



- Clean Energy Technologies
- Using Clean Energy
- Business Resources
- Research & Development
- Programs & Incentives
- Find
- News & Events

SAVE
THE
DATE

MARYLAND
CLEAN ENERGY
SUMMIT 2012
SEPTEMBER 17-19, 2012
BWI AIRPORT MARRIOTT



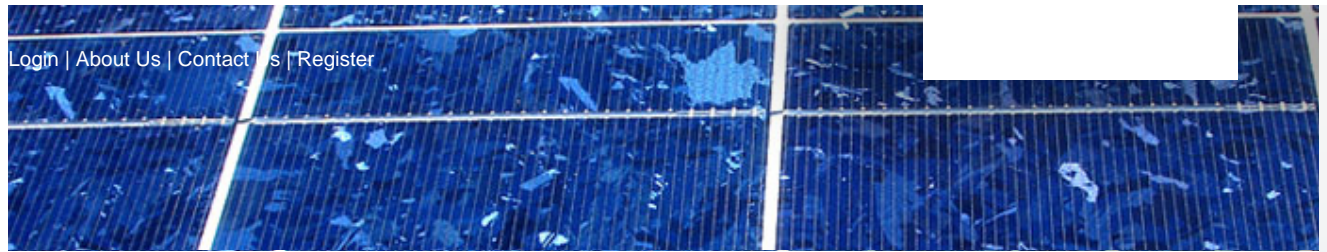
support
clean energy programs in MD.
[Learn more »](#)



subscribe
to our eNewsletter.
[Learn more »](#)



register
your company.
[Learn more »](#)



[Login](#) | [About Us](#) | [Contact Us](#) | [Register](#)

The Current - September 2011

Articles In This Issue:

- [Deputy Under Secretary of Defense to deliver keynote speech at Maryland Clean Energy Summit](#)
- [Maryland Clean Energy Summit 2011 features expert discussion, consumer information, Oct. 27-29](#)
- [Nutrient trading market triggers 3.25 megawatt clean energy development](#)
- [Disruptive technology could boost production, finances of wind turbines](#)
- [Wall Street troubles fuel bull market for clean energy investments](#)
- [MCEC forming 2012 Advisory Board](#)
- [GM predicts above-average EV sales in Maryland](#)
- [Clean energy trade show offers hands-on education to consumers](#)
- [MDV-SEIA solar and renewable energy conference slated for Nov. 17-18](#)

Deputy Under Secretary of Defense to deliver keynote speech at Maryland Clean Energy Summit



Dorothy Robyn – Deputy Under Secretary of Defense for Installations and Environment, a former Principal of The Brattle Group and a former Special Assistant to the President for Economic Policy – will deliver the keynote address at the Maryland Clean Energy Summit, October 28 at the Hilton Inner Harbor, Baltimore.

As a Deputy Under Secretary of Defense, Dr. Robyn provides management and oversight of

military installations worldwide which cover 28 million acres and include 539,000 buildings and structures valued at more than \$800 billion. Her other responsibilities include installation energy programs, integration of environmental needs into the weapons acquisition process, environment restoration on military bases, conservation of natural resources, and pollution prevention.

Before her appointment to the Department of Defense, Dr. Robyn was a Principal with The Brattle Group, an economic consulting firm that specializes in competition and antitrust, energy and the environment.

From 1993 to 2001, Dr. Robyn served as Special Assistant to the President for Economic Policy and a senior staff member of the White House National Economic Council.

Dr. Robyn has also served as a Guest Scholar at the Brookings Institute, an assistant professor at Harvard's Kennedy School of Government, and a staff member for the Joint Economic Committee of Congress and the congressional Office of Technology.

[BACK TO THE TOP](#)

Discount registration expires soon

Maryland Clean Energy Summit 2011 features expert discussion, consumer information, Oct. 27-29



Maryland is building a cleaner energy future, and the [Maryland Clean Energy Summit 2011](#) will offer strategic insight on this emerging economic engine.

