

Summary:

For the August 12th issue of NAATBatt's Advanced Battery Weekly, we highlight the ongoing sector activities.

The NAATBatt, U.S. and Asia Battery Indices declined 2.7%, 26.7% and 17.2%, respectively. The S&P500 and Russell 2000 decreased 13.0% and 17.9%, respectively.

Executive Director James Greenberger writes about the upcoming 2011 NAATBatt Annual Meeting and Conference. Read "**NAATBatt 2011 Annual Meeting Will Be Extraordinary**" in the Executive Director's Notes portion of the newsletter below.

Key Highlights:

- **President Barack Obama** toured the **Johnson Controls-Saft** advanced battery center, the first facility in the United States to produce lithium-ion (li-ion) battery cells and systems for electric vehicles (EVs). **Johnson Controls** has also committed to opening a 2nd li-ion plant in the U.S.
- **General Motors** has awarded a production contract to **A123 Systems** for batteries to be used in future GM EVs to be sold in select global markets. The contract includes advanced **Nanophosphate** cells and fully integrated electronic components.
- **Food Service distributor 3663** is operating the **UK's** first electric truck (etruck) with a refrigerated body. The 12-tonne **Smith Newton** uses a 120 kilowatt-hour (kWh) li-ion battery pack from **Valence Technology**.
- **General Motors** is planning to produce an electric **Cadillac**. The EV would be an updated version of the extended-range electric powertrain from the **Chevy Volt**.
- **South Korea** has accelerated the timeline to begin production of mid-sized electric cars to 2014, three years ahead of schedule. The **Ministry of Knowledge Economy (MoKE)** has selected a consortium led by **Hyundai** (and includes **LG Chemical, SK Innovation** and universities) to develop an EV that can travel more than 200 kilometers (124 miles) on a single charge.
- **Ford** and **SunPower** have teamed up to offer customers a rooftop solar system that will allow **Focus Electric** owners to "**Drive Green for Life**" as it will provide energy to offset the electricity used to charge the vehicle. The solar system is offered at a base price of less than \$10,000, after federal tax credits.
- **U.S. venture capital (VC)** investment in cleantech companies declined y/y. However, investment in renewable energy and energy storage remained strong, according to an **Ernst & Young LLP** analysis.
- A test project dubbed **Electric Avenue** will formally open at **Portland State University** on Aug. 16th. The two-year project will involve the installation of charging stations provided by **Eaton, Shorepower Technologies, OpConnect, SPX, ECotality** and **General Electric** along a one-block area.
- **Victory Liner** is prepared to invest as much as P250 million (or \$5.9 million) to build a plant that will produce electric buses (ebuses) in an effort to support the **National Climate Change Action Plan** to help reduce the emission of greenhouse gases. Each ebus would travel 240 kilometers (or 149 miles) on a six-hour charging of its battery.

- The borough of **Avalon** has opened the first municipal charging station on the **New Jersey** shore. **U-Go Stations** of **Philadelphia** installed the charging station.

A Few More Details:

President Barack Obama toured the Johnson Controls-Saft advanced battery center, the first facility in the United States to produce li-ion battery cells and systems for EVs. Johnson Controls has also committed to opening a 2nd li-ion plant in the U.S. The Administration is planning to award over \$175 million to car companies and research centers to spur clean auto technology and production of advanced car batteries.
Source: Johnson controls, The Business Journal and Reuters

General Motors has awarded a production contract to A123 Systems for batteries to be used in future GM EVs to be sold in select global markets. The contract includes advanced Nanophosphate cells and fully integrated electronic components. The specific vehicles and brands will be announced at a later date.
Source: General Motors

Food Service distributor 3663 is operating the UK's first etruck with a refrigerated body. The 12-tonne Smith Newton all-electric truck is running out of the Battersea depot in South London. The etruck can transport up to three tonnes of goods and has a range of up to 100 miles on a single charge and uses a 120kWh li-ion battery pack from Valence Technology.
Source: Road Transport

General Motors is planning to produce an electric Cadillac. The Converj (as shown in **Exhibit 1**) will likely be launched in 2013 as a 2014 model. The EV would be an updated version of the extended-range electric powertrain from the Chevy Volt.
Source: Fox News

