

February 2016

VanSpar has secured exclusive rights to acquisition of Prudent and is offering majority control to a strategic investor ready to scale up the business.

VanSpar has just commissioned Prudent's 8MWh battery for China State Grid, the world's largest utility, as Phase 1 in a 100MW plan.

Flow batteries attracted \$120 million in VC investment in 2015, the most in the energy storage sector.

VRB is well positioned for growth:

- **Proven technology with 20MWh deployed and 800,000 hours of validation.**
- **Attractive cost position with launch of Gen2 product.**
- **Access to key markets in China and California.**
- **Restructured low-overhead cost structure.**

Profile of Business Opportunity

Vanadium Flow Batteries are the Solution for Solar and Wind Grid Integration

Summary

Opportunity

VanSpar is leading a buy-out of Prudent Energy, bringing in new management and re-capitalizing the company as VRB[®] Energy. Storage markets are accelerating, and Prudent's vanadium flow batteries are more cost-effective than Lithium for the 4+ hrs of storage needed for solar, wind and microgrid integration.

Market Need

- Grid-connected energy storage is a US\$150 billion opportunity in the US alone, and flow batteries are 50% lower cost than Lithium on a Levelized Cost of Storage (LCOS) basis according to Goldman Sachs.
- Flow batteries are expected to be almost 20% of global storage markets growing at a >35% CAGR through 2025 per Navigant Research.

Core Advantages

- VRB benefits from Prudent's US\$70 million investment in battery development including 20 MWh installed at over 50 sites; 800,000 hrs of reliability testing; and a robust IP portfolio of over 60 patents on cell stack design, in-house membrane development, and electrolyte chemistry.
- Prudent completed validation testing of Gen2 product in Q1 2015; Gen2 represents a 35% cost reduction, 50% smaller footprint, and 10% improvement in performance vs previously installed Gen1 systems.
- Current cost basis for Gen2 product is below \$400/kWh in low volume. An additional 25% in cost reductions are already prequalified for Gen3.
- Gen 2 VRB-ESS systems are 2-3 times lower LCOS versus Lithium batteries in 4+hour renewable integration and peak shaving applications.

Challenges

- VRB predecessor Prudent suffered a cash-management crisis in 2013 after expanding too rapidly into 13 countries without fully commercializing its Gen1 product, further suffering losses from a tank failure at its Gills project in California and a major project delay by State Grid.
- Prudent conserved remaining cash to finalize Gen2 development and maintain IP portfolio, but suffered a setback in the marketplace.

Go Forward

- As part of the buy-out, VanSpar contracted to commission the Prudent 2MW 8MWh battery at China State Grid's 500MW wind-solar-storage project near Beijing. In January the system exceeded all of State Grid's requirements for the intensive 240-hour test with 100% availability. This triggers \$5 million in payments over three years, and VRB is now well positioned for State Grid's Phase 2 procurement.
- With validated product, ~\$3.5 million in inventory, and core team in-place, the company can be re-launched into a rapidly expanding market.

Financials

- VanSpar is seeking a \$7-\$10 million round of investment.
- Forward revenue of \$200 million on 500 MWh of system sales.
- Full five-year discounted cash flow model is available for detailed review.

Market

Energy Storage Market Overview – Large TAM

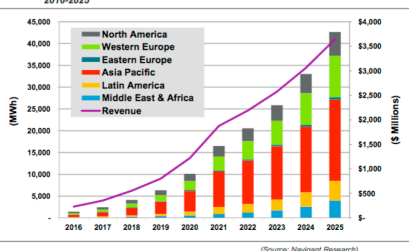
The global market for energy storage is being driven by two major factors: 1) the emergence of lower-cost and reliable battery energy storage; and 2) dramatic increases in installed renewable energy, including distributed resources, which are at grid parity or better in terms of cost/kWh in many geographies.

Flow Batteries Most Attractive to VC's in 2015 according to Mercom Capital:

"In batteries and energy storage, flow battery companies appeared to attract the most interest, raising US\$120 million"

- Vionx \$58 million
- Primus \$25 million
- UET \$25 million
- Imergy \$10 million

Chart 1.1 New Installed ABES Pack Energy Capacity and Revenue by Region, World Markets: 2016-2025



Navgant: US\$3.6 billion by 2025 at a 10-year CAGR of over 35%.

