

Summary:

The NAATBatt 2011 Annual Meeting is scheduled for September 7-8 in Louisville, Kentucky. Go to: <http://events.constantcontact.com/register/event?llr=5kjlyfdab&oeidk=a07e3yxwr9k4d31bff3> for more information and to register.

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

Executive Director James Greenberger writes about the role of the 1st Industry-Academic Advanced Battery Summit in promoting technology transfer in the U.S. battery industry. Read "**Technology Transfer and the 1st Industry-Academic Advanced Battery Summit**" in the Executive Director's Notes section of this newsletter below.

The NAATBatt Index declined 7.1%, while the U.S. and Asia Battery Indices increased 14.1% and 9.7%, respectively. The S&P500 and Russell 2000 climbed 7.7% and 11.3%, respectively.

Key Highlights:

- **Johnson Controls** and **Saft** have reached an agreement to end their joint venture (JV). Under the terms of the agreement, Johnson Controls will acquire Saft's share of the company for \$145 million in cash.
- **Volvo** (owned by **Geely**) has formed a partnership with **Siemens** to develop electric vehicles (EVs) and ancillary equipment. The two companies stated that an electric version of Volvo's small **C30** hatchback would be available for testing by the end of this year.
- **Toyota** has set a new lap record for EVs at the **Nurburgring Nordschleife** race track in Germany with a top speed of 162 MPH. The time of 7:48 beat the previous mark of 9:01 set earlier this year on the 13-mile long course.
- **ZBB Energy** announced it has entered into agreements for establishment of a JV that will initially assemble and ultimately manufacture ZBB products for sale on an exclusive basis in mainland **China** and on a non-exclusive basis in **Hong Kong** and **Taiwan**. The JV will build a manufacturing center in **WuHu City, Anhui Province** that will begin operations in early 2012.
- **Electrovaya** announced a contract to construct and demonstrate a utility sized stationary battery system using end of life electric vehicle (EV) packs. The stationary system will be implemented at the **Manitoba HVDC Research Centre** facility, a subsidiary of **Manitoba Hydro**.
- **European** auto companies and parts makers estimate that EVs will become mass-market products by about 2022, according to an **Ernst & Young** study. There were 2,307 EVs on German roads at the end of 2010 according to the country's **Federal Motor Vehicle Office**.
- The city of **Roseville, CA** installed three new charging stations; two at the **Westfield Galleria** at Roseville and one on the corner of **Oak Street** and **Washington Boulevard** in downtown. Since the stations have been installed, they have been used 19 times for a total of 26 hours, using about 87 kilowatts of energy — and costing the city about \$10.
- A **Chinese** electric bus (ebus) supplier may build an assembly plant in the **Philippines** if the government supports the development of an EV industry according to **Green Frog Zero Emissions Transport (GFZET)**. GFZET is seeking to import 62 e buses before the end of 2012.

- Administrators at **Muskegon Community College (MCC)** are preparing for the developing battery industry in **West Michigan** by starting a partnership degree program with a manufacturer. MCC plans to launch certificate and associate programs in Advanced Energy Storage (AES).

A Few More Details:

Johnson Controls and Saft have reached an agreement to end their joint venture (JV). Under the terms of the agreement, Johnson Controls will acquire Saft's share of the company for \$145 million in cash. The agreement includes an up-front royalty payment by Johnson Controls to Saft in return for an expanded license to Johnson Controls to use certain Saft Li-ion technology in all markets. The transaction, which is subject to regulatory clearances, could close as early as Sept. 30, 2011.

Source: Johnson Controls

Volvo (owned by Geely) has formed a partnership with Siemens to develop EVs and ancillary equipment. The two companies stated that an electric version of Volvo's small C30 hatchback would be available for testing by the end of this year. Volvo will deliver up to 200 vehicles to Siemens for further testing by the end of 2012. The organizations will co-operate in the development of electric drive technology, power electronics and charging technology, as well as the integration of those systems into the C30.

