

PROSPECTUS

LanzaTech

Up to 226,840,670 Shares of Common Stock 8,857,762 Warrants to Purchase Common Stock

This prospectus relates to the issuance by us of an aggregate of up to 23,403,989 shares of our common stock, \$0.0001 par value per share (“common stock”), which consists of (i) up to 4,774,276 shares of common stock that are issuable upon the exercise of private placement warrants (the “Private Placement Warrants”) originally issued in a private placement to AMCI Sponsor II LLC (the “Sponsor”) in connection with the initial public offering (“IPO”) of AMCI Acquisition Corp. II (“AMCI”) and upon the conversion of certain working capital loans of the Sponsor, at a price of \$1.00 per warrant, (ii) up to 7,499,924 shares of common stock that are issuable upon the exercise of public warrants (the “Public Warrants”) and, together with the Private Placement Warrants, the “warrants”) originally issued in connection with the AMCI IPO as units of AMCI at a price of \$10.00 per unit, with each unit consisting of one share of AMCI’s Class A common stock and one-half of one warrant, (iii) up to 5,000,000 shares of common stock that are issuable upon the conversion of that certain Simple Agreement for Future Equity between BGTF LT Aggregator LP (“Brookfield”) and LanzaTech NZ, Inc., dated October 3, 2022 (the “Brookfield SAFE”) at the equivalent to a price of \$10.00 per share, (iv) up to 300,000 shares of common stock that are issuable under a warrant held by ArcelorMittal XCarb S.à.r.l. (“ArcelorMittal”), dated December 8, 2021 (the “AM Warrant”), at the equivalent to a price of \$10.00 per share, (v) up to 4,083,486 shares of common stock issuable upon the exercise of the warrants issued to certain selling stockholders pursuant to that certain forward purchase agreement (the “Forward Purchase Agreement”) by and between the Company, ACM ARRT H LLC (“ACM”), and the other parties thereto (the “Shortfall Warrants”), and (vi) up to 1,746,303 shares of common stock underlying options issued to certain holders under our incentive plans (the “Options”) and together with the warrants, the AM Warrant and the Brookfield SAFE and the Shortfall Warrants, the “Convertible Securities”) held by certain selling stockholders. We will receive the proceeds from the exercise of any warrants, the AM Warrant, the Shortfall Warrants or the Options for cash.

This prospectus also relates to the offer and sale from time to time by the selling stockholders named in this prospectus or their permitted transferees (the “selling stockholders”) of up to 4,774,276 Private Placement Warrants, up to 4,083,486 Shortfall Warrants, and up to 203,436,682 shares of common stock, which consists of (i) up to 18,500,000 shares of common stock issued on February 8, 2023 in a private placement pursuant to subscription agreements, dated March 8, 2022, October 18, 2022, February 1, 2023, and February 6, 2023 (each as amended, as applicable), at a price of \$10.00 per share (the “PIPE Shares”), (ii) up to 4,774,276 shares of common stock that are issuable upon the exercise of the Private Placement Warrants, (iii) up to 5,000,000 shares of common stock that are issuable upon the conversion of the Brookfield SAFE, (iv) up to 300,000 shares of common stock that are issuable upon the exercise of the AM Warrant, (v) up to 2,164,839 shares of common stock held by certain selling stockholders, (vi) up to 1,746,303 shares of common stock underlying the Options held by certain selling stockholders, (vii) up to 5,916,514 shares of common stock purchased by certain selling stockholders subject to the Forward Purchase Agreement, (viii) up to 4,083,486 shares of common stock issuable upon the exercise of the Shortfall Warrants, at a price equal to \$10.00 per share, subject to adjustment, and (ix) up to 160,951,264 shares of common stock, required to be registered pursuant to that certain Registration Rights Agreement, dated February 8, 2023 (the “Registration Rights Agreement”), by and among us and certain of the selling stockholders. We will not receive any proceeds from the sale of the Private Placement Warrants, the Shortfall Warrants or of the common stock by the selling stockholders pursuant to this prospectus.

The selling stockholders may offer, sell or distribute all or a portion of the securities hereby registered publicly or through private transactions at prevailing market prices or at negotiated prices. We are required to pay certain costs, expenses and fees in connection with the registration of these securities, including with regard to compliance with state securities or “blue sky” laws. The selling stockholders will bear all commissions and discounts, if any, attributable to their sale of Private Placement Warrants or shares of common stock. See the section titled “Plan of Distribution.”

Our common stock and warrants are listed on the Nasdaq Capital Market (“Nasdaq”) under the symbols “LNZA” and “LNZAW,” respectively. On October 4, 2024, the last reported sales price of the common stock was \$2.04 per share.

The common stock and the common stock issuable upon exercise of the resale securities noted above represent a substantial percentage of the total outstanding shares of our common stock as of the date of this prospectus. Additionally, assuming all of the Convertible Securities were converted, or exercised, as applicable, as of October 4, 2024, the selling stockholders would have owned 203,436,682 shares of common stock the resale of which would be registered hereunder, representing approximately 92.0% of the total outstanding common stock. So long as the registration statement of which this prospectus forms a part is effective, the sales of the securities being offered in this prospectus could result in a significant decline in the public trading price of the common stock. Furthermore, the cash proceeds associated with the exercises of the warrants, the AM Warrant, the Shortfall Warrants and the Options, are dependent on the stock price inasmuch as the holders are unlikely to exercise the warrants, the AM Warrant, the Shortfall Warrants or the Options, as applicable, if the exercise price thereof is less than the price of our common stock at the time of exercise. In that circumstance, such holder would be selling at a loss if they exercised their warrants, the AM Warrant, the Shortfall Warrants and the Options, as applicable and sold their common stock. Subject to adjustment, the exercise price of the warrants is \$11.50 per share and the exercise price of the AM Warrant is \$10.00 per share. Subject to adjustment, the exercise price of the Shortfall Warrants is \$10.00 per share. The exercise prices of the Options range from \$0.16 per share to \$3.15 per share. The shares currently held by the selling stockholders were purchased by them at a price per share ranging between \$0.005 and \$10.00. On October 4, 2024 the last reported sales price of the common stock was \$2.04 per share. If the market price for shares of common stock is less than \$10.00 per share, holders of shares of common stock would be selling at a loss if they purchased the shares of common stock at \$10.00 per share. Because certain selling stockholders purchased shares privately at a price below the current market price, or have the right to exercise Convertible Securities at an exercise price that is less than the current market price, they may have an incentive to sell shares of their common stock, or exercise their Convertible Securities and sell their common stock, because they could profit despite the market price of common stock falling below \$10.00 per share. While these selling stockholders may, on average, experience a positive rate of return based on the current market price, public securityholders may not experience a similar rate of return on the securities they purchased due to differences in the purchase prices and the current market price.

We are incorporated in Delaware and our headquarters are in Skokie, Illinois. We are not a company that was formed under the laws of the People’s Republic of China. However, we have business operations in China, several strategic investors located in China, including Sinopec Capital Co., Ltd. (“Sinopec”), and a core team of technical, business and administrative professionals at our office in Shanghai, which support the ongoing operations and further growth of the business in China. We also hold a minority ownership stake in Beijing Shougang LanzaTech Technology Co., Ltd. (the “Shougang Joint Venture”). We license our technology in China to the Shougang Joint Venture. Entities in which the Shougang Joint Venture holds a controlling interest currently produce low carbon ethanol at four commercial scale facilities using our process technology, which, in addition to its use as fuel, is transported and processed for use in consumer products. For more information on the Shougang Joint Venture, see the section entitled “Business Overview — Key Collaboration Agreements — Shougang Joint Venture” included in Item 1 of our Annual Report on Form 10-K for the year ended December 31, 2023, and any similar section contained in any applicable prospectus supplement and in any free writing prospectus we have authorized for use in connection with a specific offering, and under similar headings in the documents incorporated by reference into this prospectus.

We have determined the Shougang Joint Venture to be a variable interest entity (“VIE”) for which we are not the primary beneficiary. This VIE structure was implemented to effectuate the intellectual property licensing arrangement between us and the Shougang Joint Venture and is not used to provide investors with exposure to foreign investment in China-based companies where Chinese law prohibits direct foreign investment in the operating companies. We had previously determined that we were able to exercise significant influence, but no control, over the Shougang Joint Venture through our equity holdings in the Shougang Joint Venture, our representation on the VIE’s board of directors and participation in the policy-making process. Although we have the right to appoint and elect, and currently have appointed and elected, one director to the Shougang Joint Venture’s board of directors, the agreements between us, the Shougang Joint Venture and Sinopec do not provide us with the power to direct the activities that are most significant to the economic performance of the Shougang Joint Venture. Therefore we do not consolidate the Shougang Joint Venture in our financial statements. On September 30, 2022, we determined that we no longer had significant influence over the operating and financial policies of the Shougang Joint Venture due to the significant decrease in the Shougang Joint Venture’s technological dependence on us.

Although we are incorporated and headquartered in the United States, we may still be subject to certain PRC laws due to our business operations in China. We face risks and uncertainties associated with complex and evolving PRC laws and regulations and as to whether and how recent PRC government statements and regulatory developments, such as those relating to cross-border data security, anti-monopoly concerns and VIEs, would apply to us or our operations. Any application of these statements or regulatory actions to us or our operations in the future, including a limitation on or disallowance of the VIE structure by Chinese regulatory authorities, could result in a material change in our operations or in the value of the shares of our common stock. For more information, see the section entitled described under the caption “Risk Factors” beginning on page 17 of this prospectus and any similar section contained in the applicable prospectus supplement and in any free writing prospectus we have authorized for use in connection with a specific offering, and under similar headings in the documents incorporated by reference into this prospectus.

Pursuant to our license agreement with the Shougang Joint Venture, the Shougang Joint Venture transfers required payments by wire transfer to LanzaTech, Inc., our wholly owned subsidiary. As of the date of this prospectus, transfers of cash or other types of assets have been made between the Shougang Joint Venture and LanzaTech and its subsidiaries. The payments made between the Shougang Joint Venture and LanzaTech, Inc. have been in the ordinary course of business and have consisted of payments from LanzaTech, Inc. to the Shougang Joint Venture for the sale of ethanol and payments from the Shougang Joint Venture to LanzaTech, Inc. for sales of microbes, media, consumables and equipment. Payments from LanzaTech, Inc. to the Shougang Joint Venture were approximately \$1.9 million and \$1.1 million in the fiscal years ended December 31, 2023 and 2022, respectively, and \$1.4 million during the six months ended June 30, 2024. No payments were made from LanzaTech, Inc. to the Shougang Joint Venture in the fiscal year ended December 31, 2021. Payments from the Shougang Joint Venture to LanzaTech, Inc. were approximately \$0.6 million and \$0.3 million in the fiscal years ended December 31, 2023 and 2022, respectively, and \$0.3 million during the six months ended June 30, 2024. We did not receive any payments from the Shougang Joint Venture in the fiscal year ended December 31, 2021. We have not in the past and do not intend in the future to distribute to our stockholders any amounts that we receive from the Shougang Joint Venture. For more information, see our audited financial statements incorporated by reference in this prospectus.

Our auditor, Deloitte & Touche LLP, is not headquartered in mainland China or Hong Kong and therefore is not subject to the determinations announced by the Public Company Accounting Oversight Board (the “PCAOB”) on December 16, 2021 regarding the PCAOB’s inability to inspect or investigate registered public accounting firms headquartered in mainland China or Hong Kong. The Holding Foreign Companies Accountable Act and related regulations are not applicable to us.

Investing in our securities involves a high degree of risk. Before investing in our securities, you should carefully consider the risks and uncertainties described under the caption “Risk Factors” beginning on page 17 of this prospectus and any similar section contained in the applicable prospectus supplement and in any free writing prospectus we have authorized for use in connection with a specific offering, and under similar headings in the documents incorporated by reference into this prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

The date of this prospectus is November 1, 2024.

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement on Form S-3 that we filed with the SEC using the “shelf” registration process under the Securities Act. This prospectus relates to the issuance by us of the shares of common stock issuable upon the exercise of any Convertible Securities. Under this shelf registration process, the selling stockholders may, from time to time, sell the securities offered by them described in this prospectus. We will not receive any proceeds from the sale by such selling stockholders of the securities offered by them described in this prospectus.

We may provide a prospectus supplement that will contain specific information about the terms of that offering. The prospectus supplement may also add, update or change information contained in this prospectus. You should read this prospectus and the applicable prospectus supplement together with the additional information described under the heading “*Where You Can Find More Information.*” We may also prepare free writing prospectuses that describe particular securities. Any free writing prospectus should also be read in connection with this prospectus and any prospectus supplement referred to therein. For purposes of this prospectus, any reference to an applicable prospectus supplement may also refer to a free writing prospectus, unless the context otherwise requires.

Unless the context indicates otherwise, references in this prospectus to the “Company,” “LanzaTech,” “we,” “us,” “our” and similar terms refer to LanzaTech Global, Inc. (formerly known as AMCI Acquisition Corp. II) and its consolidated subsidiaries (including LanzaTech NZ, Inc.). References to “PRC” or “China” refer to the People’s Republic of China, which, solely for the purpose of this prospectus, exclude Taiwan and the special administrative regions of Hong Kong and Macau. We have no operations in Taiwan, Hong Kong, or Macau; however, the legal and operational risks associated with operating in China that are described in this prospectus also apply to any operations in Hong Kong and Macau.

This prospectus describes the terms of this offering also adds to and updates information contained in the documents incorporated by reference into this prospectus. To the extent there is a conflict between the information contained in this prospectus, on the one hand, and the information contained in any document incorporated by reference into this prospectus that was filed with the SEC, before the date of this prospectus, on the other hand, you should rely on the information in this prospectus. If any statement in one of these documents is inconsistent with a statement in another document having a later date (for example, a document incorporated by reference into this prospectus) the statement in the document having the later date modifies or supersedes the earlier statement. The information contained in this prospectus or any free writing prospectus, or incorporated by reference herein or therein, is accurate only as of the respective dates thereof, regardless of the time of delivery of this prospectus or of any sale of our shares of common stock. Our business, financial condition, results of operations and prospects may have changed since those dates.

We further note that the representations, warranties and covenants made by us in any agreement that is filed as an exhibit to any document that is incorporated by reference herein were made solely for the benefit of the parties to such agreement, including, in some cases, for the purpose of allocating risk among the parties to such agreements, and should not be deemed to be a representation, warranty or covenant to you. Moreover, such representations, warranties or covenants were accurate only as of the date when made. Accordingly, such representations, warranties and covenants should not be relied on as accurately representing the current state of our affairs.

The registration statement of which this prospectus forms a part, including the exhibits to the registration statement, contains additional information about us and the securities offered under this prospectus. The registration statement can be obtained from the SEC’s website, www.sec.gov. Copies of information filed by us with the SEC are also available on our website at <https://lanzatech.com>. The reference to our website is not intended to be an active link and the information on, or that can be accessed through, our website is not, and you must not consider the information to be, a part of this prospectus or any other filings we make with the SEC.

Neither we nor the selling stockholders have authorized anyone to provide you with information that is different from or in addition to the information contained in this prospectus or in any applicable prospectus supplement or in any related free writing prospectus. Accordingly, neither we nor any selling stockholder takes any responsibility for, or can provide any assurance as to the reliability of, any information that others may provide. You should not assume that the information in this prospectus, any applicable prospectus supplement or any free writing prospectus that we have prepared is accurate as of any date other than the date of those documents, and that any information in documents that we have incorporated by reference is accurate only as of the date of such document, regardless of the time of delivery of this prospectus or any prospectus supplement or any sale of a security. Our business, financial condition, results of operations and prospects may have changed since those dates.

The distribution of this prospectus and any applicable prospectus supplement and the offering of the securities in certain jurisdictions may be restricted by law. Persons who obtain this prospectus and any applicable prospectus supplement should inform themselves about, and observe, any such restrictions. This prospectus and any applicable prospectus supplement do not constitute, and may not be used in connection with, an offer or solicitation by anyone in any jurisdiction in which such offer or solicitation is not permitted or in which the person making such offer or solicitation is not qualified to do so or to any person to whom it is unlawful to make such offer or solicitation.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains statements that are forward-looking and as such are not historical facts. This includes, without limitation, statements regarding the financial position, business strategy and the plans and objectives of management for future operations. These statements constitute projections, forecasts and forward-looking statements, and are not guarantees of performance. Such statements can be identified by the fact that they do not relate strictly to historical or current facts. When used in this prospectus, words such as “anticipate,” “believe,” “continue,” “could,” “estimate,” “expect,” “intend,” “may,” “might,” “plan,” “possible,” “potential,” “predict,” “project,” “should,” “strive,” “would” and similar expressions may identify forward-looking statements, but the absence of these words does not mean that a statement is not forward-looking. When we discuss our strategies or plans, we are making projections, forecasts or forward-looking statements. Such statements are based on the beliefs of, as well as assumptions made by and information currently available to, LanzaTech’s management.

Forward-looking statements may include, for example, statements about:

- our anticipated growth rate and market opportunities;
- our ability to maintain the listing of our securities on the Nasdaq Stock Market;
- the potential liquidity and trading of our securities;
- our ability to resolve material litigation proceedings in our favor;
- our ability to raise substantial additional financing in the future to fund our operations and complete the development and commercialization of our process technologies;
- our assessment of the competitive landscape;
- our ability to comply with laws and regulations applicable to our business;
- our ability to enter into, successfully maintain and manage relationships with industry partners;
- the availability of governmental programs designed to incentivize the production and consumption of low-carbon fuels and carbon capture and utilization;
- our ability to adequately protect our intellectual property rights;
- our ability to attract, retain and motivate qualified personnel and to manage our growth effectively;
- our future financial performance, growth, costs and expenses, availability of resources and capital requirements;
- our ability to increase our revenue from engineering services, sales of equipment packages and sales of CarbonSmart products and to improve our operating results;
- our ability to increase our ownership stake in LanzaJet, Inc. through the sublicensing of LanzaJet, Inc.’s technology;
- our ability to collaborate with our partners and progress projects into the construction phase; and
- our ability to implement and maintain effective internal controls.

We caution you that the foregoing list may not contain all of the forward-looking statements made in this prospectus.

These forward-looking statements are only predictions based on our current expectations and projections about future events and are subject to a number of risks, uncertainties and assumptions, including those described in “Risk Factors” and elsewhere in this prospectus. Moreover, we operate in a competitive industry, and new risks emerge from time to time. It is not possible for the management of LanzaTech to predict all risks, nor can we assess the

impact of all factors on our 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 we may make. In light of these risks, uncertainties and assumptions, the forward-looking events and circumstances discussed in this prospectus may not occur, and actual results could differ materially and adversely from those anticipated or implied in the forward-looking statements in this prospectus.

The forward-looking statements included in this prospectus are made only as of the date hereof. You should not rely upon forward-looking statements as predictions of future events. Although we believe that the expectations reflected in our forward-looking statements are reasonable, we cannot guarantee that the future results, levels of activity, performance or events and circumstances reflected in the forward-looking statements will be achieved or occur. LanzaTech does not undertake any obligation to update publicly any forward-looking statements for any reason after the date of this prospectus to conform these statements to actual results or to changes in expectations, except as required by law.

You should read this prospectus, and the documents that have been filed as exhibits to the registration statement of which this prospectus forms a part, and any accompanying prospectus supplement with the understanding that the actual future results, levels of activity, performance, events and circumstances of LanzaTech may be materially different from what is expected.

MARKET, INDUSTRY AND OTHER DATA

Certain information contained in this document relates to or is based on studies, publications, surveys and other data obtained from third-party sources and LanzaTech's own internal estimates and research. While we believe these third-party sources to be reliable as of the date of this prospectus, we have not independently verified the market and industry data contained in this prospectus or the underlying assumptions relied on therein. Finally, while we believe our own internal research is reliable, such research has not been verified by any independent source.

