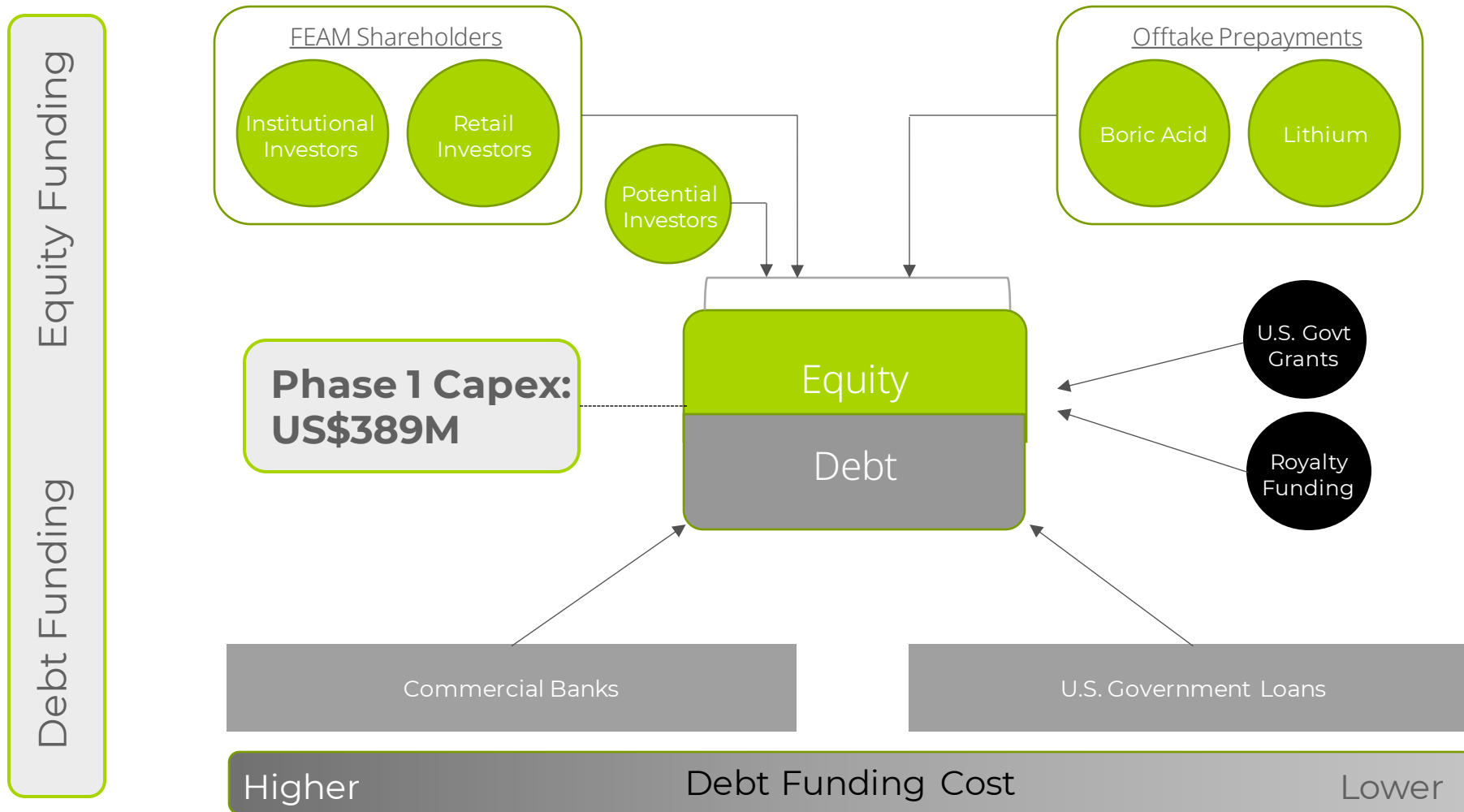
**Continued Supply Pressures Bringing the Boron Supply Gap into Focus**