Whether your role is in research and development, financing and marketing, deployment of

new technologies or personal adoption of renewable energy and energy efficiency systems, this year's Summit will deliver insights and benefits to you.

Set for October 27-29 at the [Hilton Inner Harbor](#) in Baltimore, the summit is sponsored by the Maryland Clean Energy Center.

Join us **Friday, October 28** for an expert, thought-provoking examination of Maryland's clean energy economy. Topics on the agenda include:

- Removing Financial Roadblocks to Clean Energy Developments;
- Discovering Transformative Technologies;
- The Solar Solution;
- Impacting Energy Efficiency with Smart Grid Solutions;
- The Electric Vehicle Evolution;
- Growing Business by Building the Energy Efficiency Industry;
- and Fuels of the Future.

Then on Saturday, October 29, we open up the summit to the public for free. The day's events are specially designed to serve consumers, homeowners and green job seekers. Seminar topics will include:

- Affordable Biomass Heating;
- Smart Grid, Smart Savings;
- Solar Hot Water;
- The Power to Choose your electrical supply; and
- Getting into Geothermal.

Then on **Saturday, October 29**, we open up the summit to the public for free. The day's events are specially designed to serve consumers, homeowners and green job seekers. Seminar topics will include:

- Affordable Biomass Heating;
- Smart Grid, Smart Savings;

- Solar Hot Water;
- The Power to Choose your electrical supply; and
- Getting into Geothermal.

The Maryland Clean Energy Summit 2011 will also feature an expanded clean energy and energy efficiency trade show. If your company has a product or service that is of interest to clean energy stakeholders, exhibiting at the Summit is for you. It's your best opportunity for direct access to key decision makers in energy technology and jobs. The Summit offers you the opportunity to make a highly effective sales call to the clean energy market in Maryland. For more information about exhibiting at the trade show, contact Ellen Clarke at 301-738-6280 or email info@mdcleanenergy.org

[Register today](#) to sponsor, exhibit and attend the 2011 Summit at preferred rates. A discount registration rate is available through October 7th. The final registration date is October 21st. For more information, please go to www.mcecs Summit.org or call 301-738-6280.

The Hilton is also offering a special group rate in association with the Summit. To book a room, please e-mail [melanie.davis @hilton.com](mailto:melanie.davis@hilton.com).

We look forward to seeing you starting on Thursday night for the opening reception, all day Friday and then at the consumer events on Saturday.

[BACK TO THE TOP](#)

Nutrient trading market triggers 3.25 megawatt clean energy development

A flock of 5 million chickens is poised to show how a nutrient trading market can spur clean energy development and environmental restoration.



The planned Gettysburg Energy and Nutrient Recovery Facility. Image compliments of EnergyWorks Group.

Annapolis-based [EnergyWorks Group](#) is preparing to begin construction this autumn of its \$30-million Gettysburg Energy and Nutrient Recovery Facility (ENRF). Working in partnership with Hillandale Farms, EnergyWorks has engineered a gasification plant that converts chicken manure into clean energy and mineral byproducts.

Operating at sub-atmospheric pressures, the closed-system facility is designed to process the 240 tons of manure that is generated daily by 5 million egg-laying chickens. The processing would eliminate more than 34,000 tons of CO₂ equivalent greenhouse gases annually, reduce manure storage by 97 percent, eliminate manure application on 23,000 acres of land, and achieve 3.5 percent and 4.4 percent, respectively, of Pennsylvania's 2025 goals for reducing nitrogen and phosphorous loading to the Chesapeake Bay.

Meanwhile, the ENRF's steam turbine would generate 3.25 megawatts of electricity and the plant would generate 35-40 tons of mineral byproducts daily that are suitable for livestock feed supplements.

Financially, the ENRF would be sustained by three revenue streams. Sales of roughly one-third of all electricity generated would amount to about 20 percent of the facility's income. The remaining electricity would be used to power both the ENRF and the farm. Meanwhile, sales of the mineral byproducts could fetch better than \$200 per ton and account for nearly 40 percent of the facility's revenue.

"However, potentially the most important revenue stream is nutrient trading," said Patrick Thompson, President and Chief Executive Officer of EnergyWorks Group.

