

GREETINGS EVERYONE

At 21Ventures we are focusing our efforts in areas that we believe will provide the most value to our investors and to our portfolio companies.

We believe that distributed (decentralized) energy generation and efficiency will likely dominate the traditionally centralized energy generation sector. Distributed generation improves grid reliability, reduces energy costs and consumption, and minimizes financial risk. 21Ventures has most recently applied its distributed thesis beyond renewable energy generation and into agriculture. A distributed food system has similar corresponding benefits to distributed energy: it improves food security, and reduces fuel costs and consumption.

On another front, 21Ventures believes that the transition from internal combustion engines (ICE) to an all-electric vehicle will take longer than currently projected. The extended period in between will require the development of hybrid vehicles with significant energy storage capabilities. This will lead to opportunities for lead-acid and ultracapacitors to play a large role in both the transitional hybrid period as well as the all-electric future.

Finally, like all venture capitalists, 21Ventures seeks to invest in under-invested sectors. While numerous thin film manufacturing companies are out raising capital, considerably fewer companies in several other promising sectors are emerging. 21Ventures believes sectors such as building integrated photovoltaics (BIPV), concentrated photovoltaics and thermal (CPVT), piezoelectrics, and agricultural technologies are all under-invested segments of the clean-tech industry.

Regards,

David Anthony



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Axion has developed and patented a next generation energy storage device that won the prestigious Frost & Sullivan Technology Award for North America in the field of lead-acid batteries.

AXION POWER™ COMPLETES \$26 MILLION COMMON STOCK OFFERING

Axion Power International, Inc. (OTC Bulletin Board: AXPW), the developer of advanced lead-carbon PbC® batteries, today announced it has completed a private placement of an aggregate of 45,757,572 shares of its common stock to institutional and individual investors at a price of \$0.57 per share for total gross proceeds of \$26,081,490. Proceeds will be used to add needed electrode production lines and for working capital. The investors included Special Situations Funds, Manatuck Hill Partners and Narragansett Strategic Master Fund. In connection with the offering, the holders of the Company's outstanding 8% Cumulative Convertible Senior Preferred Stock converted their shares into an aggregate of 1,390,944 shares of common stock and the requisite holders of the Company's outstanding Series A Preferred Stock agreed to convert their shares into an aggregate of 8,785,483 promptly after the closing. In addition, The Quercus Trust, an existing investor in the Company, agreed to certain amendments to its existing agreements with the Company and agreed to certain transfer restrictions on its securities for a year after the closing.

The shares of common stock issued in the offering have not been registered under the Securities Act of 1933, as amended, or applicable state law and may not be offered or sold in the United States absent registration or an applicable exemption from registration requirements. The Company has agreed to register the shares issued for resale under applicable federal and state securities laws.

The placement agents for the offering were Dallas-based Stonegate Securities; King of Prussia PA-based Emerging Growth Equities; and Philadelphia-based The Philadelphia Brokerage.

Excerpted from [PR Newswire](#), 22 December 2009



Clean Power have developed a system they call CESAR which recovers heat which flows from the vehicles exhaust and exchanges it to provide energy to drive the refrigeration unit mounted on the truck.

BRITISH COMPANY LEADS DRIVE FOR CLEANER AND MORE EFFICIENT US REEFER TRUCKS

NEWHAVEN – ENGLAND - Clean Power Technologies, of Newhaven, East Sussex have impressed US based Cascade Sierra Solutions, a not for profit organization which specializes in the investigation and supply of cleaner technology to the trucking industry.

Clean Power have developed a system they call CESAR which recovers heat which flows from the vehicles exhaust and exchanges it to provide energy to drive the refrigeration unit mounted on the truck. The technology has other potential applications and the company works with likely users of the system to arrive at satisfactory solutions.

Engineer Joel Smith from Cascade was astonished when he saw the potential of the system. "When I first heard about the technology, he reportedly said, "this is crazy, there is absolutely no way it is going to work." Now he has returned to the States to consider the ramifications of introducing and developing the system.

