



Solidarity

Equality

Sustainability

CARBON CAPTURE & UTILIZATION

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Vice President, Public Policy

LanzaTech Global, Inc.

G20 Initiative on Bioeconomy

23 to 25 February 2025

LanzaTech

Nasdaq: LNZA

CREATING A CIRCULAR CARBON ECONOMY

25 February 2025

Tom Dower
Vice President, Public Policy

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OUR “CLIMATE TIME BOMB IS TICKING”

– Antonio Guterres, U.N. Secretary-General

The fact that we are making our planet inhospitable is not new



***Carbon is the
foundation of our
material world***

Carbon is in



the products we use

Carbon is in



the clothes we wear



Carbon is in



the planes we fly

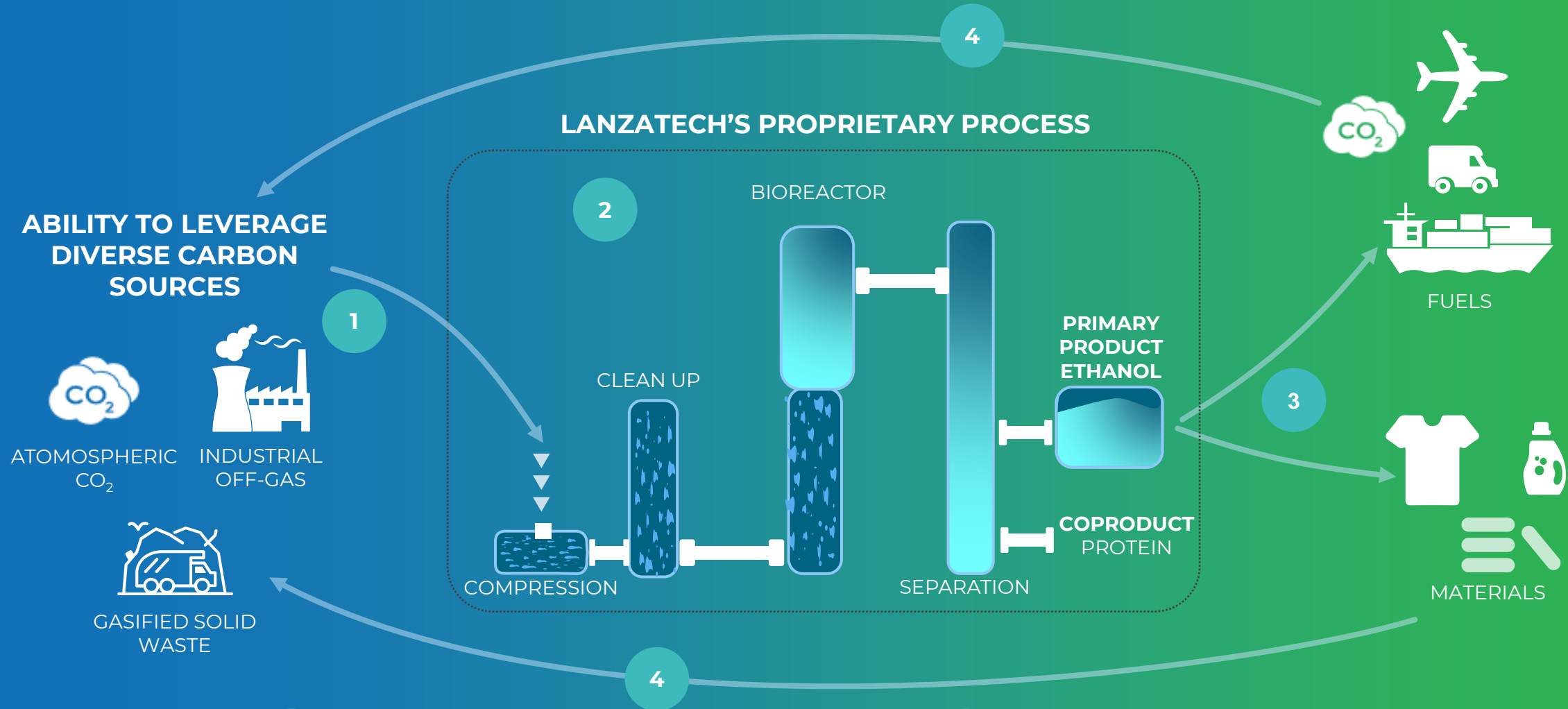


**WHERE OUR CARBON COMES FROM
WILL DEFINE OUR CLIMATE FUTURE**



THE WORLD
HAS ENOUGH
CARBON ABOVE
GROUND TO MAKE
EVERYTHING WE
NEED

A NOVEL CIRCULAR SOLUTION, RECYCLING WASTE CARBON INTO VALUABLE PRODUCTS



1

Carbon rich waste gases enter compressor. Solids must first be gasified.

2

LanzaTech process occurs within proprietary bioreactor; microbe consumes carbon in gas and produces ethanol and protein coproduct.

3

Ethanol is an intermediate product that can be further upgraded and converted into high value sustainable materials and fuels.

