

Summary:

For the December 2nd issue of NAATBatt's Advanced Battery Weekly, we highlight the ongoing sector activities.

The NAATBatt Index decreased a modest 1.1%, while the U.S. and Asia Indices were flat w/w. The S&P500 and Russell 2000 Indices were also relatively flat w/w.

Executive Director James Greenberger writes about overcoming the challenge that the Volt battery fire poses to the future of electric drive. Read "***The Volt Fire and Public Acceptance of Electric Drive***" in the Executive Director's Notes section of this newsletter below.

Key Highlights:

- **Johnson Controls** has stated that independent tests show that its factory in **Shanghai** was not the cause of severe lead poisoning cases. An investigation by the **China Electric Equipment Industry Association** found the factory in Shanghai's eastern suburbs could not be the cause of elevated blood-lead levels among children in a nearby community.
- **Toyota** and **BMW** announced a partnership to share eco-friendly technologies, including in the joint development of lithium-ion (li-ion) batteries for next-generation electric vehicles (EVs). The organizations will share development costs for batteries for EVs as part of plans to roll out battery-powered vehicles.
- **New York State** has started a five year electric truck (etruck) buying incentive program. The program, administered by the **New York State Energy Research and Development Authority**, will be funded in the first year by \$10 million of federal **Congestion Mitigation and Air Quality** funding allocated by the **New York State Department of Transportation**.
- **Car Charging Group (CCG)** has completed the installation of a Level II, 240-volt, EV charging station, manufactured by **Coulomb Technologies** and is now providing EV charging services at **Park, Bark and Fly**, the largest offsite parking facility near the **Orlando International Airport**, with more than 2,500 parking spaces.
- **GO Car Sharing** announced 11 planned locations today for solar-powered charging stations in the **Chicago** area. The solar stations will be completed in early 2012 and are backed by grants from the **Illinois Department of Commerce and Economic Opportunity (DCEO)**, the **Chicago Area Clean Cities Partnership** and the **Illinois Clean Energy Community Foundation**.
- **RaceTrac Petroleum** plans to join an industry wide effort to install electric charging stations. The **Atlanta**-based convenience store chain is looking to add a charging station on the southeast corner of the intersection of **Bonita Beach** and **Race Track** roads in **Bonita Springs, Florida**.
- Twenty-one charging stations were unveiled as part of a **broad energy-saving strategy** undertaken by the rapidly growing **Buffalo Niagara Medical Campus**, a cluster of hospitals and research facilities. The installation of the stations is a project worth more than \$300,000.

A Few More Details:

Johnson Controls has stated that independent tests show that its factory in Shanghai was not the cause of severe lead poisoning cases discovered earlier this year but point instead to a nearby recycling facility. An investigation by the China Electric Equipment Industry Association found the factory in Shanghai's eastern suburbs could not be the cause of elevated blood-lead levels among children in a nearby community. Tests by the industry association's Lead-acid Battery Sub-Commission showed abnormally high lead levels at a waste recycling facility near the Kangqiao community, with lead levels three times the current national standard and 10 times a pending stricter national standard. Zinc levels were 15 times national standards.

Source: Johnson Controls

Toyota and BMW announced a partnership to share eco-friendly technologies, including in the joint development of lithium-ion (li-ion) batteries for next-generation electric vehicles (EVs). Under the deal, the German automaker will also provide diesel engines for Toyota. The organizations will share development costs for batteries for electric cars as part of plans to roll out battery-powered vehicles.

Source: AFP

New York State has started a five year electric truck buying incentive program. The plan will give vouchers of up to \$20,000 per vehicle to buyers who purchase environmentally qualified EVs weighing over 10,000 pounds from any existing manufacturer. The program, administered by the New York State Energy Research and Development Authority, will be funded in the first year by \$10 million of federal Congestion Mitigation and Air Quality funding allocated by the New York State Department of Transportation. Every average diesel truck replaced by an EV will eliminate 26 tons of greenhouse gases and save 2,228 gallons of fuel each year. The \$10 million will provide for at least 450 vehicles, eliminating about 11,700 tons of greenhouse gases and saving over one million gallons of diesel fuel.

