ADVANCED MATERIALS

Reshoring the United States Boron Supply Chain

October 2024

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Nasdaq : FEAM

ASX : 5EA

Disclaimer

FORWARD-LOOKING STATEMENTS

The information in this Presentation includes "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995, as amended. All statements other than statements of historical fact included in this presentation regarding our business strategy, plans, goal, and objectives are forward-looking statements. When used in this presentation, the words "believe," "project," "expect," "anticipate," "estimate," "intend," "budget," "target," "aim," "strategy," "plan," "guidance," "outlook," "intent," "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 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: the substantial doubt about our ability to continue as a going concern and need to raise substantial additional capital following the proposed offering; our limited operating history in the borates and lithium industries and no revenue from our proposed extraction operations at our properties; our need for substantial additional financing to continue as a going concern and 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 incurrence of significant net operating losses to date and plans to incur continued losses for the foreseeable future; risks and uncertainties relating to the development of the Fort Cady project, including our ability to timely and successfully complete our Small Scale Boron Facility; our ability to obtain, maintain and renew required governmental permits for our development activities, including satisfying all mandated conditions to any such permits; the implementation of and expected benefits from certain reduced spending measures, and other risks and uncertainties set forth in our filings with the U.S. Securities and Exchange Commission (SEC) from time to time. 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

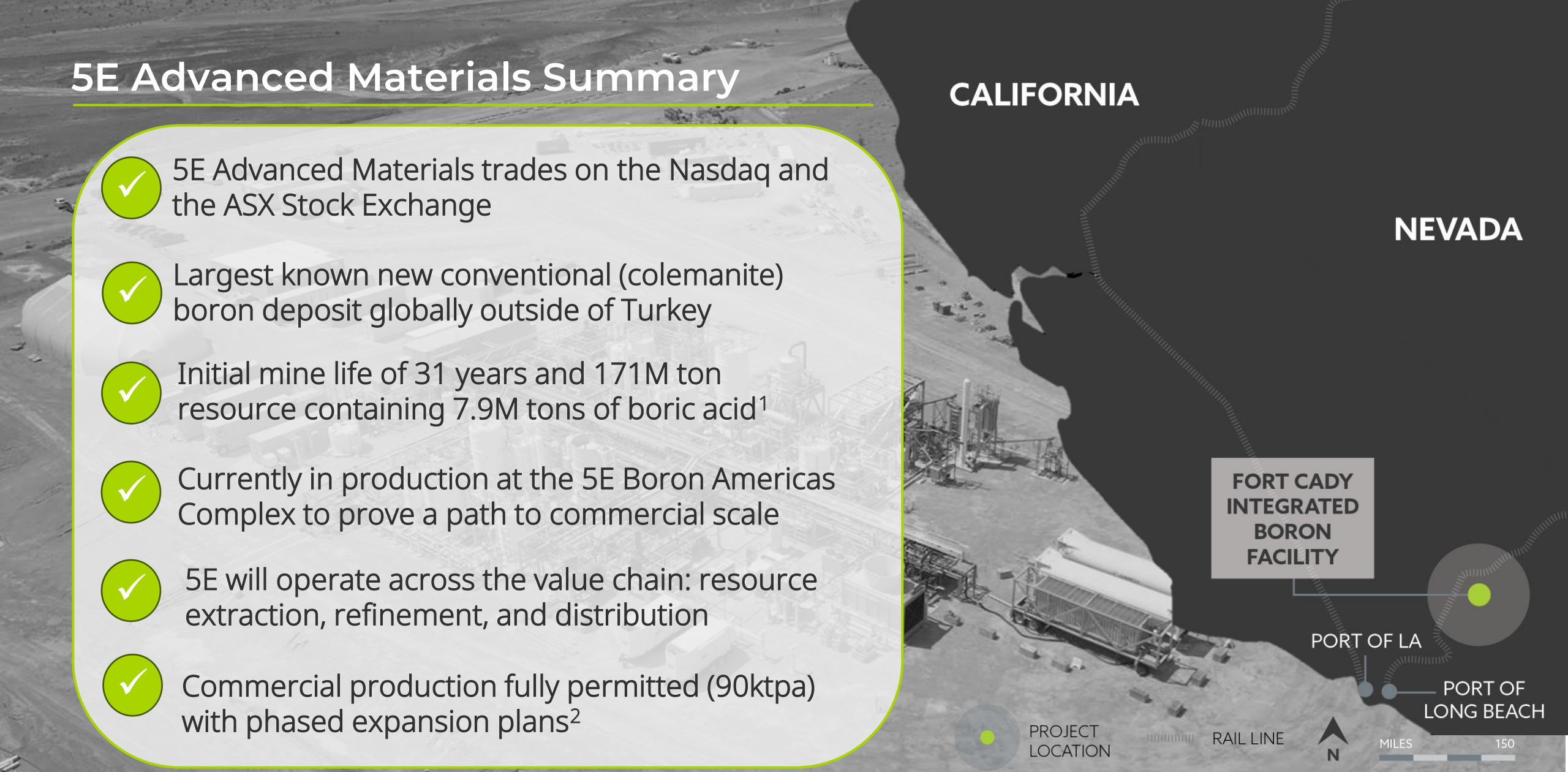
This Presentation has been prepared by 5E and includes market data and other statistical information from third-party sources, including independent industry publications, government publications or other published independent sources. Although 5E believes these third-party sources are reliable as of 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 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 factors, you should carefully review the risk factors and other disclosures in the Company's filings with the SEC. Additionally, 5E undertakes no obligation to comment on third-party analyses or statements regarding 5E's actual or expected financial or operating results or its securities.