Mike Burns, chief technology officer at Clean Power, explains, "We are currently trialing the system with Safeway in the US. We have fitted the system to a Freightliner Columbus C120 to take up the heat after it passes the particulate filter and Catalytic converter. We also have applied the technology to landfill systems which are designed and ready to commence operations in March. Our first vehicle based system we expect to commence operations in summer 2010.

"Many smaller US refrigerated trucks now use a process whereby a frozen gel is used on a slow release system to operate the cooling system. Our CESAR when fitted currently produces 17 Kw of three phase power, ample to use in such a system. We envisage the possibility that the use of this technology will give companies the potential to discard electrical components from trucks which, up to now have been essential, such as alternators or air conditioning compressors."

Any companies interested in investigating the potential of the system for road, marine or other use should contact Mike at mike@cleanpowertech.co.uk or via the [company's website](#).

Excerpted from Handy Shipping Guide, 13 October 2009



One proposed generator looks like a big, floating ball that rolls in the wind, a thousand feet off the ground. Another resembles a skeletal helicopter with four rotors and no pilot.

INVENTORS' HIGH-FLYING KITES HARNESS WIND POWER

Wind power generators, long anchored to the ground, are starting to take flight.

Driven by the need for more renewable power, inventors and entrepreneurs are testing ways to tap the strong winds high in the atmosphere, out of the reach of conventional wind turbines.

Some of the ideas seem outlandish, at least at first glance.

One proposed generator looks like a big, floating ball that rolls in the wind, a thousand feet off the ground. Another resembles a skeletal helicopter with four rotors and no pilot. Both would relay their electricity to Earth via cables, tethering them to a particular spot. Their inventors see in them the potential for a steady source of renewable power that could be used most anywhere.

Big bowling ball

The big, rolling ball goes by the name of Magenn Air Rotor System, or MARS for short.

Filled with helium, it's designed to float 1,000 feet in the air. Vanes on the surface catch the wind, turning the device around a horizontal axis like a bowling ball rolling down a lane. A Y-shaped tether links both ends of the axis to the ground.

The company that designed it, Magenn Power, views it as a way to power remote communities - such as villages in rural India - or perhaps mining operations in places without easy access to an electrical grid. Made of the same flexible material as airships, it would be far easier to ship than conventional wind turbines, said Tony Asterita, one of the company's founders.

MARS could be made in different sizes, depending on the need. Larger versions could generate as much as 1 megawatt in steady wind. A megawatt is roughly the amount of electricity used by 750 typical homes at any given instant.

MARS has one big environmental advantage over conventional wind turbines - it should be safe for birds and bats. Turbine blades have proven deadly to birds. But a big, soft ball shouldn't have that problem, Asterita said.

"If a bird for some reason does fly into us, he would just bounce off," he said.



INVENTORS' HIGH-FLYING KITES HARNESS WIND POWER



Looks like a helicopter

SkyWindPower's Flying Electric Generator avoids the bird problem by flying higher than most avian species go.

The device will hover 6,000 to 24,000 feet in the sky, said Len Shepard, the company's chief executive officer. If MARS resembles a balloon, the flying generator looks more like a helicopter. Four rotors at its tips lift the device into the air, then spin in the wind once the generator has reached its desired height. A tether carries power to the ground and helps keep the device in place.

That could be an issue for pilots, Shepard acknowledges. The generator, like many high-altitude wind devices, would probably need its own restricted airspace. But the rewards could be big. Larger versions of the device, he said, could generate up to 20 megawatts of electricity.

"I realize it's an inconvenience to fliers," Shepard said. "But there's a lot of land in the United States."

Excerpted from [San Francisco Chronicle](#), 6 November 2009



Perhaps the most unique aspect of the design is the use of an HIB modular wall system. HIB consists of recyclable wood blocks made from sustainable resources that stack together like LEGOs.

THREE NEW 'ECO-HOMES' WIN DESIGN CONTEST IN GREENSBURG

The town of Greensburg, Kansas was destroyed after a tornado ripped through their community in May of 2007, but it is not only coming back stronger than before, but much greener.