Pennsylvania officials, he said, have dubbed the Gettysburg ENRF the state's "first million-pound project." The facility is expected to prevent a million pounds of phosphorous from entering the Chesapeake Bay each year, qualifying it for 1 million phosphorous credits on the state's nascent nutrient trading market. (In total, the facility will stop 5 million pounds of phosphorous from entering the environment.) The ENRF is also expected to prevent 50,000 pounds of nitrogen from entering the bay, qualifying it for 50,000 nitrogen trading credits on the Pennsylvania's market.

State officials, Thompson said, "stuck their necks way out, got way in front of other states and had some pot shots taken at them for being so aggressive about starting their nutrient trading system."

That aggressive approach, however, is helping Pennsylvania make strides in achieving environmental goals, generating vital funding for environmental and clean energy developments, and producing green economy jobs in the state, he said. The Gettysburg ENRF which is sourcing much of its equipment from Pennsylvania manufacturers, is expected to create 350-400 jobs.

Thompson reasons that all states in the Chesapeake Bay watershed could trigger substantial environmental improvements and vigorous growth in the environmental and clean energy sectors if they formed a regional nutrient trading market.

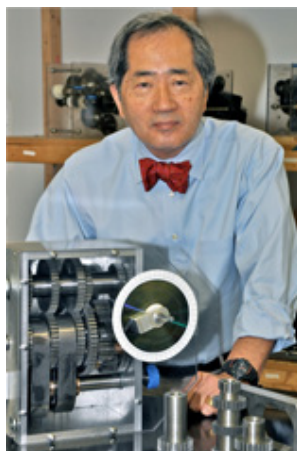
"It would be huge. It would add the kind of certainty that developers and investors look for," he said. When it comes to cleaning up the Chesapeake Bay and generating more clean energy, "the problem is not technology. The problem is not even money to invest in these projects. The real problem is people keep looking for market-based solutions. Well, the funny thing about market-based solutions is you have to have a market."

Thompson will join other industry experts for a panel discussion on "Clean Energy, Cleaner Environment: Using Carbon and Nutrient Markets" during the 2011 Maryland Clean Energy Summit, Oct. 28 at the Hilton Inner Harbor in Baltimore. Thompson along with Stephen Pattison of Greenhorne & O'Mara, John Palmisano of LGE Fund, Brian McFarland of the Carbon Fund Foundation, and George "Tad" Aburn of Maryland's Department of Environment

will examine the implications of tradable environmental assets to advance clean energy. They will discuss the status of RGGI, the implementation of Maryland's Climate Action Plan, and how carbon and nutrient trading could advance the clean energy sector.

[BACK TO THE TOP](#)

Disruptive technology could boost production, finances of wind turbines



Key Han shows the newest version of his IVMC technology. Photo compliments of DDMotion.

In his laboratory in Owings Mills, Key Han is refining "disruptive technology" that he believes could boost energy production from wind turbines by 15 percent, reduce turbine downtime by 26 percent and increase annual revenues by \$50,000 for each 1.5 megawatt turbine.

Han, the founder of [DDMotion](#) (Differential Dynamics Corporation), got the idea for his technology while he was a junior – and bored – mechanical engineer at General Electric. He decided that his dream technology project was to develop an all-mechanical device that would convert variable input, such as the varying energy generated by a wind turbine, into a constant output, such as steady energy flow required on the grid.

Six years after launching DDMotion, Han has developed an all-mechanical, green technology called the Infinitely Variable Motion Control (IVMC) speed converter. The company has landed TEDCO, MIPS and U.S. Department of the Army grants to verify that IVMC improves the performance and economics of power systems, which could include wind turbines, hydro/tidal power generators, air conditioning compressors, and land-based, seafaring and airborne

vehicles.

The IVMC offers striking benefits for wind power facilities, said Steve Kaiser, a business partner in DDMotion. The company's converters which are expected to cost about \$28,000 less than the \$247,000 electronic power converters currently on the market, are able to capture energy created by wind speeds that are too low or too high for current technology to harness.

