

Summary:

For the December 3rd issue of NAATBatt's Advanced Battery Weekly, we highlight the ongoing sector activities.

ONLY FIVE DAYS TO GO until the **NAATBatt 2010 Annual Meeting and Conference** on "*The Impact of PEV's on T&D Systems: Challenges and Solutions*". The conference will be held at The Seelbach Hilton Hotel in Louisville, Kentucky on **December 8-10, 2010**, and will focus on the impact of plug-in electric vehicle (PEV) recharging on local electric distribution and transmission systems. The conference will bring together utilities, utility regulators, automakers and battery manufacturers for the first comprehensive, cross-industry discussion of how the grid can best handle the advent of mass-market PEV's. Both the technical and policy implications of integrating PEV's onto the grid will be discussed. For more information and to register, click on: <http://naatbatt.org/2010annualmeeting/>.

Executive Director James Greenberger explains why NAATBatt chose to hold an annual conference in an industry already crowded with programs and what NAATBatt hopes to achieve. Read "**Why Hold an Industry Conference**" in the Executive Director's Notes portion of this newsletter below.

The NAATBatt, U.S. and Asia Indices decreased 3.4% and 1.4 and 3.0%, respectively. The S&P 500 and Russell 2000 were relatively flat.

Key Highlights:

- **National Grid Plc** believes electric vehicles (EVs) will comprise 20% of **U.K.** auto sales by 2016. The **Society of Motor Manufacturers and Traders** estimates the average daily distance traveled by British drivers is 25 miles and the length of a single journey is 8.6 miles.
- **Dayton Power & Light (DP&L)** has purchased an all-electric 2010 **Chevy Equinox** to study charging characteristics. The company has also partnered with **PowerCET** (California-based), which specializes in power monitoring and consulting, to monitor electric cars in and around Silicon Valley.
- **PSA Peugeot Citroën** introduced new electric vehicle (EV) models to **Ireland**. This was part of a Memorandum of Understanding with the government and **ESB**. The Irish government's goal is to have 6,000 EVs on the roads by 2012.
- **Mitsubishi Motors** announced production of its **i-MiEV** EV has reached the 5,000-unit mark at the **Mizushima Plant** in **Japan**. The i-MiEV electric car will be introduced into the U.S. market in 2011.
- **Fiat** believes natural gas engines offer a better way to cut emissions because of its lower cost relative to competing technologies. The company estimates the additional cost for an engine using natural gas is \$3,000, compared with \$3,300 for diesel and \$8,000 for an electric hybrid.
- **Hydro-Quebec** will add 20 **Chevrolet Volts** to its fleet next year. Hydro-Quebec is involved in tests with several different manufacturers of electric or hybrid vehicles.
- **GE Global Research** has built a battery system that combines a high-energy density sodium battery with a high-power li-ion battery. The dual-battery system can reduce the cost of a pack by 20% compared to using a single chemistry in a vehicle that requires a lot of power *and* energy storage capacity — like a bus.

- The **West Michigan** that includes **Grand Rapids, Holland** and **Muskegon** is planning to as many as 75 public charging stations installed in the parking lots of businesses, colleges, hospitals and other sites. **Coulomb Technologies** will provide the charging stations at no cost.
- **Sanyo Electric** announced the installation of its **Smart Energy System (SES)** combining its solar modules, li-ion battery systems for power storage in a **Lawson** convenience store. The SES consists of 6 li-ion systems with each containing 312 '18650' batteries.
- **Cracker Barrel Old Country Store** has launched a pilot project in which it will install EV chargers (provided by **ECotality**) at 24 restaurants across Tennessee. Guests will be able to get a full charge in under 30 minutes.
- **CODA Automotive** and **Essex Credit** (a subsidiary of **Bank of the West**) have reached a preliminary agreement to provide financing for customers of the 2011 sedan. Customers who purchase the EV will have the option of applying for credit from their financial institution of choice or directly on the CODA Web site via an Essex portal.

A Few More Details:

National Grid Plc believes EVs will comprise 20% of U.K. auto sales by 2016 due in large part to government subsidies and lower fuel costs. The base scenario has a million electric cars on the road in 2020 – meaning about one in five of all cars sold in the U.K. from 2016 would be electric. The subsidies to promote EVs could be as much as 5,000 pounds (\$7,795) from January if they buy an electric or plug-in hybrid car. In 2009, there were 31 million cars in the U.K., according to the Society of Motor Manufacturers and Traders (SMMT). The SMMT estimates the average daily distance traveled by British drivers is 25 miles and the length of a single journey is 8.6 miles.