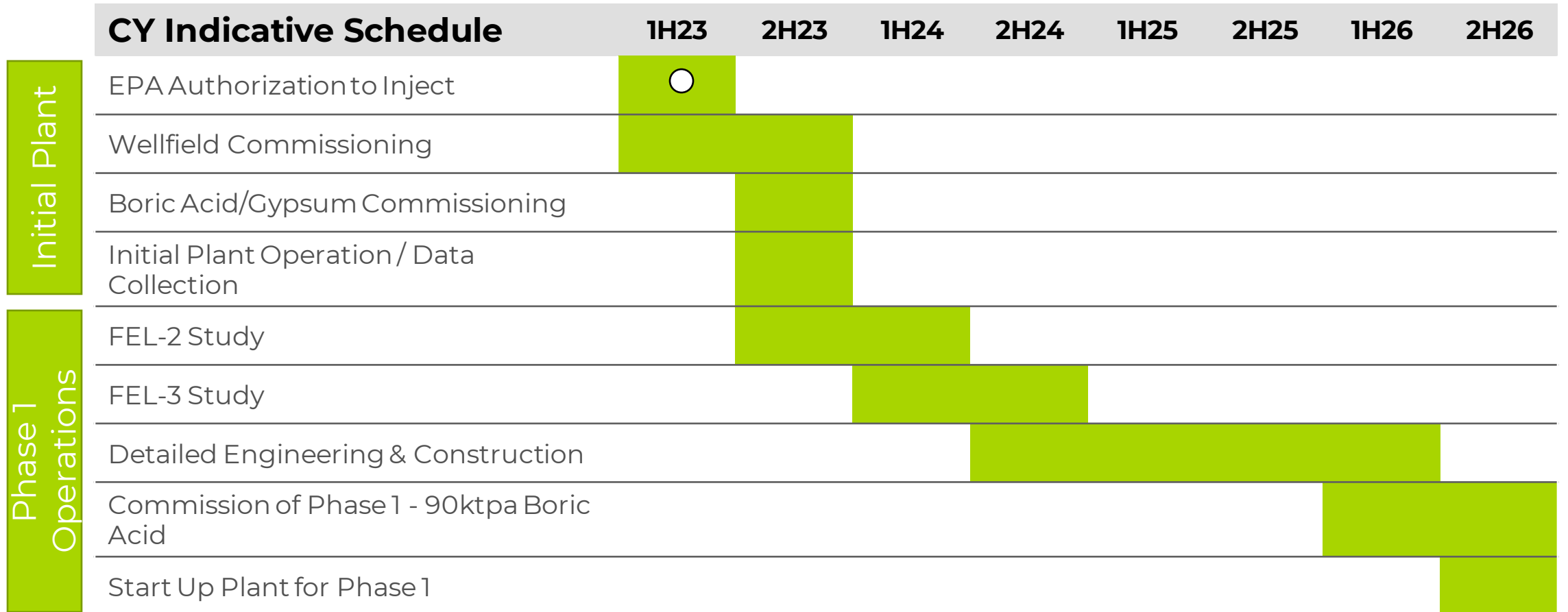
Source: Credit Suisse Equity Research.  
 Note: Elemental boron figures converted to boric acid equivalent at a ratio of 1 to 5.72.  
<sup>1</sup> Based on "High Demand" case. Alternatively, under the "Low Demand" case, boron demand growth is expected to increase by ~2x in 2030 and ~4x in 2050 relative to 2020.

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# Funding Model for Phase 1



# Upcoming Project Milestones – Schedule



The background of the slide is a grayscale aerial photograph of a wind farm. Several large wind turbines are visible, spaced out across a flat, agricultural landscape. The terrain is divided into fields, and there are some trees and roads visible. The sky is overcast with some clouds. The overall tone is professional and modern.

# Innovation through Sustainability

# Sustainability is an Important Focus of our Business

## Building Blocks of 5E's Sustainability Strategy

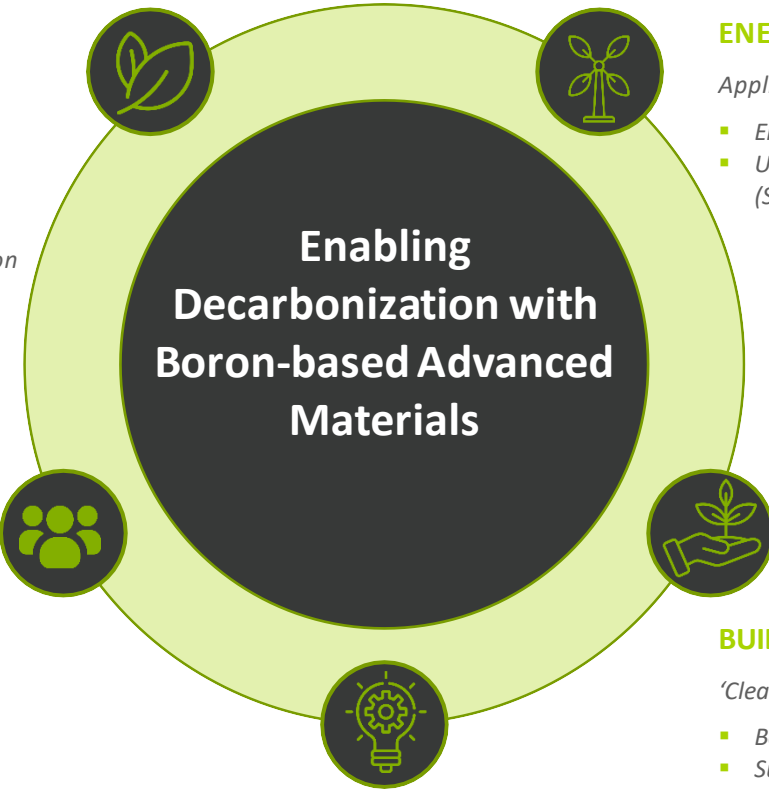
- A** Focus on Innovation
- B** Collaboration and Partnerships
- C** Climate Change Focus
- D** Supporting United Nations SDG's
- E** 'Clean Sheet' Advantages