5E Advanced Materials Summary

- 5E Advanced Materials trades on the Nasdaq and the ASX Stock Exchange
- Largest known new conventional (colemanite) boron deposit globally outside of Turkey
- Initial mine life of 31 years and 171M ton resource containing 7.9M tons of boric acid[1]
- Currently in production at the 5E Boron Americas Complex to prove a path to commercial scale
- 5E will operate across the value chain: resource extraction, refinement, and distribution
- Commercial production fully permitted (90ktpa) with phased expansion plans[2]



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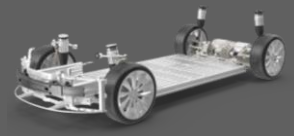
1. Regulation S-K 1300 Initial Assessment Report with a revised report date of February 2, 2024 (using 2% cut off grade) prepared by Qualified Person. Figures presented reflect total estimated measured, indicated and inferred resources combined.
2. Existing UIC permit enables commercial production and has approximately a 25-year operation and a 5-year restoration life.

Boron Market Segments

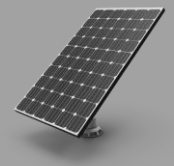
Electric Vehicles and Permanent Magnets

- Widely used (and largely not substitutable) across Electrification of Transport
- Key driver of demand in magnets needed for electric motor permanents


Global Energy Transition

- Critical material used in wide range of decarbonization technologies (wind, solar, and nuclear)
  - Decreasing costs of renewable energy technologies and inputs have made them cost-competitive with fossil fuels


Traditional Applications

- Historical uses include:
  - Glass (borosilicate glass, fiberglass composites)
  - Ceramics
  - Cleaning agents


Food Security

- Up to 40 % of Earth's land is degraded, threatens roughly half of global GDP (US$44 trillion)[1]
  - Boron is an essential micronutrient for crop health and to increase crop yields
  - Boron based fertilizers are widely used commercially



$2.15b global market 2023[2]

Global Boric Acid Demand CAGR of **5.4%**[2]

1.9M tons of new demand expected by 2031[3]

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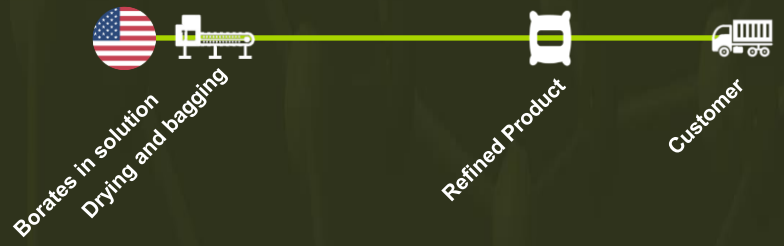
[1] Chronic land degradation: UN offers stark warnings and practical remedies in Global Land Outlook
[2] Global Market Insights, Boron Market – Industry Analysis & Forecast (2024-2030)
[3] Kline Market Report