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement on Form S-3 under the Securities Act with respect to the securities being offered by this prospectus. This prospectus, which constitutes part of the registration statement, does not contain all of the information in the registration statement and its exhibits. For further information with respect to us and our securities offered by this prospectus, we refer you to the registration statement and its exhibits. Statements contained in this prospectus as to the contents of any contract or any other document referred to are not necessarily complete, and in each instance, we refer you to the copy of the contract or other document filed as an exhibit to the registration statement. Each of these statements is qualified in all respects by this reference. You can read our SEC filings, including the registration statement, over the internet at the SEC's website at www.sec.gov.

We are subject to the information reporting requirements of the Exchange Act, and we file reports, proxy statements and other information with the SEC. These reports, proxy statements and other information will be available for review at the SEC's website at www.sec.gov. We also maintain a website at www.lanzatech.com, at which you may access these materials free of charge as soon as reasonably practicable after they are electronically filed with, or furnished to, the SEC. LanzaTech's website and the information contained on, or that can be accessed through, such website are not deemed to be incorporated by reference in, and are not considered part of, this prospectus.

INCORPORATION BY REFERENCE

The SEC allows us to “incorporate by reference” into this prospectus the information in documents we file with the SEC, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be a part of this prospectus and should be read with the same care. When we update the information contained in documents that have been incorporated by reference by making future filings with the SEC, the information incorporated by reference into this prospectus is considered to be automatically updated and superseded. In other words, in all cases, if you are considering whether to rely on information contained in this prospectus or information incorporated by reference into this prospectus, you should rely on the information contained in the document that was filed later. We incorporate by reference (other than any information furnished to, rather than filed with, the SEC, unless expressly stated otherwise therein) the documents listed below (File No. 001-40282 unless otherwise stated), which are considered to be a part of this prospectus:

- our Annual Report on [Form 10-K](#) for the year ended December 31, 2023, filed with the SEC on February 29, 2024 (including the portions of our Definitive Proxy Statement on [Schedule 14A](#), filed with the SEC on April 29, 2024, incorporated by reference therein);
- our Quarterly Report on [Form 10-Q](#) for the quarter ended March 31, 2024, filed with the SEC on May 9, 2024;
- our Quarterly Report on [Form 10-Q](#) for the quarter ended June 30, 2024, filed with the SEC on August 8, 2024;
- our Current Reports on Form 8-K filed with the SEC on [February 28, 2024](#) (excluding Item 2.02 and Exhibits 99.1 and 99.2), [March 25, 2024](#), [April 29, 2024](#), [May 9, 2024](#) (excluding Item 2.02 and Exhibits 99.1 and 99.2), [June 20, 2024](#), [July 1, 2024](#), [July 26, 2024](#), and [August 8, 2024](#) (second filed), [October 1, 2024](#), [October 8, 2024](#), [October 10, 2024](#) (excluding Item 7.01), [October 22, 2024](#) and [October 31, 2024](#) and
- the description of our common stock contained in [Exhibit 4.1](#) of our Quarterly Report on Form 10-Q for the quarter ended March 31, 2024, filed with the SEC on May 9, 2024.

All reports and other documents we subsequently file with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act until our offering is completed, including all such reports and other documents filed with the SEC after the date of the initial filing of the registration statement of which this prospectus forms a part and prior to the effectiveness of such registration statement, will also be incorporated by reference into this prospectus and deemed to be part hereof (other than any information furnished to, rather than filed with, the SEC, unless expressly stated otherwise therein). The information contained in any such filing will be deemed to be a part of this prospectus commencing on the date on which the document is filed.

Any documents incorporated by reference into this prospectus are available without charge to you, upon written request by contacting our Investor Relations department at Investor Relations, LanzaTech Global, Inc., 8045 Lamon Avenue, Suite 400, Skokie, Illinois 60077.

THE COMPANY

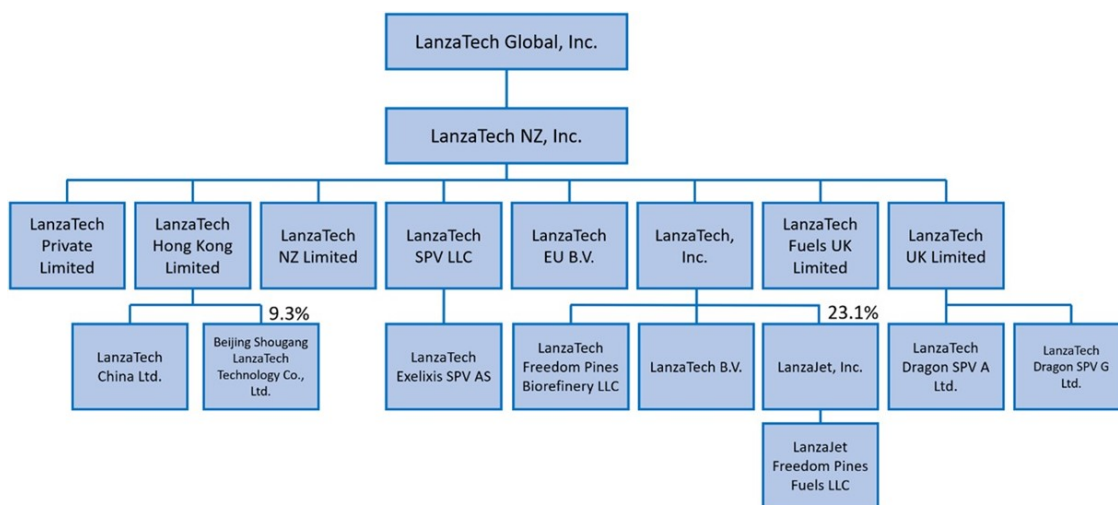
LanzaTech is a nature-based carbon refining company that transforms waste carbon into the chemical building blocks for consumer goods such as sustainable fuels, fabrics, and packaging that people use in their daily lives. Using LanzaTech's process technology, LanzaTech's partners started up the world's first commercial carbon refining plant in 2018 in China. Since then, LanzaTech's partners in China have started up an additional three commercial plants operating in China, one in April 2021, another in September 2022, and the last one in June 2023. Additionally, LanzaTech's partners have started up a commercial scale plant in India in September 2023 and in Belgium in November 2023. LanzaTech has numerous projects under development and in the pipeline globally. LanzaTech's technology platform is designed to use a variety of waste feedstocks, from waste industrial gases to biomass residues and municipal solid waste. LanzaTech's technology platform is designed to capitalize on the demand for sustainable fuels and chemicals, which can be used in multiple sectors such as aviation, automotive, textiles, home goods, consumer goods and others, to address the growing preference among major companies for environmentally conscious products and manufacturing processes.

LanzaTech is incorporated in Delaware and its headquarters are in Skokie, Illinois. LanzaTech is not a company that was formed under the laws of the PRC. However, LanzaTech has business operations in China, several strategic investors located in China, including Sinopec, and a core team of technical, business and administrative professionals at a LanzaTech office in Shanghai, which support the ongoing operations and further growth of the business in China. LanzaTech also holds a minority ownership stake in the Shougang Joint Venture. LanzaTech licenses its technology in China to the Shougang Joint Venture. Entities in which the Shougang Joint Venture holds a controlling interest currently produce low carbon ethanol at three commercial scale facilities using LanzaTech's process technology, which, in addition to its use as fuel, is transported and processed for use in consumer products. For more information on the Shougang Joint Venture, see the section entitled "*Business Overview — Key Collaboration Agreements — Shougang Joint Venture*" included in Item 1 of our Annual Report on Form 10-K for the year ended December 31, 2023, and the corresponding sections of any prospectus supplement.

LanzaTech has determined the Shougang Joint Venture to be a VIE for which LanzaTech is not the primary beneficiary. LanzaTech holds its equity interest in the Shougang Joint Venture through its subsidiary, LanzaTech Hong Kong Limited, a limited liability company organized under the laws of Hong Kong. LanzaTech Hong Kong Limited is not a wholly foreign-owned enterprise ("WFOE") organized under the laws of the PRC. This VIE structure was implemented to effectuate the intellectual property licensing arrangement between LanzaTech and the Shougang Joint Venture and is not used to provide investors with exposure to foreign investment in China-based companies where Chinese law prohibits direct foreign investment in the operating companies.

LanzaTech also has a subsidiary, LanzaTech China Limited, which is a WFOE organized under the laws of the PRC. This subsidiary employs the professionals that work in LanzaTech's office in Shanghai. LanzaTech China Limited does not hold an equity interest in the Shougang Joint Venture, or in any other VIE in China.

The following chart illustrates the organizational structure of LanzaTech and its subsidiaries as of the date of this prospectus:



LanzaTech has entered into a license agreement with the Shougang Joint Venture and a letter agreement with the Shougang Joint Venture and Sinopec. Although LanzaTech has the right to appoint and elect, and currently has appointed and elected, one director to the Shougang Joint Venture’s board of directors, the agreements between LanzaTech, the Shougang Joint Venture and Sinopec do not provide LanzaTech with the power to direct the activities that are most significant to the economic performance of the Shougang Joint Venture. Therefore, LanzaTech does not consolidate the Shougang Joint Venture in its financial statements. LanzaTech may incur substantial costs to enforce the terms of the agreements. LanzaTech may also face challenges enforcing its contractual arrangements with the Shougang Joint Venture due to legal uncertainties and jurisdictional limits.

Although LanzaTech is incorporated and headquartered in the United States, LanzaTech may still be subject to certain PRC laws due to its business operations in China. LanzaTech faces risks and uncertainties associated with the complex and evolving PRC laws and regulations and as to whether and how the recent PRC government statements and regulatory developments, such as those relating to cross-border data security, anti-monopoly concerns and VIEs, would apply to LanzaTech and its operations. Any application of these statements or regulatory actions to LanzaTech and its operations in the future, including a limitation on or disallowance of the VIE structure by Chinese regulatory authorities, could result in a material change in LanzaTech’s operations and could result in a material change in the value of the shares of the common stock.

If (i) LanzaTech does not receive or maintain any permission or approval required of it, (ii) LanzaTech inadvertently concluded that certain permissions or approvals have been acquired or are not required, or (iii) applicable laws, regulations, or interpretations thereof change and LanzaTech becomes subject to the requirement of additional permissions or approvals in the future, LanzaTech may have to expend significant time and costs to procure them. If LanzaTech is unable to do so, on commercially reasonable terms, in a timely manner or otherwise, LanzaTech may become subject to sanctions imposed by the PRC regulatory authorities, which could include fines and penalties, proceedings against LanzaTech, and other forms of sanctions, and LanzaTech’s business, reputation, financial condition, and results of operations may be materially and adversely affected. For more information, see the risks and uncertainties described under the caption “[Risk Factors](#)” beginning on page 17 of this prospectus and any similar section contained in the applicable prospectus supplement and in any free writing prospectus we have authorized for use in connection with a specific offering, and under similar headings in the documents incorporated by reference into this prospectus.

Pursuant to LanzaTech’s license agreement with the Shougang Joint Venture, the Shougang Joint Venture transfers required payments by wire transfer to LanzaTech, Inc., a wholly owned subsidiary of LanzaTech. As of the

date of this prospectus, transfers of cash or other types of assets have been made between the Shougang Joint Venture and LanzaTech and its subsidiaries. The payments made between the Shougang Joint Venture and LanzaTech, Inc. have been in the ordinary course of business and have consisted of payments from LanzaTech, Inc. to the Shougang Joint Venture for the sale of ethanol and payments from the Shougang Joint Venture to LanzaTech, Inc. for sales of microbes, media, consumables and equipment. Payments from LanzaTech, Inc. to the Shougang Joint Venture were approximately \$1.9 million and \$1.1 million in the fiscal years ended December 31, 2023 and 2022, respectively, and \$1.4 million during the six months ended June 30, 2024. No payments were made from LanzaTech, Inc. to the Shougang Joint Venture in the fiscal year ended December 31, 2021. Payments from the Shougang Joint Venture to LanzaTech, Inc. were approximately \$0.6 million and \$0.3 million in the fiscal years ended December 31, 2023 and 2022, respectively, and \$0.3 million during the six months ended June 30, 2024. We did not receive any payments from the Shougang Joint Venture in the fiscal year ended December 31, 2021. LanzaTech has not in the past and does not intend in the future to distribute to its stockholders any amounts that it receives from the Shougang Joint Venture. For more information, see the audited financial statements of LanzaTech incorporated by reference in this prospectus.

There are no restrictions or limitations on

- foreign exchange;
- LanzaTech’s ability to transfer cash between entities, across borders, or to U.S. investors;
- LanzaTech’s ability to distribute earnings from the company, including its subsidiaries, to the holding company or U.S. investors; or
- LanzaTech’s ability to settle amounts owed under agreements with the Shougang Joint Venture.

LanzaTech’s auditor, Deloitte & Touche LLP, is not headquartered in mainland China or Hong Kong and therefore is not subject to the determinations announced by the PCAOB on December 16, 2021 regarding the PCAOB’s inability to inspect or investigate registered public accounting firms headquartered in mainland China or Hong Kong. The Holding Foreign Companies Accountable Act and related regulations are not applicable to LanzaTech.

Additional information about us and our subsidiaries is included in documents incorporated by reference in this prospectus. See “*Where You Can Find More Information*” and “*Incorporation by Reference*.”

Business Combination

On February 8, 2023 (the “Closing Date”), LanzaTech NZ, Inc. (“Legacy LanzaTech”) and AMCI Acquisition Corp. II (“AMCI”) consummated a business combination pursuant to that certain Merger Agreement dated as of March 8, 2022, as amended on December 7, 2022, by and among Legacy LanzaTech, AMCI and AMCI Merger Sub, Inc. (“Merger Sub”). As contemplated by the Merger Agreement, Merger Sub merged with and into Legacy LanzaTech, with Legacy LanzaTech continuing as the surviving corporation and as a wholly owned subsidiary of AMCI.

Corporate Information

We were incorporated in Delaware on January 28, 2021, under the name AMCI Acquisition Corp. II, in order to effectuate a merger, capital stock exchange, asset acquisition, stock purchase, reorganization or similar business combination with one or more businesses or entities. AMCI completed its initial public offering on August 6, 2021. On February 8, 2023, AMCI and Legacy LanzaTech consummated the transactions contemplated by the Merger Agreement. On the Closing Date, AMCI changed its name to LanzaTech Global, Inc.

Our common stock is traded on Nasdaq under the symbol “LNZA.” The mailing address of our principal executive office is 8045 Lamont Avenue, Suite 400, Skokie, Illinois 60077, and our telephone number is (847) 324-2400. Our website address is <https://lanzatech.com>. The information contained in, or that can be accessed through, our website is not part of this prospectus. We make available free of charge on our website our annual,

quarterly and current reports, including amendments to such reports, as soon as reasonably practicable after we electronically file such material with, or furnish such material to, the SEC.

THE OFFERING

Issuance of common stock

Shares of common stock offered by us	Up to 23,403,989 shares of common stock, which consists of (i) up to 4,774,276 shares of common stock that are issuable upon the exercise of Private Placement Warrants, (ii) up to 7,499,924 shares of common stock that are issuable upon the exercise of Public Warrants, (iii) up to 5,000,000 shares of common stock that are issuable upon the conversion of the Brookfield SAFE, (iv) up to 300,000 shares of common stock that are issuable upon exercise of the AM Warrant, (v) up to 4,083,486 shares of common stock issuable upon the exercise of the Shortfall Warrants, and (vi) up to 1,746,303 shares of common stock underlying the Options held by certain selling stockholders.
Shares of common stock outstanding prior to the exercise or conversion of all Convertible Securities	197,782,055 shares (as of October 4, 2024)
Shares of common stock outstanding assuming exercise or conversion of all Convertible Securities	197,782,055 shares (based on total shares outstanding as of October 4, 2024)
Exercise price of the Private Placement Warrants	\$11.50 per share, subject to adjustment as described herein.
Exercise price of the Public Warrants	\$11.50 per share, subject to adjustment as described herein.
Exercise price of the AM Warrant	\$10.00 per share, subject to adjustment.
Exercise prices of the Options	The Options have exercise prices ranging between \$0.16 per share and \$3.15 per share.
Exercise price of the Shortfall Warrants	\$10.00 per share, subject to adjustment as described herein

Use of Proceeds

We will receive up to an aggregate of approximately \$188 million from the exercise of all of the warrants, the AM Warrant, the Shortfall Warrants and the Options, assuming the exercise in full of all of the warrants, the AM Warrant, the Shortfall Warrants and the Options for cash. There is no exercise price that must be paid in connection with the conversion of the Brookfield SAFE. The cash proceeds associated with the exercises of the warrants, the AM Warrant, the Shortfall Warrants and the Options are dependent on the stock price inasmuch as the holders are unlikely to exercise the warrants, the AM Warrant, the Shortfall Warrants or the Options, as applicable, if the exercise price thereof is less than the price of our common stock at the time of exercise. In that circumstance, such holder may be less likely to exercise the warrants, the AM Warrant, the Shortfall Warrants or the Options, as applicable, as such holder would be selling at a loss if they sold their common stock. Subject to adjustment, the exercise price of the warrants is \$11.50 per share, the exercise price of the AM Warrant is \$10.00 per share, and the exercise price of the Shortfall Warrants is \$10.00 per share, subject to adjustment. The exercise prices of the Options range from \$0.16 per share to \$3.15 per share. The shares currently held by the selling stockholders were purchased by them at prices per share ranging between \$0.005 and \$10.00. On October 4, 2024 the last reported sales price of the common stock was \$2.04 per share. We expect to use the net proceeds from the exercise of the warrants, the AM Warrant, the Shortfall Warrants, and the Options for general corporate purposes. See the section titled “Use of Proceeds.”

Resale of common stock and warrants

Shares of common stock offered by the selling stockholders

(i) Up to 18,500,000 PIPE Shares, (ii) up to 4,774,276 shares of common stock exercisable on the Private Placement Warrants, (iii) up to 5,000,000 shares of common stock pursuant to the Brookfield SAFE, (iv) up to 300,000 shares of common stock that are issuable upon exercise of the AM Warrant, (v) up to 2,164,839 shares of common stock held by certain selling stockholders, (vi) up to 1,746,303 shares of common stock underlying the Options held by certain selling stockholders, (vii) up to 5,916,514 shares of common stock purchased by certain selling stockholders subject to the Forward Purchase Agreement, (viii) up to 4,083,486 shares of common stock issuable upon the exercise of the Shortfall Warrants, and (ix) up to 160,951,264 shares of common stock required to be registered pursuant to the Registration Rights Agreement.

The shares of common stock currently held by the selling stockholders were purchased by them at prices per share ranging between \$0.005 and \$10.00. Subject to adjustment, the exercise price of the warrants is \$11.50 per share, the exercise price of the AM Warrant is \$10.00 per share, and the exercise price of the Shortfall Warrants is \$10.00 per share, subject to adjustment. The exercise prices of the Options range from \$0.16 per share to \$3.15 per share. On October 4, 2024 the last reported sales price of the common stock was \$2.04 per share. If the market price for shares of common stock is less than \$10.00 per share, holders of shares of common stock would be selling at a loss if they purchased the shares of common stock at or above \$10.00 per share. Because certain selling stockholders purchased shares privately at a price below the current market price, or have the right to exercise Convertible Securities at an exercise price that is less than the current market price, they may have an incentive to sell shares of their common stock, or exercise their Convertible Securities and sell their common stock, because they could profit despite the market price of common stock falling below \$10.00 per share. While these selling stockholders may, on average, experience a positive rate of return based on the current market price, public securityholders may not experience a similar rate of return on the securities they purchased due to differences in the purchase prices and the current market price. Based on the closing price of our common stock of \$2.04 on October 4, 2024, the selling stockholders would have a potential profit of up to \$2.035 per share (assuming they purchased at the lowest price in the range), or approximately \$8.9 million in the aggregate (using the average weighted purchase price, where appropriate, and not giving effect to the issuance of common stock issuable upon exercise of the Convertible Securities held by them).

