

# Investment Philosophy

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## Venture Capital/Private Equity: Environmentally Conscious Investing

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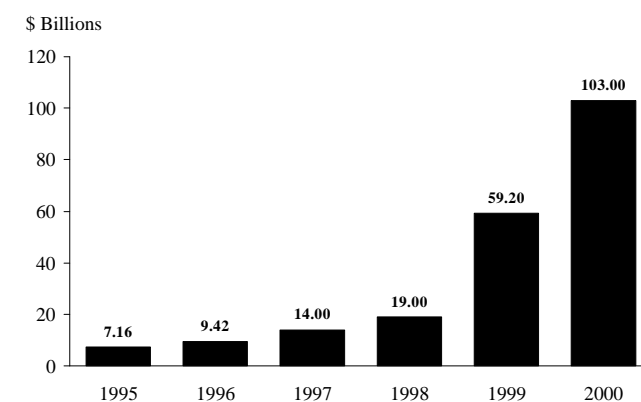
Over the past decade, Venture Capital and Private Equity investing have become more or less established components of investment portfolios, with allocations to this investment class ranging from 3% and 12% of total assets.<sup>1</sup> Concurrently, investors' interest in Socially Responsible Investing (SRI) has reached new heights.<sup>2</sup> We believe a framework exists for venture capital/private equity investment that targets new technology opportunities for the environmentally conscious investor.

Given that more than two trillion dollars are invested in funds that use social, environmental, and ethical criteria to select stocks, it may be a natural progression that SRI investors — from pension funds, foundation endowments, and state treasurers to financial advisors and individual investors — might also seek opportunities in the realm of venture capital/private equity.<sup>3</sup> The surge in SRI investing — with

most large financial institutions now offering clients SRI funds — is in part due to the debunking of an early myth that socially and environmentally screened investments always result in lower financial returns. A survey conducted by Credit Suisse in early 2000 found that the world's largest SRI mutual funds averaged higher returns than the S&P 500 Index.<sup>4</sup> It is our contention that changes are afoot that are creating a widening universe of investment opportunities that can deliver competitive venture capital returns and that are aligned with the goals of SRI investors.

Exhibit 1

### Total Venture Capital Invested in US



Source: Venture Economics

Past performance is not a guarantee of future results.

### What History Has Taught Us

Skeptics may refer to the mixed returns and/or failures that came from a narrow category of environmentally-based venture capital/private equity investments made in the late 1980s and early 1990s. These investments were largely

<sup>1</sup> Private equity can be defined as investments made into privately held companies. Venture Capital is a subset of private equity typically representing earlier stage investments. Due to the early stage and illiquidity of investments, venture capital presents more risk than later stage private equity or investing in public securities.

<sup>2</sup> See "Socially Responsible Investing, A Values-Based Approach" in Morgan Stanley Private Wealth Management First Quarter 2000. SRI investing is typically refers to investments in public companies.

<sup>3</sup> Even many technology laden SRI funds held their own following the market downturn in 2000. For example, the Domini Social Equity Fund returned 18.06% annually for the last five years, and the S&P 500 returned 18.33%.

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focused in the waste management, pollution control, and related remediation technologies. The companies targeted for investment at that time were dependent on government intervention, in the form of regulations and/or subsidies, to create markets. These markets did not develop for a multitude of reasons, including certain government regulations/tax incentives that were either never formulated or expired. Consequently, the business models and revenue streams of the targeted companies crumbled, as did financial returns to investors. Additionally, the environmental technologies would require several years of continued research and development before becoming viable. In some instances, it would be up to ten years before investors could exit these investments, further depressing returns. Even the successful environmental investments, which delivered annual returns of 8% to 12%, were underperformers relative to similar investments in other industry groups such as telecommunications.<sup>5</sup> While perhaps a noble endeavor, these environmental enterprises were not well suited to venture capital and as a result fell out of favor, with environmental activities becoming limited to philanthropy.

