



# **BRI Pulse**

## **Multi - Continent Carbon Free Energy Storage Deal**

### **Overview**

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Energy Vault is a Swiss based US listed leading renewable energy organisation founded by Bill T Gross, a leading globally recognised tech inventor. Energy Vault recently completed a series of complex financial partnerships with global renewable companies and their respective governments, showing that despite all of the geopolitical hurdles it is still possible to attract strategic partnerships and major institutional investors around the world. Over the past year, Energy Vault has expanded its unique product platform to attract strategic partners in Asia, Australia, Europe, North America, Latin America and the Gulf to address the world's needs in climate change.

### **Background**

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Energy Vault develops sustainable, grid-scale energy storage solutions designed to advance the transition to a carbon free, resilient power grid. Energy Vault's mission is to accelerate the decarbonization of our economy through the development of sustainable and economical energy storage technologies. To achieve this, Energy Vault is developing a proprietary gravity-based energy storage technology. Energy Vault is also designing proprietary energy management software based on artificial intelligence (AI), advanced optimization algorithms designed to control and optimize entire energy systems and a flexible energy storage integration platform suitable for storage technologies of many durations. Energy Vault's product platform aims to help utilities, independent power producers and large energy users significantly reduce their levelized cost of energy while maintaining power reliability.

Energy Vault's gravity-based solutions are based on the well-understood physics and mechanical engineering fundamentals of pumped hydroelectric energy storage, but replace water with custom-made composite blocks, or "mobile masses", that can be made from low-cost and locally sourced materials, including local soil, mine tailings, coal combustion residuals (coal ash), and end-of-life decommissioned wind turbine blades.

The company's EVx™ product platform is designed to be a highly scalable and modular architecture that can scale to multi-GW-hour storage capacity. EVx™ is the natural evolution that leverages all current performance attributes of Energy Vault's proven technology including zero degradation in storage medium, high round-trip efficiency, long technical life, a sustainable supply chain and composite bricks.

### **September 2021 Announcement of Acquisition and Planned IPO via a US based SPAC**

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In September 2021, Novus Capital Corp (Novus Capital) announced the acquisition of Swiss based Energy Vault for \$816 million. Novus Capital is a US based PE firm which has historically focussed on investments in middle market companies. As part of this acquisition, Energy Vault announced that planned to go public on the NYSE through a merger with Novus Capital via a special purpose acquisition company (SPAC) organized for the purpose of effecting a merger, share exchange, asset acquisition, stock purchase, recapitalization, reorganization, or other similar business combination with one or more businesses or entities.

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### **2021 Chinese Partnership**

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In November 2021, China and the US announced a Joint Glasgow Declaration on Enhancing Climate Action in the 2020s. This is the result of regular engagement between both countries since the Joint Statement in April. This declaration makes clear that both countries recognise the urgency of the climate crisis and commit to enhanced action in the 2020s. As part of the cooperation both countries encouraged the integration of solar, energy storage and other clean energy solutions closer to the user side of power. Energy Vault's EVx™ and EVRC™ platform provide a solid technological foundation for such policies and as such the two countries agreed to the deployment and scale of the EV platforms in China.

Thus, in December 2021, a strategic cooperation agreement was signed by China Tianying, the IAC Committee of Energy Investments, STERA Energy (USA) and Sky Tower (Beijing) Energy Storage Technology for the first 100 MW gravity energy storage project in China. The four-party strategic cooperation plans to focus on jointly promoting the implementation of the 100 MW gravity energy storage project in Jiangsu Province and will provide a strong combination of resources in design and planning, technical solutions, construction, operation, investment and financing.

Commenting on the partnership, the Chairman of National Center for Sustainable Development (USA) said that Energy Vault's Storage "solution" completes the renewable cycle between production and consumption. In the Circular Economy, the beginning and the ending meet and complete the virtuous cycle. Despite China's huge increases in production capabilities, in electricity transmission, 6% of all energy through put, is lost. This "lost" 6% plays a big part between China achieving its Carbon Peak and Neutrality goals. What was previously lost can now be saved and used through Energy Vault.

### **2022 Korea Partnership**

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In January 2022, Energy Vault entered into a strategic partnership for renewable energy storage with Korea Zinc (Korea), a global leader in non-ferrous metal smelting production including leading positions in zinc, lead, silver and rare metal Indium. This partnership supports Korea Zinc's strategy to decarbonize its refining and smelting operations focused initially under its wholly-owned subsidiary Sun Metals Corporation Pty. Ltd (Australia), an Australia-based zinc refinery.

Sun Metals, one of the world's largest metal producers, aims to deploy Energy Vault's storage and energy management software technology to support renewable power supply and optimization to support their refining infrastructure. The scope of the partnership also includes the potential sustainable and beneficial re-use of tailings and other refining waste materials within Energy Vault's eco-friendly composite blocks. The companies expect to begin project deployment in mid-2022. Sun Metals is targeting to become one of the first zinc refineries to produce "Green" Zinc in support of their broader strategy to shift to 100% renewable power by 2040 with an interim target of 80% renewable by 2030.

