UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

SCHEDULE 14A

Information Required in Proxy Statement
Schedule 14A Information

Proxy Statement Pursuant to Section 14(a) of
the Securities Exchange Act of 1934

Filed by the Registrant ☒ Filed by a Party other than the Registrant ☐

Check the appropriate box:

☐ Preliminary Proxy Statement
☐ **Confidential, for Use of the Commission Only (as permitted by Rule 14a-6(e)(2))**
☐ Definitive Proxy Statement
☒ Definitive Additional Materials
☐ Soliciting Material Pursuant to §240.14a-12

AMCI Acquisition Corp. II

(Name of Registrant as Specified In Its Charter)

N/A
(Name of Person(s) Filing Proxy Statement, if other than the Registrant)

Payment of Filing Fee (Check the appropriate box):

☒ No fee required.

☐ Fee paid previously with preliminary materials.

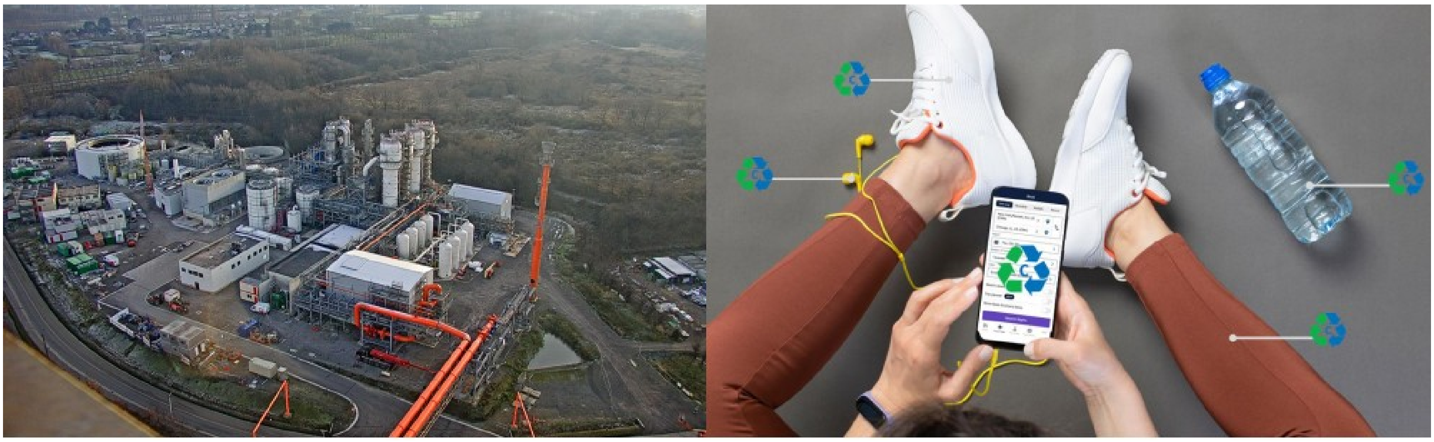
☐ Fee computed on table in exhibit required by Item 25(b) per Exchange Act Rules 14a6(i)(1) and 0 -11.

This Schedule 14A filing relates to the proposed business combination by and among AMCI Acquisition Corp. II, a Delaware corporation (“AMCI” or the “Company”), AMCI Merger Sub, Inc., a Delaware corporation and a wholly owned subsidiary of AMCI (“Merger Sub”), and LanzaTech NZ, Inc. (“LanzaTech”), pursuant to that certain Agreement and Plan of Merger dated March 8, 2022 (as amended on December 7, 2022, the “Merger Agreement”).

The following communications were distributed on January 24, 2023 and are filed herewith:

- Analyst presentation dated January 2023
- Analyst Presentation Day Transcript

ANALYST PRESENTATION



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 of 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. or non-U.S. jurisdiction has approved or disapproved of the securities or of the Proposed Business Combination contemplated hereby or determined that this Presentation is truthful or complete. Any representation to the contrary is a criminal offense.

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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 any 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 relevant materials for the Proposed Business Combination have been mailed to stockholders of AMCI as of a record date to be established for voting on the Proposed Business Combination. Shareholders will also be able to obtain free copies of the preliminary proxy statement/prospectus, 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 "believe", "may", "will", "estimate", "continue", "anticipate", "intend", "expect", "should", "would", "plan", "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. These forward-looking statements include, but are not limited to, 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 relating to the Proposed Transactions. These statements are based on various assumptions, whether or not identified in this Presentation, and on the current expectations of LanzaTech's and AMCI's 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 difficult or impossible to predict and may differ from assumptions. Many actual events and circumstances are beyond the control of LanzaTech and AMCI. 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 that could adversely affect the combined company or the expected benefits of the Proposed Transactions or that the approval of the stockholders of AMCI or LanzaTech is not obtained; failure to realize the anticipated benefits of the Proposed Transactions; matters discovered by AMCI or LanzaTech as they complete their respective due diligence investigations of each other; risks relating to the uncertainty of the projected financial information with respect to LanzaTech; risks related to the rollout of LanzaTech's business and the timing of expected business milestones; ability to negotiate definitive contractual arrangements with potential customers; the impact of competitive technologies; ability to obtain sufficient supply of materials; the impact of Covid-19; global economic conditions; ability to meet installation schedules; the effects of competition on LanzaTech's future business; the amount of redemption requests made by AMCI's public stockholders; and those factors discussed in documents AMCI has filed or will file with the SEC, together with the risks described in this Presentation under the heading "Risk Factors."

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 sales 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 internationally: ability to attract and retain qualified personnel; ability to continue to source materials and components locally; ability of the Company's systems to provide favorable economic benefits to customers as compared to competing technologies; and the continued demand for renewable energy.

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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's expectations, plans, or forecasts of future events and views as of the date of this Presentation. AMCI and LanzaTech anticipate that subsequent events and developments will cause AMCI's and LanzaTech's assessments to change. However, while AMCI and LanzaTech may elect to update these forward- looking statements at some point in the future, AMCI and LanzaTech specifically 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 affiliates 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 forecast information are inherently uncertain and are subject to a wide variety of significant business, economic, competitive, and other risks and uncertainties that could cause actual results to differ materially from those contained in the projected financial information. 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 this Presentation.

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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 name or products 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, service 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**
  - Business Model Overview — Geoff Trukenbrod
  - Closing Remarks — Jennifer Holmgren
- **Q&A and Wrap Up** — All

Welcome & Speaker Introductions

Jennifer Holmgren
CEO – LanzaTech

Julie Zarraga
Executive VP, Engineering – LanzaTech

Zara Summers
VP, 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

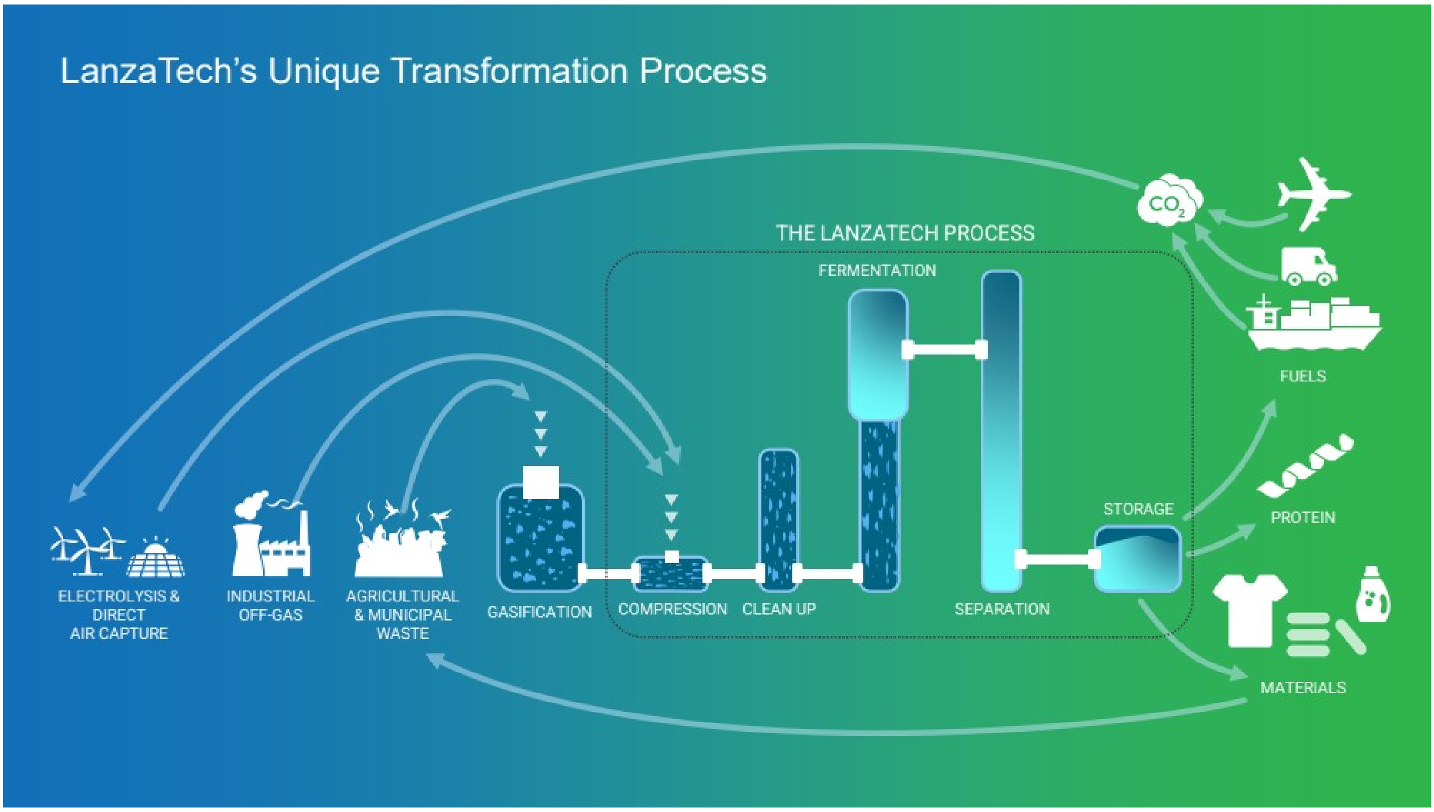
Opening Remarks from AMCI

- 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 Captures Carbon and Transforms It Into Sustainable Products
7


From waste . . .

Coral
The first cosmetic plastic bottle made from industrial carbon emissions.
. . . to products


LanzaTech's Unique Transformation Process
THE LANZATECH PROCESS
FERMENTATION
ELECTROLYSIS &
DIRECT
AIR CAPTURE
INDUSTRIAL
OFF-GAS
AGRICULTURAL
& MUNICIPAL
WASTE
GASIFICATION
COMPRESSION
CLEAN UP
SEPARATION
STORAGE
CO2
FUELS
PROTEIN
MATERIALS

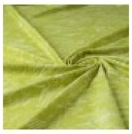

Operating at Commercial-
Scale Since 2018

We Enable Commercial Production of Products People Want to Buy

Purified Ethanol



PET Fibers

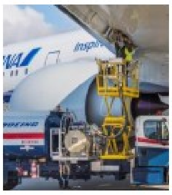


PET Resin


Polyethylene

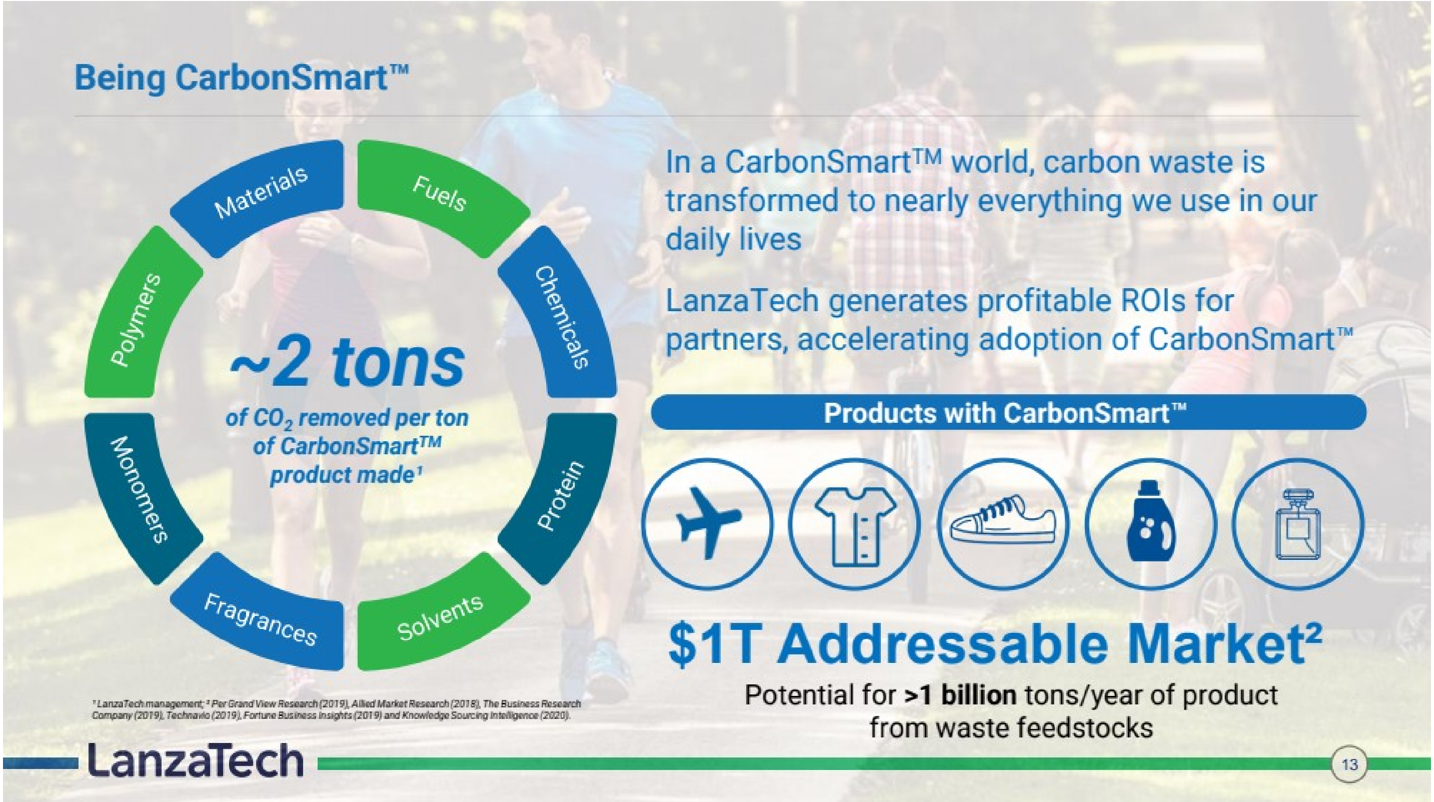
EVA Foams

Sustainable Aviation Fuel

Glycols & Surfactants





Being CarbonSmart™
Materials
Fuels
Chemicals
Protein
Solvents
Fragrances
Monomers
Polymers
~2 tons
of CO2 removed per ton of CarbonSmart™ product made[1]
In a CarbonSmart™ 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 Market[2]
Potential for >1 billion tons/year of product from waste feedstocks
[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).
LanzaTech
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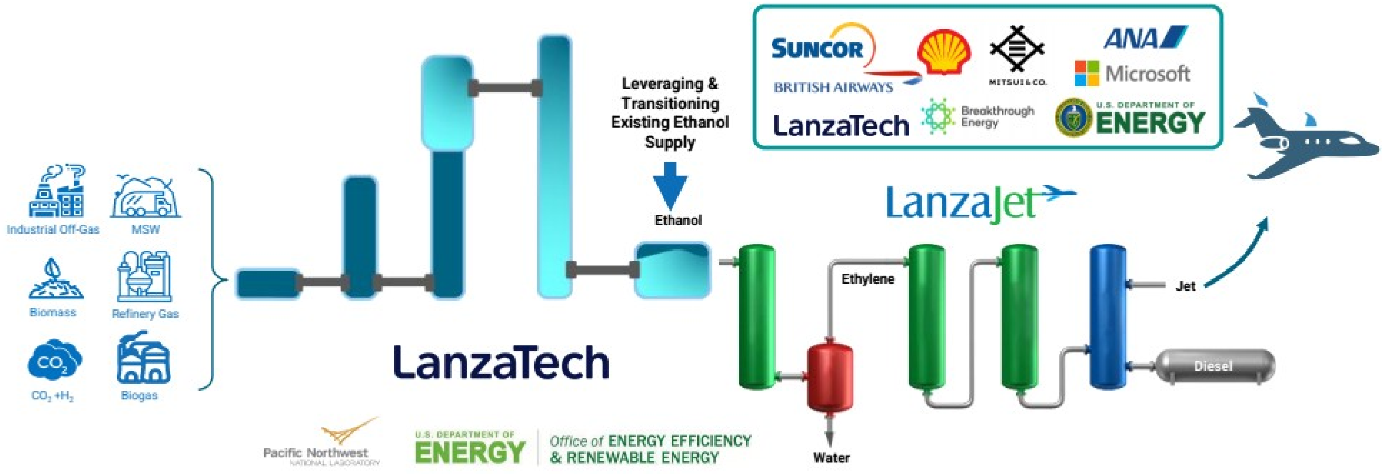
We produce chemicals for everyday products