Warrants offered by the selling stockholders

(i) Up to 4,774,276 Private Placement Warrants and (ii) up to 4,083,486 Shortfall Warrants

Redemption

The Private Placement Warrants and the Shortfall Warrants are redeemable in certain circumstances. See “*Description of Securities*” for further discussion.

Use of Proceeds

We will not receive any proceeds from the sale of the Private Placement Warrants, the Shortfall Warrants or of the common stock by the selling stockholders pursuant to this prospectus.

Risk Factors

Before investing in our securities, you should carefully read and consider the information set forth in the section titled “*Risk Factors*” of this prospectus.

Nasdaq Ticker Symbol

The common stock and Public Warrants are listed on Nasdaq under “LNZA” and “LNZAW”, respectively.

Effective purchase prices and potential profits upon resale of the common stock and warrants offered for resale⁽¹⁾

Effective purchase price of AMCI’s units in the IPO and potential profit upon resale of the common stock underlying AMCI’s units⁽²⁾

\$10.00 per unit with no potential profit per share or in the aggregate

Effective purchase price and potential profit upon resale of the PIPE Shares

\$185,000,000 in the aggregate or \$10.00 per share with no potential profit per share or in the aggregate

Effective purchase price and potential profit upon resale of the Private Placement Warrants	\$4,774,276 in the aggregate or \$1.00 per warrant with no potential profit per warrant or in the aggregate ⁽³⁾
Effective purchase price and potential profit upon resale of the shares of common stock that are issuable upon the exercise of the Private Placement Warrants	\$54,904,174 in the aggregate or \$11.50 per warrant ⁽⁴⁾ with no potential profit per warrant or in the aggregate
Effective purchase price and potential profit upon resale of the shares of common stock pursuant to the conversion of the Brookfield SAFE	\$50,000,000 in the aggregate or \$10.00 per share with no potential profit per share or in the aggregate
Effective purchase price and potential profit upon resale of the shares of common stock that are issuable upon exercise of the AM Warrant	\$3,000,000 in the aggregate or \$10.00 per share ⁽⁵⁾ with no potential profit per share or in the aggregate
Effective purchase price and potential profit upon resale of the shares of common stock held by certain selling stockholders	From \$1.38 per share to \$1.60 per share ⁽⁶⁾ with a potential profit between \$0.44 per share and \$0.66 per share; calculated using the weighted average purchase price per share of \$1.46, the potential profit per share would be \$0.58 or approximately \$1.3 million in the aggregate
Effective purchase price and potential profit upon resale of the shares of common stock underlying the Options held by certain selling stockholders	From \$0.16 per share to \$3.15 per share ⁽⁷⁾ with a potential profit between \$0 per share and \$1.88 per share; calculated using the weighted average exercise price per share of \$1.73, the potential profit per share would be \$0.31 or approximately \$0.5 million in the aggregate
Effective purchase price and potential profit upon resale of the shares of common stock purchased by certain selling stockholders subject to the Forward Purchase Agreement	\$60,100,000 in the aggregate or approximately \$10.16 per share with no potential profit per share or in the aggregate
Effective purchase price and potential profit upon resale of the Shortfall Warrants	The Shortfall Warrants were granted to certain selling stockholders pursuant to the Forward Purchase Agreement and did not have a separate purchase price. The potential profit upon a resale of the Shortfall Warrants would be \$0.15 per warrant or approximately \$0.6 million in the aggregate
Effective purchase price and potential profit upon resale of the shares of common stock issuable upon the exercise of the Shortfall Warrants	\$40,834,860 in the aggregate or approximately \$10.00 per share, subject to adjustment ⁽⁸⁾ with no potential profit per share or in the aggregate
Effective purchase price and potential profit upon resale of the founder shares	\$25,000 in the aggregate or approximately \$0.005 per share with a potential profit of \$2.035 per share or approximately \$7.6 million in the aggregate

Effective purchase price and potential profit upon resale of the shares of common stock required to be registered pursuant to the Registration Rights Agreement (other than founder shares)

From approximately \$0.40 per share to \$10.00 per share with a potential profit between \$0 per share and \$1.64 per share; calculated using the weighted average purchase price per share of \$2.96 there would be a potential profit per share in the aggregate

- (1) This table includes information relating to the securities held by the selling stockholders, including the price that certain selling stockholders paid for the securities. The table is in part based on LanzaTech's internal records and is for illustrative purposes only. For additional information and assumptions, see "Risk Factors — Risks Related to Ownership of our Securities — The holders of the shares of common stock registered hereby may be willing to sell their shares at a price lower than the public market price." The public offering price in AMCI's IPO was \$10.00 per unit. As seen in the table, some of the selling stockholders may realize a positive rate of return on the sale of their common stock covered by this prospectus even if the market price per share of the common stock is below \$10.00 per share, in which case the public stockholders who purchased shares in AMCI's IPO may experience a negative rate of return on their investment. Unless otherwise noted, our calculation of potential profit is based on an assumption that the closing price of our common stock of \$2.04 per share on October 4, 2024 is identical to the sale price. The trading price of our common stock may be different at the time a selling stockholder decides to sell its common stock.
- (2) Each unit consisted of one share of AMCI's Class A common stock and one-third of one warrant to purchase one share of AMCI's Class A common stock at an exercise price of \$11.50 per share.
- (3) Unless otherwise noted, our calculation of potential profit is based on an assumption that the closing price of our Public Warrants of \$0.15 per Public Warrant on October 4, 2024 is identical to the sale price. The trading price of our Public Warrants may be different at the time a selling stockholder decides to sell its warrants.
- (4) Represents the exercise price of the Private Placement Warrants, which is subject to adjustment.
- (5) Represents the exercise price of the AM Warrant, which is subject to adjustment.
- (6) Represents the range of exercise prices for the Options exercised by the selling stockholder. Certain shares of the common stock registered on behalf of the selling stockholder were granted by Legacy LanzaTech to the selling stockholder as restricted stock units, so the effective purchase price is not applicable.
- (7) Represents the range of exercise prices for the shares of common stock underlying the Options held by the selling stockholders, which are subject to adjustment.
- (8) Represents the exercise price of the Shortfall Warrants, which is subject to adjustment.

RISK FACTORS

An investment in our common stock involves a high degree of risk. Our business, financial condition and results of operations could be materially and adversely affected by any of these risks. If any of these risks occur, the value of our common stock may decline and you may lose all or part of your investment. Before investing in our common stock, you should consider carefully the risk factors set forth in this prospectus and contained in any free writing prospectus with respect to this offering filed by us with the SEC, along with the risk factors described in "Item 1A. Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2023, as updated by our Quarterly Reports on Form 10-Q for the quarters ended March 31, 2024 and June 30, 2024 and other filings we have made and will make with the SEC incorporated by reference into this prospectus.

Risks Related to This Offering

The common stock and the common stock issuable upon exercise of the resale securities described in this prospectus represent a substantial percentage of the total outstanding shares of our common stock.

The common stock and the common stock issuable upon exercise of the resale securities described in this prospectus represent a substantial percentage of the total outstanding shares of our common stock as of the date of this prospectus. Additionally, assuming all of the Convertible Securities were converted, or exercised, as applicable, as of October 4, 2024, the selling stockholders would have owned 203,436,682 shares of common stock the resale of which would be registered hereunder, representing approximately 92.0% of the total outstanding common stock. So long as the registration statement of which this prospectus forms a part is effective, the sales of the securities being offered in this prospectus could result in a significant decline in the public trading price of the common stock.

There can be no assurance that our warrants, the AM Warrant or the Shortfall Warrants will be in the money at the time they become exercisable, and they may expire worthless.

Subject to adjustment, the exercise price for the outstanding Public Warrants and Private Placement Warrants is \$11.50 per share of common stock, the exercise price for the AM Warrant is \$10.00 per share of common stock and the exercise price for the Shortfall Warrants is \$10.00 per share. On October 4, 2024 the last reported sales price of the common stock was \$2.04 per share. The cash proceeds associated with the exercises of the warrants, the AM Warrant, the Shortfall Warrants and the Options are dependent on the stock price inasmuch as the holders are unlikely to exercise the warrants, the AM Warrant, the Shortfall Warrants or the Options, as applicable, if the exercise price thereof is greater than the price of our common stock at the time of exercise. In that circumstance, such holder may be less likely to exercise the warrants, the AM Warrant, or the Shortfall Warrants, as applicable, as such holder would be selling at a loss if they exercised their Convertible Securities and sold their common stock. There can be no assurance that such warrants, the AM Warrant or the Shortfall Warrants will be in the money following the time they become exercisable and prior to their expiration, and as such, the warrants, the AM Warrant and the Shortfall Warrants may expire worthless.

The holders of the shares of common stock registered hereby may be willing to sell their shares at a price lower than the public market price.

On October 4, 2024, the last reported sales price of the common stock was \$2.04 per share. If the market price for shares of common stock is less than \$10.00 per share, holders of shares of common stock would be selling at a loss if they purchased the shares of common stock at or above \$10.00 per share. Because certain selling stockholders purchased shares privately at a price below the current market price, or have the right to exercise Convertible Securities at an exercise price that is less than the current market price, they may have an incentive to sell shares of their common stock, or exercise their Convertible Securities and sell their common stock, because they could profit despite the market price of common stock falling below \$10.00 per share. While these selling stockholders may, on average, experience a positive rate of return based on the current market price, public securityholders may not experience a similar rate of return on the securities they purchased due to differences in the purchase prices and the current market price.

For example, the Private Placement Warrants were purchased by certain selling stockholders for a price of \$1.00 per warrant, and based on the closing price of the Public Warrants of \$0.15 on October 4, 2024, such selling

stockholders would not earn any profit from the resale of such Private Placement Warrants. The Shortfall Warrants were granted to certain selling stockholders pursuant to the Forward Purchase Agreement and did not have a separate purchase price and, therefore, such selling stockholders would earn a profit equal to the purchase price of the Shortfall Warrant on the resale of such Shortfall Warrant. The PIPE Shares were purchased by certain selling stockholders at a price, or at the equivalent to a price, of \$10.00 per share, as applicable, and, therefore, based on the closing price of the common stock on October 4, 2024, such selling stockholders would not earn any profit from the resale of such shares. The exercise price of the Private Placement Warrants is \$11.50 per warrant, and, therefore, based on the closing price of the common stock on October 4, 2024, holders of the Private Placement Warrants would not earn any profit from the resale of shares received upon exercise of the Private Placement Warrants. The Brookfield SAFE is convertible into common stock at the equivalent to a price of \$10.00 per share and, therefore, based on the closing price of the common stock on October 4, 2024, Brookfield would not earn any profit from the resale of shares received upon conversion. The AM Warrant has an exercise price of \$10.00 per share and, therefore, based on the closing price of the common stock on October 4, 2024, ArcelorMittal would not earn any profit from the resale of shares received upon exercise. Certain of the shares of common stock held by a selling stockholder were purchased pursuant to Options exercised at prices ranging from \$1.38 per share to \$1.60 per share and, therefore, based on the closing price of the common stock on October 4, 2024, such selling stockholder would earn a profit ranging from \$0.44 per share to \$0.66 per share from the resale of such shares. Certain other shares of common stock held by a selling stockholder were granted by Legacy LanzaTech pursuant to restricted stock units, which do not have an exercise price and, therefore, based on the closing price of the common stock on October 4, 2024, such selling stockholder would earn a profit of \$2.04 per share from the resale of such shares. The Options held by certain selling stockholders are exercisable at prices ranging from \$0.16 per share to \$3.15 per share and, therefore, based on the closing price of the common stock on October 4, 2024, such selling stockholders would earn a profit ranging from \$0 per share to \$1.88 per share from the resale of shares received upon exercise. The shares of common stock purchased by certain selling stockholders subject to the Forward Purchase Agreement were purchased at the equivalent to a price of \$10.16 per share and, therefore, based on the closing price of the common stock on October 4, 2024, such selling stockholders would not earn any profit from the resale of such shares. The Shortfall Warrants have an exercise price equal to \$10.00 per share, subject to adjustment, and, therefore, based on the closing price of the common stock on October 4, 2024, holders of the Shortfall Warrants would not earn any profit from the resale of shares received upon exercise. The founder shares were purchased by certain selling stockholders at the equivalent to a price of \$0.005 per share and, therefore, based on the closing price of the common stock on October 4, 2024, such selling stockholders would earn a profit of \$2.035 per share from the resale of such shares. The shares of common stock registered pursuant to the Registration Rights Agreement (other than the founder shares) were purchased by certain selling stockholders at prices ranging from approximately \$0.40 per share to \$10.00 per share and, therefore, based on the closing price of the common stock on October 4, 2024, such selling stockholders would earn a profit ranging from \$0 per share to \$1.64 per share from the resale of such shares.

USE OF PROCEEDS

We will not receive any proceeds from the sale of the Private Placement Warrants, the Shortfall Warrants or of the common stock by the selling stockholders pursuant to this prospectus.

We will receive up to an aggregate of approximately \$188 million from the exercise of the warrants, the AM Warrant, the Shortfall Warrants and the Options, assuming the exercise in full of all of the warrants, the AM Warrant, the Shortfall Warrants and the Options for cash. To the extent that the warrants, the AM Warrant, the Shortfall Warrants and the Options are exercised on a “cashless basis,” the amount of cash we would receive from the exercise of the warrants, the AM Warrant, the Shortfall Warrants and the Options will decrease. We expect to use the net proceeds from the exercise of the warrants, the AM Warrant, the Shortfall Warrants and the Options for general corporate purposes. We will have broad discretion over the use of proceeds from the exercise of the warrants, the AM Warrant, the Shortfall Warrants and the Options.

There is no assurance that the holders of the warrants, the AM Warrant, or the Shortfall Warrants will elect to exercise any or all of such warrant, or that the holders of Options will elect to exercise any or all of such Options. The cash proceeds associated with the exercises of the warrants, the AM Warrant, the Shortfall Warrants, and the Options are dependent on the stock price inasmuch as the holders are unlikely to exercise the warrants, the AM Warrant, the Shortfall Warrants or the Options, as applicable, if the exercise price thereof is less than the price of our common stock at the time of exercise. In that circumstance, such holder may be less likely to exercise the warrants, the AM Warrant, the Shortfall Warrants, or the Options, as applicable, as such holder would be selling at a loss if they exercised their Convertible Securities and sold their common stock. Accordingly, we have not included the net proceeds from any exercise of the warrants, the AM Warrant, the Shortfall Warrants and the Options in our assessment of our liquidity and our ability to fund operations on a prospective basis.

Subject to adjustment, the exercise price of the warrants is \$11.50 per share, the exercise price of the AM Warrant is \$10.00 per share, and the exercise price of the Shortfall Warrants is \$10.00 per share, subject to adjustment. Subject to adjustment, the exercise prices of the Options range from \$0.16 per share to \$3.15 per share. On October 4, 2024 the last reported sales price of the common stock was \$2.04 per share. Additionally, if the market price for shares of common stock is less than \$10.00 per share, holders of shares of common stock would be selling at a loss if they purchased the shares of common stock at or above \$10.00 per share. Because certain selling stockholders purchased shares privately at a price below the current market price, or have the right to exercise Convertible Securities at an exercise price that is less than the current market price, they may have an incentive to sell shares of their common stock, or exercise their Convertible Securities and sell their common stock, because they could profit despite the market price of common stock falling below \$10.00 per share. While these selling stockholders may, on average, experience a positive rate of return based on the current market price, public securityholders may not experience a similar rate of return on the securities they purchased due to differences in the purchase prices and the current market price. Based on the closing price of our common stock of \$2.04 on October 4, 2024, the selling stockholders would have a potential profit of up to \$2.035 per share, or up to approximately \$8.9 million in the aggregate (not giving effect to the issuance of common stock issuable upon exercise of the Convertible Securities held by them).

DETERMINATION OF OFFERING PRICE

The offering price of the shares of common stock underlying the warrants offered hereby is determined by reference to the exercise price of the warrants of \$11.50 per share. The Public Warrants are listed on Nasdaq under the symbol "LNZAW." The offering price of the shares of common stock underlying the Brookfield SAFE offered hereby is determined by reference to the conversion price of the Brookfield SAFE of \$10.00 per share. The offering price of the shares of common stock underlying the AM Warrant is determined by reference to the exercise price of the AM Warrant of \$10.00 per share. The offering price of the shares of common stock underlying the Shortfall Warrants is determined by reference to the exercise of the Shortfall Warrants, equal to \$10.00 per share, subject to adjustment. The offering price of shares of common stock underlying the Options is determined by reference to the exercise price of the Options, which ranges between \$0.16 per share and \$3.15 per share.

We cannot currently determine the price or prices at which shares of common stock, the Private Placement Warrants or the Shortfall Warrants may be sold by the selling stockholders under this prospectus.

DESCRIPTION OF SECURITIES

The following summary of the material terms of the common stock, preferred stock, our Private Placement Warrants and our Shortfall Warrants is not intended to be a complete summary of the rights and preferences of such securities, and is qualified by reference to the applicable warrant agreement and to our second amended and restated certificate of incorporation, as amended (the "Charter") and our Bylaws (the "Bylaws"), which are exhibits to the registration statement of which this prospectus forms a part. We urge you to read the applicable warrant agreement and our Charter and Bylaws in their entirety for a complete description of the rights and preferences of our securities.

Authorized and Outstanding Stock

The Charter authorizes the issuance of 620,000,000 shares, consisting of 600,000,000 shares of common stock, \$0.0001 par value per share, and 20,000,000 shares of preferred stock, \$0.0001 par value per share. As of October 4, 2024, there were 197,782,055 shares of common stock outstanding. No shares of preferred stock are currently outstanding.

Common Stock

The Charter provides the following with respect to the rights, powers, preferences and privileges of the common stock.

Voting Power

Except as otherwise required by law or as otherwise provided in any certificate of designation for any series of preferred stock, the holders of shares of common stock possess all voting power for the election of LanzaTech's directors and all other matters requiring stockholder action. Holders of shares of common stock are entitled to one vote for each share held on all matters to be voted on by stockholders.

Dividends

Holders of shares of common stock will be entitled to receive such dividends, if any, as may be declared from time to time by the Board in its discretion out of funds legally available therefor. We do not intend to pay cash dividends on the common stock for the foreseeable future. Any payment of cash dividends in the future will be dependent upon LanzaTech's revenues and earnings, if any, capital requirements and general financial conditions. In no event will any stock dividends or stock splits or combinations of stock be declared or made on shares of common stock unless the shares of common stock at the time outstanding are treated equally and identically.

Liquidation, Dissolution and Winding Up

In the event of LanzaTech's voluntary or involuntary liquidation, dissolution, distribution of assets or winding-up, the holders of shares of common stock will be entitled to receive an equal amount per share of all of LanzaTech's assets of whatever kind available for distribution to stockholders, after the rights of the holders of the preferred stock have been satisfied.

Preemptive or Other Rights

The LanzaTech stockholders have no preemptive or other subscription rights. No sinking fund provisions are applicable to the common stock.

Preferred Stock

The Charter provides that shares of preferred stock may be issued from time to time in one or more series. The Board is authorized to fix the voting rights, if any, designations, powers, preferences, the relative, participating, optional or other special rights and any qualifications, limitations and restrictions thereof, applicable to the shares of each series. The Board will be able to, without stockholder approval, issue shares of preferred stock with voting and other rights that could adversely affect the voting power and other rights of the holders of the shares of common

stock and could have anti-takeover effects. The ability of the Board to issue shares of preferred stock without stockholder approval could have the effect of delaying, deferring or preventing a change of control of LanzaTech or the removal of existing management.

