

LanzaTech

Transforming Carbon. Making Products.

Where does your carbon come from?

Disclaimer

The Presentation (Together with Oral Statements Made in Connection Herewith)

This presentation (together with oral statements made in connection herewith, this "Presentation") is for informational purposes only. This Presentation shall not constitute an offer to sell, or the solicitation or an offer to buy, any securities, nor shall there be any sale of securities in any states or jurisdictions in which such offer, solicitation or sale would be unlawful. This Presentation has been prepared to assist interested parties in making their own evaluation with respect to a potential business combination between LanzaTech NZ, Inc. ("LanzaTech", or the "Company") and AMCI Acquisition Corporation II ("AMCI"), and the related transactions including a potential investment in AMCI (the "Proposed Business Combination" or "Transaction"), and for no other purpose. Neither the SEC nor any securities commission of any other U.S. jurisdiction has approved or disapproved of the securities or of the Proposed Business Combination contemplated hereby or disapproved or disapproved

This Presentation and information contained herein constitutes confidential information and is provided to you on the condition that you agree that you will hold it in strict confidence and not reproduce, disclose, forward or distribute it in whole or in part without the prior written consent of AMCI and the Company and is intended for the recipient hereof only. By accepting this Presentation, you acknowledge and agree that all of the information contained herein or disclosed orally in this Presentation is confidential, that you will not distribute, disclose or use such information in any way detrimental to Lanza Tech or AMCI, and that you will return to Lanza Tech and AMCI, delete or destroy this Presentation upon request.

No representations or warranties, express or implied are given in, or in respect of, this Presentation. To the fullest extent permitted by law in no circumstances will AMCI, Lanza Tech or any of their respective subsidiaries, security holders, affiliates, representatives, partners, directors, officers employees, advisers, or agents be responsible or liable for any direct, indirect, or consequential loss or loss of profit arising from the use of this Presentation, its contents, its omnissions, reliance on the information and opinions expressed in this Presentation, including industry and market data obtained from third-party industry publications and sources as well as from research reports prepared for other purposes, were obtained from sources believed to be reliable and are included in good faith, neither AMCI nor LanzaTech has independently verified the information obtained from these sources and cannot assure you of the information's accuracy or completeness. This information is subject to change. Some data are also based on the good faith, settlements related to product performance, product cast and product sales related projections are based upon but not limited to discussions and/or agreements with customers, suppliers, partners and academic research organizations as well as the Company's commercial scale systems built and operating in China. In addition, this Presentation, does not purport to be all-inclusive or to contain all of the information that may be required to make a full analysis of LanzaTech or the Proposed Business Combination. Viewers of this Presentation should each make their own evaluation of LanzaTech and of the relevance and adequacy of the information and should make such other investigations as they deem necessary.

Nothing herein should be construed as legal, financial tax or other advice. You should consult your own advisers concerning any legal, financial, tax or other considerations concerning the opportunity described herein. The general explanations included in this Presentation cannot address, and are not intended to address, your specific investment objectives, financial situations or financial needs. Nothing contained herein shall be deemed a recommendation to any party to enter into any transaction or take any course of action.

In connection with the Proposed Business Combination, AMCI has filed with the Securities and Exchange Commission ("SEC") a registration statement on Form S-4 (the "Registration Statement") containing a proxy statement and a prospectus of, AMCI. Shareholders and other interested persons are urged to read the definitive proxy statement/prospectus and only other relevant documents filed with the SEC because they contain important information about AMCI, LanzaTech and the Proposed Business Combination. The definitive proxy statement/prospectus and other documents filed with the SEC, once available, without charge, at the SEC's website located at www.sec.gov, or by directing a request to AMCI Acquisition Corporation II, 600 Steamboat Road, Greenwich, CT 06830. AMCI, LanzaTech and their directors and executive officers and other persons may be deemed to be participants in the solicitations of proxies from AMCI's shareholders in respect of the Proposed Business Combination and the other matters set forth in the registration statement. Information regarding AMCI's directors and executive officers is available under the heading "Management" in AMCI's final prospectus used in its initial public offering, which was filed with the SEC and is available free of charge at the SECs website at www.sec.gov, or by directing a request to AMCI Acquisition Corporation II, 600 Steamboat Road, Greenwich, CT 06830. Additional information regarding the participants in the proxy solicitation and a description of their direct and indirect interests by security holdings or otherwise, is contained in the proxy statement/prospectus relating to the Proposed Business Combination.

Forward Looking Statements

Certain statements included in this Presentation that are not historical facts are forward-looking statements for purposes of the safe harbor provisions under the United States Private Securities Litigation Reform Act of 1995. Forward-looking statements generally are accompanied by words such as "believer," may", "will", "estimate", "continue", "anticipate", "intend", "expect," "should", "polant," predict", "potential", "seem", "seek", "future", "outlook" and similar expressions that predict or indicate future events or trends or that are not statements of historical matters, been," "seek", "future", "outlook" and similar expressions that predict or indicate future events or trends or that are not statements regarding estimates and forecasts of other financial and performance metrics and projections of market opportunity, expectations and timing related to the rollout of LanzaTech's business and timing of deployments, customer growth and other business milestones, potential benefits of the Proposed Business Combination and PIPE investment (the "Proposed Transactions,"), and expectations performents, and the current expectations of LanzaTech's and AMCIs management and are not predictions of actual performance. These forward-looking statements are provided for illustrative purposes only and are not intended to serve as and must not be relied on by an investor as a guarantee, an assurance, a prediction, or a definitive statement of fact or probability. Actual events and circumstances are beyond the control of LanzaTech and MCI. These forward-looking statements are subject to a number of risks and uncertainties, including changes in domestic and foreign business, market, financial, political, and legal conditions; the inability of the parties to successfully or timely enter into definitive agreements with respect to the Proposed Transactions or consummate the Proposed Transactions, including the risk that any regulatory approvals are not obtained, are delayed or are subject to unanticipated conditions; the inabilit