The technology can also lower maintenance costs and downtime of wind turbines.

The electronics in converters which are currently on the market, can be "fragile. They heat up and they burn out. They average 26 percent total failure rate and they have a life expectancy of only two years," Kaiser said. "Picture a wind farm in Western Maryland where you have 100 towers on top of a mountain. They would have to go out there and replace the power converters in each of those towers every two years. That is relatively expensive to do and the whole time the tower is down, it is not generating energy."

DDMotion – which is affiliated with the Clean Energy Technology Incubator operated by the Maryland Clean Energy Center and bwtech at the University of Maryland Baltimore County (UMBC) – is currently working with UMBC staff to generate third-party validation of DDMotion's findings about its technology.

Meanwhile, the company which recently landed a U.S. Army Transmission grant, is also generating research to show that "our transmission can be applied to trucks and tanks and all the Army's heavy vehicles," Han said.

"The reason the Army is interested is if you have a Bradley tank or personnel carrier in the field, in very harsh conditions, their hydraulics are very complicated and likely to break down. You don't want to break down in the middle of the desert with a bunch of Afghans around waiting to attack you," Kaiser said. "With DDMotion's system, because it is all gears and cams, it is much less likely to break down. It is smaller, it is lighter weight and it is much easier to maintain, so we're not just improving the efficiency of the vehicle, we are making it more reliable and therefore cheaper and safer."

DDMotion which has grown on investment by family, friends, angel investors and the state of Maryland to date, is aiming to raise \$1.5 million investment over the next two years and, in partnership with a major manufacturer, begin producing prototypes in 2013.

[BACK TO THE TOP](#)

Wall Street troubles fuel bull market for clean energy investments

Turbulence on Wall Street and zero-interest federal loans are enticing more investors to funnel their money into clean energy developments. Maryland, however, may need to alter some energy policies in order to capitalize on the bull market.



Timothy Kemper, Chair of the Reznick Group's Energy Practice

That's according to Timothy Kemper, a managing principal with the Reznick Group and chair of the firm's Renewable Energy Practice. Kemper's practice recently handled the financing of the 50 mega watt wind power development in Roth Rock, Maryland.

"Overall, the investment market for clean energy developments is very, very, very bullish right now. We have seen a significant ramp up in investment dollars," Kemper said. "Every investor is searching for yield. We recently heard that the United States is going to keep zero percent interest through 2013, so there is no yield for investors there. If you invest in stocks, you deal with the gyrations of the market, which has

just been crazy lately. Because of what has been happening with markets around the world, investors are searching for predictable yield."

More investors in the American market have begun to recognize that clean energy developments – especially solar power installations – generate predictable, consistent and fairly healthy profits, Kemper said. Cash investors in both utility-scale and distributed solar projects are realizing they can achieve 8-10 percent unleveraged, after-tax return over a 20-year period while tax equity investors are looking at consistent returns of 15 percent or greater, he said.

"With predictable investments, at least you can sleep at night," he said, adding that growing numbers of European investors are also beginning to put money into American clean energy developments.

Differing Renewable Portfolio Standards and Renewable Energy Credit (REC) systems, however, have made some states more attractive than others to clean energy investors. Massachusetts, California, Arizona and, until recently, New Jersey have attracted huge clean energy investment funds due to their high and reliable REC prices, he said.

As a market for clean energy investment, "Maryland is tepid right now just because of the REC issue," Kemper said.

Specifically, the absence of long-term REC-purchase agreements is dampening investor interest, he said.

"When you do a one-, two- or three-year contract, you can't get long-term financing. Lenders don't want to take much risk with renewable energy certificates," he said. "If Maryland improved their RECs, clearly you would see the investment dollars go up very dramatically."

The [Maryland Clean Energy Summit](#) – slated for October 27-29 at the Hilton Inner Harbor in Baltimore – will feature a panel discussion on removing financial roadblocks to clean energy investment. [Jim Hayden](#), Partner with BDO Accountants & Consultants; [John Byrne](#), Director of the Delaware Sustainable Energy Utility and Center for Environmental Policy; [Matt Ferguson](#),

CPA, Principal with the Reznick Group; [Baird Brown](#), Partner with Drinker Biddle; and Harrison Wellford, Founder of Wellford Energy will discuss conditions in financial markets and the kinds of incentives that are spurring clean energy investment.