Exhibit 2: Our analysis suggests a \$100-\$150bn TAM for EES across a number of key applications in the US TAM analysis by application

	Low	High
	Total EES TAM (\$bn)	Total EES TAM (\$bn)
Backup power	\$1	\$1
Peak shaving	\$45	\$71
Renewables integration	\$20	\$32
Ancillary services	\$11	\$17
T&D deferral	\$16	\$26
Bulk storage	\$5	\$7
TOTAL	\$97	\$155

Source: Goldman Sachs Global Investment Research.

GS: Total addressable market (TAM) in the US is up to \$150 billion and 750GWh.

Goldman Sachs – Why Now?

1. Technology performance has improved.
2. Applications are "in the money" today.
3. Renewables are getting big on the grid.
4. Funding remains steady.
5. Policy support is emerging.
6. The ecosystem is getting built.

"The opportunity is massive... and virtually untapped."

"...it is poised as a major disruptive clean technology in the coming decade."

"Flow – the elephant in the room for Li-ion evangelicals."

Goldman Sachs, The Great Battery Race, Equity Analysis, October 18, 2015.

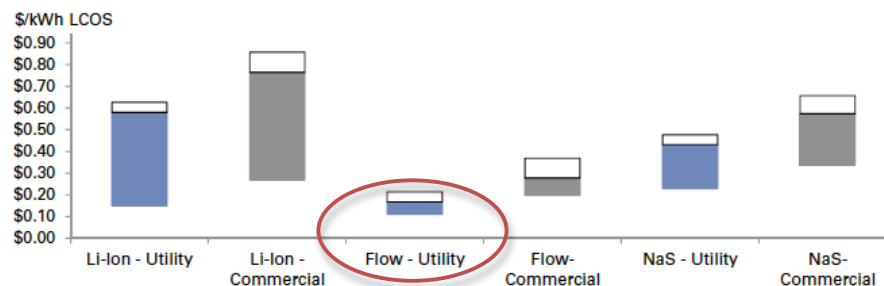
The installed base of grid-scale battery energy storage is miniscule compared to the total generation installed in the US (approximately 0.15GW out of 1,071GW) and China (approximately 0.035GW of 1,300GW). The drive for better resource optimization further supports the need for battery storage:

- China targeting 250GW of wind and 210GW of solar by 2020, and just added storage a key element of the 13th Five-Year Plan 2016-2020.
- California 1.3GW storage requirement and mandate for 50% renewables by 2030 will drive 10 to 25 GW of storage per Black & Veatch and the Solar Electric Power Association in their 2015 report, "Impact Of High Solar And Energy Storage Levels On Wholesale Power Markets".
- New York State announced in January 2016 new energy storage targets of 2GW by 2020 and 4GW by 2025.
- In remote areas, solar + storage is an "in the money" application per GS.

Economics Favor VRB-ESS

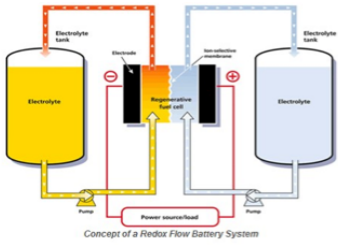
- 20+ year lifetime (matches wind and solar equipment)
- Almost unlimited cycles to full depth of discharge (no need to oversize)
- 4+ hours of energy vs. shorter duration Lithium (better for solar shifting)
- Operate well at 50% state of charge (poised for wind balancing)
- Power (MW) is scaled separately from energy (MWh) (enables optimal system sizing)

Exhibit 40: The wide host of operating assumptions and capital costs produces wide LCOS ranges for the three technologies LCOE by technology and ownership



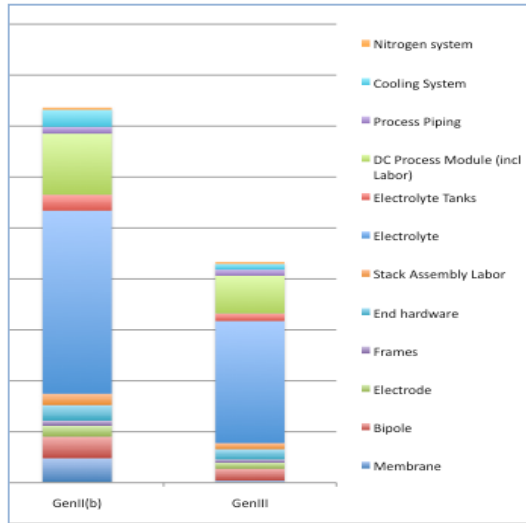
Source: Company data, Goldman Sachs Global Investment Research, DOE.

