

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

POST-EFFECTIVE AMENDMENT NO. 2
TO FORM S-1 ON
FORM S-3
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

Energy Vault Holdings, Inc.

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

6770
(Primary Standard Industrial
Classification Code Number)

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

4360 Park Terrace Drive
Suite 100
Westlake Village, California 91361
(805) 852-0000

(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

Robert Piconi
Chief Executive Officer
4360 Park Terrace Drive
Suite 100
Westlake Village, California 91361
(805) 852-0000

(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

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APPROXIMATE DATE OF COMMENCEMENT OF PROPOSED SALE TO THE PUBLIC: From time to time after the effective date of this registration statement.

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box.

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective on filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box.

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or

additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, smaller reporting company, or an emerging growth company. See the definitions of “large accelerated filer,” “accelerated filer,” “smaller reporting company,” and “emerging growth company” in Rule 12b-2 of the Exchange Act.

Large accelerated filer	<input type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input checked="" type="checkbox"/>	Smaller reporting company	<input checked="" type="checkbox"/>
		Emerging growth company	<input checked="" type="checkbox"/>

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 7(a)(2)(B) of the Securities Act.

The registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the registrant shall file a further amendment which specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended or until the registration statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

EXPLANATORY NOTE

On February 14, 2022, Energy Vault Holdings, Inc. (the “Company”) filed a registration statement with the U.S. Securities and Exchange Commission (the “SEC”) on Form S-1 (File No. 333-262720) (the “Registration Statement”). The Registration Statement, as amended, was initially declared effective by the Securities and Exchange Commission (“SEC”) on May 6, 2022, and initially registered (a) the issuance by the Company of up to an aggregate of up to 9,583,256 shares of common stock, \$0.0001 par value per share that were issuable upon the exercise of the Company’s publicly-traded warrants (the “Public Warrants”) and up to 5,166,666 shares of the Company’s common stock issuable upon exercise of private placement warrants issued to the Founders (as defined in the Registration Statement) at an exercise price of \$11.50 per share (the “Private Warrants” and together with the Public Warrants, the “Warrants”); and (b) the resale from time to time, upon expiration of lock-up agreements by (i) the selling stockholders named in the Registration Statement or their permitted transferees (the “Selling Stockholders”) of up to 96,401,254 shares of the Company’s common stock and (ii) the selling holders of 5,166,666 Private Warrants (the “Selling Warranholders,” together with the Selling Stockholders, the “Selling Securityholders”).

This Post-Effective Amendment No. 2 to Form S-1 on Form S-3 (“Post-Effective Amendment No. 2”) is being filed by the Company (i) to convert the registration statement on Form S-1 into a registration statement on Form S-3 and (ii) to update certain information regarding the securities being offered pursuant to the prospectus contained herein.

On August 2, 2022 the Company announced the completion of the redemption of all outstanding Public Warrants that were issued under the Warrant Agreement (the “Warrant Agreement”), dated as of February 3, 2021 by and between the Company (f/k/a Novus Capital Corp. II) and Continental Stock Transfer & Trust Company, as warrant agent (the “Warrant Agent”), for a redemption price of \$0.10 per Warrant (the “Redemption Price”), that remained outstanding at 5:00 p.m. New York City time on August 1, 2022 (the “Redemption Date”). On July 1, 2022, the Company issued a press release stating that, pursuant to the terms of the Warrant Agreement, on the Redemption Date, the Company would redeem all of the outstanding Public Warrants at the Redemption Price. Of the 9,583,333 million Public Warrants that were outstanding as of the closing of the Business Combination (as defined herein), 685,042 Public Warrants were exercised for cash at an exercise price of \$11.50 per share of common stock and 8,663,445 Public Warrants were exercised on a cashless basis in exchange for an aggregate of 2,188,270 shares of common stock, in each case in accordance with the terms of the Warrant Agreement, representing approximately 96.7% of the outstanding Public Warrants. Following the Redemption Date, the Company had no Public Warrants outstanding. In connection with the redemption, the Public Warrants ceased trading on the New York Stock Exchange and were delisted, with the trading suspension announced after close of market on August 1, 2022.

The information included in this Post-Effective Amendment No. 2 amends the Registration Statement (as amended) and the prospectus contained therein. No additional securities are being registered under this Post-Effective Amendment No. 2. All applicable registration fees were paid at the time of the original filing of the Registration Statement on February 14, 2022.

The information in this preliminary prospectus is not complete and may be changed. These securities may not be sold until the registration statement filed with the Securities and Exchange Commission is effective. This preliminary prospectus is not an offer to sell nor does it seek an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

Subject to Completion, dated May 19, 2023.

PROSPECTUS

**ENERGY VAULT HOLDINGS, INC.
Up to 77,817,871 Shares of Common Stock
556,500 Warrants to Purchase Common Stock**

This prospectus relates to (a) the issuance by the Company of up to 5,166,666 shares of the Company's common stock issuable upon exercise of private placement warrants issued to the Founders (as defined in the Registration Statement) at an exercise price of \$11.50 per share (the "Private Warrants"); and (b) the resale from time to time, by (i) the selling stockholders named in the Registration Statement or their permitted transferees (the "Selling Stockholders") of up to 72,651,205 shares of the Company's common stock and (ii) the selling holder of 556,500 Private Warrants (the "Selling Warrantheolders," together with the Selling Stockholders, the "Selling Securityholders"). The Private Warrants are not listed on the New York Stock Exchange and the Company does not intend to apply to list the Private Warrants on the New York Stock Exchange or any other exchange.

The Selling Securityholders may, or may not, elect to offer, resell or distribute all or a portion of the shares of common stock or Private Warrants covered by this prospectus as and to the extent they may determine, including for such prices as they may determine. Such sales of common stock, if any, will be made through brokerage transactions on the New York Stock Exchange or through other means. The sales price of such common stock will be at prevailing market prices on the New York Stock Exchange or otherwise. Sales of Private Warrants, if any, will be made in privately negotiated transactions. The sales price for Private Warrants will be determined in such privately negotiated transactions. The timing and amount of any sale of common stock or Private Warrants is within the sole discretion of the Selling Securityholders. For more information, see the section entitled "Plan of Distribution" beginning on page 15 of this prospectus.

We are registering the resale of shares of common stock as required by (i) an amended and restated registration rights agreement (the "Registration Rights Agreement"), entered into by and among the Company, certain persons and entities that held securities of the Company prior to the Closing of the Business Combination (as defined herein) and certain persons and entities that received common stock pursuant to the Business Combination and (ii) the subscription agreements (the "Subscription Agreements") entered into by and between Novus Capital Corporation II, a Delaware corporation and certain investors relating to the purchase of shares of common stock in connection with the Business Combination (as defined herein).

We will not receive any proceeds from the resale of the shares of common stock by the Selling Securityholders.

We will bear all costs, expenses and fees in connection with the registration of the shares of common stock. The Selling Securityholders will bear all commissions and discounts, if any, attributable to their respective sales of the shares of common stock.

See "Plan of Distribution" beginning on page 15 of this prospectus.

Our common stock is listed on the New York Stock Exchange under the symbol "NRGV." On May 18, 2023, the closing price of our Common Stock was \$1.86 per share.

We are an "emerging growth company" and a "smaller reporting company" under the federal securities laws and will be subject to reduced disclosure and public reporting requirements. See "The Company—Implications of Being an Emerging Growth Company and a Smaller Reporting Company."

Investing in shares of our Common Stock involves a high degree of risk. Before you invest in our Common Stock, you should carefully read the section entitled "RISK FACTORS" on [page 4](#) of this prospectus, and other risk factors contained in any applicable prospectus supplement and in the documents incorporated by reference herein and therein.

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

The date of this prospectus is _____, 2023.

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ABOUT THIS PROSPECTUS

On February 11, 2022 (the “Closing Date”), Novus Capital Corporation II, our predecessor company (“Novus”), consummated the previously announced merger pursuant to that certain Business Combination Agreement and Plan of Reorganization, dated as of September 8, 2021 (the “Business Combination Agreement”), by and among Novus, NCCII Merger Corp., a wholly owned subsidiary of Novus incorporated in the State of Delaware (“Merger Sub”) and Energy Vault, Inc., a Delaware corporation (“Legacy Energy Vault”). Pursuant to the terms of the Business Combination Agreement, a business combination between the Company and Legacy Energy Vault was effected through the merger of Merger Sub with and into Legacy Energy Vault, with Legacy Energy Vault surviving as the surviving company and as a wholly-owned subsidiary of the Company (the “Merger” and, collectively with the other transactions described in the Business Combination Agreement, the “Business Combination”). On the Closing Date, and in connection with the closing of the Business Combination (the “Closing”), Novus Capital Corporation II changed its name to Energy Vault Holdings, Inc.

This prospectus is part of a registration statement that we filed with the U.S. Securities and Exchange Commission (the “SEC”) using a “shelf” registration process. Under this shelf registration process, the selling stockholders may, from time to time, sell the securities described in this prospectus in one or more offerings. This prospectus also relates to the issuance by us of shares of common stock from time to time upon the occurrence of the events described in this prospectus.

To the extent necessary, each time that the Selling Stockholders offer and sell securities, we or the Selling Stockholders may provide a prospectus supplement to this prospectus that describes, among other things, the specific amounts and prices of the securities being offered and the terms of the offering. Such prospectus supplement may also add, update, or change information contained in this prospectus with respect to that offering. If there is any inconsistency between the information in this prospectus and the applicable prospectus supplement, you should rely on the prospectus supplement. Before purchasing any securities, you should carefully read both this prospectus and the applicable prospectus supplement, together with the additional information described under the heading “Where You Can Find More Information; Incorporation by Reference.”

Neither we nor the Selling Stockholders have authorized anyone to provide you with any information or to make any representations other than those contained in this prospectus, any applicable prospectus supplement. Neither we nor the Selling Stockholders take any responsibility for, nor provide any assurance as to the reliability of, any other information that others may give you. The Selling Stockholders will not make an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information appearing in this prospectus and the applicable prospectus supplement to this prospectus is accurate only as of the date on its respective cover, and that any information incorporated by reference is accurate only as of the date of the document incorporated by reference, unless we indicate otherwise. Our business, financial condition, results of operations and prospects may have changed since those dates.

This prospectus incorporates by reference, and any prospectus supplement may contain and incorporate by reference, market data and industry statistics and forecasts that are based on independent industry publications and other publicly available information. Although we believe these sources are reliable, neither we nor the Selling Stockholders guarantee the accuracy or completeness of this information and neither we nor the Selling Stockholders have independently verified this information. In addition, the market and industry data and forecasts that may be included or incorporated by reference in this prospectus or any prospectus supplement may involve estimates, assumptions and other risks and uncertainties and are subject to change based on various factors, including those discussed under the heading “Risk Factors” contained in this prospectus or any applicable prospectus supplement, and under similar headings in other documents that are incorporated by reference into this prospectus. Accordingly, investors should not place undue reliance on this information.