Source: The Financial Times

Toyota has set a new lap record for EVs at the Nurburgring Nordschleife race track in Germany with a time of 7:48, beating the previous mark of 9:01 set earlier this year. The challenging 13-mile long road course is considered the benchmark for automotive performance. The specially designed vehicle resembles a prototype race car and was engineered by Toyota's motorsports division (TMG) to showcase its electric motor technology. With two motors generating a total output of 375 hp the TMG EV P001 (as shown in **Exhibit 1**) reached a top speed of 162 MPH.

Exhibit 1: The Toyota TMG EV P001



Source: Fox News

ZBB Energy announced it has entered into agreements for establishment of a joint venture (JV) company that will initially assemble and ultimately manufacture ZBB products for sale in the power management industry on an exclusive basis in mainland China and on a non-exclusive basis in Hong Kong and Taiwan. The JV (Chinese name registration pending) will build a new state-of-the-art manufacturing center in WuHu City, Anhui Province that will begin operations in early 2012. The JV partners include, ZBB PowerSav Holdings Limited, AnHui Xinlong Electrical Company (Xinlong Electrical) and WuHu Huarui Power Transmission & Transformation Engineering Company (WuHu Huarui). Key terms of the joint venture include cash and technology capital investments of approximately \$13.4 million. ZBB's capital contributions to the joint venture will be a contribution of technology to the China JV Company via a license agreement valued at approximately \$4.0 million with the company maintaining control over the JV through its Board of Directors positions.

Source: ZBB Energy

Electrovaya announced a contract to develop, construct and demonstrate a utility sized stationary battery system using end of life EV battery packs. The repurposed batteries could be used to store electricity generated by renewable energy systems, such as wind and solar power. The stationary battery system will be implemented at the Manitoba HVDC Research Centre facility, a subsidiary of Manitoba Hydro.

Source: *Electrovaya*

European auto companies and parts makers estimate that EVs will emerge from niche status and become mass-market products by about 2022, according to an Ernst & Young study. There were 2,307 electric cars on German roads at the end of 2010 according to the country's Federal Motor Vehicle Office. Another 1,409 had been sold by the end of July. The government aims to have 1 million EVs on the nation's roads by 2020. In addition, 86% of managers surveyed expect business to improve in the next six months.

Source: *Bloomberg*

The city of Roseville, CA installed three new charging stations; two at the Westfield Galleria at Roseville and one on the corner of Oak Street and Washington Boulevard in downtown. Since the charging stations have been installed, they have been used 19 times for a total of 26 hours, using about 87 kilowatts of energy — and costing the city about \$10. The three charging stations that the city installed feature the latest technology from Coulomb Technologies.