Registration Rights

AMCI, certain of the Legacy LanzaTech stockholders and AMCI Stockholders entered into a Registration Rights Agreement, pursuant to which, among other things, such stockholders were granted certain registration rights with respect to certain shares of securities held by them.

Anti-Takeover Provisions

Charter and Bylaws

Among other things, the Charter and Bylaws:

- permit the Board to issue up to 20,000,000 shares of preferred stock, with any rights, preferences and privileges as they may designate, including the right to approve an acquisition or other change of control;
- provide that the number of directors of LanzaTech may be changed only by resolution of the Board;
- provide that, subject to the rights of any series of preferred stock to elect directors, directors may be removed only with cause by the holders of at least 66% of all of LanzaTech's then-outstanding shares of the capital stock entitled to vote generally at an election of directors;
- provide that all vacancies, including newly created directorships, may, except as otherwise required by law, be filled by the affirmative vote of a majority of directors then in office, even if less than a quorum;
- provide that stockholders seeking to present proposals before a meeting of stockholders or to nominate candidates for election as directors at a meeting of stockholders must provide advance notice in writing, and also specify requirements as to the form and content of a stockholder's notice;
- provide that special meetings of LanzaTech's stockholders may be called by the Board pursuant to a resolution adopted by a majority of the Board;
- provide that the Board will be divided into three classes of directors, with the classes to be as nearly equal as possible, and with the directors serving three-year terms, therefore making it more difficult for stockholders to change the composition of the Board; and
- do not provide for cumulative voting rights, therefore allowing the holders of a majority of the shares of common stock entitled to vote in any election of directors to elect all of the directors standing for election, if they should so choose.

The combination of these provisions will make it more difficult for the existing stockholders to replace the Board as well as for another party to obtain control of LanzaTech by replacing the Board. Because the Board has the power to retain and discharge its officers, these provisions could also make it more difficult for existing stockholders or another party to effect a change in management. In addition, the authorization of undesignated preferred stock makes it possible for the Board to issue shares of preferred stock with voting or other rights or preferences that could impede the success of any attempt to change the control of LanzaTech.

These provisions are intended to enhance the likelihood of continued stability in the composition of the Board and its policies and to discourage coercive takeover practices and inadequate takeover bids. These provisions are also designed to reduce LanzaTech's vulnerability to hostile takeovers and to discourage certain tactics that may be used in proxy fights. However, such provisions could have the effect of discouraging others from making tender offers for LanzaTech's shares and may have the effect of delaying changes in its control or management. As a consequence, these provisions may also inhibit fluctuations in the market price of LanzaTech's Common Stock.

Certain Anti-Takeover Provisions of Delaware Law

LanzaTech is subject to the provisions of Section 203 of the DGCL, which prevents certain Delaware corporations, under certain circumstances, from engaging in a “business combination” with:

- a stockholder who owns 15% or more of our outstanding voting stock (otherwise known as an “interested stockholder”);
- an affiliate of an interested stockholder; or
- an associate of an interested stockholder, for three years following the date that the stockholder became an interested stockholder.

A “business combination” includes a merger or sale of more than 10% of a corporation’s assets. However, the above provisions of Section 203 would not apply if:

- the relevant board of directors approves the transaction that made the stockholder an interested stockholder prior to the date of the transaction;
- after the completion of the transaction that resulted in the stockholder becoming an interested stockholder, that stockholder owned at least 85% of the corporation’s voting stock outstanding at the time the transaction commenced, other than statutorily excluded shares of common stock; or
- on or subsequent to the date of the transaction, the initial business combination is approved by the board of directors and authorized at a meeting of the corporation’s stockholders, and not by written consent, by an affirmative vote of at least two-thirds of the outstanding voting stock not owned by the interested stockholder.

These provisions may have the effect of delaying, deferring, or preventing changes in control of LanzaTech.

Forward Purchase Agreement

On February 3, 2023, AMCI, Legacy LanzaTech and ACM entered into the Forward Purchase Agreement for an over-the-counter Equity Prepaid Forward Transaction (the “Forward Purchase Transaction”). For purposes of the Forward Purchase Agreement, ACM is sometimes referred to as the “Seller” and AMCI and LanzaTech are sometimes referred to as the “Counterparty” prior to and after the Business Combination, respectively. Pursuant to the terms of the Forward Purchase Agreement, the Seller purchased through a broker in the open market 5,916,514 shares of AMCI’s common stock before the closing of the Business Combination (the “Closing”) from holders of AMCI’s common shares (other than AMCI), including from holders who had previously elected to redeem their shares (such purchased shares, and the successor shares following the Closing, the “Recycled Shares”) in connection with the Business Combination pursuant to the redemption rights set forth in AMCI’s Amended and Restated Certificate of Incorporation (such holders, “Redeeming Holders”). The aggregate total number of shares subject to the Forward Purchase Agreement (the “Number of Shares”) is 10,000,000. The Number of Shares is subject to reduction following termination of the Forward Purchase Agreement with respect to the Recycled Shares as described under “Optional Early Termination” in the Forward Purchase Agreement. Unless in connection with an optional early termination, the Seller has agreed to hold the Recycled Shares in a bankruptcy remote special purpose vehicle for the benefit of the Counterparty. The Seller also may not beneficially own greater than 9.9% of our outstanding common shares.

In accordance with the Forward Purchase Agreement, the Seller was paid directly, out of the funds held in ACMI’s trust account \$60.1 million (the “Prepayment Amount”).

We agreed to file a registration statement with the SEC registering the resale of the Recycled Shares and the Share Consideration (as defined below) (the “Registration Statement”) under the Securities Act, within 45 days following the request of the Seller. From time to time following the Closing and only after the effectiveness of the Registration Statement, the Seller was permitted, at its discretion, to provide a shortfall sale notice to the Counterparty without a payment obligation to the Counterparty until such time as the aggregate amount indicated on

such shortfall sale notices equals \$2,500,000 (the “Prepayment Shortfall”). LanzaTech did not take the Prepayment Shortfall. The Seller in its sole discretion may request Shortfall Warrants exercisable for shares in an amount equal to (i) 10,000,000 shares less (ii) the number of Recycled Shares at the outset of the Forward Purchase Transaction (the “Shortfall Warrants”). On March 27, 2023, the Company issued an aggregate of 4,083,486 Shortfall Warrants pursuant to the Forward Purchase Agreement, the terms of which are described below.

The Seller may also, at its discretion and at any time, provide a notice under “OET Sales.” The Seller may deliver an OET notice and return to the Counterparty the product of the Reset Price and the number of shares listed on the OET notice. Following the Closing, the reset price (the “Reset Price”) was initially the per share Redemption Price. However, the Reset Price is reducible to any lower price at which the Counterparty sells, issues or grants any shares or securities convertible or exchangeable into shares (other than grants or issuances under the Counterparty’s equity compensation plans or shares underlying warrants issued in connection with the Business Combination), subject to certain exceptions.

The maturity date of the Forward Purchase Agreement is the third anniversary of the Closing (the “Maturity Date”). Upon the occurrence of the Maturity Date, the Counterparty is obligated to pay to the Seller an amount equal to the product of (1) (a) the lesser of the Maximum Number of Shares (as defined in the Forward Purchase Agreement) and 7,500,000 less (b) the number of Terminated Shares (as defined in the Forward Purchase Agreement) multiplied by (2) \$2.00 (the “Maturity Consideration”). At the Maturity Date, the Counterparty will be entitled to deliver the Maturity Consideration to the Seller in cash or shares calculated based on the average daily VWAP Price (as defined in the Forward Purchase Agreement) over 30 trading days ending on the later of the Maturity Date and the date on which such shares are registered. The Maturity Date may be accelerated by Seller, at its discretion, if, among other termination events, following the Closing, the VWAP Price is below \$2.00 per Share for any 50 trading days during a 60 consecutive trading day-period that ends during the first 90 days after the date of the Forward Purchase Agreement, and (2) \$3.00 per share thereafter (a “Seller VWAP Triggering Event”). In addition to the Prepayment Amount and the Maturity Consideration, on the Maturity Date, the Counterparty has agreed to pay to the Seller an amount equal to the product of (x) 500,000 and (y) the Redemption Price (the “Share Consideration”).

The Counterparty has agreed to indemnify and hold harmless the Seller, its affiliates, assignees and other parties described therein (the “Indemnified Parties”) from and against all losses, claims, damages and liabilities under the Forward Purchase Agreement (excluding liabilities relating to the manner in which Seller sells any shares it owns) and reimburse the Indemnified Parties for their reasonable expenses incurred in connection with such liabilities, subject to certain exceptions described therein, and has agreed to contribute to any amounts required to be paid by any Indemnified Parties if such indemnification is unavailable or insufficient to hold such party harmless.

The Seller waived any redemption rights with respect to any Recycled Shares in connection with the Business Combination. In connection with the Forward Purchase Agreement, ACM assigned its rights, duties and obligations with respect to a portion of the shares purchased under the Forward Purchase Agreement to Vellar Opportunity Fund SPV LLC - Series 10 (“Vellar”) (which entity assumed all of the obligations and rights of ACM described above with respect to the portion of the shares so assigned).

In relation to the Forward Purchase Agreement, the Company’s volume-weighted average share price was below \$3.00 per share for 50 trading days during the 60 day consecutive trading period ended on July 1, 2024 (together with certain other conditions relating to the VWAP Price, each a the “VWAP Trigger Event”). On July 22, 2024, Vellar notified the Company of such VWAP Trigger Event, purporting to accelerate the Maturity Date of its portion of the Recycled Shares (i.e., 2,990,000 common shares) to July 22, 2024. Vellar asserts that it is entitled to: (i) the Maturity Consideration of \$7,500,000 (payable at the Company’s option in cash or shares of common stock valued at the average daily VWAP Price over 30 scheduled trading days ending on the accelerated Maturity Date of July 22, 2024 of \$1.91 per share) and (ii) Share Consideration of \$2,539,000, payable in cash each due and payable on July 24, 2024. On July 25, 2024 the Company received a notice from Vellar pursuant to the Forward Purchase Agreement, stating that the Company is in default of its payment obligations. On July 30, 2024, the Company received a notice of an event of default under the Forward Purchase Agreement from Vellar that (i) designated such date as the early termination date of the Forward Purchase Agreement and (ii) purports to result in an early termination cash payment of \$4,164,000 becoming due to Vellar (equating to the sum of the Maturity Consideration

and the Share Consideration minus the VWAP Price (as of July 29, 2024) of Vellar's portion of the Recycled Shares).

On July 24, 2024, LanzaTech filed suit against Vellar, primarily in connection with Vellar's sale of Recycled Shares, which LanzaTech alleges are in breach of the Forward Purchase Agreement's requirement that Recycled Shares be held in a bankruptcy remote special purpose vehicle for the benefit of the Company unless the sale is noticed to the Company as part of an early termination, which Vellar has not done. In the event of a sale of Recycled Shares subject to an optional early termination, the Company is entitled to receive approximately \$10.16 for each share sold. LanzaTech believes that Vellar's notice of the VWAP Trigger Event and consequently, its notice of an event of default, is not valid and accordingly, that no payments are owed to Vellar in connection with the purported acceleration of the Maturity Date or early termination of the Forward Purchase Agreement.

On October 4, 2024, ACM delivered to the Company notice of a VWAP Trigger Event (the "ACM Notice"), which purported to accelerate the Maturity Date of ACM's portion of the Recycled Shares (i.e., 2,926,514 common shares) to October 4, 2024. The ACM Notice requests delivery of the Maturity Consideration and Share Consideration. Under the terms of the Forward Purchase Agreement, the Maturity Consideration of \$7,500,000 is payable at the Company's option in cash or shares of common stock (on a net share settlement basis with the Recycled Shares) and the Share Consideration of \$2,539,350 is payable in cash. The Company is in discussions with ACM on the settlement method and timing thereof.

Warrants

Public Warrants

Each Public Warrant entitles the registered holder to purchase one share of common stock at a price of \$11.50 per share, subject to adjustment as discussed below, at any time. Pursuant to the warrant agreement, a Public Warrant holder may exercise its Public Warrants only for a whole number of shares of common stock. This means that only a whole Public Warrant may be exercised at any given time by a Public Warrant holder. No fractional Public Warrants were issued upon separation of AMCI's units and only whole Public Warrants will trade. The Public Warrants will expire five years after the Closing, at 5:00 p.m., New York City time, or earlier upon redemption or liquidation.

We are not obligated to deliver any shares of common stock pursuant to the exercise of a Public Warrant and will have no obligation to settle such Public Warrant exercise unless a registration statement under the Securities Act with respect to the shares of common stock underlying the Public Warrants is then effective and a prospectus relating thereto is current, subject to satisfaction of our obligations described below with respect to registration. No Public Warrant will be exercisable and we will not be obligated to issue shares of common stock upon exercise of a Public Warrant unless the common stock issuable upon such Public Warrant exercise has been registered, qualified or deemed to be exempt under the securities laws of the state of residence of the registered holder of the Public Warrants. In the event that the conditions in the two immediately preceding sentences are not satisfied with respect to a Public Warrant, the holder of such Public Warrant will not be entitled to exercise such Public Warrant and such Public Warrant may have no value and expire worthless. In no event will we be required to net cash settle any warrant. In the event that a registration statement is not effective for the exercised Public Warrants, the purchaser of a unit containing such Public Warrant will have paid the full purchase price for the unit solely for the share of common stock underlying such unit.

We have agreed to use our best efforts to maintain the effectiveness of a registration statement covering the shares of common stock issuable upon exercise of the Public Warrants and a current prospectus relating to those shares of common stock until the Public Warrants expire or are redeemed, as specified in the warrant agreement. We cannot assure you that we will be able to do so if, for example, any facts or events arise which represent a fundamental change in the information set forth in the registration statement or prospectus, the financial statements contained or incorporated by reference therein are not current or correct or the SEC issues a stop order. Notwithstanding the above, if common stock is at the time of any exercise of a warrant not listed on a national securities exchange such that it satisfies the definition of a "covered security" under Section 18(b)(1) of the Securities Act, we may, at our option, require holders of Public Warrants who exercise their warrants to do so on a

“cashless basis” in accordance with Section 3(a)(9) of the Securities Act and, in the event we so elect, we will not be required to file or maintain in effect a registration statement, and in the event we do not so elect, we will use our best efforts to register or qualify the shares under applicable blue sky laws to the extent an exemption is not available. In such event, each holder would pay the exercise price by surrendering the Public Warrants for that number of shares of common stock equal to the lesser of (A) the quotient obtained by dividing (x) the product of the number of shares of common stock underlying the warrants, multiplied by the excess of the “fair market value” (defined below) less the exercise price of the warrants by (y) the fair market value and (B) 0.361. The “fair market value” as used in this paragraph shall mean the volume weighted average price of the common stock for the 10 trading days ending on the trading day prior to the date on which the notice of exercise is received by the warrant agent.

Redemption of Public Warrant when the price per share of common stock equals or exceeds \$18.00.

We may call the Public Warrants for redemption:

- in whole and not in part;
- at a price of \$0.01 per warrant;
- upon a minimum of 30 days’ prior written notice of redemption to each Public Warrant holder; and
- if, and only if, the closing price of common stock equals or exceeds \$18.00 per share (as adjusted for stock splits, stock dividends, reorganizations, recapitalizations and the like) for any 20 trading days within a 30-trading day period commencing once the Public Warrants become exercisable and ending three trading days before we send the notice of redemption to the Public Warrant holders.

We may not redeem the Public Warrants as described above unless a registration statement under the Securities Act covering the issuance of the common stock issuable upon exercise of the warrants is then effective and a current prospectus relating to those shares of common stock is available throughout the 30-day redemption period. If and when the Public Warrants become redeemable by us, we may exercise our redemption right even if we are unable to register or qualify the underlying securities for sale under all applicable state securities laws.

We have established the last of the redemption criteria discussed above to prevent a redemption call unless there is at the time of the call a significant premium to the Public Warrant exercise price. If the foregoing conditions are satisfied and we issue a notice of redemption of the Public Warrants, each Public Warrant holder will be entitled to exercise its Public Warrant prior to the scheduled redemption date. However, the price of the common stock may fall below the \$18.00 redemption trigger price (as adjusted for stock splits, stock dividends, reorganizations, recapitalizations and the like) as well as the \$11.50 (for whole shares) warrant exercise price after the redemption notice is issued.

Redemption of Public Warrants when the price per share of common stock equals or exceeds \$10.00.

We may redeem the outstanding Public Warrants:

- in whole and not in part;
- at \$0.10 per warrant upon a minimum of 30 days’ prior written notice of redemption provided that holders will be able to exercise their warrants on a cashless basis prior to redemption and receive that number of shares determined by reference to the table below, based on the redemption date and the “fair market value” of the common stock except as otherwise described below; and
- if, and only if, the closing price of the common stock equals or exceeds \$10.00 per share (as adjusted for adjustments to the number of shares issuable upon exercise or the exercise price of a warrant as described below under the heading “— Anti-Dilution Adjustments”) for any 20 trading days within the 30-trading day period ending three trading days before we send the notice of redemption to the Public Warrant holders.

Beginning on the date the notice of redemption is given until the Public Warrants are redeemed or exercised, holders may elect to exercise their Public Warrants on a cashless basis. The numbers in the table below represent the number of shares of common stock that a Public Warrant holder will receive upon such cashless exercise in connection with a redemption by New LanzaTech pursuant to this redemption feature, based on the “fair market value” of common stock on the corresponding redemption date (assuming holders elect to exercise their Public Warrants and such warrants are not redeemed for \$0.10 per warrant), determined for these purposes based on volume weighted average price of common stock during the 10 trading days immediately following the date on which the notice of redemption is sent to the holders of Public Warrants, and the number of months that the corresponding redemption date precedes the expiration date of the warrants, each as set forth in the table below. We will provide the Public Warrant holders with the final fair market value no later than one business day after the 10-trading day period described above ends.

The share prices set forth in the column headings of the table below will be adjusted as of any date on which the number of shares issuable upon exercise of a Public Warrant or the exercise price of a Public Warrant is adjusted as set forth under the heading “— *Anti-Dilution Adjustments*” below. If the number of shares issuable upon exercise of a Public Warrant is adjusted, the adjusted share prices in the column headings will equal the share prices immediately prior to such adjustment, multiplied by a fraction, the numerator of which is the number of shares deliverable upon exercise of a Public Warrant immediately prior to such adjustment and the denominator of which is the number of shares deliverable upon exercise of a Public Warrant as so adjusted. The number of shares in the table below shall be adjusted in the same manner and at the same time as the number of shares issuable upon exercise of a Public Warrant. If the exercise price of a Public Warrant is adjusted, (a) in the case of an adjustment pursuant to the second paragraph under the heading “— *Other Terms*” below, the adjusted share prices in the column headings will equal the unadjusted share price multiplied by a fraction, the numerator of which is the higher of the Market Value and the Newly Issued Price as set forth under the heading “— *Other Terms*” and the denominator of which is \$10.00 and (b) in the case of an adjustment pursuant to the second paragraph under the heading “— *Anti-Dilution*

Adjustments” below, the adjusted share prices in the column headings will equal the unadjusted share price less the decrease in the exercise price of a public warrant pursuant to such exercise price adjustment.

