

November 27, 2022

Nimesh Patel
Chief Executive Officer
AMCI Acquisition Corp. II
600 Steamboat Road
Greenwich, Connecticut 06830

Re: AMCI Acquisition
Amendment No. 2 to
Filed November 14,
File No. 333-264811

Corp. II
Registration Statement on Form S-4
2022

Dear Nimesh Patel:

We have reviewed your amended registration statement and have the following comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter by amending your registration statement and providing the requested information. If you do not believe our comments apply 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 these comments, we may have additional comments. Unless we note otherwise, our references to prior comments are to comments in our November 4, 2022 letter.

Amendment No. 2 to Registration Statement on Form S-4

Political and economic uncertainty, including changes in policies of the Chinese government. . . ,
page 69

1. We note your response to comment 10 and re-issue in part. Please revise to clarify the current relationship between Sinopec Capital and China Petroleum & Chemical Corporation. Your disclosure that Sinopec Capital is a Chinese investment platform that was jointly established in 2018 by Sinopec Group and Sinopec Corp. does not explain the current relationship between the parties.

Nimesh Patel
FirstName LastNameNimesh
AMCI Acquisition Corp. II Patel
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Page 2 27, 2022 Page 2
FirstName LastName
Background of the Business Combination, page 110

2. We note your response to comment 5 and re-issue in part. In the "Background of the Business Combination" section, please explain how you came to enter into the Brookfield Framework Agreement on October 2, 2022. We note that many of the details provided in your correspondence are not provided in the filing itself. Resignations and Fee Waivers of the Advisors, page 120

3. We note your response to comment 7 and your revised disclosure on page 121 that, "[i]n general, no substantive disclosure comments were received on behalf of the Advisors after the last date of resignation." Please revise to clarify whether the Advisors provided any comments about this proxy statement/prospectus after their respective last dates of resignation. If so, please specify which Advisor(s) provided those comments and the nature and timing of those comments.
Beneficial Ownership of Securities, page 267

4. We reissue prior comment 11 with respect to two of your Anchor Investors, namely Shaolin Capital Management, LLC and Aristeia Capital, LLC. LanzaJet Shareholder Loan, page 292

5. We note your disclosure that you entered into a Note Purchase Agreement on November 9, 2022. Please file this Agreement as an exhibit to the registration statement. Alternatively, provide an analysis supporting your belief that such filing is not required. Refer to Item 601 of Regulation S-K. Moreover, please update the "Background of the Business Combination" section to explain how you came to enter into the Note Purchase Agreement.
General

6. We note your response to prior comment 16. Based on your disclosures and responses, we are unable to conclude that a majority of LanzaTech's current commercial operations are located outside of China. Accordingly, please revise your registration statement to address each of the comments from the Division of Corporation Finance's Sample Letter to China-Based Companies issued by the Staff in December 2021. To the extent you do not believe one or more of the comments is applicable, please explain why such is the case in your response letter.

Nimesh Patel
FirstName LastNameNimesh
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Page 3 27, 2022 Page 3
FirstName LastName

You may contact Kristin Lochhead at 202-551-3664 or Daniel Gordon at 202-551-3486 if you have questions regarding comments on the financial statements and related matters. Please contact Dillon Hagius at 202-551-7967 or Laura Crotty at 202-551-7614 with any other questions

Sincerely,

Corporation Finance
Applications and

Division of
Office of Industrial
Services

cc: Elliott Smith