Source: *The Press Tribune*

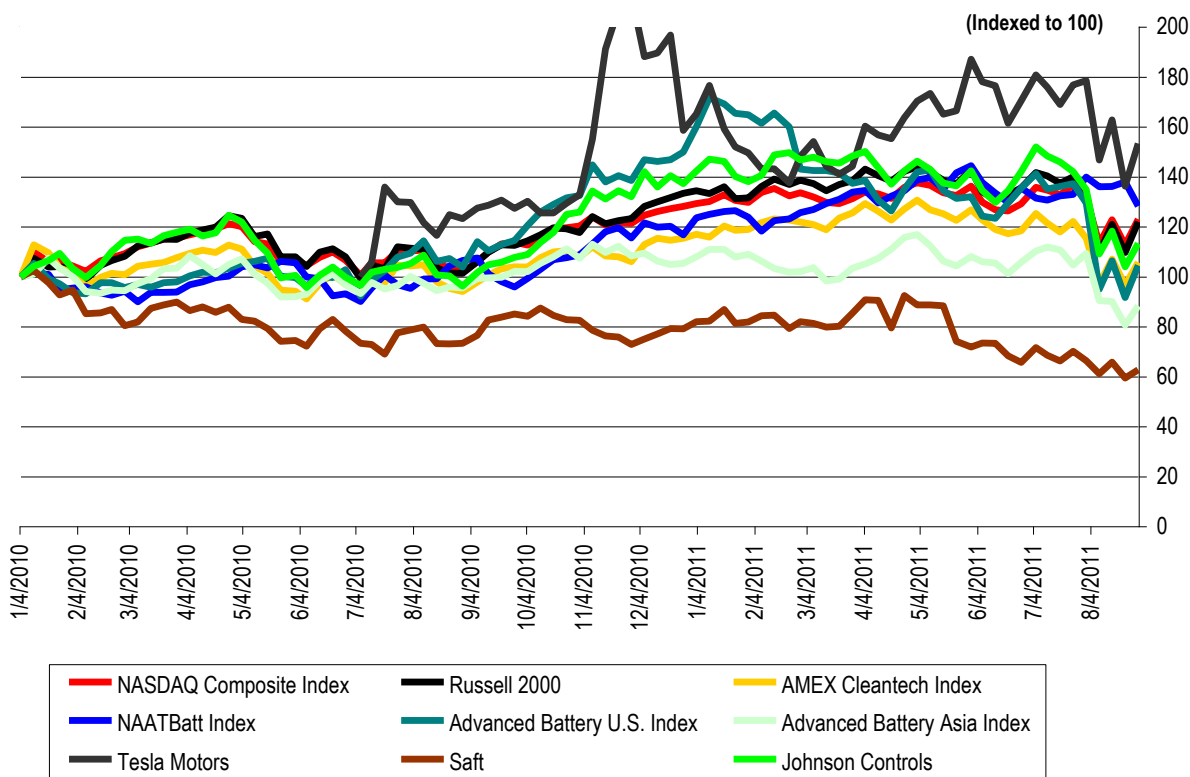
A Chinese ebus supplier may build an assembly plant in the Philippines if the government supports the development of an EV industry according to an official of Green Frog Zero Emissions Transport (GFZET). The company would import the ebuses from the unnamed Chinese company to help bring down transport costs and also promote a cleaner environment. GFZET is seeking to import 62 ebuses before the end of 2012. Thirty-six passenger e-buses will initially be plying different routes in Makati and charge just P8 per passenger. A charging station will be set up in Makati.

Source: *Manila Standard Today*

Administrators at Muskegon Community College (MCC) are preparing for the developing advanced battery industry in West Michigan by starting a partnership degree program with a local manufacturer. The courses are the result of a partnership training program with Fortu, a battery manufacturer currently in the final stages of breaking ground on a new AES plant in Muskegon. MCC plans to launch certificate and associate programs in Advanced Energy Storage. The certificate program would require 28-32 credits, while the associate program would need 62-64 credits.

Source: *WZZM 13 Online*

Exhibit 2: Indices Performance
(From January 4, 2010)

