“A Venture Capitalist’s Perspective on Energy Storage Technologies”
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Background On The Beacon Energy Fund/Chase Capital Partners

- The Beacon Group Energy Investment Fund II is a venture capital and private equity firm based in New York.

- $1.5 billion of venture capital devoted exclusively to the energy industry
  - The largest energy venture capital fund in the U.S.
  - Invested across the energy spectrum
  - Strong presence in the energy technology space
  - Over 40 energy portfolio companies

- In July 2000, The Beacon Group was acquired by Chase Manhattan Corp.

- Beacon merged its venture capital business with Chase Capital Partners, the venture capital arm of Chase Manhattan bank

- Chase Capital Partners is one of the largest venture capital funds in the U.S.
  - Over $20 billion in capital
  - Over 1,000 portfolio companies
Energy Technology Has Attracted Enormous Interest From Venture Capital And Public Market Investors Over The Last 12-18 Months

- Began with the success of the Plug Power IPO (fuel cells) and other IPOs
  - Capstone Turbine (Microturbines)
  - Active Power (Flywheel Energy Storage)
  - H Power (Fuel Cells)

- Continued strength of other public energy technology companies
  - Ballard Power (Fuel Cells)
  - FuelCell Energy (Fuel Cells)

- Price appreciation in utilities stocks which have embraced power technology
  - Avista Corporation
  - Keyspan Corporation
  - Williams Corporation

- Strong backlog of companies in registration for an IPO
The Energy Technology Sector Has Created Billions Of Dollars Of Value In The Public Markets In 2000

Indexed Prices

Note:
(a) Power technology composite includes: AMSC, APWR, AVA, BLDP, DCHT, EFCX, ELSI, ENER, EVRC, FCL, IDA, IMCO, MHTX, MKTY, PLUG, SATC, SPIR, UQM, VLNC
What Is Driving The Current Level Of Investor Interest In Energy Technology?

- Deregulation of the electric utility industry
  - Massive system inefficiencies
  - Opening of the market to non-utility innovators and marketers
  - Well-publicized cases of capacity shortages in California and other states

- Explosion of the “digital economy”
  - Computers consumed 13% of U.S. electricity in 1998, up from 3% in 1988
  - Driven exponentially in the late 1990’s by the growth of the internet
  - Created an extraordinary need for “high-9s” energy reliability
  - Telecommunications reliability in particular has become paramount
  - Has highlighted inadequacies of the current electrical distribution and transmission system
What Is Driving The Current Level Of Investor Interest In Energy Technology? (continued)

- Increasing awareness of the costs of unreliable power
  - Annual cost to U.S. industry of poor power: $100-$150 billion
  - Has been exacerbated by the increasing use of automated, computer controlled production processes

- Recent advances in the performance and cost of emerging power technologies
  - Generation: Reciprocating engines, fuel cells, microturbines, solar
  - Storage: Advanced batteries, flywheels, SMES, ultracapacitors

- Environmental awareness
  - Clean air
  - Increased energy efficiency
  - Disposal challenges
What Are The Key Subgroups Of Energy Technology?

- **Distributed Generation**
  - Addresses need for on-site prime movers and back-up power
  - Examples: Reciprocating engines, microturbines, fuel cells, solar

- **Energy Storage**
  - Addresses need for UPS, back-up power, load management, and peak shaving
  - Examples: Advanced batteries, flywheels, SMES, ultracapacitors, lead-acid batteries

- **Power Quality**
  - Addresses need for “clean” electricity to power the microprocessor-based economy
What Are The Key Subgroups Of Energy Technology? (continued)

- **Environmental Solutions**
  - Goal of higher efficiency with less pollution
  - Examples: Emissions treatments

- **Information Management Technology**
  - Application of internet technology to increase efficiencies, enhance customer services, and differentiate products in the generation, distribution, and sale of energy
  - Examples: Customer aggregators, online power and commodity exchanges, “virtual” utilities
Why Is Storage Such A Critical Link In The New Energy Paradigm?

- Energy storage is emerging as a key piece in the puzzle of a deregulated energy future
- Provides UPS and CPS functions which are increasingly in demand as the digital economy grows
- Enhances system efficiency
  - Reduces peak demand
  - Reduces capital necessary for excess peaking capacity
- Enables enterprises to play a merchant role at the local level
- Can be coupled with any prime mover to provide a complete, customized power management solution
  - UPS
  - Back-up power
  - Peak shaving
  - Power conditioning
What Are Customers Looking For In An Energy Storage Solution?

- Transparency, durability, reliability

- Flexibility to meet the needs of a given customer and its electrical profile
  - Prime mover neutral
  - Power conditioning solution
  - Modular

- Market penetration will be driven by three critical criteria:
  - Capital cost
  - Full-cycle efficiency
  - Performance
What Is A Venture Capitalist Looking For In An Energy Technology Investment?

- Superior, dedicated management teams with outstanding technical capability
- Original and proprietary technology
- Large, underserved markets
- Well-developed and protected intellectual property portfolios
- Clear path to product commercialization and profitability
- Key strategic relationships
Beacon/CCP’s Current Energy Technology Portfolio

- Distributed generation / Back-up power
  - Capstone Turbine
  - Proton Energy Systems
  - Generac Portable Products

- Power quality and reliability
  - Powercell
  - Beacon Power
  - Soft Switching Technologies

- Environmental
  - Powerspan

- Information management technology
  - Essential.com
Conclusion

- We believe that we are seeing the beginning of a power supply revolution

- A confluence of factors, both macro and micro, has created an enormous opportunity for innovators and investors

- Energy storage is emerging as the critical link in the digital energy future where the key performance metric is measured in high-9s

- This is not a “zero-sum” game – the winners will be those that embrace a partnership approach and a long-term perspective
  - Utilities, regulators, commercial and industrial customers, marketers, distributors

- Your choice of capital providers is one of the most important decisions a new venture will make
  - Industry knowledge
  - Value-added
  - Partnership