We produce SAF through the LanzaJet platform

LanzaJet Turns Carbon Waste to Sustainable Aviation Fuels



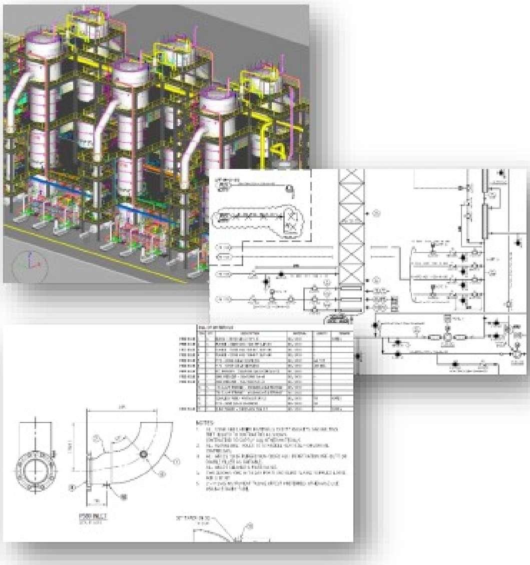
Drop-In Ready – ASTM Approved


We Design and Engineer Commercial Scale Projects
生命安全至上

LanzaTech’s engineering platform delivers commercial-scale plants

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

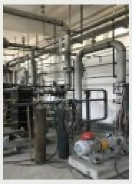
Global Impact – Steel in the Ground

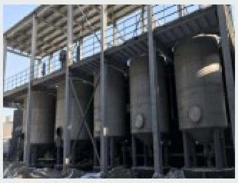
Commercial Plants in Continuous Operation

>150kmta Capacity Across Commercial Scale Facilities

Shougang LanzaTech

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



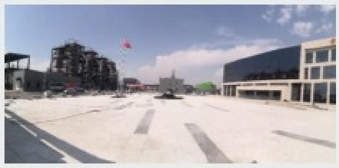


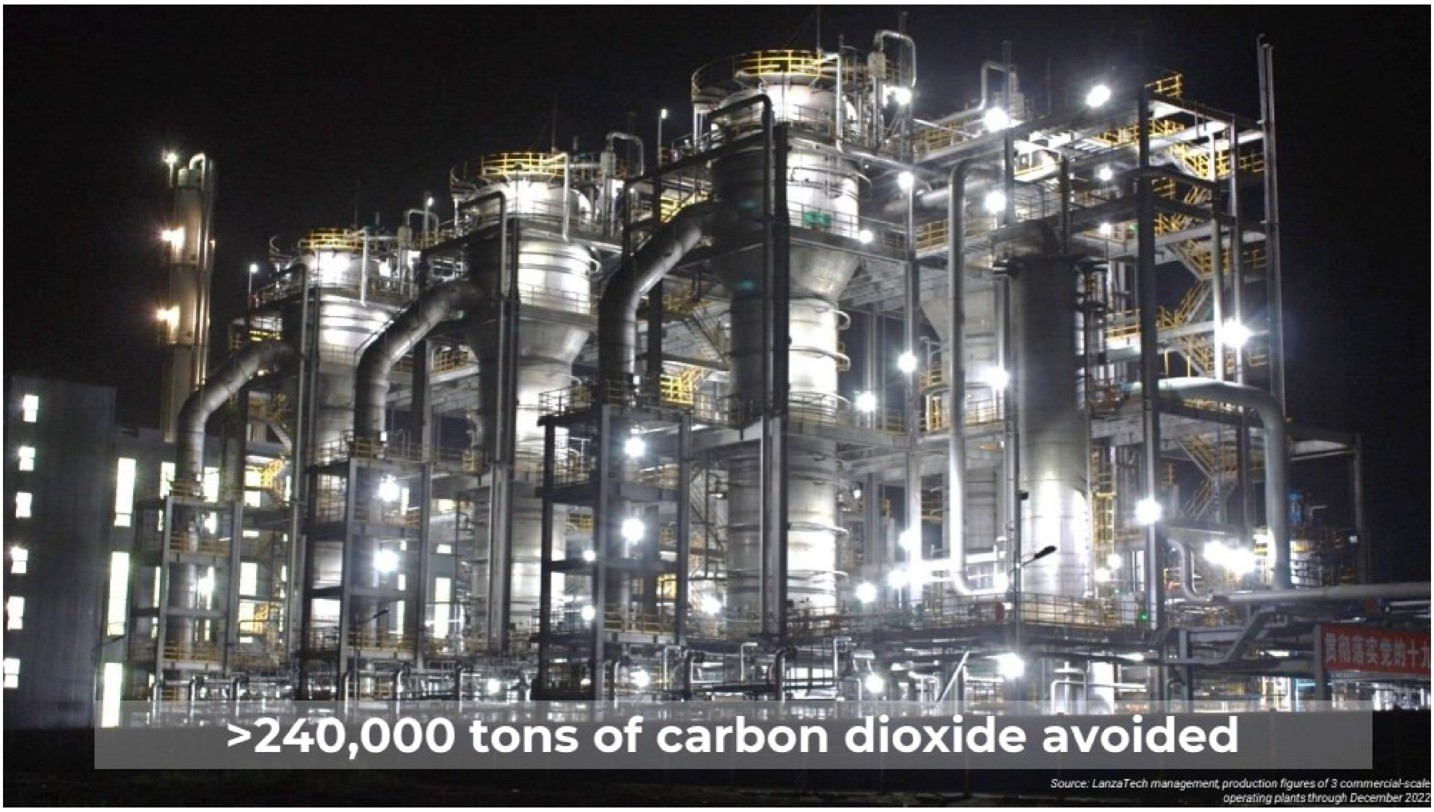
Shougang JiYuan

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

NingXia Binze

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




>240,000 tons of carbon dioxide avoided
Source: LanzaTech management, production figures of 3 commercial-scale
operating plants through December 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

Sekisui pilot-scale plant in Japan has been producing ethanol from gasified MSW since 2017

Suncor Energies

SUNCOR ENERGY

- Edmonton, Canada
- Gasified Biomass
- 2nd Generation Bioreactor
- Mechanical Completion (2022)

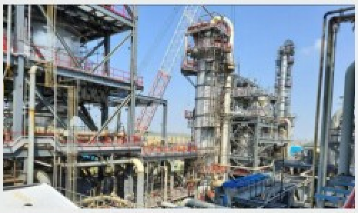
Late-Stage Construction on Other Commercial Projects

ArcelorMittal Ghent

- Ghent, Belgium
- Steel Mill Off-Gas

IndianOil Corporation

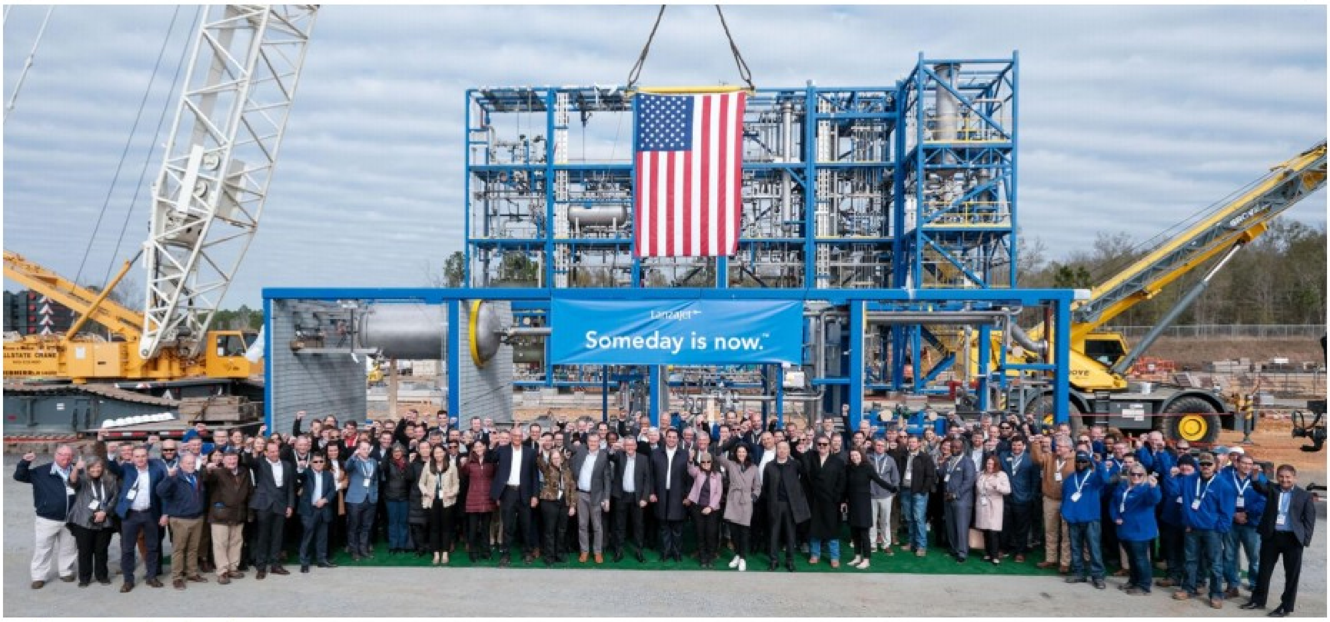
- Panipat, India
- Refinery Off-Gas



Guizhou Jinze

- Guizhou, China
- Ferroalloy Off-Gas

Major LanzaJet Construction Milestone in December 2022




Gasified Solid Waste
1 1/10th Commercial Scale Facility in Commissioning
Industrial Off-Gas
3 Commercial Plants in Operation
3 in Late-Stage Construction
Gasified Biomass
1 Demonstration-Scale Plant
CO2 Direct Air Capture
Future-Ready Platform to Utilize DAC


We Harness Biology

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

World-Class Synthetic Biology Platform

Advanced AI & Modeling

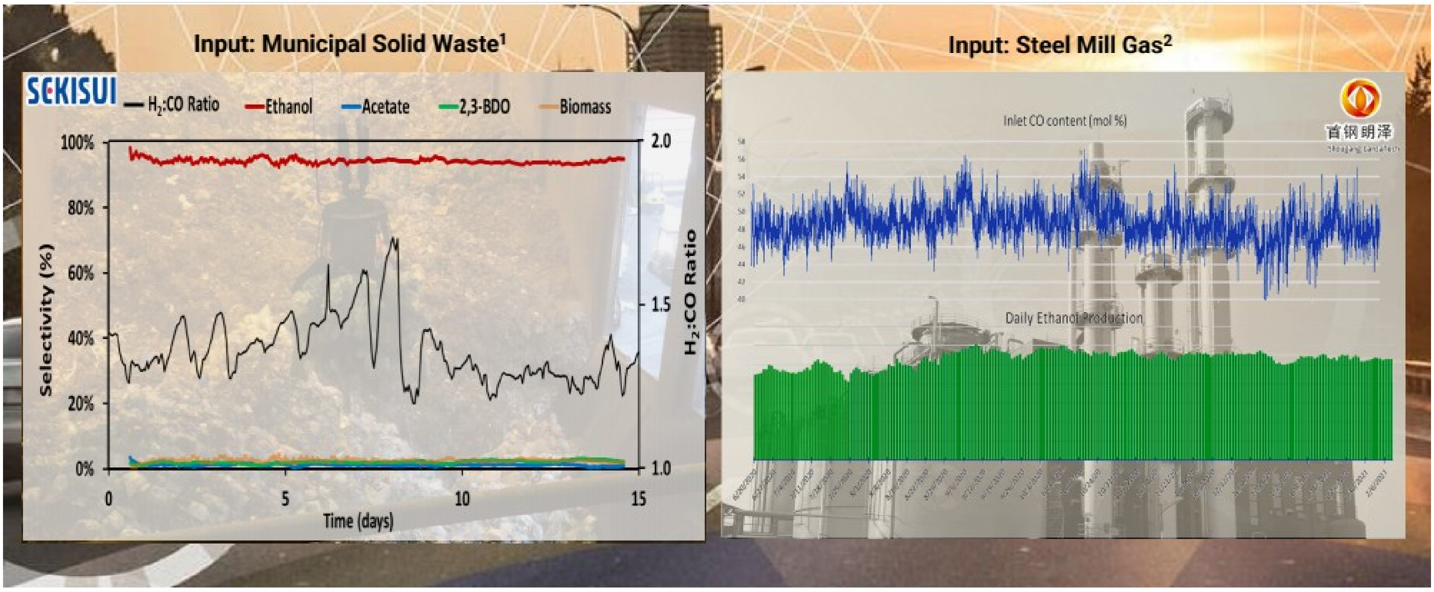
Fully-Integrated Predictive Metabolic & Process Models

Rapid *In Vitro* Prototyping Platform

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

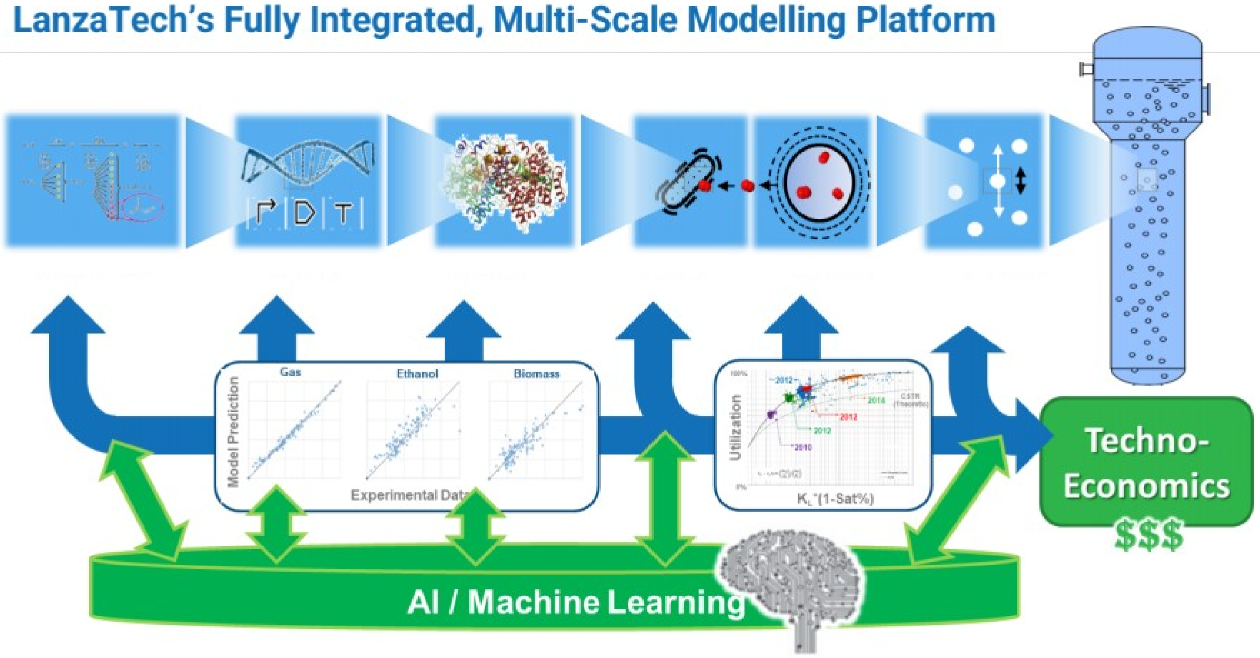
Cell image credit: Justin Muir.

