

March 27, 2024

Jennifer Holmgren  
Chief Executive Officer  
LanzaTech Global, Inc.  
8045 Lamon Avenue, Suite 400  
Skokie, IL 60077

Inc.

Amendment No. 2 to Registration Statement on Form S-1  
2024

Re: LanzaTech Global,  
Post-Effective  
Filed March 14,  
File No. 333-269735

Dear Jennifer Holmgren:

We have reviewed your post-effective amendment and have the following comments.

Please respond to this letter by amending your registration statement and providing the requested information. If you do not believe a comment applies to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing any amendment to your registration statement and the information you provide in response to this letter, we may have additional comments.

Post Effective Amendment on Form S-1, filed March 14, 2024

About This Prospectus, page ii

1. We note that references to "PRC" or "China" in your prospectus exclude Hong Kong and Macau. Please revise to clarify that the legal and operational risks associated with operating in China also apply to operations in Hong Kong and Macau. Please also discuss the laws and regulations in Hong Kong, as applicable to your business, as well as the related risks and consequences. The requested disclosure may appear in the definition itself or in another appropriate discussion of legal and operational risks applicable to the company.

General

2. We note that since the filing of the Post-Effective Amendment No. 1, filed on December 18, 2023, certain disclosure appearing in the Risk Factor section relating to legal and operational risks associated with operating in China and to PRC regulations has been removed. It is unclear to us that there have been changes in the regulatory environment in

Jennifer Holmgren  
LanzaTech Global, Inc.  
March 27, 2024  
Page 2

the PRC since the Post-Effective Amendment No. 1 filed on December 18, 2023, warranting revised disclosure to mitigate the challenges you face and related disclosures. The Sample Letters to China-Based Companies sought specific disclosure relating to the risk that the PRC government may intervene in or influence your operations at any time, or may exert control over operations of your business, which could result in a material change in your operations and/or the value of the securities you are registering

for sale. We remind you that, pursuant to federal securities rules, the term control (including the terms controlling, controlled by, and under common control with ) as defined in Securities Act Rule 405 means the possession, direct or indirect, of the power to direct or cause the direction of the management and policies of a person, whether through the ownership of voting securities, by contract, or otherwise. We do not believe that your revised disclosure conveys the same risk. Please restore your disclosures in these areas to the disclosures as they existed in prior filings. As examples, and without limitation, we note that your revised disclosure in your Post-Effective Amendment No. 2 does not address the following points from these previous amendments:

Your disclosure on page 34 regarding your potential inability to protect existing or potential future joint ventures by nominating a non-Chinese director to the board of any such joint venture;

Your disclosure on page 34 stating that regulations applicable to LanzaTech China Limited, a WFOE, may change as a result of the central Chinese government or local governments imposing new, stricter regulations, or interpretations of existing regulations;

Your disclosure on page 35 providing further detail regarding the applicability of Chinese regulations and approvals necessary to comply with the DSL;

Your disclosure on page 36 stating "The Chinese government also exercises significant control over China's economic growth through allocating resources, controlling payment of foreign currency-denominated obligations [...].";

Your disclosure on page 36 suggesting that PRC policies and internal rules "may have a retroactive effect"; and  
FirstName LastName Jennifer Holmgren  
Comapany NameLanzaTech  
Your disclosure onGlobal, page 36Inc.

limiting the risk of Chinese government interference and influence

March 27, 2024 Pageat2 any time to certain locations.

FirstName LastName  
Jennifer Holmgren  
FirstName  
LanzaTechLastNameJennifer Holmgren  
Global, Inc.

Comapany  
March NameLanzaTech Global, Inc.  
27, 2024

March3 27, 2024 Page 3  
Page  
FirstName LastName

We remind you that the company and its management are responsible for the accuracy and adequacy of their disclosures, notwithstanding any review, comments, action or absence of action by the staff.

Please contact Benjamin Richie at 202-551-7857 or Jessica Ansart at 202-551-4511 with any other questions.

Sincerely,

Corporation Finance

Applications and

cc: Kerry Burke

Division of

Office of Industrial

Services