Additional risks related to LanzaTech's business include, but are not limited to: the Company has not yet deployed its technology at scale in commercial deployments; the long bidding and sales cycle in the industry; the success of the project incorporating the Company's systems, governmental regulation; environmental regulation; most of the Company's asles pipeline is not in the form of definitive agreements; the Company's ability to negotiate and enter into definitive agreements on favorable terms, if at all; construction delays; potential defects in the Company's systems; whether in the design, manufacturing or assembly or otherwise; the impact of competing technologies; intellectual property-related claims; ability to expand operations becally: ability to expand operations the continued demand for renewable energy.



Disclaimer

The Presentation (Together with Oral Statements Made in Connection Herewith)

If any of these risks materialize or AMCI's or LanzaTech's assumptions prove incorrect, actual results could differ materially from the results implied by these forward-looking statements. There may be additional risks that neither AMCI nor LanzaTech presently know or that AMCI and LanzaTech currently believe are immaterial that could also cause actual results to differ from those contained in the forward-looking statements. In addition, forward-looking statements reflect AMCI's and LanzaTech anticipate that subsequent events and developments will cause AMCI's and LanzaTech and LanzaTech may elect to update these forward-looking statements at some point in the future, AMCI and LanzaTech pesceptically disclaim any obligation to do so. These forward-looking statements should not be relied upon as representing AMCI's and LanzaTech's assessments as of any date subsequent to the date of this Presentation. Accordingly, undue reliance should not be placed upon the forward-looking statements. Neither LanzaTech, AMCI, nor any of their respective effiliates have any obligation to update this Presentation.

Use of Projections

This Presentation contains projected financial information with respect to LanzaTech. Such projected financial information constitutes forward-looking information, and is for illustrative purposes only and should not be relied upon as necessarily being indicative of future results. The assumptions and estimates underlying such financial information are inherently uncertain and are subject to a wide variety of significant business, economic, competitive, and other risks and other risks that could cause actual results to differ materially from those contained in this presentation. Actual results may differ materially from the results contemplated by the projected financial information contained in this Presentation, and the inclusion of such information in this Presentation should not be regarded as a representation by any person that the results reflected in such forecasts will be achieved. Neither AMCI's nor the Company's independent auditors have audited, reviewed, compiled or performed any procedures with respect to the projections for the purpose of their inclusion in this Presentation, and accordingly, neither of them expressed an opinion or provided any other form of assurance with respect thereto for the purpose of the presentation.

Trademarks

This Presentation contains trademarks, service marks, trade names, and copyrights of AMCI, LanzaTech, and other companies, which are the property of their respective owners. The use or display of third parties- trademarks, service marks, trade names referred to in this Presentation is not intended to, and does not imply, a relationship with AMCI or LanzaTech, or an endorsement or sponsorship by or of AMCI or LanzaTech. Solely for convenience, the trademarks, are vice marks and trade names referred to in this Presentation may appear with the TM or SM symbols, but such references are not intended to indicate, in any way, that LanzaTech or AMCI will not assert, to the fullest extent permitted under applicable law, their rights or the right of the applicable licensor to these trademarks, service marks and trade names.

Participants in the Solicitation

AMCI and LanzaTech and their respective directors and executive officers may be considered participants in the solicitation of proxies with respect to the Proposed Business Combination. Information about the directors and executive officers of AMCI is set forth in the definitive proxy statement/prospectus filed with the SEC. Information regarding the persons who may, under the rules of the SEC, be deemed participants in the solicitation of AMCI stockholders in connection with the Proposed Business Combination is set forth in the registration statement (and will be included in the definitive proxy statement/prospectus). Stockholders, potential investors and other interested persons should read the proxy statement/prospectus carefully before making any voting or investment decisions. These documents can be obtained free of charge from the sources indicated above.

Non-Solicitation

This Presentation shall not constitute a proxy statement or solicitation of a proxy, consent or authorization with respect to any securities or in respect of the Proposed Business Combination and shall not constitute an offer to sell or a solicitation of an offer to buy any securities, nor shall there be any sale of securities, in any state or jurisdiction in which such offer, solicitation, or sale would be unlawful prior to registration or qualification under the securities laws of any such state or jurisdiction. No offer of securities shall be made except by means of a prospectus meeting the requirements of the Securities Act of 1933, as amended.