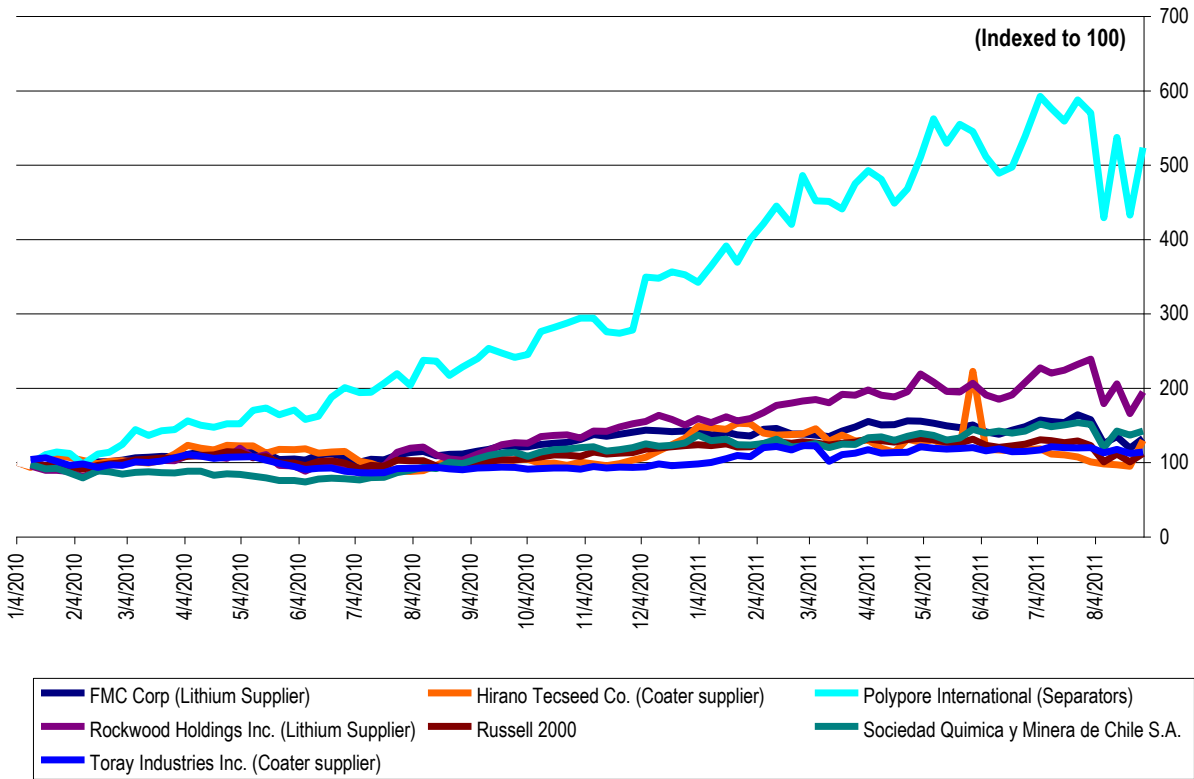


Index	Close on 8/29/2011	52-Wk High	% of 52-Wk High	Performance		
				LTM	YTD	Week
Dow	11,539.3	12,928.5	89.3%	13.7%	(1.1%)	6.3%
S&P 500	1,210.1	1,370.6	88.3%	13.8%	(4.9%)	7.7%
NASDAQ	2,562.1	2,887.8	88.7%	19.4%	(4.8%)	9.2%
Russell 2000	724.7	868.6	83.4%	18.0%	(9.3%)	11.3%
AMEX Cleantech Index	1,038.7	1,292.4	80.4%	11.1%	(9.6%)	9.6%

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 3: Supplier Performance
(From January 4, 2010)**