Fermentation Transforms Chaotic Inputs into Selective Outputs

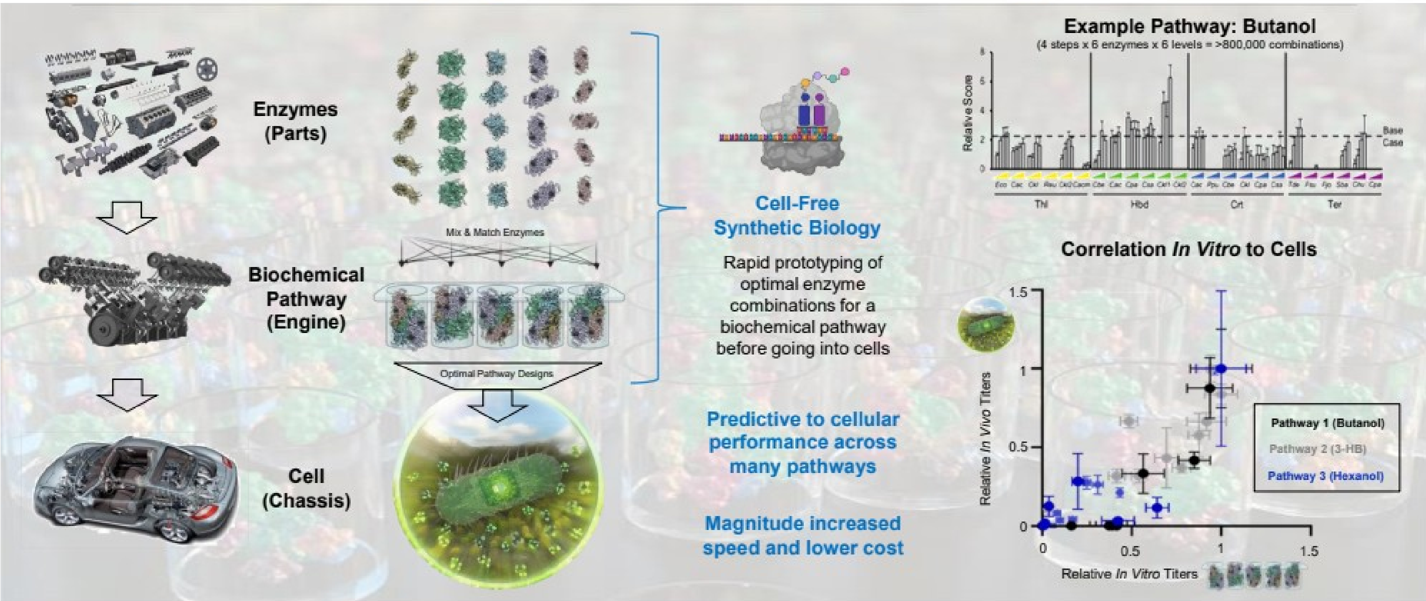


[1]Köpke & Simpson (2020) Curr Opin Biotechnol 65: 180-189; [2]Fackler, [...] Köpke (2021) Ann Rev Chem Biomol Eng 12: 439-470

LanzaTech's Fully Integrated, Multi-Scale Modelling Platform

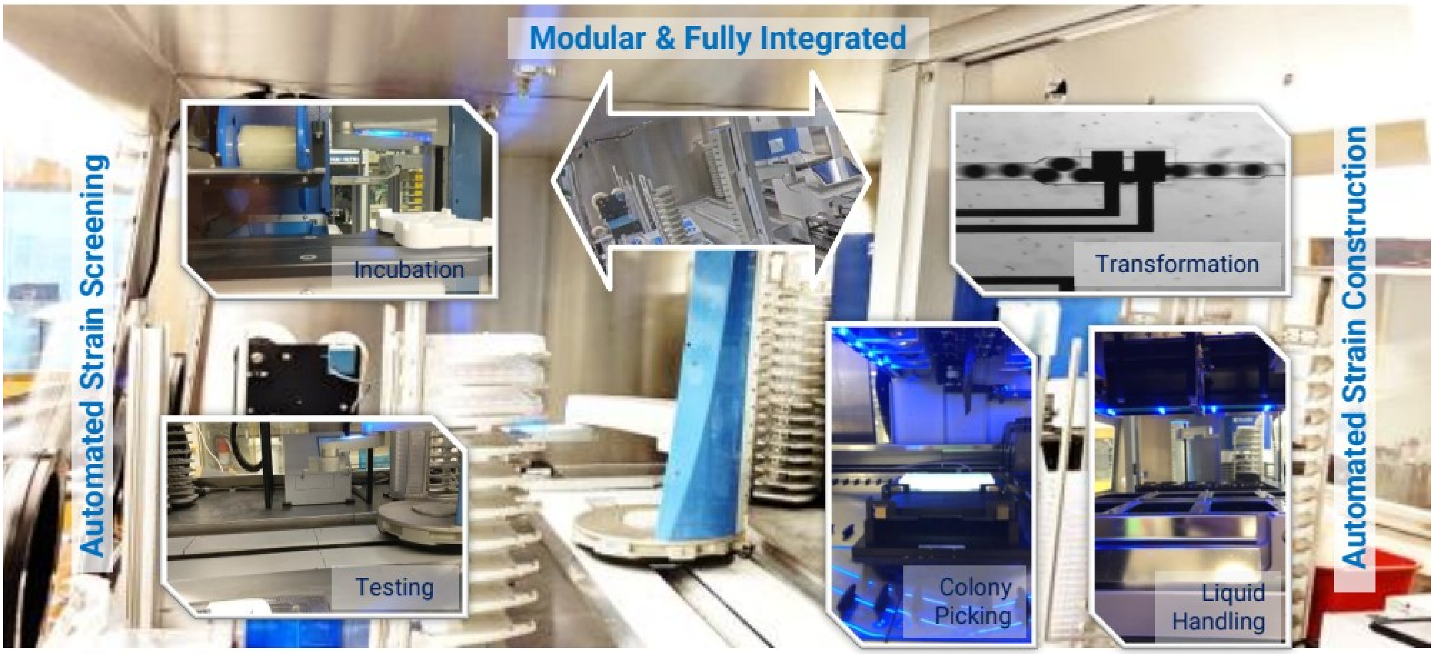


Rapid *In Vitro* Prototyping Platform to Inform Cellular Design

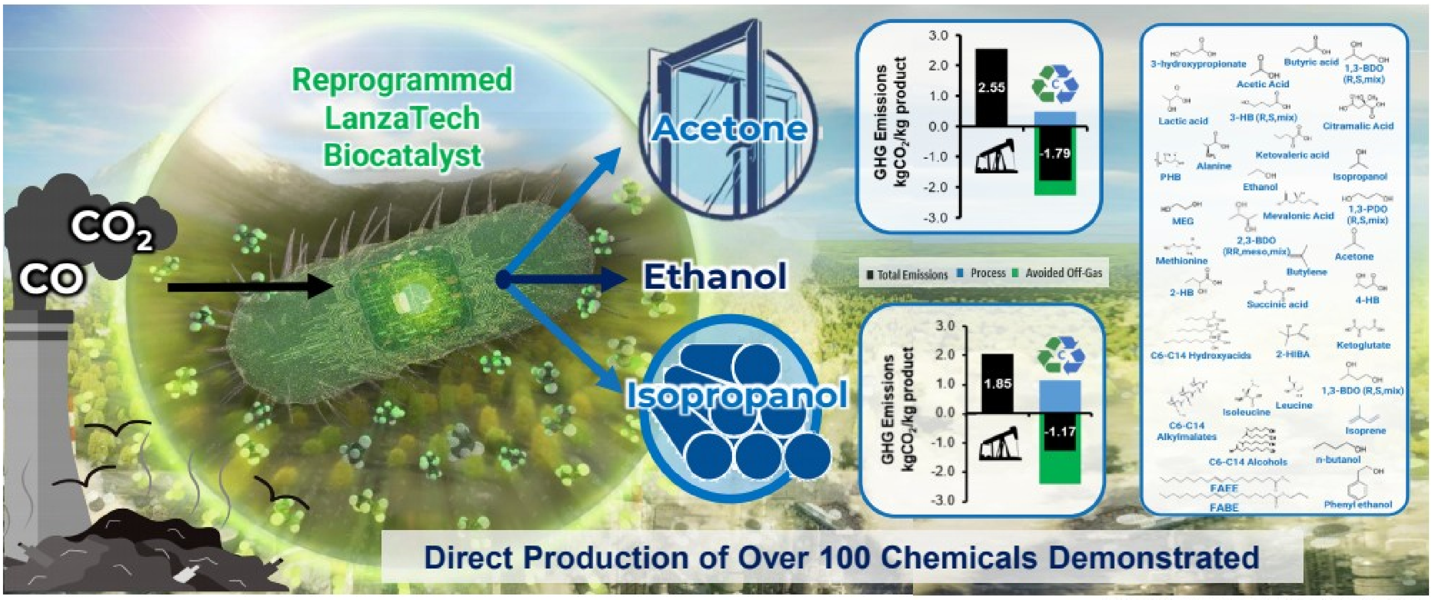


Source: Karim, et al (2020) Nature Chemical Biology 16: 912–919, Voegeli et al (2022) Nature Communications 13: 3058.
Cell image credit:Justin Muir. Other images generated with Biorender.com.

LanzaTech's World-First Anaerobic Biofoundry

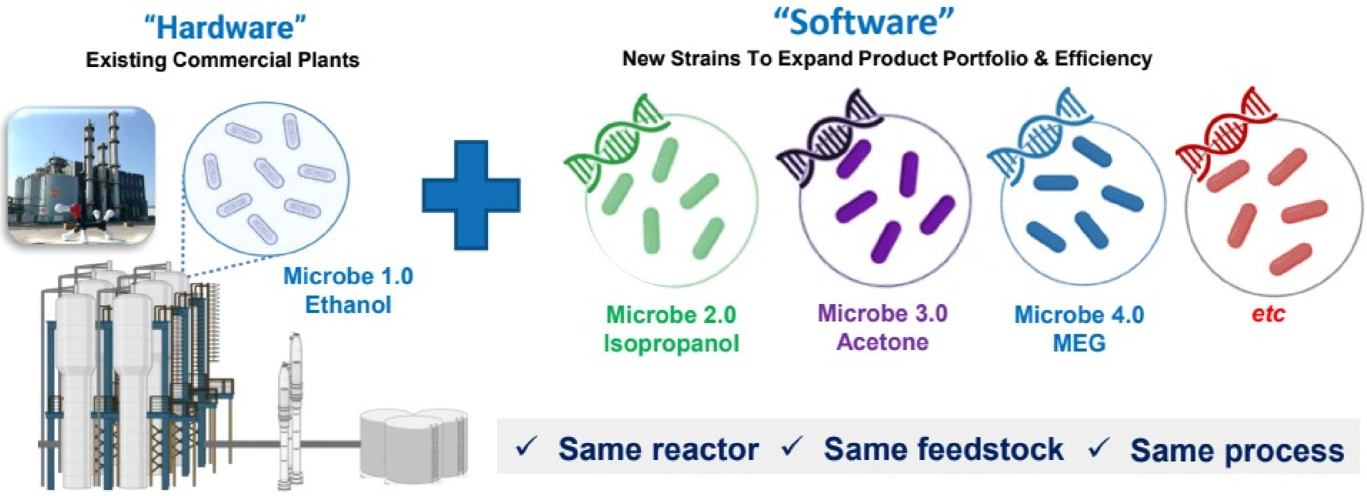


Enabling Carbon-Negative Chemical Production from Industrial Gasses



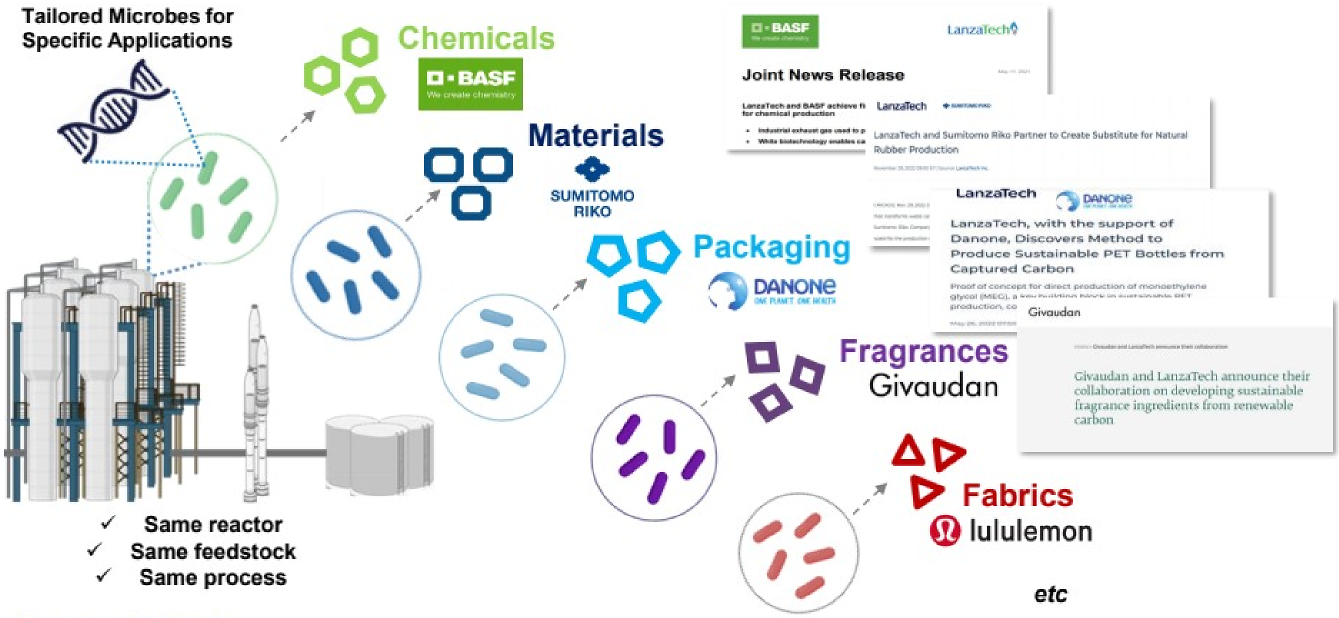
Source: Liew, et al (2022) Nature Biotechnology 40: 335–344
Cell image credit: Justin Muir.

What Do You Want To Make Today?



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

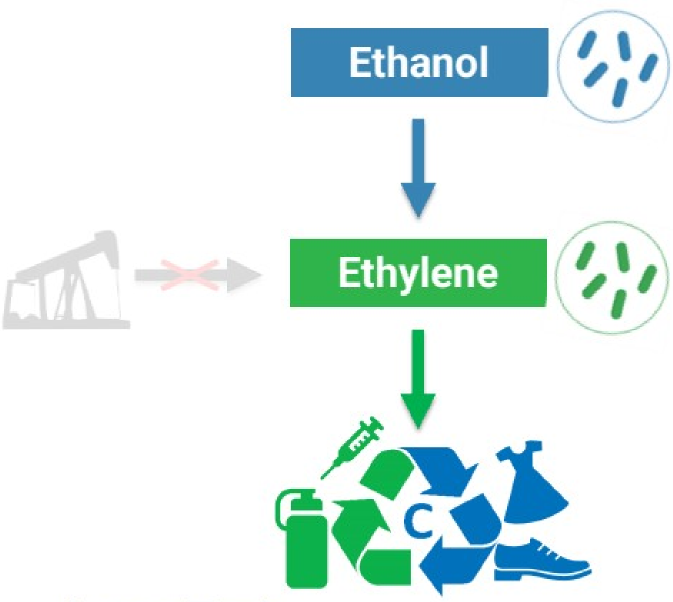
Providing Solutions To Industry Leaders Across Sectors



Images generated with Biorender.com.