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As part of the strategic partnership, Korea Zinc executed a subscription agreement committing a \$50 million investment to Novus's PIPE, bringing the total PIPE transaction to \$150 million. The PIPE's other investors include major corporate, institutional asset managers and PE funds, including funds managed by Adage Capital Partners LP (USA), Pickering Energy Partners (USA), Sailingstone Capital Energy Transition Strategy Fund (USA), SoftBank Investment Advisers (Japan) and CEMEX Ventures, the VC arm of CEMEX (Mexico), the world's 5<sup>th</sup> largest building materials company.

The PIPE followed the Series C funding round announced on August 2021 which included strategic investments from Saudi Aramco Energy Ventures (Saudi Arabia), BHP Ventures (Australia), +Volta Energy Technologies (USA) and Softbank Vision Fund (Japan).

### ***Atlas Renewable/China Tianying (CNTY)***

On 1st February 2022, Energy Vault and Atlas Renewable (USA) and its majority investor CNTY announced an agreement in which Atlas Renewable agreed to make a \$50 million investment to increase Energy Vault's PIPE, which increased its size from \$150 million to \$200 million and a \$50 million licensing agreement for the use of Energy Vault's proprietary gravity-based energy storage technology in China also to be paid in 2022.

Atlas Renewable serves as a US based facilitation bridge between Chinese institutions, investors and regulatory entities and Energy Vault to identify projects, help pre-qualify and oversee financing efforts through the available mechanisms supported by Chinese local, provincial, and national policies. The agreement supports the deployment of Energy Vault's proprietary gravity energy storage technology and energy management software platform within mainland China as well as in Hong Kong and Macau.

The agreement represents the first gravity-based storage partnership between a U.S. and Chinese company for the deployment of the technology in China. The licensing agreement, which also marks a first of its kind for Energy Vault, is for the use of its EVx™ and EVRC™ product platforms.

The companies expect to start construction of the first 100 MW system in Q2 2022 at the selected site in Rudong, Jiangsu Province located outside of Shanghai. The companies will also assess the reuse of available waste materials such as coal combustion residuals, mine tailings, waste fiberglass and concrete debris as a beneficial re-use within the "mobile masses" used in the construction of the gravity energy storage systems.

"We are excited to partner with Energy Vault to establish the first commercial licensing agreement of the company's innovative gravity storage technology platform, which we look forward to deploying in China, the world's largest market for renewable energy development," said Neil Bush Chairman of Atlas Renewable.

"This key element of storage," CNTY's Chairman said, "will allow renewable energy to play an increasing role in providing the people and China, as a whole, with a solution to capturing energy which would otherwise be lost and that non-carbon solution is based upon the natural force of gravity." We believe we

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can help accelerate China's decarbonization timeline, and CNTY is privileged to undertake this strategic key to energy transformation as Energy Vault's partner in China."

Energy Vault's CEO and Co-Founder said that "While entering the China market was not originally a part of our five-year business plan, the global imperative to arrest the growth of GHG's in a country which releases the highest amount of CO2 emissions in the world by a factor of two required our action and priority. The incremental investments and licensing fees of \$100 million this year create tremendous financial flexibility for Energy Vault to execute our plans across the globe to progress our mission of decarbonizing the planet.

Demand for clean energy is growing globally and exponentially, with renewables expected to become 90% of total energy generation by 2050. To support this transition, grid-scale energy storage capacity would need to increase tenfold in the next ten years, with over \$270 billion of investment expected over that timeframe. Current storage solutions are insufficient; pumped hydroelectric energy storage (pumped hydro) – which is currently 90% of the market – and chemical batteries, both face significant issues with scalability, economics and environmental risks. Energy Vault has designed a cost-efficient, reliable and environmentally sustainable system that outperforms alternatives and is best placed to fulfill this unmet market demand.

### **Successful SPAC Combination/Share Trading**

On 11<sup>th</sup> February, Novus Capital announced the completion of its business combination with Energy Vault, establishing a public sustainable, grid-scale energy storage solutions provider.

In its IPO, Novus raised approximately \$287.5 million. The IPO proceeds coupled with \$107 million raised in the 2021 Series C and announced Korea Zinc and Atlas Renewable agreements provide capital above its current business plan's needs.

In connection with the completion of the business combination, Novus has been renamed Energy Vault Holdings, Inc. and its common stock and warrants began trading on the New York Stock Exchange on February 14, 2022 under the ticker symbols "NRGV" and "NRGV WS" respectively.

### **Post Trading Ukraine Russia War**

Despite the subsequent launch of the Ukraine Russian war, the shares were trading at (9%) premium to initial launch, with a market cap in excess of (\$1.62) billion at the end of February 2022.

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