

Energy Technology Connections: Your Law Firm Link to Industry News

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In the July edition of *Energy Technology Connections*, we bring you recent industry highlights, the latest news from Capitol Hill, and a list of upcoming energy industry events. For links to industry grant opportunities and stories from the business, policy, and research sectors of the energy and clean technology industry, please see our [Energy Navigator](#).

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Leaders in the News

Congratulations to Aspen Aerogels, a Massachusetts-based energy-efficiency firm that designs and builds high-performance aerogel insulation, for successfully pricing its Initial Public Offering with 7,500,000 shares at \$11.00. Aspen utilizes aerogels, complex strands of silica that capture air or molecules, to create an insulation that can be used in a variety of industrial, residential, and commercial applications.

We would like to congratulate our client, Admirals Bank, on partnering with SunPower Corp., the second largest US solar-panel maker, to establish an innovative solar power loan funding program. Together, SunPower and Admirals Bank have launched a \$200 million loan program to facilitate residential photovoltaic (PV) installations over the next two years. Under the program, homeowners will be able to apply for loans of up to \$60,000 to assist with the installation of SunPower systems in their homes. The program is available in all 50 states and the District of Columbia. This partnership between Admirals Bank and SunPower exemplifies a broader trend of increasing interest in residential solar installations. In the first quarter of 2014, the United States installed 1,330 megawatts of solar PV, up 79% from the first quarter of 2013. For the first time, residential installations are surpassing commercial installations. Growth in the solar sector is projected to further increase in the coming years. For more on the SunPower loan program, please see the [press release](#) from Admirals Bank.

In early June, Mintz Levin hosted the US Department of Energy's (DOE) 2014 National Clean Energy Business Plan Competition. The DOE National Clean Energy Business Plan Competition is designed to build regional networks of student-focused business creation contests across the country. Launched in 2011, the competition is part of the Obama administration's Startup America Initiative, the White House campaign to inspire and promote entrepreneurship. Six regional organizations were funded under the competition to hold clean energy business plan competitions. In addition to the regional competitions, each June at the national competition the six regional finalists pitch their business plans to a panel of expert judges — competing for the National Grand Prize.

For the third consecutive year, Mintz Levin hosted the first day of the two-day competition at its Washington, DC

office. During the first day, Energy Technology Practice Chair Tom Burton and President of ML Strategies Washington, DC David Leiter delivered the opening remarks welcoming the competition's keynote speaker, John MacWilliams, Senior Advisor to the Secretary of Energy.

We are proud to announce that REEcycle from the University of Houston won the 2014 DOE National Clean Energy Business Plan Competition! REEcycle developed an innovative method to reclaim rare earth elements from magnets in electronics. The other five finalists included KAir Battery, Energy Internet, Black Pine Engineering, Superior Ecotech, and Unified Solar. For more information on these entrepreneurs, please see the Innovator Profile section.

Washington Update

With legislative efforts to reform or repeal the Renewable Fuels Standard (RFS) on hold after the Environmental Protection Agency (EPA) proposed paring back required blended levels of biofuel (renewable volume obligations or RVOs), all eyes are on the EPA as to what those closely guarded final volume levels will be.

The rule, already several months overdue, had most recently been targeted for a June release, but that deadline slipped by without the rule even going to the Office of Management and Budget (OMB) for final review. EPA Administrator Gina McCarthy testified last week that the agency wants to "get this right" and hopes "to get that out soon." Even if the EPA sends the rule to OMB in July, as is now expected, OMB likely will review it for 30 to 60 days before the final rule is promulgated.

As the EPA's review drags on, the nonpartisan Congressional Budget Office released a report evaluating the impact of several possible outcomes: (1) keeping volumes consistent with the proposed rule, (2) raising volumes to the higher levels required by statute, or (3) repealing the law entirely through an act of Congress. The report contained some conclusions that undermined the arguments of both RFS opponents and supporters. Interestingly, the report eviscerated one of the largest policy arguments against the RFS — that the RFS increases food prices. Even though roughly 40% of the US corn supply is used to make ethanol, the study found that food prices would stay the same whether the RFS remained as is or was repealed. Even if the EPA increased required levels of corn ethanol by 15% (2 billion gallons), the overall increase in food prices would only amount to one quarter of one percent.

The Supreme Court partially upheld and partially rejected on June 23 a set of Environmental Protection Agency greenhouse gas (GHG) regulations for major pollution sources, following a legal challenge from the utility industry. The 5-4 ruling does not impact the agency's June 2 proposed CO2 standards for existing power plants, nor does it limit the agency's overall ability to regulate greenhouse gases. The Court ruled that the agency cannot require Title V and Prevention of Significant Deterioration preconstruction stationary source air permits based solely on the release of GHGs, but that emission sources that already need those permits should have to use the best available technology to control their emissions. While reading his decision, Justice Antonin Scalia said that though he believes the agency overstepped its statutory boundaries when crafting its rule, the Court's ruling should impact a very small percentage of regulated entities. Furthermore, the court found that its 2007 decision in *Massachusetts v. EPA* that the Clean Air Act's use of the term "air pollutant," which it recognizes to be an imprecise term, includes GHGs and does not preclude the agency from taking a more narrow approach elsewhere.

