

## Enerpulse Pulse Plugs Help Power Noble Automotive Group's Compressed Natural Gas Vehicles

Enerpulse is a SAIL I & SAIL II portfolio company.

Enerpulse, Inc. and Noble Automotive Group, Inc. recently announced the incorporation of Enerpulse's Precision Combustion Ignition (PCI) technology into Noble's SEERngv commuter car. Enerpulse's patented ultra-high-power Pulse Plug will replace conventional spark plugs on all future Noble vehicles. Noble, through their Vision Motor Company, will soon offer 100 percent CNG (compressed natural gas) fueled vehicles as well as dual fuel gasoline/CNG vehicles. Noble will distribute them through existing car dealers in the

U.S., Canada, and Mexico. The CNG fueled vehicle will deliver 45 mpg in normal use.

Enerpulse developed and commercialized the first real breakthrough in automotive spark plug technology in over 120 years. Its Pulse Plug increases the efficiency of a conventional ignition system from less than one percent to over 50 percent. This significant increase couples more ignition energy to the fuel charge which improves combustion stability and reduces fuel consumption and total emissions by as much as 10 percent.

Bob Smith, chairman of Noble Automotive Group, said it selected Enerpulse Pulse Plugs



after testing showed a 7.7 percent improvement in mpg and a 67.5 percent decrease in non-methane hydrocarbons (NMHC). "Combustion stability at idle and cold start also improved," explained Smith. "We are very excited to offer this value-added technology to our customers."

Lou Camilli, Enerpulse's, states, "Vision's SEERngv vehicles are a logical application of our technology because the results evidence PCI's operational benefits."

[www.enerpulse.com](http://www.enerpulse.com)

## M2 Renewables and SAIL Capital Partners Named to OC METRO'S 2012 Green Team

M2 Renewables is a SAIL II portfolio company.

Both M2 Renewables and SAIL Capital Partners made OC METRO'S 2012 Green Team, which recognizes the top twenty-five, Orange County based companies that lead the push to work, live and play in a more eco-friendly manner.

"Four years ago, when we published our first 'Green Team' issue, our objective

was simple: Recognize companies that change the way we think and act about being green, whether they develop innovative products and energy sources, or simply adjust their businesses to operate in a more sustainable manner," said OC METRO Publisher and Churm Media CEO Steve Churm.

This year's other honorees include Fisker Automotive, Pelican Hill Golf Club, McCarthy Builders, Safe Glow,

Cadiz Collaboration, Ocean Institute, Project 7, LOVE Reusable Bags, VYCON, Glumac, UCI, Deconstruction & ReUse Network, Cuipo, Golden State Foods, Phoenix Energy Technologies, Precision-Paragon [P2], ecoSolargy, City of Anaheim, Soka University, PsomasFMG, PERC Water Corp., Yokohama Tire Corp., and ima.

[www.m2renewables.com](http://www.m2renewables.com)

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### Thought of the Month—

*"Success is walking from failure to failure with no loss of enthusiasm."*

- **Winston Churchill**



## Xtreme Power Wins Alaska Wind Farm

Xtreme Power is a SAIL I & SAIL II portfolio company.

Xtreme Power, the venture backed developer of energy storage products, reported a big win in Alaska. The firm signed an agreement with the Kodiak Electric Association (KEA) to install 3 MW of its power storage products to support the Pillar Mountain Wind Project, a

utility-scale wind farm.

Xtreme Power's products will smooth out the intermittent nature of wind power, and address grid stability issues. Xtreme Power said it already installed 22 MW of its systems, with an additional 55 MW installation of systems by the end of this year. Venture capital firms

SAIL Capital Partners, Bessemer Venture Partners, The Dow Chemical Company, Fluor Corp., BP Alternative Energy, Dominion Resources, POSCO ICT, SkyLake & Co. and Spring Ventures, LLC backed the funding for Xtreme Power.

