OVERVIEW

SAIL CAPITAL PARTNERS (www.sailcapital.com)

SAIL was founded in 2002 as a pioneer in the cleantech investment sector and continues to be one of the sector’s recognized thought leaders. Our comprehensive portfolio currently includes fourteen leading companies spanning the universe of sustainable innovations in the areas of energy storage and efficiency, renewable fuels, electrical efficiency, green cleaning products and water purification.

In this era of profound changes in the way we produce and consume valuable resources, SAIL focuses on exceptional profit opportunities as a result of inefficiencies in the global markets. Our team of uniquely talented investors employs their decades of experience and cleantech-related networks to the most exciting venture investment opportunities.
This October, California approved the country’s first significant mandate for storage technology to complement the growing amount of renewable energy flowing into the grid. The California Public Utilities Commission voted five to zero to approve the mandate, which calls for 200 megawatts of energy storage technology by 2014 and 1.3 gigawatts (1,325 megawatts) by the end of 2020. That’s quite a lot, considering that even the biggest grid storage vendors are just now passing the 100 megawatts of installed capacity mark.

The mandate requires California’s three investor-owned utilities, Pacific Gas and Electric, Southern California Edison and San Diego Gas & Electric, to collectively buy 1.3 gigawatts of energy storage by 2020. On top of that, municipal utilities and utility districts will have to procure energy storage that equals 1 percent of their projected 2020 peak electricity demand by 2020.

PG&E, SCE and SDG&E must file a procurement application by March 1st 2014 that contains a proposal for the first energy storage procurement cycle and solicitations. This decision was made in accordance with AB 2514, which was passed in 2010 and calls for the integration of renewable energy and the reduction of greenhouse gas emissions to 80 percent below 1990 levels by 2050.

As a part of this goal, California aims to have 33 percent of its power supply come from renewable sources such as wind, solar, and geothermal by 2020. The problem is that wind and solar projects don’t produce electricity steadily around the clock, so the grid will get intermittent infusions and drop-offs of renewable electricity. That’s bad for the grid, which needs to maintain a balanced supply and demand to avoid blackouts and other problems. By storing electricity, utilities will have greater control of the amount and rate of power that flows through their transmission and distribution networks.

The electricity banked by energy storage equipment doesn’t have to be from renewable energy sources. Storage projects can soak up power from fossil fuel power plants when demand is low and send it to the grid when demand spikes. This way, utilities avoid building more power plants and investing in expensive grid upgrades over time as both the population and energy use grow. They also can use storage to maintain certain characteristics of the grid, such as its frequency, instead of turning to natural gas power plants like they usually do.

This is clearly great news for Xtreme Power and a huge opportunity to expand their technology.
Multiple reports were released this month analyzing data on energy efficiency in the US. Many were surprised by their findings: our economy is more closely tied to efficiency improvements than to the actual production of energy. In fact, energy efficiency has contributed more to meeting America’s needs than all other resources combined.

The NRDC’s first annual Energy and Environment Report analyzes new government data that shows that total US energy use in 2012 was below the 1999 level even though the economy grew by more than 25 percent (adjusted for inflation). As a result of national energy efficiency measures, factories and businesses are producing substantially more products and value with less energy, and the cost of all energy services like lighting and refrigeration has also decreased.

John Laitner, a visiting fellow at the American Council for an Energy-Efficient Economy, presented his findings from a recent report in helpful graphics. As the graph below shows, efficiency has provided three times more economic services than new production since 1970:

The chart shows that energy efficiency met nearly three quarters of the demand for services, while energy supply met only one quarter.

The blue line illustrates demand for energy services (the economic activity associated with energy use) since 1970; the solid red line shows energy use; and the green line illustrates the gain in energy efficiency. While demand for energy services has tripled in the last four decades, actual energy consumption has only grown by 40 percent. Meanwhile, the energy intensity of our economy has fallen by half.

The area between the solid red and blue lines represents the amount of energy we did not need to consume since 1970; the area between the dashed red line and the solid red line indicates how much energy we consumed since 1970.

"One immediate conclusion from this assessment is that the productivity of our economy may be more directly tied to greater levels of energy efficiency rather than a continued mining and drilling for new energy resources," wrote Laitner.
With economic productivity so closely related to energy efficiency, it's also important to note that the US economy is still only 39 percent efficient. The Lawrence Livermore National Laboratory released the below chart over the summer that shows America “rejected” 61 percent of energy produced in 2012, mostly through waste heat. And because this doesn't account for the transfer into useful work, the LLNL figures are actually rosier than Laitner’s.

These poor results come from revised estimates of how efficient (or inefficient) the transportation, heating and cooling sectors really are. According to one LLNL researcher, the lab lowered average efficiency estimates for automobiles and planes from 25 percent to 21 percent, and lowered household HVAC and lighting efficiency estimates from 80 percent to 65 percent.