Case Study: Continuous Ethylene Production from CO_2

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 market[1]:
  - 200 MTA in 2021
  - $170B market by 2030

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







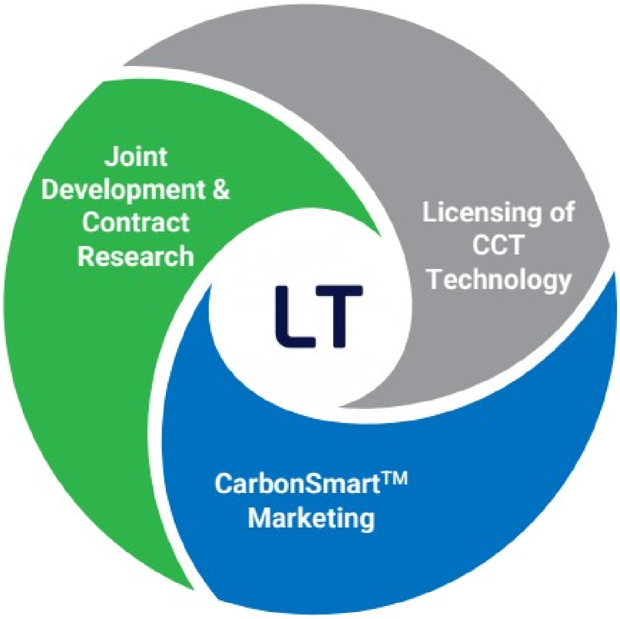



Virtual Facilities Tour

Business Model Overview

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

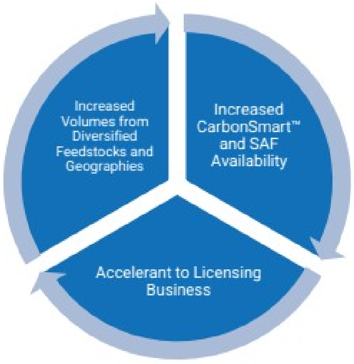
CarbonSmart™ Marketing

- 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 pre-agreed 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

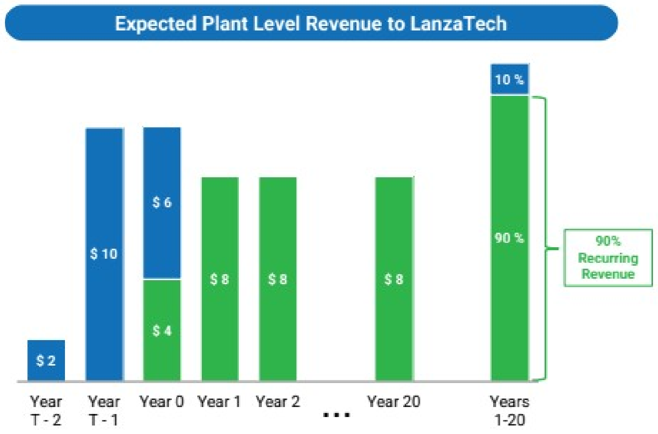
50% Offtake
LanzaTech eligible to take up to 50% of the offtake

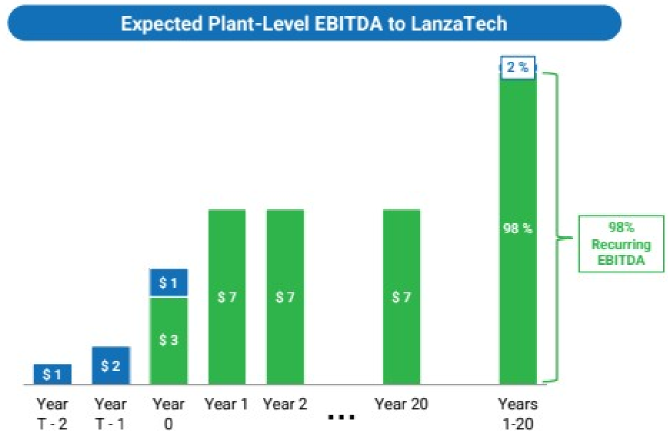
Source: LanzaTech management

LanzaTech Unit Level Economics

($ in millions)

- 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)	50,000 / 16.7
Carbon Captured (mtpa)	~100,000
Project CapEx ($mm)	$150

Potential avoided cost of $10mm per annum to the plant assuming a carbon price of $100/mt

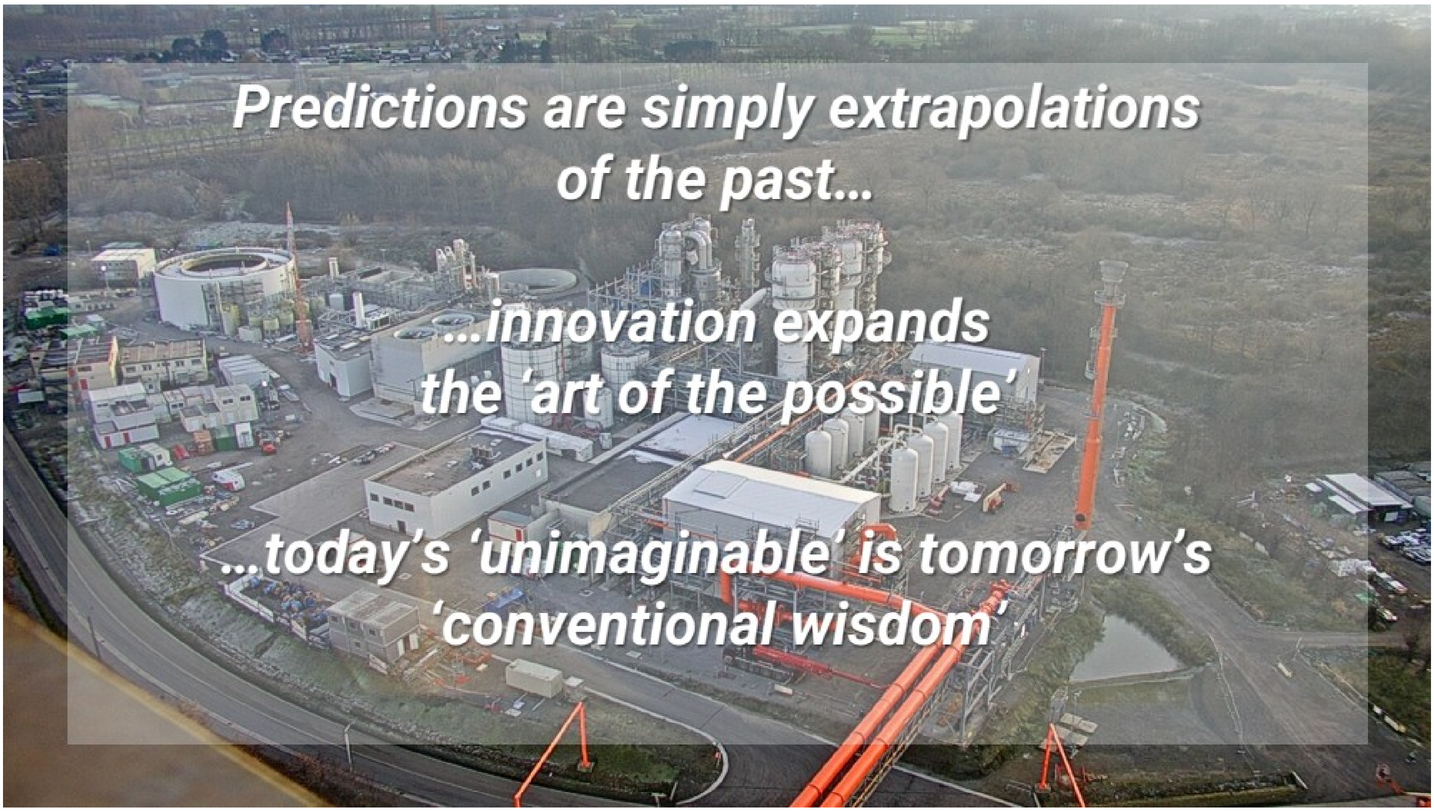
	Current ($/mt)	Carbon Upside ($/mt)
Revenues	**$1,115**	**$1,115**
Feedstock Costs	$(250)	+$100
OpEx Costs	$(375)	$(375)
Total Cash Costs	**$(625)**	**$(275)**
Cash Margin	**$490**	**$840**
Gross Cash Margin ($mm per year)	**$25**	**$42**

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.

Closing Remarks

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*


Predictions are simply extrapolations of the past…
…innovation expands the 'art of the possible'
…today's 'unimaginable' is tomorrow's 'conventional wisdom'

Busted Myths About Gas Fermentation

1992	*All gas fermenting acetogens make acetate as their sole product*
2000	*Gas fermentation of 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*


Integration
is at the core of what we do
at LanzaTech


We harness biology
CONFIDENTIAL


We produce
chemicals for
everyday
products

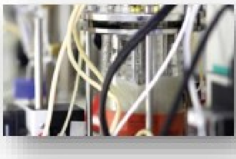

We Design and Engineer Commercial Scale Projects
生命安全至上

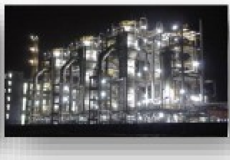

Our success leverages world-class acumen
finance, legal, commercial, and operations


We are on a journey to change the way products are made
SHOUGANG LANZATECH

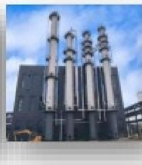
Join Us on This Journey

>47 Million Gallons of Ethanol Produced





3 Commercial Plants In Continuous Operation



World Class Partners Making Commercial Products

Unilever L'ORÉAL COTY ZARA On
DANONE mibelle lululemon Beiersdorf

>365 Global Employees Top Tier Talent


Where does your carbon
come from?

PRESENTATION TRANSCRIPT

AMCI Analyst Day Presentation

January 24, 2023

Omar El-Sharkawy:

Welcome everyone. My name is Omar El-Sharkawy. I'm the VP of Corporate Development at LanzaTech and we're so excited that you've been able to join us today. And thank you for spending some time with us this morning. We've got a great event plan today and look forward to giving you the opportunity, hear from more members of the LanzaTech Senior Management team and take a virtual tour of our facilities.

By way of agenda, the presentation will be broken up into two parts, separated by virtual tours of our facilities. The first part of the presentation will introduce you to our company, discuss our commercial scale platform, and unpack our synthetic biology and science capabilities. Following the virtual tours, we'll come back for part two of the presentation for an overview of the LanzaTech business model, closing remarks and Q&A.

Joining me this morning from LanzaTech are Jennifer Holmgren, CEO, Julie Zarraga, Executive Vice President of Engineering, Zara Summers, Vice President of Science, Michael Köpke, Vice President of Synthetic Biology, and Geoff Trukenbrod, broad CFO of LanzaTech. We're very pleased that Nimesh Patel, CEO of AMCI Acquisition Corp II, and managing director of the AMCI group is with us today as well.

Before handing it off to Nimesh, I'd like to read a brief disclaimer just on the presentation. So this presentation includes forward-looking statements regarding LanzaTech based on the beliefs and assumptions of its management. Although LanzaTech believes that its plans, intentions and expectations reflected in or suggested by these forward-looking statements are reasonable, LanzaTech cannot assure that you will achieve or realize these plans. Intentions or expectations. Forward-looking statements are inherently subject to risks, uncertainties, and assumptions. And you should not put undue reliance on these statements which speak only of the date hereof. LanzaTech undertakes no obligations to update or revise publicly any forward-looking statements, whether because of new information, future events or otherwise except required by law. And with that, I'll hand over to the presentation to Nimesh and welcome again.

Nimesh Patel:

Thanks, Omar. Good morning to everyone. My name's Nimesh Patel. I'm a managing director at AMCI, where I co-lead the investments group alongside my partners Brian Beem and Patrick Murphy, who are also part of the AMCI Acquisition Corp team. I thought perhaps some background on who AMCI is will hopefully give you some context for why we're so attracted to partnering with LanzaTech. We're a privately held industrial holding company with a global portfolio of businesses that operate across the heavy industry value chain, primarily in the metals and mining and infrastructure sectors. We're long-term investors and therefore, seek to take an active role in our portfolio companies. And so as a result, we have used our network to help our companies develop long-term relationships, in many cases over 30 years, with a number of the world's largest industrial groups as either a supplier, customer or JV partner.

And it's really from this vantage point that we've seen the broader heavy industry complex recognize their need to immediately begin decarbonizing their operations. In fact, this is a strategic goal that we've seen at many of these companies rise to the very top of the list alongside profitability and safety, sensing an opportunity here, we set out to identify new companies that had the technology to take advantage of what we foresee as a massive new CapEx cycle for industrial decarbonization solutions. And that's why we're so excited to be investing in partnering with LanzaTech. Jennifer and the team will get into it in more detail. But in summary, LanzaTech provides an immediate solution to transform any carbon emission into a range of green chemicals, including from industrial emissions, municipal solid waste, and agricultural residue sites. Their solution is truly unique in its marketplace as it doesn't require significant heat pressure catalyst and therefore, is quite low cost.

This enables its customers to profitably transform their carbon emissions into a range of green chemicals and do it at commercial scale. And this is something that we heard firsthand from a number of LanzaTech's clients and customers over the year. The company's developed a deep pipeline of chemicals it can produce from its microbes, all from the same basic bioreactor design. And it's this ability to transform any carbon emission into a wide range of chemicals that we believe has the potential to truly disrupt the chemicals industry, which we all know is heavily reliant on virgin fossil fuels.

In addition, through their stake in LanzaJet, LanzaTech has exposure to one of the few identified pathways to produce sustainable aviation fuel at scale, which we believe will be a massive market opportunity on its own. And unique to most industrial decarbonization enablers and solution providers, LanzaTech employs a capital light licensing based model that seeks to capture high margin recurring revenues. But as you will see throughout the day, the true differentiator for LanzaTech is its leadership team. Jennifer and her team have demonstrated a track record of successfully deploying its technology at scale around the world and have built an incredible platform that has set the company up for tremendous future success. And we couldn't be happier to partner with them. And with that, I'll pass it over to Jennifer.

Jennifer Holmgren:

Thank you, Nimesh. And thank you everybody for joining us. As Nimesh mentioned, we convert waste carbon emissions and we convert those to a variety of sustainable products. When I talk about what waste carbon emissions we're talking about, we're talking about industrial waste, like from a smokestack, we're talking about solids like trash, your household trash, as well as waste biomass.

And what types of products are we talking about? Anything from polyester to foams to detergents. Many of the things you see here actually are commercially available from that Zara dress, all the way to that Unilever detergent and they've all been made from waste carbon resources.

So how does the technology work? It's like making beer except that instead of using sugar and yeast, we use gases, hydrogen carbon monoxide, carbon dioxide and a bacteria. So the bacteria is effectively able to convert these waste gases into ethanol. We do it in a continuous bioreactor. So this fermentation looks much more like a refinery unit operation than a microbrewery where you would have a fermentation take months and is a batch process. These gases come from a variety of resources, like I said, industrial gases, like a steel mill, like ferroalloy plant, like a refinery. Or you could take a solid and gasify it and take that and convert it also to a gas. And of course, we can also convert carbon dioxide, whether it's directly or captured or out from the flue stack.

What types of products do we make? We think of ethanol as an intermediate. We don't think of ethanol as a blending component for gasoline. Instead, we think of ethanol as a way to aggregate all these waste resources and convert them into something that you can move. You're not going to move waste gas, but you'll certainly be able to move ethanol.

And so we convert it to ethanol and then we take that ethanol and convert it to materials like polyester. And we also convert that into fuels like sustainable aviation fuel. If you look at this bioreactor, these bacteria are constantly dividing. It's a growing organism. And so you can imagine that the bioreactor will be plugged if you don't actually remove some of the bacteria's function on time. We dry that and once we've dried it, we sell that as animal food. These bacteria are 90% protein. So as we remove them from the bioreactor and dry them, we actually can use them as single cell protein. Obviously, if you're making aviation fuel, even if you're recycling carbon to make aviation fuel, there are CO2 emissions. And so we can cycle that back through the process. The same thing if you make a Zara dress. Eventually, you're going to have to take that back to the store and recycle it back into other products.

Really, it's a vision of a circular economy. I know this sounds like science fiction, but it's not. In fact, we have operating commercial plants. Our first plan started in May of 2018 and has been running since then and we have added two commercial plants at two ferroalloy mills. There will be other plants starting up later this year, and Julie Zarraga will talk a little bit about that later. Since we do have commercial operating plants making ethanol, we've been able to take that ethanol and convert it to other products. These are all real products that have already been made using either our technology to make the sustainable aviation fuel or partner technology, like India Glycols, who's made surfactants for Unilever detergents that have been sold at stores. We have also sold ethanol through our partner Coty, who has been putting our ethanol in their perfume and through our partner Mibelle, who has been using our ethanol in household cleaners. So this shows you the type of products that you can make.

Let's see if I can get rid of this. I guess I'll leave it. All of these products are part of what we call our carbon smart portfolio. We're working to create a product portfolio where the consumer is able to ask the question, "Where does the carbon byproduct come from?" And the answer doesn't always have to be fresh fossil carbon. And so the products that we've made, whether it be polyester for a Zara dress or Lululemon shorts or it's detergent like Unilever, is really all about transitioning from everything coming from our current fossil carbon economy. We see significant reduction in carbon intensity by recycling carbon, whether it be at a steel mill or at a trash site. And so this also creates a lower carbon footprint portfolio. I've talked a lot about making ethanol and converting the ethanol to products, but when you see the tour of the lab and when Zara and Michael speak, you also see that we're learning how to produce chemicals directly from these gases.

So instead of producing ethanol and converting that ethanol to products, we're also learning how to make those products directly from the gas. And that's an important opportunity. These are not commercially ready now, but we imagine they'll be ready by next year. So it's really an exciting opportunity to be able to directly manufacture chemicals, commodity chemicals at scale. As I've mentioned, we do produce sustainable aviation fuel through the LanzaJet platform. And essentially, what we've developed is our platform LanzaTech platform to make ethanol from waste resources. But, we've also developed in partnership with the Department of Energy and Pacific Northwest National Lab, the ability to convert ethanol to sustainable aviation fuel. What we did with that is we were able to get ACM certification so we could fly on this sustainable aviation fuel commercially. And we flew from Orlando to Gatwick, with Virgin Atlantic.