Agenda

Welcome & Speaker Introductions
 Omar El-Sharkawy

• Opening Remarks from AMCI Nimesh Patel

Presentation: Part 1

LanzaTech Company Mission & Overview Jennifer Holmgren

Commercial Scale Platform
 Julie Zarraga

Synthetic Biology & Science Capabilities
 Zara Summers & Michael Köpke

Virtual Facilities Tour

Presentation: Part 2

o Business Model Overview Geoff Trukenbrod

o Closing Remarks Jennifer Holmgren

• Q&A and Wrap Up All

Welcome & Speaker Introductions



Jennifer Holmgren CEO – LanzaTech



Julie Zarraga
Executive VP, Engineering – LanzaTech



Zara SummersVP, Science – LanzaTech



Michael Köpke VP, Synthetic Biology – LanzaTech



Geoff Trukenbrod CFO - LanzaTech



Omar El-Sharkawy
VP, Corporate Development – LanzaTech



Nimesh Patel

Managing Director – AMCI Group

CEO & Director – AMCI

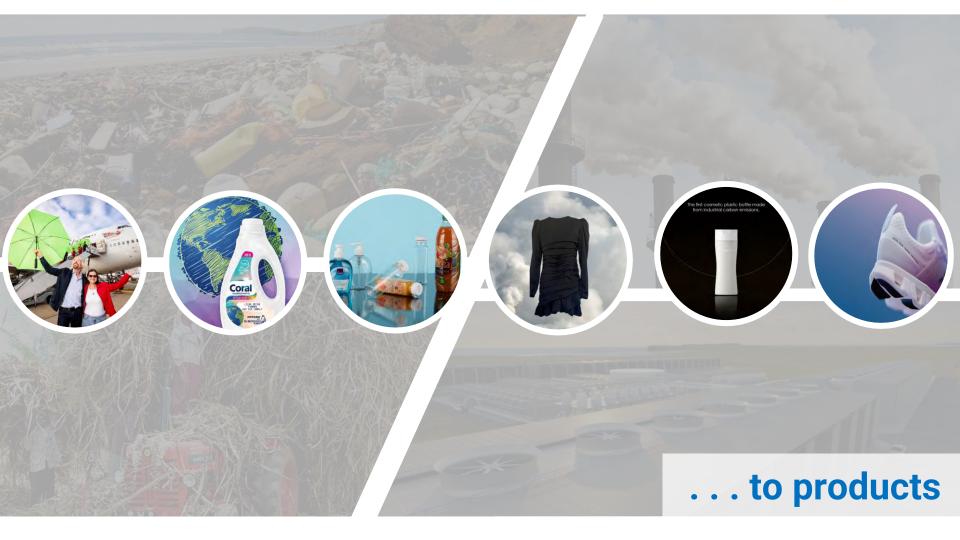
Acquisition Corp. II

Opening Remarks from AMCI

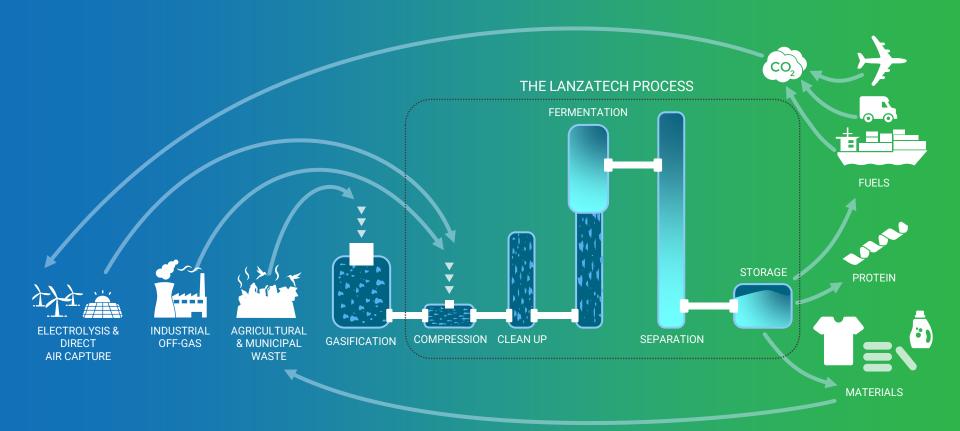
- AMCI is a \$2 billion privately held global industrial holding company with a portfolio of businesses that has operated in the heavy industry value chain for the last 35 years.
- The heavy industry complex has finally recognized the need to decarbonize their operations and this is leading to a new massive capex cycle for industrial decarbonization solutions
- LanzaTech provides an immediate solution to help industrial emitters, such as steel mills,
 smelters and refiners profitably decarbonize their operations
- The company has numerous blue-chip commercial partners and customers, many of whom AMCI has worked with before
- LanzaTech has an attractive capital light, recurring revenue licensing model
- LanzaTech is well positioned to capture the growing global demand for sustainable chemicals from leading consumer brands and SAF from global airlines
- LanzaTech is led by an exceptional management team with a proven track record