4

Circularity-enabled with solid waste carbon gasified and emitted carbon captured and returned to the process.



GLOBALLY LICENSED & COMMERCIALY OPERATIONAL TODAY

2018

Production Volume:

46,000 Metric Tons per Year Ethanol

Carbon Source:

Steel Mill Emissions

ISCC

ISCC CORSA

ISCC

ISCC PLUS

ISCC

International Sustainability & Carbon Certification

RSB

2021

Production Volume:

46,000 Metric Tons per Year Ethanol

Carbon Source:

Ferroalloy Emissions

ISCC

ISCC CORSA

ISCC

ISCC PLUS

ISCC

International Sustainability & Carbon Certification

2022

Production Volume:

60,000 Metric Tons per Year Ethanol

Carbon Source:

Ferroalloy Emissions

ISCC

ISCC CORSA

ISCC

ISCC PLUS

ISCC

International Sustainability & Carbon Certification

2023

Production Volume:

60,000 Metric Tons per Year Ethanol

Carbon Source:

Ferroalloy Emissions

ISCC

ISCC CORSA

ISCC

ISCC PLUS

ISCC

International Sustainability & Carbon Certification

2023

Production Volume:

35,000 Metric Tons per Year Ethanol

Carbon Source:

Refinery Off-gas

ISCC

ISCC CORSA

ISCC

ISCC PLUS

ISCC

International Sustainability & Carbon Certification

2023

Production Volume:

64,000 Metric Tons per Year Ethanol

Carbon Source:

