

Phil Power: New industries give state a charge

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Now for a little good news: Last week, A123 Systems, a Massachusetts-based battery designer, announced plans to build the first of several lithium ion plants in southeastern Michigan.

The company applied a \$1.84 billion loan from the Department of Energy's advanced technology program to build the first commercial-scale manufacturing plant in America to make the batteries that help power hybrid and plug-in electric cars.

This is significant — given the dramatic changes under way in automotive technology. A123 is talking about several plants around the country that will occupy as much as seven million square feet of space and eventually employ more than 14,000 people.

You may be thinking, that's nice — but isn't it just one more story about one more new plant that may or may not be built?

Not at all. This is just the tip of the iceberg of an audacious, very far-reaching, multi-faceted effort to change the entire energy model in America — and put Michigan at the head of the process.

All this starts with "advanced energy storage systems," i.e., new-fangled batteries, which are at the heart of the auto industry's plans for energy-saving hybrid and plug-in vehicles.

True, advanced battery technology and manufacturing migrated out of the U.S. to Asia years ago. But it's now become clear that high-tech batteries are not confined just to cars.

They'll play a role in computers, military applications, electric power distribution, and who knows what else.

But can we really bring world leadership of the battery industry back home? Well, that might be tough ... but it's not impossible.

Nor is A123 Systems the only American company in the thick of it. Another is Sakti3, a start-up spun out of the University of Michigan's College of Engineering by Professor Ann Marie Sastry, a firm which concentrates on optimal molecular structures for batteries.

The Michigan Economic Development Corporation and the U-M are working hard to support other, similar efforts. But the idea goes well beyond batteries into what the experts call "distributed power generation."

Most power these days comes from big central plants run by the utility companies. But slap photovoltaic solar panels in your roof, and you generate your own electricity, powered by the sun.

Already, Michigan companies like Dow Chemical and Hemlock Semiconductor are on top of the heap in making polycrystalline silicon, a key base material for solar panels. Also in Michigan, United Solar Ovonic of Auburn Hills has pioneered the physics and chemistry underlying solar panels and is gearing up vastly increased production of the thin films that go into making energy out of sunlight.

If other local entrepreneurs get smart, they will move quickly to capture the entire value proposition around distributed power systems: Research and development; making the base feedstock and photovoltaic film; manufacturing the panels; and engineering, installing, servicing and managing complex electrical grids.

Wind is another power source in the thick of this thinking. Michigan lost most of the wind turbine manufacturing business to Iowa a couple years ago. But local firms with engineering and manufacturing experience are getting new business. Vextas, the big Danish firm, is reportedly negotiating with Dowding Industries in Eaton Rapids to make components for turbines.

Dowding, in turn, needs to hire and re-train hundreds of former auto parts workers to make wind turbine components. It's working with Lansing Community College to develop customized training, financed in part by the state's No Worker Left Behind program.

Building and training a skilled alternative energy workforce — truly "green jobs" — is another key part of the effort to transform large portions of our economy.

If you connect the dots, they form a very complex, interconnected, and audacious economic vision for Michigan's future.

And a lot of it has to do with vision and hard work put in by the state of Michigan. Gov. Jennifer Granholm gets much credit for realizing that alternative energy could be the next very big thing in our economic future. She reached deep into the state bureaucracy to pluck Stanley "Skip" Pruss to be her chief energy advisor. A lawyer, Pruss has, over the years, built a reputation as among the smartest and hardest-working folks in state government.

"This is the single greatest economic opportunity that we have before us," says Pruss. "We need to work fast to get 'first mover' advantage in what will be a very competitive field. But we're working hard and, so far, we're making a lot of progress."