

Mintz Levin Energy Technology

Energy Technology Connections Newsletter

Your Law Firm Link to Industry News

OCTOBER 2016

A Note from the Editors

Our October edition of *Energy Technology Connections* brings you recent industry highlights and features a list of upcoming energy industry events throughout the nation. In Leaders in the News, we profile our friends at **Gradiant**, a technology-driven water services company that offers solutions for oil & gas and water-critical industrial applications. Our Innovator Profile spotlights our friends at **NBD Nanotechnologies**, a global leader in modifying surface wettability through coatings and additives that have implications for the areas of clean energy and energy efficiency. For event highlights, we feature three upcoming events that we are proud to sponsor: Northeast Clean Energy Council's (NECEC) 9th Annual Green Tie Gala on October 25, the 2016 Cleantech Open Northeast Regional Final Round on October 27, and The Changing World of Raising Capital event, which we are hosting with our friends at Columbia Technology Ventures (Columbia University) on November 3. Finally, our Washington Update provides the latest on energy legislation that may be considered during the lame-duck session of Congress, and highlights an international agreement to amend the Montreal Protocol to curb the use of hydrofluorocarbons (HFCs), as well as the release of the US Department of Energy's Wind Energy Technology Office and the US Department of Interior's Bureau of Ocean Energy's updated national strategy to facilitate the responsible development of offshore wind energy in the United States.

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](#).

You can [subscribe to our Energy Tech Matters blog here](#).

We would also like to remind our readers working with early stage companies that you can always ask us questions related to forming a company at <http://mintzedge.com/ask-anything/>. We built the MintzEdge website as a resource for entrepreneurs and investors, and hope that all of you take advantage of the site and see how it can help you.

Leaders in the News: Gradiant

This month we'd like to highlight **Gradiant**, a technology-driven water services company that offers solutions for oil & gas and water-critical industrial applications. In keeping with **Gradiant's** goal to make oil fields net water neutral, the company specializes in designing water treatment programs through the reduction and/or removal of specific contaminants according to customer specifications.

Gradiant stands out as an innovative water services company because its technology is uniquely capable of recycling highly variable, difficult-to-treat water (greater than 120,000 ppm TDS). The company's desalination and clean brine processes are proven on water samples from around the globe across many industries.

Invented at the Massachusetts Institute of Technology (MIT) by Gradiant's founders, Gradiant's Carrier Gas Extraction (CGE™) technology produces freshwater from high-TDS brines while being competitive with produced water disposal and freshwater purchase options. CGE™ can also achieve true Zero Liquid Discharge (ZLD) where necessary. The company's Selective Chemical Extraction (SCE™) technology is a multistep treatment process customizable to meet any effluent quality including oil and grease removal, H2S



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Sahir Surmeli

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stripping, VOC and semi-volatile removal, ion-specific removal and lamella clarification. Both CGE™ and SCE™ technologies operate in oilfields today.

Gradiant is also in the process of developing its Directional Solvent Extraction (DSE™) technology that is a Zero Liquid Discharge desalination technique as well as its Ion Caging technology, which is a closed-loop softening technique.

In August of this year, Global Water Intelligence [called Gradiant](#) one of the two hottest new water technology companies in business today. In September of this year, the company announced the [formation](#) of its oilfield services company, **Gradiant Energy Services (GES)**, which is a wholly-owned subsidiary that provides solutions and services for economic, efficient, and environmentally friendly treatment, reuse, and recycling of water in the oil and gas industry. Earlier this month, **Gradiant announced** that it is currently developing six brine concentration projects in China, two of which are in the final stages of negotiation. Congratulations to **Gradiant** on its continued success in the water services industry!

Innovator Profile: NBD Nanotechnologies

This month we feature [NBD Nanotechnologies](#), a global leader in modifying surface wettability through coatings and additives. **NBD** grounds itself in the principle of biomimicry, developing technologies that imitate nature, several of which have implications in the areas of clean energy and energy efficiency. By customizing liquid wettability through either direct integration to polymers or through chemically grafted monolayers on oxide surfaces, **NBD** is able to solve a wide range of commercial problems for its clients.

NBD's advanced condensation coatings can be used to help commercial plants achieve greater energy efficiency. Supported by a SBIR Phase II grant from the National Science Foundation, **NBD** has coated existing tubes and partially retubed a live power plant to improve the Overall Heat Transfer Coefficient (U). The tubes are placed in triplets at 10 different locations of the condenser box, with a control tube in the middle of each triplet. **NBD's** simple application process makes the technology easily scalable and coating offers superior durability. **NBD's** retubing technology can be applied to desalination, distillation, and power plants to help increase fuel savings and overall system efficiency.