VRB's Competitive Advantages



- Vanadium ions suspended in the electrolyte flow through cell stacks where ions exchange during charge/discharge; the electrolyte never wears out, and is reused or recycled at EOL.
- Low pressure, low temp, non-toxic = safe (no corrosion as Zn, Br, Fe, Cr).

Proprietary Stack Design. The fifth generation cell stack design launched in 2014 is the most reliable and efficient commercially proven stack in the world. It includes patented flow field patterns within each cell frame that reduces shunt currents and increase overall efficiency. Existing Gen2 product is already below \$400/kWh in low volume, and VRB has qualified a further 25% reduction in cost based on identified component upgrades.



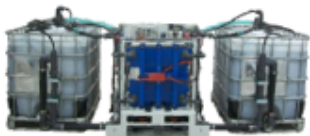
Based on 1MW 6MWh system; Gen2 serial unit #1.

MW-Class VRB-ESS



- 12 cell stacks
- 250kW or 350kW module rating
- Modules built into MW 'blocks'
- Systems up to 10MW and 80MWh

kW-Class VRB-ESS



- 1 cell stack
- 5-10 kW x 4 hours system rating
- 5-10 kW x 8 hours system rating

Products. The MW-Class product is suited for grid integration of solar and wind, peak shaving and microgrid support as primary applications. The kW-Class system is well suited for remote power and telecom tower applications.

Electrolyte. VRB has developed its own formula for vanadium electrolyte which yields superior system efficiency and lifetime performance. This is primarily derived from enhancing the opportunity for proton exchange, i.e. the quality of the cross-membrane chemistry.

Proven Performance and China State Grid Validation. Over the past ten years Prudent accumulated over 800,000 hours of runtime on cell stacks and systems from 5W to 2MW. Lifecycle tests have shown safety and efficiency are maintained over 100,000 cycles. In January 2016 Prudent's 8MWh system passed intensive 240-hour continuous full power commissioning tests conducted by State Grid and met or exceeded requirements in all four applications: Renewables Smoothing; Generation Support; Peak Shifting; and Frequency Regulation. The system achieved 100% availability (vs 95% target), an unprecedented level of performance for the rigorous test. Individual modules hit 120% of rated power, demonstrating the ability to up-rate the system to 2.4MW.

Proprietary Membrane Development. For the past eight years VRB has been researching and developing its own proprietary membrane for use in cell stacks. As a result, while the rest of the flow battery industry will continue to use costly off-the-shelf products designed for other uses, VRB will be able to capture the benefit of a 10x reduction in cost for the key component of any flow battery.

Go-to-Market

1. Leverage existing multi-MWh showcase projects with State Grid in China, and Gills Onions in California for follow-up projects in each of these key markets.
2. Initiate an aggressive channel partner development program targeting renewable energy developers and OEMs.
3. Pursue direct sales to utility, mining and C&I customers with qualified EPC partners after rigorous market segmentation and screening.
4. Evaluate future energy storage-as-a-service model under a build-own-operate (BOO) model for projects, and initiate an electrolyte leasing program.

Intellectual Property. Prudent amassed over 60 far-reaching patents worldwide encompassing core cell stack design, electrolyte composition, membrane design, and system-level design, as well as use of energy storage in a variety of applications including use with wind farms, off-grid applications and smart grids.

Go-to-Market Strategy

Re-Launch of VRB. While VRB has essentially been silent in the market outside China since early 2014, it can recover quickly if it deploys an aggressive and coordinated plan fully supported by new investors. Deeya re-branding as Imergy and Premium Power re-launching as Vionx (note both switching to Vanadium chemistry) are recent examples of storage companies attracting new financing for re-entry into the marketplace.

