

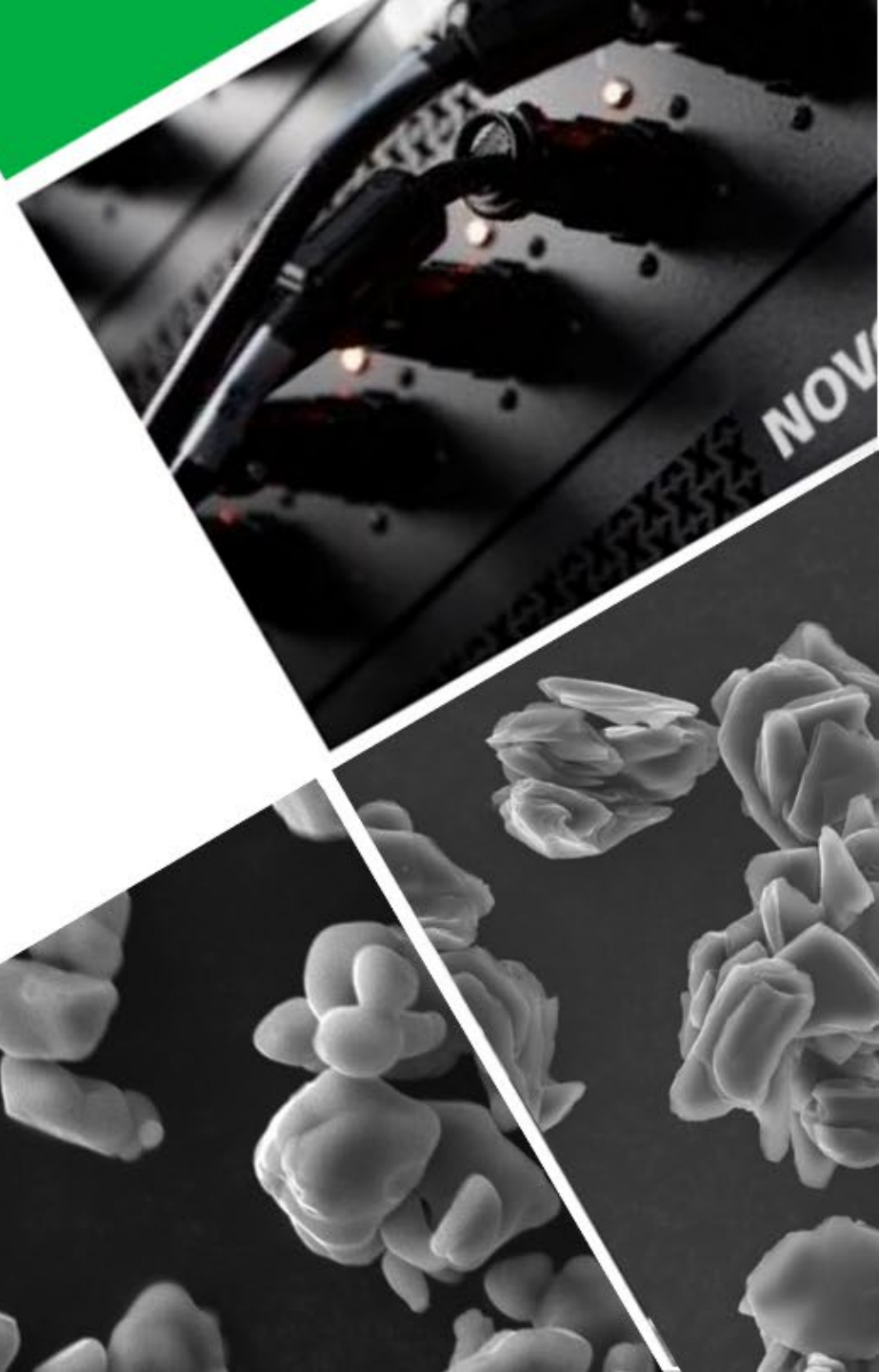


# NOVONIX

► **Set for Growth**

June 2023

Shaw and Partners, ASX Virtual Graphite Conference



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# Providing Revolutionary Solutions to the Battery Industry

## Investment Highlights



Leading U.S. based battery materials and technology Company with lower carbon footprint



Large and growing market for battery materials supported by localization efforts



Anode material facility build-out advancing and strengthening our strategic moat



Battery Technology Solutions provides competitive advantage to accelerate innovation



Customer and government financing support paving a path to profitability as a sector leader

# NOVONIX



*Riverside Facility in Tennessee*

# Capitalizing on the Growth Opportunity

## The Opportunity

Focus on developing technologies and materials that are needed for long-life high-performance battery applications

## Increased Demand

Global graphite demand for electric vehicles and energy storage systems is growing with forecasts of a 15x increase<sup>1</sup> in demand from 2021 to 2030

## Localized Production

Execute phased growth strategy with roadmap to achieve North American production capacity of 150,000 metric tons of synthetic graphite per annum (tpa) by 2030

## Battery Supply Chain

Commercialize NOVONIX proprietary pipeline of advanced battery technologies and all-dry cathode process to accelerate the domestic clean energy transformation



1 – PWC, Gigafactories & Raw Materials August 2022

# NOVONIX Proprietary Process Technology Leads the Clean Energy Transformation

## NOVONIX ESG Commitment



### Environmental

Life Cycle Assessment (LCA)<sup>1</sup> demonstrated a ~60% decrease in global warming potential (GWP) relative to conventional anode grade synthetic graphite versus Chinese product. Cathode All-Dry process eliminates waste-water and solvents.



### Social

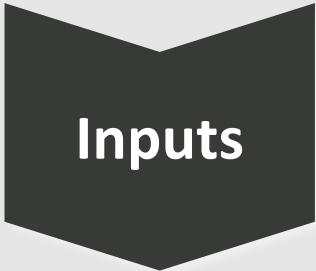
The health, safety, and wellbeing of our employees and the communities we operate in are essential to NOVONIX's success and growth



### Governance

NOVONIX believes corporate governance is central to its business objectives and a critical element contributing to the preservation of shareholder value

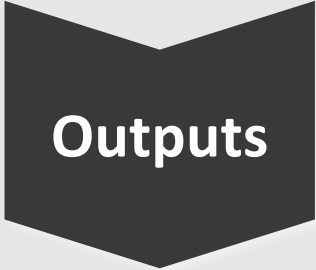
## Environmental Benefits of NOVONIX's Anode Technology



- Clean power sources<sup>2</sup>
- Highest purity input materials



- Proprietary furnace & process technology
- Increased energy efficiency
- No chemical purification



- NOVONIX's anode materials support higher-performance lithium-ion batteries resulting in longer life
- Negligible facility emissions

1 - The Life Cycle Assessment (LCA) conducted by Minviro Ltd.  
2 - May FY2021 figures from Tennessee Valley Authority

# A Battery Materials and Technology Development Leader



## NOVONIX

ANODE MATERIALS

- Leading domestic supplier of battery-grade synthetic graphite
- Large scale and sustainable production to advance North American battery supply chain
- Strategically positioned to accelerate clean energy transition through proprietary technology, advanced R&D and partnerships



## NOVONIX

BATTERY TECHNOLOGY SOLUTIONS

- Develops industry leading lithium-ion battery testing equipment while providing R&D services
- Competitive intelligence from unparalleled visibility across the entire industry drive value-add opportunities
- In-house testing technology accelerates rapid advancements compared to industry standard