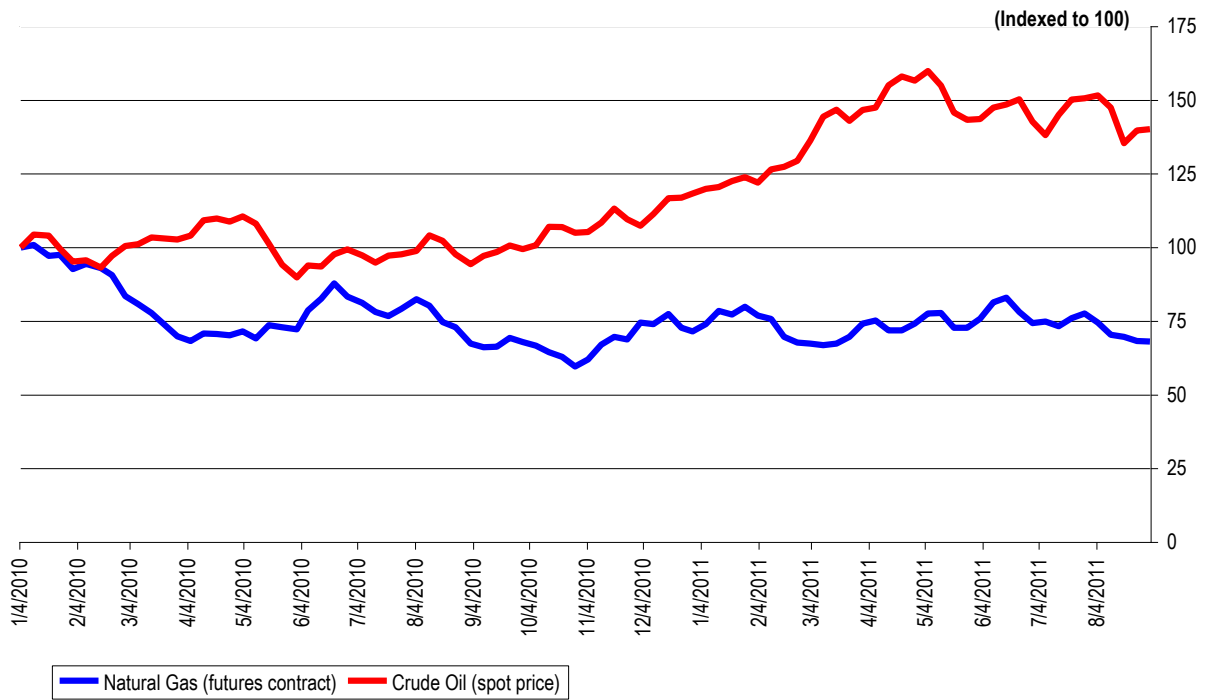
Source: Bloomberg

Exhibit 4: Commodity Prices

Commodity	Price on 8/30/2011	Price on 8/22/2011	Price on 7/29/2011	1 Week Change	1 Month Change
LME Copper (Cash, \$ per tonne)	9,126	8,811	9,730	3.6%	(6.2%)
LME Lead (cash, \$ per tonne)	2,497	2,295	2,613	8.8%	(4.5%)
LME Nickel (cash, \$ per tonne)	21,800	21,070	24,490	3.5%	(11.0%)

Source: LME

**Exhibit 5: Natural Gas and Crude Oil
(From January 4, 2010)**



Source: EIA

Executive Director's Notes



TECHNOLOGY TRANSFER AND THE 1ST INDUSTRY-ACADEMIC ADVANCED BATTERY SUMMIT

The past several months have been all consuming for me preparing for the 2011 NAATBatt Annual Meeting and Conference. I have learned much through the process, not the least of which is that all those conference organizers who seem to be the only ones making money in the lithium-ion industry today do in fact seem to deserve every penny they make.

More seriously, I am proud of the conference that our team here at NAATBatt (Marty Tullio, Suzanne Schnitzer, Carlos Helou and Sandy Kane deserve special recognition) has pulled together. We have a first-rate program in store for next week focusing on some of the key issues that will affect the future of the U.S. advanced battery industry.

The most innovative part of the program, however, will be the 1st Industry-Academic Advanced Battery Summit. NAATBatt's mission is to grow and bolster the health of the U.S. advanced battery industry. The key competitive advantage of that industry is its relatively easy access to new, cutting edge battery technology. U.S. industry will not compete with Asian manufacturers anytime soon on the basis of mass production of battery cells. But the historic ability of U.S.-based companies to obtain and commercialize next generation technologies could be the trump card that will yet allow the U.S. to become a global leader in advanced electrochemical energy storage.

The growing public appreciation of the importance of electrochemical energy storage has caused an explosion in the number of young researchers going into the advanced battery field. What used to be an obscure corner of academia is obscure no longer. New and occasionally brilliant young minds join the hunt every day for technology that will liberate our country from petroleum dependence and permit the large scale integration of renewable energy onto our power grid.