[www.xtremepower.com](http://www.xtremepower.com)

## California Leads the Nation in Solar and Cleantech

A new report confirms what most felt in their guts – *California is a leader in the solar and cleantech industry.*

Nonprofit group Next 10 released the fourth annual report on clean energy technology, which it compiled with Collaborative Economics. “We’ve been trying to ask the basic question of – can we grow the California economy and reduce greenhouse gas emissions at the same time,” said Doug Henton, CEO of Collaborative Economics. And the answer appears to be

“The report lays out the policy timeline and then asks what is the impact on the economy,” he said. The firm used several metrics to measure economic growth due to investment in clean energy improvements.

Among those measures, two stood out – the number of patents filed in California and the amount of venture capital investments in California cleantech companies. “The state surpasses all others on both fronts,” Henton said. “Patent filings allow us to see where innovation comes from,” he said.

Clean technology patent registration in California climbed 41 percent from 2005 to 2007 and from 2008 to 2010. The number of patent registrations for solar technologies doubled from 2009 to 2010—with 105 solar patents filed in the state.

The other major measure of clean technology activity is venture capital investment. Venture capital investment in California’s clean energy technology sector rose 24 percent year-over-year to \$3.5 billion in 2011. Venture

capital invested in solar accounted for \$1.2 billion of that and saw a 62 percent increase over 2010 figures. “Investors see value here,” Henton said. “The state made headlines this year with several large utility-scale projects breaking ground and under construction. The state also hit the 1 gigawatt of installed solar benchmark in 2011, which puts it in the same tier as some of the most solarized countries,” Henton said. *“I firmly believe that this data shows that it is possible to grow the economy and reduce greenhouse gas emissions at the same time,”* Henton said. “But there’s one condition – we need to do it through innovation.”



## Xtreme Power Quietly Builds Small-Scale Energy Storage

Xtreme Power is a SAIL I & SAIL II portfolio company.

In light of their large-scale power storage projects in Hawaii and Texas, Xtreme Power continues to gain attention for its battery technology. However, in addition to their large scale projects, this startup also makes strides with their small-scale projects, and it anticipates deployment of similar “community energy storage” units for utilities and commercial clients in the near future. Namely, Xtreme intends to supply batteries to projects aimed at bringing power to colonias (i.e. impoverished, rural settlements along the U.S.-Mexican border that often lack access to the grid).

Texas A&M University and the State Energy Conservation Office launched the microgrid project in 2008 to bring rooftop solar PV power to a group of dwellings in a colonia. The project also incorporated Xtreme’s small-scale batteries

to store intermittent renewable energy.

Carlos Coe, Founder of Xtreme Power, said that the solar-power-to-home microgrid concept could bear on a number of smaller-scale applications for his company’s technology -- both the batteries themselves, and the battery management systems.

“We work on a lot of projects that we don’t advertise,” he went on to say. For instance, Xtreme currently considers “community energy storage” (CES) applications, in which it places smaller-scale batteries in neighborhoods to smooth power flow, store off-peak power for use during peak hours and to help keep the lights on during power outages.

Generally grid energy storage is best suited for places with high power costs and difficulties integrating intermittent wind and solar power into the grid – like Hawaii – or in places where

batteries let utilities avoid building brand new transmission or distribution infrastructure.

Renewable power could also add a new set of calculations that make energy storage cost-effective. For instance, wind farms often turn to large-scale batteries, like Xtreme, to smooth out their up-and-down power generation.

On the distributed scale, smaller batteries in neighborhoods, or even individual houses, could help smooth the effect of on-again, off-again rooftop solar PV power being added to the one-way flow of grid power from central generators to end users. Coe noted that the falling cost of solar panels could open the market for “commercially viable small-scale systems that have very unique capabilities,” such as voltage regulation and backup power—both of which are hard to find from other technologies.

[www.xtremepower.com](http://www.xtremepower.com)



## SAIL Capital Partners: Top 5 Most Active VCs in Q1 2012

According to the Cleantech Group, investments in cleantech startups slightly dropped in the first quarter of 2012. Investors invested a total of \$1.81 billion of venture capital (VC) in 185 cleantech companies in the first quarter of this year.

While dollar amounts slightly fell, the number of deals made in the first quarter of 2012 increased from last quarter, and remained relatively the

same as compared to the first quarter of last year.

Despite difficult market conditions for the solar industry, solar companies still raised \$249 million in Q1 2012.

