

## FlexEnergy Acquires Division of Ingersoll Rand

*IR's Energy Systems Division Unites with FlexEnergy Powerstation*

**FlexEnergy is a SAIL II portfolio company**

FlexEnergy announces the completion of the acquisition of the Energy Systems business of Ingersoll Rand. The Energy Systems business is headquartered in Portsmouth, New Hampshire and is an innovator in environmentally friendly microturbines, microturbine systems and recuperators. FlexEnergy now has operations in New Hampshire, North Carolina and California, with customers and installations worldwide.

"The acquisition of Energy Systems allows FlexEnergy to accelerate our rollout of Flex Powerstations

domestically and abroad by bringing to our team the talented engineering and manufacturing professionals of Energy Systems," says Joseph Perry, CEO of FlexEnergy.

FlexEnergy recently unveiled its innovative Flex Powerstation technology at the Lamb Canyon Landfill in Riverside County which transforms harmful and previously unusable methane gas into clean energy with near-zero emissions.

With the acquisition of the Energy Systems MT250 microturbine product line, FlexEnergy now offers a family of systems that operate on the widest source of fuels with the lowest emission profile in the industry. FlexEnergy systems



unlock the entire low Btu gas market creating a new class of continuous, clean, renewable energy.

Bob Mack, vice president of business development for Ingersoll Rand will join the FlexEnergy Board of Directors to assist the new company as a strategic partner. "The combination of FlexEnergy technology with Energy Systems business assets provides an enhanced family of systems for low emission power generation," said Mack.

## Xtreme Power to Manage Solar Farm

**Xtreme is a SAIL I & II portfolio company**

The Kauai Island Utility Cooperative (KIUC) announced Thursday it will install a 1.5-megawatt utility-scale storage battery for its Koloa substation.

The battery storage unit made by Xtreme Power will be used to store and release energy to accommodate the intermittent nature of a nearby solar plant

planned for installation on the island of Kauai.

The 3-megawatt Kauai solar plant, which will be built and run by Poipu Solar, will be capable of generating enough electricity to power over 850 Hawaiian homes when running at full capacity.

The solar installation coincides with Hawaii's goal to be generating 70 percent of all its energy used for

electricity and ground transport from renewable resources by 2030. But on overcast days or during the night, that electricity flow from the solar plant will fluctuate.

Xtreme Power's Dynamic Power Resource utility battery storage system will be used to regulate that ebb and flow of electricity between the solar power plant and the Koloa electricity grid.

### Inside this Issue:

- Rutgers University Starts the New Year Chemical-Free 2
- California Looks for Energy Storage 2
- Dow Kokam Displays at North American Auto Show 3
- Carrier Partners to Bring "Ice-Ready" Air Conditioning 3
- SAIL Updates 4



### News Briefs:

- Clean Technology Solutions announces first sale of ActiveLED systems in Latin America (Jan 2010)
- Hank Habicht re-elected to the World Environment Center Board of Directors (Dec 2010)



## Rutgers University Starts the New Year Chemical-Free

Activeion is a SAIL II portfolio company

There's a new tough guy to clean up messes at Rutgers University: The Ionator.

The Ionator – actually an army of Ionators – is rapidly becoming ubiquitous as the university's facilities maintenance staff attacks a host of dirty jobs on the New Jersey campuses, says Dianne Gravatt, director, Environmental Services and Grounds.

These lightweight, hand-held cleaning machines employ a self-contained battery pack which turns ordinary tap water into a powerful cleaning and sanitizing agent that is also environmentally friendly.

The ionized mist-makers are created from recycled plastic, and they are totally recyclable at the end of their

useful lives, Gravatt said. "The power of electrically-charged water, and not a chemical mixture, does the cleaning," she added. "Their use will enhance Rutgers' reputation as a green university."