Source: Washington Square News

CCG has completed the installation of a Level II, 240-volt, EV charging station, manufactured by Coulomb Technologies and is now providing EV charging services at Park, Bark and Fly, the largest offsite parking facility near the Orlando International Airport, with more than 2,500 parking spaces. Park, Bark and Fly customers now have access to the ChargePoint Network, the largest global online network connecting EV drivers to unoccupied charging stations. Car Charging Group will provide flexible payment options, the ability to make reservations, and tracking of customer usage patterns, energy use, costs and revenues

Source: Car Charging Group

GO Car Sharing announced 11 planned locations today for solar-powered charging stations in the Chicago area. The company is midway through a \$2.5 million project that will add 36 EVs to its fleet and 18 publicly-available solar charging stations to power its cars. The solar stations will be completed in early 2012 and are backed by grants from the Illinois DCEO, the Chicago Area Clean Cities Partnership and the Illinois Clean Energy Community Foundation.

Source: Chicago Tribune

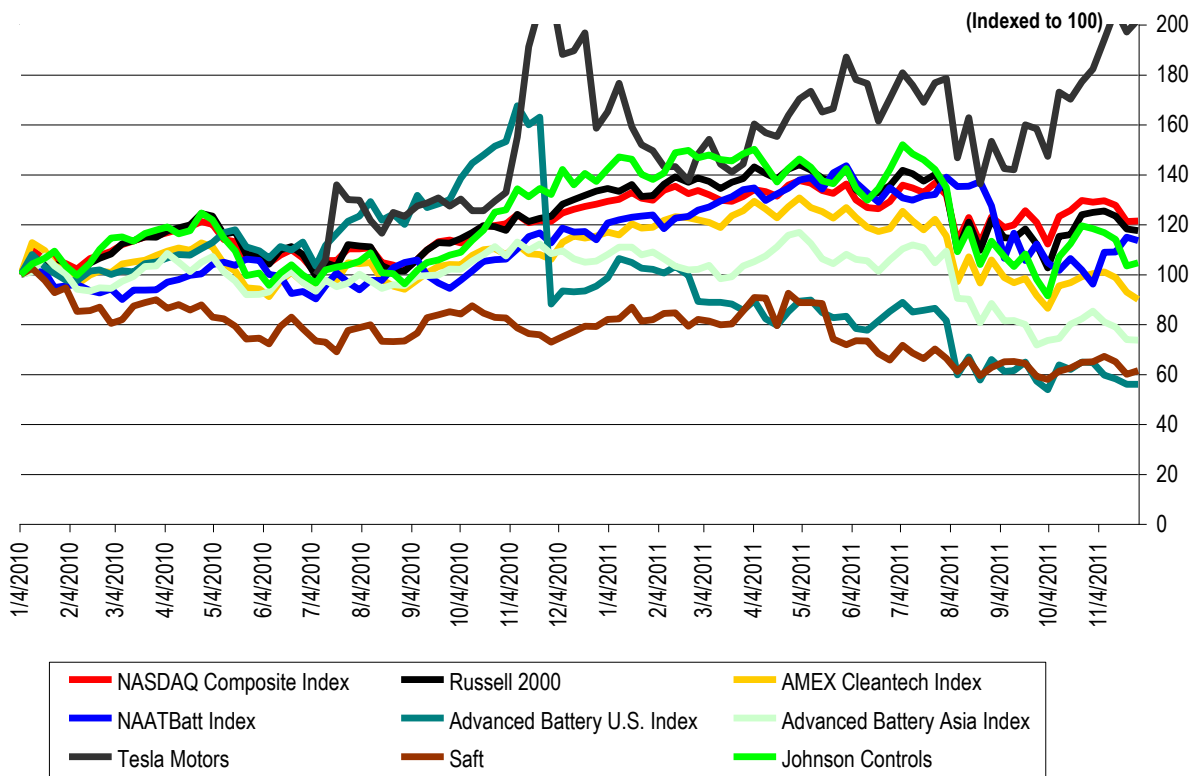
RaceTrac Petroleum plans to join an industry wide effort to install electric charging stations. The Atlanta-based convenience store chain is looking to add a charging station on the southeast corner of the intersection of Bonita Beach and Race Track roads in Bonita Springs, Florida. Bids for the 7,000-square-foot gas station are expected to be finalized by the end of the year with construction beginning as early as February 2012.