[BACK TO THE TOP](#)

MCEC forming 2012 Advisory Board

Help us grow the clean energy economy.



2011 meeting of the MCEC Advisory Board

The Maryland Clean Energy Center is currently forming its 2012 Advisory Board. We welcome expressions of interest from individuals who are involved in Maryland's clean energy sector and would like to serve on the Advisory Board.

"This group of stakeholders helps guide the activity of MCEC and the organization's positioning with regard to policy," said Katherine Magruder, Executive Director of MCEC. "They are very important to the successful delivery of the MCEC mission."

In 2011, the MCEC Advisory Board included more than four dozen industry leaders from all facets of the clean energy sector, including Gary Skulnik of Clean Currents, John Spears of the Sustainable Design Group, Tony Clifford of Standard Solar, Jean-Paul Crouzoulon of Areva, Michael Smith of Constellation Energy, Rebecca Rush of Renewable Energy Stewardship, Steve Arabia of NRG, and Larry Zarker of the Building Performance Institute.

Board members operated a legislative committee to track state and local clean energy bills, and help formulate MCEC's position and response to vital issues, including offshore wind development, net metering changes and the designation of solar thermal as a Tier 1 renewable in Maryland.

The board also helped MCEC hone its outreach/communications efforts, explore funding sources for clean energy endeavors and develop benchmarks of success in growing a clean energy economy.

Terms on the Advisory Board begin each January and last for one year. However, there is no limit on the number of terms an Advisory Board member can serve.

MCEC is looking for board members from all clean energy technology sectors, including wind, solar PV, solar hot water, geothermal, biomass, biofuels and hydropower. The center is looking for representatives from the energy efficiency and electric vehicle transportation fields. It is also looking for board members from all corners of Maryland.

"We try to make sure that every geographic area of the state is represented and has a voice," Magruder said.

Individuals interested in joining the MCEC Advisory Board should send their biography, contact information and details about their company or organization to Katherine Magruder at ikm@mdcleanenergy.org. For more information about the Advisory Board, please call the MCEC office at 301-738-6280.

[BACK TO THE TOP](#)

[GM predicts above-average EV sales in Maryland](#)

Officials at General Motors are expecting electric vehicle sales in Maryland to exceed national averages, so the manufacturer is tracking EV drivers' charging habits and working with utilities and local governments to plan adequate infrastructure.



"Maryland got involved in electric vehicles very early," said Mary Beth Stanek, GM's Director of Federal Environment and Energy Regulatory Affairs who also leads business development for the Chevrolet Volt and GM's fuel cell infrastructure.

"Everybody who had a stake in this jumped in early, got educated and began implementing quickly. The utilities have been great. And we are seeing really good cross-sharing of best practices across regions, counties, etc, especially among the permittees and fire marshals."

That education and cooperation is crucial, Stanek said. Maryland – with its large urban population and green-minded residents – is expected to adopt EVs more readily than many other states.

"We have to really think through how we all work together as we deploy more vehicles," Stanek said. "Once we get past 10,000 vehicles, how do you ramp up successfully the utility metering, smart grid and balancing the grid with vehicle deployment? That's where a lot of collaboration is essential."

Stanek who is scheduled to participate in a panel discussion about "The Electric Vehicle Revolution" at the Maryland Clean Energy Summit, said the summit is important to the successful development of Maryland's EV sector. "Ordinarily, it is very hard to meet with all the stakeholders one-on-one. But by convening all the players together in one space, it is very easy to investigate specific initiatives that relate to Maryland directly."

This year's summit will also help average consumers better understand EVs, Stanek added. General Motors plans to have a Volt on display at the Consumer Trade Show, Oct. 29 at the Hilton Inner Harbor. They will also have experts on hand to discuss the Volt's charging and how

electric vehicles can mesh with a driver's lifestyle.