LanzaTech's Unique Transformation Process



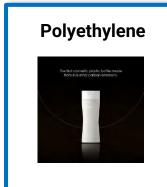


We Enable Commercial Production of Products People Want to Buy







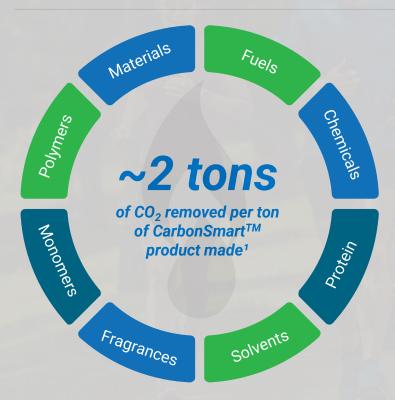








Being CarbonSmart™



1 LanzaTech management; 2 Per Grand View Research (2019), Allied Market Research (2018), The Business Research Company (2019), Technavio (2019), Fortune Business Insights (2019) and Knowledge Sourcing Intelligence (2020)

In a CarbonSmartTM world, carbon waste is transformed to nearly everything we use in our daily lives

LanzaTech generates profitable ROIs for partners, accelerating adoption of CarbonSmart™

Products with CarbonSmart™







\$1T Addressable Market²

Potential for >1 billion tons/year of product from waste feedstocks

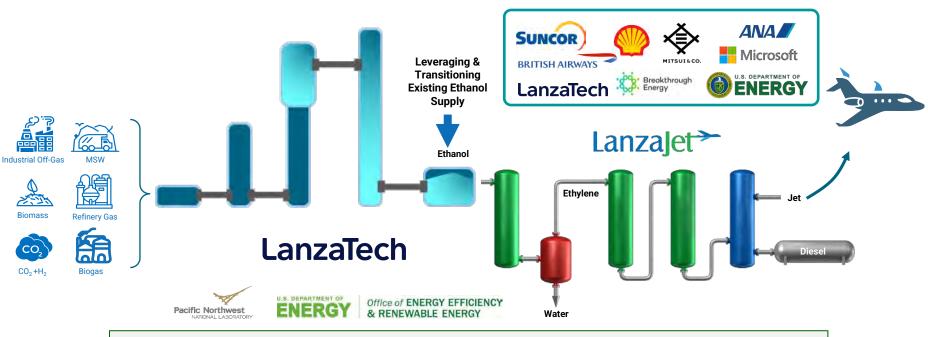


We produce chemicals for everyday products





LanzaJet Turns Carbon Waste to Sustainable Aviation Fuels

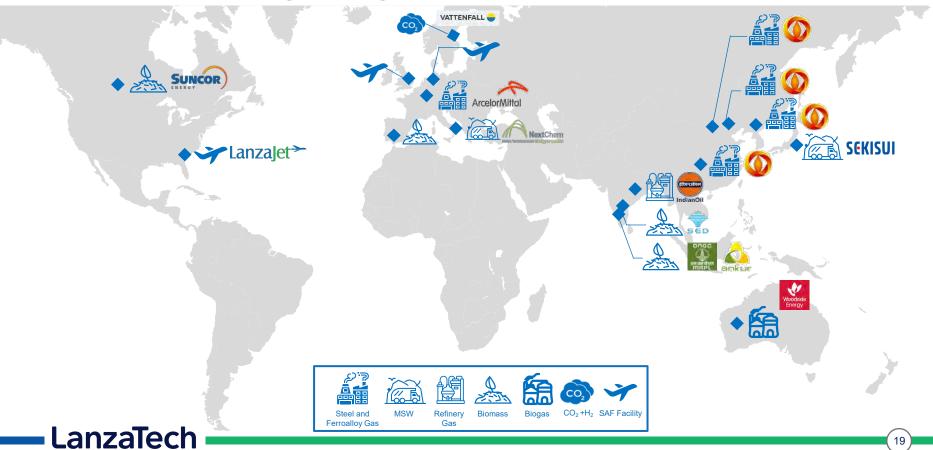


Drop-In Ready – ASTM Approved

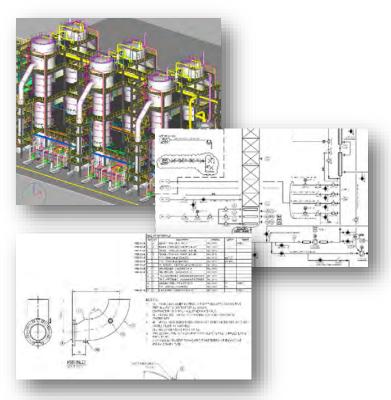




Global Plant Deployment – Projects in Operation, Construction, and Engineering



With Experience Comes Repeatability, Speed, and Efficiency



Knowledge Institutionalized

- Design package standardized & templated
- QA/QC program & work processes at ISO-9000 level
- Industry-standard engineering work products

Leveraging Best Practices

- Firm scope definition and establishment of design basis
- Value engineering
- Increased LanzaTech involvement start to finish
- · Employee training

Early Alignment on Project Budget

- Budgeting becoming increasingly accurate and less time consuming
- Existing quotes and established EPC relationships provide higher accuracy



Global Impact – Steel in the Ground



Commercial Plants in Continuous Operation

>150kmta Capacity Across Commercial Scale Facilities

Shougang LanzaTech



- Caofeidian, China
- 1st commercial plant (2018)







Shougang JiYuan



- NingXia, China
- 2nd commercial plant (2021)