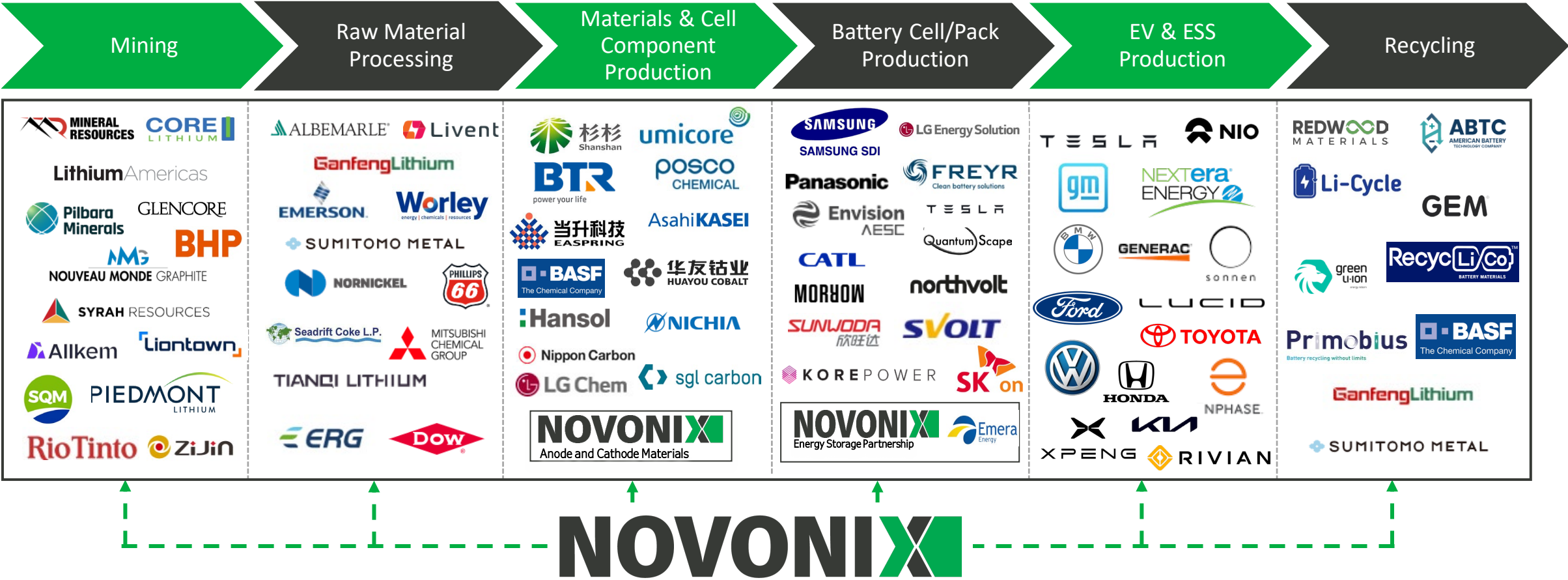
## NOVONIX

CATHODE MATERIALS

- Leverages proprietary All-Dry cathode synthesis technology to provide clean-energy solutions to the battery industry
- All-Dry process technology minimizes environmental impact while producing high performance materials
- Pilot will demonstrate large-scale production of up to 10 tonnes per annum

**Synergistic operating structure provides competitive advantage and unlocks value-add opportunities**

# NOVONIX Plays a Critical Role in the Lithium-Ion Battery Value Chain

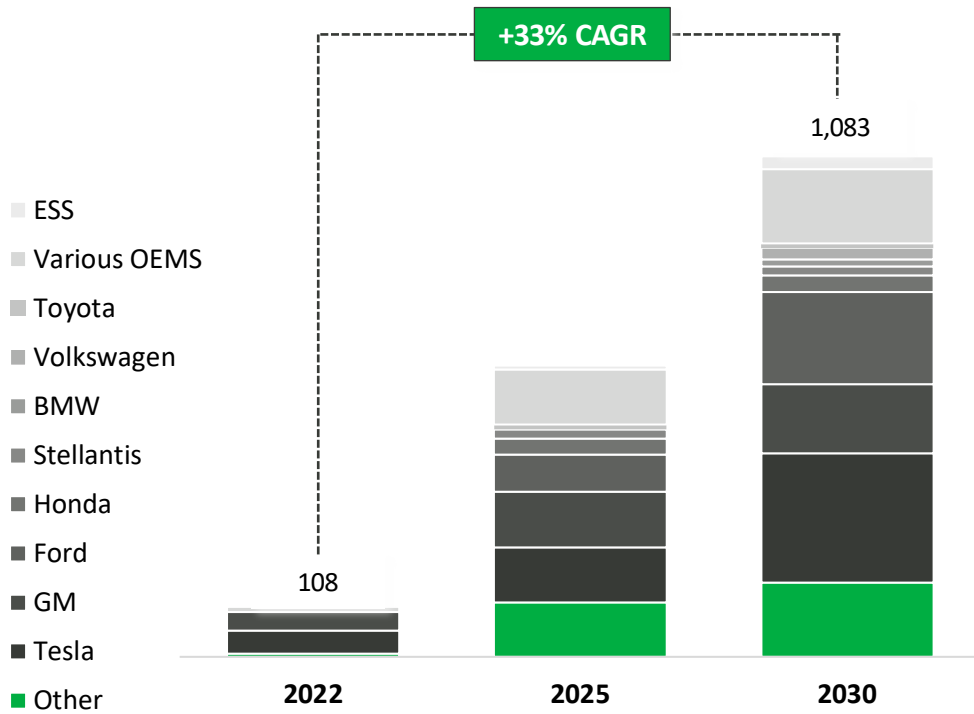


**Visibility across the entire battery value chain provides competitive intelligence and attractive opportunities for NOVONIX**

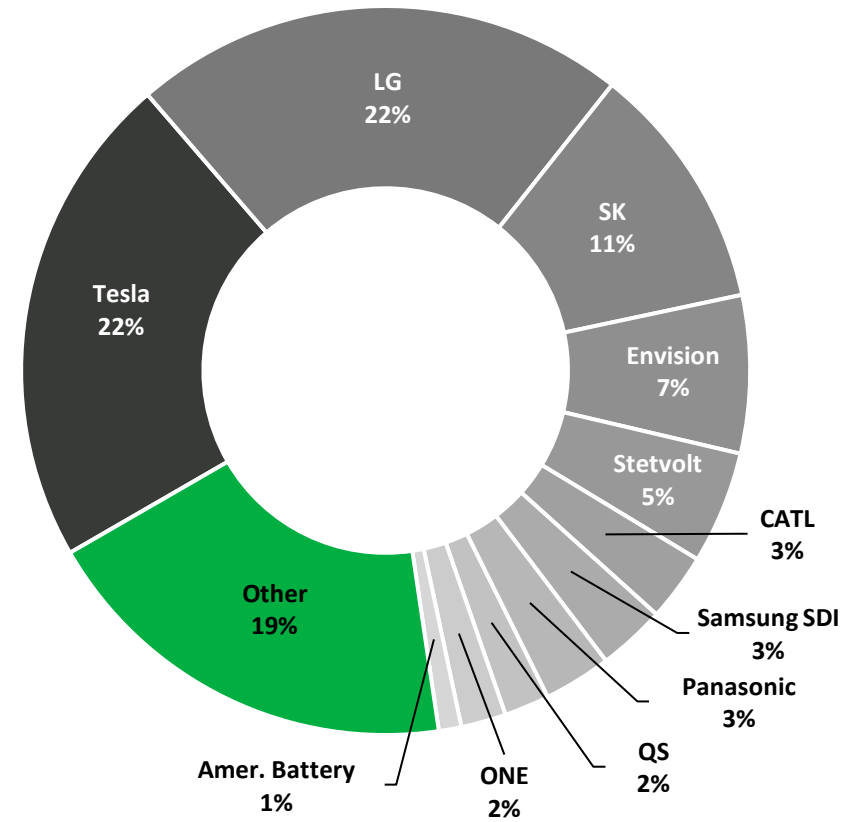
**Note:** Companies presented above are for indicative purposes only and not a representation of customer relationships.