Exhibit 1: The Converj



Source: GM

South Korea has accelerated the timeline to begin production of mid-sized electric cars to 2014, three years ahead of schedule. The Ministry of Knowledge Economy (MoKE) has selected a consortium led by Hyundai (and includes LG Chemical, SK Innovation and universities) to develop an EV that can travel more than 200 kilometers (124 miles) on a single charge. The consortium will receive about 70 billion won (\$64.6 million) in state money.
Source: AFP

Ford and SunPower have teamed up to offer customers a rooftop solar system that will allow Focus Electric owners to "Drive Green for Life" as it will provide energy to offset the electricity used to charge the vehicle. The 2.5 kilowatt SunPower system will produce an estimated 3,000 kilowatt hours (kWhs) of

electricity annually. The system was sized to accommodate a customer who drives about 1,000 miles per month. The solar system is offered at a base price of less than \$10,000, after federal tax credits.

Source: Ford Motor

U.S. venture capital (VC) investment in cleantech companies declined y/y. However, investment in renewable energy and energy storage remained strong, according to an Ernst & Young LLP analysis. VC investment in cleantech companies decreased by 44% y/y to \$1.1 billion while deals declined fell 12% to 68. The energy and electricity generation segment dominated cleantech investment, raising \$311.6 million during 2Q11 and a total of \$686.9 million through 1H11

Source: Renew Grid

A test project dubbed Electric Avenue will formally open at Portland State University on Aug. 16th. The two-year project in which a variety of charging stations will be installed along a one-block area of Southwest Montgomery (between Broadway and Sixth) will provide researchers information on how the charging stations are used in the real world. The charging stations are being provided by Eaton, Shorepower Technologies, OpConnect, SPX, ECOtality and General Electric.

Source: The Portland Tribune

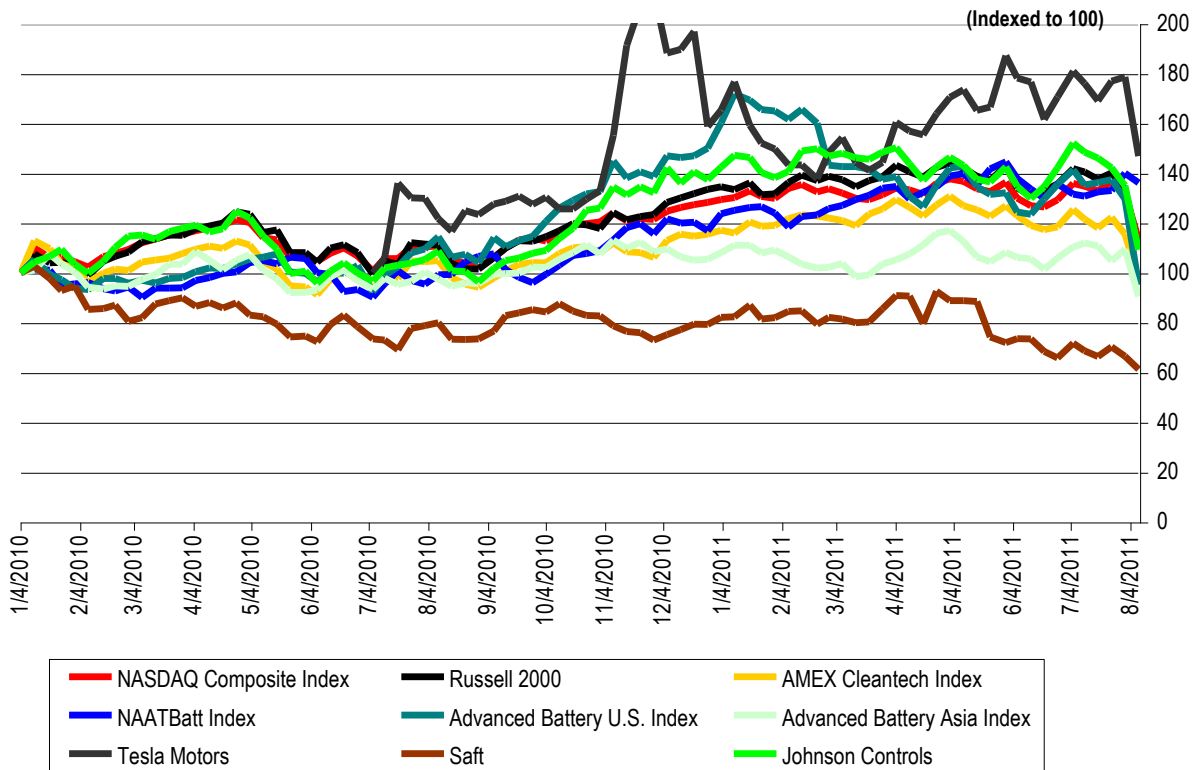
Victory Liner is prepared to invest as much as P250 million (or \$5.9 million) to put up a plant that will produce ebuses in an effort to support the National Climate Change Action Plan (NCCAP) to help reduce the emission of greenhouse gases (GHGs). The estimated cost of an e-bus would be around P8 million (or \$189,215). Each ebus would travel 240 kilometers (or 149 miles) on a charge.