BioShine, a vendor from N.J., initially approached Gravatt about one-and-a half years ago about the product and arranged for the manufacturer, Activeion Cleaning Solutions, to provide demos to use in recreation and student centers. When the Ionators became EPA-registered early last year (2009) with a bacterial kill rate of 99.9 percent, Gravatt said, "That's when we made our initial purchase."

Rutgers originally bought 60 Ionators for use in student and fitness centers, and a few other buildings, including

President Richard L. McCormick's house. "These units replace our dependence on germicides and other chemicals for cleaning most surfaces," Gravatt said. "Unlike many cleaning products, workers using Ionators don't have to worry if they accidentally spray their skin or get some cleaner in their eyes, since water is the active ingredient."

Gravatt's goal is to purchase about 200 more sprayers, one for each custodial worker in her department. "Facilities spends about \$60,000 a year on chemical cleaners and we anticipate more than a 50 percent savings over time," she said. "We think the savings can be applied toward additional Ionators as we eliminate the need for chemical germicides and other all-purpose chemical cleaners for stainless steel, windows and white boards."

## California Looks for Energy Storage

The California Independent System Operator Corporation (ISO) Board of Governors waved the starting flag this month to enable new types of storage resources, such as batteries and flywheels, to provide reserves for the power grid. The resources offer flexibility and fast on/off capabilities that are expected to provide significant operational benefits.

The ISO calls the new service "regulation energy management" and believes it will open up opportunities for storage as well as demand response to become a larger participant in the ancillary services market that

makes up ISO operating reserves. Both demand response and storage are emerging quickly as key components in integrating wind and solar output that can fluctuate depending upon weather conditions.

"The integration of renewable resources introduces new requirements to reliably manage the grid," said ISO President and CEO Yakout Mansour. "Our Five-Year Strategic Plan points out that storage technologies bring unique operational solutions to grid management as a tool for helping balance renewables on the system. We are ready to gain valuable operational

experience with this potentially versatile resource."

An estimated 5-10 megawatts of storage is expected to begin bidding into the ISO market once the Federal Energy Regulatory Commission approves the required tariff changes and software modifications are made. The ISO will be closely monitoring the performance of these new technologies and adapt market rules as necessary to maximize the benefits they provide.



## Dow Kokam Displays at North American Auto Show

Dow Kokam is a SAIL I & II portfolio company

The 2011 North American International Auto Show in Detroit is showcasing a Midland company as a main player for the future of alternative energy in Michigan.

Dow Kokam, which manufactures lithium-ion battery solutions for plug-in hybrid and electric vehicles, is exhibiting with the Michigan Economic Development Corp. at the 23rd annual auto show at Cobo Center.

"The need for electrification, and the opportunity for electrification of transportation is going to be very attractive for everybody in the industry, including

Dow Kokam," said Chuck Reardon, Dow Kokam commercial vice president. "It's clearly a key market."

Dow Kokam is with 11 other Michigan companies highlighting the latest in environmental. The showcase is called "MEDC Town Square."

The display features an interactive display about Dow Kokam and its products.

"We really feel like we are one of the few battery suppliers out there that can go from cells all the way through packs, and expertise there, into vehicle integration," Reardon said. "Really being a full solutions provider to the industry is one of the things we want to highlight here at

the show."

Dow Kokam, which is currently building a \$320 million advanced battery facility in Midland, is the only company from the Great Lakes Bay Region to be showcasing at the auto show with the MEDC.

Dow Kokam — established in 2009 — is a joint venture of Midland-based Dow Chemical Co. and Townsend Kokam LLC of South Korea.

Last year, Dow Chemical sponsored a 37,000-square-foot "Electric Avenue" exhibit at the auto show. The avenue showcased electric vehicles from a variety of companies, including Nissan, CT&T and Commuter Cars.



## Carrier Partners to Provide "Ice-Ready" Air Conditioning

Ice Energy is a SAIL I & II portfolio company

Ice Energy announced this month a strategic partnership with Carrier Corp., the world's leader in high technology heating, air-conditioning and refrigeration solutions, to develop and deliver an integrated hybrid cooling and energy storage solution for commercial customers.