Steel Mill Emissions

ISCC

ISCC CORSA

ISCC

ISCC PLUS

ISCC

International Sustainability & Carbon Certification

LanzaTech

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LANZATECH IS ENABLING LOWER CARBON SUPPLY CHAINS

DRESSES



YOGA PANTS



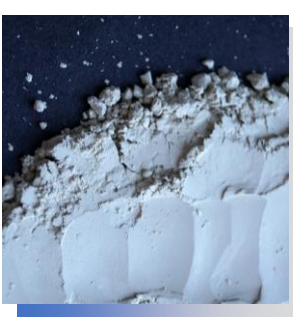
FLEECE JACKETS



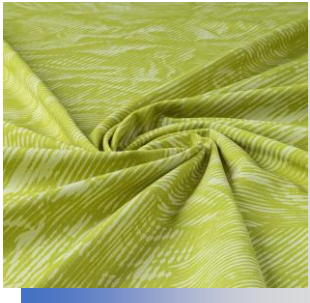
SHOE SOLES



PROTEIN



ATHLETIC SHORTS



FRAGRANCES



CLEANING PRODUCTS



SHIRTS



SUSTAINABLE AVIATION FUEL



TENNIS SHOES



ATHLETIC DRESSES



DETERGENTS



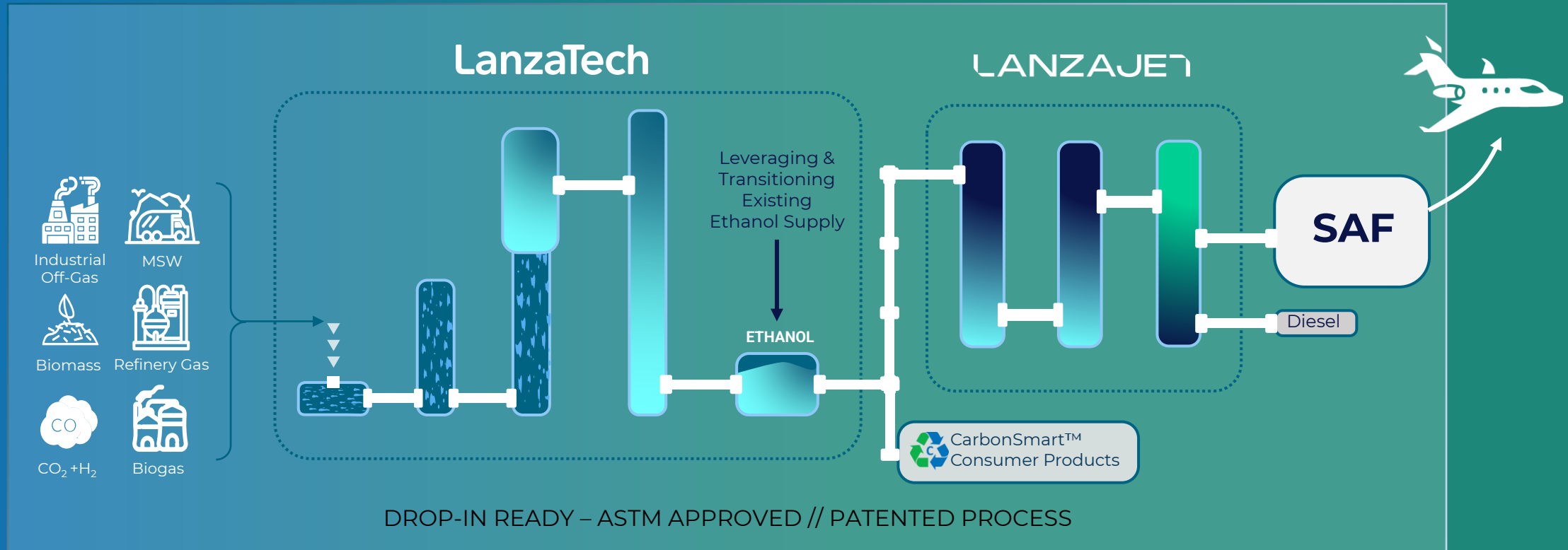
PACKAGING



SURFACTANTS