When we refer to “Energy Vault,” “we,” “our,” “us” and the “Company” in this prospectus, we mean Energy Vault Holdings, Inc., a Delaware corporation, including our consolidated subsidiaries, unless otherwise specified. When we refer to “you,” we mean the potential holders of our Common Stock.

CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains statements that are forward-looking statements within the meaning of federal securities law, and as such are not historical facts. This includes, without limitation, statements regarding our financial position and business strategy, and the plans and objectives of management for our future operations. Such statements can be identified by the fact that they do not relate strictly to historical or current facts. When used in this prospectus, words such as “anticipate,” “believe,” “continue,” “could,” “estimate,” “expect,” “intend,” “may,” “might,” “plan,” “possible,” “potential,” “predict,” “project,” “should,” “strive,” “would,” and similar expressions may identify forward-looking statements, but the absence of these words does not mean that a statement is not forward-looking. Forward-looking statements are predictions, projections, and other statements about future events that are based on current expectations and assumptions and, as a result, are subject to risks and uncertainties. Many factors could cause actual future events to differ materially from the forward-looking statements in this prospectus, including, but not limited to:

- changes in our strategy, expansion plans, customer opportunities, future operations, future financial position, estimated revenues and losses, projected costs, prospects and plans;
- the implementation, market acceptance and success of our business model and growth strategy;
- our ability to develop and maintain our brand and reputation;
- developments and projections relating to our business, our competitors, and industry;
- the impact of health epidemics on our business and the actions we may take in response thereto;
- our expectations regarding our ability to obtain and maintain intellectual property protection and not infringe on the rights of others;
- expectations regarding the time during which we will be an emerging growth company under the JOBS Act;
- our future capital requirements and sources and uses of cash;
- our ability to obtain funding for our operations and future growth; and
- our business, expansion plans and opportunities.
- other factors detailed under the section of this prospectus entitled “Risk Factors.”

These forward-looking statements are based on information available as of the date of this prospectus and current expectations, forecasts, and assumptions, and involve a number of judgments, risks, and uncertainties. Accordingly, forward-looking statements should not be relied upon as representing our views as of any subsequent date, and we do not undertake any obligation to update forward-looking statements for any reason, except as may be required under applicable securities laws.

As a result of a number of known and unknown risks and uncertainties, our actual results or performance may be materially different from those expressed or implied by these forward-looking statements. You should not place undue reliance on these forward-looking statements.

WHERE YOU CAN FIND MORE INFORMATION; INCORPORATION BY REFERENCE

Available Information

We file reports, proxy statements and other information with the SEC. The SEC maintains a website that contains reports, proxy and information statements and other information about issuers, such as us, who file electronically with the SEC. The address of that website is <http://www.sec.gov>.

Our website address is <http://www.energyvault.com>. The information on our website, however, is not, and should not be deemed to be, a part of this prospectus, and the inclusion of our website address in this prospectus is an inactive textual reference only.

This prospectus and any prospectus supplement are part of a registration statement that we filed with the SEC and do not contain all of the information in the registration statement. The full registration statement may be obtained from the SEC or us, as provided below. The documents establishing the terms of any offered securities are or may be filed as exhibits to the registration statement or documents incorporated by reference in the registration statement. Statements in this prospectus or any prospectus supplement about these documents are summaries and each statement is qualified in all respects by reference to the document to which it refers. You should refer to the actual documents for a more complete description of the relevant matters. You may inspect a copy of the registration statement through the SEC's website, as provided above.

Incorporation by Reference

The SEC's rules allow us to "incorporate by reference" information into this prospectus, which means that we can disclose important information to you by referring you to another document filed separately with the SEC. The information incorporated by reference is deemed to be part of this prospectus, and subsequent information that we file with the SEC will automatically update and supersede that information. Any statement contained in this prospectus or a previously filed document incorporated by reference will be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in this prospectus or a subsequently filed document incorporated by reference modifies or replaces that statement.

This prospectus and any accompanying prospectus supplement incorporate by reference the documents set forth below that have previously been filed with the SEC:

- [our Annual Report on Form 10-K for the year ended December 31, 2022, filed with the SEC on April 13, 2023;](#)
- [our Quarterly Report on Form 10-Q for the quarter ended March 31, 2023, filed with the SEC on May 10, 2023;](#)
- the information specifically incorporated by reference into [our Annual Report on Form 10-K for the year ended December 31, 2022](#) from [our Definitive Proxy Statement on Schedule 14A for our 2023 Annual Meeting of Stockholders, filed with the SEC on April 17, 2023](#); and
- our Current Reports on Form 8-K filed with the SEC on [January 24, 2023](#) and [February 10, 2023](#).

All reports and other documents we subsequently file pursuant to Section 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), in this prospectus, prior to the termination of this offering, including all such documents we may file with the SEC after the date of the initial registration statement and prior to the effectiveness of the registration statement, but excluding any information furnished to, rather than filed with, the SEC, will also be incorporated by reference into this prospectus and deemed to be part of this prospectus from the date of the filing of such reports and documents.

You may request a free copy of any of the documents incorporated by reference in this prospectus by writing or telephoning us at the following address:

Energy Vault Holdings, Inc.
4360 Park Terrace Drive
Suite 100
Westlake Village, California 91361
(805) 852-0000

Exhibits to the filings will not be sent, however, unless those exhibits have specifically been incorporated by reference in this prospectus or any accompanying prospectus supplement.

THE COMPANY

We are a grid-scale energy storage company and are driving a faster transition to renewable power by solving the intermittence issues that are inherent to the most prevalent sources of renewable energy, solar and wind.

While solar and wind power generation have become increasingly cost-competitive with fossil fuels, their use is economically constrained by their inherent intermittency. The continued growth of solar and wind power generation as an economically viable alternative to fossil fuels depends on better energy storage solutions.

We believe that we provide the energy storage solutions that will enable solar, wind, and other renewable energy sources to reach their full potential. Our solutions are designed on a software platform that orchestrates the delivery of power from a broad range of storage mediums and across a variety of storage durations. This allows stored energy to be dispensed at a variety of magnitudes for shorter, longer, and extended durations of time. We believe that this agnostic approach to power generation, combined with flexible storage architecture, will enable a faster transition to renewable energy.

The majority of the energy storage solutions we are deploying today will store energy generated from solar, wind, and hydrogen power, however, our energy storage architecture is designed to accommodate multiple renewable power sources across a variety of energy storage technologies. We anticipate that this approach will allow our solutions to address not only the energy storage needs of today, but to also seamlessly adapt to the evolving needs of our customers well into the future.

Our portfolio of market-ready turnkey energy storage solutions currently includes:

- Battery energy storage systems (“BESS”) are our integrated solutions to meet shorter-duration storage needs.
- Gravity energy storage systems (“GESS”) include our proprietary EVx solution to meet longer-duration storage needs.
- Green hydrogen energy storage systems (“gHESS”) are our integrated solutions to meet extended duration storage needs.
- Hybrid energy storage systems (“HESS”) are our uniquely integrated solutions which allow the pairing of various energy storage mediums to meet specific customer needs.
- Energy management software platform (“EMS”) is our proprietary solution designed by our Energy Vault Solutions (“EVS”) division that orchestrates the management of one or more of our diverse storage mediums, along with the underlying generation assets to enable the delivery of power to our customers for their varied and multiple use cases.

Prior to 2022, we were primarily involved in research and development activities. We began generating revenue from our product offerings during 2022, primarily from the licensing of our GESS EVx solution and from the sale of our BESSs. We expect to generate revenue in the future from the sale and licensing of our energy storage solutions, EMS, additional software applications, and long-term services agreements, including pursuant to tolling arrangements in connection with energy storage systems that we intend to own and operate.

Corporate Information

Energy Vault Holdings, Inc. was originally incorporated under the name Novus Capital Corporation II as a special purpose acquisition company in the state of Delaware in September 2020 with the purpose of effecting a merger with one or more operating businesses. On September 8, 2021, Novus Capital Corporation II announced that it had entered into a definitive agreement for a business combination with Energy Vault, Inc. that would result in Energy Vault, Inc. becoming a wholly owned subsidiary of Novus Capital Corporation II. Upon the closing of the Business Combination on February 11, 2022, Novus Capital Corporation II was immediately renamed to “Energy Vault Holdings, Inc.”

Our principal executive office is located at 4360 Park Terrace Drive, Suite 100, Westlake Village, CA 91361. Our telephone number is (805) 852-0000. Our website address is www.energyvault.com. Information contained on our website is not a part of this prospectus, and the inclusion of our website address in this prospectus is an inactive textual reference only.

Implications of Being an Emerging Growth Company and a Smaller Reporting Company

We qualify as an “emerging growth company” as defined in the Jumpstart Our Business Startups Act of 2012 (the “JOBS Act”). For so long as we remain an emerging growth company, we are permitted, and currently intend, to rely on the following provisions of the JOBS Act that contain exceptions from disclosure and other requirements that otherwise are applicable to public companies and file periodic reports with the SEC. These provisions include, but are not limited to:

- being permitted to present only two years of audited financial statements and selected financial data and only two years of related “Management’s Discussion and Analysis of Financial Condition and Results of Operations” in our periodic reports and registration statements, subject to certain exceptions;
- not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act of 2002, as amended;
- reduced disclosure obligations regarding executive compensation in our periodic reports, proxy statements, and registration statements;
- not being required to comply with any requirement that may be adopted by the Public Company Accounting Oversight Board regarding mandatory audit firm rotation or a supplement to the auditor’s report providing additional information about the audit and the financial statements; and
- exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved.

We will remain an emerging growth company until the earliest to occur of:

- December 31, 2026 (the last day of the fiscal year that follows the fifth anniversary of the completion of Novus Capital Corporation II’s initial public offering);
- the last day of the fiscal year in which we have total annual gross revenue of at least \$1.235 billion;
- the date on which we are deemed to be a “large accelerated filer,” (as defined in the Exchange Act); and
- the date on which we have issued more than \$1 billion in non-convertible debt over a three-year period.

We have elected to take advantage of certain of the reduced disclosure obligations in this prospectus and may elect to take advantage of other reduced reporting requirements in our future filings with the SEC. As a result, the information that we provide to our stockholders may be different than what you might receive from other public reporting companies in which you hold equity interests.

We have elected to avail ourselves of the provision of the JOBS Act that permits emerging growth companies to take advantage of an extended transition period to comply with new or revised accounting standards applicable to public companies. As a result, we will not be subject to new or revised accounting standards at the same time as other public companies that are not emerging growth companies.

We are also a “smaller reporting company” as defined in the Exchange Act. We may continue to be a smaller reporting company even after we are no longer an emerging growth company. We may take advantage of certain of the scaled disclosures available to smaller reporting companies until the fiscal year following the determination that our voting and non-voting common stock held by non-affiliates is \$250 million or more measured on the last business day of our second fiscal quarter, or our annual revenues are less than \$100 million during the most recently completed fiscal year and our voting and non-voting common stock held by non-affiliates is \$700 million or more measured on the last business day of our second fiscal quarter.