And once that technology was proven out at that demonstration scale, we realized that we needed to build very quickly a large facility. We wanted to build a 10 million gallon a year facility. And for perspective, the world makes about 25 million total gallons, globally, of sustainable aviation fuel. And so when we said we wanted to make a 10 million gallon year plan to have a significant incremental impact, we decided we would launch a company called LanzaJet and raise cash and finance it directly into the LanzaJet company, such that we could go much, much faster and build this 10 million gallon a year plan. In addition, there's a lot of commitments for 2030. Today the world uses 100 billion gallons of aviation fuel. Only 25 million are sustainable aviation fuel. The goal for 2030 is 10 billion. So from 25 million to 10 billion is a significant add-on. A lot of steel in the ground. So that's why we wanted to go faster.

And again, that's why we launched LanzaJet. And as you can see, we brought an investment from Suncor, Shell, Mitsui and British Airways, as well as ANA and Microsoft and Breakthrough Energy Catalyst. Putting together now all of the financing we did, we need for that 10 million gallon a year plan. And what you'll learn from Julie is that, that construction is very far along. She'll show you a picture as we go. But really this is an important part of our portfolio.

One of the unique features of LanzaTech is that we have actually scaled our technology. We did that because of the fact that we have a very strong engineering team. So we're not just a biology company, we're a biology company that has tremendous engineering expertise. And so what I want to do now is transition to Julie, who will actually tell us a little bit about how we scale, how we do our engineering work, and how our plans are doing in the field that are operating now.

Julie Zarraga:

Hi. Hello everyone. I'm Julie Zarraga. I'm the Executive Vice President of Engineering. I'm very pleased to introduce you to the engineering department.

Thank you. Apologize for that. So as I mentioned, I'm excited today, thank you for joining to introduce you to the engineering department. Within the engineering department, there are two teams. The first team is responsible for the execution of our commercial units, and then the second team is responsible for the startup and commissioning. So they would typically go out to site somewhere in between 25 to 40% of construction completion and then they went to the part site after the performance test is completed.

So here are our projects. As you can see, we are a global organization. Our projects scale from, or you can see them here, represented from North America across the globe to Asia and down to Australia. In the box there at the bottom, you can see the wide variety of feed stacks that we're able to process from steel and ferroalloy gas to municipal solid waste, biomass, bio-gas, et cetera. Another interesting thing to mention here, you can see the airplane icons, the markers there. As Jennifer mentioned, we have our LanzaJet facility that's currently in construction in North America, and then you can see the other two in Europe, the UK and Europe, where we will be converting ethanol to sustainable aviation fuel.

One of the things that I'm always most excited about, excited to talk about, is the engineering platform that has been developed, which enables us to execute all of the projects that you have seen on the last slide. So from the very beginning stages of executing our very first commercial units, starting with those designs, we started institutionalizing our knowledge through the development of design memos and design tools and templating and standardizing our design. So the bioreactor design that was installed at our very first commercial unit is the same design, almost exactly the same dimensions as the subsequent projects. Some of them that I will be talking to you about that are currently in late stage construction. And so through this templating standardization and replication, it allows us, speed and execution allows us to execute efficiently as well. I'm really proud of our quality control programs. They're on par to ISO-9000 level.

As we execute all of our design packages, we leverage best practices that you would come into contact with, for a licenser who's executing these types of projects, bio engineering, license learned. One of the lessons learned that I can share with you quite quickly is our inoculator design. We designed inoculator. That system takes our biocatalysts and allows, it grows, and then we use that. That enables the fermentation. And so that section of the plant, where we grow the biocatalysts from a freeze dried state, what we did was we took a deep dive into that design after the first project. We improved it, we marginalized it, and now it is one of our key mechanical equipment that we supply for this subsequent plant. So that's just an example of a lesson learned from the earlier projects that we've implemented and now have this key piece of equipment that's a part of our portfolio of equipment supply.

In addition to that, one of the things that we all know, given the experience that we have in the industry is that it's important to be aligned with the companies that are going to be receiving our work products, our engineering deliverables, and taking them to build the plant. And so for EPCs as well as equipment suppliers, we have aligned with them, we have partnered with them so that we are sure that the content, the quality of our engineering work products are exactly what they would be expecting. So with the efficiency on our engineering execution side and theirs as well, it just allows us, of course, to control schedules and meet commitments.

So what we have done on this slide, this is a replica that's filtered out and now filtered out the projects that are shown here, which are the plants where we have still on the ground. And so these plants are in different phases. Some of them are operating continuously and others are in late stage construction. And I will walk you through these plants. So I'll start with the first three process plants that we have, commercial scale operating in China.

The very first project that you see in the left, Shougang Lanzatech, that was through a joint venture. That plant, we kicked off the engineering design in 2015 and by 2018 we were operating, we commissioned a plant and operated it. And it has been in operation since 2018. The second plant that you see there, that plant is a near replica of the first plant. So as I mentioned before, we templated that first design that you see there from 2018. We templated that and then we were able to reuse the majority of that design, say for the learnings and the upgrades that we made along the way. The third operating plant that you see there, that is currently in operation as well, that was commissioned in 2022, that is also a very near a close design compared to the second commercial unit that was started up in 2021.

When I look at this photo here, and I think about my career where I started my career as a young engineer, having just graduated from college and spent about four years starting up commercial units that look a lot like this, this looks like a refinery or a petrochemical plant. And the way we view our plant, or our plants, is that these are refineries, they're biorefineries that operate continuously. And through the operation of the first three commercial units that I just walked you through on the last slide, we've been able to avoid over 240,000 tons of carbon dioxide.

A couple of our small scale plants. I will walk you through those next. Sekisui and also Suncor. So on the left side is Sekisui. There, in the box in the corner there, the smaller photo that you see there, that is of a pilot unit that was commissioned in 2017. And there were quite a few campaigns using that pilot unit. That unit and also the larger unit that you see just above that gasifies unsorted municipal solid waste. So there is about a 20 to 30x increase in size from that pilot unit to the one 1/10th plant that you see there. That unit is currently in commissioning stage. One interesting thing about the size of that plant, was think about the stage gate process and needing to check the box. Our partner, Sekisui, needed to develop that design to get the permits for that design. And what that will enable is for a smooth approval of the next scale.

For Suncor, on the right, one thing that we're really excited about for that project is that, that project employs our second generation bioreactor. And what's exciting about that is I consider ourselves, relatively speaking, to be a pretty young licensing firm compared to others. And just like I mentioned back in 2018 is when we started up our first commercial unit. Fast forward to 2022, we have already scaled up our second generation bioreactor. We have a pilot unit at our Freedom Pines facility that is scaled down from what you see here. And so this is just to scale up with our partners, Suncor Energies, to trial out this second generation bioreactor design.

These are a few of our late scale or late stage, excuse me, construction facilities. So we have ArcelorMittal in Ghent that will press the steel more off-gas. The IndianOil Corporation project is in the middle. Refinery off-gas is the feed stack for that plant. And then Guizhou Jinze, which is a ferroalloy off-gas. Again, all of these projects are employing that same, very similar bioreactor design, as again, we've just been replicating the designs. The process flows are also very similar.

So Jennifer talked about one of the other products beyond Ethanol that we are kind of scaling up here. This is a picture of a celebration of the LanzaJet facility that's located and LanzaTech's Freedom Pines facility. So what we're celebrating here, as you can see behind the group of people, there are seven modules of a commercial scale called to jet plant. So there's seven modules that were set and about I think three fourths of the modules, the equipment and stair modules that will ultimately be installed at the plant have already been shipped to site. So a lot more than what you see pictured here. And so as a part of this celebration, the installation and setting of these modules, these modules were designed and fabricated in Canada. What you typically do before you ship, you erect them, ensure that all of the tie points in and the like, there are no issues with that. Then you take them apart, you disassemble them. They were shipped to our Freedom Pines facility that you see here and erected.

And so as a part of this celebration with LanzaJet and LanzaTech, Jennifer showed the partners, the shareholders, they were government officials from the DOE, the FAA, that are all present here to celebrate this major accomplishment here at the site. So this is just a summary of our accomplishment. Some of the projects that I mentioned on the previous slides. Three commercial-

Julie Zarraga:

I mentioned on the previous slides, three commercial plants in operation, three in late stage construction, being able to process a wide variety of feed stocks from gasified biomass to municipal solid waste that's unsorted are some of our key accomplishments. The CO2 direct air capture is something that we are future ready for. We have developed a platform to utilize DAC, and so when the market is ready, has a economically viable solution, we will be ready to accept the CO2 gas and process it in our fermentation design unit. So the last slide here is the kind of introduce you to our global services team. We have engineers that work out of Skokie, of course, our headquarters, Canada, Belgium, Japan, China, India. And so you can see the different teams can see right in the middle that circular photo of our team in India at the IOC unit.

Just above that to the left, our team in China who's been starting up our facilities in China. One of the things that we're aware of is that it's best to, there's an interest on our side as well as our customer side to bring on top talents locally. And so we have been hiring in all of these different locations to start up these plants that I just showed. Now, these engineers that you see here, while they are photoed here participating in construction through startup, they're also trained in project execution so that when the workload, they're not needed as much at the site, then they participate in the execution of the projects. I will point you just at the top center, one of the photos in the center, you can see that white canister, the center into the left there smiling faces holding the canister, that canister houses are proprietary bio catalyst. And so when you see that bio catalyst coming out, that canister, that means we're very close to starting up the plant and producing ethanol. Thank you for your time and I will turn it over to Zara and Michael.

Zara Summers:

Good morning. Thank you. So my name is Zara Summers. I'm the vice president of science at LanzaTech. Michael and I are going to walk you through some of our R&D pipeline. So having a robust research and development group, we really focus on harnessing biology and then integrating that biology in with those beautiful plants Julie just showed you. Next slide, Michael. And so when you think about what does it mean to harness biology, we really have to not only understand how we can make a better microbe to perform better in the commercial plants. So we do focus primarily on the fermentation in some of our teams, but on the other side, we're actually getting in and manipulating these microorganisms. So we don't work with E.coli or yeast, as Jennifer mentioned earlier. What we work with is an anaerobic acetogen, an ancient lifeform if you will.

One of the earliest metabolisms that probably evolved on earth was using reduced gases like carbon monoxide, hydrogen and carbon dioxide as the sole source of carbon and energy. So this was before sugar was even produced. And so what we're doing is we are taking these acetogenic organisms and we've built up an entire suite of tools and platforms to really manipulate them and unlock them, if you will, from a genetic perspective. So we've built the world's first anaerobic bio foundry where we're able to manipulate these organisms in a high throughput fashion, similar to what you can do with other model organisms like E.coli. And why this is important is now we can generate thousands of strains at a time. So Michael's going to walk you through what that looks like. And in our other synthetic biology platform, so we have ways of pulling genes from other organisms to make new products because really what we want to do is move beyond ethanol.

Jennifer had mentioned direct production, so this is direct biological production of new products. In order to do this, we have to bring in genes that are not native to these organisms and we have to reprogram their metabolism. When they take in the carbon from these gases, we want the majority of that carbon to end up in the product we desire. So we have to turn off pathways that may make byproducts to really increase selectivity towards the molecule of interest. We're able to do all of these things really by unlocking the data that we've collected over the last 15 years. So we have 15 years, thousands and thousands and thousands of hours of fermentation data that we've integrated into a massive data lake. Using AI and machine learning algorithms, we can actually make predictions. So even though Michael's synthetic biology team can make thousands of strains, we've already made tens of thousands of strains in silico on the computer.

So we've narrowed down what work we need to do in the lab by using models. And then of course fermentation is really at the heart of what this company does. We're a gas fermentation company and so we have a really broad team of biochemical engineers. And what they do is they run both benchtop reactors, so continuously stirred tank reactors that you'll see on our virtual lab tour, as well as our pilot reactors both in Skokie, Illinois and at our Freedom Pines facility. So the ability to rapidly test out in lab and then bring to pilot is really a key enabler for working with new feed stocks as well as testing out new products. So at both ends of what we're working with gases coming in as well as new products coming out, we're able to rapidly pilot and integrate. Next slide, Michael.

And so I keep mentioning biology is at the heart. And really if you think about what fermentation, gas fermentation enables us to do versus let's say an oil and gas company working with a barrel of oil and you're taking a very complex mixture and refining it down into streams. You want to get as selective as possible, it's not always the case or you're using gas as your feed stock feeding into a fisher turp reaction. These catalytic processes are not capable of taking really chaotic inputs as you see here and producing products like biology is. So what biology can do is take all those chaotic inputs like you experience on your drive to work and really produce a like, so if you think about driving to work, you're looking at traffic, you're looking at new road patterns, you're listening to Google, and what you're having to do is take all this chaotic input and get from point A to point B in a safe condition the same way every day, but the external stimuli are going to be changing every second around you. And you're able to process that and get to work safely.

And so when we think about gas feeds here, the black line in the plot on the left is that unsorted municipal solid waste that's been passed through a gasifier. And you'll see this variation on that black line. That's the hydrogen to CO ratio. So the gas into our fermentor, into our big bioreactors is changing on a minute by minute basis because the waste is changing on a minute by minute basis because this is construction waste, household waste, food waste, everything. A claw picks it up, drops it in the gasifier. And so that variation you see there in black is really something that no catalytic process would be able to take as an input. You would have to separate those gases and then provide a perfect ratio into that catalytic process or you would get catalyst fouling and you would not be able to run for very long.

And so with that black line being as varying as it is, what I want to draw your attention to is that red line on the top. That red line is our ethanol selectivity. We are able to take in a chaotic input and output of very selective and pure stream of ethanol on the top. So this is with Sekisui at one of the pilots Julie spoke of earlier, taking Japanese municipal solid waste. But on the right is really our flagship, our first commercial plant looking at the shell gang plant. And even at a steel mill where you would think the input of those, like the gases coming off the stack would be more constant. That blue line is showing you again that CO concentration varying minute by minute. And what we're able to do there is not only take that chaotic input, we're producing ethanol at a very constant rate at high selectivity.

And that's the green across the bottom. And why this is so important is that not only are we doing this, but if you could zoom in, you would see that the days of production is also astonishing for a biological process. So Jennifer mentioned it's like making beer. Beer though has one key difference. Beyond being with yeast and utilizing sugar, right, we're using a bacterium that's consuming gas, but what we're able to do is run a continuous process. And why that's so important is it's not a continuous process by having multiple reactors that we turn on and off and swap, this is literally the same bioreactor running for 100 days. We've even reached 300 days. And why this is a massive enabler is you're having that constant stream of ethanol running through your distillation columns on the backend, and that can be in a continuous fashion.

And so we are stepping closer to the paradigm of only petrochemical refining can give you a continuous stream of product. We're kind of shifting that paradigm to show a biological process running in a continuous fashion with continuous gas and single pass utilization and continuous ethanol production on the back end. And so with all of that data that we've developed, we're leveraging model on many, many levels. We're taking anything on the cellular DNA level, looking at what enzymes would give us the maximum flux two products of interest to looking at how the individual microbial cell is interacting with the gas around it, studying how bubbles, how to optimize bubble size to really interact with our microbe in the best possible way. But we're also, like I said, building this massive data lake. We have over 15 years of laboratory pilot demonstration and commercial scale data that we've consolidated into one data lake where we can compare conditions in the lab to how a commercial plant is running.

And really, so we are a data company, although you wouldn't think that we are one, we are a data company because we massively leverage our ability to run thousands of hours of fermentation, to model the metabolism of our very specific special microorganism and also how that translate across all scales of our platform. And so if you think about the power here, we're using AI and machine learning to optimize. What does optimization mean? If we can divert even a percentage of carbon towards a product and an increase of carbon flux towards our product of interest, even a single percent increase over the scales that we're operating at our commercial plants, that equates to a massive increase in productivity and also revenue to our customer. We also have created models that train our operators. Right. So we can run fermentation simulations. And so we've produced training modules as well. And so I'm going to hand it over to Michael to talk about how we leverage modeling to not only run our commercial plants, but to make more powerful and more interesting organisms.

Omar El-Sharkawy:

Great. So I'm going to talk you through more Australian engineering process, but as Zara mentioned, key is really I think that we have those sophisticated models and AI platform to guide our Australian engineering, [inaudible 00:43:12]. But oftentimes we first have to identify the parts that we need. In our case, the biological parts are enzymes and that forms biological pathways. And we have developed a rapid in vitro platform to characterize those parts and pathways before we actually go into the cell. And much like it's done in an other industry where you test your modules before you go into your final systems, this approach that we developed allows us to do this. Using cell pre synthetic biology, we can make those individual enzyme parts and then mix and match those in any combinations to find which combinations work best, which pathways are best and only then we take the optimal pathways into the cells.

