

Prospectus Supplement No. 11
(To Prospectus dated May 6, 2022)

Energy Vault Holdings, Inc.

Up to 101,567,843 Shares of Common Stock

5,166,666 Warrants to Purchase

Common Stock

This prospectus supplement supplements the prospectus dated May 6, 2022, as previously supplemented (the “Prospectus”), which forms a part of our registration statement on Form S-1 (No. 333-262720). This prospectus supplement is being filed to update and supplement the information in the Prospectus with the information contained in our Current Report on Form 8-K/A, filed with the Securities and Exchange Commission on December 21, 2022 (the “Current Report”). Accordingly, we have attached the Current Report to this prospectus supplement.

The Prospectus and this prospectus supplement relate to the issuance by us of up to an aggregate of 5,166,666 shares of our common stock, \$0.0001 par value per share (“Common Stock”) issuable upon exercise of private placement warrants issued to our Founders (as defined in the Prospectus) (the “Private Warrants”). The Prospectus and this prospectus supplement also relate to the resale from time to time, upon the expiration of lock-up agreements, by (i) the selling stockholders named in the Prospectus or their permitted transferees of up to 96,401,254 shares of our Common Stock and (ii) the selling holders of Private Warrants.

Our Common Stock is listed on the New York Stock Exchange under the symbol “NRGV.” On December 20, 2022, the closing price of our Common Stock was \$2.26 per share.

We are an “emerging growth company” under applicable federal securities laws and will be subject to reduced public company reporting requirements.

INVESTING IN OUR SECURITIES INVOLVES RISKS THAT ARE DESCRIBED IN THE “RISK FACTORS” SECTION BEGINNING ON PAGE 9 OF THE PROSPECTUS.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of the securities to be issued under this prospectus supplement or the Prospectus or determined if this prospectus supplement or the Prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus supplement is December 21, 2022

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**
WASHINGTON, DC 20549

FORM 8-K/A

CURRENT REPORT
Pursuant to Section 13 or 15(d)
of the Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): December 20, 2022

Energy Vault Holdings, Inc.

(Exact name of registrant as specified in charter)

Delaware
(State or Other Jurisdiction
of Incorporation)

001-39982
(Commission
File Number)

85-3230987
(I.R.S. Employer
Identification Number)

4360 Park Terrace Drive, Suite 100
Westlake Village, California, 91361
(Address of principal executive offices, including zip code)

(805) 852-0000
(Registrant’s telephone number, including area code)

Not Applicable
(Former name or former address, if changed since last report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, par value \$0.0001 per share	NRGV	New York Stock Exchange

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2).

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Explanatory Note

This Current Report on Form 8-K/A is being filed by Energy Vault Holdings, Inc. (the “Company”) as an amendment (the “Amendment”) to the Current Report on Form 8-K that the Company filed with the Securities and Exchange Commission on December 20, 2022 to announce the preliminary results of the Annual Meeting of Stockholders. This Amendment is being filed to disclose the final voting results received from the independent inspector of election for the Annual Meeting of Stockholders.

Item 5.07 Submission of Matters to a Vote of Security Holders.

On December 20, 2022, Company held its Annual Meeting of Stockholders. The matters voted upon at the meeting and the final results of those votes, as informed on December 21, 2022 by the independent inspector of election of the Annual Meeting of Stockholders, were as follows:

Proposal 1 - Election of Class I Directors

	Votes For	Votes Withheld	Broker Non-Votes
Larry Paulson	82,332,954	6,872,410	12,759,675
Mary Beth Mandanas	88,092,622	1,112,742	12,759,675

Proposal 2 - Ratification of the appointment of BDO USA, LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2022

Votes For	Votes Against	Votes Abstaining	Broker Non-Votes
101,818,612	133,510	12,917	—

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, as amended, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

ENERGY VAULT HOLDINGS, INC.

Date: December 21, 2022

By: /s/ Josh McMorrow
 Josh McMorrow
 Chief Legal Officer