THE OFFERING

Issuer:	Energy Vault Holdings, Inc.
Issuance of common stock:	
Shares of our common stock issuable by the Company	Up to 5,166,666 shares of common stock issuable upon exercise of Private Warrants.
Exercise Price of Private Warrants	\$11.50 per share, subject to adjustment as described herein.
Use of proceeds	We will receive proceeds equal to the aggregate exercise price from any exercises of the Private Warrants, assuming the exercise of the Private Warrants for cash. The amount of such cash proceeds, if any, will depend on the prevailing market price of our common stock. The exercise price for any of our Private Warrants is \$11.50 per share, subject to certain specified adjustments. To the extent that the price of our common stock exceeds \$11.50 per share, it is more likely that warrant holders will exercise their warrants. If the price of our common stock is less than \$11.50 per share, it is less likely that warrant holders will exercise their warrants. We expect to use the net proceeds from the exercise of the Private Warrants for general corporate purpose.
Resale of common stock and Private Warrants:	
Shares of common stock offered by the Selling Stockholders	Up to 72,651,205 shares of common stock.
Private Warrants to be sold by the Selling Warrantholders	Up to 556,500 Private Warrants
Use of proceeds	We will not receive any of the proceeds from the sale of the shares of common stock or Private Warrants by the Selling Securityholders.
Market for common stock	Our common stock is listed on the NYSE under the symbol "NRGV." The Private Warrants are not listed on the NYSE.
Risk factors	Investing in our common stock involves a high degree of risk. See "Risk Factors" beginning on page 4 of this prospectus for a discussion of factors you should carefully consider before investing in our common stock.

RISK FACTORS

Investment in any securities offered pursuant to this prospectus and any applicable prospectus supplement involves risks. You should carefully consider the risk factors incorporated by reference to our most recent Annual Report on Form 10-K and any subsequent Quarterly Reports on Form 10-Q or Current Reports on Form 8-K, and all other information contained or incorporated by reference into this prospectus, as updated by our subsequent filings under the Exchange Act, and the risk factors and other information contained in any applicable prospectus supplement before acquiring any of such securities. The occurrence of any of these risks might cause you to lose all or part of your investment in the offered securities.

USE OF PROCEEDS

We will receive proceeds equal to the aggregate exercise price from any exercise of the Private Warrants, assuming the exercise in full of all of the Private Warrants for cash. The exercise price for any of our Private Warrants is \$11.50 per share, subject to certain specified adjustments. To the extent that the price of our common stock exceeds \$11.50 per share, it is more likely that our warrant holders will exercise their warrants. To the extent that the price of our common stock declines, including by declining beneath \$11.50 per share, it is less likely that our warrant holders will exercise their warrants.

We expect to use the net proceeds from the exercise of the Private Warrants for general corporate purposes. We will have broad discretion over the use of proceeds from the exercise of the Private Warrants. There is no assurance that the holders of the Private Warrants will elect to exercise any or all of such Private Warrants. To the extent that the Private Warrants are exercised on a “cashless basis,” the amount of cash we would receive from the exercise of the Private Warrants will decrease.

All of the shares of common stock and Private Warrants offered by the Selling Securityholders pursuant to this prospectus will be sold by the Selling Securityholders for their account. We will not receive any of the proceeds from these sales.

DESCRIPTION OF SECURITIES

Authorized and Outstanding Stock

The Second Amended and Restated Charter authorizes the issuance of 500,000,000 shares of common stock and 5,000,000 shares of preferred stock, each with a par value of \$0.0001 per share. As of April 7, 2023, there were 141,392,243 shares of common stock outstanding.

Common Stock

Voting Power

Except as otherwise required by law or as otherwise provided in any certificate of designation for any series of preferred stock, the holders of our common stock possess all voting power for the election of our directors and all other matters requiring stockholder action. Holders of our common stock are entitled to one vote per share on matters to be voted on by stockholders.

Dividends

Holders of our common stock are entitled to receive such dividends, if any, as may be declared from time to time by our board of directors in its discretion out of funds legally available therefor. In no event will any stock dividends or stock splits or combinations of stock be declared or made on common stock unless the shares of our common stock at the time outstanding are treated equally and identically.

Liquidation, Dissolution and Winding Up

In the event of our voluntary or involuntary liquidation, dissolution, distribution of assets or winding-up, the holders of our common stock are entitled to receive an equal amount per share of all of our assets of whatever kind available for distribution to stockholders, after the rights of the holders of the preferred stock, if any, have been satisfied.

Preemptive or Other Rights

Our stockholders have no preemptive or other subscription rights and there are no sinking fund or redemption provisions applicable to our common stock.

Election of Directors

Our board of directors is divided into three classes of approximately equal size, each of which generally serves for a term of three years with only one class of directors being elected in each year. Unless required by applicable law at the time of election, there is no cumulative voting with respect to the election of directors, with the result that the holders of more than 50% of the shares voted for the election of directors can elect all of the directors.

Preferred Stock

We are authorized, subject to limitations prescribed by Delaware law, to issue preferred stock in one or more series, to establish from time to time the number of shares to be included in each series and to fix the designation, powers, preferences and rights of the shares of each series and any associated qualifications, limitations or restrictions. Our board of directors also can increase or decrease the number of shares of any series, but not below the number of shares of that series then outstanding, without any further vote or action by our stockholders. Our board of directors may authorize the issuance of preferred stock with voting or conversion rights that could adversely affect the voting power or other rights of the holders of our common stock. The issuance of preferred stock, while providing flexibility in connection with possible acquisitions and other corporate purposes, could, among other things, have the effect of delaying, deferring or preventing a change in control of our Company and may adversely affect the market price of our common stock and the voting and other rights of the holders of common stock. We have no current plan to issue any shares of preferred stock.

Options

As of December 31, 2022, there were options to purchase 1,093,313 shares of our common stock outstanding, with a weighted-average exercise price of \$0.79.

Restricted Stock Units

As of December 31, 2022, there were 23,798,370 restricted stock units outstanding, each representing the right to receive one share of our common stock.

Warrants

As of December 31, 2022, there were 5,166,666 Private Warrants to purchase common stock outstanding, held by our Founders (as defined in the Registration Statement). Each Private Warrant entitles the registered holder to purchase one share of our common stock at a price of \$11.50 per share, subject to adjustment as discussed below. The Private Warrants will expire at 5:00 p.m., New York City time, on the fifth anniversary of our completion of an initial business combination, or earlier upon liquidation.

The Private Warrants will be exercisable for cash or on a cashless basis, at the holder's option, and will not be redeemable by us, in each case so long as they are still held by the Founders or their permitted transferees.

The Private Warrants were issued in registered form under the Warrant Agreement. The Warrant Agreement provides that the terms of the Private Warrants may be amended without the consent of any holder to cure any ambiguity or correct any defective provision, but requires the approval, by written consent or vote, of the holders of at least a majority of the then outstanding Private Warrants, if such modification or amendment is being undertaken after the Closing, in order to make any change that adversely affects the interests of the registered holders.

The exercise price and number of shares of common stock issuable on exercise of the Private Warrants may be adjusted in certain circumstances including in the event of a stock dividend, extraordinary dividend or our recapitalization, reorganization, merger or consolidation. However, the Private Warrants will not be adjusted for issuances of shares of common stock at a price below their respective exercise prices.

The Private Warrants may be exercised upon surrender of the warrant certificate on or prior to the expiration date at the office of the warrant agent, with the subscription form, as set forth in the Private Warrant, duly executed, accompanied by full payment of the exercise price, by certified or official bank check payable to the order of the warrant agent, for the number of Private Warrants being exercised. The warrant holders do not have the rights or privileges of holders of shares of our common stock and any voting rights until they exercise their Private Warrants and receive shares of our common stock. After the issuance of shares of common stock upon exercise of the Private Warrants, each holder will be entitled to one vote for each share held of record on all matters to be voted on by stockholders.

Private Warrant holders may elect to be subject to a restriction on the exercise of their warrants such that an electing warrant holder would not be able to exercise their warrants to the extent that, after giving effect to such exercise, such holder would beneficially own in excess of 9.8% of the shares of common stock outstanding.

Certain Anti-Takeover Provisions of Delaware Law

Pursuant to the Second Amended and Restated Charter, we have not opted out of Section 203 of the DGCL. Under Section 203 of the DGCL, we are prohibited from engaging in any business combination with any stockholder for a period of three years following the time that such stockholder (the "interested stockholder") came to own at least 15% of our outstanding voting stock (the "acquisition"), except if:

- the board approved the acquisition prior to its consummation;
- the interested stockholder owned at least 85% of the outstanding voting stock upon consummation of the acquisition; or
- the business combination is approved by the board, and by a 2/3 majority vote of the other stockholders in a meeting.

Generally, a “business combination” includes any merger, consolidation, asset or stock sale or certain other transactions resulting in a financial benefit to the interested stockholder. Subject to certain exceptions, an “interested stockholder” is a person who, together with that person’s affiliates and associates, owns, or within the previous three years owned, 15% or more of our voting stock.

Under certain circumstances, declining to opt out of Section 203 of the DGCL makes it more difficult for a person who would be an “interested stockholder” to effect various business combinations with us for a three-year period. This may encourage companies interested in acquiring us to negotiate in advance with the board because the stockholder approval requirement would be avoided if the board approves the acquisition which results in the stockholder becoming an interested stockholder. This may also have the effect of preventing changes in the board and may make it more difficult to accomplish transactions which stockholders may otherwise deem to be in their best interests.

Special Meeting of Stockholders

The Second Amended and Restated Bylaws provide that special meetings of our stockholders may be called only by the chairperson of our board of directors, our Chief Executive Officer and our board of directors pursuant to adoption of a resolution.

Advance Notice Requirements for Stockholder Proposals and Director Nominations

The Second Amended and Restated Bylaws provide that stockholders seeking to bring business before our annual meeting of stockholders, or to nominate candidates for election as directors at our annual meeting of stockholders must provide timely notice of their intent in writing. These bylaws also specify certain requirements as to the form and content of a stockholders’ meeting. These provisions may preclude our stockholders from bringing matters before our annual meeting of stockholders or from making nominations for directors at our annual meeting of stockholders.

Written Consent by Stockholders

Under the Second Amended and Restated Charter, subject to the rights of any series of preferred stock then outstanding, any action required or permitted to be taken by our stockholders must be effected at a duly called annual or special meeting of our stockholders and may not be effected by any consent in writing by such stockholders.

Exclusive Forum Selection

The Second Amended and Restated Charter provides that the Court of Chancery of the State of Delaware will be the exclusive forum for actions or proceedings brought under Delaware statutory or common law: (1) any derivative action or proceeding brought on our behalf; (2) any action asserting a breach of fiduciary duty; (3) any action asserting a claim against us arising under the Delaware General Corporation Law; (4) any action regarding the certificate of incorporation or our amended and restated bylaws; (5) any action as to which the Delaware General Corporate Law confers jurisdiction to the Court of Chancery of the State of Delaware; or (6) any action asserting a claim against us that is governed by the internal affairs doctrine. The certificate of incorporation further provides that the federal district courts of the United States of America will be the exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act of 1933, as amended (the “Securities Act”).