In the field of commercial agriculture, **NBD** has developed an enhanced fog capturing technology that aims to provide an alternative source of water for arid farm regions. With a SBIR Phase II grant from the United States Department of Agriculture, **NBD** has piloted its enhanced fog capture technology in various sites in California to prove efficacy of an alternative passive water resource. **NBD** partnered with the United States Geological Survey to determine the best sites to pilot this technology in California. **NBD** has fully instrumented the sites with a FM-120 to determine fog droplet size and density, as well as tipping buckets that can digitally record collection rates in comparison to uncoated meshes. With many states, particularly California, dealing with the effects of drought and water shortages, **NBD's** fog capture technology works to address a critical energy challenge in the space of water conservation.

NBD's suite of coating and additive technologies can improve energy efficiency and support clean energy efforts in a wide array of industries from commercial plants to agriculture without invasive application processes. Most recently, in September 2016, **NBD** was [featured](#) by the Shea Center for Entrepreneurship at Boston College. **NBD** founders Miguel Galvez and Deckard Sorenson graduated from Boston College and conceived of the idea for their company there. We are excited to watch **NBD** grow in the area of surface wettability – keep up the great work!

Event Highlights

NECEC's 9th Annual Green Tie Gala

NECEC's 9th Annual Green Tie Gala will be held on October 25, 2016 from 6:00 pm to 10:00 pm at the Renaissance Waterfront Hotel in Boston. The Green Tie Gala is the premier clean energy networking event in the region, bringing together more than 400 stakeholders from the Northeast clean energy community to celebrate the industry's growth and accomplishments and to recognize outstanding clean energy companies with NECEC's Green Tie Gala Awards. The Gala includes a cocktail hour, dinner, and a keynote address from an outstanding leader in clean energy.

Following a banner year for renewables in Rhode Island, NECEC is honored that Rhode Island Governor Gina Raimondo will provide the keynote address. NECEC is also pleased to announce that 10 clean energy companies and organizations have been selected finalists for this year's Green Tie Gala Awards. The finalists are...

Start-up Supporter of the Year

- [MassChallenge](#)
- [Worcester CleanTech Incubator](#)
- [ACRE](#)

Emerging Company of the Year

- [Deepwater Wind](#)
- [EnergySage](#)
- [Greenworks Lending](#)

Clean Energy Company of the Year

- [1366 Technologies](#)
- [DONG Energy](#)
- [Opower](#)
- [Schneider Electric](#)

Tickets and tables can be reserved [here](#).

2016 Cleantech Open Northeast Regional Final Round

We are very excited to announce that Tom Burton and Sahir Surmeli will be two of six judges at the 2016 Cleantech Open Northeast Regional Finals in Boston on October 27th! The Regional Finals will wrap up a packed week of Cleantech activity in Boston. Tom and Sa will engage with 30 semifinalist start-ups and network with a variety of leaders in the regional cleantech community.

Cleantech Open is the oldest and largest cleantech start-up accelerator program, with the mission to find, fund, and foster entrepreneurs with ideas to solve our greatest environmental and energy challenges. They connect cleantech start-ups with the people and resources that will accelerate their success, and provide a national platform for public visibility.

This year's final round for the Northeast Regional Cleantech Open will be held at 200 Clarendon Street, formerly known as the John Hancock Tower. For more information on the event, [please click here](#).

The Changing World of Raising Capital

On November 3rd, [MintzEdge](#) (powered by the law firm of [Mintz Levin](#)) will be co-sponsoring The Changing World of Raising National Capital with our colleagues at [Columbia Technology Ventures](#) ([Columbia University](#)). This evening will feature a world-class panel of the leaders changing the way that capital is being raised for new emerging companies, including [Daniel DeWolf](#), Co-chair of our Venture Capital & Emerging Companies Practice, as moderator.

Prior to the JOBS Act in 2012, raising capital for private companies was limited to offline communications and was dominated by the professional venture capitalists. Now the capital raising process has been democratized. Capital can be raised online directly by companies or through intermediaries. It can be accomplished by crowdsourcing to "accredited investors" or, in limited amounts, by crowdfunding to everyone. Additionally, companies can raise capital in an "IPO lite" manner by using the new Reg A+.

Join us on November 3rd from 6:30 to 7:30 pm Pacific Time at Columbia University! For information about the event, [please click here](#).