The Department of Energy awarded \$20 million in funding to 10 new projects aimed to advance hydrogen production and delivery technologies. The selected projects will in some way aid the widespread commercialization of various fuel cell technologies, most notably including fuel cell electric vehicles. The Department of Energy funding was allocated to six hydrogen production R&D projects and four hydrogen delivery R&D projects. The selected hydrogen production technologies range from the development of a reactor for hydrogen production from bio-derived liquids to various solutions for direct water splitting. Awardees include the University of Hawaii, the National Renewable Energy Laboratory, and the University of Colorado. Furthermore, the hydrogen delivery R&D projects include the development of a high-pressure hydrogen dispenser for fuel cell electric vehicle fueling and a low-cost, high-pressure hydrogen storage vessel. The four awardees were the Southwest Research Institute, Nuvera Fuel Cells, Inc., Oak Ridge National Laboratory, and Wiretough Cylinders, LLC.

The weekly *Energy & Environment Update* from ML Strategies provides an overview of what's happening on and off Capitol Hill and around the world that may impact energy and environmental policies and industry players. [Read the Update here.](#)

Event Highlights

Mintz Levin is looking forward to the NextWave Greentech Investing conference in Menlo Park, California on

August 5, 2014. Hosted by Greentech Media, NextWave Greentech Investing is an annual gathering of leading investors, entrepreneurs, and senior corporate decision-makers to chart a new way forward in the greentech market. Building on the success of the inaugural conference in 2013, the 2014 conference will not only discuss successful investing in clean energy technology and services, but will also delve deeper into active areas such as solar power, electric utility business, cleanweb, and clean energy project finance. Some of the many notable speakers and sponsors include Mike Allman (Former Chairman, President, and CEO at Southern California Gas Company), Nancy Pfund (Managing Partner at DBL Investors), Rob Day (Conference Chair and Partner at Black Coral Capital), and Scott Clavenna (CEO of Greentech Media). Mintz Levin's own Sahir Surmeli (Co-chair of the Energy Technology Practice) will be moderating a panel entitled, "The NextWave Paths to Exit."

[To register for this conference, click here.](#) Use the code "MINTZ15" at check out to receive a 15% discount on your conference pass.

Innovator Profile

REECycle from the University of Houston, winner of the 2014 DOE National Clean Energy Business Plan Competition, developed an innovative method to reclaim rare earth elements from magnetics in electronics. These rare earth elements are critical to manufacturing clean energy technologies and infrastructure, such as wind turbines, energy-efficient lights, and thin-film solar cells. REECycle acquires used electronics from recyclers and extracts the rare earth elements using a patented solvent combined with low temperatures. In addition to being named the winner of the competition, the REECycle team won the People's Choice Award, which was decided by a public vote on Energy.gov, and the Audience Investor Choice Award, a new award this year that was determined through live audience participation.

The other five finalists at the DOE National Clean Energy Business Plan Competition included the following up-and-coming teams within the energy and clean energy industries:

- KAir Battery, Ohio State University (*Western Southwest Region*): KAir Battery is developing clean, energy-efficient, cost-effective, and large-scale stationary potassium-air (K-O₂) batteries. These batteries could support renewable energy systems by storing excess power and distributing it at times of peak consumer demand. According to KAir, these batteries store generated electricity and return 98% of the input energy.
- Energy Internet, Georgia Institute of Technology (*Southeastern Region*): Energy Internet has developed a new approach and solution to address cyber and control challenges facing the power grid with decentralized, autonomous, Internet-like control architecture and a learning control software system. This distributed control architecture is designed to help integrate significantly more renewable energy into the grid.
- Black Pine Engineering, Michigan State University (*Eastern Midwest Region*): Black Pine Engineering's technology, the Woven Wheel System, is an advanced turbomachinery system composed of carbon fiber, used for retrofitting geothermal power plants. Geothermal plants waste a portion of well steam due to steam compressors that remove harmful gases. The Black Pine Engineering system replaces current plant equipment with their advanced modular compressors, eliminating steam loss. According to Black Pine, the technology can boost power generation at geothermal plants by 8% and increase revenue by more than \$280,000 per year per well.
- Superior Ecotech, University of Colorado – Boulder (*Western Midwest Region*): Superior Ecotech developed technology that uses algae to convert carbon dioxide waste into omega-3 oils and other useful products during the process of making beer, thus lowering carbon emissions for craft brewers. The team's long-term goal is to use its algae oils to produce clean, cost-effective, and renewable biofuels.
- Unified Solar, Massachusetts Institute of Technology (*Northeastern Region*): Unified Solar developed an integrated circuit solution for maximum power point tracking at cell-level granularity, reducing energy loss for solar panels. Solar panel systems with central inverters suffer from the "Christmas tree" or "weakest link" effect — when a shaded or dirty panel reduces the output of every other panel on a string. Panels using Unified Solar's technology effectively behave as a single "super cell," which solves the weakest-link challenge. Unified Solar claims its technology doubles the average energy capture for less than a third of the price of current solutions.

Energy Navigator

Please visit and bookmark our [Energy Navigator](#) to easily view all of the latest headlines from the most trusted publications reporting on developments in the energy and clean technology industries. It is housed on our blog, [Energy & Clean Technology Matters](#).

Upcoming Events

NextWave Greentech Investing 2014 Cleantech Tour of China 2014

August 5, 2014
Menlo Park, CA

[More Info »](#)

November 2 – 7, 2014
China

[More Info »](#)

Water Innovation Summit

September 23 – 24, 2014
Berkeley, CA

[More Info »](#)

US Solar Market Insight 2014

December 9 – 10, 2014
San Diego, CA

[More Info »](#)

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