# Auto and Cell Manufacturing Driving Market Demand

## U.S. Auto OEMs Battery Mfg. Capacity (GWh)



## 2030 U.S. Cell Mfg. Capacities

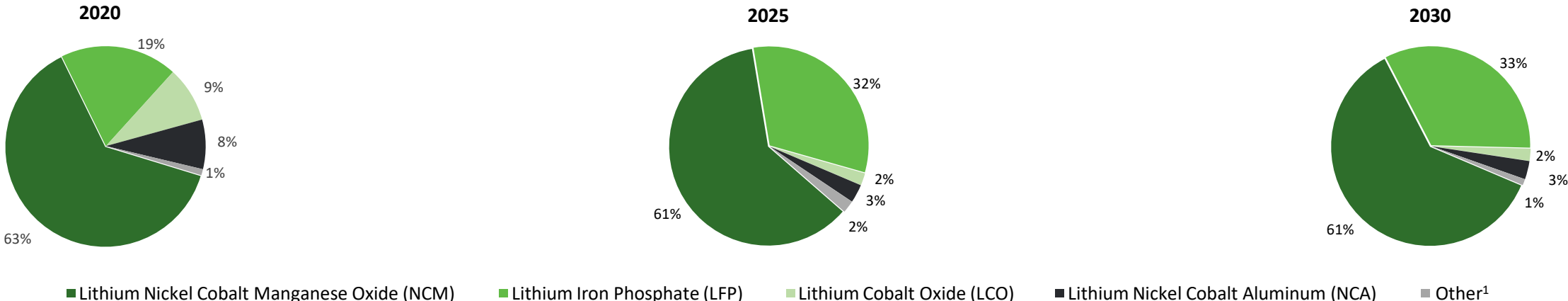


Source: Credit Suisse, Benchmark Minerals Intelligence, Company Reports

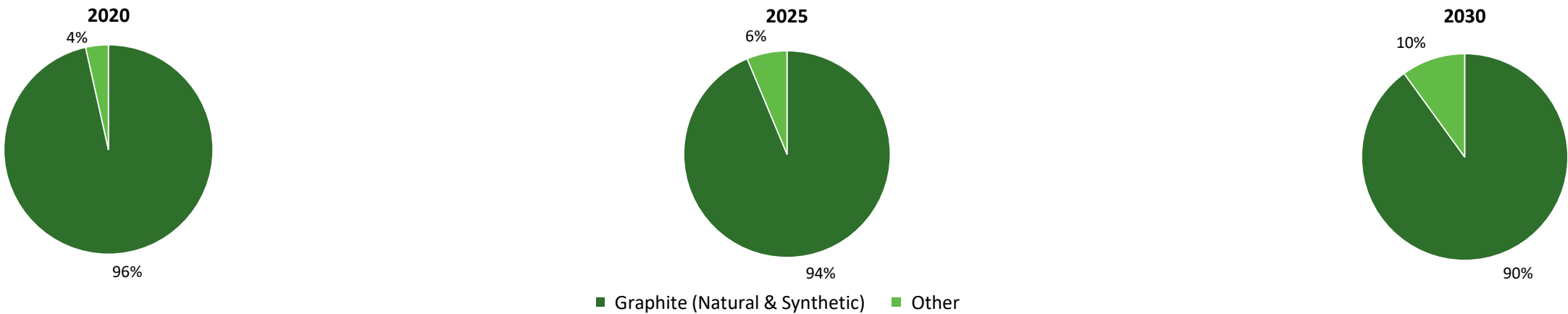


# Graphite Remaining the Dominant Anode Technology

## Cathode Market Share by Chemistry



## Anode Market Share by Material Type



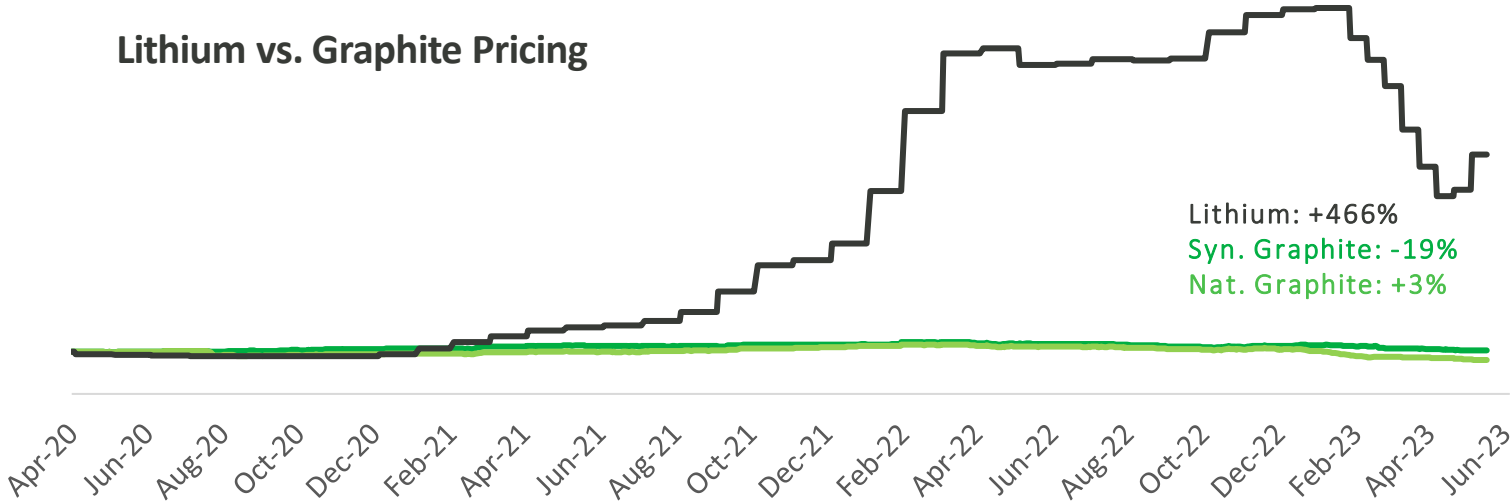
Source: Benchmark Mineral Intelligence May 2023 Newsletter, Novonix anode estimates based on Benchmark Mineral data  
 (1) Other Includes lithium manganese nickel oxide (LMNO) and lithium-ion manganese oxide (LMO) batteries

# Local Anode Material Supply Shortfalls Foreseen Globally



Source: Benchmark Mineral Intelligence, Company Reports, NVX estimates, all units in Thousand tonnes.

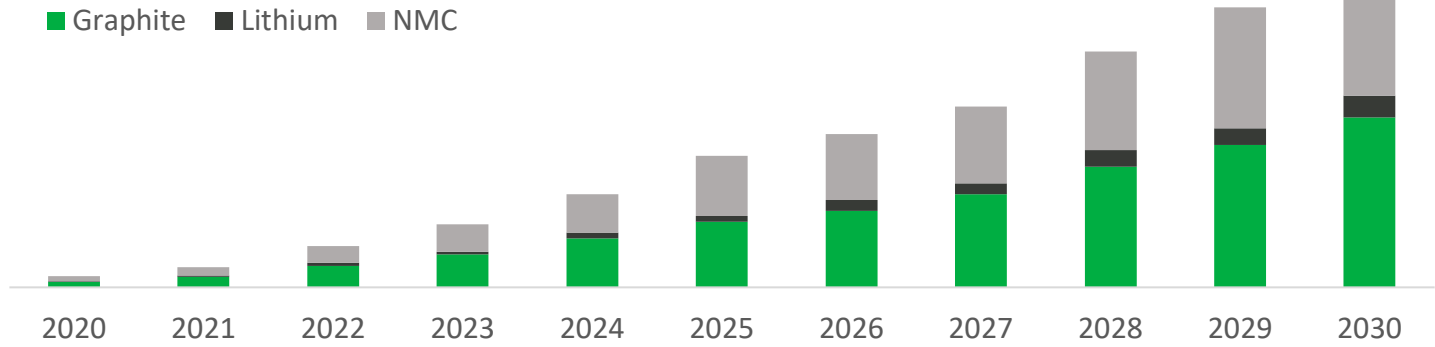
# Localization Impact Expectation on Graphite Pricing Yet to Materialize



## Graphite Pricing Tailwinds

Factors impacting future prices include the impact of market localization, security of domestic supply premiums, tax credits, section 301 tariffs.

## Global Active Material Demand<sup>1</sup>



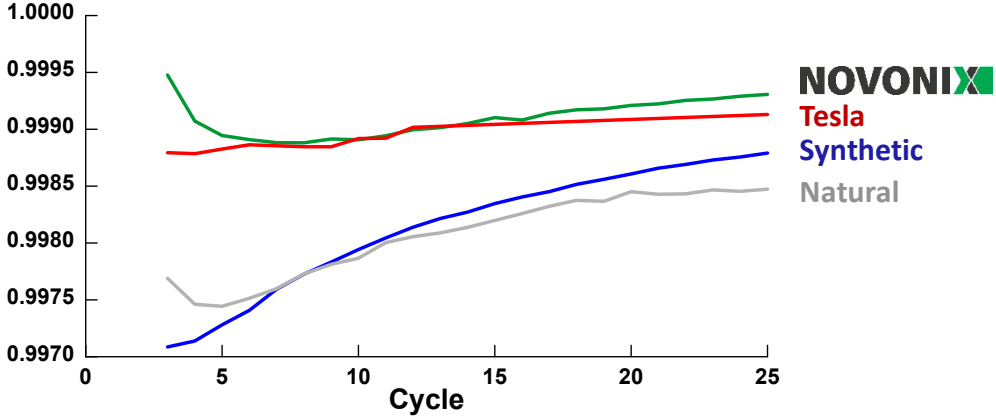
## Forecasted to Grow ~15x

The global market for active materials is forecasted to grow by a factor of 15 from 2021 to 2030. By weight, graphite is the primary active material of all critical materials.