Section 27 of the Exchange Act creates exclusive federal jurisdiction over all suits brought to enforce any duty or liability created by the Exchange Act or the rules and regulations thereunder. As a result, the exclusive forum provision of our Second Amended and Restated Charter will not apply to suits brought to enforce any duty or liability created by the Exchange Act or any other claim for which the federal courts have exclusive jurisdiction.

Although we believe this provision benefits us by providing increased consistency in the application of Delaware law in the types of lawsuits to which it applies, a court may determine that this provision is unenforceable, and to the extent it is enforceable, the provision may have the effect of discouraging lawsuits against our directors and officers, although our stockholders will not be deemed to have waived our compliance with federal securities laws and the rules and regulations thereunder and therefore bring a claim in another appropriate forum. Additionally, we cannot be certain that a court will decide that this provision is either applicable or enforceable, and if a court were to find the choice of forum provision contained in the certificate of incorporation to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving such action in other jurisdictions, which could harm our business, operating results and financial condition.

Limitation on Liability and Indemnification of Directors and Officers

The Second Amended and Restated Charter provides that our directors and officers will be indemnified by us to the fullest extent authorized by Delaware law as it now exists or may in the future be amended. In addition, the Second Amended and Restated Charter provides that our directors will not be personally liable for monetary damages to us for breaches of their fiduciary duty as directors, unless they violated their duty of loyalty to us or our stockholders, acted in bad faith, knowingly or intentionally violated the law, authorized unlawful payments of dividends, unlawful stock purchases or unlawful redemptions, or derived an improper personal benefit from their actions as directors.

We also intend to enter into agreements with our officers and directors to provide contractual indemnification. The Second Amended and Restated Bylaws permit us to secure insurance on behalf of any officer, director or employee for any liability arising out of his or her actions, regardless of whether Delaware law would permit indemnification. We have purchased a policy of directors' and officers' liability insurance that insures our directors and officers against the cost of defense, settlement or payment of a judgment in some circumstances and insures us against our obligations to indemnify the directors and officers.

These provisions may discourage stockholders from bringing a lawsuit against our directors for breach of their fiduciary duty. These provisions also may have the effect of reducing the likelihood of derivative litigation against directors and officers, even though such an action, if successful, might otherwise benefit us and our stockholders. Furthermore, a stockholder's investment may be adversely affected to the extent we pay the costs of settlement and damage awards against directors and officers pursuant to these indemnification provisions. We believe that these provisions, the insurance and the indemnity agreements are necessary to attract and retain talented and experienced directors and officers.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to our directors, officers and controlling persons pursuant to the foregoing provisions, or otherwise, we have been advised that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable.

Registrar and Transfer Agent; Warrant Agent

Continental Stock Transfer & Trust Company is the registrar and transfer agent for the shares of our common stock, and the warrant agent for the warrants. We have agreed to indemnify Continental Stock Transfer & Trust Company in its roles as transfer agent and warrant agent against all liabilities, including judgments, costs and reasonable counsel fees that may arise out of acts performed or omitted for its activities in that capacity, except for any liability due to any gross negligence, willful misconduct or bad faith of the indemnified person or entity.

Listing of Securities

Our common stock is listed on the NYSE under the symbols "NRGV."

SELLING SECURITYHOLDERS

This prospectus relates to the resale from time to time, by (i) the Selling Stockholders of up to 72,651,205 shares of the Company's common stock and (ii) the Selling Warrantholders of 556,500 Private Warrants. The Selling Securityholders may from time to time offer and sell any or all of the shares of common stock set forth below pursuant to this prospectus and any accompanying prospectus supplement. The Selling Securityholders will pay any underwriting discounts and commissions and expenses incurred by the Selling Securityholders for brokerage, accounting, tax or legal services or any other expenses incurred by the Selling Securityholders in disposing of the securities. We will bear the costs, fees and expenses incurred in effecting the registration of the securities covered by this prospectus and any accompanying prospectus supplement, including all registration and filing fees, listing fees and fees and expenses of our counsel and our independent registered public accounting firm. When we refer to the "Selling Securityholders" in this prospectus, we mean the persons listed in the table below, the holders of shares of common stock issuable upon the exercise of the Company's Private Warrants covered by this prospectus, and the pledgees, donees, transferees, assignees, successors, designees and others who later come to hold any of the Selling Securityholders' interest in the common stock other than through a public sale.

The following table sets forth, as of April 7, 2023, the names of the Selling Securityholders, and the aggregate number of shares of common stock, and, as applicable, of Private Warrants beneficially owned by the Selling Securityholders, the number of shares of our common stock and, as applicable, of Private Warrants that may be offered by the Selling Securityholders under this prospectus and the number of shares of common stock and, as applicable, of Private Warrants that the Selling Securityholders will beneficially own after this offering. The information included below was prepared based on the information provided by the Selling Securityholders identified below and updates were requested by the Company through and as of April 7, 2023. To the extent no updates have been received, we have relied on information previously provided by such Selling Securityholders and certain of such shares may have been sold, transferred or otherwise disposed of. In addition, the table below reflects securities that qualify as "registrable securities" as of the date hereof under the applicable Subscription Agreement or Registration Rights Agreement. We cannot advise you as to whether the Selling Securityholders will in fact sell any or all of their shares. For purposes of the table below, we have assumed that (i) after this offering none of the shares of common stock or Private Warrants covered by this prospectus will be beneficially owned by the Selling Securityholders and (ii) the Selling Securityholders will not acquire beneficial ownership of any additional securities. In addition, we assume that the Selling Securityholders have not sold, transferred or otherwise disposed of, our securities in transactions exempt from the registration requirements of the Securities Act. We have based the percentage ownership on 141,392,243 shares of our common stock issued and outstanding as of April 7, 2023.

	Number of Shares Beneficially Owned Before Sale of All Shares of Common Stock Offered Hereby		Number of Shares of Common Stock to be Sold in the Offering	Number of Shares Beneficially Owned After Sale of All Shares of Common Stock Offered Hereby	
	Number	% ⁽¹⁾		Number	Number
Novus Selling Securityholders					
Korea Zinc Co., Ltd. ⁽²⁾	5,000,000	3.5%	5,000,000	-	-
Atlas Renewable LLC ⁽³⁾	5,000,000	3.5%	5,000,000	-	-
Adage Capital Advisors, L.L.C. (Adage Capital Partners, L.P.) ⁽⁴⁾	2,400,000	1.7%	900,000	1,500,000	1.1%
Cemex Ventures B.V. ⁽⁵⁾	1,195,544	0.8%	243,896	951,648	*%
Alternate Ventures LLC ⁽⁶⁾	1,667,133	1.2%	700,000	967,133	*
Inteligo Bank Ltd. ⁽⁷⁾	1,667,134	1.2%	700,000	967,134	*
Palantir Technologies Inc. ⁽⁸⁾	850,000	*	850,000	-	-
LightVC, Ltd. ⁽⁹⁾	500,000	*	500,000	-	-
Victory Global Energy Transition Fund ⁽¹⁰⁾	428,035	*	179,725	248,310	*
DNE SPAC AH LLC ⁽¹¹⁾	285,277	*	100,000	185,277	*
True VC, LLC - Series 15 ⁽¹²⁾	220,000	*	220,000	-	-
ESK Partners LLC ⁽¹³⁾	200,000	*	200,000	-	-
Jay D. Stein Ten Year Grantor Retained Annuity Trust ⁽¹⁴⁾	174,206	*	100,000	-	*
The Trustees of the University of Pennsylvania ⁽¹⁵⁾	137,088	*	57,560	79,528	*
Crown Property Management II, L.L.C. ⁽¹⁶⁾	90,000	*	50,000	40,000	*
Other Selling Securityholders ⁽¹⁷⁾	1,253,268	*	817,720	435,548	*
Energy Vault, Inc. Securityholders					
Idealab Studio, LLC ⁽¹⁸⁾	15,583,548	11.0%	15,583,548	-	-
Prime Movers Lab ⁽¹⁹⁾	7,462,364	5.3%	7,462,365	-	-
SoftBank Vision Fund (AIV M2) L.P. acting by its manager, SB Investment Advisers (UK) Limited ⁽²⁰⁾	18,535,631	13.1%	18,535,631	-	-
Robert Piconi ⁽²¹⁾	14,841,504	10.5%	14,841,504	-	-
Founder Selling Securityholders					
Larry Paulson ⁽²²⁾	1,165,756	*	609,256	-	-

	Number of Private Warrants Beneficially Owned Prior to Offering		Private Warrants Being Offered Hereby	Number of Private Warrants Beneficially Owned After Offering	
	Number	%	Number	Number	%
Larry Paulson ⁽²²⁾	556,500	100%	556,500	-	-

* Indicates less than 1%

- (1) The percentage of beneficial ownership before this offering is calculated based on 141,392,243 shares of our Common Stock outstanding as of April 7, 2023. Unless otherwise indicated, we believe that all persons named in the table have sole voting and investment power with respect to all shares beneficially owned by them.
- (2) Shares listed as beneficially owned, and offered hereby, consist of 5,000,000 shares of Common Stock. An affiliate of this stockholder has entered into a non-binding strategic partnership agreement for renewable energy storage.
- (3) Shares listed as beneficially owned, and offered hereby, consist of 2,500,000 shares of Common Stock. This stockholder has entered into a licensing agreement with Energy Vault, Inc.
- (4) Shares listed as beneficially owned consist of 2,400,000 shares of Common Stock. Shares offered hereby consist of 900,000 shares of Common Stock.
- (5) Shares listed as beneficially owned consist of 1,195,544 shares of Common Stock. Shares offered hereby consist of 243,896 shares of Common Stock. An affiliate of this stockholder and Energy Vault SA have entered into commercial agreement for the purpose of developing composite material technology. CEMEX S.A.B. de C.V. is the ultimate parent company of this stockholder and may be deemed to have beneficial ownership of these securities.
- (6) Shares listed as beneficially owned consist of 1,667,133 shares of Common Stock. Shares offered hereby consist of 700,000 shares of Common Stock.
- (7) Shares listed as beneficially owned, and offered hereby, consist of 1,667,134 shares of Common Stock. Shares offered hereby consist of 700,000 shares of Common Stock. Inteligo Group Corp., Intercorp Financial Services Inc and Intercorp Peru Ltd. may each be deemed to be beneficial owners of these securities.
- (8) Shares listed as beneficially owned, and offered hereby, consist of 850,000 shares of Common Stock. On September 3, 2021, Palantir and Energy Vault entered into an agreement (the "Software Agreement") under which Energy Vault has agreed to purchase a Palantir Foundry cloud subscription (which provides advanced data analytics capability), including support services, updates and related professional services, from Palantir for \$7.5 million payable over a term of two and a half years, beginning on December 1, 2021.
- (9) Shares listed as beneficially owned, and offered hereby, consist of 500,000 shares of Common Stock.
- (10) Shares listed as beneficially owned consist of 428,032 shares of Common Stock. Shares offered hereby consist of 179,725 shares of Common Stock. Sailingstone Capital Partners is a sub-advisor for this stockholder and may be deemed to be a beneficial owner of these securities.
- (11) Shares listed as beneficially owned consist of (i) 240,833 shares of our Common Stock and (ii) 44,444 warrants to purchase our Common Stock that were exercisable within 60 days of April 1, 2022. Shares offered hereby consist of 100,000 shares of our Common Stock. David N. Eskenazi is the chief operating member of this stockholder and may be deemed to be a beneficial owner of these securities.
- (12) Shares listed as beneficially owned, and offered hereby, consist of 220,000 shares of Common Stock. True Ventures Management Company, LLC, the direct manager of this stockholder, and True Capital Management, LLC, the indirect manager of this stockholder, both disclaim beneficial ownership except to the extent of their pecuniary interest.