Source: Naples Daily News

Twenty-one charging stations were unveiled as part of a broad energy-saving strategy undertaken by the rapidly growing Buffalo Niagara Medical Campus, a cluster of hospitals and research facilities. The installation of the stations is a project worth more than \$300,000. The funding for the stations was provided by the Department of Energy.

Source: Associated Press

Exhibit 1: Indices Performance
(From January 4, 2010)



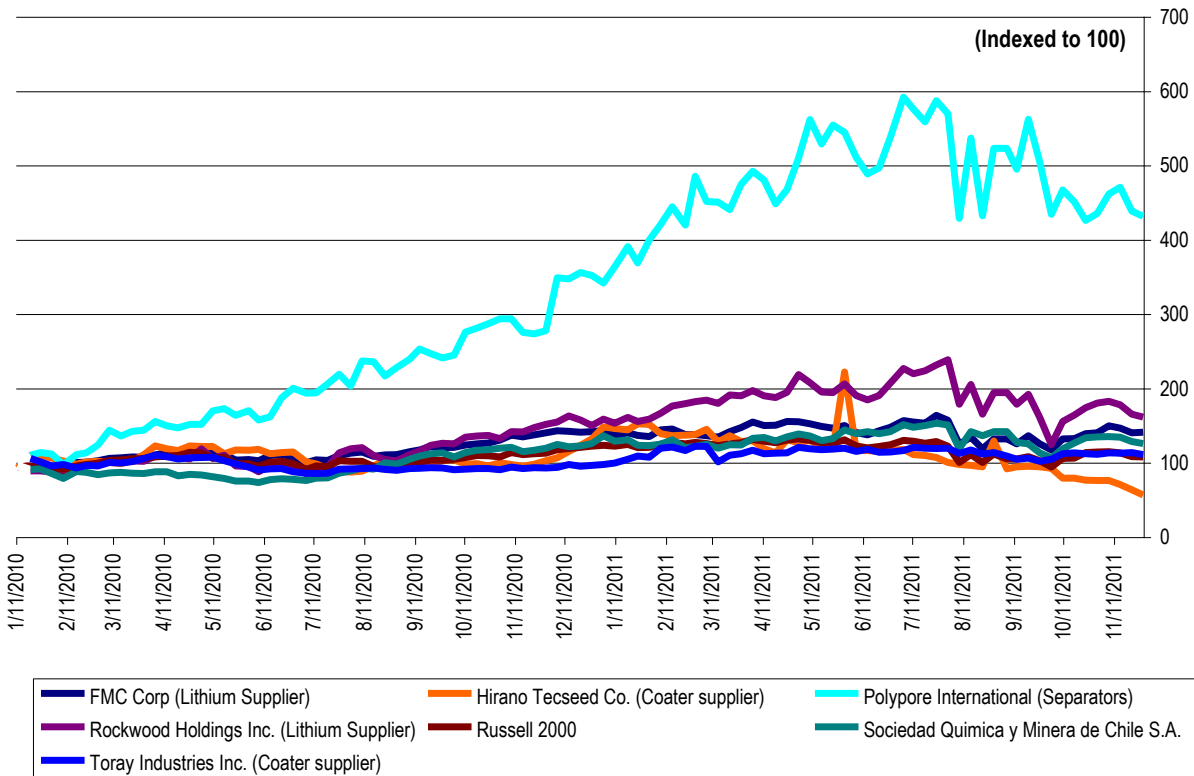
Index	Close on 11/28/2011	52-Wk High	% of 52-Wk High	Performance		
				LTM	YTD	Week
Dow	11,523.0	12,928.5	89.1%	4.0%	(1.3%)	(0.2%)
S&P 500	1,192.6	1,370.6	87.0%	0.3%	(6.2%)	(0.0%)
NASDAQ	2,527.3	2,887.8	87.5%	0.2%	(6.1%)	0.2%
Russell 2000	697.9	868.6	80.4%	(4.8%)	(12.6%)	(0.6%)
AMEX Cleantech Index	883.2	1,298.6	68.0%	(15.2%)	(23.1%)	(3.2%)