This allows us to generate hundreds of thousands of data points that can feed into our models. And we've seen a predictive performer and predictive performance between those in vitro results into what we get into the cells. The big advantage here is that we can do this at much increased speed and much lower costs than we could do in the cells. And the key advantage for that is also that we don't have to test any designs that will not work in the cells. So we can already narrow that design space. Together with this platform and our models, we have sent much less designs we have to test in our ourselves to get success. Once we go into the cells, we have developed the world's first anaerobic bio foundry to enable and facilitate the cellular screening of our pathways in the cells. As Zara mentioned, we're not using E.coli or yeast, we're using an organism that is very robust, which I think is really fundamental to our industrial process.

But on the other hand, it makes it very challenging to engineer this organism, to bring in DNA into this organism. And even 15 years ago, this organism has been considered to be genetically inaccessible. However, over the past decade, we have developed a necessary protocols and tools to effectively engineer this organism. So we unlocked the potential of the organism. In particular, we've developed and been operating since 2018, this anaerobic biofoundry. And what this does, it essentially generating and screening strains in an automated fashion. We can now screen tens of thousands of strains using this system. Essentially the system comprises of multiple modules that can do what any individual scientists would do, pipe patterning, pig colonies, transform DNA into the microbes, screen the microbes, and then do everything of that in an anaerobic environment and with those gases that we're using. And then the system is really kind of fully automated and connected through a robotic arm as you will also see in a virtual lab tour that we do later on.

What's really the benefit here is whereas individual scientists could maybe do a handful of strains, this system can do thousands to tens of thousands of strains and really allows us to test many, many different pathways and designs at the same time and doing that at a much reduced cost. So with these tools in hand, both from the in vitro platform to our cellular engineering, to our AI and models to our fermentation. This allows us to know effectively reprogram our microbe to instead of ethanol also make other products directly in our fermentation. So we have shown, for example, that we can produce acetone or isopropanol in our fermentation. These products are a key solvents or other chemical building blocks. Acetone is, for example, use for acrylic glass. Isopropanol is used for materials and packaging. Think about polypropylene. And we can now make these directly in our fermentation.

A key advantage is that we can produce these in a carbon negative way. So effectively we can kill two birds with one stone. We not only avoid emissions from the manufacturing process, but we can actually lock in CO2 directly into the product. So you can see in the chart here, I think right now acetone is made exclusively from petrochemical, from [inaudible 00:48:10] fossil resources. And in the manufacturing of acetone, per ton of acetone you produce, you release two and a half tons of CO2 into the atmosphere. With the LanzaTech process, we can actually reverse that and actually lock in 1.8 tons of CO2 per ton of acetone produced into that acetone product. And for isopropanol, it's a very similar case as you can see here.

In fact, we actually already demonstrated that we can produce over 100 chemicals directly in our fermentation. These comprise various degrees of different chemical products, various chain lengths, various type of chemicals from acids to alcohols to aromatic molecules and so on. While many of these are still in the lab-based development, acetone and isopropanol is our first two products we optimized to high selectivity and commercial rates and already scaled these up into pilot and demonstration scales like the Freedom Pines facility Julie mentioned. And in fact, we're looking at rolling these out to our commercial units later this year.

The key advantage, if you think about chemical manufacturing, if you think about the traditional chemical industry, you have your plant and your purpose, build it for one molecule. But think about plant for 18 markets. Biology really enables you to use the same plant, the same existing hardware, but be very flexible, not just on the input side where we can take various different gas waste streams, but also on the product side. So we can simply swap out microbial biocatalysts and now instead of as ethanol, make isopropanol or make acetone or make other products using the same existing plants that were used today to make ethanol. The same reactors, same feedstock, same process can just change out the microbial catalyst. And this really is a paradigm shift if you think about this enables you to now rapidly react to market fluctuations. And of course the feed stocks we're using are uncoupled from the commodity markets. So this provides really great opportunity.

And we're working with today with various industry leaders from various sectors to make tailored applications for their needs. For example, we work with SWISS BASF to make chemicals that they need strategically in their processes and have existing customers and market for. Likewise, we work with Sumitomo Riko to make materials with them. We have joint development agreement with Swiss Danone for making packaging solutions with them. We're working with Swiss Givaudan to make fragrances. We are working with Lululemon to make fabrics and we are working with other partners as well. So we have platform that ties directly into the customer needs and the markets and the platform that is very flexible, both from the feedstock side but also from the product side. And one case study we'll show you now. Handing back to Zara, we'll show you one of the case studies.

Zara Summers:

Thank you, Michael. So ethylene I think is worth calling out specifically as a case study of why we're really focusing on really expanding our direct product production platform. So engineering our biocatalysts to make new products. So today ethylene is produced from petrochemical. I mean it is a petrochemical, so it comes from a barrel of oil. And what we'd like to do is stop that and what we are doing today is producing ethylene, ethanol and then dehydrating that and with additional capital expense to produce our CarbonSmart line. However, what we're moving towards and what we have a press release out this fall was the direct production of ethylene. So why is this important? Ethylene is a key building block for many, many molecules. However, ethylene is also has a global market of over 200 million tons produced in 2021 and projected to have 170 billion market size by 2030. By entering the market today using ethanol, dehydrated to ethylene to produce CarbonSmart products like the Zara dresses, EVA, soles on shoes and other products, we're breaking into that ethylene market.

However, we do believe that it is important to focus on direct ethylene production because that's not only going to get you to those products with fewer steps, it's also going to reduce the overall process cost and energy. And so this is just one example of how we're really going after commodity chemicals. If you think about actually impacting the global carbon crisis, the CO2 that's in the atmosphere, going after these commodities is the prudence step. Because if you're just going after specialties, the piece of the pie that we're going to impact is going to be much smaller. So commodity chemicals is a path to getting consumers climate smart, carbon smart products in their hand. And I think as we think about the barrel of oil, we really have to work through what are all of the things we need to replace because it's not just fuels. The future is going to be going after chemicals as well.

And so we're positioned in such a way to really attack that head-on with all of, like Michael said, 100 different molecules that we've now demonstrated in the lab and within pilots to really go after that global market really spread out. And so with that, what we're going to do is show you how we do these things. So we're going to take you on a facilities tour and unfortunately this will be a virtual tour, but you'll still get to see some of these spaces. And these are the people that just like Julie showed you, her global team, this is our Skokie team that really makes the magic happen. These are the people that are testing the new feedstock gases in the lab, that are analyzing the products that we're making, that are engineering the next level of microbe and that are really pulling all that data together with really clever and globally deployable models.

And so with that, we're going to take you on a tour and I hope you enjoy. And if you do have any questions later for Michael or I, we're really happy to answer those. So thank you very much. Welcome to LanzaTech. Today we're going to show you our facilities and how we translate what we do in the lab to our commercial sites around the world.

Omar El-Sharkawy:

Safety is key to everything we do at LanzaTech. So everyone coming into the labs must be in necessary safety equipment, have covered legs, wear lab coat, lab glasses, and the carbon monoxide monitor that can detect any gas leaks in environment. We have automatic shutoff systems in place to ensure the safest possible environment for our team.

Zara Summers:

Our labs and offices are located in the Illinois Science and Technology Park in Skokie just outside of Chicago. I'm Zara Summers, vice president of science at LanzaTech.

Omar El-Sharkawy:

And I'm Michael Kopke, VP of synthetic biology at LanzaTech. And together we take you through our tour of our labs.

Zara Summers:

Welcome to our fermentation lab. This is the workhorse lab of the family where we start to see what our bacteria can do in simulated commercial environments and test and optimize new strains we developed. Along this wall here you can see an incredible network of gas lines which we can control so we can provide different gas streams to the bacteria in each experiment we run. If we follow the lines to one such experiment, you can see what we call a CSTR, a continuous stirred tank reactor. Essentially it's like a micro brewery where the gas is mixed with water, minerals, vitamins, and of course our biocatalysts. As you can see, it looks like a milkshake. But that means we have a lot of bacterial growth in here and they are growing, thriving, and converting carbon from the gas stream to make valuable products.

Omar El-Sharkawy:

In principle, the fermentation is similar to the fermentation of beer and wine, but instead of sugars and yeast, we use specialized bacteria that can eat gases. However, the way we operate the process is more similar to a refinery in that we operate the process continuously instead of in batches. The bacteria constantly divide while produce ethanol and other target molecules.

Zara Summers:

What we can do here is understand how the process works in context of different gas streams that we can feed our organism. This can then reflect different feed stocks, steel mills, biomass, municipal solid waste, or others. What we do is think about how the chemistry of the microbe needs to change so we can operate in different conditions and then we set up reactors to test and interrogate these...

Zara Summers:

... and then we set up reactors to test and interrogate these different situations. At these small scales stirring the broth, it's how we get the gas dissolved in the liquid. Color indicates the density of microbes eating the dissolved gases continuously fed into the reactor. We monitor the environment through an automated system and can measure a number of conditions including what is being made and what gas is consumed all thanks to the analytics equipment in the labs that gives us important information and a powerhouse of computational infrastructure to manage all the data from the experiments to tell our researchers what is happening.

Omar El-Sharkawy:

You have around 100 reactors like these in our facility and automation enables us to operate 24/7. Various experiments being run to maximize efficiency, reduce costs and trial different gas streams, and also to test out the next generation of products we're developing in our synthetic biology labs.

The process of developing new strains that have improved efficiency, or are able to make new products, start with designing and generating biochemical pathways and DNA constructs that we can then use to modify our proprietary LanzaTech microbes. In this lab, we use a variety of robots for high throughput assembly of DNA constructs and libraries, essentially writing the DNA code we then used to modify our bacteria. We next have to ensure that the DNA constructs we generated are free of any errors in what we designed. For that, we have a variety of state-of-the-art DNA sequencers. Before we go into cells, we also have developed capabilities to test and prototype new pathways in vitro using cell-free synthetic biology, which we can also do on these robots at nanoliter scale. The advantage of this is that we can do this at much reduced costs and throughputs than we could do in vivo.

Zara Summers:

Oftentimes, we need to optimize specific enzymatic conversion steps to produce a certain target chemical or troubleshoot aspects of our fermentation process, which we can also do using this platform.

Our modeling and bioinformatics teams have developed an amazing virtual environment leveraging all the data we get from our labs and pilot facilities. They capture the data in real time and translate it into mathematical models to advance and inform our research platforms. Modeling is an efficient way of driving new approaches without doing experiments, this allows our team in the lab to focus on those experiments which have the highest probability of success. Our data centers provide all the information our team needs about our biocatalysts. It is our central store of over 15 years of institutional knowledge, allowing us to build precise and predictable models for the production of new products or introducing new and different commercial feed stocks.

Omar El-Sharkawy:

We have demonstrated that the models generated by our teams have been successful in predicting laboratory results. We are now using data to develop and deploy machine learning techniques to improve our process control, both in the lab and at scale.

This is one of our biofoundries where we can take the DNA constructs we designed and the biochemical pathways remodeled and prototyped, and translate them into practical experiments. These machines generate strains at much larger scales than any one scientist can do by themselves. Through a series of modules and unit operations that are fully integrated through robotic arms and rails, this custom-built system can do the same as a traditional scientist could do, including introducing DNA into strains, selecting and screening strains, and perform gross experiments. However, while a typical scientists could perform a handful of experiments in months, this system alone can perform thousands of experiments every week. The key challenge we had to overcome was doing this in an oxygen free anaerobic environment and in presence of toxic and flammable gases needed to incubate the bacteria. Automation in this context had never been done before. We are now operating our first biofoundry since 2018 and have developed and screened tens of thousands of strains of which the best ones we move forward to fermentation, while at the same time build up millions of data points to feed into our models.

Zara Summers:

This modular biofoundry facility leverages advanced computational biology to enable precise and predictable genetic reprogramming of our proprietary gas fermenting biocatalyst. Iterative cycles of design, construction, and analysis of engineered microbial strains within the biofoundry provide data to train models powering our AI guided strain design systems. Thus, these systems become increasingly accurate, minimizing the time required to deliver new commercial strains producing valuable chemical products.

The LanzaTech Analytical laboratory is supported by teams of experts and sophisticated equipment. This lets us not only measure the products our microbes are producing, but also test the gases that we're feeding our bacteria, this supports scale up and development of new products and processes.

Omar El-Sharkawy:

This lab is equipped with state-of-the-art analytical devices enabling thousands of samples to be screened daily to support LanzaTech's R&D operations and enable intelligent decisions. The lab has state-of-the-art precision devices to measure what is going on in the cell and confirming product quality and contaminant down to the parts per billion levels.

Zara Summers:

The analytics team includes global commercial support staff who assist with in-person customer training and startup of commercial plants. They also advise on site analytical data and support with troubleshooting either at our customer site or from our facilities in the US using data sent by our analytics field team. Combined, this supports smooth running of our commercial facilities as it enables timely fine-tuning of operations to maximize output.

Omar El-Sharkawy:

At LanzaTech, we are combining the best of biology and chemistry to achieve the greatest impact and versatility. Biology enables us to process chaotic input streams and access the hallmark wide diversity of feedstocks and convert these at high specificity. Our catalysis platform enables us to further diversify the products of our gas fermentation platform into a wide array of products. Catalysis also helps us to clean up gas streams. There are certain chemical compounds that occur in waste gas streams that are harmful to LanzaTech's bacteria, so gas cleaning process is necessary to remove these contaminants before feeding to the gas fermentation process.

Zara Summers:

Now, as you've heard today, the LanzaTech gas fermentation process is operational at commercial scale using steel mill off gas. While many opportunities exist with steel mill gas, we are continually looking to develop new gas sources. Our recent focus has been on gas produced from the gasification of biomass and municipal solid waste, and we have developed gas cleaning process that is suitable for most all gasification and effective regardless of the gasifier type. With any new gas feeds comes new types and new levels of contaminants. We can stimulate various types and levels of contaminants that we might see in a new gas source. The process steps that we use to remove the contaminants are well established absorption and catalytic reaction processes. The specific absorbance and catalysts in the LanzaTech gas treatment process are covered by our IP portfolio.

Omar El-Sharkawy:

We showed you how we developed new strains and optimized fermentation conditions. Here we have our pilot reactors where we can do the next scale of biocatalysts testing for commercial use. In this room, we have industrially relevant reactors.

Zara Summers:

At this scale, we're no longer using stirred tank reactors, these reactors have a volume of 100 liters. The gas bubbles through the liquid where the biocatalysts can then consume and transform the gas to ethanol or other products we are interested in. The reactor has been designed to maximize gas intake, which supports a more efficient fermentation. This is the same design as what would be at commercial scale, just a smaller version. The same style of reactor has been deployed at our commercial sites in China and is being installed at other global sites today.

At the site we have a series of membranes that help us to extract our products without removing the biocatalysts. We also have a special way of distilling the products so we can take out the ethanol without harming the biocatalysts or removing their nutrients. This means distillation is highly efficient and our biocatalyst is able to continue to produce products in a continuous process. This is a key differentiator compared to other processes that operate in batches. We can achieve 100-day continuous runs at commercial scale and have even gone beyond that to hit 300-day fermentations. The Shougang commercial facility started production in 2018 making ethanol from steel mill emissions. In 2021 and 2022 to additional facilities started transforming ferroalloy emissions to ethanol. Combined, these facilities have produced over 50 million gallons of ethanol since startup, which is the equivalent of keeping over 250,000 tons of CO_2 from the atmosphere.

Omar El-Sharkawy:

The ethanol from these commercial plants has been converted into valuable products we use every day for companies such as Unilever, Zara, Beiersdorf, Swiss retail giant Migros, and German drugstore chain, Dm. New product launches using this ethanol is H&M, On Running, [inaudible 01:08:03], Givaudan and UK outdoor clothing company, Craghoppers, have also been announced.

Zara Summers:

LanzaTech's first European facility is in Belgium at the flagship steel mill of ArcelorMittal. This facility was inaugurated in December of 2022. The 200 million Euro steelanol project is a first example of its kind for the European steel industry and is another example of how we have commercialized our technology working with customers around the world.

Omar El-Sharkawy:

We hope you enjoyed the tour with us today. LanzaTech has invented a technology that is big enough to meet the moment. The science is state of the art, but the idea is simple. We use nature to heal nature.

Zara Summers:

It's a global, commercial scale gigaton solution that's ready for market today. In a crowded sector filled with speculation, our platform offers a plug and play solution that's making our customers money. Waste carbon pollution is humanity's biggest threat, LanzaTech is turning that into an opportunity today.