Mining & Environmental Advantage

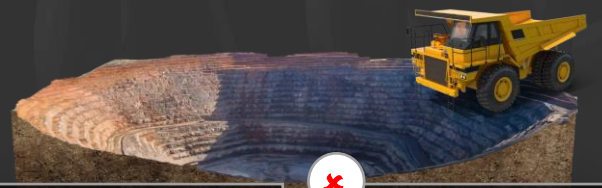
In-Situ Mining[1]

- ✓ Low land disturbance
- ✓ Efficient Processing
- ✓ No tailings dam storage
- ✓ Minimal Excavating Equipment

Streamlined
Production and Processing

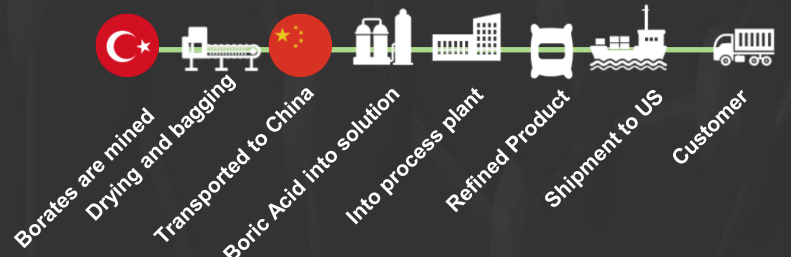


Hard Rock Mining



- ✘ Risk of pit collapse
- ✘ Equipment and labor intensive
- ✘ Significant surface area needed
- ✘ Tailings storage

Multi-Location
Production and Processing



[1] https://www.visualcapitalist.com/sp/everything-you-need-to-know-about-in-situ-mining/#:~:text=Advantages%20of%20In%2DSitu%20Mining,operate%20without%20moving%20a%20rock

5E Boron Americas Complex Progress

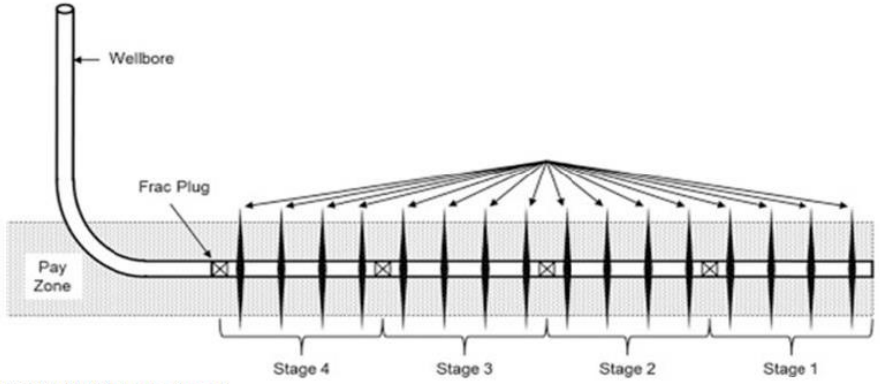


Fig 2.2.3V. Well milestone 1

Post-Commissioning Progress:

- Commissioned Small Scale Boron Facility in April – now fully operational
  - Progressively ramped up to higher production rates
  - Successfully achieved necessary production quality
- Addressed initial operational issues with heat exchanger & screw conveyor

Production Updates:

- Production rates: One short ton per day, on specification
  - Sufficient rates to cost optimize and progress customer qualification
- Head grade: Reached 5.5 – 6%, and 10K ppm of Boron

Continued Project Execution:

- Further optimization of wellfield and processing operations
- Byproduct optionality creates opportunity for significant value-add
- Field data and testing show that lithium ppm exists, optimizing extraction

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Milestones Achieved & Upcoming Potential Catalysts

November 2023
EPA Authorization

January 2024
Startup Wellfield

February 2024
Lab Production

March 2024
Finalized & Commissioned Plant

April 2024
Plant Operation & First Boric Acid

July 2024
Initiated Customer Qualification Program

H2 2024
Pursue Non-Dilutive Funding Opportunities
*EXIM Bank LOI

H2 2024
Offtake Discussion & Qualification Process
*Mark Zamek – VP of Sales

H2 2024
Government Funding Opportunities

January 2025
FEL-2 Engineering

Upcoming Potential Catalysts

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Next Strategic Steps Forward