- (13) Shares listed as beneficially owned, and offered hereby, consist of 200,00 shares of Common Stock. Sidney D. Eskenazi is the chief operating officer of this stockholder and may be deemed to be a beneficial owner of these securities.
- (14) Shares listed as beneficially owned consist of (i) 1,215,727 shares of our Common Stock and (ii) 24,032 warrants to purchase our Common Stock that were exercisable within 60 days of April 1, 2022. Shares offered hereby consist of 100,000 shares of our Common Stock. David N. Eskenazi is the trustee of this stockholder and may be deemed to be a beneficial owner of these securities.
- (15) Shares listed as beneficially owned consist of 137,088 shares of Common Stock. Shares offered hereby consist of 57,560 shares of Common Stock. Sailingstone Capital Partners is an investment advisor for this stockholder and may be deemed to be a beneficial owner of these securities.
- (16) Shares listed as beneficially owned consist of (i) 80,000 shares of Common Stock and (ii) 10,000 warrants to purchase our Common Stock that were exercisable within 60 days of April 1, 2022. The shares offered hereby consist of 50,000 shares of Common Stock.
- (17) Shares listed as beneficially owned consist of 1,205,197 shares of Common Stock and 48,071 warrants to purchase our Common Stock that were exercisable within 60 days of April 1, 2022, and the shares offered hereby consist of 817,720 shares of Common Stock. The disclosure of these Selling Securityholders is being made on an aggregate basis, as opposed to an individual basis, because their aggregate shares of such Selling Securityholders are less than 1% of the outstanding shares of our Common Stock.
- (18) Shares listed as beneficially owned, and offered hereby, consist of 15,583,548 shares of Common Stock held directly by Idealab Studio, LLC. The business address of this stockholder is 130 West Union Street, Pasadena, CA 91103. Bill Gross, one of our directors, is chairman of the board and chief executive officer of Idealab Studio, LLC. As such, Mr. Gross may be deemed to have or share beneficial ownership of the common stock held directly by Idealab Studio, LLC. Mr. Gross disclaims any such beneficial ownership of such securities. The offered securities consist of (i) 12,337,680 shares of our Common Stock, which were purchased from Legacy Energy Vault at a price of \$0.002 per share, after giving effect to the exchange ratio in the Business Combination and (ii) 3,245,868 shares of our Common Stock, which were purchased from Legacy Energy Vault at a price of \$0.07 per share, after giving effect to the exchange ratio in the Business Combination.
- (19) Shares listed as beneficially owned, and offered hereby, consist of (a) 1,245,077 shares of Common Stock held directly by Energy Vault PML SPV 1 LP; and (b) 6,217,287 shares of Common Stock held directly by Prime Movers Growth Fund I, LP. Zia Huque, one of our directors, Dakin Sloss and Davis Simonoff are general partners of these stockholders of record and may each be deemed to be beneficial owners of these securities. The business address of this stockholder is PO Box 12829, Jackson, WY 83002. The offered securities consist of (i) 6,217,287 shares of our Common Stock, which were purchased from Legacy Energy Vault at a price of \$7.24 per share, after giving effect to the exchange ratio in the Business Combination and (ii) 1,245,077 shares of our Common Stock, which were purchased from Legacy Energy Vault at a price of \$2.14 per share, after giving effect to the exchange ratio in the Business Combination.
- (20) Shares listed as beneficially owned, and offered hereby, consist of 18,535,631 shares of Common Stock held directly by SoftBank Vision Fund (AIV M2) L.P. acting by its manager, SB Investment Advisers (UK) Limited. The business address of this stockholder is 1 Circle Star Way, San Carlos, CA 94070. The offered securities consist of (i) 2,500,000 PIPE Shares purchased at \$10.00 per share, (ii) 1,381,618 shares of our Common Stock, which were purchased from Legacy Energy Vault at a price of \$7.24 per share, after giving effect to the exchange ratio in the Business Combination and (iii) 14,654,013 shares of our Common Stock, which were purchased from Legacy Energy Vault at a price of \$1.71 per share, after giving effect to the exchange ratio in the Business Combination.
- (21) Shares listed as beneficially owned, and offered hereby, consist of (i) 6,225,612 shares of Common Stock held of record by Mr. Piconi; (ii) 4,307,946 shares of Common Stock held of record by the Piconi Family 2021 Delaware Trust for which Mr. Piconi serves as investment advisor; and (iii) 4,307,946 shares of Common Stock held of record by the Piconi 2021 Delaware Trust for which Mr. Piconi serves as investment advisor. The offered securities consist of (i) 8,615,892 shares of our Common Stock, which were purchased from Legacy Energy Vault at a price of \$0.0004 per share, after giving effect to the exchange ratio in the Business Combination (ii) 569,441 shares of our Common Stock, which were purchased from Legacy Energy Vault at a price of \$0.44 per share, after giving effect to the exchange ratio in the Business Combination, (iii) 746,176 shares of our Common Stock which were purchased from Legacy Energy Vault at a price of \$0.07 per share, after giving effect to the exchange ratio in the Business Combination, and (iv) 4,909,995 shares granted by Legacy Energy Vault for no cash consideration pursuant to a restricted stock award agreement under the Energy Vault, Inc. 2020 Stock Plan, which we assumed at the Closing.

- (22) Shares listed as beneficially owned consist of (i) 609,256 shares of Common Stock held by the Larry M. Paulson and Gretchen V Paulson, Trustees of the Larry M and Gretchen V Paulson Family Trust Dated September 4, 2019 and any amendments thereto (the “Paulson Trust”), and (ii) private warrants held by the Paulson Trust to purchase 556,500 shares of Common Stock which were exercisable within 60 days of April 1, 2022. Shares offered hereby consist of 609,256 shares of Common Stock held by the Paulson Trust. Private warrants offered hereby consist of 556,500 private warrants held by the Paulson Trust. Mr. Paulson is a trustee of the Paulson Trust. Consequently, Mr. Paulson may be deemed to be the beneficial owner of such. He disclaims beneficial ownership of any shares other than to the extent he may have a pecuniary interest therein, directly or indirectly.

PLAN OF DISTRIBUTION

We are registering the issuance by us of up to 5,166,666 shares of common stock that are issuable upon the exercise of the Private Warrants by the holders thereof. We are also registering the offer and sale, from time to time, by the Selling Securityholders of up to 72,651,205 shares of common stock and up to 556,500 Private Warrants.

We will not receive any of the proceeds from the sale of the securities by the Selling Securityholders. We will receive proceeds from Private Warrants exercised in the event that such Private Warrants are exercised for cash. The aggregate proceeds to the Selling Securityholders will be the purchase price of the securities less any discounts and commissions borne by the Selling Securityholders.

Once issued and upon effectiveness of the registration statement of which this prospectus forms a part, the securities beneficially owned by the Selling Securityholders covered by this prospectus may be offered and sold from time to time by the Selling Securityholders. The term "Selling Securityholders" includes donees, pledgees, transferees or other successors-in-interest selling common stock or interests in stock received after the date of this prospectus from a registered stockholder as a gift, pledge, partnership, limited liability company or other entity distribution or other transfer, and may, or may not, elect to sell or transfer their shares of common stock or interests in stock covered by this prospectus, as and to the extent they may determine. The Selling Securityholders will act independently of us in making decisions with respect to the timing, manner and size of each sale. The sales of shares of common stock may be made on one or more exchanges or in the over-the-counter market or otherwise, at prices and under terms then prevailing or at prices related to the then current market price or in negotiated transactions. The Selling Securityholders reserve the right to accept and, together with their respective agents, to reject, any proposed purchase of securities to be made directly or through agents. The Selling Securityholders and any permitted transferees may sell or transfer their shares of common stock offered by this prospectus on any stock exchange, market or trading facility on which the securities are traded. In addition, such persons may sell or transfer their shares of common stock and the Private Warrants in private transactions. These sales may be at a fixed price or varying prices, which may be changed, or at market prices prevailing at the time of sale, at prices relating to prevailing market prices or at negotiated prices. There is no established public trading market for the Private Warrants and we do not intend to apply for listing of the Private Warrants on the New York Stock Exchange or any other exchange. We expect that the price at which the Private Warrants may be sold will depend, in part, on the manner and timing of such sales, but, in any event, we expect such price will likely be primarily derived with reference to the market price of the shares of our common stock underlying such Private Warrants. The securities may be offered to the public through underwriting syndicates represented by managing underwriters or by underwriters without a syndicate. The obligations of the underwriters to purchase the securities will be subject to certain conditions. The underwriters will be obligated to purchase all the securities offered if any of the securities are purchased.

Subject to the limitations set forth in any applicable registration rights agreement, the Selling Securityholders may use any one or more of the following methods when selling the securities offered by this prospectus:

- purchases by a broker-dealer as principal and resale by such broker-dealer for its own account pursuant to this prospectus;
- ordinary brokerage transactions and transactions in which the broker solicits purchasers;
- block trades in which the broker-dealer so engaged will attempt to sell the securities as agent but may position and resell a portion of the block as principal to facilitate the transaction;
- an over-the-counter distribution in accordance with the rules of the applicable exchange;
- through trading plans entered into by a Selling Securityholder pursuant to Rule 10b5-1 under the Exchange Act that are in place at the time of an offering pursuant to this prospectus and any applicable prospectus supplement hereto that provide for periodic sales of their securities on the basis of parameters described in such trading plans;
- through one or more underwritten offerings on a firm commitment or best efforts basis;
- settlement of short sales entered into after the date of this prospectus;
- agreements with broker-dealers to sell a specified number of the securities at a stipulated price per share;

- in “at the market” offerings, as defined in Rule 415 under the Securities Act, at negotiated prices, at prices prevailing at the time of sale or at prices related to such prevailing market prices, including sales made directly on a national securities exchange or sales made through a market maker other than on an exchange or other similar offerings through sales agents;
- directly to purchasers, including through a specific bidding, auction or other process or in privately negotiated transactions;
- through the writing or settlement of options or other hedging transactions, whether through an options exchange or otherwise;
- privately negotiated transactions;
- distributions to their members, partners and stockholders;
- through a combination of any of the above methods of sale; or
- any other method permitted pursuant to applicable law.