A new profitable framework for investing in venture capital and the environment is coming to the fore, one that focuses on major market and business opportunities with a clear and speedy path to liquidity. In this approach, venture capital/private equity investments are made in companies that increase natural resource efficiency and productivity. Opportunities are driven by customer demand and powerful market forces and not by regulatory fiat. Environmental benefits may be a byproduct, but no longer the primary focus of investors or of the venture capital recipient. We believe such opportunities currently exist in a number of industries across the spectrum of energy, agriculture, transportation, chemicals, biotech, and industrial process industries. A look at current opportunities in energy-related technologies may illustrate this best.

#### **Advances in Energy-Related Technologies**

Several forces are driving an unprecedented transformation in the energy industry. Similar to telecommunications in the 1980s, energy markets are being deregulated. Although the process may not be perfectly smooth, it is allowing commercial and residential customers to increasingly choose their electric power providers. As a result, utilities are striving to differentiate themselves in the marketplace, and attempting to improve customer service and relations. These industry changes and challenges are creating fertile ground

<sup>5</sup> *Venture funds that made early investments in the environment include Technology Funding Inc., First Analysis Venture Capital, and Advent International.*

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for the development and commercialization of a suite of new technologies that are attracting a growing amount of venture capital.

At the same time, the demand for power quality and reliability in the US is growing dramatically. With an economy increasingly reliant on high technology, computers, and the Internet, the financial risks of the country's energy problems are increasing. Because there has been little investment in new power plants and in the country's power transmission and distribution infrastructure, US businesses are said to be losing as much as \$30 billion annually due to more frequent blackouts, power disruptions, and poor-quality power.<sup>6</sup> New technologies are being developed to meet the needs of corporations. The primary goal of increased energy production may be accompanied by lessened resource consumption and waste generation, thus providing environmental benefits. Below we describe the emerging technologies in some detail.

- **Distributed Generation (DG):** Typically built as smaller scale power plants located close to or at the point of use, distributed generation technologies provide primary power or backup power to the electric power grid. Customers can operate their "mini" power plant alongside, in place of, or as back up to the electricity grid. This flexibility protects customers against extreme price volatility, improves reliability, and allows for recovery of waste heat for other operational needs. DG technologies in various stages of commercialization include microturbines, fuel cells, stirling engines (external heating of a sealed working fluid or gas), and flywheels. The environmental benefits of DG include reduced emissions of air pollutants (e.g., Sulfur Dioxide) and climate change gases (e.g., CO<sub>2</sub>), as well as energy efficiency improvements where heat recovery is a possibility.
- **Metering, Monitoring and Control (MMC) Technologies:** In an effort to provide higher-quality services to customers and to differentiate themselves in the marketplace, energy service providers are offering their customers more control over their energy usage via MMC technologies. Technologies are currently being commercialized that allow customers to track the price of energy, real time. Customers are provided with the information needed to reduce energy consumption during periods of peak pricing.

<sup>6</sup> *The Electric Power Research Institute. (The problems with the US's electricity infrastructure are now most apparent in, although not limited to, California.)*

• **Renewable Energy:** The markets for renewable energy are expanding. Because of wind and solar energy’s zero air pollution profile, environmentally concerned consumers have an interest in purchasing “green electrons” from their electricity provider. Further, in a deregulated power market, wholesale power generators will not always be able to pass along increased fuel costs to customers. Recent price spikes in natural-gas-fired power plants illustrate the importance of diversification among fuel types. Wind and solar energy, both of which have experienced substantial reductions in cost structure, offer a compelling alternative to fossil fuel power generation, in our view. Wind power is the fastest-growing form of electric generation in the world and electricity output from wind is expected to grow dramatically in the US in the next few years, albeit off a small base. Solar energy is increasingly competitive in remote applications where the grid may not be accessible, and in some cases is even competitive with the grid. The photovoltaics (PV devices use semiconductor materials to convert sunlight directly into electricity) market has been growing well above 20% for the past ten years and now represents over \$1 billion in annual sales.