One project currently taking place in Greensburg is the Chain of Eco-Homes. When completed, 12 homes will serve as a "living laboratory" for unique environmental building. Two Eco-Homes already exist, Silo Eco-Home, equipped with a vegetable garden green roof, and Solar Eco-Home, the winner of the 2005 Solar Decathlon Competition and donation from the University of Colorado.

Greensburg GreenTown and FreeGreen.com invited designers and architects from all over to submit sustainable designs for the next three home plans in the Chain of Eco-Homes Design Competition. There were more than 230 entries submitted.

"This Chain of Eco-Homes contest is a great way to show how the concept of crowd sourcing can help advance green residential design. With over 439 participants in this contest, Greensburg, Kansas was able to gain access to the world's best green designers," said David Wax in a statement, FreeGreen's CEO and founder.





THREE NEW 'ECO-HOMES' WIN DESIGN CONTEST IN GREENSBURG

Steven Learner, Mike Stevens, and their team at New York-based Steven Learner Studio submitted the winning design, Meadowlark House. Their modern style home is 1450 square feet with three bedrooms and two baths. While their design will be featured as one of the houses in the Chain of Eco-Homes, the first place winners also receive the grand prize of \$10,000.

There are many environmental components to the Meadowlark House. Perhaps the most unique aspect of the design is the use of an HIB modular wall system. HIB consists of recyclable wood blocks made from sustainable resources that stack together like LEGOs. They provide a high level of insulation, reducing energy costs, and are designed to resist the forces of strong winds, and all without the use of any chemicals.

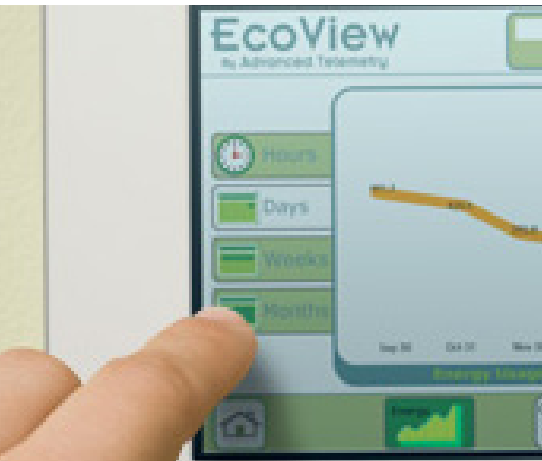
"The home is planned to be 50% more energy efficient than a typical code built home. We would like it to be net-zero energy, but are waiting to hear back from a number of renewable energy companies which we have solicited for donations on that," said David Andrew Goldman, Global Communications Director for Expansion Media.

"Our goal was to design a house to meet the needs of the people of Greensburg. We wanted to provide a sustainable, comfortable home that can be built quickly and affordably, with flexibility to accommodate many families' different needs," said first place winner, Steven Learner.

The winning design is estimated to cost "\$154,000 to \$200,000 without Renewable Energy Systems (i.e. with the home saving 50% vs. a typical code built home)," said Goldman.

Construction for all three houses is planned to begin early next month.

Excerpted from [Green Right Now](#), 29 October 2009



Microsoft's Windows Azure team chose Advanced Telemetry among its select case study group to demonstrate how industry-leading companies utilizing the technology are realizing a myriad of benefits around agility, efficiency, focus and simplicity.

MICROSOFT SELECTS ADVANCED TELEMETRY'S 'ECOVIEW' ENERGY EFFICIENCY SYSTEM TO SHOWCASE REAL-WORLD BENEFITS OF THE WINDOWS AZURE PLATFORM

Advanced Telemetry's 'EcoView' energy management solution among a select group of best-of-breed applications chosen by Microsoft to demonstrate quantifiable benefits of the Windows Azure(TM) platform

Advanced Telemetry developer of the EcoView(TM) smart energy and resource efficiency system, today announced it has been selected by Microsoft® to illustrate representative benefits of the Windows Azure(TM) platform in a real-world energy conservation application. Microsoft's Windows Azure team chose Advanced Telemetry among its select case study group to demonstrate how industry-leading companies utilizing the technology are realizing a myriad of benefits around agility, efficiency, focus and simplicity.