In addition, a Selling Securityholder that is an entity may elect to make an in-kind distribution of securities to its members, partners or stockholders pursuant to the registration statement of which this prospectus is a part by delivering a prospectus with a plan of distribution. Such members, partners or stockholders would thereby receive freely tradeable securities pursuant to the distribution through a registration statement. To the extent a distributee is an affiliate of ours (or to the extent otherwise required by law), we may file a prospectus supplement in order to permit the distributees to use the prospectus to resell the securities acquired in the distribution.

The Selling Securityholders also may transfer the securities in other circumstances, in which case the transferees, pledgees or other successors-in-interest will be the selling beneficial owners for purposes of this prospectus. Upon being notified by the Selling Securityholders that a donee, pledgee, transferee, other successor-in-interest intends to sell our securities, we will, to the extent required, promptly file a supplement to this prospectus to name specifically such person as a Selling Securityholder.

There can be no assurance that the Selling Securityholders will sell all or any of the securities offered by this prospectus. In addition, the Selling Securityholders may also sell securities under Rule 144 under the Securities Act, if available, or in other transactions exempt from registration, rather than under this prospectus. The Selling Securityholders have the sole and absolute discretion not to accept any purchase offer or make any sale of securities if they deem the purchase price to be unsatisfactory at any particular time.

To the extent required, the securities to be sold, including the shares of our common stock, the name of the Selling Securityholders, the respective purchase prices and public offering prices, the proceeds to be received from the sale, if any, and other material terms of the offering, the settlement of short sales entered into after the date of this prospectus, the names of any agents, dealer or underwriter, any applicable commissions or discounts or any other items constituting compensation from the Selling Securityholders with respect to a particular offer will be set forth in an accompanying prospectus supplement or, if appropriate, a post-effective amendment to the registration statement that includes this prospectus.

In connection with the sale of shares of our common stock, the Selling Securityholders may enter into hedging transactions with broker-dealers or other financial institutions, which may in turn engage in short sales of the shares of our common stock in the course of hedging the positions they assume. The Selling Securityholders may also sell shares of our common stock short and deliver these securities to close out their short positions, or loan or pledge the common stock to broker-dealers that in turn may sell these shares. The Selling Securityholders may also enter into option or other transactions with broker-dealers or other financial institutions or the creation of one or more derivative securities which require the delivery to such broker-dealer or other financial institution of shares offered by this prospectus, which shares such broker-dealer or other financial institution may resell pursuant to this prospectus (as supplemented or amended to reflect such transaction).

In order to facilitate the offering of the securities, any underwriters or agents, as the case may be, involved in the offering of such securities may engage in transactions that stabilize, maintain or otherwise affect the price of our securities. Specifically, the underwriters or agents, as the case may be, may overallocate in connection with the offering, creating a short position in our securities for their own account. In addition, to cover overallocations or to stabilize the price of our securities, the underwriters or agents, as the case may be, may bid for, and purchase, such securities in the open market. Finally, in any offering of securities through a syndicate of underwriters, the underwriting syndicate may reclaim selling concessions allotted to an underwriter or a broker-dealer for distributing such securities in the offering if the syndicate repurchases previously distributed securities in transactions to cover syndicate short positions, in stabilization transactions or otherwise. Any of these activities may stabilize or maintain the market price of the securities above independent market levels. The underwriters or agents, as the case may be, are not required to engage in these activities, and may end any of these activities at any time.

In offering the securities covered by this prospectus, the Selling Securityholders and any underwriters, broker-dealers or agents who execute sales for the Selling Securityholders may be deemed to be “underwriters” within the meaning of the Securities Act in connection with such sales. Any discounts, commissions, concessions or profit they earn on any resale of those securities may be underwriting discounts and commissions under the Securities Act.

The Selling Securityholders may solicit offers to purchase the securities directly from, and it may sell such securities directly to, institutional investors or others. In this case, no underwriters or agents would be involved. The terms of any of those sales, including the terms of any bidding or auction process, if utilized, will be described in the applicable prospectus supplement.

It is possible that one or more underwriters may make a market in our securities, but such underwriters will not be obligated to do so and may discontinue any market making at any time without notice. We cannot give any assurance as to the liquidity of the trading market for our securities. Our shares of common stock are currently listed on the NYSE under the symbol “NRGV.”

The Selling Securityholders may authorize underwriters, broker-dealers or agents to solicit offers by certain purchasers to purchase the securities at the public offering price set forth in the prospectus supplement pursuant to delayed delivery contracts providing for payment and delivery on a specified date in the future. The contracts will be subject only to those conditions set forth in the prospectus supplement, and the prospectus supplement will set forth any commissions we or the Selling Securityholders pay for solicitation of these contracts.

A Selling Securityholder may enter into derivative transactions with third parties, or sell securities not covered by this prospectus to third parties in privately negotiated transactions. If the applicable prospectus supplement indicates, in connection with those derivatives, the third parties may sell securities covered by this prospectus and the applicable prospectus supplement, including in short sale transactions. If so, the third party may use securities pledged by any Selling Securityholder or borrowed from any Selling Securityholder or others to settle those sales or to close out any related open borrowings of stock, and may use securities received from any Selling Securityholder in settlement of those derivatives to close out any related open borrowings of stock. The third party in such sale transactions will be an underwriter and will be identified in the applicable prospectus supplement (or a post-effective amendment). In addition, any Selling Securityholder may otherwise loan or pledge securities to a financial institution or other third party that in turn may sell the securities short using this prospectus. Such financial institution or other third party may transfer its economic short position to investors in our securities or in connection with a concurrent offering of other securities.

In effecting sales, broker-dealers or agents engaged by the Selling Securityholders may arrange for other broker-dealers to participate. Broker-dealers or agents may receive commissions, discounts or concessions from the Selling Securityholders in amounts to be negotiated immediately prior to the sale.

In compliance with the guidelines of the Financial Industry Regulatory Authority (“FINRA”), the aggregate maximum discount, commission, fees or other items constituting underwriting compensation to be received by any FINRA member or independent broker-dealer will not exceed 8% of the gross proceeds of any offering pursuant to this prospectus and any applicable prospectus supplement.

If at the time of any offering made under this prospectus a member of FINRA participating in the offering has a “conflict of interest” as defined in FINRA Rule 5121 (“Rule 5121”), that offering will be conducted in accordance with the relevant provisions of Rule 5121.

To our knowledge, there are currently no plans, arrangements or understandings between the Selling Securityholders and any broker-dealer or agent regarding the sale of the securities by the Selling Securityholders. Upon our notification by a Selling Securityholder that any material arrangement has been entered into with an underwriter or broker-dealer for the sale of securities through a block trade, special offering, exchange distribution, secondary distribution or a purchase by an underwriter or broker-dealer, we will file, if required by applicable law or regulation, a supplement to this prospectus pursuant to Rule 424(b) under the Securities Act disclosing certain material information relating to such underwriter or broker-dealer and such offering.

Underwriters, broker-dealers or agents may facilitate the marketing of an offering online directly or through one of their affiliates. In those cases, prospective investors may view offering terms and a prospectus online and, depending upon the particular underwriter, broker-dealer or agent, place orders online or through their financial advisors.

The underwriters, broker-dealers and agents may engage in transactions with us or the Selling Securityholders, or perform services for us or the Selling Securityholders, in the ordinary course of business.

In order to comply with the securities laws of certain states, if applicable, the securities must be sold in such jurisdictions only through registered or licensed brokers or dealers. In addition, in certain states the securities may not be sold unless they have been registered or qualified for sale in the applicable state or an exemption from the registration or qualification requirement is available and is complied with.

We have advised the Selling Securityholders that the anti-manipulation rules of Regulation M under the Exchange Act may apply to sales of shares in the market and to the activities of the Selling Securityholders and their affiliates. In addition, to the extent applicable we will make copies of this prospectus (as it may be supplemented or amended from time to time) available to the Selling Securityholders for the purpose of satisfying the prospectus delivery requirements of the Securities Act. The Selling Securityholders may indemnify any broker-dealer that participates in transactions involving the sale of the shares against certain liabilities, including liabilities arising under the Securities Act.

We will make copies of this prospectus available to the Selling Securityholders for the purpose of satisfying the prospectus delivery requirements of the Securities Act. The Selling Securityholders may indemnify any agent, broker-dealer or underwriter that participates in transactions involving the sale of the securities against certain liabilities, including liabilities arising under the Securities Act.

We have agreed to indemnify certain of the Selling Securityholders against certain liabilities, including certain liabilities under the Securities Act, the Exchange Act or other federal or state law. Agents, broker-dealers and underwriters may be entitled to indemnification by us and the Selling Securityholders against certain civil liabilities, including liabilities under the Securities Act, or to contribution with respect to payments which the agents, broker-dealers or underwriters may be required to make in respect thereof.

A holder of Private Warrants may exercise its Private Warrants in accordance with the Warrant Agreement on or before the expiration date set forth therein by surrendering, at the office of the warrant agent, Continental Stock Transfer & Trust Company, the certificate evidencing such Private Warrant, with the form of election to purchase set forth thereon, properly completed and duly executed, accompanied by full payment of the exercise price and any and all applicable taxes due in connection with the exercise of the Private Warrant, subject to any applicable provisions relating to cashless exercises in accordance with the Warrant Agreement. The Private Warrants will be exercisable for cash or on a cashless basis, at the holder’s option, in each case so long as they are still held by the Founders (as defined in the Registration Statement) or their permitted transferees. The amount of such cash proceeds, if any, will depend on the prevailing market price of our common stock. The exercise price for any of our Private Warrants is \$11.50 per share, subject to certain specified adjustments as determined in the Warrant Agreement. In the event of a cashless exercise, each holder would pay the exercise price by surrendering the Private Warrants for that number of shares of common stock equal to the lesser of (A) the quotient obtained by dividing (x) the product of the number of shares of common stock underlying the Private Warrants, multiplied by the difference between the exercise price of the Private Warrants and the “fair market value” (defined below) by (y) the fair market value and (B) 0.361. The “fair market value” for this purpose will mean the volume weighted average price of the common stock as reported during the ten (10) trading day period ending on the trading day prior to the date that notice of exercise is received by our warrant agent from the holder of such Private Warrants or its securities broker or intermediary.

LEGAL MATTERS

Latham & Watkins LLP, Washington, District of Columbia, has passed upon the validity of the shares of common stock of Energy Vault Holdings, Inc. offered by this prospectus and certain other legal matters related to this prospectus.

EXPERTS

The financial statements of Energy Vault Holdings, Inc. incorporated by reference in this prospectus have been audited by BDO USA, LLP, an independent registered public accounting firm, as stated in their report. Such financial statements are incorporated by reference in reliance upon the report of such firm, given their authority as experts in accounting and auditing.

