

## Finding And Supporting The 'BEST' Ideas

Rob Manning | September 14, 2010 | Portland, OR

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Oregon's renewable energy investment arm announced Monday that it's spending a million dollars on new laboratories.

At the same time, federal stimulus dollars have pushed Oregon's university research funding to record highs. But getting good research ideas to market remains difficult, for a number of reasons, as Rob Manning reports.

A conference in Portland this week aimed to get researchers, business people, and government officials in a room together and see what develops.

Oregon's Built Environment and Sustainable Technologies center focused the second annual "BEST Fest" on getting good "green" ideas to market.

Among the challenges: funders want to see evidence that ideas are bulletproof.

University of Oregon professor, Ihab Elzeyadi says that can be hard, when it comes to green building design.



Ihab Elzeyadi

Ihab Elzeyadi: "In the building field, it's very hard to do an experiment, so we try to do a naturally-occurring experiment, because it's very hard to convince an architect to build a building that might fail."

Elzeyadi has come up with a way to test solar technology, without erecting a whole building to test for failure.

He wants to test out how solar electricity behaves, especially the new technology of solar awnings. They can produce energy, and provide shade.

Ihab Elzeyadi: "We took one ugly building in the University of Oregon, that is hiding behind a number of things, and tried to make it our full-scale research laboratory, by retro-fitting part of it with the awning, and leaving parts of it without the awning, we can test the prototype."

One of the newly announced grants from Oregon BEST, will take Elzeyadi's idea of a solar "test corridor" and expand it into a three-story façade.

Once an idea is further along, the challenge is far from over.

Take for instance, the research of Lech Muszynski, at Oregon State University. He's come up with a way to use the same kind of woody debris that renewable energy producers are eyeing for biomass power – and instead meld that material with plastic.

He wants wood to replace of some of the plastic used in things like the bright red cones you might see along Oregon highways.



Lech Muszynski

Lech Muszynski: "Signage, mileage posts, right? This sort of smaller items, small-to-large items, most of them with relatively low requirements for stiffness or strength, but they have to be durable."

Muszynski says even if the products used as little as 20 percent wood, they could put people to work in the forest, and reduce reliance on petroleum-based plastic. But Muszynski doesn't pretend to know how to turn a compelling idea into a business. He's comfortable in the lab.

Lech Muszynski: "This is still a work in progress on the material level. Wood scientists, we are a very specialized material scientists – not economists, right? Not business people. We don't have solid conclusions yet, but it is quite promising."

Tim Miller has an idea that he's ready to take to market. His company, Green Lite Motors, has a prototype of a hybrid-electric vehicle.

Big auto makers like Toyota and Ford are working on those already, but Miller says his design would be lighter, simpler, and capable of getting up to 100 miles per gallon.

It has one technical hitch: it can use either the gas engine, or the battery – but it's up to the driver to switch from one to the other. Miller has researchers at Oregon Institute of Technology working on automating that.

Tim Miller: "Large automakers are very deep into making hybrid systems work. We're working on really a very straight-forward hybrid system that doesn't require the deep-level, mechanical custom systems to make it work."

Miller is benefiting from state investment, thanks to his OIT researchers. But Miller isn't in line for the huge sums of money that big automakers have gotten from federal stimulus programs.

Tim Miller: "Most of those are helping larger vehicle makers, or they're helping out a later stage, where a company is already into production. Not as many of those programs are helping companies that are early-stage, where they're still developing a vehicle. In terms of private capital – the markets are tougher than they were."

Oregon's BEST center offers grants to get ideas through the last stages of development and into the market – a step called "commercialization." But even with that help, BEST's president, David Kenney, says it's still a struggle.

David Kenney: "Getting from that initial lab concept to a commercialized technology that is worthy of investment is often known as the Valley of Death, as an area where investment is often short in coming."

BEST is accepting grant applications until early October. But BEST was never set up to be much more than a catalyst. Kenney says even successful labs will have to raise more money to get their products to market.

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