Filed by Northern Genesis Acquisition Corp. II pursuant to Rule 425 under the Securities Act of 1933 and deemed filed pursuant to Rule 14a-12 under the Securities Exchange Act of 1934

Subject Company: Northern Genesis Acquisition Corp. II Commission File No. 001-39881

This filing relates to the proposed merger involving Northern Genesis Acquisition Corp. II ("Northern Genesis 2") with Embark Trucks Inc. ("Embark"), pursuant to the terms of that certain Agreement and Plan of Merger, dated as of June 22, 2021.

On November 8, 2021, Northern Genesis 2 issued a press release entitled "NGAB Announces Quorum to Pass ~\$5 Billion Business Combination with Embark and Achievement of all Transaction Requirements, including the Minimum Cash Provision, Following the Redemption Deadline". A copy of the press release is set forth below.

NGAB Announces Quorum to Pass ~\$5 Billion Business Combination with Embark and Achievement of all Transaction Requirements, including the Minimum Cash Provision, Following the Redemption Deadline

Northern Genesis 2 also confirms expected closing date on November 10 and announces deadline for shareholders to update elections

Upon consummation of the business combination, the Northern Genesis 2 ticker will transition to "EMBK" and is expected to start trading on the Nasdaq on November 11, 2021

San Francisco and Kansas City, MO – November 8, 2021 – Northern Genesis Acquisition Corp. II ("Northern Genesis 2" or the "Company") (NYSE: NGAB) today announced that it had achieved a quorum for the special meeting of its shareholders to be held on November 9, 2021 (the "Special Meeting"), in connection with its approximately \$5 billion business combination with Embark Trucks Inc. ("Embark"), a leading developer of autonomous technology for the trucking industry. Northern Genesis 2's shareholders who have submitted proxies to date on the proposals included in the Company's proxy statement for the Special Meeting have overwhelmingly voted in support of the business combination and all other proposals to be voted on at the Special Meeting. Accordingly, it is anticipated that the business combination and the other proposals will be approved at the Special Meeting and the valuation of the post-combination entity will be finalized. However, shareholders may change or revoke their proxies before or at the Special Meeting.

With proxies received to date indicating overwhelming support for all proposals, the business combination is expected to close with all transaction related requirements having been met.

Northern Genesis 2 also announced that the deadline for shareholders to withdraw any election to have their shares redeemed in connection with the business combination will be prior to the Special Meeting on Tuesday, November 9, 2021. Shareholders who wish to withdraw a redemption request should contact Northern Genesis 2's transfer agent, Continental Stock Transfer & Trust Company, by email at mzimkind@continentalstock.com.

The business combination, if approved by Northern Genesis 2 shareholders, is expected to close on November 10, 2021. Upon the closing of the business combination, Northern Genesis 2 will change its name to Embark Technology, Inc., and common stock and warrants of the combined company are expected to begin trading on November 11, 2021 on Nasdaq under the ticker symbols "EMBK" and "EMBK.WS," respectively.

Northern Genesis 2 Stockholder Vote

Stockholders who own shares of Northern Genesis 2 as of the Record Date should submit their vote promptly and no later than 11:59 p.m. Eastern Time on November 8, 2021. Northern Genesis 2 stockholders who need assistance in completing the proxy card, need additional copies of the proxy materials, or have questions regarding the Special Meeting may contact Northern Genesis 2's proxy solicitor, D.F. King & Co., Inc., by telephone toll-free at (888) 605-1958 or collect at (212) 269-5550 or by email at nga@dfking.com.

2

The proxy statement/prospectus will also be available online at www://www.northerngenesis.com/ngab, as well as www.sec.gov. Northern Genesis 2 stockholders are encouraged to read the definitive proxy statement/prospectus as it contains important information about the proposed transaction and the proposals to be voted on at the Special Meeting. The proposed business combination is expected to close on November 10, 2021, subject to receipt of Northern Genesis 2 stockholder approval and satisfaction of other customary closing conditions identified in the business combination agreement.