Redemption Date (period to expiration of Public Warrants)	Fair Market Value of common stock								
	<10.00	11.00	12.00	13.00	14.00	15.00	16.00	17.00	>18.00
60 months	0.261	0.281	0.297	0.311	0.324	0.337	0.348	0.358	0.361
57 months	0.257	0.277	0.294	0.310	0.324	0.337	0.348	0.358	0.361
54 months	0.252	0.272	0.291	0.307	0.322	0.335	0.347	0.357	0.361
51 months	0.246	0.268	0.287	0.304	0.320	0.333	0.346	0.357	0.361
48 months	0.241	0.263	0.283	0.301	0.317	0.332	0.344	0.356	0.361
45 months	0.235	0.258	0.279	0.298	0.315	0.330	0.343	0.356	0.361
42 months	0.228	0.252	0.274	0.294	0.312	0.328	0.342	0.355	0.361
39 months	0.221	0.246	0.269	0.290	0.309	0.325	0.340	0.354	0.361
36 months	0.213	0.239	0.263	0.285	0.305	0.323	0.339	0.353	0.361
33 months	0.205	0.232	0.257	0.280	0.301	0.320	0.337	0.352	0.361
30 months	0.196	0.224	0.250	0.274	0.297	0.316	0.335	0.351	0.361
27 months	0.185	0.214	0.242	0.268	0.291	0.313	0.332	0.350	0.361
24 months	0.173	0.204	0.233	0.260	0.285	0.308	0.329	0.348	0.361
21 months	0.161	0.193	0.223	0.252	0.279	0.304	0.326	0.347	0.361
18 months	0.146	0.179	0.211	0.242	0.271	0.298	0.322	0.345	0.361
15 months	0.130	0.164	0.197	0.230	0.262	0.291	0.317	0.342	0.361
12 months	0.111	0.146	0.181	0.216	0.250	0.282	0.312	0.339	0.361
9 months	0.090	0.125	0.162	0.199	0.237	0.272	0.305	0.336	0.361
6 months	0.065	0.099	0.137	0.178	0.219	0.259	0.296	0.331	0.361
3 months	0.034	0.065	0.104	0.150	0.197	0.243	0.286	0.326	0.361
0 months	—	—	0.042	0.115	0.179	0.233	0.281	0.323	0.361

The exact fair market value and redemption date may not be set forth in the table above, in which case, if the fair market value is between two values in the table or the redemption date is between two redemption dates in the table, the number of shares of common stock to be issued for each Public Warrant exercised will be determined by a straight-line interpolation between the number of shares set forth for the higher and lower fair market values and the earlier and later redemption dates, as applicable, based on a 365 or 366-day year, as applicable. For example, if the volume weighted average price of common stock during the 10 trading days immediately following the date on which the notice of redemption is sent to the holders of the Public Warrants is \$11.00 per share, and at such time there are 57 months until the expiration of the warrants, holders may choose to, in connection with this redemption feature, exercise their Public Warrants for 0.277 shares of common stock for each whole public warrant. For an example where the exact fair market value and redemption date are not as set forth in the table above, if the volume weighted average price of common stock during the 10 trading days immediately following the date on which the notice of redemption is sent to the holders of the Public Warrants is \$13.50 per share, and at such time there are 38 months until the expiration of the Public Warrants, holders may choose to, in connection with this redemption feature, exercise their Public Warrants for 0.298 shares of common stock for each whole Public Warrant. In no event will the Public Warrants be exercisable on a cashless basis in connection with this redemption feature for more than 0.361 shares of common stock per warrant (subject to adjustment). Finally, as reflected in the table above, if the Public Warrants are out of the money and about to expire, they cannot be exercised on a cashless basis in connection with a redemption by us pursuant to this redemption feature, since they will not be exercisable for any shares of common stock.

This redemption feature differs from the typical warrant redemption features used in other blank check offerings, which typically only provide for a redemption of warrants for cash (other than the Private Placement Warrants) when the trading price for the underlying common stock exceeds \$18.00 per share for a specified period

of time. This redemption feature is structured to allow for all of the outstanding Public Warrants to be redeemed when the common stock is trading at or above \$10.00 per share, which may be at a time when the trading price of the common stock is below the exercise price of the Public Warrants. We have established this redemption feature to provide us with the flexibility to redeem the Public Warrants without the warrants having to reach the \$18.00 per share threshold set forth above under “— *Redemption of Public Warrants when the price per share of the common stock equals or exceeds \$18.00.*” Holders choosing to exercise their Public Warrants in connection with a redemption pursuant to this feature will, in effect, receive a number of shares for their Public Warrants based on an option pricing model with a fixed volatility input. This redemption right provides us with an additional mechanism by which to redeem all of the outstanding Public Warrants, and therefore have certainty as to our capital structure as the Public Warrants would no longer be outstanding and would have been exercised or redeemed and we will be required to pay the redemption price to Public Warrant holders if we choose to exercise this redemption right and it will allow us to quickly proceed with a redemption of the Public Warrants if we determine it is in our best interest to do so. As such, we would redeem the Public Warrants in this manner when we believes it is in our best interest to update our capital structure to remove the Public Warrants and pay the redemption price to the Public Warrant holders.

As stated above, we can redeem the Public Warrants when the common stock is trading at a price starting at \$10.00, which is below the exercise price of \$11.50, because it will provide certainty with respect to our capital structure and cash position while providing Public Warrant holders with the opportunity to exercise their warrants on a cashless basis for the applicable number of shares. If we choose to redeem the Public Warrant when the common stock is trading at a price below the exercise price of the Public Warrants, this could result in the Public Warrant holders receiving fewer shares of common stock than they would have received if they had chosen to wait to exercise their Public Warrants for Common Stock if and when such Common Stock was trading at a price higher than the exercise price of \$11.50.

No fractional shares of common stock will be issued upon exercise. If, upon exercise, a holder would be entitled to receive a fractional interest in a share, we will round down to the nearest whole number of the number of shares of common stock to be issued to the holder.

Redemption Procedures

A holder of a Public Warrant may notify us in writing in the event it elects to be subject to a requirement that such holder will not have the right to exercise such Public Warrant, to the extent that after giving effect to such exercise, such person (together with such person’s affiliates), to the warrant agent’s actual knowledge, would beneficially own in excess of 4.9% or 9.8% (as specified by the holder) of the common stock outstanding immediately after giving effect to such exercise.

Anti-Dilution Adjustments

If the number of outstanding shares of common stock is increased by a capitalization or share dividend payable in Common Stock, or by a split-up of shares of common stock or other similar event, then, on the effective date of such stock dividend, split-up or similar event, the number of shares of common stock issuable on exercise of each whole Public Warrant will be increased in proportion to such increase in the outstanding ordinary stock. A rights offering made to all or substantially all holders of common stock entitling holders to purchase common stock at a price less than the “historical fair market value” (as defined below) will be deemed a share dividend of a number of shares of common stock equal to the product of (i) the number of shares of common stock actually sold in such rights offering (or issuable under any other equity securities sold in such rights offering that are convertible into or exercisable for common stock) and (ii) one minus the quotient of (x) the price per share of common stock paid in such rights offering and (y) the historical fair market value. For these purposes, (a) if the rights offering is for securities convertible into or exercisable for common stock, in determining the price payable for Common Stock, there will be taken into account any consideration received for such rights, as well as any additional amount payable upon exercise or conversion and (b) “*historical fair market value*” means the volume weighted average price of common stock as reported during the 10 trading day period ending on the trading day prior to the first date on which the common stock trade on the applicable exchange or in the applicable market, regular way, without the right to receive such rights.

In addition, if we, at any time while the warrants are outstanding and unexpired, pay a dividend or make a distribution in cash, securities or other assets to the holders of shares of common stock on account of such shares (or other securities into which the warrants are convertible), other than (a) as described above, or (b) any cash dividends or cash distributions which, when combined on a per share basis with all other cash dividends and cash distributions paid on the common stock during the 365-day period ending on the date of declaration of such dividend or distribution does not exceed \$0.50 (as adjusted to appropriately reflect any other adjustments and excluding cash dividends or cash distributions that resulted in an adjustment to the exercise price or to the number of shares of common stock issuable on exercise of each Public Warrant) but only with respect to the amount of the aggregate cash dividends or cash distributions equal to or less than \$0.50 per share, then the warrant exercise price will be decreased, effective immediately after the effective date of such event, by the amount of cash and/or the fair market value of any securities or other assets paid on each share of common stock in respect of such event.

If the number of outstanding shares of common stock is decreased by a consolidation, combination, reverse stock split or reclassification of shares of common stock or other similar event, then, on the effective date of such consolidation, combination, reverse stock split, reclassification or similar event, the number of shares of common stock issuable on exercise of each Public Warrant will be decreased in proportion to such decrease in outstanding shares of common stock.

Whenever the number of shares of common stock purchasable upon the exercise of the Public Warrants is adjusted, as described above, the Public Warrant exercise price will be adjusted by multiplying the Public Warrant exercise price immediately prior to such adjustment by a fraction (x) the numerator of which will be the number of shares of common stock purchasable upon the exercise of the Public Warrants immediately prior to such adjustment, and (y) the denominator of which will be the number of shares of common stock so purchasable immediately thereafter.

In case of any reclassification or reorganization of the outstanding shares of common stock (other than those described above or that solely affects the par value of such shares of common stock), or in the case of any merger or consolidation of LanzaTech with or into another corporation (other than a consolidation or merger in which we are the continuing corporation and that does not result in any reclassification or reorganization of the outstanding shares of common stock), or in the case of any sale or conveyance to another corporation or entity of the assets or other property of LanzaTech as an entirety or substantially as an entirety in connection with which we are dissolved, the holders of the Public Warrants will thereafter have the right to purchase and receive, upon the basis and upon the terms and conditions specified in the Public Warrants and in lieu of the common stock immediately theretofore purchasable and receivable upon the exercise of the rights represented thereby, the kind and amount of shares of common stock or other securities or property (including cash) receivable upon such reclassification, reorganization, merger or consolidation, or upon a dissolution following any such sale or transfer, that the holder of the Public Warrants would have received if such holder had exercised their Public Warrants immediately prior to such event. However, if less than 70% of the consideration receivable by the holders of common stock in such a transaction is payable in the form of common stock in the successor entity that is listed for trading on a national securities exchange or is quoted in an established over-the-counter market, or is to be so listed for trading or quoted immediately following such event, and if the registered holder of the Public Warrant properly exercises the Public Warrant within 30 days following public disclosure of such transaction, the Public Warrant exercise price will be reduced as specified in the warrant agreement based on the Black-Scholes value (as defined in the warrant agreement) of the Public Warrant. The purpose of such exercise price reduction is to provide additional value to holders of the Public Warrants when an extraordinary transaction occurs during the exercise period of the Public Warrants pursuant to which the holders of the warrants otherwise do not receive the full potential value of the Public Warrants in order to determine and realize the option value component of the Public Warrant. This formula is to compensate the Public Warrant holder for the loss of the option value portion of the Public Warrant due to the requirement that the Public Warrant holder exercise the Public Warrant within 30 days of the event. The Black-Scholes model is an accepted pricing model for estimating fair market value where no quoted market price for an instrument is available.

Other Terms

The Public Warrants are issued in registered form under a warrant agreement between Continental Stock Transfer & Trust Company, as warrant agent, and us. The warrant agreement provides that the terms of the Public Warrants may be amended without the consent of any holder to cure any ambiguity or correct any defective provision, and that all other modifications or amendments will require the vote or written consent of the holders of at least 50% of the then outstanding Public Warrants, and, solely with respect to any amendment to the terms of the Private Placement Warrants, a majority of the then outstanding Private Placement Warrants.

The Public Warrants may be exercised upon surrender of the warrant certificate on or prior to the expiration date at the offices of the warrant agent, with the exercise form on the reverse side of the warrant certificate completed and executed as indicated, accompanied by full payment of the exercise price (or on a cashless basis, if applicable), by certified or official bank check payable to us, for the number of Public Warrants being exercised. The Public Warrant holders do not have the rights or privileges of holders of common stock and any voting rights until they exercise their Public Warrants and receive common stock. After the issuance of common stock upon exercise of the Public Warrants, each holder will be entitled to one vote for each share held of record on all matters to be voted on by stockholders.

No fractional shares will be issued upon exercise of the Public Warrants. If, upon exercise of the Public Warrants, a holder would be entitled to receive a fractional interest in a share, we will, upon exercise, round down to the nearest whole number of shares of common stock to be issued to the warrant holder.

Private Placement Warrants

Except as described below, the Private Placement Warrants have terms and provisions that are identical to those of the Public Warrants. The Private Placement Warrants are not redeemable by us so long as they are held by the Sponsor or its permitted transferees. The Sponsor, or its permitted transferees, has the option to exercise the Private Placement Warrants on a cashless basis. If the Private Placement Warrants are held by holders other than the Sponsor or its permitted transferees, the Private Placement Warrants will be redeemable by us in all redemption scenarios and exercisable by the holders on the same basis as the Public Warrants.

If holders of the Private Placement Warrants elect to exercise them on a cashless basis, they would pay the exercise price by surrendering their warrants for that number of shares of common stock equal to the quotient obtained by dividing (x) the product of the number of shares of common stock underlying the warrants, multiplied by the excess of the “Sponsor fair market value” (defined below) over the exercise price of the warrants by (y) the Sponsor fair market value. For these purposes, the “*Sponsor fair market value*” shall mean the average reported closing price of the common stock for the 10 trading days ending on the third trading day prior to the date on which the notice of warrant exercise is sent to the warrant agent. The reason that these warrants will be exercisable on a cashless basis so long as they are held by the Sponsor and its permitted transferees is because if they remain affiliated with us, their ability to sell our securities in the open market will be significantly limited. We have policies in place that restrict insiders from selling our securities except during specific periods of time. Even during such periods of time when insiders will be permitted to sell our securities, an insider cannot trade in our securities if he or she is in possession of material non-public information. Accordingly, unlike public stockholders who could exercise their warrants and sell the common stock received upon such exercise freely in the open market in order to recoup the cost of such exercise, the insiders could be significantly restricted from selling such securities. As a result, we believe that allowing the holders to exercise such warrants on a cashless basis is appropriate.

Shortfall Warrants

On March 27, 2023, we issued an aggregate of 2,073,486 Shortfall Warrants to ACM and 2,010,000 Shortfall Warrants to Vellar Opportunity Fund SPV LLC - Series 10 pursuant to the Forward Purchase Agreement, as further described in “— Forward Purchase Agreement.” Each Shortfall Warrant entitles the registered holder to purchase one share of common stock at a price of \$10.00 per share, subject to adjustment in the event that we sell, grant or otherwise issue common stock or common stock equivalents at an effective price less than the then current exercise price of the Shortfall Warrants, at any time commencing on March 27, 2023. Pursuant to the warrant agreement, a Shortfall Warrant holder may exercise its Shortfall Warrants only for a whole number of shares of common stock.

This means that only a whole Shortfall Warrant may be exercised at any given time by a Shortfall Warrant holder. The Shortfall Warrants will expire on March 27, 2028 at 5:00 p.m., New York City time.

We are not obligated to deliver any shares of common stock pursuant to the exercise of a Shortfall Warrant and will have no obligation to settle such Shortfall Warrant exercise unless (i) a registration statement under the Securities Act with respect to the shares of common stock underlying the Shortfall Warrants is then effective, subject to satisfaction of our obligations described in “— Forward Purchase Agreement” with respect to registration, or (ii) either (a) the shares of common stock pursuant to the exercise of a Shortfall Warrant are eligible for resale by the holder without volume or manner-of-sale limitations pursuant to Rule 144 (assuming cashless exercise of the Shortfall Warrants), and (b) otherwise by physical delivery of a certificate. In the event that these conditions are not satisfied with respect to a Shortfall Warrant, the holder of such Shortfall Warrant will not be entitled to exercise such Shortfall Warrant and such Shortfall Warrant may have no value and expire worthless. In no event will we be required to net cash settle any Shortfall Warrant.

A holder of a Shortfall Warrant may exercise such warrants on a “cashless basis.” In such event, each holder would pay the exercise price by surrendering the Shortfall Warrants for that number of shares of common stock equal to $(A-B) \times (X)$ by (A) , where: (A) is the volume-weighted average price of our common stock on the trading day immediately preceding the date of the applicable notice of exercise (subject to certain adjustments depending on the timing of the notice of exercise), (B) is the exercise price of the Shortfall Warrant, as adjusted; and (X) is the number of shares of common stock that would be issuable upon exercise of the Shortfall Warrant in accordance with its terms if such exercise were by means of a cash exercise.

Each Shortfall Warrant may be exercised in part or in full. If we fail for any reason to deliver to the holder the applicable shares before the required date, we must pay certain liquidated damages to the holder.

We have agreed to certain registration rights with regard to the Shortfall Warrants described in “— Forward Purchase Agreement.”

On May 13, 2023, we amended the Shortfall Warrant agreements in order to effect the reclassification of the Shortfall Warrants as equity. The form of amended Shortfall Warrant is attached as Exhibit 4.25.1 to the registration statement of which this prospectus forms a part.

Limitations on Liability and Indemnification of Officers and Directors

The DGCL authorizes corporations to limit or eliminate the personal liability of directors of corporations and their stockholders for monetary damages for breaches of directors’ fiduciary duties, subject to certain exceptions. The Charter includes a provision that eliminates the personal liability of directors for damages for any breach of fiduciary duty as a director where, in civil proceedings, the person acted in good faith and in a manner that person reasonably believed to be in or not opposed to the best interests of LanzaTech or, in criminal proceedings, where the person had no reasonable cause to believe that his or her conduct was unlawful.

The Bylaws provide that we must indemnify and advance expenses to our directors and officers to the fullest extent authorized by the DGCL. We are also expressly authorized to carry directors’ and officers’ liability insurance providing indemnification for our directors, officers, and certain employees for some liabilities. We believe that these indemnification and advancement provisions and insurance are useful to attract and retain qualified directors and executive officers.

The limitation of liability, advancement and indemnification provisions in the Charter and Bylaws may discourage stockholders from bringing lawsuits against directors for breaches of their fiduciary duties. These provisions also may have the effect of reducing the likelihood of derivative litigation against directors and officers, even though such an action, if successful, might otherwise benefit us and our stockholders. In addition, your investment may be adversely affected to the extent we pay the costs of settlement and damage awards against directors and officer pursuant to these indemnification provisions.

Dissenters' Rights of Appraisal and Payment

Under the DGCL, with certain exceptions, stockholders will have appraisal rights in connection with a merger or consolidation of LanzaTech. Pursuant to the DGCL, stockholders who properly request and perfect appraisal rights in connection with such merger or consolidation will have the right to receive payment of the fair value of their shares as determined by the Delaware Court of Chancery.

Stockholders' Derivative Actions

Under the DGCL, any of our stockholders may bring an action in LanzaTech's name to procure a judgment in LanzaTech's favor, also known as a derivative action, provided that the stockholder bringing the action is a holder of our shares at the time of the transaction to which the action relates or such stockholder's stock thereafter devolved by operation of law.

Transfer Agent and Registrar

The transfer agent for our capital stock is Continental Stock Transfer & Trust Company.

Listing of Common Stock

Our common stock and Public Warrants are listed on Nasdaq under the symbols "LNZA" and "LNZAW," respectively.

SELLING STOCKHOLDERS

This prospectus relates to the resale by the selling stockholders from time to time of up to 4,774,276 Private Placement Warrants, up to 4,083,486 Shortfall Warrants, and up to 203,436,682 shares of common stock, which consists of (i) up to 18,500,000 PIPE Shares issued in the PIPE Investment, (ii) up to 4,774,276 shares of common stock issuable upon the exercise of the Private Placement Warrants, (iii) up to 5,000,000 shares of common stock issuable to Brookfield upon the conversion of the Brookfield SAFE, (iv) up to 300,000 shares of common stock issuable upon the exercise of the AM Warrant, (v) up to 2,164,839 shares of common stock held by certain selling stockholders, (vi) up to 1,746,303 shares of common stock underlying the Options held by certain selling stockholders, (vii) up to 5,916,514 shares of common stock purchased by certain selling stockholders subject to the Forward Purchase Agreement, (viii) up to 4,083,486 shares of common stock issuable upon the exercise of the Shortfall Warrants, and (ix) up to 160,951,264 shares of common stock pursuant to the Registration Rights Agreement. We will not receive any proceeds from the sale of the Private Placement Warrants, the Shortfall Warrants or of the common stock by the selling stockholders pursuant to this prospectus.