Washington Update

As the November 8th elections approach, Congress is in recess to allow members and senators time to campaign. They will return on November 14 as a lame-duck Congress, with various measures still needing to be addressed before year's end. The legislative agenda for the

remainder of 2016 will, in many ways, be dictated by the outcome of the election of Hillary Clinton or Donald Trump to the presidency. Also at play is the question of whether Republicans will maintain their House and Senate majorities. For now, the House majority is likely safe, although the GOP is expected to lose some seats, but the Senate is a toss-up, with Democrats making a play to retake the majority. Of the 34 Senate seats up for election in November, 24 are currently held by Republicans, giving the Democrats a wider range of opportunities for pick-ups.

From a global perspective, 72 parties accounting for 56.75 percent of global greenhouse gas emissions have, as of October 5, joined the climate agreement negotiated at COP21 in Paris, meeting the requirements of 55 parties representing 55 percent of global emissions needed for the Paris Agreement to enter into force in 30 days, prior to the COP22 meeting in Morocco. US Energy Secretary Ernest Moniz notes, "Passing the threshold for the Paris Agreement's entry into force is a historic moment, marking a new era of global consensus on climate change action. This agreement will further accelerate development of a multi-trillion dollar market for clean energy technology solutions that reduce heat-trapping emissions....The central challenge for this new era will be to accelerate the deployment of energy technologies, develop new innovative low-carbon solutions quickly, meet the goals our nations have declared before the world, and encourage even greater ambition."

Congress

When Congress returns next month, the primary energy issue remaining on the calendar is the energy bill. While conferees have been appointed by the House and Senate, there has only been one formal conference meeting to discuss the measure, although staff are reportedly working behind-the-scenes to position the energy bill for action in the lame-duck session.

Another potential lame-duck agenda item is a tax extenders package, which would address the renewable energy and energy efficiency tax provisions that were left out of the extension language approved in December 2015. These technologies include fuel cell power plants, microturbines, small wind energy property, combined heat and power systems, and geothermal heat pumps. A tax extenders package could be approved as part of a year-end omnibus bill.

Related to last year's tax extenders deal, which extended both wind and solar credits but left out offshore wind, on September 15, Rep. Jim Langevin (D-RI) introduced the Offshore Wind Incentives for New Development (WIND) Act, which is a companion bill to S. 3036, introduced earlier this year by Sens. Ed Markey (D-MA) and Sheldon Whitehouse (D-RI). The Offshore WIND Act would extend until 2025 the Investment Tax Credit for offshore wind, which is currently set to expire in 2019. Due to the relatively longer process of siting and building turbines offshore, the Department of Energy (DOE) has found that no offshore wind projects are projected to qualify for this tax credit before it expires. The bill has 15 cosponsors.

Hearings

On September 7, the House Energy and Commerce Subcommittee on Energy and Power held a hearing on "Federal Power Act: Historical Perspectives" with testimony from representatives of the Federal Energy Regulatory Commission and the Department of Energy.

On September 15, the House Energy and Commerce Subcommittee on Energy and Power held a hearing on "The Department of Energy's Role in Advancing the National, Economic, and Energy Security of the United States," with testimony from Secretary Moniz.

Legislation Introduced

Rep. Mike Pompeo (R-KS) has introduced the Power and Security Systems (PASS) Act which provides for consideration of the extension under the Energy Policy and Conservation Act of non-application of No-Load Mode energy efficiency standards to certain security, life safety alarms, or surveillance systems.

Rep. Matt Cartwright (D-PA) has introduced the Scoring Calculations for Our Residential Energy (SCORE) Act, which authorizes the Department of Energy to assess and score new and existing homes for cost-effective reductions in energy use. A score document would grade the home on its energy consumption for heating, cooling, water heating, and other variables.

Rep. Ryan Zinke (R-MT) has introduced the CO2 Regulatory Certainty Act, which would amend the Internal Revenue Service Code of 1986 to enhance the requirements for secure geologic storage of carbon dioxide for purposes of the carbon dioxide sequestration credit.

Rep. Mark Takano (D-CA) has introduced the Storage Technology for Operational Readiness and Generating Energy Act (STORAGE Act), which amends the Public Utility Regulatory Policies Act of 1978 to require that electric utilities consider an investment in an energy storage system based on several factors including total costs and normalized life cycle costs, cost effectiveness, improved reliability, security, and system performance and efficiency.

Administration

Montreal Protocol Agreement to Cut Use of HFCs

Meeting in Kigali, Rwanda, the United States and nearly 200 other nations reached an agreement to amend the Montreal Protocol to phase down the production and use of potent heat-trapping chemicals known as hydrofluorocarbons (HFCs). According Secretary Moniz, the agreement unlocks \$80 million, including \$53 million from philanthropic partners, to help developing countries that have chosen to take early action to decrease HFC use and increase energy efficiency. The Department of Energy is working with industry partners and national labs to develop a new generation of air conditioning and heating technologies to revolutionize the industry by utilizing low- to zero-global warming potential (GWP) innovations.

