SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

SCHEDULE 13D

Under the Securities Exchange Act of 1934

Factorial Energy Inc.

(Name of Issuer)

Series A Common Stock, par value $0.00001 per share

(Title of Class of Securities)

(CUSIP Number)

Steven C. Poling, Esq.
35555 W. Twelve Mile Rd., Suite 100
Farmington Hills, MI, 48331
(248) 991-6632

(Name, Address and Telephone Number of Person Authorized to Receive Notices and Communications)

06/05/2026

(Date of Event Which Requires Filing of This Statement)

If the filing person has previously filed a statement on Schedule 13G to report the acquisition that is the subject of this Schedule 13D, and is filing this schedule because of §§ 240.13d-1(e), 240.13d-1(f) or 240.13d-1(g), check the following box. ☐

The information required on the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 ("Act") or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

SCHEDULE 13D

CUSIP No.

1	Name of reporting person Mercedes-Benz Corporate Investments LLC
2	Check the appropriate box if a member of a Group (See Instructions) ☐ (a) ☐ (b)
3	SEC use only

4	Source of funds (See Instructions) OO		
5	Check if disclosure of legal proceedings is required pursuant to Items 2(d) or 2(e) ☐		
6	Citizenship or place of organization DELAWARE		
Number of Shares Beneficially Owned by Each Reporting Person With:	7	Sole Voting Power 8,669,995.00	
	8	Shared Voting Power 0.00	
	9	Sole Dispositive Power 8,669,995.00	
	10	Shared Dispositive Power 0.00	
11	Aggregate amount beneficially owned by each reporting person 8,669,995.00		
12	Check if the aggregate amount in Row (11) excludes certain shares (See Instructions) ☐		
13	Percent of class represented by amount in Row (11) 8.1 %		
14	Type of Reporting Person (See Instructions) OO		

Comment for Type of Reporting Person: 1. This percentage is based on a total of 107,023,245 shares of Series A Common Stock issued and outstanding as of June 5, 2026 upon completion of the Business Combination , as reported by the Issuer on its Form 8-K on June 10, 2026, and assumes the exchange of all 15,512,744 shares of Series B Common Stock (each of which is exchangeable for one share of Series A Common Stock).

SCHEDULE 13D

Item 1. Security and Issuer

(a) Title of Class of Securities:

Series A Common Stock, par value $0.00001 per share

(b) Name of Issuer:

Factorial Energy Inc.

(c) Address of Issuer's Principal Executive Offices:

805 Middlesex Turnpike, Billerica, MASSACHUSETTS , 01821.

Item 1 Comment: This statement on Schedule 13D relates to MBCI's (as defined in Item 2 below) beneficial ownership interest in shares of Series A Common Stock, par value $0.000001 per share (the "Series A Common Stock") of Factorial Energy Inc. (f/k/a Cartesian Growth Corporation III) (the "Issuer"). The Issuer's principal executive offices are located at 805 Middlesex Turnpike, Billerica, MA 01821.

Item 2. Identity and Background

(a) This Schedule 13D is filed on behalf of Mercedes-Benz Corporate Investments LLC ("MBCI"). MBCI is a wholly-owned indirect subsidiary of Mercedes-Benz Group AG, a publicly-traded German corporation ("MB"). MBCI is a Delaware limited liability company.

(b) The principal business address of MBCI is 35555 W. Twelve Mile Rd., Suite 100, Farmington Hills, MI 48331.

(c) The business purpose of MBCI is to serve as an investment vehicle for MB.

(d) During the past five years, MBCI has not been convicted in a criminal proceeding (excluding traffic violations and similar misdemeanors).

(e) During the past five years, MBCI has not been a party to a civil proceeding of a judicial or administrative body of competent jurisdiction and as a result of such proceeding was or is subject to a judgment, decree or final order enjoining future violations of, or prohibiting or mandating activities subject to, federal or state securities laws or finding any violation with respect to such laws.

(f) The jurisdiction of organization of MBCI is set forth in subsection (a) above.