Source: Bloomberg

Dayton Power & Light (DP&L) has purchased an all-electric 2010 Chevy Equinox to study charging characteristics. The company has also partnered with PowerCET (California-based), which specializes in power monitoring and consulting, to monitor electric cars in and around Silicon Valley. DP&L said the cost of “fuel” for a typical electric car is 2.8 cents per mile compared to 11 cents per mile for a gasoline powered car that gets 25 miles per gallon on gasoline costing \$2.75 a gallon. The yearly cost of electricity to operate an all-electric vehicle would be approximately \$336 assuming it is driven 12,000 miles annually. Fully charging a vehicle with a 100-mile-range battery is expected to cost approximately \$2.78 using today’s residential electric rate of \$0.116 per kWh (or \$0.83 daily for a 30-mile commute).

Source: Dayton Daily News

PSA Peugeot Citroën introduced new EV models (as shown in **Exhibit 1**) to Ireland. This was part of a Memorandum of Understanding with the Irish Government and ESB. The Irish government’s goal is to have 6,000 EVs on the roads by 2012. The target is based on the critical mass necessary to help enable the country to meet its overall goal of ensuring that 10% of all vehicles (equivalent to 230,000 vehicles) are electric by 2020. ESB has committed to installing 1,500 publicly accessible charging stations, 2,000 domestic charging points and 30 fast charging units on a nationwide basis throughout Ireland by the end of 2011.

Exhibit 1: The Mitsubishi iMiev



Source: Irish Energy News

(Note: Mitsubishi Motors has an agreement to supply its i-MiEV PSA Peugeot Citroen for rebadging)

Mitsubishi Motors announced production of its i-MiEV electric vehicle has reached the 5,000-unit mark at the automaker's Mizushima Plant in Japan. The i-MiEV electric car will be introduced into the U.S. market in 2011. Mitsubishi has already started left-hand drive European-spec i-MiEV production.

Source: Automotive Fleet

Fiat believes natural gas engines offer a better way to cut emissions because of its lower cost relative to competing technologies. The company estimates the additional cost for an engine using natural gas is \$3,000, compared with \$3,300 for diesel and \$8,000 for an electric hybrid. Fiat is the market leader in Europe in natural-gas engines, with an 80% share of methane-powered cars and 55% of light commercial vehicles.

Source: The Philadelphia Inquirer

Hydro-Quebec will add 20 Chevrolet Volts to its fleet next year. The plan is to add vehicles propelled by clean, renewable energy that will have a major impact and improve Quebec's environmental profile. Hydro-Quebec is involved in tests with several different manufacturers of electric or hybrid vehicles.

Source: Montreal Gazette

GE Global Research has built a battery system that combines a high-energy density sodium battery with a high-power li-ion battery. The dual-battery system can reduce the cost of a pack by 20% compared to using a single chemistry in a vehicle that requires a lot of power and energy storage capacity -- like a bus. According to the company, there are 843,000 buses registered in the United States. Many of them — including most of the 63,000 transit buses and 480,000 school buses -- travel less than 100 miles daily.

Source: Autopia

West Michigan aims to become the battery capital of the nation. The region includes Grand Rapids, Holland and Muskegon. By next spring, there may be as many as 75 public charging stations located in the parking lots of businesses, colleges, hospitals and other sites scattered throughout West Michigan, all paid for by federal stimulus funds. Coulomb Technologies will provide the charging stations at no cost.

Source: Crain's Detroit Business

Sanyo Electric announced the installation of its Smart Energy System (SES) combining its solar modules, li-ion battery systems for power storage as well as energy efficient equipment and systems for commercial use, and the HFC-free Refrigeration Systems in a Lawson convenience store. The SES consists of 6 li-ion systems with each containing 312 '18650' batteries. There are approximately 43,000 convenience stores in Japan.