But even for U.S.-based companies, identifying those new minds and obtaining and commercializing their new technology is a daunting task. Commercial companies are in the business of making money today. Keeping up on scientific papers and traveling to universities around the country to meet with new researchers is challenging and time consuming for managers all too often measured on the basis of quarterly earnings.

This is where NAATBatt and the Industry-Academic Advanced Battery Summit come in. NAATBatt has invited 14 peer selected up-and-coming university research programs from around the country to come to Louisville next week and make short presentations about what they are working on and where their interests lay. These presentations will permit companies that might not have time to research and travel to find new technology, new ideas and new personnel, to meet them all at one time and in one place.



The goal, of course, is to promote technology transfer from research universities to the private sector. If the key advantage of U.S. industry lies in its ability to commercialize new technology, then NAATBatt's goal must be to enable and accelerate the transfer of that technology and its commercialization. I hope you will join us next week in Louisville to see this process in action.

A handwritten signature in black ink, which appears to read "James J. Greenberger". The signature is fluid and cursive.

James J. Greenberger
Executive Director

September 2, 2011

NAATBatt Membership Applications for 2011

2011 Membership Applications and Dues Structure

NAATBatt is accepting applications for membership for the 2011 calendar year. Membership dues for 2011 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. Please click on <http://naatbatt.org/membership-inquiry/> and indicate that you are interested in a 2011 membership.

Why Join NAATBatt?

NAATBatt's mission is to grow the market for advanced electrochemical energy storage technology in North America. NAATBatt provides regular 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, including our recently concluded conference on PEV's and the grid, and public policy initiatives, such as the recent NAATBatt-sponsored meeting with Chairman Jon Wellinghoff of FERC and production of written comments to FERC in support of distributed energy storage technology.

NAATBatt recently concluded the highly successful meeting and conference entitled "The Impact of PEV's on T&D Systems: Challenges and Solutions", in Louisville, Kentucky. The conference was the largest cross-industry event to date focused on the impact of plug-in electric vehicles on the grid. The conference outlined the improvements and upgrades that utilities must make to the grid in order for it to accommodate mass-market electric vehicles. The conference emphasized the critical role that grid-connected energy storage can play in promoting vehicle electrification in the United States. Emphasizing the necessary relationship between grid-connected storage and electric vehicles is one of NAATBatt's primary missions.

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

**ONE
WEEK
TO GO!**

NAATBatt 2011 Annual Meeting and Conference: NAATBatt's 2011 Annual Meeting and Conference will be held on **September 7-8, 2011** in Louisville, Kentucky. The title of the program is "**New Markets, New Innovations: The Next 5 Years in Advanced Batteries.**" The program will take a hard look at near-term market opportunities for U.S. advanced battery manufacturers. The program will also discuss the possibility of and opportunities for second use of EV batteries. The annual meeting will also feature the **Industry-Academic Advanced Battery Summit** with presentations by some of the top university battery research programs in the United States. Attendees will learn who is working on what in advanced battery research programs in the United States. There is more going on than you think. Information about the 2011 conference is posted on the NAATBatt Web site at: www.naatbatt.org. Please join us in Louisville in September!

Presentations and Materials from the Workshop on Distributed Energy Storage Posted: Presentation materials, handbooks, attendee lists and working group discussion summaries from the recently concluded April 21 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. If you have lost or never received your password to access these materials, please contact Jim Greenberger at jgreenberger@naatbatt.org.

Speaker Presentations from the NAATBatt 2010 Annual Meeting and Conference are Now 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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- **NAATBatt 2011 Annual Meeting and Conference: September 7-8, 2011** in Louisville, Kentucky. Registration is now open for the 2011 Annual Meeting and Conference, which will include the 1st Industry-Academic Advanced Battery Summit. See the note above for more details, or click [here](#).
 - **Battery Power 2011:** Battery Power 2011 will be held on **September 20-21, 2011** in Nashville, Tennessee. The show will highlight the latest capabilities, design issues, trends and market

forecasts in batteries and battery-powered products and systems. The conference Web site can be viewed at: http://www.batterypoweronline.com/bppt-conf11/bp11_index.php.