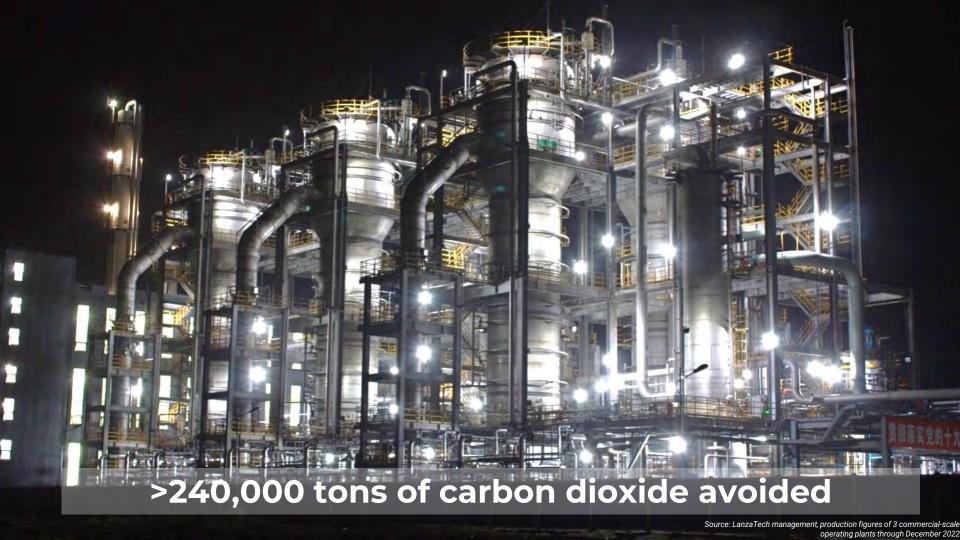
NingXia Binze



- NingXia, China
- 3rd commercial plant (2022)







Demonstration-Scale Plants Support Use of Diverse Feedstocks

Sekisui 1/10th Plant SEKISUI

- Kuji City, Japan
- Gasified Municipal Solid Waste (MSW)
- Mechanical Completion (2022) Commissioning Stage



Suncor Energies





Late-Stage Construction on Other Commercial Projects

ArcelorMittal Ghent

Ghent, Belgium



Steel Mill Off-Gas







IndianOil Corporation

Panipat, India



Refinery Off-Gas





Guizhou Jinze

Guizhou, China



Ferroalloy Off-Gas









Major LanzaJet Construction Milestone in December 2022













LanzaTech is at the Cutting Edge Across Multiple Capabilities & Processes

Fermentation

Benchtop & Pilot Scale Gas-Fed Reactors with Integrated Analytics & Data Collection



World's First Anaerobic Biofoundry

Fully Automated Engineering & Screening of Thousands of Anaerobic Gas Fermentation Strains

Global Leaders in Gas Fermentation

Advanced AI & Modeling

Fully-Integrated Predictive Metabolic & Process Models



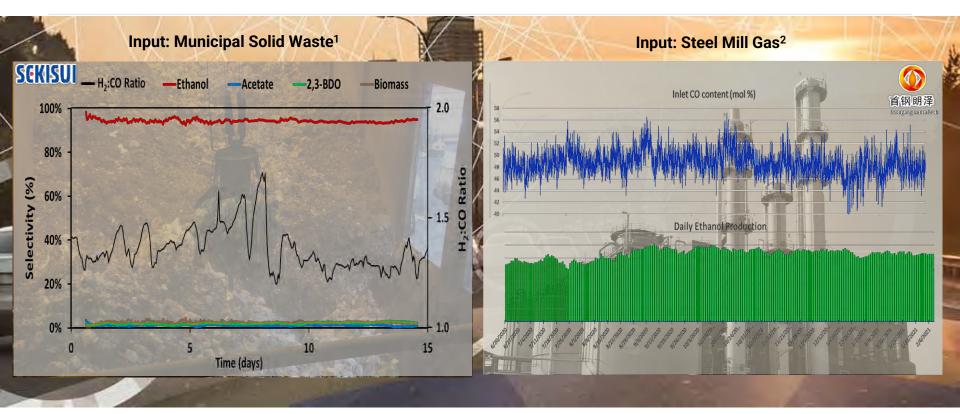
World-Class Synthetic Biology Platform

Rapid *In Vitro* Prototyping Platform

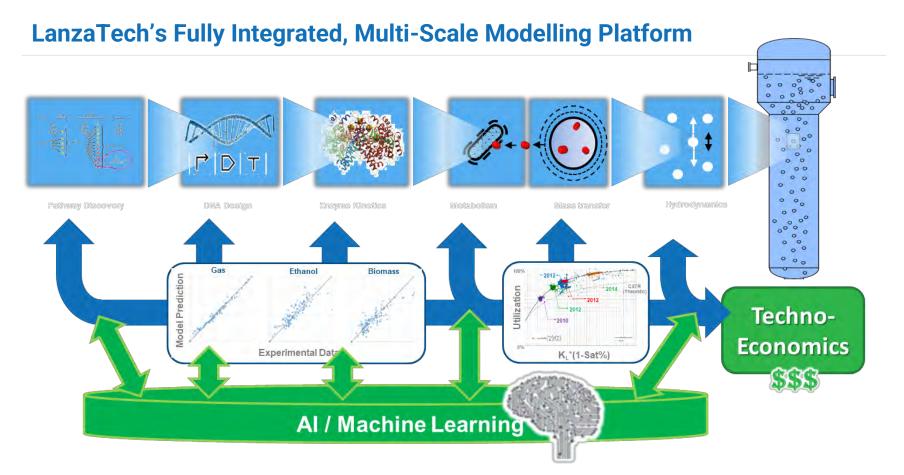
Predictive & Low-Cost, Cell-Free Prototyping of Enzymes & Pathway Designs