Lastly, stressing the importance of energy efficiency is Ralph J. Cicerone, President of the National Academy of Sciences and Chair of the National Research Council. In his lecture titled “Climate Change: A Scientist’s Perspective,” Cicerone states that investing in energy efficiency would:

- decrease our dependency on foreign oil,
- improve our national security,
- decrease our trade deficit,
- decrease local air pollution,
- increase our national competitiveness,
- encourage development of new products for global markets,
- decrease household energy costs, while also
- slowing the increases of CO2 and CH4

Many energy conversations are dominated by supply-side thinking: should we drill for more oil and gas, or should we develop more renewable energy? This analysis shows that efficiency is just as economically important as new production — if not more so.
**Xtreme Power Announces Successful Commissioning of CCET Storage Project**

Xtreme Power unveiled its new 1MW, 60 minute system for Texas’ Center for the Commercialization of Electric Technologies (CCET), a collaborative research and development consortium that brings together state university research centers, energy utilities and electric industry leaders. The project is included in a U.S. Department of Energy smart grid demonstration analyzing the benefits of using energy storage for wind energy integration.

The CCET project marks the first time Xtreme Power’s PEAK Series system has used lithium ion batteries from Samsung SDI—building on a partnership that began early this year. The CCET system is owned and operated by a consortium including top educational institutions such as Texas Tech University, the Southern Plains Electric Cooperative and Group NIRE, and will be used to demonstrate energy storage applications including renewables integration and grid support services.

“The CCET project is proof again that Xtreme Power’s product and service solutions solve grid stability challenges and provide improved electric grid power quality and at the same time integrate renewable generation resources,” said Alan Gotcher, Chief Executive Officer of Xtreme Power. “Now with our world-class partner Samsung SDI, we continue to build the leading energy storage and delivery systems in the market.”

The Xtreme Power system at CCET will help pave the way for enhanced grid flexibility, showcasing how energy storage helps more renewables come online to realize a clean energy future.

“Samsung SDI is pleased to have partnered with Xtreme Power for the CCET project to demonstrate the benefits of integrating renewable power with energy storage,” said Mas Fukumoto, Senior Vice President, Energy Solutions America of Samsung SDI.

**CNS Response Highlighted at 2013 Medical Device Forum**

This October, leading executives, early stage entrepreneurs and investors in Orange County’s thriving medical device sector gathered to discuss the latest trends and exhibit the most promising new technologies in their industry.

The two-day Medical Device and Investor Forum was held in Irvine and is sponsored every year by the Orange County Technology Action Network (OCTANe).

The mission of OCTANe is to establish contact among entrepreneurs with bright ideas, people with the right experience to advise them, and investors with the capital to help nurture the concepts into full-fledged businesses.

When asked about the most exciting new developments among Orange County medical technology firms, OCTANe’s president and CEO, Matthew Jenusaitis, highlighted CNS. In an interview with the Orange County Register, Jenusaitis stated that, “Orange County has two very prominent innovation clusters—information technology and medical devices. The most exciting development in this space is the convergence of these two previously disparate technologies into new technologies that will utilize both areas to significantly advance health care. A great example is a company called CNS Response in Aliso Viejo. They use huge databases to correlate drugs with the brain waves of specific patients to determine which drugs will be most effective in treating them for cognitive disorders. It’s a cloud-based application, and one of their largest customers is the US military. There are more deaths in the military attributable to suicides than to combat casualties. It’s a huge problem.”
The Cleantech Group, provider of the i3 market intelligence platform and global consulting services, recently released the fifth annual Global Cleantech 100 list and report. The list recognizes 100 promising and innovative companies most likely to make a significant market impact over the next five to ten years across 15 industry categories, including Energy Efficiency, Biofuels & Biochemicals, Conventional Fuels, Smart Grid, Transportation, and Water & Wastewater. Cleantech 100 company profiles can be accessed through Cleantech Group’s i3 market intelligence platform.

“The Global Cleantech 100 is a natural extension of our vision to accelerate sustainable innovation around the world,” said Sheeraz Haji, CEO of Cleantech Group. “This list celebrates inspiring entrepreneurs and serves as the industry standard on gauging where innovation is headed in our resource-constrained world.”

“The composition of the 2013 Global Cleantech 100 represents a distinct shift in thinking from deal-makers in the marketplace,” said Richard Youngman, Global Cleantech 100 report author. “We have fifty-one new entrants on this year’s list, reflecting the popularity of new cleantech subsectors among investors. Efficiency companies lead the list this year, while solar companies have a lighter presence than in years past.”

