PU NENG
THE FUTURE OF ENERGY STORAGE

Pu Neng Receives Major Investment from HPX for Scale-Up of its Advanced Vanadium Redox Battery (VRB®)

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VRB energy storage technology poised for massive growth in support of renewable energy

Pu Neng has attracted a major investment from High Power Exploration (HPX), bringing total invested capital to-date to over $90 million. The company has the most advanced flow battery technology in the world, including proprietary membrane, electrolyte and cell stack designs. With a clear mandate and strong support from HPX, Pu Neng is now positioned for high growth in the rapidly expanding energy storage market.

Flow batteries store energy in liquid electrolyte, which is held in tanks external to the cell stacks that contain the cathode (positive) and anode (negative) sides of the battery. When charging or discharging the battery, electrolyte is circulated across a membrane inside the stacks and electrons are added into or drawn out of the electrolyte. Unlike other types of batteries, vanadium flow batteries use the same electrolyte solution on both the positive and negative side of the battery, yielding a nearly infinitely repeatable chemical process.

While lithium-based batteries are well suited to consumer electronics and electric vehicles, their lifetimes can be limited. Pu Neng's VRB technology can be fully drained over an almost unlimited number of charge and discharge cycles without wearing out. This is an important factor when matching the daily demands of utility-scale solar and wind power generation.

Pu Neng has named Dr. Mianyan Huang, the distinguished China 863 Program Leader for flow battery development in China, as its new President of China Operations. "We are ready to meet the need for low-cost energy storage in China," said Dr. Huang. "With this HPX investment, we are now well positioned to deliver a number of large-scale projects, including several projects in central China and overseas that are connected to grid-scale solar and wind farms, as well as microgrids that will help to electrify rural China and alleviate poverty."

Pu Neng has recently achieved two significant product milestones. The first is the completion of rigorous acceptance testing and approval by State Grid Corporation of China (State Grid), the world's largest electric utility company, of an eight megawatt-hour (MWh) VRB system installed at State Grid's cutting-edge solar-wind-storage project in Zhangbei located just outside of Beijing near the site of the 2022 Winter Olympics. The system achieved or exceeded all of the requirements during the testing program and has demonstrated two full years of reliable performance.

The second milestone is the launch of the company's new Gen2 Vanadium Redox Battery Energy Storage System (VRB-ESS®) product, which is now shipping commercially. The Gen2 product represents a 35% cost reduction, 50% smaller footprint, and 10% improvement in performance versus previously installed Gen1 systems.

Eric Finlayson, President of HPX, commented, "HPX is pleased to bring its financial resources and management experience to help grow the Pu Neng business. China not only has the world's leading vanadium battery technology in Pu Neng but it has the world's highest-quality vanadium resources. By

integrating the two, China and Pu Neng will be key contributors in the global transition to a clean energy economy."

About Pu Neng
Pu Neng, formerly Prudent Energy, is a fast-growing, privately held clean technology innovator. The company has developed the most reliable, longest-lasting vanadium flow battery in the world, with over 20 MWh of systems deployed and over 800,000 hours of demonstrated performance. Pu Neng is the technology leader in the field, and the combination of its proprietary low-cost ion-exchange membrane, long-life electrolyte formulation and innovative flow cell design sets it apart from other providers. Pu Neng's vanadium redox battery (VRB®) systems store energy in liquid electrolyte in a patented process based on the reduction and oxidation of ionic forms of the element vanadium. This is a nearly infinitely repeatable process that is safe, reliable, and non-toxic. Components can be nearly 100% recycled at end-of-life, dramatically improving lifecycle economics and environmental benefits compared to lead-acid, lithium and other battery systems. Please visit our website at www.punengenergy.com.

About High Power Exploration
High Power Exploration (HPX) is a privately owned, metals-focused exploration company that also invests in minerals-dependent, high-growth emerging technologies. HPX has a highly experienced board and management team led by Co-Chairman and Chief Executive Officer Robert Friedland, Founder & Executive Chairman of Ivanhoe Mines, and President Eric Finlayson, a former head of exploration at Rio Tinto. For further information, please visit www.hpxploration.com.

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