This unique hybrid cooling solution, which pairs Carrier commercial packaged HVAC systems with Ice Energy's distributed thermal energy storage technology on small to mid-sized commercial buildings, enables a powerful change in how — and more importantly when — energy is consumed for air conditioning (AC), significantly reducing a building's daytime energy demand.

Under terms of the agreement, select Carrier WeatherMaker® and WeatherMaster® rooftop models, ranging from 4-20 tons, will be shipped "Ice-Ready" from the Carrier factory for seamless integration and optimal performance with Ice Energy's Ice Bear energy storage systems. In addition, Carrier will work as a preferred provider with Ice Energy to offer new, high-efficiency AC units to Ice Energy customers seeking to replace or upgrade their existing systems in conjunction with an energy storage installation.

The Ice system works seamlessly with the Ice-Ready™ Carrier AC units to dispatch the stored energy by circulating chilled refrigerant from the tank to the Carrier

units, dramatically reducing the amount of electricity required on peak. During off-peak hours, the Carrier system operates as usual. Daytime energy demand from air conditioning — typically 40-50% of an average commercial building's electricity use during peak hours — can be reduced by as much as 95%.

"By leveraging the benefits of more cost-effective nighttime power generation, storing energy directly at the point of consumption on individual buildings, and delivering it when it is needed most, this innovative hybrid solution from Ice Energy paired with Carrier rooftop units makes it possible to use off-peak power to meet daytime air conditioning demand. It's a win from every perspective," said Greg Alcorn, Carrier vice president of sales and marketing.





**SAIL Venture Partners** ([www.sailvc.com](http://www.sailvc.com)) is a leading cleantech venture capital firm with a global vision of technologies, markets and opportunities. We invest in cleantech companies with proven technologies, visionary leadership and exciting growth potential. We have invested in a number of today's leading cleantech companies including: The Cleantech Group, Xtreme Power, Ice Energy, Dow Kokam, Enerpulse, Activeion, SNTech, FlexEnergy, Paragon Airheater Technologies, M2 Renewables and WaterHealth International. SAIL has offices in California, New York, and Washington D.C. and a global network of investors and advisors.

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- PRNewswire
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- Forbes
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- Greentech Media
- Bloomberg
- Bloomberg Businessweek

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**Speaking of SAIL**

**Feb 23 - Irvine, CA**

**Alan Sellers** will be speaking at the UCI Alliance of Business Students roundtable. His talk will focus on venture capital and the skills needed to succeed.

**Feb 15 - Los Angeles, CA**

**Hank Habicht** will be addressing the Global Action Forum at the Beverly Hills Hilton on water in emerging markets.

**Feb 15 - San Jose, CA**

**Dave Jones** will be a panelist at Water Tech Week 2011. His panel will focus on "what it takes to get a water deal done."

**Feb 10 - Irvine, CA**

**Mike Hammons** will be the

key note speaker at the UCI Merage School of Business's Speaker Series. He will focus on the investment strategy of SAIL and to access venture capital.

**Feb 2 - New Orleans, LA**

**Walter Schindler** will be the key note speaker at the Tulane Freeman School of Business 's Speaker Series. He will talk on venture capital and the status of the cleantech industry.

**Feb 2 - Washington, DC**

**Hank Habicht** will be addressing the opening session of the winter meeting of the National Association of Government Energy Officials (NASGO).

**Jan 27 - La Verne, CA**

**Mike Hammons** was a speaker at the Metropolitan Water District of Southern California's Water Technology Conference. He discussed opportunities for utilities in the water and wastewater space.

**Jan 20-21 - Austin, TX**

**Walter Schindler** was a panelist at the OPAL Energy Investment Forum. His panel focused on the future of smart grid and energy storage.

**Jan 12-14 - Scottsdale, AZ**

**Walter Schindler** was a panelist at the OPAL Public Funds Summit. He discussed the Venture Capital space and opportunities that exist for investment.