Source: The Financial

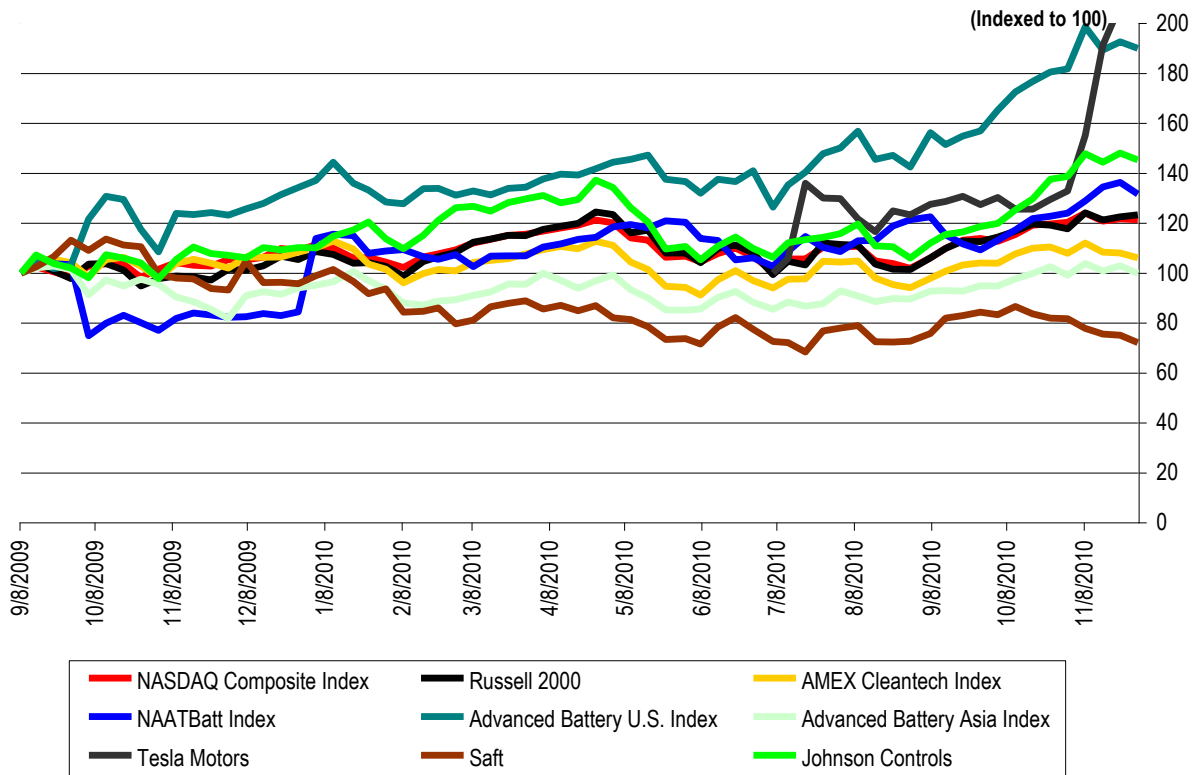
Cracker Barrel Old Country Store has launched a pilot project in which it will install EV chargers (provided by ECotality) at 24 restaurants across Tennessee. The restaurants are mostly located near major highways where travelers can easily access them. Guests will be able to get a full charge in under 30 minutes.

Source: The Chattanooga

CODA Automotive and Essex Credit (a subsidiary of Bank of the West) have reached a preliminary agreement to provide financing for customers of the 2011 CODA Sedan. Customers who purchase the EV will have the option of applying for credit from their financial institution of choice or directly on the CODA Web site via an Essex portal. At CODA's retail locations, customers will be able to apply for credit at kiosks on their own or with the help of a CODA associate.

Source: Automotive Fleet

Exhibit 2: Indices Performance
(From September 8, 2009)

