



economy. Learn what 5 signs he's watching for to predict a market bottom. And get both his long-term scenario for stocks and 4 suggestions on how to invest now and over the next 6 months.

At least history says it does. Between some of the worst financial panics in history, U.S. capitalism built transcontinental railroads that today carry freight under the names of **BNSF Railway** ([BISL](#), [news](#), [msgs](#)) and **Canadian Pacific Railway** ([CP](#), [news](#), [msgs](#)) across what were once nearly empty plains.

It has turned dreams of high-speed communications into companies like **Cisco Systems** ([CSCO](#), [news](#), [msgs](#)) and **Research In Motion** ([RIMM](#), [news](#), [msgs](#)). It has built retail giants such as **Wal-Mart Stores** ([WMT](#), [news](#), [msgs](#)), **Amazon.com** ([AMZN](#), [news](#), [msgs](#)) and **Best Buy** ([BBY](#), [news](#), [msgs](#)) on the bones of **Kmart** and **Circuit City** ([CCTYQ](#), [news](#), [msgs](#)).

The creative side of the story is harder to see in today's moment, partly because we're rightly worried about how far the damage will spread. It's also partly because we're in the middle of this crisis, and growth stories are just now putting down roots and have yet to show leaves, let alone bear fruit.

#### A few signs of green

But look hard enough and you can find the promise of growth even in the stony soil of regions hit hardest by this recession. Even, for example, in the auto-dominated heartland of the United States and Canada.

In January, **A123**, a privately held U.S. battery maker, applied for a \$1.8 billion government loan to build lithium-ion battery plants, with the first plant targeted for Detroit. The ultimate goal is to build 7 million square feet of manufacturing capacity to turn out batteries for 5 million hybrid cars annually by 2013. Those plants would create 14,000 jobs. Currently, A123 manufactures its batteries in Asia.

The Michigan plant on the drawing board is part of a worldwide battery boom.

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Back in Japan, **Toyota Motor** ([TM](#), [news](#), [msgs](#)) is teaming with **Panasonic** ([PC](#), [news](#), [msgs](#)) to build two plants that will produce 1 million batteries for hybrids by 2011. **Nissan Motor** ([NSANY](#), [news](#), [msgs](#)) is building a plant in partnership with electronics giant **NEC** ([NIPNE](#), [news](#), [msgs](#)) to produce lithium-ion batteries for its new hybrids starting in 2010. In late September 2008, **MidAmerican Energy**, 87% owned by Warren Buffett's **Berkshire Hathaway** ([BRX.A](#), [news](#), [msgs](#)), invested \$230 million in China's **BYD** ([BYDDY](#), [news](#), [msgs](#)), one of the world's largest producers of rechargeable batteries. BYD has ambitious goals of becoming a global leader in the production of hybrid and battery-powered cars.

Notice something that the Panasonic, NEC and BYD plans have in common? They're all building batteries outside the United States. Detroit is behind the curve when it comes to hybrids and all-electric cars. For example, the prototypes for GM's electric plug-in **Volt**, scheduled to go on sale in late 2010, use batteries produced by South Korean giant **LG Electronics**.

But that has started to change. GM has announced a small plant in Michigan, employing just 100 workers, to produce its own batteries. The contract to produce the lithium-ion battery system for **Ford's** ([F](#), [news](#), [msgs](#)) first production plug-in hybrid car, scheduled for sale in 2012, went to a joint venture between **Johnson Controls** ([JCI](#), [news](#), [msgs](#)) in Milwaukee and France's **Saft Groupe** ([SGPEY](#), [news](#), [msgs](#)). Right now, Saft produces all the joint venture's batteries in France, with cell design, engineering and testing set for Wisconsin. But as U.S. plug-in hybrid volume ramps up, the partnership will begin production of mechanical, electrical, electronic and thermal components -- as well as battery cells -- on this side of the Atlantic.

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#### Who wants a bailout now

Automakers got their government bailouts. Now auto parts makers are seeking \$25 billion in loans and guarantees and say that if they don't get help, a million jobs could be lost, Jim Jubak reports.

(Feb. 16, 2009)

#### Growth in the desert

The sprouting of a U.S. battery industry for hybrid and plug-in cars isn't the only sign of new economic growth that I can see. Southern California Edison, the electric utility division of **Edison International** ([EIX](#), [news](#), [msgs](#)), recently announced a deal to buy solar-generated electricity from a solar-thermal power plant to be built in the Mojave Desert. (In a solar-thermal plant, mirrors focus the sun's light onto boilers, and turbines use the concentrated heat of the sun to produce steam and then electricity.)

The planned solar-thermal plant is projected to supply 1,300 megawatts of electricity. That's enough to power about 845,000 homes. The plant, to be built and run by **BrightSource Energy**, a private company with backing from **VantagePoint Venture Partners**, **Google** ([GOOG](#), [news](#), [msgs](#)), **BP** ([BP](#), [news](#), [msgs](#)), **Chevron** ([CVX](#), [news](#), [msgs](#)), **StatoilHydro** ([STD](#), [news](#), [msgs](#)) and **Draper Fisher Jurvetson**, among others, could start producing power in 2013.

*Continued: A few minor obstacles*

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Jubak's Journal 2/17/2009 12:01 AM ET

## In economic winter, signs of spring

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Of course, there are a few minor obstacles -- or as a good capitalist would say, profit opportunities -- to be conquered first. Producing electricity in the Mojave is fine and dandy, but electricity consumers live in cities like San Diego and Los Angeles, which are hundreds of miles away. This isn't a problem just for BrightSource and Southern California Edison. Turns out there's a significant mismatch between where it's economically best to put new solar power plants, in the deserts of the Southwest, and new wind turbines, on the windy Great Plains, and where consumers live. That mismatch will create a need for a huge investment in new transmission lines.

That investment gets even bigger when you figure in the cost of fitting those lines -- and retrofitting older transmission lines -- with the meters, storage systems, real-time monitors and the like that make up what's called a "smart grid." Smart-grid technologies make sense in a world where using electricity efficiently is cheaper than building new power plants, but they're essential if electricity from variable sources such as sunlight and wind is going to be tied into the distribution system. Since the sun doesn't shine all the time and the wind blows with wildly varying intensity, the only way to get a constant power supply from these sources is to build a transmission grid that can move electricity and electricity demand around in the blink of an eye.

Estimates of how much the transmission lines for such a national electricity grid would cost range from \$60 billion in a study produced by **American Electric Power** ([AEP](#), [news](#), [msg](#)s) to \$80 billion for an East-only grid in a study produced by a group of Midwest grid operators. Add in all the costs of turning the national system into a full smart grid and you get estimates as high as \$700 billion. Seen in this context, the \$11 billion in the current stimulus package targeted at the smart grid is just a down payment.

But it's a down payment on a future industry -- and jobs -- that's further along than a U.S. battery industry. Companies already up and running -- and publicly traded -- include "smart meter" makers such as **Itron** ([ITRI](#), [news](#), [msg](#)s), storage-device pioneers such as **American Superconductor** ([AMSC](#), [news](#), [msg](#)s) and **Maxwell Technologies** ([MXWL](#), [news](#), [msg](#)s), and cable makers such as **General Cable** ([BGC](#), [news](#), [msg](#)s).

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