The selling stockholders may from time to time offer and sell any or all of the Private Placement Warrants, the Shortfall Warrants and common stock set forth below pursuant to this prospectus and any accompanying prospectus supplement. As used in this prospectus, the term “selling stockholders” includes the persons listed in the table below, together with any additional selling stockholders listed in a subsequent amendment to this prospectus, and their pledgees, donees, transferees, assignees, successors, designees and others who later come to hold any of the selling stockholders’ interests in the common stock, other than through a public sale.

Except as set forth in the footnotes below, the following table sets forth certain information as of October 4, 2024 regarding the beneficial ownership of the Private Placement Warrants, the Shortfall Warrants and common stock by the selling stockholders and the Private Placement Warrants, the Shortfall Warrants and shares of common stock being offered by the selling stockholders. The applicable percentage ownership of the Private Placement Warrants is based on 4,774,276 Private Placement Warrants outstanding as of October 4, 2024. The applicable percentage ownership of the Shortfall Warrants is based on 4,083,486 Shortfall Warrants outstanding as of October 4, 2024. The applicable percentage ownership of common stock is based on 197,782,055 shares of common stock outstanding as of October 4, 2024. Information with respect to the Private Placement Warrants, the Shortfall Warrants and shares of common stock owned beneficially after the offering assumes the sale of all of the Private Placement Warrants, the Shortfall Warrants and shares of common stock registered hereby. The selling stockholders may offer and sell some, all or none of their Private Placement Warrants, Shortfall Warrants and shares of common stock.

Beneficial ownership is determined in accordance with the rules and regulations of the SEC. A person is a “beneficial owner” of a security if that person has or shares “voting power,” which includes the power to vote or to direct the voting of the security, or “investment power,” which includes the power to dispose of or to direct the disposition of the security, or has the right to acquire such powers within 60 days.

Unless otherwise noted in the footnotes to the following table, and subject to applicable community property laws, the persons and entities named in the table have sole voting and investment power with respect to their beneficially owned Private Placement Warrants, Shortfall Warrants and common stock.

Please see the section titled “*Plan of Distribution*” in this prospectus for further information regarding the selling stockholders’ method of distributing these securities.

Name of Selling Stockholder	Shares of Common Stock				Warrants to Purchase Common Stock			
	Number Beneficially Owned Prior to Offering	Number Registered for Sale Hereby ⁽¹⁾	Number Beneficially Owned After Offering	Percent Owned After Offering	Number Beneficially Owned Prior to Offering	Number Registered for Sale Hereby ⁽¹⁾	Number Beneficially Owned After Offering	Percent Owned After Offering
Activant Capital IV, LP ⁽²⁾	1,212,500	1,212,500	—	—	—	—	—	—
ACM ARRT H LLC ⁽³⁾	5,000,000	5,000,000	—	—	2,073,486	2,073,486	—	—
Adage Capital Partners, L.P. ⁽⁴⁾	74,250	74,250	—	—	—	—	—	—
AMCI Group, LLC Series 35 ⁽⁵⁾	2,799,835	2,799,835	—	—	—	—	—	—
AMCI Sponsor II LLC ⁽⁶⁾	4,774,276	4,774,276	—	—	4,774,276	4,774,276	—	—
ArcelorMittal XCarb S.à r.l. ⁽⁷⁾	3,300,000	3,300,000	—	—	—	—	—	—
Aristeia Capital, LLC ⁽⁸⁾	49,499	49,499	—	—	—	—	—	—
Baowu Clean Energy Co., Ltd.	1,920,380	1,920,380	—	—	—	—	—	—
BASF Venture Capital GmbH ⁽⁹⁾	3,335,877	3,335,877	—	—	—	—	—	—
BGTF LT Aggregator LP ⁽¹⁰⁾	5,000,000	5,000,000	—	—	—	—	—	—
Boat Harbour Limited ⁽¹¹⁾	1,869,239	1,869,239	—	—	—	—	—	—
CCSRF Fuel (HK) Investment Limited ⁽¹²⁾	4,103,718	4,103,718	—	—	—	—	—	—
Dialog (Labuan) Ltd	773,063	773,063	—	—	—	—	—	—
Gothic Corporation ⁽¹³⁾	596,486	596,486	—	—	—	—	—	—
Gothic ERP LLC ⁽¹⁴⁾	113,114	113,114	—	—	—	—	—	—
Gothic HSP Corporation ⁽¹⁵⁾	113,114	113,114	—	—	—	—	—	—
Guardians of New Zealand Superannuation ⁽¹⁶⁾	33,263,337	33,263,337	—	—	—	—	—	—
Highbridge Capital Management LLC ⁽¹⁷⁾	49,500	49,500	—	—	—	—	—	—
IOCL Singapore Pte Ltd ⁽¹⁸⁾	6,025,762	6,025,762	—	—	—	—	—	—
K One W One (No. 2) Ltd ⁽¹⁹⁾	2,365,019	2,365,019	—	—	—	—	—	—
K One W One (No. 3) Ltd ⁽²⁰⁾	6,413,480	6,413,480	—	—	—	—	—	—
Kepos Alpha Master Fund L.P. ⁽²¹⁾	29,799	29,799	—	—	—	—	—	—
Kepos Special Opportunities Master Fund L.P. ⁽²²⁾	19,701	19,701	—	—	—	—	—	—
Entities affiliated with Khosla Ventures ⁽²³⁾	43,839,900	43,839,900	—	—	—	—	—	—
Land Noble Investments Limited ⁽²⁴⁾	1,452,718	1,452,718	—	—	—	—	—	—
LCP Extension Fund, LLC ⁽²⁵⁾	147,710	147,710	—	—	—	—	—	—
Meteora Capital Partners, LP ⁽²⁶⁾	46,684	46,684	—	—	—	—	—	—

Mitsui & Co. Ltd. ⁽²⁷⁾	6,310,884	6,310,884	—	—	—	—	—	—
Novo Holdings A/S ⁽²⁸⁾	15,814,845	15,814,845	—	—	—	—	—	—
Oxy Low Carbon Ventures, LLC ⁽²⁹⁾	2,800,000	2,800,000	—	—	—	—	—	—
Pescadero Capital, LLC	200,000	200,000	—	—	—	—	—	—
PETRONAS Technology Ventures SDN BHD ⁽³⁰⁾	3,865,329	3,865,329	—	—	—	—	—	—
Primetals Technologies Austria GmbH ⁽³¹⁾	1,362,175	1,362,175	—	—	—	—	—	—
Puig International SA ⁽³²⁾	500,000	500,000	—	—	—	—	—	—
Qiming Managing Directors Fund II, LP ⁽³³⁾	66,007	66,007	—	—	—	—	—	—
Qiming Venture Partners II, LP ⁽³⁴⁾	4,536,087	4,536,087	—	—	—	—	—	—
Qiming Venture Partners II-C, LP ⁽³⁵⁾	397,204	397,204	—	—	—	—	—	—
Saints Ventures II, L.P. ⁽³⁶⁾	150,855	150,855	—	—	—	—	—	—
Sandia Investment Management, LP ⁽³⁷⁾	261,750	261,750	—	—	—	—	—	—
SBCVC Fund III Company Limited ⁽³⁸⁾	104,852	104,852	—	—	—	—	—	—
P.Schoenfeld Asset Management LP ⁽³⁹⁾	49,500	49,500	—	—	—	—	—	—
Sekisui Chemical Co., Ltd. ⁽⁴⁰⁾	967,621	967,621	—	—	—	—	—	—
Shaolin Capital Partners ⁽⁴¹⁾	49,499	49,499	—	—	—	—	—	—
SHV Energy N.V. ⁽⁴²⁾	750,000	750,000	—	—	—	—	—	—
Sinopec Capital Co., Ltd. ⁽⁴³⁾	17,112,976	17,112,976	—	—	—	—	—	—
Suncor Energy, Inc. ⁽⁴⁴⁾	3,899,693	3,899,693	—	—	—	—	—	—
Tenor Opportunity Master Fund, Ltd. ⁽⁴⁵⁾	25,000	25,000	—	—	—	—	—	—
The Board of Trustees of the Leland Stanford Junior University (SEVF II)	19,197	19,197	—	—	—	—	—	—
The Duke Endowment ⁽⁴⁶⁾	226,242	226,242	—	—	—	—	—	—
Traffigura US Holdings, Inc. ⁽⁴⁷⁾	500,000	500,000	—	—	—	—	—	—
UBS O'Connor LLC ⁽⁴⁸⁾	1,370	1,370	—	—	—	—	—	—
Vellar Opportunity Fund SPV LLC - Series 10 ⁽⁴⁹⁾	5,000,000	5,000,000	—	—	2,010,000	2,010,000	—	—
Woodside Energy Technologies Pty, Ltd. ⁽⁵⁰⁾	5,000,000	5,000,000	—	—	—	—	—	—
Brian Beem ⁽⁵¹⁾	298,148	298,148	—	—	—	—	—	—
Kate Burson ⁽⁵²⁾	19,968	19,968	—	—	—	—	—	—
Henry Copes ⁽⁵³⁾	7,142	7,142	—	—	—	—	—	—
Morgan Holmes ⁽⁵⁴⁾	17,854	17,854	—	—	—	—	—	—
Patrick Murphy ⁽⁵⁵⁾	177,890	177,890	—	—	—	—	—	—
Nimesh Patel ⁽⁵⁶⁾	318,148	318,148	—	—	—	—	—	—
Adrian Paterson ⁽⁵⁷⁾	19,968	19,968	—	—	—	—	—	—
Mark Pinho ⁽⁵⁸⁾	19,968	19,968	—	—	—	—	—	—
Sean Simpson ⁽⁵⁹⁾	3,473,674	3,473,674	—	—	—	—	—	—
Jill Watz ⁽⁶⁰⁾	19,968	19,968	—	—	—	—	—	—
Walker Woodson ⁽⁶¹⁾	32,059	32,059	—	—	—	—	—	—
Roger Wyse ⁽⁶²⁾	371,848	371,848	—	—	—	—	—	—
TOTAL	203,436,682	203,436,682	—	—	8,857,762	8,857,762	—	—

- The amounts set forth in this column are the number of shares of common stock that may be offered by each selling stockholder using this prospectus. These amounts do not represent any other shares of our common stock that the selling stockholder may own beneficially or otherwise.
- Steve Sarracino has voting and/or investment power over the shares held by Activant Capital IV, LP.
- Consists of (i) 2,926,514 shares of common stock, (ii) 2,073,486 shares of common stock that are issuable upon the exercise of Shortfall Warrants, and (iii) 2,073,486 Shortfall Warrants. On February 3, 2023, AMCI, Legacy LanzaTech and ACM entered into the Forward Purchase Transaction, as described in the section entitled "Description of Securities — Forward Purchase Agreement." The securities are held directly by ACM ARRT H LLC, of which Atalaya Capital Management LP ("ACM") is the Manager and has investment and dispositive power over the shares. Ivan Zinn is the Chief Investment Officer of ACM and has voting and dispositive power over the shares. The business address of ACM ARRT H LLC and ACM is One Rockefeller Plaza, 32nd Floor New York, NY 10020.
- Consists of 74,250 founder shares of LanzaTech common stock allocated to investors managed by Adage Capital Partners, L.P. Bob Atchinson and Phillip Gross are the managing members of Adage Capital Advisors, L.L.C., which is the managing member of Adage Capital Partners GP, L.L.C., which is the general partner of Adage Capital Partners, L.P., and each such person or entity may be deemed the beneficial owner of such shares. The address of Adage Capital Partners, L.P. is 200 Clarendon Street, 52nd Floor, Boston MA 02116.
- AMCI Group, LLC Series 35 is a member of AMCI Sponsor II LLC. Hans Mende, former non-executive chairman of the board of directors of AMCI, predecessor registrant prior to the consummation of the Business Combination, is the chairman of AMCI Group LLC, Series 35 and may be deemed to have voting or investment power with respect to all shares of common stock held by AMCI Group LLC, Series 35.
- Consists of (i) 4,774,276 shares of common stock that are issuable upon the exercise of Private Placement Warrants, and (ii) 4,774,276 Private Placement Warrants. Brian Beem is the sole managing member of AMCI Sponsor II LLC. Mr. Beem is the former president and a member of the board of directors of AMCI, predecessor registrant prior to the consummation of the Business Combination. Mr. Beem may be deemed to have voting or investment power with respect to the securities held by AMCI Sponsor II LLC.
- Consists of 3,000,000 shares of common stock held by ArcelorMittal XCarb S.à r.l. ("XCarb") and 300,000 shares of common stock subject to warrants that are exercisable within 60 days of October 4, 2024. XCarb is a commercial partner of LanzaTech. XCarb is a direct wholly-owned subsidiary of AM Global Holding S.à r.l. and an indirect wholly-owned subsidiary of ArcelorMittal, a publicly traded company, each of which may be deemed to have beneficial ownership of the shares held by XCarb. The address for XCarb is 24-26, boulevard d'Avranches, L-1160 Luxembourg, Grand Duchy of Luxembourg.
- Consists of (i) 33,349 shares of common stock held by Aristeia Master, L.P., (ii) 3,274 shares of common stock held by ASIG International Limited, (iii) 8,869 shares of common stock held by Blue Peak Limited, (iv) 2,960 shares of common stock held by DS Liquid Div RVA ARST, LLC, and (v) 1,047 shares of common stock held by Windermere Cayman Fund Limited (each an "Aristeia Fund" and collectively, the "Aristeia Funds"). Aristeia Capital, L.L.C. and Aristeia Advisors, L.L.C. (collectively, "Aristeia") may be deemed the beneficial owners of the securities described herein in their capacity as the investment manager, trading manager, and/or general partner, as the case may be, of the Aristeia Funds. As investment manager, trading advisor and/or general partner of each Aristeia Fund, Aristeia has voting and investment control with respect to the securities held by each Aristeia Fund. Anthony M. Frascella and William R. Techar are the co-Chief Investment Officers of Aristeia. Each of Aristeia and such individuals disclaims beneficial ownership of the securities referenced herein except to the extent of its or his direct or indirect economic interest in the Aristeia Funds.
- BASF Venture Capital GmbH is a commercial partner of LanzaTech. Markus Solibieda, managing director, has direct voting and investment power over the shares held by BASF Venture Capital GmbH.
- BGTF LT Aggregator LP is an affiliate of Brookfield Renewable Power Inc., a commercial partner of LanzaTech. The general partner of BGTF LT Aggregator LP is BGTF Bermuda GP Limited, an affiliate of Brookfield Corporation. BAM Partners Trust ("BAM Partnership") owns all of Brookfield Corporation's class B limited voting shares entitling it to appoint one-half of the board of directors of Brookfield Corporation. The beneficial interests in the BAM Partnership, and the voting interests in its trustee ("BAM Partners"), are held as follows: one-third by Jack L. Cockwell, one-third by Bruce Flatt, and one-third jointly by Brian W. Kingston, Brian D. Lawson, Cyrus Madon, Samuel J.B. Pollock and Sachin G. Shah in equal parts. No single individual or entity controls the BAM Partnership.
- Voting and investment decisions with respect to the shares held by Boat Harbour are made by its board of directors, and none of the directors are deemed to have or share beneficial ownership of the shares held by Boat Harbour Limited. Consists of 1,803,619 shares of common stock and 65,620 shares of common stock underlying stock options.