National Offshore Wind Strategy

The Department of Energy's Wind Energy Technology Office and the Department of Interior's Bureau of Ocean Energy Management have released an updated national strategy to facilitate the responsible development of offshore wind energy in the United States. According to [National Offshore Wind Strategy: Facilitating the Development of the Offshore Wind Industry in the United States](#), 86 gigawatts of offshore wind could be enabled in the US by 2050. The strategy was published just weeks after construction was completed on America's first offshore commercial wind farm off of Block Island, RI. The new 30 MW wind farm was BOEM's first right-of-way grant and is expected to start operating by the end of 2016. It will generate enough electricity to power 17,000 homes in New England.

Department of Energy Report on Deployment of Clean Energy Technologies

The Department of Energy has released a new report that highlights the accelerated deployment of five clean energy technologies: wind turbines, solar technologies for both utility-scale and distributed photovoltaic (PV), electric vehicles (EVs) and light-emitting diodes (LEDs). The report, [Revolution...Now](#), was announced by Secretary Moniz during a discussion at *The Atlantic's* Washington Ideas Forum.

Revolution...Now is annually updated and describes the decreasing cost and increasing deployment of clean-energy technologies in the United States. As the world continues to move toward a low-carbon economy, this 2016 update builds upon last year's edition and details the economic and environmental benefits our nation is already starting to realize thanks to greater proliferation of clean-energy technologies.

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 Technology Matters](#).

Upcoming Events

NEWIN/WPI Water-Innovation Workshop

October 24, 2016
WPI - Rubin Campus Center

[More Info »](#)

NEWIN/MIT Water Summit

November 18-19, 2016
MIT

[More Info »](#)

NECEC's 9th Annual Green Tie Gala

October 25, 2016
Boston, MA

[More Info »](#)

Fall Clean & Affordable Energy Conference

November 17-18, 2016
Portland, OR

[More Info »](#)

Keystone Energy Efficiency Alliance (KEEA) Conference

October 25, 2016
Harrisburg, PA

[More Info »](#)

Western States Power and Gas Conference

November 29-30, 2016
San Francisco, CA

[More Info »](#)

AWEA Offshore WINDPOWER 2016

October 25, 2016
Warwick, RI

[More Info »](#)

GTM US Energy Storage Summit 2016

December 7-8, 2016
San Francisco, CA

[More Info »](#)

Our Low Carb(on) Power Diet: Symposium on NW Electric System and GHG Reduction

October 25, 2016
Portland, OR

[More Info »](#)

Microgrids Convergence Conference

October 25-26, 2016
San Mateo, CA

[More Info »](#)

GTM's US Solar Market Insight

October 25-26, 2016
San Diego, CA

[More Info »](#)

Cleantech Open Northeast Showcase and Awards Night

October 27, 2016
Boston, MA

[More Info »](#)

NECA 2016 Power Markets Conference

November 1, 2016
Westborough, MA

[More Info »](#)

Washington's Energy Future

November 1, 2016
Seattle, WA

[More Info »](#)

HOMER International Microgrid Conference

November 7-8, 2016
New York, NY

[More Info »](#)

PV Conference & Expo – Chicago

November 9-10, 2016
Chicago, IL

[More Info »](#)

WoWE Leadership Forum

November 14-15, 2016
San Antonio, TX

[More Info »](#)

Med Tech Conference

November 17, 2016
New York, NY

[More Info »](#)

PV Conference & Expo – Boston

February 13-14, 2016
Boston, MA

[More Info »](#)

Microgrid & DER Controller Symposium

February 16, 2017
Cambridge, MA

[More Info »](#)

EnergySMART Conference

February 22-24, 2017
Orlando, FL

[More Info »](#)

California's Distributed Energy Future 2017

March 8-9, 2017
San Francisco, CA

[More Info »](#)

GlobalCon

March 22-23, 2017
Philadelphia, PA

[More Info »](#)

Utility Solar Conference

April 24-26, 2017
Tucson, AZ

[More Info »](#)

California Solar Power Expo

May 1-2, 2017
San Diego, CA

[More Info »](#)

Solar Power Southeast

May 11-12, 2017
Atlanta, GA

[More Info »](#)

Solar Summit 2017

May 16-18, 2017
Scottsdale, AZ

[More Info »](#)

West Coast Energy Management Congress

June 7-8, 2017
Long Beach, CA

[More Info »](#)

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