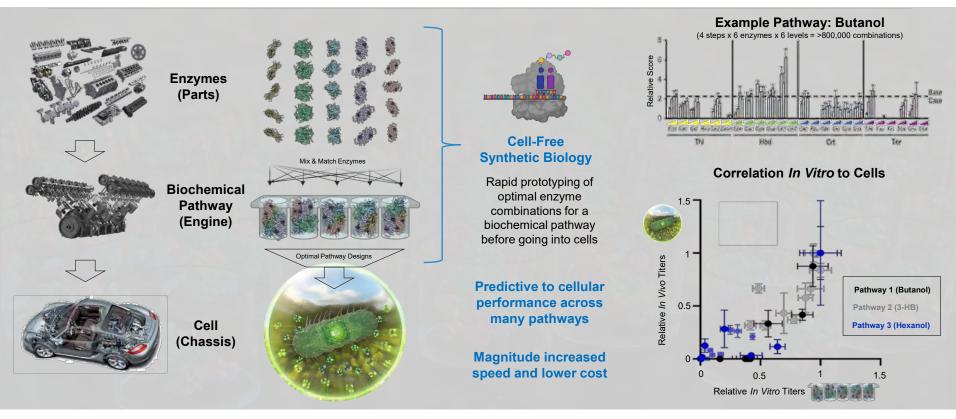
Fermentation Transforms Chaotic Inputs into Selective Outputs



¹Köpke & Simpson (2020) Curr Opin Biotechnol 65: 180-189; ²Fackler, [...] Köpke (2021) Ann Rev Chem Biomol Eng 12: 439-470



Rapid In Vitro Prototyping Platform to Inform Cellular Design





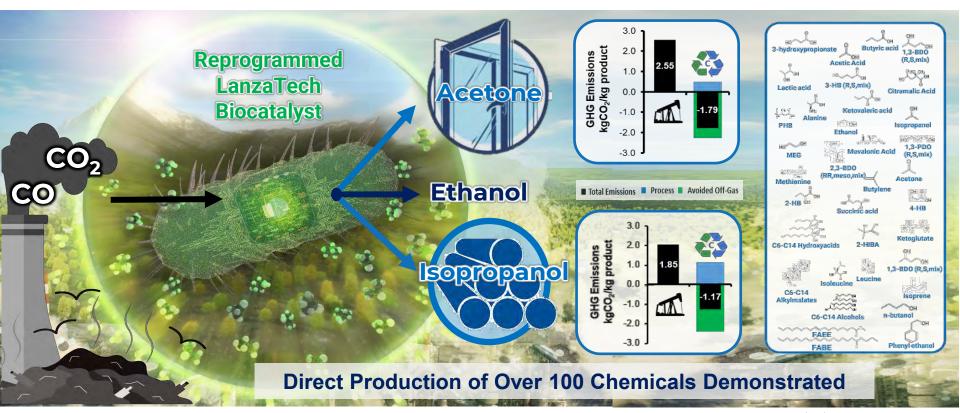
Source: Karim, et al (2020) Nature Chemical Biology 16: 912–919, Voegeli et al (2022) Nature Communications 13: 3058.

Cell image credit: Justin Muir. Other images generated with Biorender.com.

LanzaTech's World-First Anaerobic Biofoundry

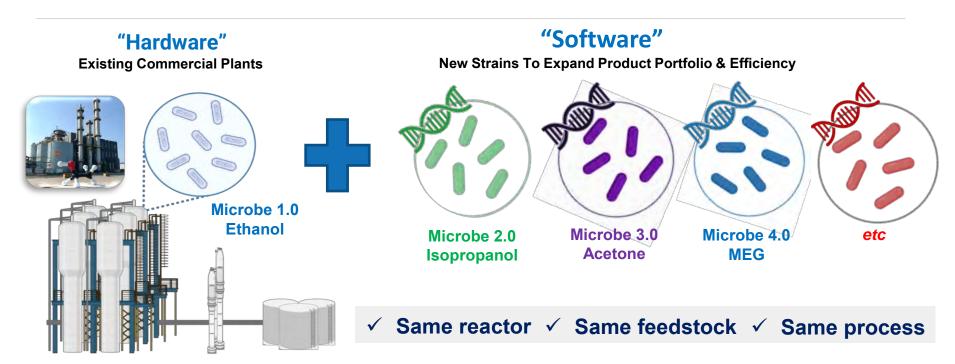


Enabling Carbon-Negative Chemical Production from Industrial Gasses



Source: Liew, et al (2022) Nature Biotechnology 40: 335–344 Cell image credit: Justin Muir.

What Do You Want To Make Today?