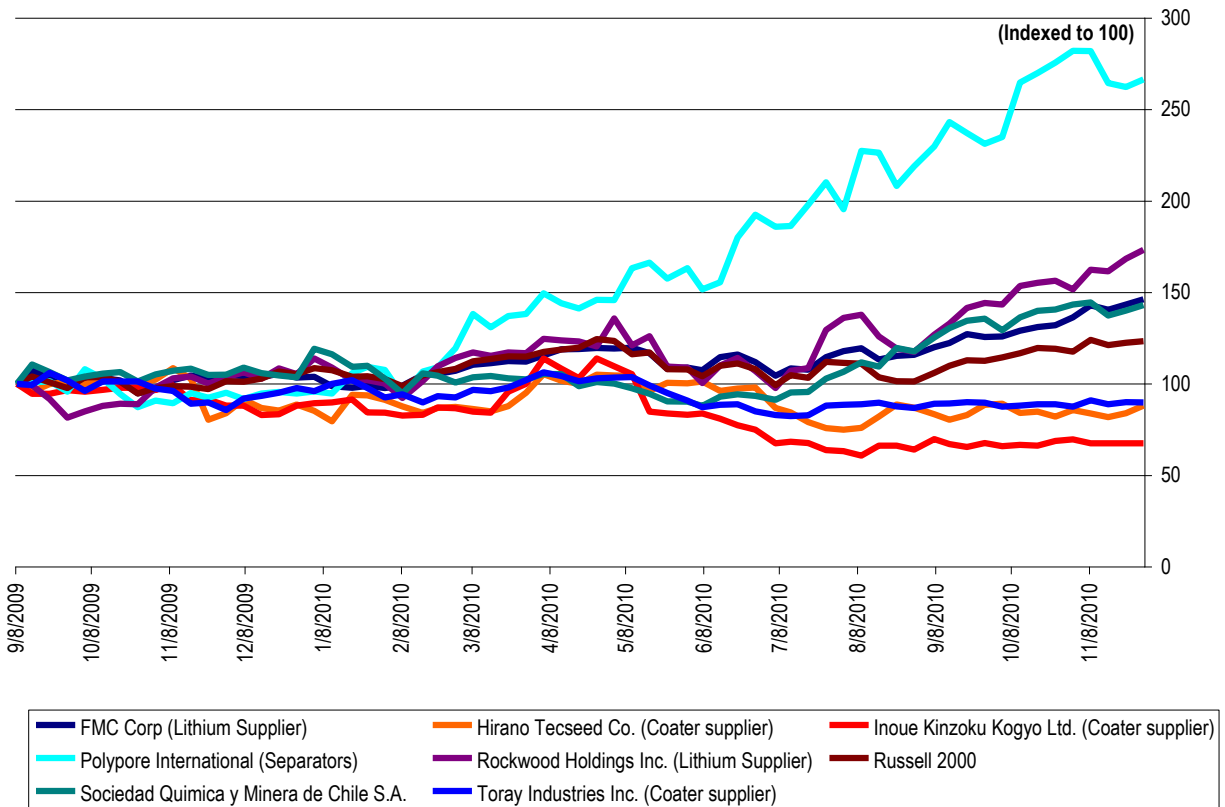


Index	Close on 11/29/2010	52-Wk High	% of 52-Wk High	Performance		
				LTM	YTD	Week
Dow	11,052.5	11,505.8	96.1%	7.2%	6.0%	(1.1%)
S&P 500	1,187.8	1,227.1	96.8%	8.9%	6.4%	(0.8%)
NASDAQ	2,525.2	2,592.9	97.4%	16.4%	18.2%	(0.3%)
Russell 2000	732.0	746.0	98.1%	26.9%	16.5%	0.6%
AMEX Cleantech Index	1,041.3	1,112.5	93.6%	4.6%	(2.4%)	(1.7%)

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 September 8, 2009)