Source: Bloomberg and ThomsonOne



Note: The select NAATBatt Index is a market-value-weighted average and includes ALTI, BASF, COP, ENS and XIDE. The Advanced Battery U.S. Index is a market-value-weighted average and includes HEV, MGA, MXWL, UQM and VLNC. The Advanced Battery China Index is a market-value-weighted average and includes BYD, CBAK, GS Yuasa, LG Chem and Panasonic.

**Exhibit 2: Supplier Performance
(From January 4, 2010)**



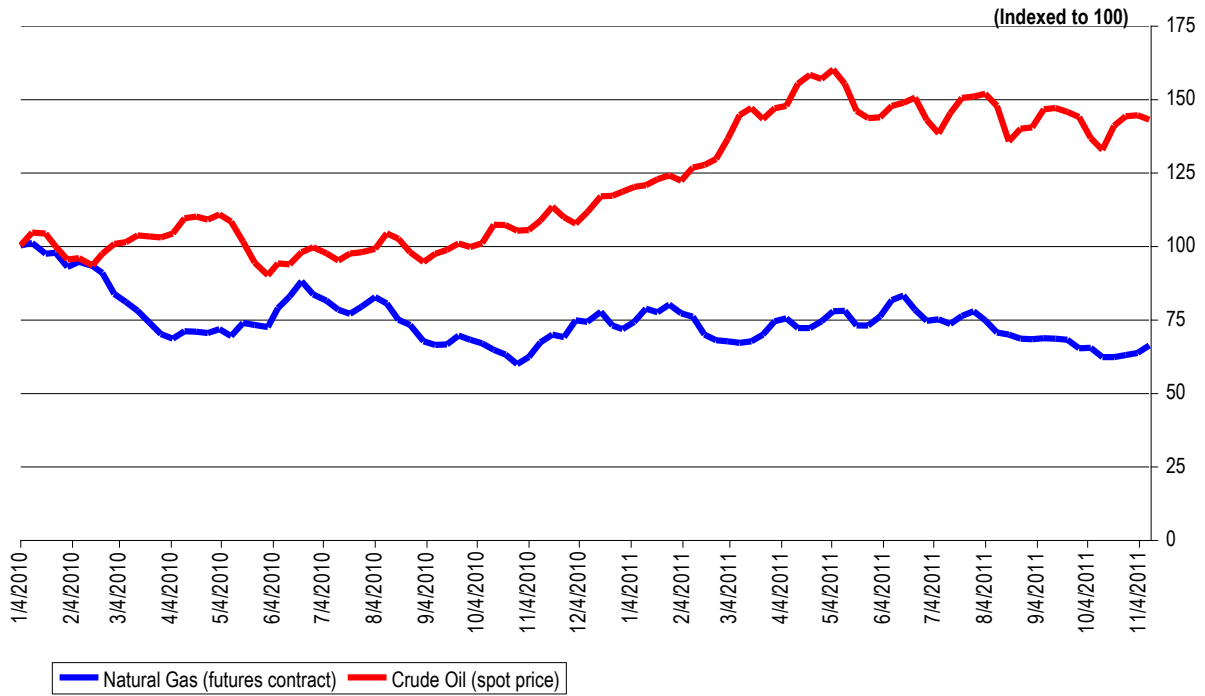
Source: Bloomberg

Exhibit 3: Commodity Prices

Commodity	Price on 11/28/2011	Price on 11/21/2011	Price on 10/28/2011	1 Week Change	1 Month Change
LME Copper (Cash, \$ per tonne)	7,381	7,301	7,981	1.1%	(7.5%)
LME Lead (cash, \$ per tonne)	2,003	2,000	1,986	0.2%	0.9%
LME Nickel (cash, \$ per tonne)	17,270	17,645	19,695	(2.1%)	(12.3%)

Source: LME

Exhibit 4: Natural Gas and Crude Oil
(From January 4, 2010)



Source: EIA

Executive Director's Notes



THE VOLT FIRE AND PUBLIC ACCEPTANCE OF ELECTRIC DRIVE

The news in the industry this week continues to be dominated by reports of the Volt battery fire and resulting NHTSA investigation. Electric drive skeptics have predictably taken the opportunity to question the efficacy of electric vehicles, calling them 21st Century versions of the infamous Pinto. Even some in the industry, aware of the other political headwinds facing new energy technologies, fear the ramifications of these incidents.

