# NOVONIX

## Set for Growth

June 2023 Battery Gigafactories USA 2023

## **Important Notice and Disclaimers**

The information contained in this presentation (the "**Presentation**") has been prepared by NOVONIX Limited (ACN 157 690 830) ("**the Company**" or "**NOVONIX**") solely for information purposes and the Company is solely responsible for the contents of this Presentation. It is intended to be a summary of certain information relating to the Company as at the date of the Presentation and does not purport to be a complete description of NOVONIX or contain all the information necessary to make an investment decision. Accordingly, this Presentation is not intended to, and should not, form the basis for any investment, divestment or other financial decision with respect to the Company. Any reproduction or distribution of the Presentation, in whole or in part, or the disclosure of its contents, without prior consent of the Company, is prohibited.

#### Not an Offer

This Presentation does not constitute, nor does it form part of an offer to sell or purchase, or the solicitation of an offer to sell or purchase, any securities of the Company. This Presentation may not be used in connection with any offer or solicitation by anyone in any jurisdiction in which such offer or solicitation is not permitted by law or in which the person making the offer or solicitation is not qualified to do so or to any person to whom it is unlawful to make such offer or solicitation. Any offering of securities will be made only by means of a registration statement (including a prospectus) filed with the U.S. Securities and Exchange Commission (the "**SEC**"), after such registration statement becomes effective, or pursuant to an exemption from, or in a transaction not subject to, the registration requirements under the U.S. Securities Act of 1933, as amended. No such registration statement has become effective, as of the date of this Presentation.

#### **Forward-Looking Statements**

This Presentation contains forward-looking statements about the Company and the industry in which it operates. Forward looking statements can generally be identified by use of words such as "anticipate," "believe," "contemplate," "continue," "could," "estimate," "expect," "intend," "may," "plan," "potential," "predict," "project," "should," "target," "will," or "would," or other similar expressions. The Company has based such statements on its current expectations and projections about future events and trends that it believes may affect its financial condition, results of operations, business strategy and financial needs. Such forward-looking statements involve and are subject to known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of the Company and/or its subsidiaries to be materially different from any future results, performance or achievements expressed or implied by the forward-looking information. Such factors include, among others, regulatory developments in the United States, Australia and other jurisdictions, the continuation of the Company's partnership with the Research Group of Dr. Mark Obrovac at Dalhousie University for the development of the Company's technology, the Company's ability to scale-up production of its anode or cathode materials and the Company's ability to attract and retain key management and technology personnel. Forward-looking statements are not guarantees of future performance or outcomes and that actual performance and outcomes may differ materially from those made in or suggested by the forward-looking statements contained in this Presentation. Accordingly, recipients of this Presentation should not place undue reliance on forward looking statements. The Company disclaims any obligation to update any forward-looking statements made in this Presentation to reflect events, except as required by law.

#### **Industry and Market Data**

This Presentation contains estimates and information concerning our industry and our business, including estimated market size and projected growth rates of the markets for our products. Unless otherwise expressly stated, we obtained this industry, business, market, and other information from reports, research surveys, studies and similar data prepared by third parties, industry, and general publications, government data and similar sources. This Presentation also includes certain information and data that is derived from internal research. While we believe that our internal research is reliable, such research has not been verified by any third party.

Estimates and information concerning our industry and our business involve a number of assumptions and limitations. Although we are responsible for all of the disclosure contained in this Presentation and we believe the third-party market position, market opportunity and market size data included in this Presentation are reliable, we have not independently verified the accuracy or completeness of this third-party data. Information that is based on projections, assumptions and estimates of our future performance and the future performance of the industry in which we operate is necessarily subject to a high degree of uncertainty and risk due to a variety of factors, which could cause results to differ materially from those expressed in these publications and reports.

#### Trademarks, Service Marks and Trade Names

Throughout this Presentation, there are references to various trademarks, service marks and trade names that are used in the Company's business. "NOVONIX," the NOVONIX logo and other trademarks or service marks of NOVONIX appearing in this Presentation are the property of NOVONIX or its subsidiaries. Solely for convenience, the trademarks, service marks and trade names referred to in this Presentation are listed without the  $^{\circ}$  or  $^{m}$  symbol, as applicable, but such references should not be construed as any indicator that their respective owners will not assert, to the fullest extent under applicable law, their right thereto. All other trademarks, trade names and service marks appearing in this Presentation are the property of their respective owners.



## **Providing Revolutionary Solutions to the Battery Industry**

## **The Opportunity**

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

### **Increased Demand**

Active material 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

# NOVONIX



**Riverside Facility in Tennessee** 

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

# $\bigcirc$

#### Governance

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

Inputs Process Outputs 

#### Environmental Benefits of NOVONIX's Anode Technology



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





- Develops industry leading lithiumion 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

- 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.

## **Graphite Remaining the Dominant Anode Technology**



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



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



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



## **Phased Growth Plan Matches Customer Demands**



(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 anticpated 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**



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

#### LG Energy Solution (LGES) Overview

- 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



## **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



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**



**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**