- **4th International EV Battery Tech USA: Global Cost Reduction Initiative:** EV Battery Tech USA will be held on **September 21-22, 2011**, in Troy, Michigan. The leading automotive OEM's will attend the conference and discuss how to reduce the cost of EV batteries by specifically evaluating near-term advances in energy density, battery life extension, preventative methods for cell degradation and failure, battery safety improvement and testing. NAATBatt is a supporting organization of the conference and NAATBatt members are entitled to a 15% discount on registration. The conference Web site may be viewed at: <http://www.ev-battery-tech.com/>.
- **Utility Scale Flexible Power Summit:** The Utility Scale Flexible Power Summit will be held on **September 27-28, 2011** in Denver, Colorado. The utility power conference will examine issues currently limiting optimal generation and transmission flexibility, as well as exploring the potential of future storage and financing options. Information about the Summit can be found at: <http://www.greenpowerconferences.com/EF/?sSubSystem=Prospectus&sEventCode=RE1109US&sSessionID=5151b42fadaadaeda7c8206f42773de2-4205310>.
- **Developing Grid Storage Projects:** Infocast will produce the Developing Grid Storage Projects conference in Dallas, Texas on **October 5-6, 2011**. The conference will discuss the regulatory drivers and business models for grid storage projects in the United States. NAATBatt will be a supporting organization of the conference.
- **The Business of Plugging In:** The Center for Automotive Research will host The Business of Plugging In conference at the Hyatt Regency in Dearborn, Michigan on **October 11-13, 2011**. The conference will examine the challenges of moving EV's from early adoption to mass market acceptance and will feature a ride-and-drive event highlighting the newest EV's. More information can be found at: www.bpiconference.com.
- **EESAT 2011:** The biannual international Electrical Energy Storage Applications and Technologies conference (EESAT) will be held at the San Diego Marriott Hotel and Marina in San Diego, California on **October 16-19, 2011**. The conference will highlight specific electrical energy storage applications and technologies, especially as they relate to the electricity grid. More information about EESAT 2011 can be found at: <http://www.sandia.gov/eesat/index.html>.
- **The Battery Show:** The Battery Show conference and exposition will be held in Novi, Michigan on **October 25-27, 2011**. The Battery Show is North America's largest free to attend exhibition for advanced batteries. The exhibition showcases the latest battery technologies and solutions, ranging from electric vehicle applications to raw material suppliers. Its two-track business and technology conference examines battery market development and opportunities, including how technical advances are likely to impact performance, safety and cost. For more information on The Battery Show or to register, visit www.thebatteryshow.com.
- **Lithium Battery Power:** Knowledge Foundation will host the 7th Annual International Conference on Lithium Battery Power on **November 7-8, 2011** in Las Vegas, Nevada. The conference will examine advances in lithium-ion battery technology. The conference Web site can be accessed at: http://www.knowledgefoundation.com/viewevents.php?event_id=254&act=evt
- **7th Lithium Mobile Power Conference:** Knowledge Foundation will host the 7th Lithium Mobile Power Conference on **November 7-8, 2011** in Las Vegas, Nevada immediately following the

battery safety conference. The conference will provide a general survey of the lithium-ion battery industry. The conference Web site can be accessed at: http://www.knowledgefoundation.com/viewevents.php?event_id=254&act=evt.

- **2nd Battery Safety Conference:** Knowledge Foundation will host the 2nd Battery Safety Conference on **November 9-10, 2011** in Las Vegas, Nevada. The conference will discuss safety incidents and product recalls regarding lithium-ion batteries. The conference Web site can be accessed at: http://www.knowledgefoundation.com/viewevents.php?event_id=253&act=evt
- **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/>
- **2012 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/>.
- **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/>.

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