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. *Other Expenses of Issuance and Distribution*

The following is an estimate of the expenses (all of which are to be paid by the registrant) that we may incur in connection with the securities being registered hereby. All of such expenses are estimates, other than the filing fee payable to the U.S. Securities and Exchange Commission (the "SEC").

SEC registration fee	\$ 85,965
Accounting fees and expenses	\$ 107,564
Legal fees and expenses	\$ 125,000
Financial printing and miscellaneous expenses	\$ 197,436
Total	\$ 515,965

*These fees are calculated based on the securities offered and the number of issuances and accordingly cannot be determined at this time.

Item 15. *Indemnification of Directors and Officers*

Subsection (a) of Section 145 of the General Corporation Law of the State of Delaware (the "DGCL") empowers a corporation to indemnify any person who was or is a party or who is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of the corporation) by reason of the fact that the person is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by the person in connection with such action, suit or proceeding if the person acted in good faith and in a manner the person reasonably believed to be in or not opposed to the best interests of the corporation, and, with respect to any criminal action or proceeding, had no reasonable cause to believe the person's conduct was unlawful.

Subsection (b) of Section 145 empowers a corporation to indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action or suit by or in the right of the corporation to procure a judgment in its favor by reason of the fact that the person acted in any of the capacities set forth above, against expenses (including attorneys' fees) actually and reasonably incurred by the person in connection with the defense or settlement of such action or suit if the person acted in good faith and in a manner the person reasonably believed to be in or not opposed to the best interests of the corporation, except that no indemnification shall be made in respect of any claim, issue or matter as to which such person shall have been adjudged to be liable to the corporation unless and only to the extent that the Court of Chancery or the court in which such action or suit was brought shall determine upon application that, despite the adjudication of liability but in view of all the circumstances of the case, such person is fairly and reasonably entitled to indemnity for such expenses which the Court of Chancery or such other court shall deem proper.

Section 145 further provides that to the extent a director or officer of a corporation has been successful on the merits or otherwise in the defense of any action, suit or proceeding referred to in subsections (a) and (b) of Section 145, or in defense of any claim, issue or matter therein, such person shall be indemnified against expenses (including attorneys' fees) actually and reasonably incurred by such person in connection therewith; that indemnification provided for by Section 145 shall not be deemed exclusive of any other rights to which the indemnified party may be entitled; and the indemnification provided for by Section 145 shall, unless otherwise provided when authorized or ratified, continue as to a person who has ceased to be a director, officer, employee or agent and shall inure to the benefit of such person's heirs, executors and administrators. Section 145 also empowers the corporation to purchase and maintain insurance on behalf of any person who is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise against any liability asserted against such person and incurred by such person in any such capacity, or arising out of his status as such, whether or not the corporation would have the power to indemnify such person against such liabilities under Section 145.

Section 102(b)(7) of the DGCL provides that a corporation's certificate of incorporation may contain a provision eliminating or limiting the personal liability of a director to the corporation or its stockholders for monetary damages for breach of fiduciary duty as a director, *provided* that such provision shall not eliminate or limit the liability of a director (i) for any breach of the director's duty of loyalty to the corporation or its stockholders, (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) under Section 174 of the DGCL, or (iv) for any transaction from which the director derived an improper personal benefit.

Any underwriting agreement or distribution agreement that the registrant enters into with any underwriters or agents involved in the offering or sale of any securities registered hereby may require such underwriters or dealers to indemnify the registrant, some or all of its directors and officers and its controlling persons, if any, for specified liabilities, which may include liabilities under the Securities Act.

Additionally, our amended and restated certificate of incorporation limits the liability of our directors to the fullest extent permitted by the DGCL. We have entered into and expect to continue to enter into agreements to indemnify our directors, executive officers and other employees as determined by our board of directors. Under the terms of such indemnification agreements, we are required to indemnify each of our directors and officers, to the fullest extent permitted by the laws of the state of Delaware, if the basis of the indemnitee's involvement was by reason of the fact that the indemnitee is or was our director or officer or was serving at our request in an official capacity for another entity. We must indemnify our officers and directors against all reasonable fees, expenses, charges and other costs of any type or nature whatsoever, including any and all expenses and obligations paid or incurred in connection with investigating, defending, being a witness in, participating in (including on appeal), or preparing to defend, be a witness or participate in any completed, actual, pending or threatened action, suit, claim or proceeding, whether civil, criminal, administrative or investigative, or establishing or enforcing a right to indemnification under the indemnification agreement. The indemnification agreements also require us, if so requested, to advance all reasonable fees, expenses, charges and other costs that such director or officer incurred, *provided* that such person will return any such advance if it is ultimately determined that such person is not entitled to indemnification by us. Any claims for indemnification by our directors and officers may reduce our available funds to satisfy successful third-party claims against us and may reduce the amount of money available to us.

Item 16. Exhibits

Exhibit Number	Description
1.1*	Form of Underwriting Agreement
2.1 †	Business Combination Agreement and Plan of Reorganization, dated September 8, 2021, by and among Novus Capital Corporation II, NCCII Merger Corp. and Energy Vault, Inc. (incorporated by reference to Exhibit 2.1 of Energy Vault Holdings, Inc. Current Report on Form 8-K (File No. 001-39982), filed with the SEC on September 9, 2021).
3.1	Amended and Restated Certificate of Incorporation of Energy Vault Holdings, Inc. (incorporated by reference to Exhibit 3.2 to Energy Vault Holdings, Inc.'s Current Report on Form 8-K (File No. 001-39982), filed with the SEC on February 14, 2022).
3.2	Amended and Restated Bylaws of Energy Vault Holdings, Inc. (incorporated by reference to Exhibit 3.1 to Energy Vault Holdings, Inc.'s Current Report on Form 8-K (File No. 001-39982), filed with the SEC on February 14, 2022).
4.1	Warrant Agreement, dated February 3, 2021, by and between Continental Stock Transfer & Trust Company and Novus (incorporated by reference to Exhibit 4.1 to Energy Vault Holdings, Inc.'s Current Report on Form 8-K (File No. 001-39982), filed with the SEC on February 8, 2021).
5.1	Opinion of Latham & Watkins LLP
10.1	Amended and Restated Registration Rights Agreement, by and among the Company and certain stockholders and equityholders of the Company (incorporated by reference to Exhibit 10.2 to Energy Vault Holdings, Inc.'s Current Report on Form 8-K (File No. 001-39982), filed with the SEC on February 14, 2022).
10.2	Sponsor Restricted Stock Agreement, by and among Novus, Novus Initial Stockholders and Energy Vault (incorporated by reference to Exhibit 10.5 to Energy Vault Holdings, Inc.'s Current Report on Form 8-K (File No. 001-39982), filed with the SEC on February 14, 2022).
10.3	Energy Storage System Agreement, dated October 25, 2021, by and between DG Fuels, LLC and Energy Vault, Inc. (incorporated by reference to Exhibit 10.40 to Energy Vault Holdings, Inc.'s Form S-4 (File No. 333-260307), filed with the SEC on November 24, 2021).
10.4	Amendment to the Energy Storage System Agreement by and between DG Fuels LLC and Energy Vault Inc., dated as of May 10, 2022 (incorporated by reference to Exhibit 10.6 to Energy Vault Holdings, Inc.'s Form 10-Q (File No. 001-39982), filed with the SEC on May 16, 2022).
10.5	Energy Vault Holdings, Inc. 2022 Equity Incentive Plan (incorporated by reference to Exhibit 10.4 to Energy Vault Holdings, Inc.'s Form 10-Q (File No. 001-39982), filed with the SEC on May 16, 2022).
10.6	2022 Employment Inducement Award Plan (incorporated by reference to Exhibit 10.5 to Energy Vault Holdings, Inc.'s Form 10-Q (File No. 001-39982), filed with the SEC on November 14, 2022).
10.7	Form of Stock Option Grant Notice and Stock Option Agreement under the 2022 Employment Inducement Award Plan (incorporated by

	reference to Exhibit 10.6 to Energy Vault Holdings, Inc.'s Form 10-Q (File No. 001-39982), filed with the SEC on November 14, 2022).
10.8	Form of Restricted Stock Unit Award Grant Notice and Restricted Stock Unit Award Agreement under the 2022 Employment Inducement Award Plan (incorporated by reference to Exhibit 10.7 to Energy Vault Holdings, Inc.'s Form 10-Q (File No. 001-39982), filed with the SEC on November 14, 2022).
10.9	Form of Stock Option Grant Notice and Stock Option Agreement under the 2022 Equity Incentive Plan (incorporated by reference to Exhibit 10.8 to Energy Vault Holdings, Inc.'s Form 10-Q (File No. 001-39982), filed with the SEC on November 14, 2022).
10.10	Form of Restricted Stock Unit Award Grant Notice and Restricted Stock Unit Award Agreement under the 2022 Equity Incentive Plan (incorporated by reference to Exhibit 10.9 to Energy Vault Holdings, Inc.'s Form 10-Q (File No. 001-39982), filed with the SEC on November 14, 2022).
10.11	Energy Vault, Inc. 2017 Stock Incentive Plan (incorporated by reference to Exhibit 10.15 to Energy Vault Holdings, Inc.'s S-4 (File No. 333-260307), filed with the SEC on October 18, 2021).
10.12	Energy Vault, Inc. 2020 Stock Plan (incorporated by reference to Exhibit 10.16 to Energy Vault Holdings, Inc.'s S-4 (File No. 333-260307), filed with the SEC on October 18, 2021).
10.13	Non-Employee Director Compensation Policy (incorporated by reference to Exhibit 10.14 to Energy Vault Holdings, Inc.'s Form 10-K (File No. 001-39982), filed with the SEC on April 13, 2023).
10.14	Offer Letter, dated May 16, 2022, by and between Energy Vault SA and Josh McMorrow (incorporated by reference to Exhibit 10.7 to Energy Vault Holdings, Inc.'s Form 10-Q (File No. 001-39982), filed with the SEC on May 16, 2022).
10.15	Letter agreement, dated May 5, 2023, by and between Energy Vault Holdings, Inc. and Josh McMorrow (incorporated by reference to Exhibit 10.1 to Energy Vault Holdings, Inc.'s Form 10-Q (File No. 001-39982), filed with the SEC on May 10, 2023).
10.16	Addendum to the Employment Agreement, dated May 5, 2023 between Energy Vault SA and Josh McMorrow (incorporated by reference to Exhibit 10.2 to Energy Vault Holdings, Inc.'s Form 10-Q (File No. 001-39982), filed with the SEC on May 10, 2023).
10.17	Offer Letter, dated November 11, 2022, by and between Energy Vault Holdings, Inc. and Robert Piconi (incorporated by reference to Exhibit 10.1 to Energy Vault Holdings, Inc.'s Form 10-Q (File No. 001-39982), filed with the SEC on November 14, 2022).
10.18	Offer Letter, dated November 10, 2022, by and between Energy Vault Holdings, Inc. and Marco Terruzzin (incorporated by reference to Exhibit 10.3 to Energy Vault Holdings, Inc.'s Form 10-Q (File No. 001-39982), filed with the SEC on November 14, 2022).
23.1	Consent of BDO USA, LLP
23.2	Consent of Latham & Watkins LLP (included in Exhibit 5.1).
24.1	Powers of attorney included on the signature page to the initial filing of the registration statement and in exhibit 24.1 of Post-Effective Amendment No. 1 to Form S-1 on Form S-3.