In fact, for those who have followed electric drive and the rise of lithium-ion battery technology, these incidents do not come as a surprise, at least not in a general sense. We have known to a certainty that these types of accidents were going to happen and the industry has been preparing for them for years. How it handles these incidents, and how they are managed from the standpoint of technology, public relations and public education, will determine their impact on the future of electric drive, not the incidents themselves.

The real problem, of course, is not the Volt or its lithium-ion battery but the fact that we are dealing with stored energy. Storing energy in any form involves risk, regardless of whether the energy is stored in the form of a charged lithium-ion battery, a full tank of gasoline or pressurized gas. If stored energy is released in an uncontrolled fashion as can happen in an accident, bad things can happen no matter what the form in which the energy was stored.

The issue is not that the Volt battery is more dangerous than a tank of gasoline or pressurized gas, but that it is less familiar. The public understands what happens when a tank of gasoline ignites and, because of that understanding and the opportunities for risk mitigation that the understanding provides to consumers, the public feels sufficiently empowered in order to accept the risk. That is not the case where the risk involves a new technology that consumers feel they do not yet fully understand. That is where we are today with lithium-ion batteries.

By all accounts, General Motors has responded admirably to the Volt incidents. A review of post-accident procedures is underway, educating first responders is being given renewed priority, loaner vehicles have been offered to any nervous Volt owners, and better ways of educating those owners about operating electric vehicles safely are being developed.

As initial safety problems go, these initial problems with electric vehicles have gone as well as anyone could have hoped. No one was killed or injured. No serious property damage has occurred. The right questions are being asked and better post-accident procedures put in place. Most importantly, we are

starting down the necessary path of educating consumers and first responders about how to operate electric vehicles safely. As that education continues and public familiarity increases, so will public comfort with the technology.

The incidents involving the Volt were regrettable, as any accident is regrettable. But on balance, so far, so good.



James J. Greenberger
Executive Director

December 2, 2011

NAATBatt Membership Applications for 2011

2012 Membership Applications and Dues Structure

NAATBatt is now accepting applications for membership for the 2012 calendar year. Membership dues for 2012 are \$10,000 for Corporate Members, \$10,000 for OEM Members, \$10,000 for Utility Members, \$5,000 for Associate Members, \$1,000 for Individual Members, and \$500 for Non-Profit/Government Members. Companies purchasing 2012 memberships will be entitled to the benefits of membership during the balance of the 2011 calendar year. Please click on <http://naatbatt.org/membership-inquiry/> and indicate that you are interested in a 2012 membership.

Why Join NAATBatt?

NAATBatt's mission is to grow the market for advanced electrochemical energy storage technology in North America. We concentrate primarily on two markets: electric drive for motor vehicles and distributed, grid-connected electricity storage.

NAATBatt members enjoy a variety of exclusive benefits including: discounted admission to NAATBatt conferences; admission to by invitation-only NAATBatt workshops, such as the Workshop on Distributed Energy Storage that NAATBatt co-sponsored last April in Chicago with the U.S. Department of Energy; admission to Members-Only Site Visits, at which one NAATBatt firm will host all other NAATBatt members for a tour of the host's facility; the opportunity to announce news and new product developments in the Member's News section of the widely read NAATBatt Advanced Battery Weekly; free access to speaker presentations made at NAATBatt programs and workshops; and invitations to attend private meetings with government leaders, such as the NAATBatt-sponsored trip to Washington last year to meet with Chairman Jon Wellinghoff of FERC.