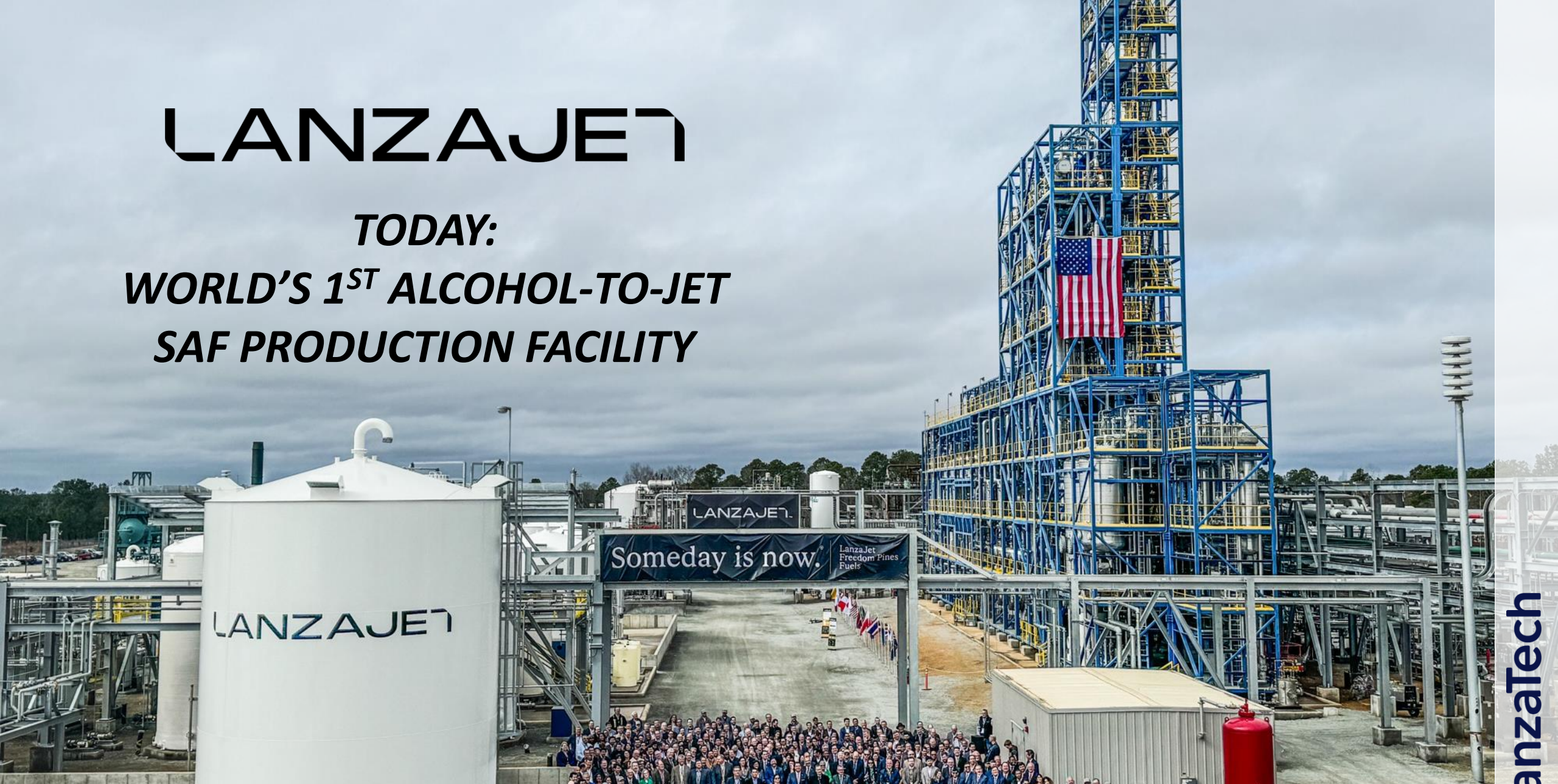


DOWNSTREAM FLEXIBILITY TO INTEGRATE WITH LANZAJET'S SAF PLATFORM



LANZAJET

**TODAY:
WORLD'S 1ST ALCOHOL-TO-JET
SAF PRODUCTION FACILITY**



Lanzatech

**LanzaJet Formed
in 2020**



BRITISH AIRWAYS



ANA

Microsoft



Southwest

LanzaTech AIRBUS



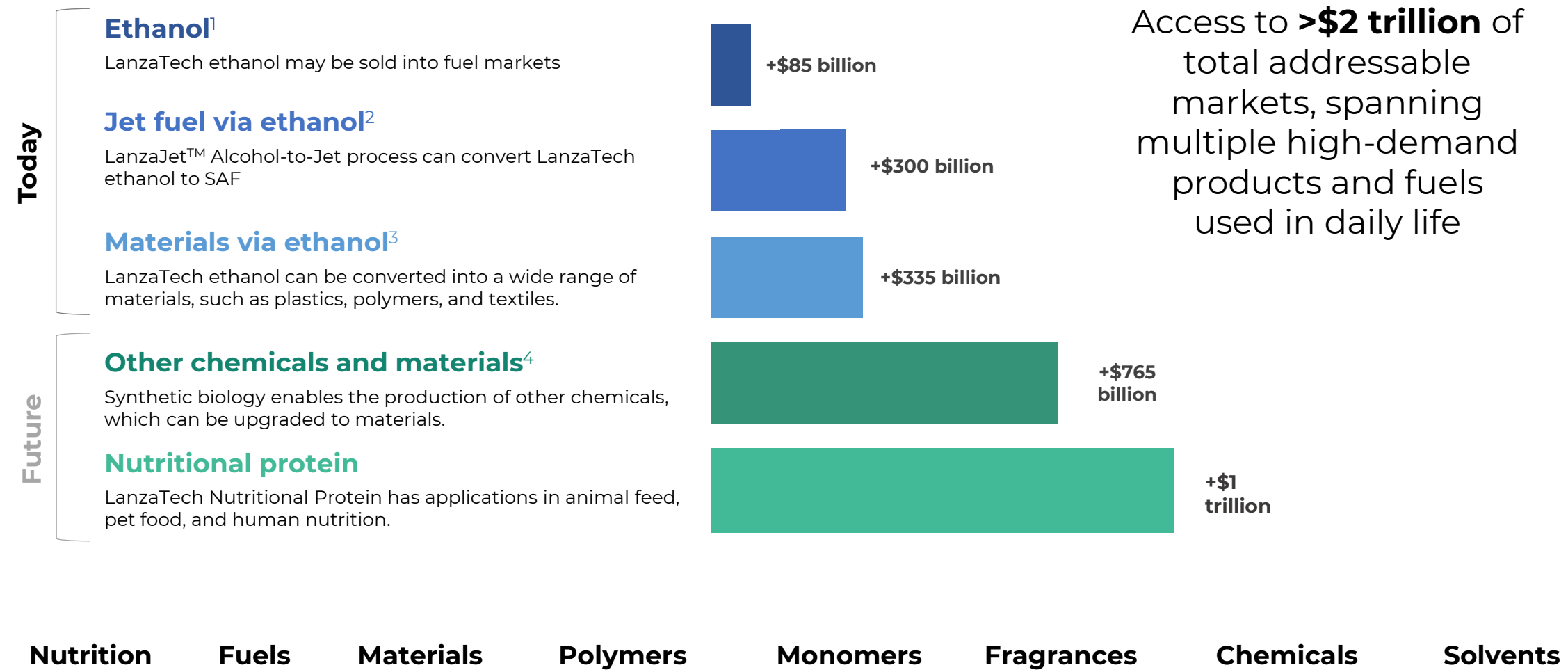
SUNCOR
ENERGY



THE LANZATECH PROCESS'S LOW ECOLOGICAL IMPACT

-  Recycled waste feedstock
-  No food competition
-  Low CO₂ footprint
-  Reduced land use
-  Low water consumption
-  No compromise on performance

RECYCLED CARBON CAN ACCESS DIVERSE & GROWING MARKETS



¹ Ethanol (\$89.1B, 2019, Grand View Research), ² International Air Transport Association, ³ Ethylene (\$222B, 2019, The Business Research Company), Ethylene Oxide (\$45B, 2020, Research and Markets), PET (\$43.8B, 2019, The Business Research Company), MEG (\$26B, 2018, Market Research Future), ⁴ Acetone (\$4.6B, 2019, Grand View Research), Isopropanol (\$2.7B, 2019, Grand View Research), Isoprene (\$2.6B, 2019, Technavio), Polypropylene (\$116B, 2019, Grand View Research), Methyl Methacrylate (MMA) (\$12.6B, 2019, Fortune Business Insights), Specialty chemicals (\$630B, 2019, Grand View Research),