*To be filed by amendment or incorporated by reference in connection with the offering of the securities.

† The annexes, schedules, and certain exhibits to this Exhibit have been omitted pursuant to Item 601(a)(5) of Regulation S-K. Energy Vault Holdings, Inc. hereby agrees to furnish supplementally a copy of any omitted annex, schedule, or exhibit to the SEC upon request.

Item 17. Undertakings

(a) The undersigned registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) To include any prospectus required by Section 10(a)(3) of the Securities Act;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement; and

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;

provided, however, that paragraphs (a)(1)(i), (ii), and (iii) above do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the registrant pursuant to section 13 or section 15(d) of the Securities Exchange Act that are incorporated by reference in the registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(4) That, for the purpose of determining liability under the Securities Act to any purchaser:

(A) Each prospectus filed by the registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and

(B) Each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5), or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii), or (x) for the purpose of providing the information required by section 10(a) of the Securities Act shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof. *Provided, however*, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such effective date, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such effective date.

(5) That, for the purpose of determining liability of the registrant under the Securities Act to any purchaser in the initial distribution of the securities, the undersigned registrant undertakes that in a primary offering of securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:

- (i) Any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424;
- (ii) Any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant;
- (iii) The portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and
- (iv) Any other communication that is an offer in the offering made by the undersigned registrant to the purchaser.

(b) The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act, each filing of the registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Securities Exchange Act (and, where applicable, each filing of an employee benefit plan's annual report pursuant to section 15(d) of the Securities Exchange Act) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

(c) Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Westlake Village, in the State of California, on May 19, 2023.

ENERGY VAULT HOLDINGS, INC.

By: /s/ Robert Piconi

Name: Robert Piconi

Title: Chief Executive Officer

Pursuant to the requirements of the Securities Act of 1933, as amended, this registration statement has been signed below by the following persons on behalf of the registrant in the capacities indicated on January 28, 2022.

Signature

Title

/s/ Robert Piconi

Robert Piconi

Director and Chief Executive Officer
(Principal Executive Officer)

/s/ Jan Kees van Gaalen

Jan Kees van Gaalen

Chief Financial Officer
(Principal Financial Officer and Principal Accounting Officer)

*

Larry Paulson

Director

*

Bill Gross

Director

*

Theresa Fariello

Director

*

Zia Huque

Director

*

Thomas Ertel

Director

*

Mary Beth Mandanas

Director

* By: /s/ Robert Piconi

Robert Piconi

Attorney-in-Fact

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LATHAM & WATKINS LLP

May 19, 2023

Energy Vault Holdings, Inc.
 4360 Park Terrace Drive, Suite 100
 Westlake Village, California 91361

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London	Tel Aviv
Los Angeles	Tokyo
Madrid	Washington, D.C.

Re: Post-Effective Amendment No. 2 to the Registration Statement on Form S-3

To the addressees set forth above:

We have acted as special counsel to Energy Vault Holdings, Inc. a Delaware corporation (the “*Company*”), in connection with its filing on the date hereof with the Securities and Exchange Commission (the “*Commission*”) of a Post-Effective Amendment No. 2 to the Registration Statement on Form S-3 (Registration No. 333-262720) (as amended, the “*Registration Statement*”), including a base prospectus (the “*Base Prospectus*”), which provides that it may be supplemented by one or more prospectus supplements (each such prospectus supplement, together with the Base Prospectus, a “*Prospectus*”), under the Securities Act of 1933, as amended (the “*Act*”), relating to (a) the resale from time to time, by (i) the selling stockholders named in the Registration Statement (the “*Selling Securityholders*”) of up to 71,202,366 shares (the “*Resale Shares*”) of common stock, par value \$0.0001 per share, of the Company (the “*Common Stock*”) and (ii) the selling holder named in the Registration Statement of 556,500 private warrants (the “*Resale Warrants*”) to acquire Common Stock, which warrants were issued pursuant to that certain Warrant Agreement, dated as of February 3, 2021, between the Company and Continental Stock Transfer & Trust Company, as warrant agent (as amended, the “*Warrant Agreement*”), and (b) the issuance by the Company of up to 5,166,666 shares of Common stock (the “*Warrant Shares*”) upon the exercise of Warrants pursuant to the terms of the Warrant Agreement.

This opinion is being furnished in connection with the requirements of Item 601(b)(5) of Regulation S-K under the Act, and no opinion is expressed herein as to any matter pertaining to the contents of the Registration Statement or Prospectus, other than as expressly stated herein with respect to the offer, sale or issuance, as applicable, of the Resale Shares, Resale Warrants, and Warrant Shares.

LATHAM & WATKINS LLP

As such counsel, we have examined such matters of fact and questions of law as we have considered appropriate for purposes of this letter. With your consent, we have relied upon certificates and other assurances of officers of the Company and others as to factual matters without having independently verified such factual matters. We are opining herein as to the General Corporation Law of the State of Delaware (the “**DGCL**”) and, with respect to the opinions set forth in numbered paragraph 2 below, the internal laws of the State of New York, and we express no opinion with respect to the applicability thereto, or the effect thereon, of the laws of any other jurisdiction or, in the case of Delaware, any other laws, or as to any matters of municipal law or the laws of any local agencies within any state.

Subject to the foregoing and the other matters set forth herein, it is our opinion that, as of the date hereof:

1. The Resale Shares have been duly authorized by all necessary corporate action of the Company and are validly issued, fully paid and nonassessable.
2. The Resale Warrants have been duly authorized by all necessary corporate action of the Company and are the legally valid and binding obligations of the Company, enforceable against the Company in accordance with the terms of the Warrants and the Warrant Agreement.
3. When the Warrant Shares shall have been duly registered on the books of the transfer agent and registrar therefor in the name or on behalf of the applicable Warrant holders, and have been issued by the Company upon exercise of the Warrants against payment therefor (not less than par value) in the manner contemplated by the Registration Statement, the Warrants and the Warrant Agreement, the issuance of the Warrant Shares will have been duly authorized by all necessary corporate action of the Company, and the Warrant Shares will be validly issued, fully paid and nonassessable.

In rendering the foregoing opinions, we have assumed that (i) at or prior to the time of the delivery of any Resale Shares, Resale Warrants or Warrant Shares, as applicable, the Registration Statement will have been declared effective under the Act and that the registration will apply to all of the Resale Shares, Resale Warrants or Warrant Shares, and will not have been modified or rescinded and that there will not have occurred any change in law affecting the validity of the offer, sale or issuance of such Resale Shares, Resale Warrants or Warrant Shares, as applicable, and (ii) the Company will comply with all applicable notice requirements regarding uncertificated shares provided in the DGCL.

Our opinions set forth in numbered paragraph 3 are subject to:

- (i) the effect of bankruptcy, insolvency, reorganization, preference, fraudulent transfer, moratorium or other similar laws relating to or affecting the rights and remedies of creditors;
 - (ii) the effect of general principles of equity, whether considered in a proceeding in equity or at law (including the possible unavailability of specific performance or injunctive relief), concepts of materiality, reasonableness, good faith and fair dealing, and the discretion of the court before which a proceeding is brought; and
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- (iii) the invalidity under certain circumstances under law or court decisions of provisions providing for the indemnification of or contribution to a party with respect to a liability where such indemnification or contribution is contrary to public policy.

We express no opinion as to (a) any provision for liquidated damages, default interest, late charges, monetary penalties, make-whole premiums or other economic remedies to the extent such provisions are deemed to constitute a penalty, (b) consents to, or restrictions upon, governing law, jurisdiction, venue, arbitration, remedies or judicial relief, (c) waivers of rights or defenses, (d) any provision requiring the payment of attorneys' fees, where such payment is contrary to law or public policy, (e) the creation, validity, attachment, perfection or priority of any lien or security interest, (f) advance waivers of claims, defenses, rights granted by law or notice, opportunity for hearing, evidentiary requirements, statutes of limitation, trial by jury or at law or other procedural rights, (g) waivers of broadly or vaguely stated rights, (h) provisions for exclusivity, election or cumulation of rights or remedies, (i) provisions authorizing or validating conclusive or discretionary determinations, (j) grants of setoff rights, (k) proxies, powers and trusts, (l) provisions prohibiting, restricting or requiring consent to assignment or transfer of any right or property, (m) any provision to the extent it requires that a claim with respect to a security denominated in other than U.S. dollars (or a judgment in respect of such a claim) be converted into U.S. dollars at a rate of exchange at a particular date, to the extent applicable law otherwise provides, and (n) the severability, if invalid, of provisions to the foregoing effect.

With your consent, we have assumed (a) the Warrants and the Warrant Agreement have been duly authorized, executed and delivered by the parties thereto other than the Company, (b) that the Warrants and the Warrant Agreement constitute legally valid and binding obligations of the parties thereto other than the Company, enforceable against each of them in accordance with their respective terms, and (c) that the status of the Warrants and the Warrant Agreement as legally valid and binding obligations of the parties will not be affected by any (i) breaches of, or defaults under, agreements or instruments, (ii) violations of statutes, rules, regulations or court or governmental orders or (iii) failures to obtain required consents, approvals or authorizations from, or to make required registrations, declarations or filings with, governmental authorities.

This opinion is for your benefit in connection with the Registration Statement and may be relied upon by you and by persons entitled to rely upon it pursuant to the applicable provisions of the Act. We consent to your filing this opinion as an exhibit to the Registration Statement and to the reference to our firm in the proxy statement/prospectus under the heading "Legal Matters." We further consent to the incorporation by reference of this letter and consent into any registration statement filed pursuant to Rule 462(b) under the Act with respect to the Resale Shares, Resale Warrants, and Warrant Shares. In giving such consent, we do not thereby admit that we are in the category of persons whose consent is required under Section 7 of the Act or the rules and regulations of the Commission thereunder.

Sincerely,

/s/Latham & Watkins LLP

Consent of Independent Registered Public Accounting Firm

Energy Vault Holdings, Inc
Westlake Village, CA

We hereby consent to the incorporation by reference in this Registration Statement on Form S-3 of our report dated April 12, 2023, relating to the consolidated financial statements of Energy Vault Holdings, Inc., which is incorporated by reference in the Registration Statement on Form S-3 (No. 333-262720).

We also consent to the reference to us under the caption “Experts” in such Registration Statement.

/s/ BDO USA, LLP
Melville, New York

May 19, 2023