Recent innovations in the energy industry have increased the quality of emerging companies and boosted venture capital investing in energy technologies. Venture investments jumped from \$150 million in 1998, to \$300 million in 1999, and reached \$1.2 billion in 2000.<sup>7</sup> Investors include: energy specialized venture funds such as those managed by Nth Power Technologies, Inc., Arete, and Advent International; mainstream Silicon Valley venture capital firms; later-stage private equity firms such as Beacon Energy Partners and Bear Stearns; and individual investors. Success in this area has prompted other venture capital and private equity firms to launch new energy-focused funds, as is the case with the Carlyle Group’s recently launched \$220 million energy fund.<sup>8</sup>

Venture investors have realized excellent venture returns, profitably exiting their investments either through the public markets or via sales to large corporations. While the energy-

<sup>7</sup> *Venture Economics. Examples of companies that have received venture investing over the last five years are Capstone, Proton Energy, Evergreen, and AstroPower.*

<sup>8</sup> *The downturn in the public markets has affected the sheer number of IPOs and their valuations, and this trend is likely to persist for some time. In our opinion, what is of most importance and critical to the success of new energy technology companies and their venture investors is that diverse exit paths for investors have been established over the last five years. These exit paths are unlikely to go away given that the US will be spending billions of dollars in the next ten years to upgrade our energy infrastructure.*

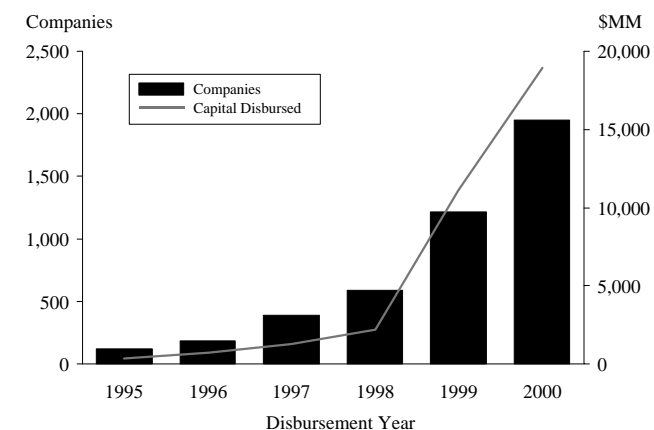
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focused venture funds do not publicize their returns, our research shows that some funds have had internal rates of return of 60% to over 100% on an annualized basis.

Last year, alternative energy companies secured close to \$1 billion through IPOs and secondary offerings. Corporations are actively seeking out new energy technologies that will strengthen their competitive position within their respective markets. In general, corporate venture capital investments have been increasing rapidly. Corporate venture capital increased from \$372 million disbursed to 119 companies in 1995 to \$18.95 billion disbursed to 1,947 companies in 2000.

Exhibit 2

**Total Corporate Venture Capital Disbursed in US, 1995 – 2000 (\$ Millions)**



Source: *Venture Economics*

*Past performance is not a guarantee of future results.*

In the energy sector, Royal Dutch Shell, BP Amoco, Pacific Gas and Electric, Texaco, Cinergy, GE Power Systems, and Caterpillar are but a few examples of corporations that have intensified their venture investing and acquisition activities.

Exhibit 3

**Corporate Energy Venture Capital Examples**

Corporate Investors	Investments	Type of Investments	\$ Amounts (millions)
Texaco	ECD	Energy/Power	\$62.0
General Electric	Plug Power	Power/Fuel cell	\$37.5
Caterpillar	ActivePower	Power reliability/backup	\$5.0
Enron	Meter Technology	Electronic meters for commercial and residential customers	\$5.0
Kawasaki	Evergreen	Solar power manufacturer	\$4.0

Source: *EA Capital Research*

**Conclusion**

Gone are the early days of investing in environmental “pure plays” which were out of touch with market forces and industry fundamentals. The environmental company of the 21st Century will probably not have a “green” or “eco” label attached to it. We believe that venture capital/private equity investments have the potential to deliver environmental benefits along with the good financial returns seen in SRI investing. The successful “early stage” investor should first identify market driven opportunities, and then select the opportunities that can best meet the investor’s environmental goals. To a large extent, resource efficiency and productivity technologies are at the center of the convergence between strong financial returns and environmental upside.

This investment framework is finding success in the energy industry, and we believe similar and abundant opportunities exist across the spectrum of the transportation, chemicals, biotech, agriculture, and industrial process industries.

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