LANZATECH ENABLES CARBON NEGATIVE PRODUCTS TODAY WITH FORESEEABLE IMPROVEMENT OVER TIME

Renewable Energy

Further reduces carbon intensity of LanzaTech process and products

Carbon Negative Feedstocks

Enable increasingly negative product carbon intensity

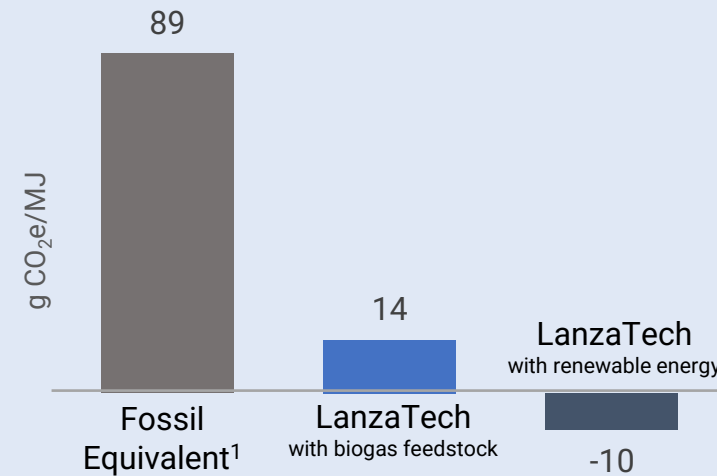
Net Zero Economy

Supported by LanzaTech products

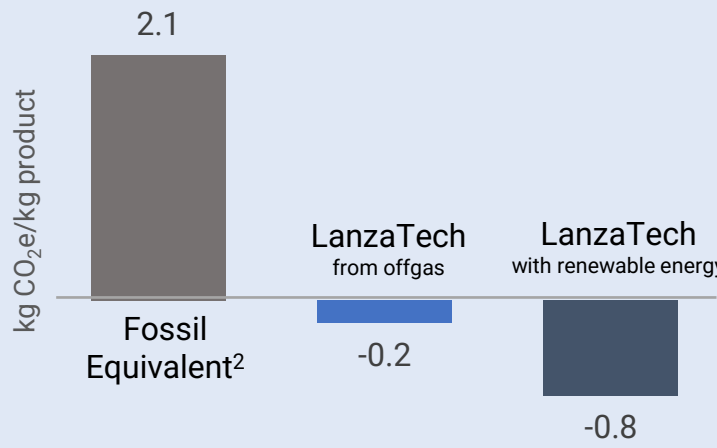
Certifications

RSB & ISCC certifications for value chain integrity

Sustainable Aviation Fuel with LanzaJet Process



Monoethylene glycol (MEG) as a chemical intermediate

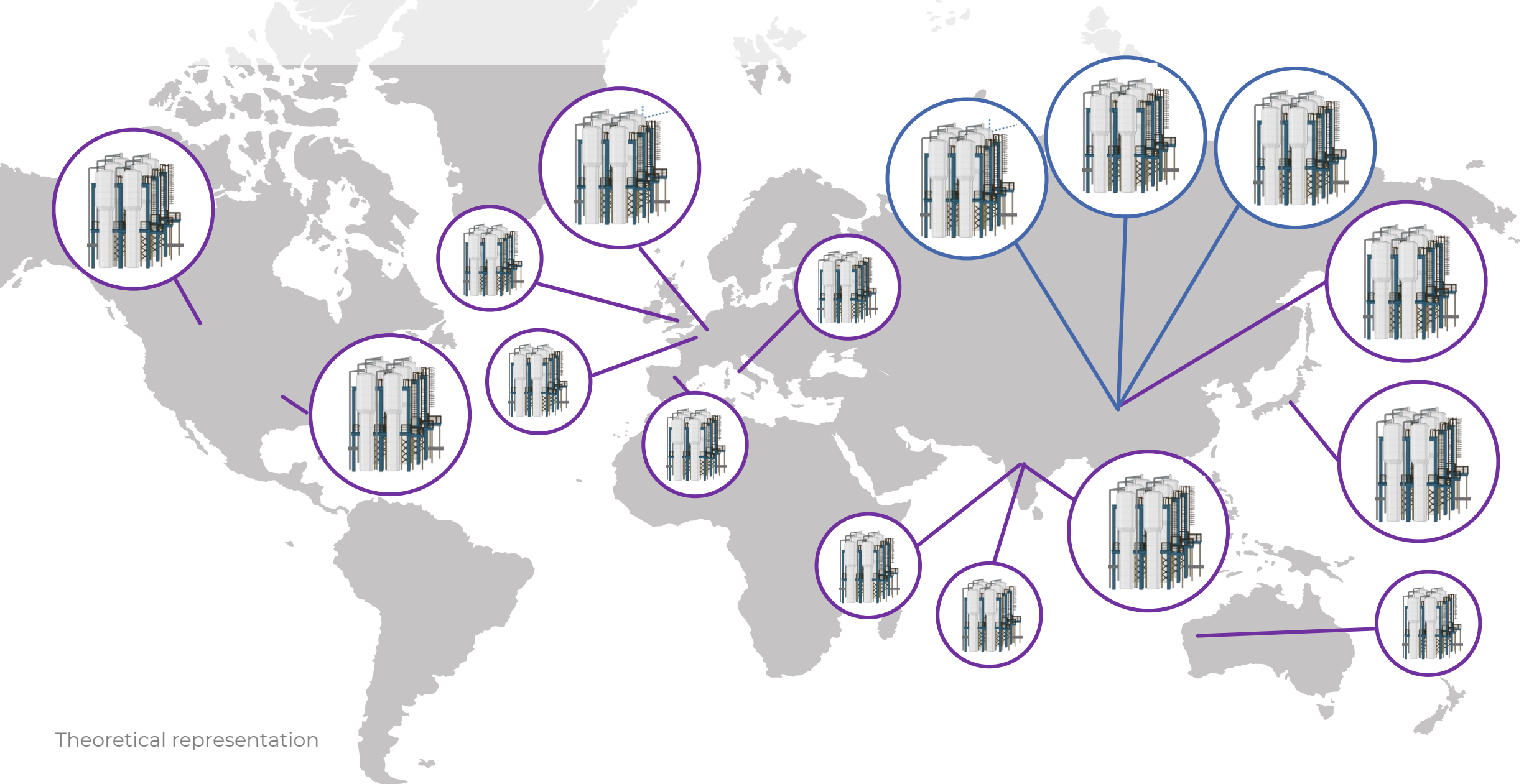


¹ ICAO Sustainable Aviation Fuels Guide, Version 2, December 2018, Page 6; ² The ecoinvent database, version 3

An aerial photograph of a vast landfill filled with a dense sea of colorful plastic waste, including bottles, bags, and other debris. A yellow truck is parked on the right side, and a green container is visible in the center. The text is overlaid on a circular graphic with five white dots.