Among other benefits, Microsoft's EcoView-specific Windows Azure platform case study reveals how, since migrating over to the cloud-based application platform, Advanced Telemetry has realized increased system efficiencies, ease-of-use, data analysis capabilities, quantifiable business cost reductions, competitive advantages, and new revenue generation opportunities. It also details how Windows Azure is providing better, more scalable support for Advanced Telemetry's sustained growth.

"We're honored the Windows Azure Team selected us to be part of its coveted case study group," said Gus Ezcurra, CEO of Advanced Telemetry. "As the industry's most effective and economical energy efficiency solution for small to mid-size businesses, and with our value proposition and business model well proven, Microsoft's investment of its own time and resources to outline and promote our technology-driven successes is yet more welcome validation."

"With the Windows Azure platform, we're focused on delivering a cloud services platform that provides partners like Advanced Telemetry with the ability to build and manage highly scalable Web applications and services like the EcoView," said Doug Hauger, general manager of Windows Azure at Microsoft Corp. "By utilizing the Windows Azure platform, this real-world energy conservation application is able to improve efficiencies and easily scale to meet demand."



**MICROSOFT SELECTS ADVANCED
TELEMETRY'S 'ECOVIEW' ENERGY
EFFICIENCY SYSTEM TO SHOWCASE
REAL-WORLD BENEFITS OF THE
WINDOWS AZURE PLATFORM**



"Rapidly escalating demand for our EcoView solution fueled our need for an easy and cost-effective way to ramp up our computing architecture without having to purchase and manage a lot of extra hardware, invest in training and suffer through an extended learning curve," notes Tom Naylor, Advanced Telemetry's CTO. "Moving our hosted Web application and data storage to the Windows Azure platform not only enhanced our system's functionality and scalability, but also allowed our developers to use existing programming skills and experience with Microsoft development tools, furthering our cost savings and minimizing opportunity loss." "We considered competing cloud services providers, but felt that Microsoft was the best bet," continues Naylor. "It's a big move putting our systems and data in someone else's hands, but Microsoft has proven dependable. Indeed, with Windows Azure, our company has quickly achieved what, even just a year ago, would have taken more people, more money, and a lot more time, and we can also rest assured the platform will continue to be supported and enhanced by Microsoft over the long term."

Excerpted from [press release](#), 17 November 2009



Perhaps the most unique aspect of the design is the use of an HIB modular wall system. HIB consists of recyclable wood blocks made from sustainable resources that stack together like LEGOs.

APPLIED SOLAR LAUNCHED AS A WHOLLY OWNED QT COMPANY FOLLOWING EMERGENCE FROM BANKRUPTCY.

In October of 2009, Applied Solar emerged from bankruptcy as a private company that is now wholly owned by the Quercus Trust. This follows almost a year of major restructuring that has seen the company shed manufacturing assets and transform itself into a licensor of intellectual property (IP) for Building Integrated Photovoltaic (BIPV) roofing products. The company has also shed its public ownership structure, the complexity of which made it almost impossible to raise working capital throughout 2009. The transformation into a wholly-owned Quercus Trust company comes as a result of QT's successful bid to acquire substantially all of the assets of predecessor company that had filed a chapter 11 bankruptcy restructuring in July of 2009.

Applied Solar's business is focused on developing BIPV products for both residential and commercial building rooftops. The company originally manufactured these products in facilities in Toronto, Canada and northern California. Eventually, the company migrated away from a direct manufacturing platform, and towards a contract manufacturing operation in a bid