"Consumers are really getting a great grasp of the daily commute miles which are purely electrified, and then having the extended range for times when they have to drive further," Stanek said. "They are really starting to see that as the sweet spot, the optimum solution for their personal needs."

[BACK TO THE TOP](#)

Clean energy trade show offers hands-on education to consumers



Gather hands-on knowledge of how clean energy and energy efficiency systems can save you money and improve the efficiency – and value – of your

home at the [Maryland Clean Energy Summit's](#) first ever Consumer Trade Show.

Slated for Saturday, Oct. 29 at the [Hilton Inner Harbor](#) in downtown Baltimore, this free, one-day show will give consumers opportunities to talk first-hand with experts in home energy audits, energy efficiency remodeling, energy-saving products, solar systems, geothermal systems and other clean energy options and green products. Exhibitors will provide information about incentives and low-interest loan programs that are available to consumers for energy efficiency and clean energy improvements, as well as options to purchase clean power for homes and businesses.

The spacious conference center will give visitors to the Consumer Trade Show ample opportunities to inspect clean energy and energy efficiency products hands-on. Visitors will even have an opportunity to test drive a Chevrolet Volt.

Consumers may also sit in on free talks by industry experts during the day.

- Find out how the sun can save you money by heating water for your household, and just how affordable it can be to install a system.
- Find out how consumers can reduce their power bills, what financial assistance is available to make energy efficiency improvements and what qualifications contractors should have.
- Many companies offer to contract for your power supply. What should you consider before signing a contract and how much more should it cost for 100 percent renewable power supply?
- What makes geothermal systems more economical than traditional HVAC? How costly and complex are they to install?
- How will the smart grid impact our everyday lives and will it improve reliability? Learn how your smart phone can turn down your thermostat from across the planet.
- Generate heat and power at home with biomass resources. Wood and pellet stove technologies are now cleaner than ever. How affordable and safe are they?

The Consumer Trade Show of the 2011 Maryland Clean Energy Summit runs 9 a.m. to 2:30 p.m. Saturday, Oct. 29 at the Hilton Inner Harbor in Baltimore. Admission is free. For a speakers' agenda and additional information about the Consumer Trade Show, please visit our [web site](#).

To reserve space as an exhibitor, please go to our [exhibitor information web site](#) or contact the Maryland Clean Energy Center at info@mdcleanenergy.org.

[BACK TO THE TOP](#)

MDV-SEIA solar and renewable energy conference slated for Nov. 17-18

The Maryland-District of Columbia-Virginia Solar Energy Industries Association (MDV-SEIA) will hold its fifth annual industry conference

November 17-18 at the Marriott Hotel Metro Center in Washington, D.C.



This year's topics include:

- State Policy: as an incubator for federal policy;
- State Policy: recent changes, 2012 renewable agenda and implications for your business;
- Renewable Finance: project finance and corporate finance;
- Distributed Generation: economics and impact on the utility grid;
- Technology: what will be available in 2012, game changers, and lessons learned;
- Federal Procurement: where the opportunities are and how to benefit from them.

Attendees at past conferences have included:

- More than three hundred participants from industry, policy makers and other stakeholders;
- Companies actively engaged or exploring the local market;
- Investors, suppliers and professional services firms;
- Federal, state and local politicians and policy makers advancing the renewable revolution
- In past years attendees have included Maryland Governor Martin O'Malley, Congressman Chris Van Hollen, Maryland Senate Majority Leader Senator Garagiola; Maryland House Majority Leader Kumar Barve; Washington DC Council Member Mary Cheh; Maryland Energy Administration Director Malcolm Woolf; Virginia Department of Mines, Minerals and Energy Director Ken Jurman; Nobel Prize Winner and University of Delaware Distinguished Professor of Energy & Climate Policy Dr. John Byrne; and business leaders from the 110 member companies of MDV-SEIA and all major regional utilities.

For more information about the conference or to register, please go to the MDV-SEIA 2011 conference [website](#).

[BACK TO THE TOP](#)