NAATBatt membership also helps support the development of an important industry that could just change the world. NAATBatt provides educational programming on topics of interest to the advanced battery community, a weekly newsletter chronicling developments in the North American advanced battery market, networking opportunities for industry participants and their customers, and thought leadership on issues relating to energy storage markets and technology through the NAATBatt blog.

NAATBatt recently held its 2nd Annual Meeting and Conference in Louisville, Kentucky, which included the 1st Industry-Academic Advanced Battery Summit. The Summit is a new program that NAATBatt has started to encourage the more efficient transfer of advanced battery technology from leading U.S. research universities to industry. NAATBatt identified and brought to Louisville representatives from 15 of the top university advanced battery programs around the country to make flash presentations to industry about what those programs are working on and what technology they have available to license. In all there were 48 high quality presentations made at the Conference and the Summit, copies of which are available to conference attendees and NAATBatt members only.

NAATBatt will soon announce two other initiatives for the benefit of its members that will increase their access to capital and play an important role in growing the market for advanced electrochemical energy storage. Please stand by for some very interesting developments.



NAATBatt is a not-for-profit trade association qualified under Section 501(c)(6) of the Internal Revenue Code that is working for the benefit of the entire industry. Every dollar spent on NAATBatt memberships and programs goes to recouping program costs and to supporting activities intended to benefit the entire advanced battery industry. At a time when it seems that the only people making money on advanced lithium-ion technology are professional conference organizers, the advanced battery industry should take control of its own market and its own future. NAATBatt exists to market for the industry, not to the industry. But NAATBatt needs your support to do it. Please join us.

North American Industry Announcements and Calendar

Presentations from the NAATBatt 2011 Annual Meeting and Conference Now Available:

Speaker presentations, speaker bios and attendee lists from the just concluded NAATBatt's 2011 Annual Meeting and Conference are now available on the NAATBatt Web site. Go to www.naatbatt.org and navigate to the 2011 Annual Meeting and Conference link to view them. The links are password protected, and the password is available to NAATBatt members and conference attendees for no charge. Others may purchase access to the presentations for \$250. Please contact Jim Greenberger at jgreenberger@naatbatt.org for your password. Photos from the conference will be posted shortly.

Presentations from the Workshop on Distributed Energy Storage Posted: Presentation materials, handbooks, attendee lists and working group discussion summaries from the April 21, 2011 DOE/NAATBatt Workshop on Issues in Distributed Energy Storage have been posted on the NAATBatt Web site at: www.naatbatt.org. The materials are available for review to all Workshop registrants and to all NAATBatt members. Please contact Jim Greenberger at jgreenberger@naatbatt.org for your password.

Presentations from the NAATBatt 2010 Annual Meeting and Conference are Available:

NAATBatt's 2010 Annual Meeting and Conference entitled "The Impact of PEV's on T&D Systems: Challenges and Solutions" was a great success. More than 40 industry experts presented and the conference on topics relating to how the grid was going to accommodate the new load that will be generated by plug-in electric vehicles. Copies of the speaker presentations are available on a secured portion of the conference Web site. Access to the Web site is free to NAATBatt members and conference attendees. Access to the presentations is now available to all other for the price of \$250. Please contact Jim Greenberger at jgreenberger@naatbatt.org for more information about accessing the presentations.

NAATBatt Membership Information. NAATBatt is taking applications for membership from well qualified industry participants and supporters. Membership in NAATBatt is a great way to keep abreast of developments in advanced technology batteries and to support the growth of a market for products that could change the world. Your support for NAATBatt programs, newsletters, and committees is essential to the success of our organization and our industry. To inquire about membership, please complete the following inquiry form: <http://naatbatt.org/membership-inquiry/>. NAATBatt will respond with additional information about membership.

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- ***1st North American & Asian Lithium-Ion Technology Conference:*** The North American & Asian Lithium-Ion Technology Conference will be held on **January 12, 2012** at the University of Nevada Las Vegas in Las Vegas, Nevada. The conference is co-sponsored by UNLV and an affiliate of the Lion Battery Industry Association of South China. More information about the conference can be found at: <http://lbiana.org/industry-events/>
 - ***International Battery Association – Pacific Power Source Symposium Joint Meeting 2012:*** The 2012 meeting of the International Battery Association and Pacific Power Source Symposium

will be held on **January 9-13, 2012** at the Hilton Waikoloa Village in Hawaii. Information about the program may be viewed at: <http://www.soest.hawaii.edu/PPSS/index.htm>.