Following completion of the proposed business combination, Embark will retain its experienced management team. Alex Rodrigues will continue to serve as CEO, Brandon Moak will continue to serve as Chief Technology Officer, and Richard Hawwa will continue to serve as CFO. Elaine Chao, former U.S. former U.S. Secretary of Transportation, Pat Grady, Partner at Sequoia Capital, and Patricia Chiodo, CFO of Verra Mobility Corporation, will join Alex Rodrigues, Brandon Moak, and Ian Robertson on Embark's board of directors.

About Embark

Embark is an autonomous vehicle company building the software powering autonomous trucks, focused on improving the safety, efficiency, and sustainability of the nearly \$700 billion a year trucking market. Headquartered in San Francisco, CA since its founding in 2016, Embark is America's longest-running self-driving truck program. The company partners with some of the largest shippers and carriers in the nation, collectively representing over 35,000 trucks.

Embark's mission is to realize a world where consumers pay less for the things they need, drivers stay close to the homes they cherish, and roads are safer for the people we love. To learn more about Embark, visit embarktrucks.com.

About Northern Genesis 2

Northern Genesis 2 is a special purpose acquisition company formed for the purpose of effecting a merger, stock exchange, acquisition, reorganization or similar business combination with one or more businesses. The management team overseeing the Northern Genesis 2 investment platform brings a unique entrepreneurial owner-operator mindset and a proven history of creating stockholder value across the sustainable power and energy value chain. The team is committed to helping the next great public company find its path to success; a path which will most certainly recognize the growing sensitivity of customers, employees and investors to alignment with the principles underlying sustainability.

Forward-Looking Statements

This press release includes "forward-looking statements" within the meaning of the "safe harbor" provisions of the Private Securities Litigation Reform Act of 1995. Embark's and Northern Genesis 2's actual results may differ from their expectations, estimates and projections and consequently, you should not rely on these forward-looking statements as predictions of future events. Words such as "expect," "estimate," "project," "budget," "forecast," "anticipate," "intend," "plan," "may," "will," "could," "believes," "predicts," "potential," "continue," and similar expressions are intended to identify such forward-looking statements. These forward-looking statements include, without limitation, Embark's and Northern Genesis 2's expectations with respect to future performance. These forward-looking statements also involve significant risks and uncertainties that could cause the actual results to differ materially from the expected results. Factors that may cause such differences include, but are not limited to: (1) the outcome of any legal proceedings that may be instituted in connection with any proposed business combination; (2) the inability to complete any proposed business combination in a timely manner or at all; (3) delays in obtaining, adverse conditions contained in, or the inability to obtain necessary regulatory approvals or complete regulatory reviews required to complete any proposed business combination; (4) the risk that the business combination may not be completed by Northern Genesis 2 business combination deadline and the potential failure to obtain an extension of the business combination deadline if sought; (5) the failure to satisfy the conditions to the consummation of the transaction, including the adoption of the agreement and plan of merger by the stockholders of Northern Genesis 2 and Embark and the satisfaction of the minimum trust account amount following redemptions by Northern Genesis 2's public stockholders; (6) the lack of a third party valuation in determining whether or not to pursue the proposed business combination; (7) the risk that any proposed business combination disrupts current plans and operations and/or the impact that the announcement of the proposed business combination may have on Embark's business relationships; (8) the inability to recognize the anticipated benefits of any proposed business combination, which may be affected by, among other things, competition, the ability of the combined company to grow and manage growth profitably, maintain relationships with customers and suppliers and retain key employees; (9) costs related to the any proposed business combination; (10) changes in the applicable laws or regulations; (11) volatility in the price of Northern Genesis 2's securities due to a variety of factors, including changes in the competitive and highly regulated industries in which Embark plans to operate, variations in performance across competitors, changes in laws and regulations affecting Embark's business and changes in the combined capital structure; (12) the possibility that Embark or Northern Genesis 2 may be adversely affected by other economic, business, and/or competitive factors; (13) the impact of the global COVID-19 pandemic; and (14) other risks and uncertainties separately provided to you and indicated from time to time described in filings and potential filings by Embark and Northern Genesis 2 with the U.S. Securities and Exchange Commission (the "SEC"), including those discussed in Northern Genesis 2's Annual Report Form 10-K for the fiscal year ended December 31, 2020 ("Form 10-K") and Quarterly Report on Form 10-Q for the quarter ended June 30, 2021 and in the registration statement on Form S-4 and definitive proxy statement/prospectus and other documents filed by Northern Genesis 2 from time to time. These filings identify and address other important risks and uncertainties that could cause actual events and results to differ materially from those contained in the forward-looking statements. Embark and Northern Genesis 2 caution that the foregoing list of factors is not exhaustive and not to place undue reliance upon any forward-looking statements, including projections, which speak only as of the date made. Embark and Northern Genesis 2 undertake no obligation to and accepts no obligation to release publicly any updates or revisions to any forward-looking statements to reflect any change in its expectations or any change in events, conditions or circumstances on which any such statement is based.