1. **Laying the foundation for traditional project finance**
2. **Project optimization**
   - Complete FEL-2 engineering
   - Improved CAPEX and OPEX estimates for project scaling
   - Deliver pre-feasibility study (PFS)
3. **Dedicated workstreams currently in place for:**
   - Vendor and equipment testing
   - Onsite lab testing for specification validation
   - Scenario analysis to drive optimal byproduct ratio
4. **Customer commitments**

Production Decision Pathways and Enhanced Project Optionality

Optimization work yielding multiple additional co-product and byproduct mixes based on operating capabilities

Identified operational processes that allow 5E to compliment boric acid production with value-added byproducts

Can now determine the byproduct mix that maximizes project value – with meaningfully improved returns

New processes target increasing project NPV, grow project IRR%, and reduce cash costs/capital outlays

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The 4 Pillars of Project Execution

I. Optimize CAPEX and OPEX:

- Well-field and process optimization
- Developed power solutions
- Value-added byproducts

2. Data Collection and Ramp-up:

- Production quality achieved
- Ramp-up to higher rates
- Deliver product to key customers

3. FEL-2 Engineering:

- Complete Pre-feasibility report
- +/-25% CAPEX and OPEX estimates[1]
- Foundation for debt financing

4. Customer Qualification and Off-Take:

- Complete customer qualification
- Negotiate off-take agreements
- Customer debt/investment financing

Catalysts expected to Increase NPV and Lower Commercial Cash Costs

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[1] Regulation S-K 1300 Initial Assessment Report with a revised report date of February 2, 2024 (using 2% cut-off grade) prepared by Qualified Persons.

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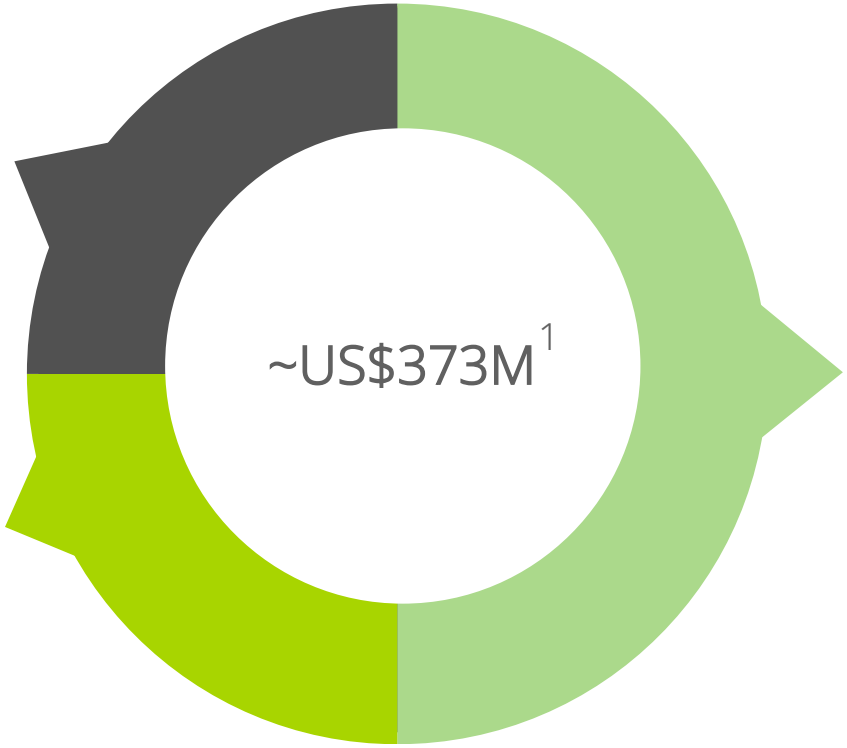
Project Finance Program

Commercial Phase 1 Project Funding Sources

Traditional Equity
- Capital Markets
- Existing Shareholders
- Institutional and Retail



Project Finance Facilities
- Traditional Project Finance
- Export Import Credit Bank LOI Sept. 24
- **DOE Loan Programs – Title 17**

Non-Dilutive Funding
- Customer Investments
- **Grant Funding**
- Royalty Agreements

*bold = in progress

1. Regulation S-K 1300 Initial Assessment Report with a revised report date of February 2, 2024 (using 2% cut-off grade) prepared by Qualified Person. Capital number includes Phase I, 90,000 short tons of boric acid production.
* Graphic not intended to reflect any estimated proportions of sources of funding.