To qualify for the Global Cleantech 100, companies must be independent, for-profit, cleantech companies not listed on any major stock exchange. This year’s list drew from 5,864 nominated companies from 60 countries. A 90-member expert panel, including leading financial investors and representatives of multi-national enterprises such as 3M, ABB, BP, Ecolab, EDF, GE, General Motors, Grundfos, IBM, Johnson Controls, and Veolia Environnement, gave input on the shortlisted 300 to get to the final list of 100 companies from 18 countries.

“This year’s Global Cleantech 100 provides an invaluable window on the latest breakthrough innovations that address the enormous economic, environmental and energy challenges facing many large industries today,” said Wal van Lierop, Co-Founder, President & CEO of Chrysalix Energy Venture Capital. “The solutions being developed by these 100 companies are a testament to the fact that cleantech is no longer for a select group of early adopters—it is quickly becoming part of the mainstream energy provision.”

“We are pleased to see so many start-ups in energy efficiency on this year’s list,” stated Kevin Self, Vice President, Strategy & Corporate Development, Johnson Controls. “There are great opportunities to make existing buildings more energy efficient and to promote energy saving technologies and products in new construction. It is encouraging to see innovative new companies capitalizing on this market opportunity.”

To see the full list of winners, visit the report here.

Global Cleantech 100 Quick Facts:
- 18 countries are represented in the 2013 list. The United States is the most highly represented country with 56 companies.
- Energy Efficiency remains the hottest and fastest-growing sector within cleantech, with 27 companies on the list, up from 22 in 2012 and 19 in 2011.
- Solar’s representation in the 100 falls again, down from 20 companies in 2011, to nine companies in 2012 to six companies in 2013. Those that remain on the list are primarily solar financing companies.
- Corporations continue to be even more active in global cleantech innovation as investors, partners, licensees, customers, and acquirers of Global Cleantech 100 companies. GE is the most active overall partner with 2013 Global Cleantech 100 companies, followed by Waste Management, Siemens, Google, and IBM.
- Over 400 investing entities, from 26 different countries, have a shareholding in the 100 companies.
SAIL Capital Partners invests in leaders—leading companies, and equally important, strong leadership teams. In appreciation of the exceptional teams at our portfolio companies, each month the newsletter highlights an individual who has significantly contributed to the growth and success of a SAIL portfolio company.

This month, Ener-Core announced that the Hon. Dr. Stephen L. Johnson, 11th Administrator of the Environmental Protection Agency, joined its Board of Directors.

"We are honored to have Steve on our Board of Directors. Steve has been a strong believer in the market need for our breakthrough technology since its inception, and has consistently supported our team throughout many years of the research and development effort. As Ener-Core is now deploying the commercial launch of its technology platform into the market, Steve remains highly engaged and supportive of our business plan and our commitment to help our customers worldwide greatly reduce their emissions and their costs of air quality regulatory compliance through the use of our Gradual Oxidizer products," said Alain Castro, CEO of Ener-Core.

Dr. Johnson brings to Ener-Core’s board over three decades of exemplary commitment to the environment. Within the EPA, he controlled a $7.7 billion annual budget and managed over 17,000 employees. He is also the recipient of the White House’s Presidential Rank Award, the highest award bestowed to civilian federal employees. Before working for the U.S. Government, he held a number of positions in laboratory and biotechnology companies. He was also the director of Hazelton Laboratories, now Covance.

"I was attracted to Ener-Core because of its patented Gradual Oxidizer technology and its ability to address the global methane pollution problem," said Dr. Johnson. "The flaring of methane gas—the flames you see emitted from landfills, wastewater treatment plants, dairies and farms—represents both a loss of a significant energy opportunity and a continued strain we put on our planet," he continued.

"I am excited to work with Ener-Core to help introduce environmentally sound and regulatory compliant power generation options to markets that were once considered uneconomical. When configured for ultra-low emissions, our Gradual Oxidizer technology produces substantially lower emissions of NOx, CO, and VOCs than any other competitive system and is designed to achieve Lowest Achievable Emission Rate (LAER) for several major air pollutants in non-attainment areas.”

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ABOUT SAIL CAPITAL PARTNERS

SAIL Capital Partners (www.sailcapital.com) is a leading cleantech investment firm with a global vision of technologies, markets and opportunities. We invest in cleantech companies with proven technologies, visionary leadership, measurable impact and exciting growth potential. We have invested in a number of today’s leading cleantech companies including Xtreme Power, IE Technologies, The Cleantech Group, Enerpulse, SNTech, Ener-Core, Paragon Airheater Technologies, M2 Renewables, Clean Technology Solutions, CNS Response and WaterHealth International. SAIL has offices in California, Toronto, New Orleans and Washington D.C. as well as a global network of investors and advisors.

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