

Local engineer making waves in alternative energy

Sandy Koch, Special to The Press

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In these days of internet networking, you don't have to live in Silicon Valley or a major US city to reach out to the world with innovative designs.

You could just operate off of Mt. Pelia Road in Weakley County in a patch surrounded by corn fields.. With undergraduate and graduate engineering degrees from the University of Kentucky in his pocket, an optimistic outlook for a more sustainable environment, a utilization of every incentive the US government has to offer and a lot of good ideas and experience, John Cole, 31, has settled into Weakley County with a mission to bring alternative energy schemes to this corner of Tennessee and beyond.

He has named his company after the small community in which he lives, Mt. Pelia Innovative Solutions. With the help of inventive partners he has found on the internet from as far away as England, he is going to develop a number of prototypes that will run on alternative energy, both hydro and solar..

And this is in his spare time. His real job is project engineer at Milan Arsenal.

"We don't watch a lot of television in our house," laughs Cole.

Part engineer, part low key environmentalist, part entrepreneur, Cole hopes to develop a niche market in this corner of the country for the green energy products.

And he has done his market research homework. The federal government has a number of incentives for homeowners and businesses to use alternative energy that will make his products more affordable for consumers..

With conventional energy prices skyrocketing and high prices of alternative devices like solar panels set to decline, Cole feels the time is right.

When Tennessee recently jumped on the solar bandwagon with the use of government stimulus money to encourage the industry, Cole jumped too. He applied for and received about \$6000 to train in solar design and sales so that he could do residential set-ups. He will be attending a special institute this summer in Colorado at Solar Energy International and has a number of other training opportunities as well. He has already lined up a distributorship for solar products from Sunwize of California.

\$31 million of the \$62.5 million federal stimulus funds going to the Tennessee Department of Economic and Community Development will be used to set up the West Tennessee Solar Farm in Haywood County, according to a University of Tennessee release. UT will be managing the project.

A number of grants like the one Cole received also went to local businesses when the Tennessee Solar Institute at UT doled out \$7.27 million in solar innovation grants as part of the Volunteer State Solar Initiative.

Cole says that he is hoping to set up a small solar demonstration project in the area soon so that homeowners and farmers can see the potential for setting up a rack of the panels. The site would have a lot of sunlight, for instance on a south side close to a grain bin or other structure..

Cole will also be traveling to Florida to investigate products that are being developed to heat swimming pools or water in the home through solar energy.

But right now, he has another project underway, a hydro-kinetic barrel, that is, a barrel that will turn in the current of a stream or creek to create its own energy. Cole found the invention on the internet and established contact with inventors Mike Lowery and Paul Price in Blackpool, in the northwest, not of Tennessee, but of England.

"Everything I'm developing has come from the internet," says Cole.

The idea for the invention originated 30 years ago in England when testing a three foot ball with large plastic bearings and a paddle tread in a swimming pool with a water shoot.

In an e-mail message, Lowery says the "ball was spinning very fast..." and "just looked like a turbine." Cole has used the plans that the Englishmen sent him and made a barrel in his basement and garage. It is

one meter in diameter and about five feet long made out of two inch slabs of polystyrene that he painstakingly cut with a foam cutter knife and glued together.

He tested the barrel in the Obion River in June when the waters were high and is pleased with the way the barrel turned but next needs to fashion a device to measure its power output.

Eventually he envisions having a successful model manufactured somewhere in the area for people who live in secluded spots next to a running stream or creek, possibly cabins or camps. Lowery and Price who call the device a hydro-electric barrel say it is environmentally and fish friendly and is more adaptable to many different kinds of locations than other micro hydro products.

“We are very pleased with his (Cole) gallant effort on this experimental venture that has already proved successful to date,” say the British pair.

Already Cole says he has received a number of inquiries on the product sparked by two you tube films of his tests documenting the progress of his venture. One shows him wading through the Obion dragging his spinning blue whale behind him.

Also in the hopper is a licensing agreement he has signed with fellow agricultural engineers Steve Hall from Louisiana State University and Randy Price from Kansas State University. They have invented a “scarebot” designed to scare away large birds like herons and pelicans that prey on young catfish and other pond-fed fish in the growing industry of fish farms.

It is a small solar-powered boat that will shoo the birds off in environmentally, quieter ways than the loud noises to which farmers must sometimes resort.

“These birds come in flocks,” says Hall in an e-mail message, “and can do millions in damage to the crop.”

Under the agreement he has with the two professors, Cole will be developing a prototype and then test and modify it in order to have a marketable boat by early spring of 2012. Cole hopes to be able to have a prototype ready to test by the fall “when the weather is still good.” He has already brought the small version LSU built to a local catfish farm for a demo.

And as if that were not enough, Cole is also developing his own version of a “scarinator,” an inflatable scarecrow that pops up unpredictably to shoo away birds in berry patches, vegetable gardens, vineyards or orchards.

But eventually, Cole sees himself using the proceeds from these innovations to do something close to his heart, farm. He is sold on the organic agriculture techniques of Joel Salatin of Polyface farms and hopes to develop a more sustainable form of farming on his little patch. He is after all an agricultural engineer by training, even though he is licensed to do mechanical engineering in Tennessee. And of course, he cannot be content just to have chickens wandering the farmyard or stuffed into long houses.

Building on ideas gained from Salatin’s web site, his chickens are in a specially designed mobile chicken coop that can be moved around the yard so that the clucking creatures can add grass to their diet, the natural way.

Once an engineer, always an engineer.

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