Source: The Philippine Star

The borough of Avalon has opened the first municipal charging station for electric cars on the New Jersey shore. U-Go Stations of Philadelphia installed the station, which will be open 24 hours a day. The cost is \$3.75 per hour for a typical two-hour charging

Source: Press of Atlantic City

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

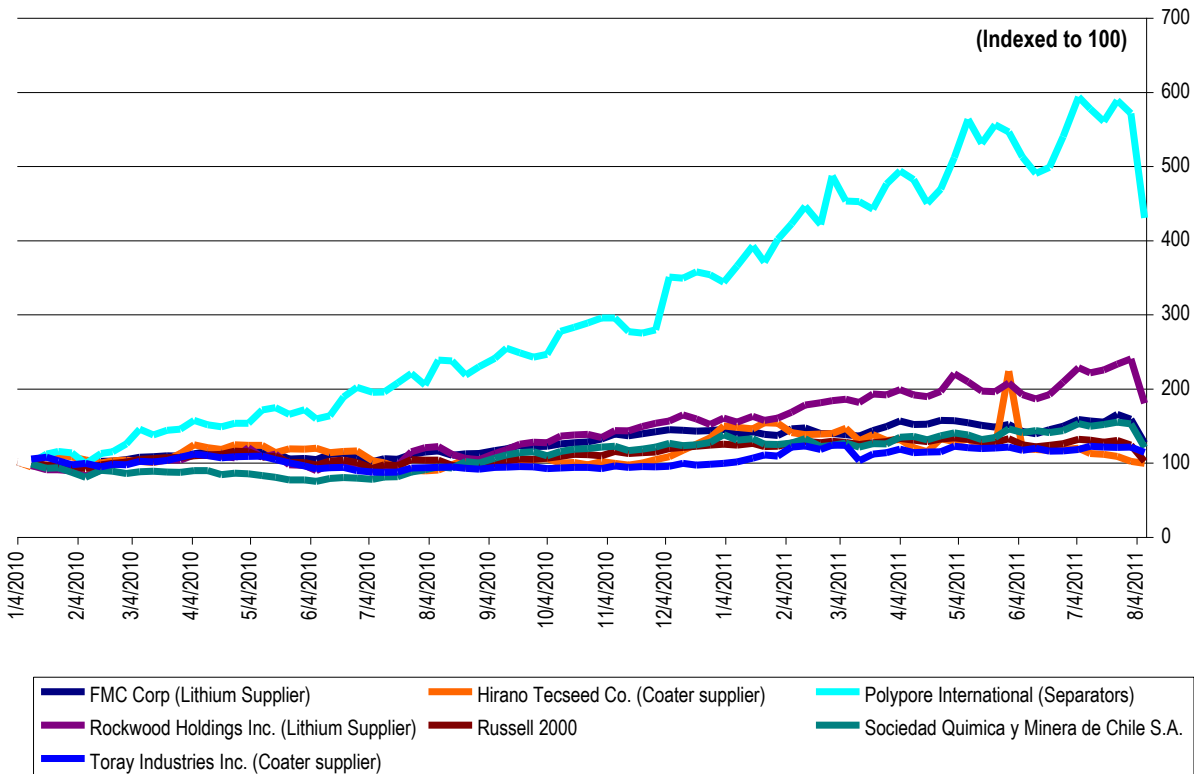


Index	Close on 8/8/2011	52-Wk High	% of 52-Wk High	Performance		
				LTM	YTD	Week
Dow	10,809.9	12,928.5	83.6%	1.5%	(7.4%)	(10.9%)
S&P 500	1,119.5	1,370.6	81.7%	(0.3%)	(12.0%)	(13.0%)