- (12) Prior to the consummation of the Business Combination, CCSRF Fuel (HK) Investment Limited had the right to appoint and elect, one director to Legacy LanzaTech's board of directors. This appointment right terminated upon the consummation of the Business Combination. Any action by CCSRF Fuel (HK) Investment Limited with respect to its shares, including voting and dispositive decisions, requires a unanimous vote by the investment committee, which consists of more than one member. Because voting and dispositive decisions must be unanimous, none of the investment committee members is deemed to be a beneficial owner of securities held by CCSRF Fuel (HK) Investment Limited. Accordingly, none of the members of the investment committee is deemed to have or share beneficial ownership of the shares held by CCSRF Fuel (HK) Investment Limited. The business address of CCSRF Fuel (HK) Investment Limited is 8/F Capital Mansion, No. 6 Xinyuan South Road, Chaoyang District, Beijing, China.
- (13) DUMAC, Inc., as the investment manager of Gothic Corporation, may be deemed to beneficially own the shares of common stock of the issuer held by Gothic Corporation. Neal F. Triplett, as the President of DUMAC, Inc., may be deemed to beneficially own the shares of common stock of the issuer held by Gothic Corporation. The address of each of the persons referenced in this footnote is 280 S. Mangum Street, Suite 210, Durham, NC 27701.
- (14) DUMAC, Inc., as the investment manager of Gothic ERP LLC, may be deemed to beneficially own the shares of common stock of the issuer held by Gothic ERP LLC. Neal F. Triplett, as the President of DUMAC, Inc., may be deemed to beneficially own the shares of common stock of the issuer held by Gothic ERP LLC. The address of each of the persons referenced in this footnote is 280 S. Mangum Street, Suite 210, Durham, NC 27701.
- (15) DUMAC, Inc., as the investment manager of Gothic HSP Corporation, may be deemed to beneficially own the shares of common stock of the issuer held by Gothic HSP Corporation. Neal F. Triplett, as the President of DUMAC, Inc., may be deemed to beneficially own the shares of common stock of the issuer held by Gothic HSP Corporation. The address of each of the persons referenced in this footnote is 280 S. Mangum Street, Suite 210, Durham, NC 27701.
- (16) Shares of common stock held by Guardians of New Zealand Superannuation, as the manager and administrator of the New Zealand Superannuation Fund. Prior to the consummation of the Business Combination, Guardians of New Zealand Superannuation had the right to appoint and elect, and did appoint and elect, one director to Legacy LanzaTech's board of directors. This appointment right terminated upon the consummation of the Business Combination. Matt Whineray, Chief Executive Officer, has direct voting and investment power over the shares held by Guardians of New Zealand Superannuation. The business address of Guardians of New Zealand Superannuation is Level 12, 21 Queen Street, Auckland 1010, New Zealand.
- (17) Highbridge Capital Management, LLC ("HCM"), the trading manager of Highbridge Convertible Dislocation Fund, L.P., and Highbridge Tactical Credit Master Fund, L.P. (together the "Highbridge Funds"), has beneficial ownership of the shares held by the Highbridge Funds. The Highbridge Funds disclaim beneficial ownership of these shares. The address of HCM is 277 Park Avenue, 23rd Floor, New York, NY 10172, and the address of the Highbridge Funds is c/o Maples Corporate Services Limited, PO Box 309, Ugland House, South Church Street, George Town, Grand Cayman KY1-1104, Cayman Islands.
- (18) Prior to the consummation of the Business Combination, IOCL Singapore Pte Ltd had the right to appoint and elect, and did appoint and elect, one director to Legacy LanzaTech's board of directors. This appointment right terminated upon the consummation of the Business Combination.
- (19) Stephen Robert Tindall has voting and/or investment control over the shares held by K One W One (No. 2) Ltd.
- (20) Stephen Robert Tindall has voting and/or investment control over the shares held by K One W One (No. 3) Ltd.
- (21) Kepos Capital LP is the investment manager of the selling securityholder and Kepos Partners LLC is the general partner of the selling securityholder and each may be deemed to have voting and dispositive power with respect to the shares. The general partner of Kepos Capital LP is Kepos Capital GP LLC ("Kepos GP") and the managing member of Kepos Partners LLC is Kepos Partners MM LLC ("Kepos MM"). Mark Carhart controls Kepos GP and Kepos MM and, accordingly, may be deemed to have voting and dispositive power with respect to the shares held by this selling securityholder. Mr. Carhart disclaims beneficial ownership of the shares held by the selling securityholder.
- (22) Kepos Capital LP is the investment manager of the selling securityholder and Kepos Partners LLC is the general partner of the selling securityholder and each may be deemed to have voting and dispositive power with respect to the shares. The general partner of Kepos Capital LP is Kepos GP and the managing member of Kepos Partners LLC is Kepos MM. Mark Carhart controls Kepos GP and Kepos MM and, accordingly, may be deemed to have voting and dispositive power with respect to the shares held by this selling securityholder. Mr. Carhart disclaims beneficial ownership of the shares held by the selling securityholder.
- (23) Prior to the consummation of the Business Combination, certain affiliates of Khosla Ventures II, LP ("KV II") and Khosla Ventures III, LP ("KV III") had the right to appoint and elect, and did appoint and elect, two directors to Legacy LanzaTech's board of directors. This appointment right terminated upon the consummation of the Business Combination. Consists of (i) 13,875,332 shares of LanzaTech common stock held by KV III, (ii) 28,992,029 shares of LanzaTech common stock held by entities owned or controlled by Vinod Khosla, and (iii) 972,539 shares of LanzaTech common stock held by limited partners of KV II not affiliated with Vinod Khosla. Khosla Ventures Associates III, LLC ("KVA III") is the general partner of KV III. VK Services, LLC ("VK Services") is the Manager of KVA III. Vinod Khosla is the Managing Member of VK Services. As such, (i) each of KVA III and VK Services may be deemed to be the beneficial owners having shared voting power and shared investment power over 13,875,332 shares of LanzaTech common stock, and (ii) Vinod Khosla may be deemed to be the beneficial owner having shared voting power and shared investment power over 42,867,361 shares of LanzaTech common stock, and each disclaims beneficial ownership of such securities except to the extent of his or its pecuniary interest therein. The business address of Vinod Khosla and each of the other entities listed in this footnote is 2128 Sand Hill Road, Menlo Park, CA 94025.
- (24) Land Noble Investments Limited ("Land Noble") is the registered owner of the shares and is governed by a three member board of directors. Land Noble is wholly owned by CICC Growth Capital Fund I, L.P. ("CICC Fund"), which is controlled by its general partner, CICC Growth Capital Fund GP, Ltd. ("CICC GP"). CICC GP is governed by a three member board of directors. Additionally, the consent of a majority of the three-member investment committee of CICC Investment Management Co. Ltd. ("CICC Manager"), is required for any disposal of the shares by Land Noble. Land Noble, CICC Fund and CICC GP may be deemed to share beneficial ownership of the shares, but under the so-called "rule of three", neither the members of the boards of directors of Land Noble and CICC GP, nor the members of the investment committee of CICC Manager, are deemed beneficial owners of the shares. The business address of all of the foregoing entities is 35th Floor, SK Tower, No.6A Jianguomenwai Avenue, Chaoyang District, Beijing, China.
- (25) Saints Ventures II, LLC ("SVII LLC") is the manager of LCP Extension Fund, LLC. Any investment decision by SVII LLC requires the approval of two out of three of its managing members. Under the so-called "rule of three," because voting and dispositive decisions are made by two out of the three managing members of SVII LLC, none of the managing members is deemed to be a beneficial owner of securities held.
- (26) Meteora Capital Partners, LP ("MCP") holds shares of LanzaTech common stock. Meteora Capital, LLC ("Meteora Capital") serves as investment manager to MCP. Voting and investment power over the shares held by MCP resides with its investment manager, Meteora Capital. Mr. Vik Mittal serves as the managing member of Meteora Capital and may be deemed to be the beneficial owner of the shares. Mr. Mittal, however, disclaims any beneficial ownership of the shares held by such entities.
- (27) LanzaTech and Mitsui are party to certain collaboration and investment agreements described in the section entitled see the section entitled "*Business Overview — Key Collaboration Agreements*" included in Item 1 of our Annual Report on Form 10-K for the year ended December 31, 2023. Prior to the consummation of the Business Combination, Mitsui had the right to appoint and elect, and did appoint and elect, one director to Legacy LanzaTech's board of directors. This appointment right terminated upon the consummation of the Business Combination. No natural person has voting and/or investment power over the shares held by Mitsui & Co. Ltd.
- (28) Prior to the consummation of the Business Combination, Novo Holdings A/S had the right to appoint and elect, and did appoint and elect, one director to Legacy LanzaTech's board of directors. This appointment right terminated upon the consummation of the Business Combination. Novo Holdings A/S has the sole power to vote and dispose of the shares, and no individual or other entity is deemed to hold any beneficial ownership in the shares. The business address of Novo Holdings A/S is Tuborg Havnevej 19, 2900 Hellerup, Denmark.
- (29) Oxy Low Carbon Ventures, LLC is a commercial partner of LanzaTech.
- (30) Prior to the consummation of the Business Combination, PETRONAS Technology Ventures SDN BHD had the right to appoint and elect, and did appoint and elect, one director to Legacy LanzaTech's board of directors. This appointment right terminated upon the consummation of the Business Combination. PETRONAS Technology Ventures SDN BHD has the sole power to vote and dispose of the shares, and no individual or other entity is deemed to hold any beneficial ownership in the shares.
- (31) Primetals Technologies Austria GmbH is a commercial partner of LanzaTech. Etsuro Hirai, Andreas Weinhengst, Alexander Fleischer, Michael Kienberger, Miljenko Solje, Jeremy Hamon, and Rainer Oberleitner, each may be deemed to have shared voting and dispositive power with respect to the shares.
- (32) Puig International SA is a wholly-owned subsidiary of the Spanish entity JORBA PERFUMES, S.L., which in turn is a wholly-owned subsidiary of the Spanish entity PUIG, S.L. Voting and dispositive decisions with respect to the shares held by Puig International SA are made by PUIG, S.L. The business address of Puig International SA is Business Park Terre Bonne - (Bâtiment A4), Route de Crassier 17, CH - 1262 Eysins, Switzerland.
- (33) Prior to the consummation of the Business Combination, Qiming Venture Partners II, L.P., Qiming Venture Partners II-C, L.P. and Qiming Managing Directors Fund II, L.P. (collectively, "Qiming Venture Partners") jointly had the right to appoint and elect, and did appoint and elect, one director to Legacy LanzaTech's board of directors. This appointment right terminated upon the consummation of the Business Combination. The general partner of Qiming Venture Partners II, L.P. and Qiming Venture Partners II-C, L.P. is Qiming GP II, L.P., a Cayman Islands exempted limited partnership, whose general partner is Qiming Corporate GP II, Ltd., a Cayman Islands exempted company. The general partner of Qiming Managing Directors Fund II, L.P. is Qiming Corporate GP II, Ltd. The voting and investment power of shares held by Qiming Venture Partners is exercised by Qiming Corporate GP II, Ltd., which is beneficially owned by Duane Kuang, Gary Rieschel, Nisa Leung and Robert Headley.
- (34) Prior to the consummation of the Business Combination Qiming Venture Partners jointly had the right to appoint and elect, and did appoint and elect, one director to Legacy LanzaTech's board of directors. This appointment right terminated upon the consummation of the Business Combination. The general partner of Qiming Venture Partners II, L.P. and Qiming Venture Partners II-C, L.P. is Qiming GP II, L.P., a Cayman Islands exempted limited partnership, whose general partner is Qiming Corporate GP II, Ltd., a Cayman Islands exempted company. The general partner of Qiming Managing Directors Fund II, L.P. is Qiming Corporate GP II, Ltd. The voting and investment power of shares held by Qiming Venture Partners is exercised by Qiming Corporate GP II, Ltd., which is beneficially owned by Duane Kuang, Gary Rieschel, Nisa Leung and Robert Headley.
- (35) Prior to the consummation of the Business Combination Qiming Venture Partners jointly had the right to appoint and elect, and did appoint and elect, one director to Legacy LanzaTech's board of directors. This appointment right terminated upon the consummation of the Business Combination. The general partner of Qiming Venture Partners II, L.P. and Qiming Venture Partners II-C, L.P. is Qiming GP II, L.P., a Cayman Islands exempted limited partnership, whose general partner is Qiming Corporate GP II, Ltd., a Cayman Islands exempted company. The general partner of Qiming Managing Directors Fund II, L.P. is Qiming Corporate GP II, Ltd. The voting and investment power of shares held by Qiming Venture Partners is exercised by Qiming Corporate GP II, Ltd., which is beneficially owned by Duane Kuang, Gary Rieschel, Nisa Leung and Robert Headley.
- (36) SVII LLC is the manager of LCP Extension Fund, LLC. Any investment decision by SVII LLC requires the approval of two out of three of its managing members. Under the so-called "rule of three," because voting and dispositive decisions are made by two out of the three managing members of SVII LLC, none of the managing members is deemed to be a beneficial owner of securities held.
- (37) Consists of shares of LanzaTech common stock allocated to investors managed by Sandia Investment Management LP ("Sandia"). Sandia Investment Management LLC is the general partner of Sandia. Tim Sichler serves as Founder & CIO of the general partner of Sandia, and in such capacity may be deemed to be the beneficial owner having shared voting power and

- shared investment power over the securities described in this footnote.
- (38) SBCVC Fund III Company Limited is an investment vehicle under SBCVC Fund III L.P. which is an investment fund in a form of a limited partnership incorporated and existing under the laws of the Cayman Island. Chauncey Shey, Peter Hua and Alan Song, members of the investment committee of SBCVC Fund III L.P., have shared voting and investment power with respect to the shares held by SBCVC Fund III Company Limited.
- (39) Consists of (i) 10,959 shares of common stock held by Lumyna Specialist Funds - Event Alternative Fund (“EAF”), and (ii) 38,541 shares of common stock held by PSAM WorldArb Master Fund Ltd (“WAM”). P. Schoenfeld Asset Management LP (“PSAM”), is the investment manager of EAF and WAM. Peter Schoenfeld is the CEO of PSAM. PSAM and Peter Schoenfeld have voting and investment power over the shares held directly by EAF and WAM. Each of PSAM and Peter Schoenfeld disclaim beneficial ownership of the securities reported herein except to the extent of their pecuniary interest therein. The address for P. Schoenfeld Asset Management LP is 1350 Avenue of the Americas, 21st Floor, New York, NY 10019.
- (40) LanzaTech and Sekisui are party to certain collaboration agreements described in the section entitled “*Business Overview — Key Collaboration Agreements*” included in Item 1 of our Annual Report on Form 10-K for the year ended December 31, 2023.
- (41) Consists of shares of LanzaTech common stock allocated to Shaolin Capital Partners Master Fund, Ltd., MAP 214 Segregated Portfolio, a segregated portfolio of LMA SPC, DS Liquid DIV RVA SCM, LLC and Shaolin Capital Partners SP, a segregated portfolio of PC MAP SPC by Shaolin Capital Management LLC. David Puritz, in his position as CIO at Shaolin Capital Management LLC and Michael Jester in his position as Co-founder and Head of Research at Shaolin Capital Management LLC may be deemed to have voting and investment power with respect to the shares. Shaolin Capital Management LLC has sole voting and dispositive power over the shares.
- (42) SHV Energy N.V. is a commercial partner of LanzaTech. The board of directors has the sole power to vote and dispose of the shares. The board of directors is jointly represented by its two members, Mr. Abraham A. Graber and Mr. Paulo F. Rodrigues. No individual or other entity has any specific rights over the shares nor holds any beneficial ownership of the shares.
- (43) Prior to the consummation of the Business Combination, Sinopec Capital Co., Ltd. had the right to appoint and elect, and did appoint and elect, one director to Legacy LanzaTech’s board of directors. This appointment right terminated upon the consummation of the Business Combination. Any action by Sinopec Capital Co., Ltd. with respect to its shares, including voting and dispositive decisions, requires a vote of three out of the five members of its investment team. Under the so-called “rule of three,” because voting and dispositive decisions are made by three out of the five members of the investment team, none of the members is deemed to be a beneficial owner of securities held by Sinopec Capital Co., Ltd. Accordingly, none of the members of the investment team is deemed to have or share beneficial ownership of the shares held by Sinopec Capital Co., Ltd. The business address of Sinopec Capital Co., Ltd. is 22nd Floor, World Financial Center East Tower, 1 East 3rd Ring Middle Road, Chaoyang District, Beijing, China.
- (44) LanzaTech and Suncor are party to certain collaboration and investment agreements described in the section entitled “*Business Overview — Key Collaboration Agreements*” included in Item 1 of our Annual Report on Form 10-K for the year ended December 31, 2023.
- (45) Tenor Capital Management Company, L.P. serves as the investment adviser for Tenor Opportunity Master Fund, Ltd. and therefore may be deemed to share voting and investment power with respect to these shares in such capacity. Tenor Management GP, LLC is the general partner of Tenor Capital Management Company, L.P. and Robin R. Shah is the sole managing member of Tenor Management GP, LLC. As such, Mr. Shah may be deemed to have beneficial ownership over the shares. The address of Tenor Opportunity Master Fund, Ltd. is c/o Tenor Capital Management, 810 7th Avenue, Suite 1905, New York, NY 10019.
- (46) DUMAC, Inc., as the investment manager of The Duke Endowment, may be deemed to beneficially own the shares of common stock of the issuer held by The Duke Endowment. Neal F. Triplett, as the President of DUMAC, Inc., may be deemed to beneficially own the shares of common stock of the issuer held by The Duke Endowment. The address of each of the persons referenced in this footnote is 280 S. Mangum Street, Suite 210, Durham, NC 27701.
- (47) Trafigura US Holdings Inc. is a direct wholly-owned subsidiary of Trafigura US Inc., which in turn is an indirect wholly-owned subsidiary of Trafigura Group Pte. Ltd. The business address of Trafigura US Holdings, Inc. is 1209, Orange Street, Wilmington, Delaware. Trafigura Trading LLC, another direct wholly-owned subsidiary of Trafigura US Inc., is a commercial partner of LanzaTech.
- (48) Consists of shares of LanzaTech common stock allocated to investors managed by UBS O’Connor LLC.
- (49) Consists of (i) 2,990,000 shares of common stock, (ii) 2,010,000 shares of common stock that are issuable upon the exercise of Shortfall Warrants, and (iii) 2,010,000 Shortfall Warrants held directly by Vellar Opportunity Fund SPV LLC - Series 10 (“Vellar”). AMCI, Legacy LanzaTech, ACM and Vellar entered into an Assignment and Novation Agreement, as described in the section entitled “*Description of Securities — Forward Purchase Agreement*.” Cohen & Company Financial Management, LLC (“CCFM”) is the investment manager for Vellar, and Mr. Daniel Cohen is the Chief Investment Officer of CCFM. CCFM is a controlled subsidiary of Dekania Investors, LLC, which in turn is a controlled subsidiary of Cohen & Company LLC, which in turn is a controlled subsidiary of Cohen & Company Inc. Mr. Cohen disclaims any beneficial ownership of the shares held by these entities. The business address of Vellar Opportunity Fund SPV LLC – Series 10 is c/o Mourant Governance Services (Cayman) Limited 94, Solaris Avenue, Camana Bay, PO Box 1348 Grand Cayman KY1-1108, Cayman Islands. The business address for each of Cohen & Company Financial Management, LLC; Dekania Investors, LLC; Cohen & Company LLC; Cohen & Company Inc.; and Mr. Daniel Cohen is 3 Columbus Circle, 24th Floor, New York NY 10019.
- (50) There are no natural persons who have voting and/or investment power over the shares held by Woodside Energy Technologies Pty Ltd.
- (51) Mr. Beem is the former president and a member of the board of directors of AMCI, predecessor registrant prior to the consummation of the Business Combination.
- (52) Ms. Burson is a former member of the board of directors of AMCI, predecessor registrant prior to the consummation of the Business Combination.
- (53) Mr. Copses is the former Vice President of AMCI, predecessor registrant prior to the consummation of the Business Combination.
- (54) Mr. Holmes is the former Vice President of AMCI, predecessor registrant prior to the consummation of the Business Combination.
- (55) Mr. Murphy is the former chief financial officer of AMCI, predecessor registrant prior to the consummation of the Business Combination.
- (56) Mr. Patel is the former chief executive officer and a member of the board of directors of AMCI, predecessor registrant prior to the consummation of the Business Combination, and former member of the board of directors of LanzaTech.
- (57) Mr. Paterson is a former member of the board of directors of AMCI, predecessor registrant prior to the consummation of the Business Combination.
- (58) Mr. Pinho is a former member of the board of directors of AMCI, predecessor registrant prior to the consummation of the Business Combination.
- (59) Dr. Simpson is the former chief scientific officer and a member of the board of directors of Legacy LanzaTech. Consists of 2,164,839 shares of common stock and 1,308,835 shares of common stock underlying stock options.
- (60) Ms. Watz is a former member of the board of directors of AMCI, predecessor registrant prior to the consummation of the Business Combination.
- (61) Mr. Woodson is an affiliate of AMCI, predecessor registrant prior to the consummation of the Business Combination.
- (62) Dr. Wyse is a former member of the board of directors of Legacy LanzaTech. Consists of 371,848 shares of common stock underlying stock options.

MATERIAL U.S. FEDERAL INCOME AND ESTATE TAX CONSIDERATIONS

The following discussion describes material United States federal income and estate tax considerations relating to the acquisition, ownership, and disposition of shares, Shortfall Warrants, or Private Placement Warrants by a non-U.S. holder (as defined below) that acquires our shares, Shortfall Warrants, or Private Placement Warrants in this offering and holds them as a capital asset. This discussion is based on the tax laws of the United States, including the Code, Treasury regulations promulgated or proposed thereunder, and administrative and judicial interpretations thereof, all as in effect on the date hereof. These tax laws are subject to change, possibly with retroactive effect, and subject to differing interpretations that could affect the tax consequences described herein. This section does not address the treatment of a non-U.S. holder under the laws of any state, local or foreign taxing jurisdiction.

For purposes of this discussion, a “non-U.S. holder” is a beneficial owner of our shares, Shortfall Warrants, or Private Placement Warrants that, for United States federal income tax purposes, is:

- a non-resident alien individual;
- a foreign corporation;
- an estate the income of which is not subject to United States federal income taxation regardless of its source; or
- a trust that does not have in effect a valid election under the Treasury regulations to be treated as a United States person and either (1) no court within the United States is able to exercise primary supervision over the trust’s administration or (2) no United States person has the authority to control all substantial decisions of that trust.

This discussion does not address all aspects of United States federal income taxation that may be applicable to non-U.S. holders in light of their particular circumstances or status (including, for example, banks and other financial institutions, insurance companies, brokers and dealers in securities or currencies, traders that have elected to mark securities to market, partnerships or other pass-through entities, corporations that accumulate earnings to avoid United States federal income tax, tax-exempt organizations, pension plans, persons that hold our shares as part of a straddle, hedge or other integrated investment, persons subject to alternative minimum tax, certain United States expatriates, and foreign governments or agencies).

If a partnership (including any entity or arrangement treated as a partnership for United States federal income tax purposes) is a non-U.S. holder, the tax treatment of a person treated as a partner in the partnership for United States federal income tax purposes generally will depend on the status of the partner and the activities of the partnership. Partnerships (and other entities or arrangements so treated for United States federal income tax purposes) and their partners should consult their own tax advisors.

This discussion addresses only non-U.S. holders and does not discuss any tax considerations other than United States federal income tax and certain United States federal estate tax considerations. Prospective investors are urged to consult their own tax advisors regarding the United States federal, state, local, and foreign tax consequences of the purchase, ownership, and disposition of our shares, Shortfall Warrants and Private Placement Warrants, including the effect of any applicable tax treaties.