### PRODUCTION IMPACTS

- Consume fewer resources*
- In-situ extraction
  - Closed loop water use
  - No tailings pond
  - Process energy management
  - Integrated derivative production

### COMMUNITY IMPACTS

- Community prosperity*
- Local workforce
  - Specialized training
  - Local procurement and investment



### ENERGY TRANSITION

- Applications enable decarbonization*
- Emissions reduction
  - UN Sustainable Development Goals (SDG's)

### BUILT-IN SUSTAINABILITY

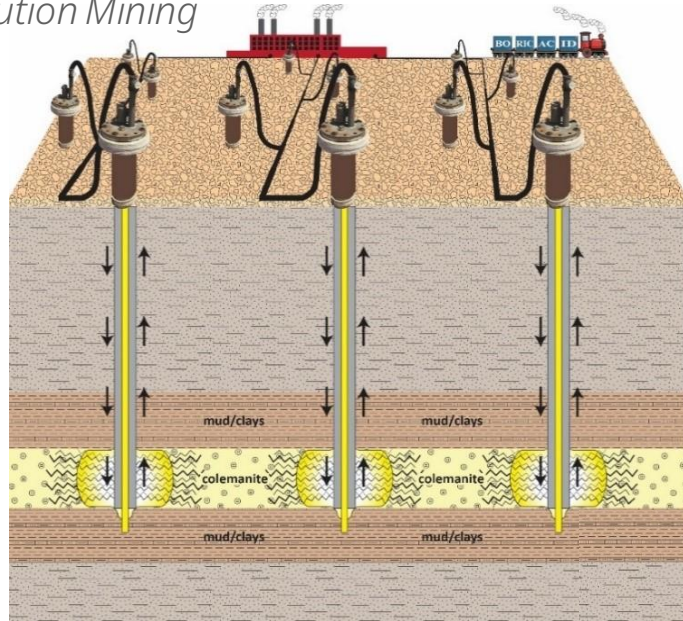
- 'Clean Sheet' advantage*
- Board engaged
  - Sustainability work underway
  - Diverse Board and leadership
  - Culture and mindset

### FOCUS ON INNOVATION

- New Applications*
- University research agreement
  - Joint Development Agreements with Customers
  - Technical / research collaborations

# 5E Boron Americas Complex – Small Scale Facility

## Solution Mining



Schematic showing well field and solution mining production wells

## Suitable Ore Body for In-Situ Solution Mining

Fort Cady ore body is highly favorable for In-Situ Solution Mining for several reasons:

- Vertically dominated caverns
- Confined vertically by impermeable layers
- Faults in the area further confine ore zone for in-situ leaching

Well design has been proven at Fort Cady for both injection and recovery wells



5E Boron Americas Complex – March 2023



5E Boron Americas Complex – March 2023

## Production History

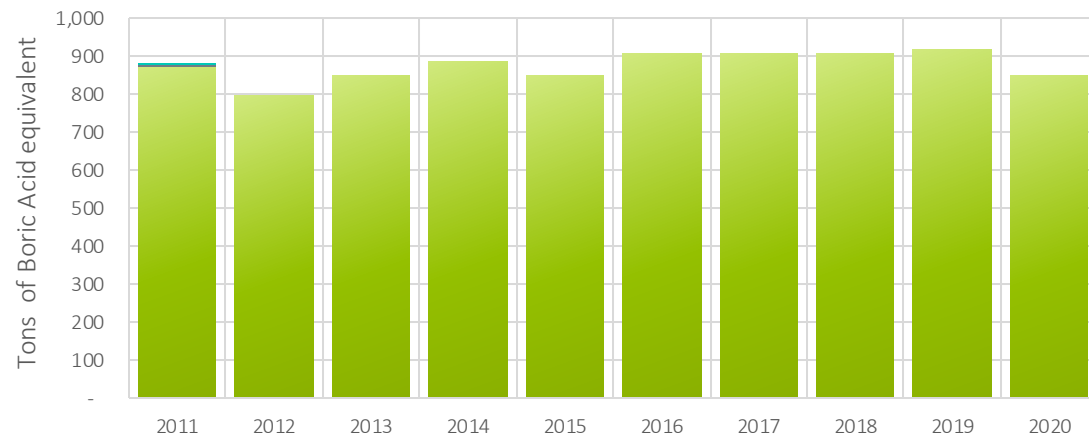
1986 - 1987: Mountain States Engineering produced around 450 tons of boric acid over an 18-month period from four production wells. The PLS averaged 3.7% boric acid head grade.