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United States Government – Funding Support Opportunities

FUNDING SOURCES

Department of Defense

- Defense Production Act, DPA Title III
- NDAA Funding Bill

Department of Energy

- Loan Program Office
- AMMTO Program

Export Import Bank

- Credit Facility to backstop private project finance through US Treasury

DOD

DOE

EXIM

Non-Dilutive Financing

FEAM State of the Union

Department of Defense

- Multiple applications for funding already in progress
- Funding focused on increasing current production, as well as boron derivate products

Department of Energy

- AMMTO Funding Application in evaluation to fund work to increase lithium extraction rates at the 5E Boron Americans Complex

Export Import Bank

- Letter of Support (LOI) rec'd in Sept., backstops project finance for the private sector

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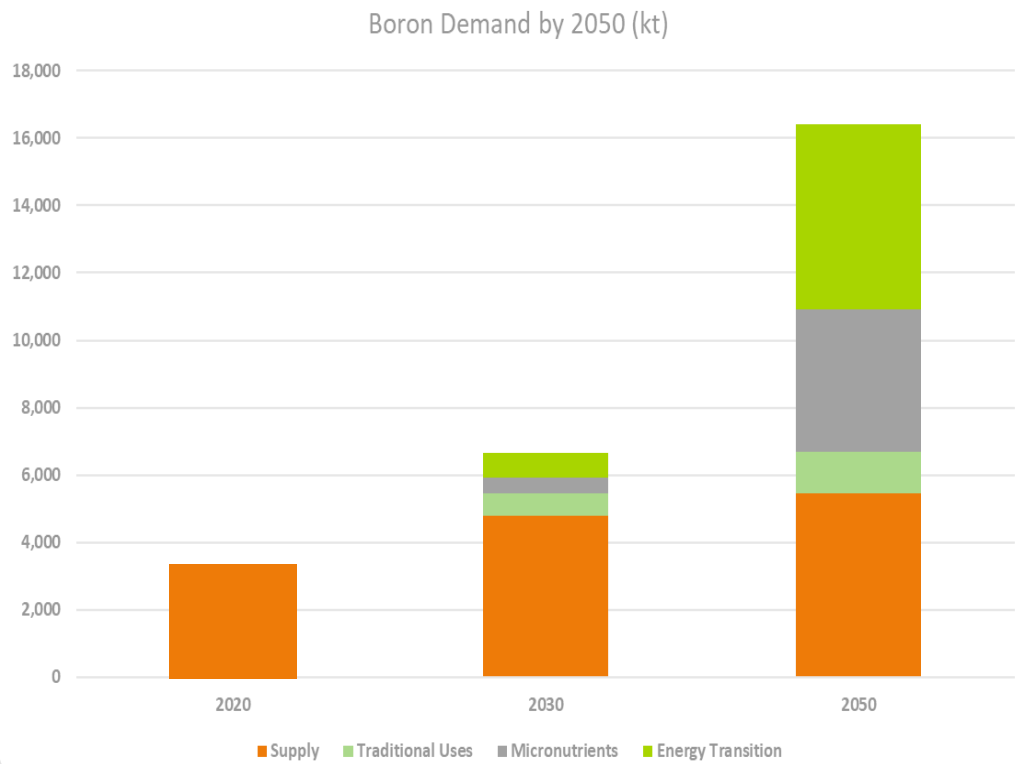
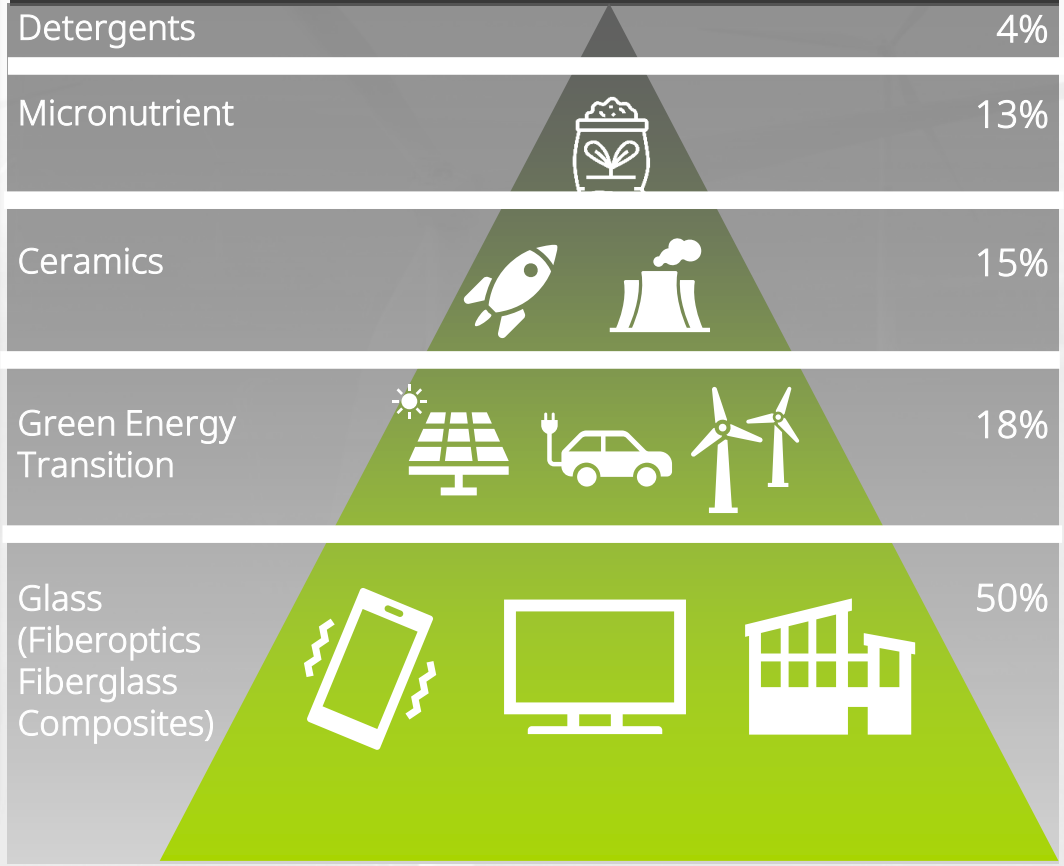
The Global Boron Market