Brian Horton:

Welcome to LanzaTech's Freedom Pines Biorefinery in Soperton, Georgia. My name's Brian and I'll be taking you through a tour of our site today. The main reason the Freedom Pines Biorefinery exists is for the scale up of our technology and also to produce biocatalysts. Similar to our sister site in Skokie, Illinois, we have world-class gas fermentation assets here at the site in operation. We've invested hundreds of millions of dollars in the site over the past few years, and this includes working with many offices of the Department of Energy to cost share some of our reactors.

Some of the primary things that happen here at the site are the production of biocatalyst, the operation of our gas fermentation assets, and these assets mimic commercial scale reactors that are deployed around the globe, customer support of our global customers and training of our engineers that go out to do startup at commercial sites.

In addition to LanzaTech's work here, the LanzaJet Freedom Pine's Fuel Facility is currently under construction here and will come on later in the year to produce sustainable aviation fuel using ATJ technology of converting ethanol to jet fuel.

Safety is a major priority here, as at any LanzaTech site, and so when visitors come to the site, they are safety trained site specifically and issued proper PPE, things such as a hard hat, safety glasses, a gas monitor, steel toe boots, and other appropriate hardware. So with that being said, let's go take a look at the rest of the site and see different areas.

The heart of the LanzaTech gas fermentation process is the biocatalyst. Several years ago we recognized a growing need for more biocatalysts as our commercial customers began building more assets, and it became very apparent that the need for biocatalysts would grow exponentially. So several years ago, we began investing heavily in things like the building behind us which brought all the biocatalyst production into one area. So by doing that, we are able to produce the amount of biocatalysts our customers need, reduce the potential for contamination and streamline the process. It should also be noted that the biocatalyst itself is preserved here at Freedom Pines, and that is so that its shelf stable for several years and can be sent anywhere in the world to any of our customers for their plants.

So in 2015 and 2016, the ATJ process you see behind me was used to produce 4,000 gallons of Sustainable Aviation Fuel, also known as SAF, and 600 gallons of green diesel. The ethanol used to supply the process came from two different sources. The first source was waste gas fermentation using the LanzaTech process in China, and the second source was grain ethanol. The reason these two sources were used was to demonstrate the flexibility of the ATJ process for any kind of ethanol feed feedstock. The material produced from that run was used in a 2018 test flight across the Atlantic on a Virgin Atlantic airplane. The basis for the process that was developed during those runs is now being developed into a large scale plant here at the site for LanzaJet Freedom Pines Fuels, which will come on later this year. It will be the largest sustainable aviation fuel plant in the country when it is completed.

Fermentation at Freedom Pines occurs in the reactors behind me. These reactors are designed to mimic our commercial scale reactors. At 200 liters, these reactors are much larger than the reactors at Skokie. Therefore, when new molecules are demonstrated in the Skokie Labs, they can be validated here at a larger scale. Once that validation occurs, these molecules produced by the biocatalyst can then be deployed to our commercial customers worldwide. Then our customers can use the biocatalyst to open opportunities for their markets and use their assets more effectively. At 1,000 liters, the second generation reactor behind the demonstrates LanzaTech's commitment to improving its technology over the first generation reactor that was deployed around the world. This reactor is more efficient, produces more ethanol, and does it with less total energy consumption. A similar reactor at 10 times the scale is currently being run at Suncor in Canada in joint partnership with Emissions Reduction Alberta.

The control room that I'm standing in here is the hub of all activity at Freedom Pines. As you can see, there are multiple screens that are Human Machine Interfaces, or HMIs. The instruments on all of the reactors out in the plant read into the HMIS so that the operators as they're working here can monitor the process and make changes as they need to. In addition, many control strategies are developed here at Freedom Pines to automate the process, and those are trialed here on these HMIS and in our control system for further development. Once they're successful, they can be deployed to our commercial customers around the world. You also see that we have several camera feeds in from around the plant, and this serves several purposes. The first purpose is the operator can monitor the process remotely and see different things from the reactors, and the second purpose is for safety, so that the operators can monitor each other as they are out and about in the plant.

Here at Freedom Pines we have over 250 acres of land. One thing we're working very hard on is getting a solar field, that plays into a current project with the DOE where we're trying to take CO2 and hydrogen and convert it to ethanol and then ultimately take that ethanol to produce jet fuel. What we really want to demonstrate with that is the ability to take sunlight, water, and CO2 as our feedstocks to produce jet fuel. Behind me, you see a new installation of an electrolyzer which takes water and electricity and produces green hydrogen. That will be the first step in this process.

The carbon smart portfolio consists of chemicals derived from our gas fermentation process. These include things like IPA, acetone, and ethanol. These molecules can be used as is or further converted in the molecules that can become fragrances, clothing or packaging. Beside me, you see several distillation columns that have just been installed to support LanzaTech's effort to grow the carbon smart portfolio. The chemicals derive from our gas fermentation can be further processed to provide purified samples for our customers, and also this equipment allows us to demonstrate new techniques for separations of all of these new chemicals so that the carbon smart portfolio can grow.

Thank you for joining me on this tour today of the LanzaTech Freedom Pines Biorefinery. I hope you learned a little bit more about what we do here at the site as our technology grows and as we as a company continue to grow to capture carbon and create value.

Geoff Trukenbrod:

Well, hi folks, and hope you appreciate it and enjoyed the videos and appreciated getting a little bit of a virtual tour and a walk around the world to see some of our facilities and meet some additional folks. I'm Geoff Trukenbrod, as Omar mentioned earlier on, I'm the CFO here at LanzaTech. I'm going to spend a little bit of time walking you through our business model and some unit economics, and then we'll be back a little bit later on for questions.

In terms of our business model, there's really three core components of our business model, the primary of which is the licensing of this carbon capture and transformation technology. At our heart we are a licensing business. As a licenser, during the development stage of these projects, we are realizing a series of one-time revenues, things like engineering services, startup services, equipment packages, while we don't provide the entire equipment package, we do provide key components, typically things that are based on our proprietary designs or things that we validated with vendors because they're key integration points in the process.

Our goal is to get more and more of these projects up and running, because that's when these long tail recurring high margin revenues kick in. Once these plants are up and running, our revenue streams are associated with things like our royalties. So we structure our royalties as a gross revenue share on the product offtake from these facilities, as well as we provide consumables, microbes, the media. So the biocatalyst that's actually active inside the bioreactor is a consumable component of our revenue stream. Beyond that, we have things like software analytics monitoring. I'll break all these down in a subsequent slide when we talk about the unit economics for LanzaTech. But while I'm here, I'll also talk about these other two components of our business model.

Again, while they're not intended be as significant from a revenue standpoint, we do consider them to be both complimentary and strategic to the licensing business itself. The carbon smart side of the business, think of this really as LanzaTech as offtaker either from our licensees facilities for those that we're co-developing. As a result, we are managing both the offtake relationship and in these cases, as you heard earlier about the carbon smart products, the relationship with the consumer-facing brand partners. We work with known technologies and technology partners to convert or purify the offtake and then provide a sustainable drop-in alternative to our partners. By managing that process and that value chain, we're able to capture additional margin in that process.

And then the third component is the joint development contract research. You heard Zara and Michael talking about the synthetic and computational biology capabilities we have that are truly world class. And what we're doing over here is leveraging those capabilities with partners who are interested in seeing new molecules being able to be produced through our buyer clients. What they're effectively doing is paying us to expand our total addressable market and driving future demand for additional capacity in the buyer refining side of the business. Now, these are profitable projects for us, but again, they're primarily designed to drive additional demand for our licensing business.

I mentioned we're primarily a licensing business, but many of you have probably heard about our recent announcement of our partnership with Brookfield. Brookfield is a large infrastructure investor, is both an investor in LanzaTech, but is also made available to the company in excess of 500 million dollars of commitments to fund projects that we'll do together with them. And these projects at LanzaTech will effectively be doing build/own/operate as a service. We won't be investing capital off our balance sheet into these projects, but utilizing Brookfield's capital as the equity component of these projects.

The same revenue streams that apply to our licensing business apply to these projects as well. There will be some ancillary services that we provide as we have a more expansive role in those projects, but the core of which, the core engineering services revenue, the core royalties, et cetera, all remain the same types of projects as well. But what this will do, by having this relationship, we can bring a more holistic solution to our partners and to these opportunities we can accelerate the deployment of our technology and create customers where there wasn't necessarily a natural license.

I promise to break down the unit economics a little bit for you. What you're seeing here is how we think about the unit economics at LanzaTech for what we'll call a single-unit producing approximately 50,000 tons of ethanol. This is consistent with the pictures that Julie showed you previously about the plants that are operating in China comparable to the projects that are in construction, that are soon to start up as well. And when we think about a unit, we're talking about, again, 50,000 tons of production. If you had more gas, and we have this, in many cases, you would think about numbering of these unit economics to expand the ability to capture and utilize more gas.

But for a single unit, what we're seeing in the blue bars here is the one time revenues that I talked about, those engineering services, startup services, equipment sales. And then the green bars are intended to represent those recurring cash flows, the licensing, the microbes and media. And what you're seeing on the right-hand side is the plant level EBITDA associated with those revenues. As you can imagine, those recurring revenues are by their nature, high margin in nature. These are 20 year life plants by their design basis, so we expect long recurring [inaudible 01:22:17].

I think it's equally, if not more important, to see what the unit level economics look like to the licensee. So for that same plant that I was just talking about on the prior slide, what you're seeing here is what those unit economics would look like to the licensee. We're talking about a similar 50,000 ton production facility capturing the equivalent of a hundred thousand tons of CO_2, and I'm using this example of about 150 million dollars for the total installed cost. This would be comparable to a steel mill or a ferroalloy facility or a associated facility in Europe, let's say.

And what you're seeing in the numbers underneath is the revenues per ton basis associated with the production of that plant to the licensing, less the cost of the feed stocks, less the OPEX, which includes the cost of LanzaTech, thus leaving strong cash margins on a per ton basis. And on an annualized basis, it's allowing our partners to target four to six year paybacks on total invested capital. Again, because of the long-term nature of these assets, it's a fairly compelling return on investment associated with the deployment technology.

Now, while the economics do vary to some degree by region or by feed sector or by chosen product, what you're seeing here is that all of our projects are intended to be profitable to the licensee. So they're taking a current problem, their carbon abatement, and turning that into a profitable opportunity with a compelling return on investment. This is the way the economics lay out today without additional incentives or mandates or a cost of carbon embedded in this. But what you're seeing, it would be that those would be natural enhancements to the economics of these projects, as would the various efforts that we have underway to both produce the OPEX and the CapEx associated with that process. So with that, I will turn it back over to Jennifer Holmgren, who will leave us with some closing thoughts.

Jennifer Holmgren:

Just to conclude, I think we all know that we sit at a time when we absolutely have to change our carbon economy, but there are so many that don't believe that this is possible. And I would offer up that often those that don't think something is possible are not necessarily right. This has been true in history where Graham Bell was told that the telephone never amount to anything, where Lord Kelvin, even as the president of the Royal Society, less than 10 years before Kittyhawk, basically said airplanes were never going to happen. Where so many predictions about what would happen with computers were not correct. And my favorite, 640K ought to be enough computer memory for anybody. I don't know anybody under 40 who knows what a K of memory is.

And so the question one asks oneself is, how is it possible that these brilliant minds could have been so wrong? And to me the answer is quite simple, predictions only extrapolate the past, they do not see disruption. Innovation is what changes what's possible. When Bill Gates said 640K ought be enough, he was telling his programmers code type, you can only use so much memory, you need to get this right. And they never imagined that we would have cell phones, cell phones that had our lives in them, that had our videos of our families, our pictures and everything else. But that was enabled, that was a revolution in thinking.

And so really what innovation does is it makes things that don't appear to be possible today, become conventional wisdom. That's what we're trying to do with gas fermentation. Not too long ago people believe that gas fermenting microbes, acetogens in particular, would never be able to produce [inaudible 01:26:28]. Us and a lot of other people have proved this to be incorrect. Not too long ago, people believed that there was no way to get gas fermentation to scale in a way that made economic sense. But as you've seen, we shown that's not true and we did it by wrapping a novel reactor and a novel process around our gas fermentation. A lot of people believe that gas fermentation, that acetogens could not be genetically modified. Well, the first person to ever do that was Michael Köpke...

Jennifer Holmgren:

Well, the first person to ever do that was Michael Koepke as part of his PhD thesis, and now he's doing it at LanzaTech. A belief that high throughput would not be possible for anaerobic microbes, and yet you saw our labs bio foundry. And finally, that only ethanol or acetate, a turnaround from 1992 where people thought only acetate. At least we evolved to ethanol and acetate, were the only products that could be made in high selectivity. But you saw today that we're making isopropanol, that we're making acetone at high selectivity and we're actually doing it at a pilot scale, not just a laboratory scale. We've gotten here by integrating ideas that people didn't use to integrate, by putting industrial biotechnology in a steel mill, by wrapping sophisticated engineering around biology, by thinking that batch fermentation was not the only way to make biological products. And by daring to think that we could make commodity chemicals so inexpensive, that we didn't have to use biology to make only selective high value specialty chemicals.

Really, it's a very different way of thinking about what biology can do. But despite the fact, that I like to talk about integration, that I like to talk about engineering, the heart of our company is biology. At the end of the day, everything we do is enabled by biology. And in fact, when we start to think about the selectivity that biology brings, that's the only reason that a distributed model that waste resources can work, because you can make one product selectively and then just utilize that. You can't do that with thermocatalysis where you make a spray of products. And in addition, biology as Sara mentioned, allows us to use chaotic inputs, waste resources. So really it's biology that enables us to take chaos into something useful, to take waste carbon and convert it to the things we need in our daily lives. I think you've seen that today we produce chemicals using ethanol as an intermediate.

But we know we have a path to making chemicals directly from waste gases, allowing us to actually make these things at economic price points, allowing us to make these new materials at facilities that used to make ethanol that are depreciated. The capital that's on the ground could be leveraged to make new products. And I hope we've shown you that while we're working on engineering and replicating our first generation technology, that we've already tested and starting to implement our second generation bio reactor. So while we are at commercial scale, we're continuing to work to get down the cost curve as we deploy, which is exactly what's happening in solar. The more you deploy, the lower your cost, the better your technology gets. This is the path we're following. I hope you've also seen that when rethinking other aspects, we don't believe innovation is just about engineering or science. Innovation is something you also do in how we think about financing.

Having Brookfield engaged with us with a process company developing and devoting infrastructure Dollars is something people have not been doing today. We are truly on a journey to change the way everything is made, to change the way products are made, because at the end of the day, it's not just about changing our energy system or our fuel system. 30% of the barrel goes to making the products we use in our daily lives, our clothes, our shoes, our bottles. And so if we really need to truly have a transition, we need to figure out how to make all of those things, from sustainable aviation fuel to polyester. I hope you've seen that we de-risk the technology and we de-risk the market, and we've grown a company that's ready for the next stage.

I hope you also realize that this ambition to bend the carbon curve is something we're not going to do along. It's something that we need all of you helping us, participating with us, as well as all of the end users and consumers, join us on a journey to create a world where not only our customers asking where does the carbon in my product come from, but where the answer doesn't always have to be from fresh fossil [inaudible 01:32:06]. I thank you for taking the time to be with us. And with that, we conclude and we go to the Q&A.

John:

Okay. We'd now like to open up the meeting for Q&A from the webcast participants. If you would like to submit a question to the team, please type your question in the box to the right of the webcast screen, and we'll take a brief moment to compile a questions list, and then we'll jump right in. Okay. Your first question, "Please walk me through the basic details of a typical CCT plant, including CapEx, construction timeframe, from groundbreaking to first production, name frame capacity."

Jennifer Holmgren:

Let me have Julie answer that question. Julie, are you on the line?

Geoff Trukenbrod:

Yeah. Julie, you want to jump on? Julie obviously handled the name frame capacity and how we think about time to production, but maybe I'll just touch quickly on the economics of the plants and reference you back to the unit economic slide that I used earlier. Again, when we think about, there isn't necessarily a typical plant, but we do think about them in terms of typical units. So again, a 50,000 ton production facility, we would think about that as a single unit to the extent that you have more than a 100,000 tons of CO2 to abate. Say you have 500,000 tons, you would think about five units as compared to that one single unit. And so the unit economics that I showed previously, approximately $150 million to total installed costs there, it does vary.

So in China, our plants are being built less expensively and more quickly than the ones that are being built in some other places around the world, as you would expect. But when we do think about what is typical, think about those units and then number them up according. Julie, I'll hand it over to you. Think about the timeframe to produce.

Julie Zarraga:

Thank you, Geoff. On the timeframes associated with the execution of our projects, it typically takes us... The typical timeframe from basic engineering package kickoff to a fully installed plant that's mechanically complete, it's roughly three years. We can get through the basic engineering in about four to five months, followed by detailed design, which takes about six to eight months. And then the balance of the time would be construction through mechanical completion.