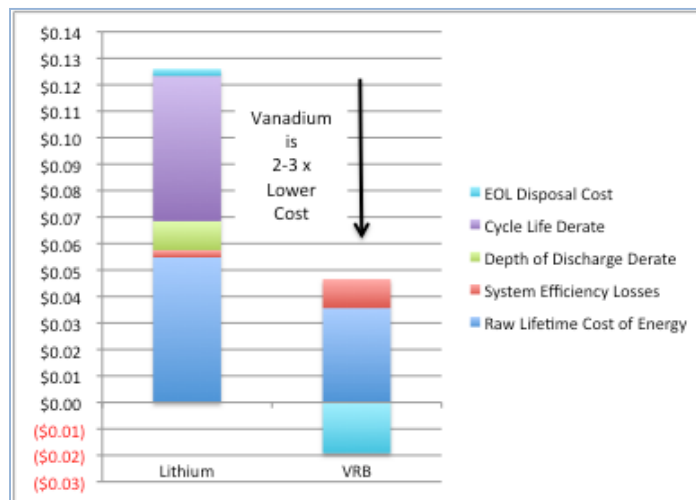
Stage	Target	Objective
Near-Term	<ul style="list-style-type: none"> State Grid Phase 2; Panzhihua Steel; Beibian microgrid Gills re-start 	<ul style="list-style-type: none"> Solidify near-term sales pipeline and affirm leadership position in China Re-establish marquee project in key market of California
Medium-Term	<ul style="list-style-type: none"> N.America scale-up; Europe entry Inner Mongolia Grid, Southern Grid, Gansu Grid expansion Mining Sites 	<ul style="list-style-type: none"> Gain credibility for large-scale (50+MWh) projects for utilities Expansion in China to regional utilities spurred by State Grid validation Establish pilot project in high value added mining or remote village sector
Long-Term	<ul style="list-style-type: none"> Energy Storage-as-a-Service and electrolyte leasing model Remote microgrids 	<ul style="list-style-type: none"> Financing models capture Lifecycle benefits for customers and added sales & margin for VRB. Establish reliable channel for more efficient deployment at high value added remote microgrid sites

Lithium battery economics typically omit three problems:

1. System Capacity. As significant lifetime damage occurs to Lithium cells if discharged below 20%, systems need to be oversized to 120% of desired capacity. [VRB-ESS can 100% discharge without degradation]
2. Cycle Life. Lithium cells degrade after approximately 3,000 to 5,000 full cycles. [VRB-ESS have an almost unlimited cycle life, tested to over 100,000 cycles in the lab]
3. End of Life (EOL). Lithium batteries carry a hazardous and expensive disposal cost. [Vanadium electrolyte is 100% reusable, and represents a net 20%-30% asset at EOL]

Flow vs. Lithium

Lithium-based batteries are not well suited for longer duration storage (4+ hours) that is required for balancing the increasing amount of wind and solar power on the grid. VRB-ESS are >50% lower cost than Lithium on a Levelized Cost of Storage (LCOS) basis.



1MW 4MWh system LCOS comparison adjusted for Cycle Life, DOD, Efficiency and Disposal

Team and Organization

Management Team

The VRB team is composed of the leading scientists in flow battery technology and world-class clean technology leadership. The management team has over 80 years of combined experience in scaling up clean energy technology and resource start-ups as C-level managers at publicly listed companies.

James STOVER, Chief Executive Officer

Former Vice-President of International Business of Prudent with 20 years experience as a clean technology executive. Former VP Asia for Northern Power Systems (TSX: NPS), and Director of Business Development at Distributed Energy Systems Corp (NASDAQ: DESC).

Mianyan HUANG, Ph.D., Chief Technical Officer

Dr. Huang has over 15 years of experience in fuel cell and flow battery material and product development and is the creator of VRB's proprietary membrane material. Dr. Huang was appointed by the Chinese government as the leader of China's '863 Program' for large-scale Energy Storage System programs.

Charles GE, MA, Managing Director, China

Charles GE has English and International Law Degrees from Beijing University and over 30 years experience in China resource and clean energy project development and financial services. He is former President of the China operations of the Quam Group (HKSE: 0952).