5E is a pure-play boron investment opportunity

Boron Supply-Demand Imbalance[1]



Boron Product Distribution Markets[2]



Note: Elemental boron figures converted to boric acid equivalent at a ratio of 1-to-5.72.

[1] Reflects management's estimates and forecasts of 'high demand' scenario, based on (among other sources) certain data provided in the following: (a) Eti Maden: 2021 Boron Sector Report; (b) Credit Suisse Equity Research Kline Market Report and Global Market Insights; and (c) Kline Market Report and Global Market Insights. Management estimates that under a 'low demand' scenario, boron demand will increase by ~2x in 2030 and ~4x in 2050 relative to 2020.

[2] Regulation S-K 1300 Initial Assessment Report with a revised report date of February 2, 2024 (using 2% cut-off grade) prepared by Qualified Persons.

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Investment Thesis

- Fully integrated business going from mineral to application
- Limited competitive landscape to supply boron
- Tailwinds for U.S. investment into clean energy transition
- Mining the most commercially viable families of borates to process
- Solution mining process for a safer, scalable and environmentally friendly mining process
- Streamlined domestic supply chain positioning 5E ahead of its global competitors
- Well diversified end users across multiple everyday products

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The Team to Deliver

Leadership Team

Paul Weibel
CHIEF EXECUTIVE OFFICER
BSc, CPA

Lonnie Bailey
PLANT MANAGER
BSChE, MSChE, MBA

Josh Malm
CHIEF FINANCIAL OFFICER
BSc, MSc, CP

Mark Zamek
VP COMMERCIAL PRODUCTS
BSc, ChE

Rod MacLaine
VP CONSTRUCTION & ENGENEERING
BSc Eng

Board of Directors

David J. Salisbury
NON-EXECUTIVE CHAIR
BSc, MBA

Graham van't Hoff
NON-EXECUTIVE DIRECTOR
BA, MChem, MBA

Bryn Jones
NON-EXECUTIVE DIRECTOR
MMinEng

H. Keith Jennings
NON-EXECUTIVE DIRECTOR
BCom, MBA, CA

Jimmy Lim
NON-EXECUTIVE DIRECTOR
BA, MBA

Barry Dick
NON-EXECUTIVE DIRECTOR
BS, MBA

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Thank You