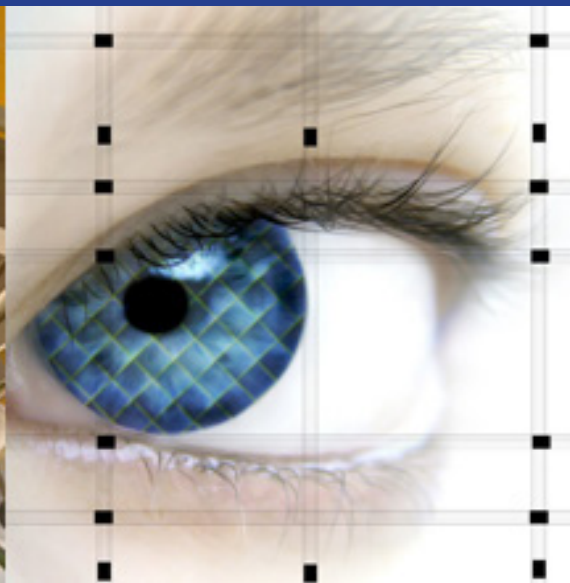
APPLIED SOLAR LAUNCHED AS A WHOLLY OWNED QT COMPANY FOLLOWING EMERGENCE FROM BANKRUPTCY.

to further reduce product manufacturing costs. In early 2009, and as a result of the continued working capital constraints and product warranty commitments, the company further migrated towards a licensing model, through the execution of two separate BIPV product licensing agreements with Suntech Power, the largest solar module manufacturer in the world. This model has proven very successful and has allowed the company to focus its efforts on further developing industry leading BIPV products and to develop additional strategic partnerships within the industry. Becoming a privately held, Quercus Trust company has further enhanced Applied Solar's ability to negotiate additional licensing agreements within the solar industry.

Another key advantage resulting from the bankruptcy restructuring and subsequent purchase of the original Applied Solar assets by the Quercus Trust, has been management's ability to launch another new business in conjunction with both the Quercus Trust and other strategic partners of Applied Solar. More specifically, this month will see the formal launch of OneRoof Energy, Inc., which is providing a proprietary sales platform and residential solar lease financing vehicle specifically for the roofing and building industry, thus enabling an entirely new solar distribution channel. The company further leverages the BIPV products licensed by Applied Solar, manufactured by Suntech Power and further distributed by Eagle Roofing, the largest residential concrete tile manufacturer in North America, and builds upon management's success track record in driving BIPV products through the roofing channel. In addition to the Quercus Trust, other participants in OneRoof Energy include Suntech Power, Eagle Roofing and Tritec Energy, one of the largest solar distributors and integrators in Europe.

In summary, while the process of restructuring Applied Solar has been a challenge on a number of fronts, the ability to operate as a privately held, Quercus Trust company has significantly enhanced the business prospects for the company and its strategic partners. In the course of doing so, new products and business opportunities are already beginning to materialize, many of which would not have been possible as a result of the prior company's ownership structure and limited access to capital.

Written by David Field, CEO 31 December 2009



We invite your inquiries regarding 21Ventures and opportunities for seed and early stage venture capital investment.

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Wind

Magenn Power Inc.
Sky WindPower Corp
TechnoSpin Inc.
Variable Wind Solutions, Ltd.

Storage

Axion Power International, Inc.
Firefly Energy, Inc.
Graphene Energy, Inc.
H2Scan, Corporation
Gravity Power, LLC
Safe Hydrogen LLC

Agriculture

AeroFarms
Promethean Power Systems

Solar

3GSolar, Ltd.
Applied Solar, Inc.
Entech Solar, Inc.
GreenRay Inc.
Lightwave Power, LLC
Solar Enertech Corp.

Water

Advanced Hydro Inc.
AirDye® Solutions, Inc.
BioPetroClean, Inc.
ThermoEnergy Corporation

Efficiency

Advanced Telemetry, LLC
Babcock-Thermo Carbon Capture LLC
BlueFire Ethanol Fuels, Inc.
Clean Power Technologies, Inc.
Energy Focus, Inc.
ETV Motors Ltd.
FreeGreen Inc.
Glacier Bay, Inc.
ReGen Power Systems, Inc.
TBT Group, Inc.

Other

Agent Video Intelligence, Ltd.
BioNanoMatrix, Inc
Cell2Bet, Ltd.
CogniSafe, Ltd.
Command Speech, Ltd.
Expansion Media, LLC
FinAnalytica, Inc.
IQinVision, Inc.
Micrologic Design Automation, Inc.
SonicLynx, Ltd.
VoIPLogic, LLC