Dividends

As discussed above, we have not paid and do not currently expect to pay dividends. If we do make a distribution of cash or property with respect to our shares, any such distribution generally will constitute a dividend for United States federal income tax purposes except as described below. Subject to the discussion below under “— FATCA Withholding” and “— Information Reporting and Backup Withholding,” and except as described below, any such dividends paid to a non-U.S. holder generally will be subject to withholding tax at a 30% rate or at a lower rate under an applicable income tax treaty between the United States and the non-U.S. holder’s country of residence. In order to receive a reduced treaty withholding tax rate, a non-U.S. holder must furnish to us or our paying agent a properly executed Internal Revenue Service Form W-8BEN or Form W-8BEN-E (or other applicable form) prior to

payment of the dividend, certifying under penalties of perjury that the non-U.S. holder is entitled to a reduction in withholding under an applicable income tax treaty. A non-U.S. holder that holds our shares through a financial institution or other agent will be required to provide appropriate documentation to the financial institution or other agent, which then will be required to provide certification to us or our paying agent either directly or through other intermediaries. A non-U.S. holder that is eligible for a reduced rate of withholding tax pursuant to an income tax treaty may obtain a refund of any excess amounts withheld by filing a refund claim with the Internal Revenue Service.

If a dividend is “effectively connected” with the conduct of a trade or business in the United States of the non-U.S. holder (and, if an applicable income tax treaty so provides, attributable to a permanent establishment or fixed base maintained by the non-U.S. holder in the United States), the non-U.S. holder is exempt from the withholding tax described above provided that the holder has furnished to us or our paying agent an Internal Revenue Service Form W-8ECI (or applicable successor form), certifying under penalties of perjury that the dividend is effectively connected with the non-U.S. holder’s conduct of a trade or business in the United States (and, if an applicable income tax treaty so provides, attributable to a permanent establishment or fixed base maintained in the United States). “Effectively connected” dividends will generally be subject to United States federal income tax at the rates that also apply to U.S. persons. A corporate non-U.S. holder may, under certain circumstances, be subject to an additional branch profits tax at a 30% rate (or at a lower rate under an applicable income tax treaty) with respect to its “effectively connected” dividends.

To the extent a distribution with respect to our shares exceeds our current or accumulated earnings and profits, as determined under United States federal income tax principles, the distribution will be treated, first, as a tax-free return of the non-U.S. holder’s investment, up to the holder’s adjusted tax basis in its shares, and, thereafter, as capital gain, which is subject to the tax treatment described below in “— Gain on Sale, Exchange or Other Taxable Disposition.”

Exercise of Shortfall Warrants and Private Placement Warrants

In general, a non-U.S. holder will not recognize gain or loss for U.S. federal income tax purposes upon exercise of a Shortfall Warrant or Private Placement Warrant. In general, a non-U.S. holder will not be able to utilize a loss recognized upon the expiration of such a warrant against the non-U.S. holder’s U.S. federal income tax liability unless the loss is (i) effectively connected with the non-U.S. holder’s conduct of a trade or business within the United States (and, if required by an applicable income tax treaty, is attributable to a permanent establishment in the United States) or (ii) treated as a U.S.-source loss, the non-U.S. holder is present in the United States for 183 days or more in the taxable year of disposition, and certain other conditions are met.

Gain On Sale, Exchange or Other Taxable Disposition

Subject to the discussion below under “— FATCA Withholding” and “— Information Reporting and Backup Withholding,” a non-U.S. holder generally will not be subject to United States federal income tax or withholding tax on gain realized upon a sale, exchange or other taxable disposition of Private Placement Warrants, Shortfall Warrants, or shares (including a redemption, but only if the redemption would be treated as a sale or exchange rather than a distribution for United States federal income tax purposes) unless:

- the gain is “effectively connected” with the conduct of a trade or business of the non-U.S. holder in the United States (and, if required by an applicable income tax treaty, the gain is attributable to a permanent establishment or fixed base maintained in the United States), in which case the non-U.S. holder generally will be subject to United States federal income tax on a net income basis with respect to such gain in the same manner as if such holder were a resident of the United States and, if the non-U.S. holder is a corporation for United States federal income tax purposes, may, under certain circumstances, be subject to an additional “branch profits tax” at a 30% rate (or at a lower rate under an applicable income tax treaty) on its “effectively connected” gains;
- the non-U.S. holder is an individual who is present in the United States for 183 or more days in the taxable year of the disposition and meets certain other conditions, in which case the non-U.S. holder generally will be subject to United States federal income tax at a 30% rate (or at a lower rate under an applicable income

tax treaty) on the gain derived from the sale, which gain may be offset by U.S.-source capital losses for the year; or

- we are or have been a “United States real property holding corporation” or USRPHC (as described below) at any time within the shorter of the five-year period preceding the disposition and the non-U.S. holder’s holding period for our shares, Private Placement Warrants, or Shortfall Warrants (the “relevant period”) and the non-U.S. holder (i) makes a disposition during a calendar year when our shares are no longer regularly traded on an established securities market or (ii) owned (directly, indirectly, and constructively) more than 5% of our shares at any time during the relevant period, in which case such a non-U.S. holder generally will be subject to tax on the gain as if the gain were effectively connected with the conduct of a trade or business in the United States, except that the “branch profits tax” will not apply.

We believe we currently are not, and we do not anticipate becoming, a USRPHC for United States federal income tax purposes. Generally, a corporation is a USRPHC only if the fair market value of its United States real property interests (as defined in the Code) equals or exceeds 50% of the sum of the fair market value of its worldwide real property interests and its other assets used or held for use in a trade or business.

FATCA Withholding

Sections 1471 through 1474 of the Code and the Treasury regulations issued thereunder (commonly referred to as the Foreign Account Tax Compliance Act, or FATCA) impose a 30% withholding tax on dividends paid on our shares to, and (subject to the proposed Treasury Regulations discussed below) the gross proceeds derived from the sale or other disposition of our shares by, a foreign entity if the foreign entity is:

- a “foreign financial institution” (as defined under FATCA) that does not furnish proper documentation, typically on IRS Form W-8BEN-E, evidencing either (i) an exemption from FATCA withholding or (ii) its compliance (or deemed compliance) with specified due diligence, reporting, withholding and certification obligations under FATCA or (iii) residence in a jurisdiction that has entered into an intergovernmental agreement with the United States relating to FATCA and compliance with the diligence and reporting requirements of the intergovernmental agreement and local implementing rules; or
- a “non-financial foreign entity” (as defined under FATCA) that does not provide sufficient documentation, typically on IRS Form W-8BEN-E, evidencing either (i) an exemption from FATCA or (ii) adequate information regarding substantial United States beneficial owners of such entity (if any).

Withholding under FATCA generally applies to payments of dividends on our shares and to payments of gross proceeds from a sale or other disposition of our shares. Withholding agents may, however, rely on proposed U.S. Treasury Regulations that would no longer require FATCA withholding on payments of gross proceeds. A withholding agent such as a broker, and not LanzaTech, will determine whether or not to implement gross proceeds FATCA withholding.

If a dividend payment is subject to withholding both under FATCA and the withholding tax rules discussed above under “— Dividends,” the withholding under FATCA may be credited against, and therefore reduce, such other withholding tax. Holders of shares should consult their own tax advisors regarding these requirements and whether they may be relevant to their ownership and disposition of the shares.

Under certain circumstances, a non-U.S. holder will be eligible for refunds or credits of withholding taxes imposed under FATCA by filing a United States federal income tax return. Prospective investors should consult their tax advisors regarding the effect of FATCA on their ownership and disposition of our shares.

Information Reporting and Backup Withholding

Except as described below, a non-U.S. holder generally will be exempt from backup withholding and information reporting requirements with respect to dividend payments and the payment of the proceeds from a sale of our shares, Private Placement Warrants, or Shortfall Warrants that is effected at a United States office of a broker,

as long as the payor or broker does not have actual knowledge or reason to know that the holder is a United States person and the holder has furnished to the payor or broker:

- a valid Internal Revenue Service Form W-8BEN or Form W-8BEN-E on which the non-U.S. holder certifies, under penalties of perjury, that it is a non-United States person; or
- other documentation upon which it may rely to treat the payments as made to a non-United States person in accordance with Treasury regulations,

or the non-U.S. holder otherwise establishes an exemption.

However, we must report annually to the Internal Revenue Service and to non-U.S. holders the amount of dividends paid to them and the tax withheld with respect to such dividends, regardless of whether withholding was required. Copies of the information returns reporting such dividends and withholding may also be made available to the tax authorities in the country in which the respective non-U.S. holder resides under the provisions of an applicable income tax treaty.

Payment of the proceeds from the sale of our shares, Private Placement Warrants, or Shortfall Warrants effected at a foreign office of a broker generally will not be subject to information reporting or backup withholding. However, a sale of our shares by a non-U.S. holder that is effected at a foreign office of a broker will be subject to information reporting and backup withholding if:

- the proceeds are transferred to an account maintained by the non-U.S. holder in the United States;
- the payment of proceeds or the confirmation of the sale is mailed to the non-U.S. holder at a United States address; or
- the sale has some other specified connection with the United States as provided in the Treasury regulations,

unless the broker does not have actual knowledge or reason to know that the holder is a United States person and the documentation requirements described above are met or the non-U.S. holder otherwise establishes an exemption.

In addition, a sale of shares, Private Placement Warrants, or Shortfall Warrants will be subject to information reporting if it is effected at a foreign office of a broker that is:

- a United States person;
- a “controlled foreign corporation” for United States federal income tax purposes;
- a foreign person 50% or more of whose gross income is effectively connected with the conduct of a United States trade or business for a specified three-year period; or
- a foreign partnership, if at any time during its tax year (a) one or more of its partners are “U.S. persons”, as defined in U.S. Treasury regulations, who in the aggregate hold more than 50% of the income or capital interest in the partnership, or (b) such foreign partnership is engaged in the conduct of a trade or business in the United States,

unless the broker does not have actual knowledge or reason to know that the holder is a United States person and the documentation requirements described above are met or an exemption is otherwise established. Backup withholding will apply if the sale is subject to information reporting and the broker has actual knowledge that the holder is a United States person.

Backup withholding is not an additional tax. A non-U.S. holder generally may obtain a refund of any amounts withheld under the backup withholding rules that exceed the non-U.S. holder’s income tax liability by timely filing a refund claim with the Internal Revenue Service.

Federal Estate Taxes

The estates of nonresident alien decedents generally are subject to United States federal estate tax on property with a United States situs. Because we are a United States corporation, our shares, Shortfall Warrants, and Private Placement Warrants will be United States situs property and therefore will be included in the taxable estate of a nonresident alien decedent at the time of the decedent's death, unless an applicable estate tax treaty between the United States and the decedent's country of residence provides otherwise. An estate tax credit is available to reduce the net tax liability of a nonresident alien's estate, but the estate tax credit for a nonresident alien is generally much smaller than the applicable credit for computing the estate tax of a United States resident. Nonresident aliens should consult their personal tax advisors regarding the United States federal estate tax consequences of owning our shares, Shortfall Warrants, and Private Placement Warrants .

PLAN OF DISTRIBUTION

We are registering the issuance by us of up to 23,403,989 shares of common stock, which consists of (i) up to 4,774,276 shares of common stock that are issuable upon the exercise of Private Placement Warrants, (ii) up to 7,499,924 shares of common stock that are issuable upon the exercise of Public Warrants, (iii) up to 5,000,000 shares of common stock that are issuable upon the conversion of the Brookfield SAFE, (iv) up to 300,000 shares of common stock that are issuable upon exercise of the AM Warrant, (v) up to 4,083,486 shares of common stock issuable upon the exercise of the Shortfall Warrants, and (vi) up to 1,746,303 shares of common stock underlying the Options held by certain selling stockholders. We are also registering the resale by the selling stockholders of up to 4,774,276 Private Placement Warrants, up to 4,083,486 Shortfall Warrants, and up to 203,436,682 shares of common stock, which consists of (i) up to 18,500,000 PIPE Shares issued in the PIPE Investment, (ii) up to 5,000,000 shares of common stock that are issuable upon the conversion of the Brookfield SAFE, (iii) up to 4,774,276 shares of common stock that are issuable upon the exercise of Private Placement Warrants, (iv) up to 300,000 shares of common stock that are issuable upon exercise of the AM Warrant, (v) up to 2,164,839 shares of common stock held by certain selling stockholders, (vi) up to 1,746,303 shares of common stock underlying the Options held by certain selling stockholders, (vii) up to 5,916,514 shares of common stock purchased by certain selling stockholders subject to the Forward Purchase Agreement, (viii) up to 4,083,486 shares of common stock issuable upon the exercise of the Shortfall Warrants, and (ix) up to 160,951,264 shares of common stock issued pursuant to the Registration Rights Agreement.

We will bear all costs, expenses and fees in connection with the registration of these securities, including with regard to compliance with state securities or “blue sky” laws. The selling holders will bear all commissions and discounts, if any, attributable to their sale of warrants or shares of common stock (as applicable).

We will not receive any proceeds from the sale of the Private Placement Warrants, the Shortfall Warrants or of the common stock by the selling holders pursuant to this prospectus. The aggregate proceeds to the selling holders will be the purchase price of the common stock or warrants (as applicable) less any discounts and commissions borne by the selling holders.

The Private Placement Warrants, the Shortfall Warrants and shares of common stock beneficially owned by the selling holders covered by this prospectus may be offered and sold from time to time by the selling holders. The term “selling holders” or “selling stockholders” includes donees, pledgees, transferees or other successors in interest selling securities received after the date of this prospectus from a selling holder as a gift, pledge, partnership distribution or other transfer. The selling holders will act independently of us in making decisions with respect to the timing, manner and size of each sale. Such sales may be made on one or more exchanges or in the over-the-counter market or otherwise, at prices and under terms then prevailing or at prices related to the then current market price or in negotiated transactions. The selling holders may sell their shares of common stock, Private Placement Warrants or Shortfall Warrants by one or more of, or a combination of, the following methods:

- purchases by a broker-dealer as principal and resale by such broker-dealer for its own account pursuant to this prospectus;
- ordinary brokerage transactions and transactions in which the broker solicits purchasers;
- block trades in which the broker-dealer so engaged will attempt to sell the shares as agent but may position and resell a portion of the block as principal to facilitate the transaction;
- an over-the-counter distribution in accordance with the rules of Nasdaq;
- through trading plans entered into by a selling holder pursuant to Rule 10b5-1 under the Exchange Act, that are in place at the time of an offering pursuant to this prospectus and any applicable prospectus supplement hereto that provide for periodic sales of their securities on the basis of parameters described in such trading plans;
- to or through underwriters, agents or broker-dealers;

- “at the market” offerings, as defined in Rule 415 under the Securities Act, at negotiated prices, at prices prevailing at the time of sale or at prices related to such prevailing market prices, including sales made directly on a national securities exchange or sales made through a market maker other than on an exchange or other similar offerings through sales agents;
- privately negotiated transactions
- options transactions;
- if the selling stockholder is an entity, an in-kind distribution to its members, partners or stockholders;
- through a combination of any of the above methods of sale; or
- any other method permitted pursuant to applicable law.

In addition, any securities that qualify for sale pursuant to Rule 144 may be sold under Rule 144 rather than pursuant to this prospectus.

To the extent required, this prospectus may be amended or supplemented from time to time to describe a specific plan of distribution. In connection with distributions of the common stock, Private Placement Warrants, Shortfall Warrants or otherwise, the selling holders may enter into hedging transactions with broker-dealers or other financial institutions. In connection with such transactions, broker-dealers or other financial institutions may engage in short sales of common stock, Private Placement Warrants or Shortfall Warrants in the course of hedging the positions they assume with selling holders. The selling holders may also sell shares of common stock, Private Placement Warrants or Shortfall Warrants short and redeliver the shares to close out such short positions. The selling holders may also enter into option or other transactions with broker-dealers or other financial institutions which require the delivery to such broker-dealer or other financial institution of securities offered by this prospectus, which securities such broker-dealer or other financial institution may resell pursuant to this prospectus (as supplemented or amended to reflect such transaction). The selling holders may also pledge shares of common stock, Private Placement Warrants or Shortfall Warrants to a broker-dealer or other financial institution, and, upon a default, such broker-dealer or other financial institution may effect sales of the pledged securities pursuant to this prospectus (as supplemented or amended to reflect such transaction).

A selling holder may enter into derivative transactions with third parties, or sell securities not covered by this prospectus to third parties in privately negotiated transactions. If an applicable prospectus supplement indicates, in connection with those derivatives, the third parties may sell shares of common stock, Private Placement Warrants or Shortfall Warrants covered by this prospectus and the applicable prospectus supplement, including in short sale transactions. If so, the third party may use securities pledged by any selling holder or borrowed from any selling holder or others to settle those sales or to close out any related open borrowings of stock, Private Placement Warrants or Shortfall Warrants, and may use securities received from any selling holder in settlement of those derivatives to close out any related open borrowings of stock or warrants. If treated as so under applicable securities laws, the third party in such sale transactions will be an underwriter and will be identified in the applicable prospectus supplement (or a post-effective amendment). In addition, any selling holder may otherwise loan or pledge shares of common stock, Private Placement Warrants or Shortfall Warrants to a financial institution or other third party that in turn may sell the securities short using this prospectus. Such financial institution or other third party may transfer its economic short position to investors in our securities or in connection with a concurrent offering of other securities.

In effecting sales, broker-dealers or agents engaged by the selling holders may arrange for other broker-dealers to participate. Broker-dealers or agents may receive commissions, discounts or concessions from the selling holders in amounts to be negotiated immediately prior to the sale.

In offering the shares of common stock, Private Placement Warrants or Shortfall Warrants covered by this prospectus, the selling holders and any broker-dealers who execute sales for them may be deemed to be “underwriters” within the meaning of the Securities Act in connection with such sales. Any profits realized by

selling holders who are “underwriters,” and the compensation of any broker-dealer who executes sales for them, may be deemed to be underwriting discounts and commissions.

In order to comply with the securities laws of certain states, if applicable, the common stock, Private Placement Warrants and Shortfall Warrants must be sold in such jurisdictions only through registered or licensed brokers or dealers. In addition, in certain states the shares of common stock, Private Placement Warrants and Shortfall Warrants may not be sold unless they have been registered or qualified for sale in the applicable state or an exemption from the registration or qualification requirement is available and is complied with.

We have advised the selling holders that the anti-manipulation rules of Regulation M under the Exchange Act may apply to sales of common stock, Private Placement Warrants or Shortfall Warrants in the market and to the activities of the selling holders and their affiliates. In addition, we will make copies of this prospectus available to the selling holders for the purpose of satisfying the prospectus delivery requirements of the Securities Act. The selling holders may indemnify any broker-dealer that participates in transactions involving the sale of the common stock or warrants against certain liabilities, including liabilities arising under the Securities Act.

At the time a particular offer of shares of common stock, Private Placement Warrants or Shortfall Warrants is made, if required, a prospectus supplement will be distributed that will set forth the number of securities being offered and the terms of the offering, including the name of any underwriter, dealer or agent, the purchase price paid by any underwriter, any discount, commission and other item constituting compensation, any discount, commission or concession allowed or reallocated or paid to any dealer, and the proposed selling price to the public.

We have agreed to indemnify certain of the selling holders against certain liabilities, including liabilities under the Securities Act and state securities laws, relating to the registration of the shares of common stock, Private Placement Warrants and Shortfall Warrants offered by this prospectus.

LEGAL MATTERS

Unless otherwise indicated in the applicable prospectus supplement, the validity of the securities will be passed upon for us by Covington & Burling LLP, Washington, D.C. If legal matters are passed upon by counsel for the underwriters, dealers or agents, if any, such counsel will be named in the prospectus supplement relating to such offering.

EXPERTS

The financial statements of LanzaTech Global, Inc. as of December 31, 2023 and 2022, and for each of the two years in the period ended December 31, 2023, incorporated by reference in this prospectus, and the effectiveness of LanzaTech Global, Inc.'s internal control over financial reporting as of December 31, 2023, have been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their reports which express an unqualified opinion on the financial statements and an adverse opinion on the effectiveness of LanzaTech Global, Inc.'s internal control over financial reporting as of December 31, 2023. Such financial statements are incorporated by reference in reliance upon the reports of such firm given their authority as experts in accounting and auditing.

LanzaTech