Winfield DING, CPA, BA, MBA, Chief Financial Officer

Winfield DING has extensive experience as financial manager for a number of multinational public and private companies in the resource, agricultural, and energy industries.

A Lee BARKER, M.Sc. (App.), P.Eng. Chairman of the Board

Lee Barker is President and CEO of Sparton Resources Inc. parent of VanSpar Mining, the lead investor in VRB Energy. Over 50 years Mr. Barker has generated and managed development programs for various commodities and businesses in North and South America, Africa, Australia, China, and the former Soviet Union. Since 2002, he has successfully identified and developed several technology related specialty metal projects in China.

Richard WILLIAMS, LLB. Director

Richard Williams is a senior executive with special focus on corporate commercial transactions. He has over 35 years in international business experience, and serves as a director of several public companies and as an advisor to a number of private companies.

Operations and Organization

Key staff has been retained and the initial team will be 20 staff including Engineering (7), Manufacturing (4), Admin/Finance/HR (5) and Sales/Marketing/Management (4). VRB has a fully functional IT system, including an engineering management system and an ERP system for inventory control and cost accounting. Current manufacturing facilities are located at its 10,000 sqm engineering and manufacturing facilities in Tongzhou outside Beijing, with a capacity of 120MWh production per year.

VRB's systems have been reviewed and validated by TUV, a leading third-party certification body.



Investment Thesis

Prudent History

Prudent evolved through a merger of the Canadian company VRB Systems and Beijing based Prudent Energy in 2009, and pioneered flow battery commercialization into the nascent energy storage space. It delivered over 50 batteries of various sizes installed in 13 countries including the USA, China, Africa, Spain, Germany, Indonesia, and Korea.

By the end of 2012 a series of events led to a cash shortfall. A new board of directors and new management took control; however, this group was not successful in building on past momentum or executing a sensible business plan. Prudent has since languished in the face of a rapidly developing group market.

Historically, Prudent was financed through a series of four placements with over 25 key shareholders, followed by a convertible bond issue in 2014. Almost \$70 million was raised in total with the convertible bondholders eventually gaining controlling ownership.

The convertible bondholders consist of a number of VC firms with closed-end funds who are now ready to exit their positions.

Issue	Root Cause	VanSpar Resolution
Overexpansion	Prudent attempted to execute projects in 13 countries, including delivery of "turn-key" systems.	Rigorous focus on market segmentation and channel partner development.
Lack of Financial Controls	Prudent high burn rate for staff of over 200.	Restructured, lean operational plan in place.
Gills Project Cost Overruns and Tank Failure	Prudent over budget on self-funded project in California. Tank supplier defect led to costly failure, downtime, and executive team distraction.	VRB will not self-perform project installations; is going to market with capable local EPC channel partners.
State Grid Delay of Phase 1 Commissioning	State Grid overall project delay for substation installation tied up significant cash flow for over 3 years.	Phase 1 Commissioning now complete; passed rigorous 240-hour full power test with top scores; excellent relationship with State Grid, means VRB positioned for Phases 2 and 3.
Gen1 Product	All Gen1 units were "stick built" custom solutions assembled in the field and prone to error.	Strict stage-gate product development process instituted for Gen2 design and development. Factory assembly reduces rework and errors.

VanSpar and Re-Launch

In 2015 VanSpar stepped in and executed an Agreement for Services (AFS) for commissioning of Prudent's 2MW 8MWh battery for China State Grid. VanSpar also secured exclusive rights to acquisition of Prudent through a Share Purchase Agreement (SPA). VanSpar is now re-capitalizing the company as VRB, and is offering majority control to a strategic investor ready to scale up the business.

Investment Opportunity

VanSpar is seeking an investment of US\$7-10 million to support the re-launch and growth plan outlined herein in exchange for majority control of the new VRB. The business has near-term positive cash flow at reasonable gross margins. Forward revenue of over \$200 million on more than 500 MWh of system sales is detailed in a full five-year discounted cash flow model available for detailed review.

With approval of the system for China State Grid, validation of the Gen2 product, \$3.5 million in inventory (approximately 5-6 MW of new battery production) in stock and ready for assembly and shipment to customers, and new management in place, VRB is now positioned to succeed.