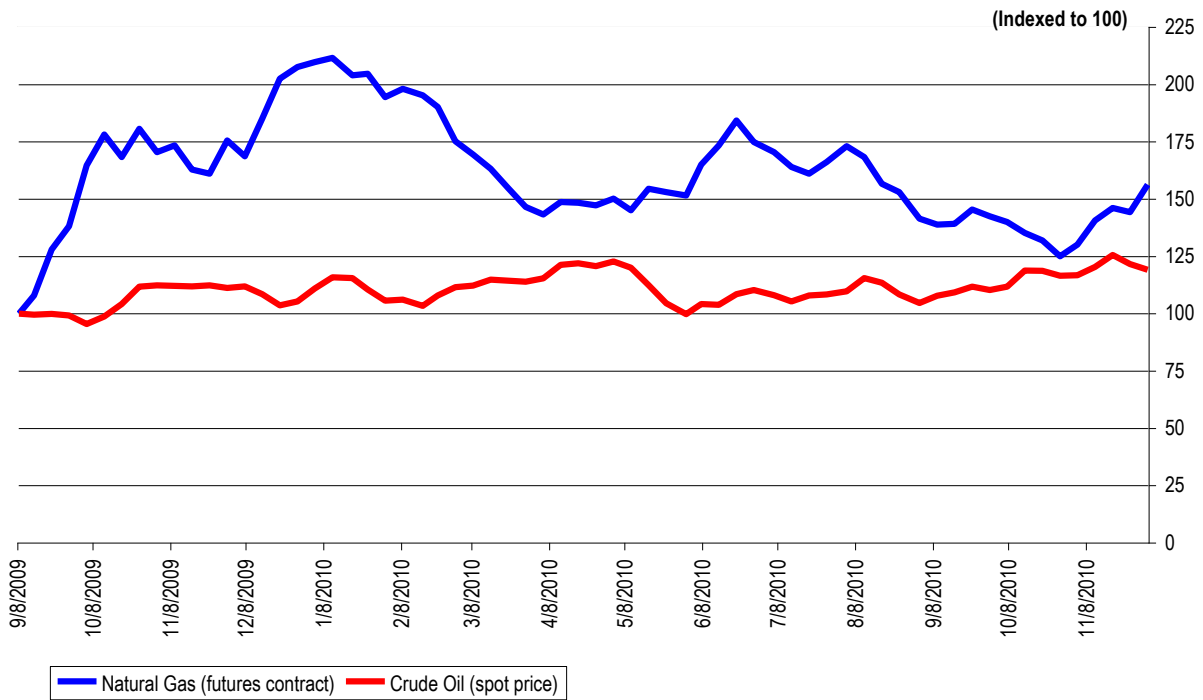
Source: Bloomberg

Exhibit 4: Commodity Prices

Commodity	Price on 11/30/2010	Price on 11/22/2010	Price on 10/29/2010	1 Week Change	1 Month Change
LME Nickel (Cash, \$ per tonne)	22,590	21,610	22,675	4.5%	(0.4%)
LME Lead (cash, \$ per tonne)	2,209	2,226	2,436	(0.7%)	(9.3%)

Source: LME

Exhibit 5: Natural Gas and Crude Oil
(From September 8, 2009)



Source: EIA

Executive Director's Notes



WHY HOLD AN INDUSTRY CONFERENCE?

As you know, the NAATBatt Annual Meeting and Conference is just five days away. On December 8-10, we will hold our first annual conference focused on the impact of PEV's on the grid.

For an industry group that has never held a conference before, organizing one has involved more work than I could have possibly imagined. Marty Tullio, Sandy Kane, Michael Lew and Carlos Helou have done a remarkable job pulling a remarkable program together. For a novice effort, the result, I promise you, will be extraordinary. We all owe Marty, Sandy, Michael and Carlos a world of thanks.

The extraordinary effort necessary to pull a conference together begs the question: why hold a conference at all? As anyone involved in advanced batteries knows, there is no shortage of industry conferences. It is a field crowded with programs, many of them quite good, and most of them produced by professional conference organizers who really know their business.

Although it is tempting to outsource our industry's conference needs to the pro's, there are three reasons why the industry may want to retain control of its own programming.

First and foremost, the advanced battery industry is no ordinary industry. COMDEX, SEMI and similar mega-trade shows are successful and hugely profitable because the industries they serve are vibrant and fully-developed. The advanced battery industry cannot yet claim that accomplishment. Ours is an industry for which a market must still be built—a fact that may become uncomfortably clear as the stimulus money runs out in 2011. A COMDEX-like trade show in the advanced battery industry, where all you do is try to sell product to someone else in the industry, would be deceptive and, ultimately, self-destructive. The goal of an advanced battery conference must be to sell our technology to a market that has not yet accepted it or fully appreciated its value. That is not what a COMDEX does.

Second, we must maintain control of our message and make sure it is well-focused. In order to survive, our industry must explain why our industry is even necessary. That explanation need not be made to ourselves—we are fully convinced. The explanation and message must be made to government, to consumers and to regulators. What that message is and how it is delivered is critical. That is also not what a COMDEX does.

Finally, industry conferences can be a hugely profitable business. The old yarn that the only people who have made money in the lithium-ion business are the conference organizers is funny because it is largely true. Paying thousands of dollars to an outsider for the privilege of attending a conference in order to

hear your own colleagues speak is absurd. The need to network and exchange information is real. But that need cries out for an industry-organized function that is operated at cost. That is what NAATBatt is trying to do this year.

We already know that the Louisville conference will not be a financial success. We have made all of the mistakes that any first timer would make in trying to produce a complicated program. But what we hope to illustrate is what can be done if our industry comes together to do it.

Our stockholders and lenders and governments have given us a lot of money to develop advanced energy storage technology. Let's use the money to do just that. Let's spend on R&D and product development, not on conferences. We have a responsibility to build better energy storage technology and, unique among industries, a responsibility to build a better world. A conference by the industry, for the industry, that keeps our stakeholders' money in the industry is what the advanced battery business needs.

I hope to see you in Louisville.



James J. Greenberger
Executive Director

December 3, 2010



Contact Information:

National Alliance for Advanced Technology Batteries

122 South Michigan Avenue, Suite 1700
Chicago, Illinois 60603
(312) 588-0477

www.naatbatt.org

Officers

Randy Moore
Chairman

rmoore@naatbatt.org

Jim Greenberger
Executive Director

jgreenberger@naatbatt.org

Michael Lew
Head of Business Development
mlew@naatbatt.org

Ralph Brodd
Chief Technology Officer
rbrodd@naatbatt.org

Sandy Kane
Chief Financial Officer
skane@naatbatt.org