NASDAQ	2,357.7	2,887.8	81.6%	2.6%	(12.4%)	(14.1%)
Russell 2000	651.0	868.6	74.9%	(0.5%)	(18.5%)	(17.9%)
AMEX Cleantech Index	953.7	1,292.4	73.8%	(6.7%)	(17.0%)	(15.8%)

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)



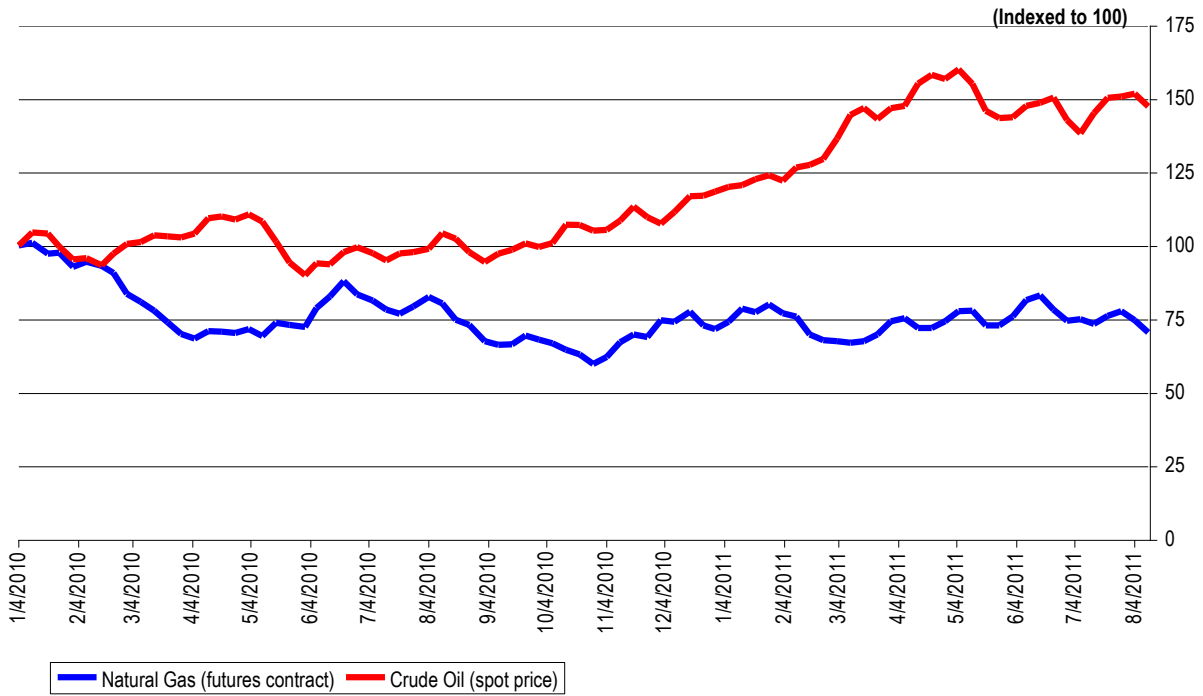
Source: Bloomberg

Exhibit 4: Commodity Prices

Commodity	Price on 8/8/2011	Price on 8/1/2011	Price on 7/8/2011	1 Week Change	1 Month Change
LME Copper (Cash, \$ per tonne)	9,038	9,827	9,712	(8.0%)	(6.9%)
LME Lead (cash, \$ per tonne)	2,345	2,627	2,705	(10.8%)	(13.3%)
LME Nickel (cash, \$ per tonne)	22,295	25,060	24,055	(11.0%)	(7.3%)