DISRUPTION =

1) Rapid Reaction to Market Fluctuations 2) Feedstock ≠ Commodity

Providing Solutions To Industry Leaders Across Sectors

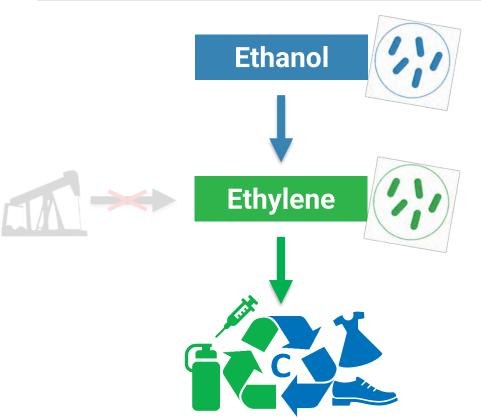








Case Study: Ethylene via Ethanol Pathway



- Ethylene is a key building block for PE, MEG, EVA, and surfactants
- LanzaTech's CarbonSmart products are made via dehydration of ethanol to ethylene
- Direct production reduces process cost and energy
- Global ethylene market¹:
 - 200 MTA in 2021
 - \$170B market by 2030

¹https://www.marketresearchfuture.com/reports/ethylene-market-931; https://www.statista.com/statistics/1067372/global-ethylene-production-capacity/

LanzaTech



















LanzaTech



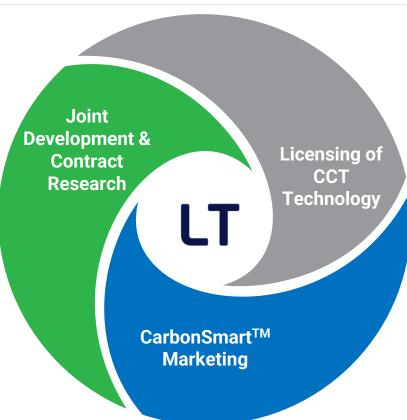


Business Model

Integrated and Complementary Business Model

Joint Development & Contract Research

- Leverages LanzaTech's synthetic biology, AI, and machine learning expertise to develop new products
- Expands addressable product markets and drives demand for CCT facilities
- Facilitates LanzaTech's continued investment in disruptive synthetic biology platform



Licensing of CCT Technology

- Combination of one-time and recurring revenues to deploy LanzaTech carbon capture and transformation (CCT) plants
 - One-time revenues equipment, engineering and startup services
 - Recurring revenues royalties, microbes and media sales, and software licensing

CarbonSmart™ Marketing

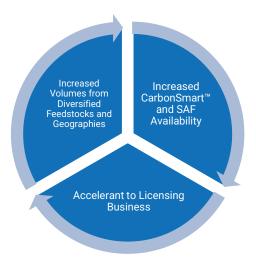
- Offtake from CCT plants to supply brands with sustainable products
- Upgrade products with conversion partners into a huge variety of drop in polymers, materials, and fuels

Source: LanzaTech management



Transformative Partnership with Brookfield

- Brookfield Framework Agreement unlocks sophisticated infrastructure capital to invest in projects and further validates the LanzaTech technology platform
- Capital-light solution providing much-needed supply for the massive, immediate, and rapidly growing demand from CarbonSmart™ and SAF customers



Brookfield Partnership Revolutionizes LanzaTech Co-Development Strategy

+\$500mm

Equity commitment to invest in CCT projects meeting preagreed milestones; LanzaTech participates in project upside

Drives Revenue

LanzaTech receives its one-time and recurring project-related revenue

Brookfield

Broad Scope

Global focus enables broad deployment of CCT technology

50% Offtake

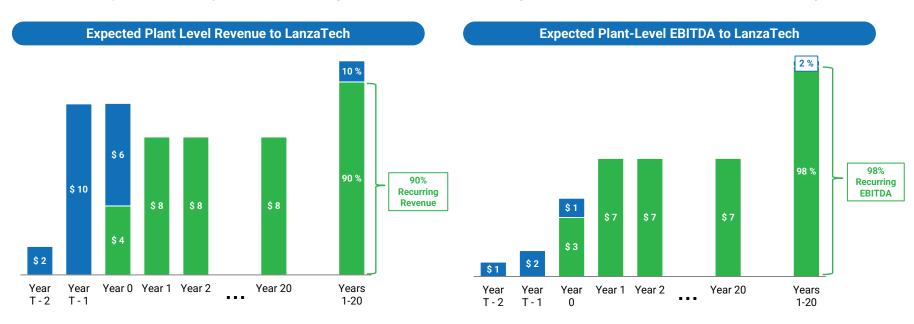
LanzaTech eligible to take up to 50% of the offtake



LanzaTech Unit Level Economics

(\$ in millions)

- One-Time Revenue / EBITDA
 Recurring Revenue / EBITDA
- Each carbon capture and transformation plant generates a combination of both one-time and recurring cash flows to LanzaTech
 - One-Time Cash Flows: Engineering Services, Startup Services, and Equipment Sales
 - Recurring Cash Flows: Royalties from Licensing, Microbes & Media, Monitoring & Software, and CarbonSmart™ related marketing fees



Source: LanzaTech management. Plant economics vary by region, size, feedstock, etc. The above is intended to be exemplary of the unit economics of plants that are currently being engineered or constructed



Customer Unit Level Economics

- Plant economics vary by region, feedstock, and chosen product
- Economics are expected to be attractive for plant sponsor, exclusive of the benefit of carbon emission reductions
- Further upside to plant economics from:
 - Feedstock costs represent up to 40% of cost structure; as cost of carbon increases, this is expected to decrease substantially
 - Price of carbon abated is excluded
 - Direct production of higher value chemicals