4

Additional Information About the Proposed Transactions and Where to Find It

The proposed transactions will be submitted to stockholders of Northern Genesis 2 for their consideration. Northern Genesis 2 has filed a registration statement on Form S-4 (the "Registration Statement") with the SEC which includes a proxy statement to be distributed to Northern Genesis 2's stockholders in connection with Northern Genesis 2's solicitation for proxies for the vote by Northern Genesis 2's stockholders in connection with the proposed transactions and other matters as described in the Registration Statement, as well as the prospectus relating to the offer of the securities to be issued to Embark's shareholders in connection with the completion of the proposed merger. The Registration Statement has been declared effective, and Northern Genesis 2 will mail a definitive proxy statement and other relevant documents to its stockholders as of the record date established for voting on the proposed transactions. Northern Genesis 2's stockholders and other interested persons are advised to read the definitive proxy statement/prospectus and any amendments thereto, in connection with Northern Genesis 2's solicitation of proxies for its special meeting of stockholders to be held to approve, among other things, the proposed business combination, because these documents will contain important information about Northern Genesis 2, Embark and the proposed business combination. Stockholders may also obtain a copy of the definitive proxy statement, as well as other documents filed with the SEC regarding the proposed transactions and other documents filed with the SEC by Northern Genesis 2, without charge, at the SEC's website located at www.sec.gov or by directing a request to Northern Genesis 2.

INVESTMENT IN ANY SECURITIES DESCRIBED HEREIN HAS NOT BEEN APPROVED OR DISAPPROVED BY THE SEC OR ANY OTHER REGULATORY AUTHORITY NOR HAS ANY AUTHORITY PASSED UPON OR ENDORSED THE MERITS OF THE OFFERING OR THE ACCURACY OR ADEQUACY OF THE INFORMATION CONTAINED HEREIN. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

Participants in the Solicitation

Northern Genesis 2, Embark and certain of their respective directors, executive officers and other members of management and employees may, under SEC rules, be deemed to be participants in the solicitations of proxies from Northern Genesis 2's stockholders in connection with the proposed transactions. Information regarding the persons who may, under SEC rules, be deemed participants in the solicitation of Northern Genesis 2's stockholders in connection with the proposed transactions are set forth in Northern Genesis 2's proxy statement/prospectus filed with the SEC. You can find more information about Northern Genesis 2's directors and executive officers in Northern Genesis 2's Form 10-K and Forms 10-Q filed with the SEC. Additional information regarding the participants in the proxy solicitation and a description of their direct and indirect interests are included in the proxy statement/prospectus. Stockholders, potential investors and other interested persons should read the proxy statement/prospectus carefully before making any voting or investment decisions. You may obtain free copies of these documents from the sources indicated above.

No Offer or Solicitation

This communication does not constitute an offer to sell or the solicitation of an offer to buy any securities, or a solicitation of any vote or approval, nor shall there be any sale of securities in any jurisdiction in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such jurisdiction.