1- Global active material demand ramp up (million tons) based on electric vehicle sales figures. Other active materials include Nickel, Manganese and Cobalt. Source: Bloomberg, PWC, Shanghai Metal Markets quoting Artificial and Natural Graphite

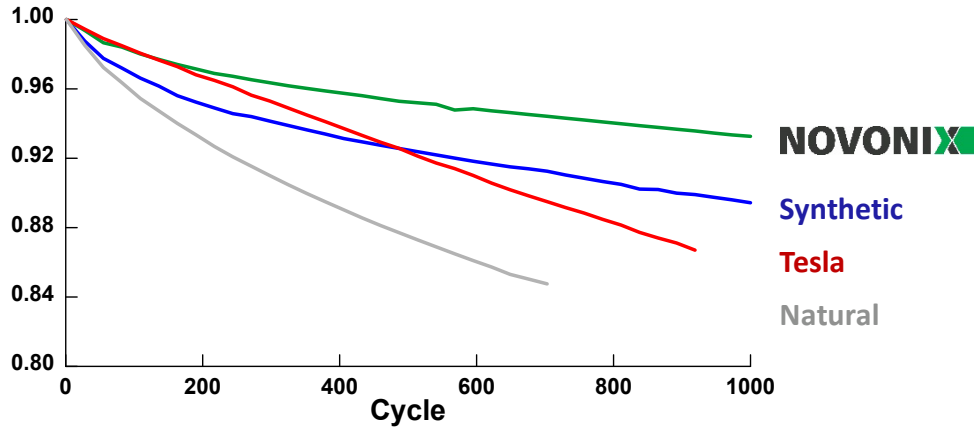
# NOVONIX Anode Material Outperforms in Head-to-Head Testing

Improved Coulombic Efficiency (CE)<sup>(1)</sup>



- NOVONIX offers improved Coulombic Efficiency (CE) compared to industry leading materials (including a Tesla Model S cell used as a reference benchmark)
- CE measures the electrochemical stability of the materials in the battery
- The higher the CE, the longer the battery life

Improved Capacity Retention<sup>(1)</sup>



- NOVONIX offers improved capacity retention compared to industry leading materials (including a Tesla Model S cell used as a reference benchmark) as expected from higher coulombic efficiency
- Better capacity retention means less range loss over time for an electric vehicle

1. Data based on internal measurements taken as part of verification process.

# Phased Growth Plan Matches Customer Demands

North American Anode Market Share<sup>(1)</sup>:



**NOVONIX N.A. Capacity / Tonnage Phased Growth**




**Phase 1: Riverside**  
3K Tonne / Yr<sup>(2,3)</sup>

**Phase 2: Riverside & Greenfield #1**  
40K Tonne / Yr<sup>(2,3)</sup>

**Phase 3: Additional Greenfields**

150K Tonne / Yr<sup>(2)</sup>

**NOVONIX's Illustrative N.A. Scale Plan<sup>(4)</sup>**

KORE Power	KORE + LGES + Add'l Tier 1s	Portfolio of Customers
~55K  per year	~727K  per year	~2.7M  per year

**TAQAT JV**

- TAQAT Joint Venture targets 30K productive capacity in Saudi Arabia by 2030

(1) Market share based off implied North American graphite demand in 2025, and 2030. Source: Benchmark Mineral Intelligence Gigafactory Assessment – April 2023. Based on announced capacity. Assumes full utilization.  
 (2) Company expectations aligned with customer contracts and anticipated customer demand, which may or may not materialize  
 (3) KORE Power agreement to supply Koreplex anticipates a ~3,000 tonne per annum delivery rate in 2H 2024 ramping to ~12,000 tonne per annum rate in 2028.  
 (4) Assumes 55kg of graphite per EV.

# NOVONIX Establishes Strategic Relationship with LG Energy Solution

## LG Energy Solution (LGES) Overview



LGES has 7 plants in North America built or planned for 2025

- LGES is a leading U.S. based developer of battery cell technology for EV and ESS Batteries
- LGES has developed relationships with GM, Honda, Hyundai and Stellantis in North America to supply EV batteries
- LGES plans to have ~250 GWh of gigafactories in North America

## Highlights of JDA & Investment Agreements

- NOVONIX and LGES recently signed a Joint Research and Development Agreement (JDA) in June 2023
- LGES has the option to purchase up to 50,000 tons of artificial graphite anode material over a 10-year period from the start of mass production
- LGES invested US\$30M in convertible notes issued by NOVONIX

# U.S. Legislation Providing Direct Support to NOVONIX's Business Plan

## Section 301 Tariffs

- In August 2017, the Office of the United States Trade Representative (USTR) launched an investigation into China's allegedly unreasonable and discriminatory trade practices under Section 301 of the Trade Act of 1974. The tariff exclusion "necessity review" was extended in December 2022 until September 2023.
- **Section 301 includes a 25% tariff on artificial graphite imported from China** to help remove unfair market distortions imposed by China's anticompetitive behaviors and size advantage in the battery materials sector.

## IRA Tax Credits & Consumer Credit

- **Inflation Reduction Act of 2022 ("IRA") includes an estimated \$369 billion in investments** related to "climate change and energy security," including tax and other incentives to promote U.S. production of electric vehicles ("EVs"), renewable energy technologies, and critical minerals, representing the single biggest climate investment in U.S. history. Includes **\$7,500 federal consumer tax credit for qualifying electric vehicles, starting in 2023 based on the origin of materials and localization of manufacturing**
  - **\$3,750 of the credit must meet critical minerals requirement** - The critical mineral credit requires certain thresholds of the percentage of the value<sup>1</sup> of the critical minerals in the vehicle's battery to be extracted or processed in the United States or from a country which has a free trade agreement in effect with the U.S. EV credit eligibility is disqualified if materials are used from foreign entities of concern starting in 2025.
  - **\$3,750 from battery components** - The battery component requirement will be met if the percentage of the value of the components in the vehicle's battery that were manufactured or assembled in North America is equal to or greater than 50 percent in 2023 and increasing from that time.

## DOE Loans

- DOE Loan Programs Office (LPO) has \$15.1 billion in loan authority to support the manufacture of eligible light-duty vehicles and qualifying components under the Advanced Technology Vehicles Manufacturing Loan Program (ATVM), authorized by the Energy Independence and Security Act of 2007, providing debt capital at U.S. Treasury rates.
- **Entered Phase 2 of DOE LPO Loan process in late 2022.** The loan, if received, would contribute toward funding the company's current expansion of battery materials capacity

# NOVONIX Enters Joint Venture with TAQAT Development

## Agreement Enhances Revenues and Secures Low-cost Input

- **NOVONIX has agreed to form a Joint Venture (JV) in the Kingdom of Saudi Arabia** to produce high-performance synthetic graphite
- **JV will undertake FEED Study for the facility in its first year** with the target to begin facility construction in 2024
- **NOVONIX will contribute access its proprietary intellectual property to the JV** for the production and sales of high-performance synthetic graphite in the (MENA) region
- JV will be made up of TAQAT holds 60 percent equity stake and **NOVONIX holds a 40 percent** stake with each party contributing their share of equity required for operating and capital costs for engineering and subsequent facility construction and operation



**Chris Burns commented “The joint venture will leverage NOVONIX’s existing work in North America and will allow us to more quickly scale our operations to extend our geographical reach to the global market”.**