1995 - 2001: Dundee Resources produced around 1,800 tons of synthetic colemanite from 13 production wells over a five-year period. The facility was designed to demonstrate to potential partners the process of successfully producing a boron-based material. With only a 90ktpa proposed operation at the time for synthetic colemanite, and a modest selling price, it was uneconomical and Dundee was unable to secure partners.

# Rio Tinto Borates

*Reserves expire in 2042*

## Rio Tinto Boron BA ( $H_3BO_3$ ) production



# Appendix



# Key Investment Highlights

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## Large and Rare Asset

Large and rare mineral resource in a strategic U.S. location designated as critical infrastructure by the U.S. government



## Accelerating Demand Growth

Anticipated boron supply gap due to lack of new projects and increasing demand



## Strategic Location

Located in the San Bernadino County, with utilities and logistics, key permits in place for initial commercial production<sup>1</sup>



## Upstream Value

Potential for earnings growth optionality in upstream volume and downstream margins



## Lithium Co-Product

Lithium co-product has potential to diversify our revenue streams beyond boron



## Differentiated Platform

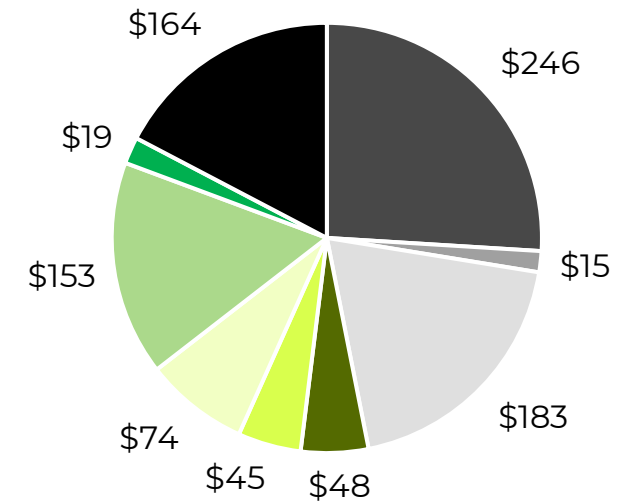
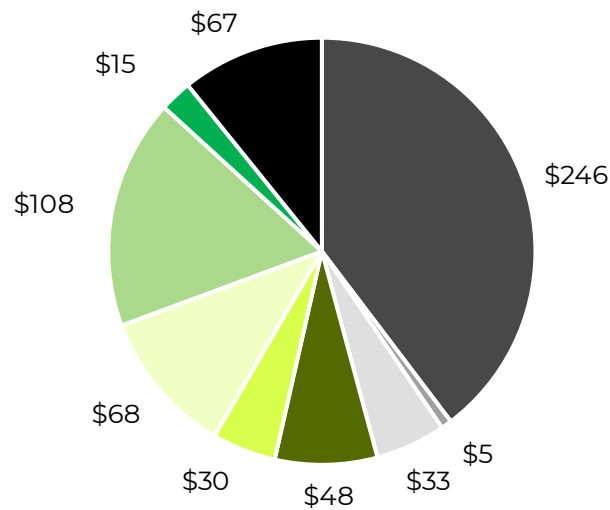
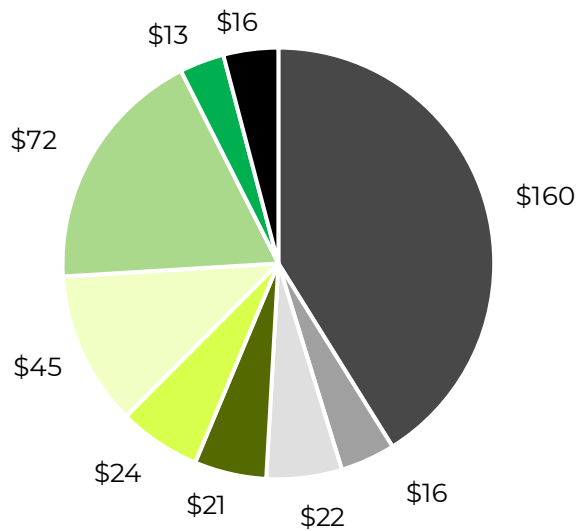
Compelling entry point in a multi-decade U.S. critical material story

<sup>1</sup> All permits have been obtained for the production of up to 90ktpa of boric acid production.