LanzaTech's 1st customer is building its 4th plant

Expected Carbon Transformation Plant Economics			
Plant Level Data			
Production (mtpa / million gpy) Carbon Captured (mtpa) Project CapEx (\$mm)		0,000 / 16.7 Potential avoided cost of \$10mm per annum to the plant assuming a carbon price of \$100/mt	
	Current (\$/mt)	Carbon Upside (\$/mt)	
Revenues	\$1,115	\$1,115	
Feedstock Costs	\$(250)	+\$100	
OpEx Costs	\$(375)	\$(375)	
Total Cash Costs	\$(625)	\$(275)	
Cash Margin	\$490	\$840	
Gross Cash Margin (\$mm per year)	\$25	\$42	

Source: LanzaTech management. Plant economics vary by region, size, feedstock, etc. The above is intended to be exemplary of the unit economics of plants that are currently being engineered or constructed. The Company expects to continue to innovate around its platform technology in order to reduce operating expense and capital expenditures, but those innovations are not reflected in these estimates.

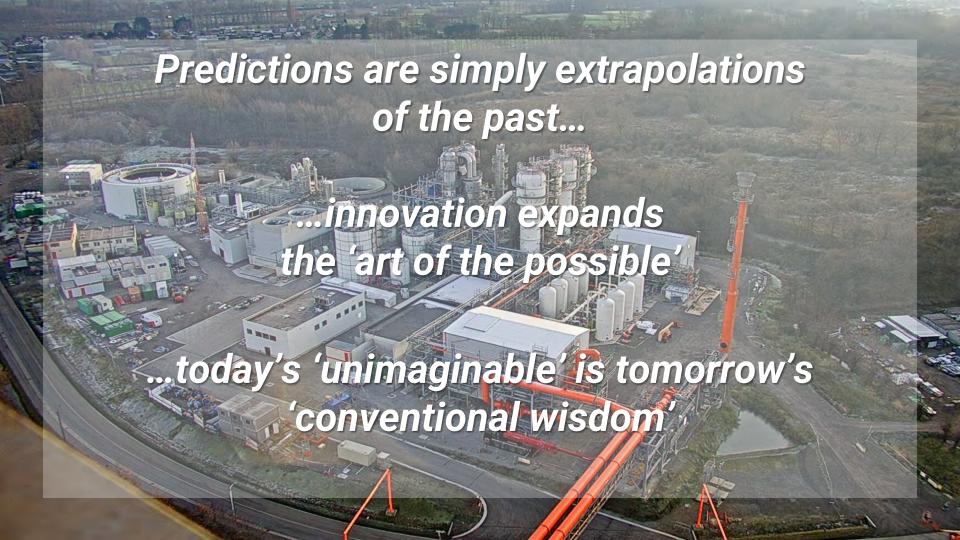




A Few Predictions

1876	"That's an amazing invention, but who would ever want to use one of them?" President Rutherford B. Hayes to Alexander Graham Bell
1895	"Heavier-than-air flying machines are impossible" Lord Kelvin, President Royal Society
1943	"I think there's a world market for maybe five computers" Thomas Watson, Chairman IBM
1949	"Computer in the future may weigh no more than 1.5 tons" Popular Mechanics forecasting the relentless march of science
1977	"There is no reason anyone would want a computer in their home" Ken Olson, President, Chairman and Founder of Digital Equipment
1981	"640K ought to be enough computer memory for anyone" Bill Gates





Busted Myths About Gas Fermentation

1992	All gas fermenting acetogens make acetate as their sole product
2000	Gas fermentation of ${\rm CO/H_2}$ is inherently mass transfer limited, preventing commercial use
2009	Gas fermenting acetogens are genetically inaccessible
2016	The complexity of working with anaerobic acetogens is too high for high-throughput engineering to become possible
2019	Other than acetate or ethanol it is impossible to make any other product at high selectivity through anaerobic gas fermentation





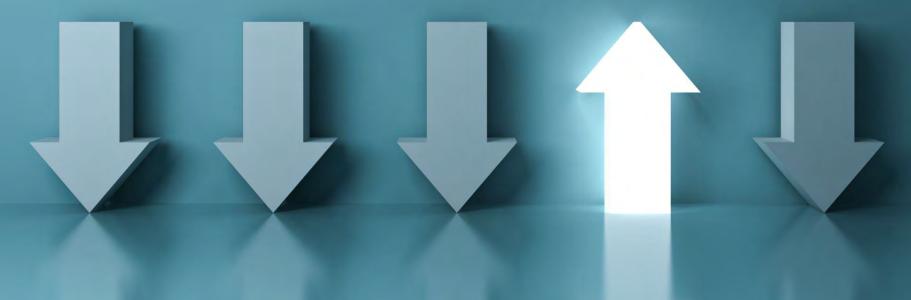


We produce chemicals for everyday products





Our success leverages world-class acumen



finance, legal, commercial, and operations



Join Us on This Journey

>47 Million Gallons of Ethanol Produced





World Class Partners Making Commercial Products













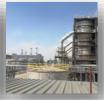




3 Commercial Plants In Continuous Operation







>365 Global Employees **Top Tier Talent**