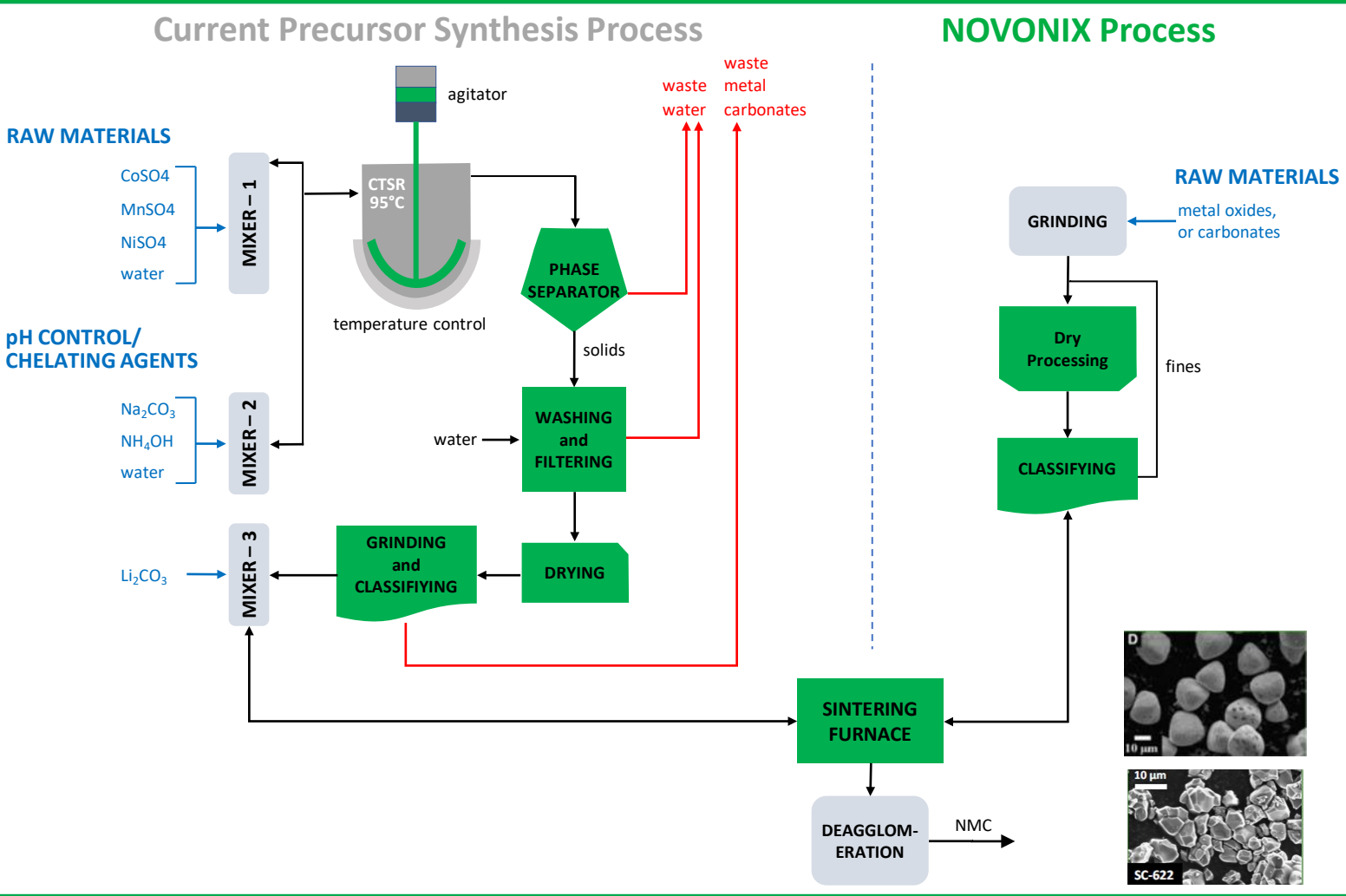


# NOVONIX - Cathode Synthesis Needs to be Clean and Simple

## Cathode Synthesis Development Overview

- Cathode material represents about 30% of the cost of a battery cell
- In 2021 the global cathode market size value was US\$19B, with a forecasted revenue of US\$33B by 2030<sup>1</sup>
- Current synthesis process is complex, produces water waste and is costly
  - 15,000 liters of waste water<sup>2</sup> is generated per tonne of cathode material
- With multiple patent applications filed, NOVONIX's Dry Process technology delivers:
  - Higher yields at lower costs
  - No water waste
  - High Nickel cathode materials

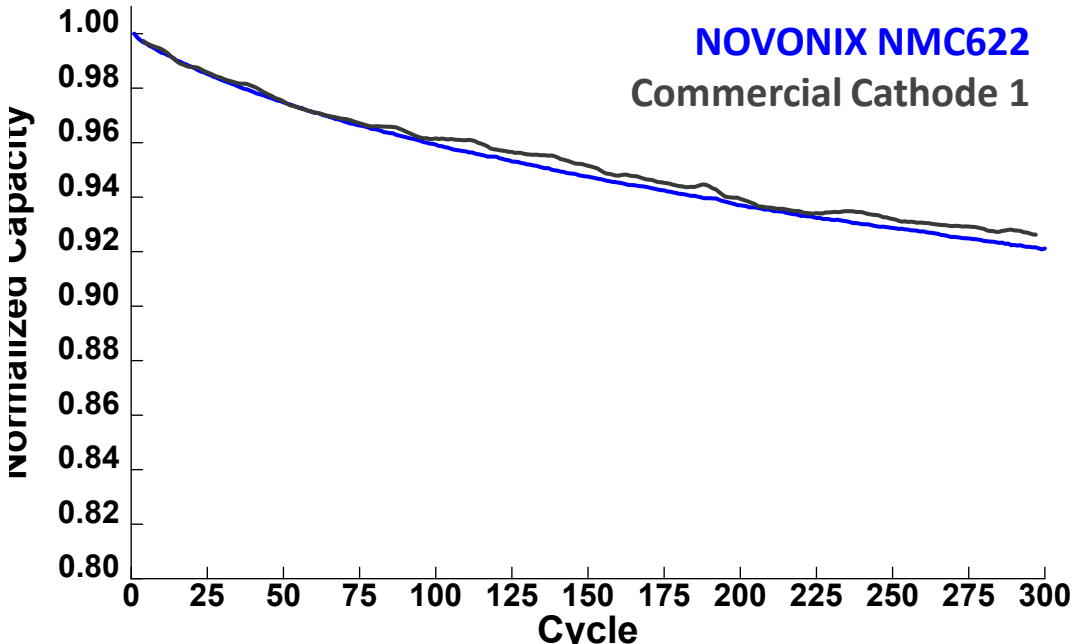
## Current Process vs. NOVONIX Process



1. Emergen Research: <https://www.emergenresearch.com/industry-report/cathode-materials-market>. 2. J.Power Sources: S. Ahmed, P.A. Nelson, K.G. Gallagher, N. Susarla, D.W. Dees. Cost and energy demand of producing nickel manganese cobalt cathode material for lithium ion batteries

# Cathode Cycle Performance Similar to Commercial Material

## Full Cell Cycling Performance of NOVONIX Single Crystal NMC622

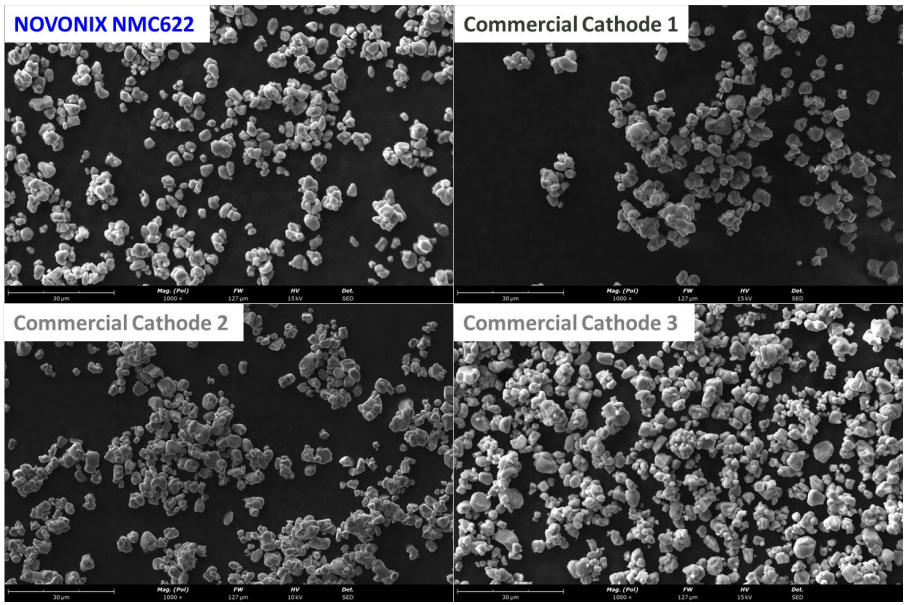


Product	Reference NMC622	NOVONIX NMC622
Capacity at c300 (%)	92.5%	92.1%
First Cycle Efficiency (%)	84.9%	84.9%

40°C; 1.2M LiPF<sub>6</sub> EC:EMC:DMC(25:5:70)+3VC; [Charge]: CC-0.33C; [Discharge]: CC-0.33C