John:

Okay. Our second question, "How does the licensing business model provide an advantage to the business from a growth perspective?" And there is a follow-up to this one as well.

Jennifer Holmgren:

Geoff?

Geoff Trukenbrod:

Yeah. So there's obviously a few benefits to it from a financial standpoint, from a scale standpoint. So as a capital light licensing business, we're not limited necessarily by our balance sheet, nor are we limited in terms of the number of projects that we can be doing at any given time as a result of that. So you've seen on the slides we showed earlier in terms of the map where we have plans that are in construction. It's giving us the ability to go faster. It's built giving us the ability to deploy the technology [inaudible 01:35:45] carbon and reach further around the world. In terms of the financial associated with the licensing business, we also do like the high margin recurring revenues that are anticipated and expected of these plants are on the run.

John:

And the second part of this question is, "Does the licensing business model carry any similar offsetting disadvantages, such as a reduced level of control and visibility associated with construction and development timeline for new plants?"

Jennifer Holmgren:

I can address that. And I think yes, absolutely, a licensing model does give you less control. However, we develop strong relationships with partners. We actually start up the plan, suit our partners, we train them and we continually monitor and work with them, and also work with the EPC that's building the plant. So while you do have less control, we are deeply engaged and that's actually what the customers want because we're the ones that know how to operate the process. Plus the other thing that a licensing model gives you, which most people don't always appreciate, is that you have access to continual improvements in the technology if you are licensing. And so actually, that drives the customers to build a bond with the licenser, so that they are aware of what's coming down the pike that could be implemented in the facility as perhaps the next generation solution. So that's how we think about it.

John:

And the next question is, "How will the LanzaJet relationship with LanzaTech develop going forward?"

Jennifer Holmgren:

So LanzaTech will become a majority owner of LanzaJet after the first 10 million gallon a year facility is up and running. The one that's being built in Georgia now, that Julie mentioned. In addition, we have a close working relationship. I'm the chairman of the LanzaJet board and we have another board member as well. But most importantly, we are building a couple of sustainable aviation fuel facilities. So we actually are building LanzaJet plant. And in addition, we often work very closely across the world where a customer wants to say, take municipal solid waste to jet fuel, and we'll come in together and have a solution that takes trash to ethanol and then that ethanol to jet. So there's many, many touch points in the LanzaTech-LanzaJet story. And every day, we have more and more opportunities to work together.

John:

Okay. And I know this was touched on in the presentation, but I think someone like a refresher on, "You walk me through the current commercial plant footprint and the visible development pipeline of plants plan for construction."

Jennifer Holmgren:

Julie, do you want to take that since that was in your section?

Julie Zarraga:

Absolutely. So we have shown you in the presentation that there are three commercial units in operation. There are three commercial units in the late stage construction as well. And from the map, we were able to show you the global footprint of projects with processing a very wide variety of feed stocks and their global. Our footprint is global as well. So in addition to those, we do have projects that are in feasibility stage, currently under development, and also very early stage engineering.

John:

And this one is related to the transaction. "How will the $230 million of cash proceeds be put to work? Are there projects already identified which these proceeds will likely fund?"

Jennifer Holmgren:

Geoff, do you want to tackle that one?

Geoff Trukenbrod:

Sure. As we mentioned, we're primarily a licensing business. There is some reserve capital for us to be able to make minority investments in certain projects to the extent that we find compelling opportunities to do so. But again, the capital deployment associated with projects is intended to come from the licensees themselves, or in select cases from our infrastructure capital partners. The use of funds, the use of the $230 million that we've aggregated this point in time is really three buckets for the company. The first of which is that we can expected to still be generating losses this year. We don't expect to turn full year given a positive until 2024, and cashflow positive until after that as we continue to make investments. So as a result, it'll be funding losses. And the second piece, it'll be funding investments in both places like Freedom Pines and the research and development facilities that we took you on the bureau tour of today.

So we continue to expand our capabilities. These are relatively modest CapEx needs considering what you already saw, but that is part of the uses of capital. And then the third bucket is really just working capital as a function of growth at the scale that we are anticipating. It just does use up working capital. And so those are the primary uses of capital. With all that being said, we expect to maintain a healthy cash basis on our balance sheet. We do not expect to need to go back to the capital markets to get to cashflow positive. We expect that the proceeds from this financing to be sufficient to [inaudible 01:41:30] there.

John:

And this is a feed off of the same question, Geoff. It says, "How long do you estimate the transaction proceeds will fully fund the business for?" And I guess the way to better paraphrase that is like when do we expect to be cashflow positive?

Geoff Trukenbrod:

Yeah. We expect that the proceeds to be sufficient to get us to cashflow positive. Operating cashflow positive sometime in 2024, cashflow positive beyond investments out into 2025.

John:

Okay. The next question is, "How do the three distinct revenue buckets of the business look long term?"

Geoff Trukenbrod:

Yeah. Happy to take that one as well. So when we think about the three revenue buckets, the core of which as I mentioned, is really intended to be the licensing component of it. So when we think about the buyer refining business and our ability to generate revenues, both in terms of the development stage as well as the operational stage of these facilities, that is really core of our revenues. The other components of our revenue model will continue to be declining on a percentage basis, while they'll continue to grow overall. The plants as they are coming into operation will drive those recurring revenues that I talked about earlier. As a result, we expect that our gross margins will just organically expand over time as more and more of our revenues derived from those active operating assets on the higher recurring revenue associated with those.

John:

Okay. And the next question is, "Can you expand on the-

Geoff Trukenbrod:

John, I'm sorry. One thing I should note is that, sometime after closing, we do anticipate and doing a little bit more of a teach-in, trying to expand a little bit more on the economic profile of the business. And that's something that we'll do [inaudible 01:43:25].

John:

Perfect, because that's where the next question is headed. That said, "Can you expand on the economics of a typically sized plant from the licensee perspective?"

Geoff Trukenbrod:

Yeah, absolutely. So as I did mention, some of the unit economics from the licensee's perspective, again, that is one unit to the extent that there are variations on those themes. It could be a larger scale facility. We have a variety of larger scale facilities in our development pipeline at this point in time. But it could also add variations to that. So to the extent that you're adding something like gasification associated with a solid feedstock to the front end. That is going to increase the CapEx associated with that project. But typically, what we're seeing is the feedstock cost is lower. You can see perhaps in some cases even feedstock cost turning negative to credit, when we think about tipping fees on municipal solid waste and things like that. Conversely, if you're integrating, as Jennifer mentioned, with LanzaJet facility, which we have active development projects underway around the world where we're talking about going from waste ethanol and ethanol to jet, the jet component is an additional capital expenditure associated with that on the back end of that.

So it does vary on a variety of fronts. And we also think about one of the roles that we bring as an off-taker and related to our carbon smart businesses. Again, we're continuing to create compelling demand poll for those facilities for the ethanol and the other chemicals that are being produced there. So that's a large part of what we do on the carbon smart side, is we create those new opportunities and we work to create new markets for that off-take. Similarly, with SAF, we expect that the waste based ethanol that feeds the LanzaJet facilities is going to be a significant demand and significant driver of new licensing projects for us as the demand for SAF will be, from our perspective, very high. And that's going to demand similarly high quantities [inaudible 01:45:18].

John:

Okay. The next question is, "What are the implications of the IRA for your business, if any, current and future?"

Jennifer Holmgren:

I can take that. So IRA is actually quite important because it has a couple of different things for us. It has infrastructure funding which will allow more rapid deployment in the US. It brings in a hydrogen tax credit along with the CO2 credit. So with that, 45Q and 45V. And that combination actually allows us to reduce CO2 emissions where we need hydrogen as a feedstock to convert CO2, that lower the price of the hydrogen, the more economic that facility will be. So to be honest, that combination makes our products economically viable, even starting with CO2 and green hydrogen. So that's massive because it's really a factor to the future to feedstocks, direct CO2 and hydrogen. And then the last little bit there is in addition to that there's funding for that hydrogen hubs, and other things that we accelerate deployment of technology and reducing the cost.

At the end of the day, deployment is what reduces cost. And of course, there's the [inaudible 01:46:44] tax credit for SAF. That's also significant. And we believe we'll have very low carbon intensity using our technology, which means we get the maximum numbers of the [inaudible 01:46:57]. So it's a portfolio of instruments, shall we say, that allows us to deploy more quickly, and to get our technology lower and lower from the CapEx and [inaudible 01:47:11] perspective. So that's really cool. So we're pretty excited to have that come forward.

John:

And the next question is, "I found this very interesting. Can you please walk us through your capabilities to directly produce ethylene?"

Jennifer Holmgren:

Ah. Let me turn that question over to Zara. And then also Michael, if he wants to jump in. Zara, please go ahead.

Zara Summers:

Yeah. Great question. Yeah, it's very exciting. So we are leveraging new organisms for the first time at LanzaTech, one specifically able to produce very important molecules like ethylene. And so it still is a gas fermentation, it still can be run in a continuous fashion. And so what we've been able to do is demonstrate that in a continuously [inaudible 01:48:01] in the lab for a sustained ethylene production over a week. And I think what's important there is that we're unlocking new organisms using our institutional knowledge with how to set up reactors, and to grow these organisms under very specific environmental conditions in order to successfully be able to produce these chemicals. One other thing to point out is that as we grow our synthetic biology team, and Michael can speak to this, we're really focusing on leveraging all of the automation and all of the models that we've built up with our first [inaudible 01:48:44] organism and expanding that to our new system. And so what would've taken us 10 years in the past, we are now really shrinking that timeline because of the institutional knowledge we're bringing to the space.

Michael Koepke:

Yeah, I think that's right. And really I think the process still is patent pending, but the capabilities we have also to screen enzymes allowed us to find enzymes that are able to do this conversion and allow us to do direct conversion to ethylene. And in the short time, we've developed this, we already been able to optimize and now have ethylene productional in continuous fashion already.

John:

Okay, great. "In what ways is the development, operation and maintenance of your facilities the same or different from traditional petrochemical refineries?"

Julie Zarraga:

That's a good question. During my presentation, I talked about LanzaTech viewing our technology as a buyer refinery. The equipment that you will see in a LanzaTech fermentation unit is very similar to what you would see in a traditional refinery or petrochemical plant, from rotating equipment, large compressors, pressure vessels like our bioreactor. And so from a maintenance perspective, what you would expect to do and the routines, et cetera, as it relates to keeping the unit operating and keeping the operations sustained over time, it's almost exactly the same. We do have a clean in place process because we do have a live organisms and proteins that are built up over time. So it's a low caustic rinse that is required on a recurring basis, infrequently. So that is something that is different when I think about a traditional maintenance regiment for a refinery or petrochemical plant, but very similar.

John:

Okay. "What role do you see the carbon credit markets playing longer term as decarbonization solutions, that make actual economic sense on a standalone basis continue to emerge?"

Jennifer Holmgren:

Yes, we can tackle that. I think the carbon markets are going to become increasingly important, and especially the additional [inaudible 01:51:31] that's starting to be applied to the carbon markets. And also the fact that people want solutions that actually get to you, rather than that allow you to buy something in another part of the world that makes it feel like you've made up or taken care of your carbon emissions. So the direct impact piece, the credibility of required in the market and the value I think are things that will help us, that we're looking forward to having.

John:

Okay. Let's see. "How easily can the typical plant be converted from one feedstock and target output chemical combination to another, as new microbes are continually developed?"

Jennifer Holmgren:

Zara, do you want to handle that?

Zara Summers:

Sure. Yeah. Stepping back a little bit and thinking about how we operate our plants, we have those large bioreactors that you saw on many of the pictures of the commercial plants. We also have what we call them inoculator. And so what that is, is a larger tank where we grow up our organism. So you saw those canisters in Julie's photo. There are PVC canisters that can train freeze dried biocatalysts, similar to a packet of yeast you would buy in the store that is dehydrated, that you hydrate so that you can make bread at home. We send our organism in the freeze dried form, so it can be shipped to ambient conditions and await introduction into the inoculator. The inoculator is an important step because then we can grow up thousandfold increases in our cell counts. So we have a large vat of organisms ready to directly put in the bioreactor.

So what we would do in a plant where we would have the bioreactors, that we could use for different strains, is we would have a series of inoculations ready to go with different strains inside. And so as you empty one reactor, do the clean in place, the CIP Julie just spoke about, we would then reinoculate from an inoculator that carries a different strain. And so really it would be quite easy to leverage our existing large bioreactor plants and just have additional inoculations added on where we can grow up large amounts of multiple strains, have them ready to go at any given time.

John:

Okay. And, "How much additional improvement do you believe there is in refining the design of the plants in terms of production efficiency and the cost to deploy?"

Jennifer Holmgren:

Julie, do you want to take that?

Julie Zarraga:

Yes. Considering the fact that we are a technology provider, one of the things that is an expectation of ourselves as well as our partners is that we will continue to optimize and improve our technology. With every plant design, we undergo a value engineering exercise. As we are learning from the field with our startups occurring, those learnings are adopted into our current projects that are under execution as well as future. And so with the deployment of our next generation bioreactor, that's really just the first step of making a marked difference in our yields. But in addition to that, from a cost perspective, operability perspective, maintenance perspective, all of those things, we are continuously looking for ways to improve. And in addition to that, also reducing the cost of our operating facilities.

Jennifer Holmgren:

I think with that, we're ready to conclude. I want to really, really thank you on behalf of the entire LanzaTech team for joining us. I know your time is valuable. And so taking two hours out of your time, it means a lot to us, that you're interested in learning about what we do. Thank you very much and I look forward to meeting you all [inaudible 01:55:54].

Important Information About the Business Combination and Where to Find It

The proposed Business Combination will be submitted to stockholders of AMCI for their consideration. AMCI has filed with the Securities and Exchange Commission (the "SEC") a definitive proxy statement/prospectus (as supplemented by that certain supplement to the definitive proxy statement/prospectus, dated as of January 11, 2023, and as may be further supplemented or amended from time to time, the "Definitive Proxy Statement/Prospectus") relating to the Business Combination. AMCI's stockholders and other interested persons are advised to read the Definitive Proxy Statement/Prospectus and documents incorporated by reference therein filed in connection with AMCI's solicitation of proxies for its special meeting of stockholders to be held to approve the Business Combination and other matters, as these materials contain or will contain important information about AMCI, LanzaTech and the Business Combination. The Definitive Proxy Statement/Prospectus and other relevant materials for the Business Combination have been mailed to stockholders of AMCI as of December 28, 2022, the record date for voting on the Business Combination. Stockholders of AMCI may obtain copies of the Definitive Proxy Statement/Prospectus and other documents that are filed or will be filed with the SEC or that are incorporated by reference therein, without charge, once available, at the SEC's website located at www.sec.gov or by directing a request to: AMCI Acquisition Corp. II, 600 Steamboat Road, Greenwich, CT 06830.

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 under the rules of the SEC. Information about the directors and executive officers of AMCI is set forth in the Definitive Proxy Statement/Prospectus (and will be included in the definitive proxy statement/prospectus). 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 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.

Forward-Looking Statements

This communication includes forward-looking statements regarding, among other things, the plans, strategies and prospects, both business and financial, of LanzaTech. These statements are based on the beliefs and assumptions of the management of LanzaTech. Although LanzaTech believes that its plans, intentions and expectations reflected in or suggested by these forward-loo king statements are reasonable, LanzaTech cannot assure you that it will achieve or realize these plans, intentions or expectations. Forward-looking statements are inherently subject to risks, uncertainties and assumptions. Generally, statements that are not historical facts, including statements concerning possible or assumed future actions, business strategies, events or results of operations, are forward-looking statements. These statements may be preceded by, followed by or include the words “believes,” “estimates,” “expects,” “projects,” “forecasts,” “may,” “will,” “should,” “seeks,” “plans,” “scheduled,” “anticipates,” “intends” or similar expressions. The forward-looking statements are based on projections prepared by, and are the responsibility of, LanzaTech’s management. These forward-looking statements are not guarantees of future performance, conditions or results, and involve a number of known and unknown risks, uncertainties, assumptions and other important factors, many of which are outside the control of LanzaTech, that could cause actual results or outcomes to differ materially from those discussed in the forward-looking statements. New risk factors that may affect actual results or outcomes emerge from time to time and it is not possible to predict all such risk factors, nor can LanzaTech assess the impact of all such risk factors on its business, or the extent to which any factor or combination of factors may cause actual results to differ materially from those contained in any forward-looking statements. Forward-looking statements are not guarantees of performance. You should not put undue reliance on these statements, which speak only as of the date hereof. All forward-looking statements attributable to LanzaTech or persons acting on its behalf are expressly qualified in their entirety by the foregoing cautionary statements. LanzaTech undertakes no obligations to update or revise publicly any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law.

Non-Solicitation

This communication 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.