# Estimate of Initial Capital Costs for Each Phase



Values in USD-M



- Processing Plant (Boric Acid + LCE)
- Wellfield (Wells, Piping, Equipment)
- Contingency

- OSBL + Non-Process Areas
- EPCM
- Owner's Costs

- Utilities (Electrical, SZ, Air, Water, Septic)
- Construction
- Cost Escalation

# Large, High-Grade Boron Resource with Lithium Co-Product

## Resource Statement\*

Measured Resource	Tonnage (MST)	B <sub>2</sub> O <sub>3</sub> (wt%)	H <sub>3</sub> BO <sub>3</sub> (wt%)	Lithium (ppm)	B <sub>2</sub> O <sub>3</sub> (MST)	H <sub>3</sub> BO <sub>3</sub> (MST)	LCE (MST)
Total Measured Resource	30.95	4.81	8.55	357	1.49	2.65	0.059
Total Indicated Resource	43.35	4.09	7.27	355	1.77	3.15	0.082
<b>Total Measured &amp; Indicated Resource</b>	<b>74.31</b>	<b>4.15</b>	<b>7.37</b>	<b>356</b>	<b>3.26</b>	<b>5.80</b>	<b>0.141</b>
Total Inferred Resource	96.90	4.75	8.43	321	4.60	8.17	0.166

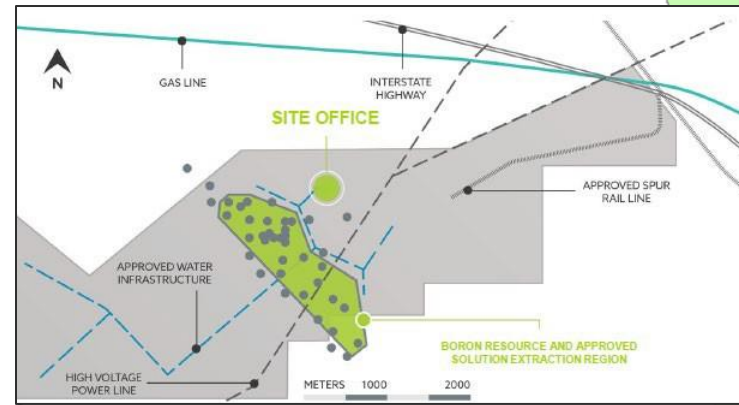
\*Using a 2% B<sub>2</sub>O<sub>3</sub> cut-off grade and no Lithium cut-off grade.

## Contained Tons

	H <sub>3</sub> BO <sub>3</sub> (MST)	LCE (MST)
Measured	2,646,840	58,901
Indicated	3,151,461	81,854
Inferred	8,172,461	165,752
<b>Total</b>	<b>13,970,761</b>	<b>306,508</b>

# 5E Boron Americas Complex Overview

- ✓ 100% owned resource located in California
- ✓ Key permits in place to deliver initial commercial production of up to 90ktpa
- ✓ We believe we have one of the largest known new conventional deposits globally, not owned by the Turkish Government controlled entity, Eti Maden
- ✓ Extraction method designed to have less environmental impact (solution extraction) as compared to traditional mining
- ✓ Small-Scale Facility in commissioning phase and construction substantially complete
- ✓ Access to key inputs
  - Electricity, water from non-potable source, paved highway, gas pipeline, rail access and skilled labor



5E has unique opportunity to potentially develop this large and rare asset for which there is a market seeking new sources of reliable supply

# Leadership Team With Diverse Skillsets and Proven Execution Capabilities

## Leadership Team



**Susan Brennan**  
Chief Executive Officer



**Paul Weibel**  
Chief Financial Officer



**J.T. Starzecki**  
Chief Marketing Officer



**Chantel Jordan**  
Senior Vice President, General  
Counsel and Chief People  
Officer



**Christopher Knight**  
Vice President, Operations



## 5E Board of Directors



**David Salisbury**  
Non-Executive Chair



**Jimmy Lim**  
Non-Executive Director



**Stephen Hunt**  
Non-Executive  
Director



**H. Keith Jennings**  
Non-Executive Director



**Graham van't Hoff**  
Non-Executive Director