**WHERE OTHERS
SEE WASTE, WE
SEE ABUNDANT
RAW MATERIALS**

DEVELOPING ECOSYSTEM FOR DISTRIBUTED MANUFACTURING

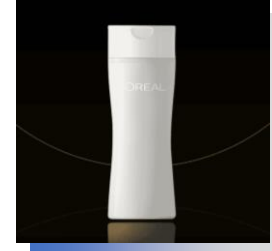


Theoretical representation

THE NEW CARBON ECONOMY IS DISTRIBUTED AND CIRCULAR



LanzaTech



Carbon Capture and Utilization (CCU) Benefits

- Create economic opportunity from local resources, feedstocks (waste)
- Spur new jobs and wealth creation
- Expand value-added manufacturing
- Build out distributed production vs. isolated resource extraction
- Produce same quality products more sustainably
- Feed into existing supply chains while advancing material circularity



THE WORLD HAS
ENOUGH CARBON ABOVE
GROUND TO MAKE
EVERYTHING WE NEED

WE CREATE VALUE
WHERE OTHERS
SEE WASTE

JOIN US ON THIS JOURNEY

LanzaTech

Nasdaq: LNZA

RECYCLE CARBON WITH BIOLOGY



G20
SOUTH AFRICA 2025



Solidarity

Equality

Sustainability

Thank you