## Enhanced Production Process Yields Consistent Performance

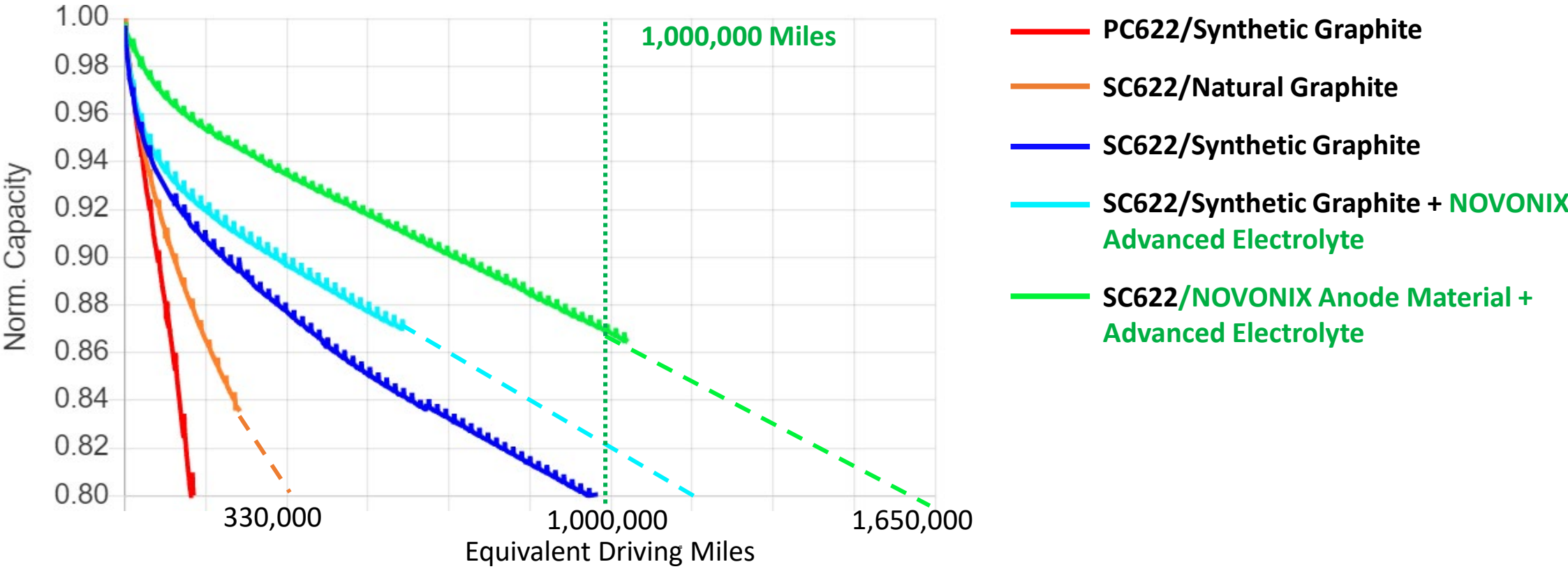
- Normalized electrochemical results in 1Ah pouch cell show that NOVONIX NMC622 has comparable electrochemical performance to commercial NMC materials
- NOVONIX all-dry single crystal cathode materials share similar morphology to commercial NMC Powders



- Higher nickel and cobalt-free materials are also being made using our process technology

# NOVONIX's Battery Technology Paves the Way for the Next Generation

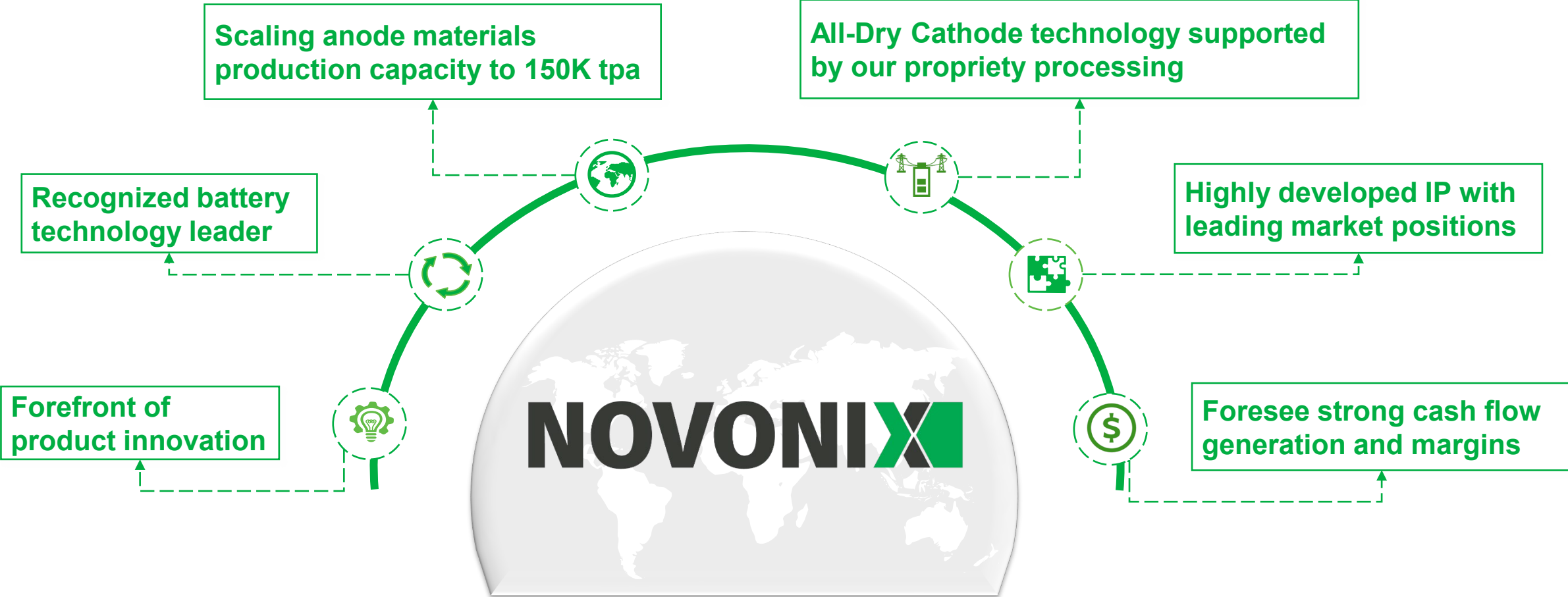
Demonstrated and Projected Performance Predicted to Exceed 1 Million Miles from ~2 Years of Test Data<sup>(1)</sup>



Building full cells for performance testing to demonstrate performance of NOVONIX anode, cathode, and electrolyte technologies in a single cell

1. Data based on internal measurements taken as part of verification process. 40°C full depth of discharge cycling, Assumed 330-mile range. Projection lines shown for guidance. SC NCM622 shown here is Commercial SCC reference material.

# Goals for the Future of NOVONIX



# Our Leadership and Board of Directors

## Leadership Team



**Dr. Chris Burns**  
Chief Executive Officer



**Nick A. Liveris**  
Chief Financial Officer



**Rashda Buttar**  
Chief Legal and  
Administrative Officer



**Danny Deas**  
President | NAM



**Darcy Macdougald**  
Chief Operating Officer



**Christopher York**  
Senior Vice President  
Business Development



**Suzanne Yeates**  
Financial Controller and  
Co Secretary

## Scientific & Technical Advisors



**Dr. Jeff Dahn**  
Chief Scientific Advisor



**Dr. Mark Obrovac**  
Sponsored Researcher

## Board of Directors



**Admiral Robert J. Natter**  
Chairman &  
Non-Executive Director



**Tony Bellas**  
Deputy Chairman &  
Non-Executive Director



**Daniel Akerson**  
Non-Executive Director



**Ron Edmonds**  
Non-Executive Director



**Zhanna Goldryga**  
Non-Executive Director



**Andrew N. Liveris AO**  
Non-Executive Director



**Jean Oelwang**  
Non-Executive Director

Key leadership and technical experience:



# Strategic Relationship with KORE Power

## Highlights of Agreements



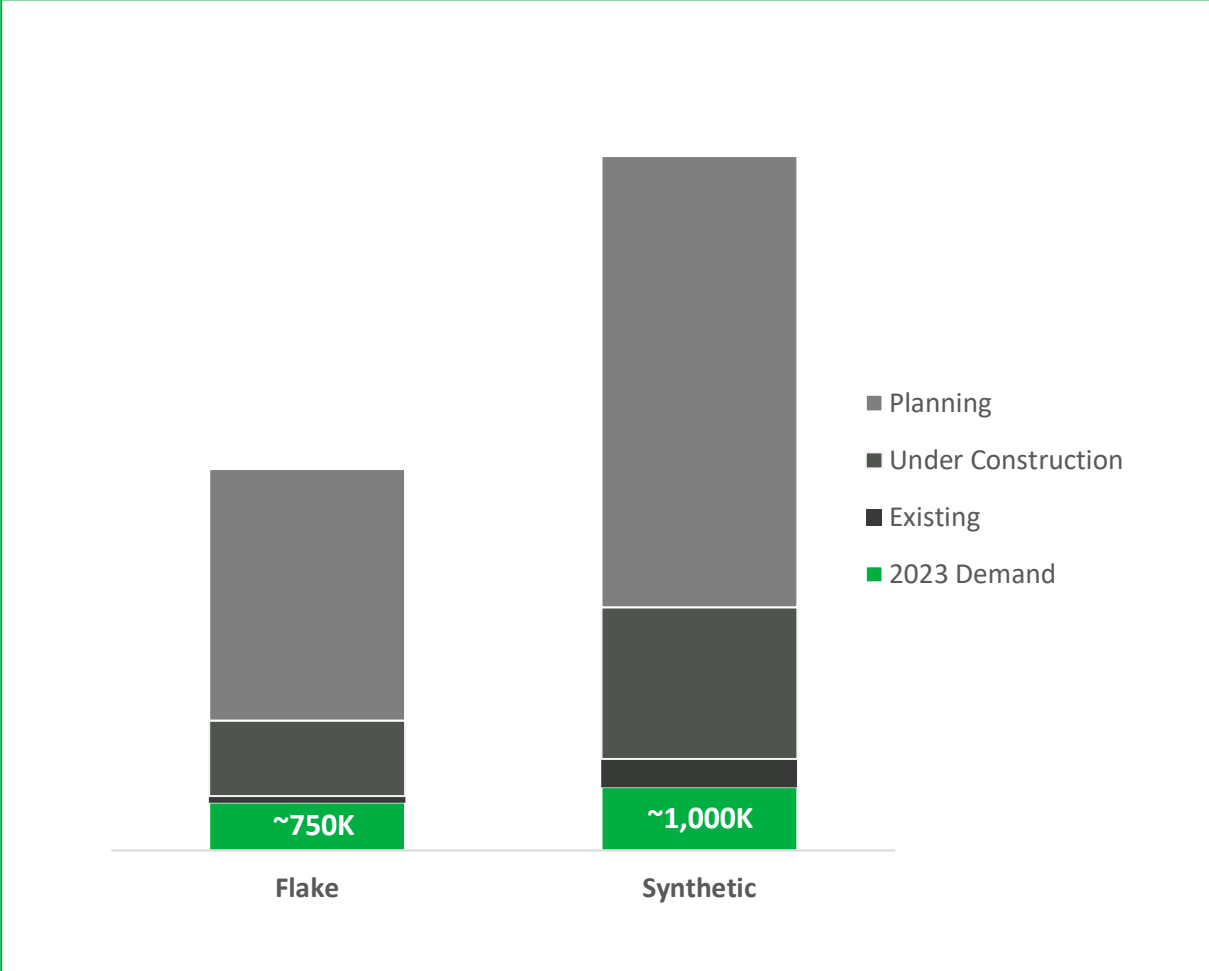
KORE Power to invest \$1B in Buckeye

[www.westvalleyview.com](http://www.westvalleyview.com)

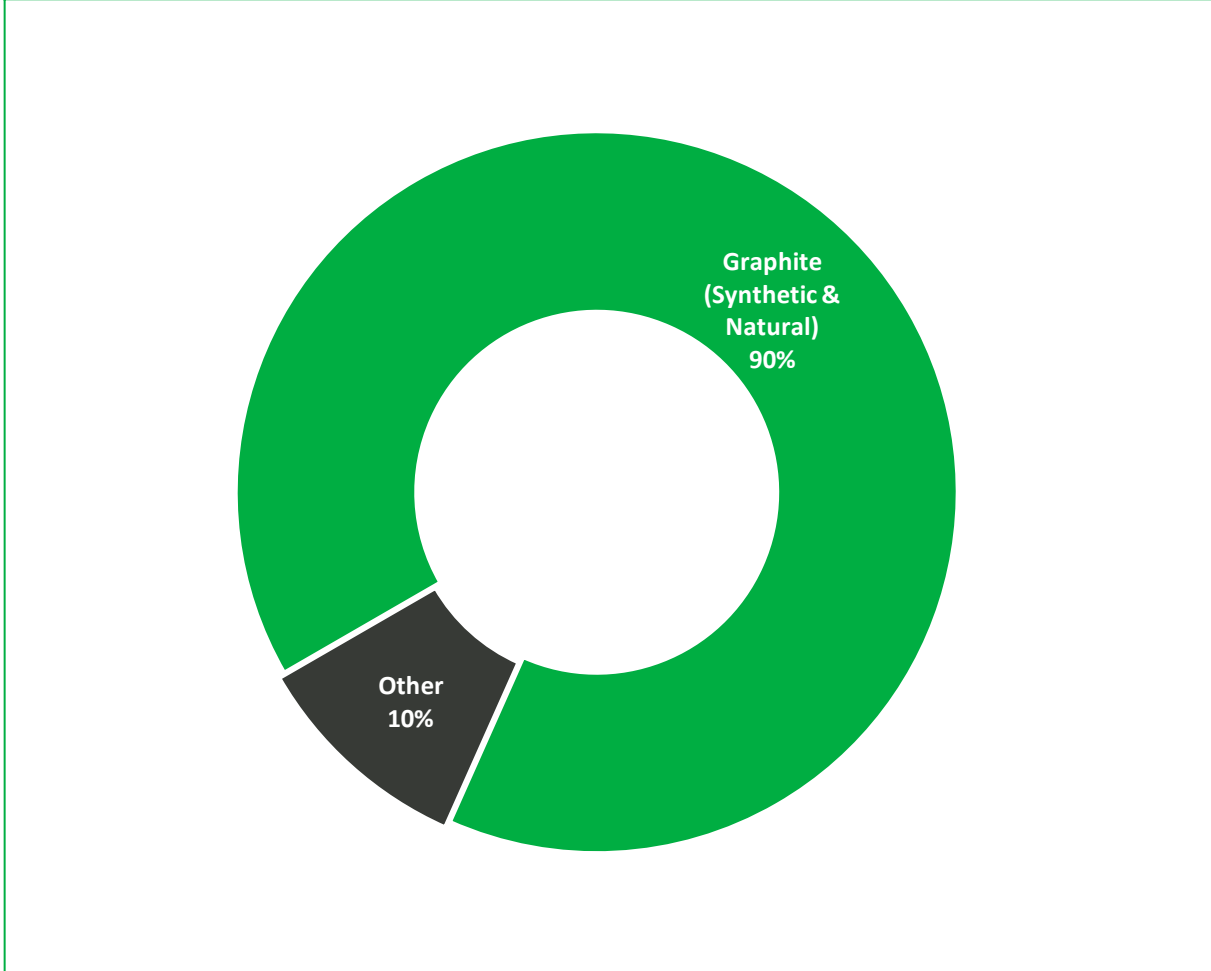
- KORE Power is a leading U.S. based developer of battery cell technology for clean energy industries
- NOVONIX and KORE Power have worked together since 2019 through NOVONIX's BTS division to improve and validate KORE's battery technology
- KORE announced on 29 July 2021 the intention to build KOREPlex, a one million square foot manufacturing that will support up to 12 GWh of battery cell production in Buckeye, AZ
- KOREPlex scheduled to begin production in 2024
- Through the signed Supply Agreement, NOVONIX will be the exclusive supplier of graphite anode material to KOREPlex which, when in full production, will be close to 12,000 tonnes per year of material
- NOVONIX invested \$25M USD to acquire a roughly 5% stake in KORE Power

# Global Graphite Forecasts Stronger Synthetic Demand

Synthetic and Flake Current Demand at ~1.75 Million Tonnes



Graphite to Remain Dominant Anode in 2030



Source: Benchmark Mineral Intelligence

# NOVONIX Customer Progression Towards Supply Contract



Sample Size and Reference

- | Stage         | Key Requirements and Activities  |
|---------------|--|
| New Customers | <ul style="list-style-type: none"> <li>BTS provides strategic connections through Hardware &amp; Services</li> <li>New Customer development through NAM</li> </ul>   |
| Pre-A Samples | <ul style="list-style-type: none"> <li>1 Kg to 10 Kg test sample for physical and basic electrochemical performance</li> <li>10-100kg pilot sample for physical and complete electrochemical and cell performance</li> </ul> |
| A Sample      | <ul style="list-style-type: none"> <li>Material must meet basic requirements versus reference cell</li> <li>Reference of 1 Tonne/m (Production Quantity) at Pilot Line scale</li> </ul>                                      |
| B Sample      | <ul style="list-style-type: none"> <li>Material must equal or outperform customer reference material</li> <li>Reference of &gt;5 Tonne (Production Quantity)</li> </ul>  |
| C Sample      | <ul style="list-style-type: none"> <li>Material must be produced at mass production scale</li> <li>Reference of &gt;10 Tonne</li> </ul>  |
| SOP Volumes   | <ul style="list-style-type: none"> <li>Contracted Volumes ramped to meet customer needs</li> <li>QC testing continues to validate consistent product quality</li> </ul>  |