In addition, notwithstanding the slight decrease in VC investments, corporate investments (i.e. General Electric, Intel, ABB, etc.) still rose significantly in the first quarter of this year. Specifically, corporations seem

to like later stage investments and larger size deals.

Based on the number of disclosed deals, the top five most active VC firms for Q1 include SAIL Capital Partners as well as Draper Fisher Jurveston, Kleiner Perkins, Braemer Energy Ventures, and BASF Venture Capital.

[www.sailcapital.com](http://www.sailcapital.com)



**SAIL Capital Partners** ([www.sailcapital.com](http://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, Ice Energy, The Cleantech Group, Dow Kokam, Enerpulse, Activeion, SNTech, FlexEnergy, Paragon Airheater Technologies, M2 Renewables, Clean Technology Solutions, CNS Response and WaterHealth International. SAIL has offices in California, New York, New Orleans and Washington D.C. as well as a global network of investors and advisors.

**The 2012 California Green Innovation Index documents how clean technology investment and innovation help drive growth in California's overall economy. Six key findings of the 2012 Index include:**

- **1)** California leads the nation in clean tech patent registrations, filing 910 between 2008-2010.
- **2)** From 2009 to 2010, energy generation from renewable sources in California increased 11.2 percent to represent 13.7 percent of all energy generated in the state.
- **3)** California's wind generation capacity jumped by 44 percent from 2009 to 2010.
- **4)** For every dollar of GDP generated in 2009, California emitted 28 percent less carbon than in 1990.
- **5)** Due to energy efficiency efforts, per capita electricity consumption in California remains close to 1990 levels
- **6)** Each year the American Council for an Energy Efficient Economy (ACEEE) ranks each state in terms of its energy efficiency policies, programs, transportation policies, building energy codes, combined heat/power and appliance efficiency standards. In 2011, ACEEE ranked California number 1 (see below)

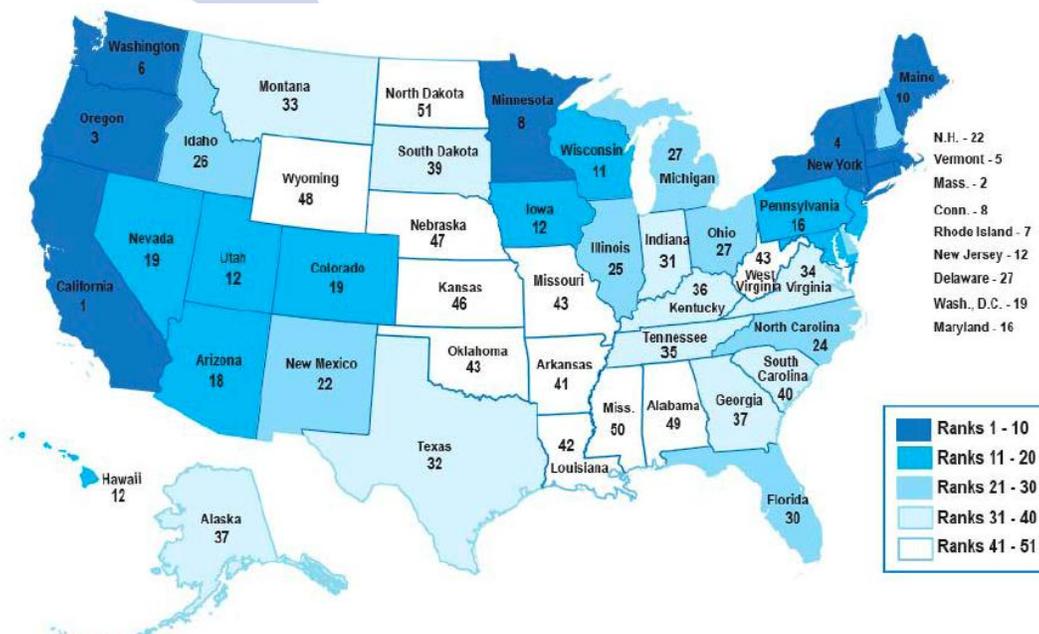


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**Sources:**

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- Greentech Media
- Market Wire
- The Cleantech Group
- Gigaom
- Texas Tech Pulse
- OC METRO
- Cornell University
- Next 10



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