Item 3. Source and Amount of Funds or Other Consideration

The shares of Series A Common Stock reported herein as beneficially owned by MBCI were acquired in connection with a business combination (the "Business Combination") pursuant to the Business Combination Agreement, dated December 17, 2025, by and among the Issuer, Fenway MS, Inc., a Delaware corporation and wholly-owned subsidiary of the Issuer, and Factorial Inc., a Delaware corporation ("Factorial") (as amended by Amendment No. 1 to Business Combination Agreement, dated as of March 26, 2026, and Amendment No. 2 to Business Combination Agreement, dated as of May 18, 2026, the "Business Combination Agreement"). In December 2021, Factorial issued and sold to MBCI (i) 2,205,032 shares of Series D redeemable preferred stock of Factorial, and (ii) warrants exercisable for 137,814 shares of common stock of Factorial, and in August 2025, Factorial issued and sold to MBCI a secured convertible promissory note in the aggregate principal amount of $2,000,000 (collectively, the "Factorial securities"). On June 5, 2026, as a result of the completion of the Business Combination (the "Closing"), the Factorial securities (including accrued and unpaid interest, in the case of the promissory note) directly held by MBCI were converted into an aggregate of 8,669,995 shares of Series A Common Stock.

Item 4. Purpose of Transaction

The disclosure in Item 3 of this Schedule 13D is incorporated by reference into this Item 4. MBCI holds its securities of the Issuer for investment purposes. In connection with the completion of the Business Combination, Uwe Keller, Director of Battery Development at Mercedes-Benz Group AG, who was previously a director of Factorial, was elected to the board of the Issuer. MBCI expects to review from time to time its investment in the Issuer and may, depending on the market and other conditions and subject to applicable law: (i) acquire beneficial ownership of additional securities of the Issuer in the open market, in privately negotiated transactions or otherwise; (ii) dispose of all or part of its holdings of securities of the Issuer; or (iii) take other actions which could involve one or more of the types of transactions or have one or more of the results described in Item 4 of Schedule 13D. Except as set forth herein, MBCI does not have any plans or proposals which relate to, or could result in, any of the matters referred to in paragraphs (a) through (j), inclusive, of the instructions to Item 4 of Schedule 13D. MBCI may, at any time and from time to time, review or reconsider its position and/or change its purpose and/or formulate plans or proposals with respect thereto.

Item 5. Interest in Securities of the Issuer

(a) As of the date hereof, MBCI directly holds 8,669,995 shares of Series A Common Stock, which represents approximately 8.1% of the Series A Common Stock issued and outstanding as of June 5, 2026 upon completion of the Business Combination, and assumes the exchange of all 15,512,744 shares of Series B Common Stock, par value $0.000001 per share (the "Series B Common Stock") (each of which is exchangeable for one share of Series A Common Stock).

(b) See Item 5(a) above.

(c) See Item 4 above.

(d) Except as set forth in this Schedule 13D, to the knowledge of MBCI, no other person had the right to receive or the power to direct the receipt of dividends from, or the proceeds from the sale of, the shares of Series A Common Stock covered by this Schedule 13D.

(e) Not applicable.

Item 6. Contracts, Arrangements, Understandings or Relationships With Respect to Securities of the Issuer

Amended and Restated Registration Rights Agreement In connection with the completion of the Business Combination, MBCI entered into an Amended and Restated Registration Rights Agreement (the "Registration Rights Agreement") with the Issuer, CGC III Sponsor LLC, a Delaware limited liability company, and certain other holders of shares of Series A Common Stock party thereto, pursuant to which MBCI is entitled to registration rights with respect to its shares of Series A Common Stock as described below. The Registration Rights Agreement provides that, within 30 calendar days following the Closing, the Issuer will file with the SEC (at the Issuer's sole cost and expense) a resale registration statement registering the resale of certain shares of Series A Common Stock held by or issuable to the parties thereto, and will use its commercially reasonable efforts to have the resale registration statement declared effective as soon as reasonably practicable after the filing thereof. The holders (including MBCI) are also entitled to customary piggyback registration rights and demand registration rights, including underwritten demands. The Registration Rights Agreement also includes customary indemnification provisions under which the Issuer is obligated to indemnify holders of registrable securities in the event of material misstatements or omissions in an applicable registration statement, and holders of registrable securities are obligated to indemnify the Issuer for material misstatements or omissions attributable to them. Except as otherwise set forth in this Schedule 13D, there are no contracts, arrangements, understandings or relationships between MBCI and any other person with respect to any securities of the Issuer.

Item 7. Material to be Filed as Exhibits.

Exhibit Description

SIGNATURE

After reasonable inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct.

Mercedes-Benz Corporate Investments LLC

Signature:	/s/ Holly Wu
Name/Title:	Holly Wu, Vice President, Mergers & Acquisitions
Date:	06/12/2026

Signature:	/s/ Steven C. Poling
Name/Title:	Steven C. Poling, Assistant Secretary
Date:	06/12/2026