Source: LME

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



Source: EIA

Executive Director's Notes



NAATBATT 2011 ANNUAL MEETING WILL BE EXTRAORDINARY

Several months ago I began preparations for the 2011 NAATBatt Annual Meeting and Conference with a great deal of trepidation. Although our 2010 conference was moderately successful for a first-time event, 2011 was showing signs of being no 2010: the economy is anemic, travel and marketing budgets are down, the big battery conferences are getting bigger and glitzier, and conference fatigue is setting in throughout the industry. I was concerned about the quality of the program we could pull together in Louisville this year.

I can report that, four weeks out from the beginning of the 2011 NAATBatt Annual Meeting and Conference, my fears of disaster were unwarranted. The program we have put together, I can confidently and accurately say, will be the best substantive program on the advanced battery business that will be held in the United States this year.

The program will be electric, as it will discuss a wide range of issues that are important to the industry and its future. Notwithstanding the wide ranging subject matter, the speakers will be some of the leading experts on the subject matters discussed, and the entire program will be packed into an efficient, two-day format. I am proud of what we have put together.

The highlights of the program will be:

- The 1st Industry-Academic Advanced Battery Summit. The best advantage of the U.S. companies in what has become a worldwide competition for dominance in the advanced battery market is their easy access to high quality battery research and development. NAATBatt, with the assistance of our Summit organizing committee, has identified 15 of the top up-and-coming university-based battery research programs in the United States to make flash presentations at the Summit. Some of the names will be familiar, but many others will not—which is, of course, the point. If U.S. companies will one day play a leading role in the advanced battery industry, it will be at least in part because of the work being done at the institutions presenting at the Summit. Don't miss it.
- Five Year Advanced Battery Forecast. Wolfgang Bernard of Roland Berger, a noted expert in the advanced automotive market and author of several reports on the advanced battery industry, will present a five-year forecast of the advanced battery industry. The forecast will discuss market opportunities for advanced battery companies by sector and by region.

- Economics of Grid-Connected Distributed Energy Storage. This past year has seen several white papers published discussing the economics of grid-connected energy storage and assessing how close the technology is to commercial realization and scale. The authors of some of those white papers, and other experts who have studied the question, will appear in Louisville and debate just how soon it will be before what will undoubtedly be a huge market for grid-connected energy storage develops.
- Second Use of EV Batteries. It has become increasingly clear to government and to industry that maximizing the residual value of advanced automotive batteries is essential to bringing down the cost of electric vehicles to consumers. Some of the leading thinkers and researchers on this subject, from General Motors, GE Capital, Oak Ridge National Laboratory, NREL and the DOE, among others, will talk about the possibilities, opportunities and implications of EV battery second use.
- Advances in Traction Batteries and Grid-Connected Energy Storage Systems. Two panels at the conference will talk about new technologies in traction batteries and grid-connected distributed energy storage systems expected to hit the market within the next five years. To learn what's new and how what's new will impact the market, you will need to hear these panels.
- Recycling and End-Of-Life Issues. While it will be several years before large numbers of advanced automotive batteries become candidates for recycling, OEM's and battery manufacturers are, by placing product on the market today, incurring legal liability and responsibility for disposal and end-of-life management. While the recycling itself may not take place at scale for several years, planning for it must start today. Hear what the experts are thinking and advising.

I hope you will join us in Louisville on September 7-8. You will not be sorry you came. Go to: <http://events.constantcontact.com/register/event?llr=5kjlyfdab&oeidk=a07e3yxwr9k4d31bff3> for more information and to register.



James J. Greenberger
Executive Director

August 12, 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

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 27-28, 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/>.
- **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/eosat/index.html>.
- **The Battery Show:** The Battery Show conference and exposition will be held in Novi, Michigan on **October 25-27, 2011**. The conference will include a business and a technology track as well as a wide range of exhibits by battery makers and suppliers. Information about the show can be found at: <http://www.thebatteryshow.com/conference-program-2011>.
- **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/>
- **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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