- **IEEE PES Conference on Innovative Smart Grid Technologies:** The IEEE PES Conference on Innovative Smart Grid Technologies will be held on **January 16-20, 2012** at the Washington Marriott Wardman Park hotel in Washington, D.C. The conference will examine a wide range of smart grid technologies, including energy storage. Information about the conference can be found at: <http://www.ieee-isgt.org/>
- **2nd Annual 10X Advanced Battery R&D:** The 10x Advanced Battery R&D conference: Breaking Barriers in Advanced Battery Performance and Value will be held on **January 23-24, 2012** in Santa Clara, California. The conference will examine next generation technologies that may dramatically reduce battery costs and/or increase battery energy density. NAATBatt is a supporting organization of the conference.
- **12 International Advanced Automotive Battery Conference:** The 2012 International Advanced Automotive Battery Conference (AABC) will be held on **February 6-10, 2012** in Orlando, Florida. The program will feature five days of intensive meetings, symposia and tutorials. Information about the program can be found at: <http://www.advancedautobat.com/>.
- **Electric Vehicle & Infrastructure Summit:** The Electric Vehicle & Infrastructure Summit will be held on **February 22-23, 2012** at the Double Tree Toronto Airport in Toronto, Canada. The Summit will focus on the collaboration necessary to implement electric cars in Canada. Information about the program can be found at: http://www.evehiclesummit.com/?utm_source=streamsend&utm_medium=email&utm_content=15056571&utm_campaign=EV%20Summit%202012.
- **The 29th International Battery Seminar & Exhibit:** Powersources.net will present the 29th International Battery Seminar & Exhibit at the Broward County Convention Center in Fort Lauderdale, Florida on **March 12-15, 2012**. The Seminar will discuss the state of the art of worldwide energy storage technology developments for portable products, power and vehicular applications. The Web site for the conference can be found at: <https://powersources.net/florida/frameset.html>.
- **International Electric Vehicle Symposium:** The Electric Drive Transportation Association will produce the 26th international Electric Vehicle Symposium and exposition (EVS26) on **May 6-9, 2012** in Los Angeles, California. Information about EVS26 can be found at www.EVS26.org.
- **IEEE PES Transmission and Distribution Conference and Exposition:** The IEEE PES Transmission and Distribution Conference will be held in Orlando, Florida on **May 7-10, 2012**. The conference will focus on innovation in power delivery systems, including storage systems. Information about the conference can be viewed at: <http://www.ieeet-d.org/>.
- **5th Symposium on Energy Storage: Beyond Lithium Ion:** The 5th Symposium on Energy Storage: Beyond Lithium Ion will be held in Berkeley, California on **June 5-7, 2012**. The Symposium will focus on next generation battery technologies, such as silicon anode technology, lithium sulfur batteries and lithium air. More information can be found at: <http://bestar.lbl.gov/bli5/program/>.

- **45th Power Sources Conference:** The 45th Power Sources Conference will be held at Bally's Las Vegas Hotel in Las Vegas on **June 11-14, 2012**. The meeting will focus on energy generation and storage technology (largely, but not exclusively, electrochemical), which is of interest to the U.S. Department of Defense, other government agencies, and to the civilian marketplace. More information can be found at: <http://www.powersourcesconference.com/>.
- **ITEC 2012:** The 2012 IEEE Transportation Electrification Conference and Expo will be held on **June 18-20, 2012** at the Hyatt Regency Dearborn, in Dearborn, Michigan. ITEC is focused on components, systems and standards for efficient power conversion for all types of electrified transportation. More information can be found at: <http://itec-conf.com/>
- **The Battery Show:** The Battery Show: The Expo for Advanced Batteries will return to Novi, Michigan on **November 13-15, 2012** and will be co-located with a new event, entitled "Charging Infrastructure Expo 2012." More information about the show and expo can be found at: <http://www.thebatteryshow.com/>.



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