**NOVONIX BTS provides a unique customer pipeline and testing capabilities facilitating anode product R&D and customer qualification**

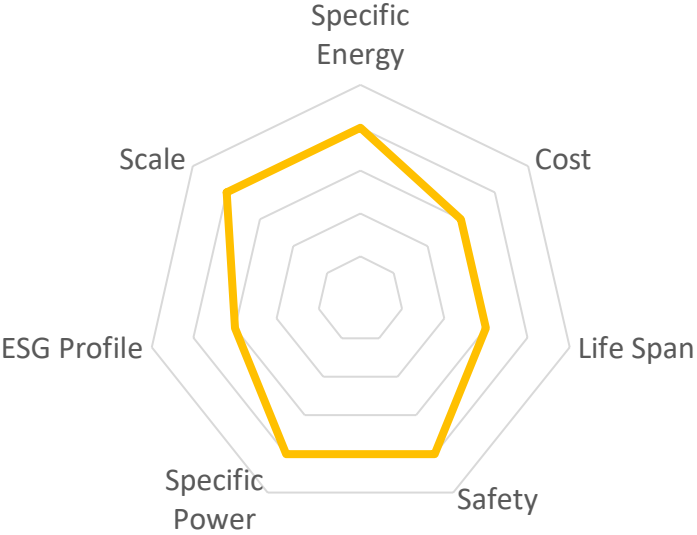
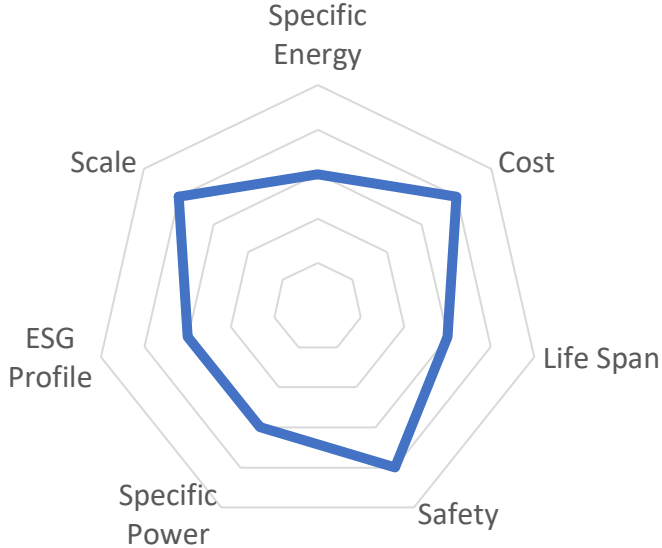


# Comparison of Anode Characteristics

Natural Graphite

Synthetic Graphite

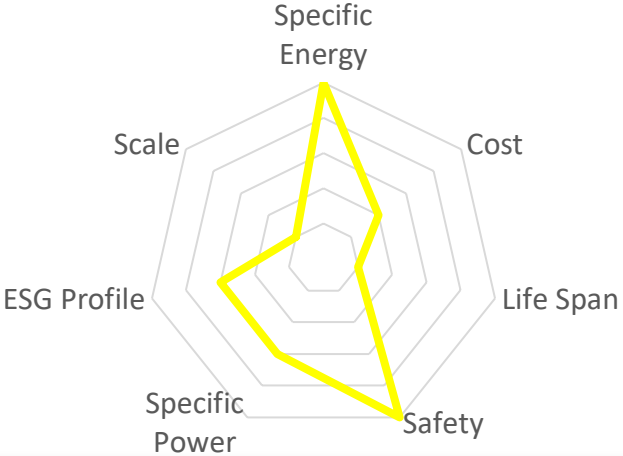
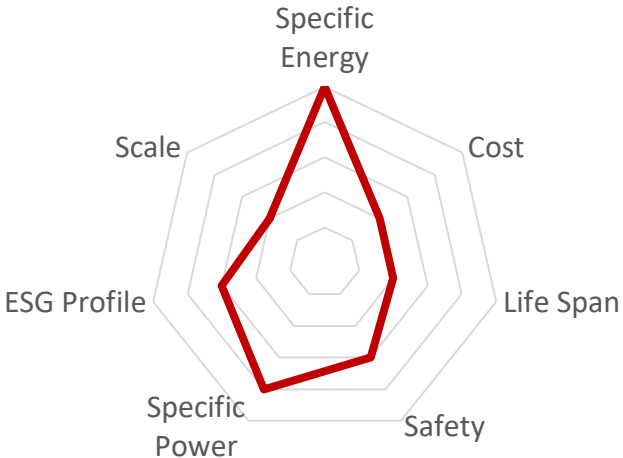
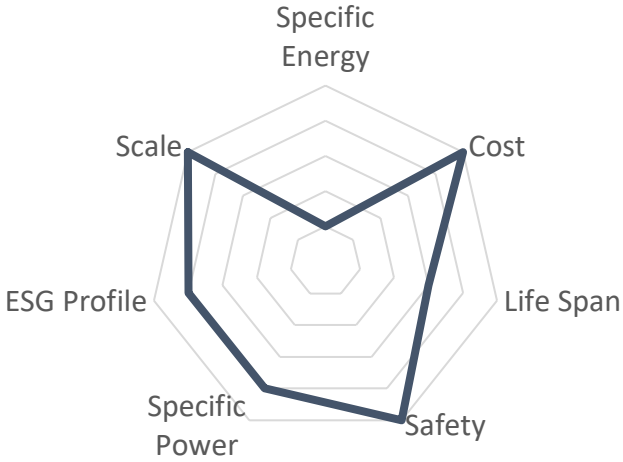
Silicon Composite



Hard Carbon

Silicon Rich

Solid State



Source: NOVONIX representative evaluations

# Inflation Reduction Act of 2022 Details

## IRA Tax Credits & Consumer Credit

- The IRA includes several provisions aimed at bolstering domestic supply chains and the production of critical battery materials. These include:
  - **\$7,500 federal consumer tax credit for qualifying electric vehicles, starting in 2023 based on the origin of materials and localization of manufacturing**
    - **\$3,750 of the credit must meet critical minerals requirement** - The critical mineral credit requires certain thresholds of the percentage of the value<sup>1</sup> of the critical minerals in the vehicle's battery to be extracted or processed in the United States or from a country which has a free trade agreement in effect with the U.S.<sup>2</sup> EV credit eligibility is disqualified if materials are used from foreign entities of concern starting in 2025.
    - **\$3,750 from battery components** - The battery component requirement will be met if the percentage of the value of the components in the vehicle's battery that were manufactured or assembled in North America is equal to or greater than 50 percent in 2023 and increasing from that time.
  - New production and "advanced manufacturing" tax credits
    - Section 45X provides a 10% tax credit which is available to producers of electrode active materials (measured as a percentage of total cost of production).
    - Expands section 48C to provide \$10 billion in tax credits. The tax credit is 30 percent of the amount invested in new or upgraded factories to build specified renewable energy components.
  - \$500 million appropriation for "enhanced" use of the Defense Production Act economic support under banner of national security.
  - \$40 billion authorized for increased loan guarantees under Title XVII of the Energy Policy Act of 2005.

<sup>1</sup> This required percentage increases annually from 40 percent for a vehicle that is placed in service in 2023 to 50 percent in 2024, 60 percent in 2025, 70 percent in 2026, and 80 percent after 2026.

<sup>2</sup> Treasury and the IRS also expect to propose that the term encompasses, at minimum, the comprehensive trade agreements of the United States with the following countries: Australia, Bahrain, Canada, Chile, Colombia, Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, Israel, Jordan, South Korea, Mexico, Morocco, Nicaragua, Oman, Panama, Peru and Singapore.

# NOVONIX Enters "Phase 2" of DOE Loan Programs Office Process

## Department of Energy Loan Programs Office

- DOE Loan Programs Office has \$15.1 billion in loan authority to support the manufacture of eligible light-duty vehicles and qualifying components under the Advanced Technology Vehicles Manufacturing Loan Program (ATVM), authorized by the Energy Independence and Security Act of 2007, providing debt capital at U.S. Treasury rates.
- In late 2022, NOVONIX formally submitted its application for a loan under the ATVM program. The loan, if received, would contribute toward funding the company's current expansion of battery materials capacity for the production of synthetic graphite to support the United States EV and ESS supply chain.

## DOE LPO Loan Process



Source: DOE Loan Programs Office Website