

Idaho could pave way for

By Mark Wilcox
SPECIAL TO THE IBR

In an economy increasingly concerned with alternative energy production, it is Idaho that has in many ways stepped up to show the world how it's done.

"We must rethink our approaches to energy because energy markets have changed," said Director Steven Aumeier of the energy systems and technologies division at Idaho National Laboratory. "Easily accessible energy is dwindling and energy security is becoming critical."

Eastern Idaho lies within the Western Energy Corridor, a vast belt of natural resources that spans from New Mexico all the way into the southern provinces of Canada.

"Energy resources in the Western Energy Corridor far surpass those of known oil reserves in the Middle East," Aumeier said. "We do not have a shortage of energy resources."

The bad news?

"We have a shortage of 'smart' energy systems," he said.

In other words, a lot of the processing of the fuels we have is wasteful. Aumeier said about 65 percent of carbon is wasted in a "traditional coal-to-liquids" energy system. However, he said, a "nuclear hybrid coal-to-liquids" design could convert more than 95 percent of carbon into usable products. The benefits in such a boost in efficiency are obvious.

Back in the energy corridor, not many of the resources are contained in easily harvestable and usable liquid gold know as petroleum. Of all the states and provinces in the corridor, Idaho has the

least to offer as far as traditional fuels are concerned.

For instance, neighboring Wyoming boasts vast uranium, oil shale and coal deposits. Meanwhile, on the resource distribution map, Idaho shows only a handful



Paul Kjellander

of blips indicating coal reserves.

However, that doesn't mean Idaho doesn't have much to offer the energy corridor.

"Idaho has to be a key player to bring these resources to market," said Paul Kjellander of the Office of Energy Resources.

It is his stance that Idaho might not contain all the resources, but it can certainly refine them using new technologies. For instance, pairing clean coal technology with wind power will give the wind power a good outlet and make it a more valuable player in the energy sector.

Furthermore, Aumeier said such a pairing could increase efficiency and reduce the carbon footprint.

"The days of being able to build dirty, smoky old smokestacks are gone," Kjellander said.

He also argued that one of the keys to utilizing the natural resources in the Western Energy Corridor is to develop relationships across borders, both interstate and international, that will make it easier to harvest and utilize the available resources.

"We've actually begun to put a little meat on the bones in developing relationships," Kjellander said. "We're

hybrid energy systems



neighbors; it's an opportunity to develop those resources for our mutual benefit. If we can avoid viewing ourselves as competition to other states, we'll (move forward)."

In many ways Idaho is leading the way in energy innovation.

"By looking at hybrid energy systems, we'll provide the potential to do a couple things: unlock vast energy resources in this country and show how to achieve energy production efficiency," Aumeier said.

The other benefits are numerous. "It's clean, smart and secure," Aumeier said. "That's our mantra."

The biggest downside to the proposed hybrid energy systems is that they're new and untested. "Any paradigm shift is risky for the private sector," Aumeier said. "Introducing new technologies is risky. Everybody wants to be the second person to the table and let the first iron out the problems."

The other big problem is cost. With such a risky investment, Aumeier said he expects government funding and involvement to be the key that will allow the private sector to carry the torch.

"I think you'll (soon) see a broader acceptance of hybrid systems," he said.

Rep. Janice McGeachin of Idaho Falls is one standard bearer trying to increase that acceptance. She said legislators at the upcoming session will be learning

about the potential Idaho has to develop the infrastructure for energy independence in the West and across the country.

"We have a lot of natural resources in our area and we just need to figure out how to use them," McGeachin said.

She said Idaho National Laboratories has the possibility of developing and producing hybrid energy systems that could then be duplicated across the country. One such hybrid system postulated by Aumeier would link a hydrogen generation plant, wind farms, a nuclear island, carbon feedstock (including biomass like tree bark and other forest detritus) and a liquid-fuels and chemicals plant.

The result, called a "strategic energy island" would produce liquid fuel, electricity and hydrogen, all using U.S. resources and labor.

McGeachin said the time is right for development – a new administration keen on renewable energy is about to take office and both public and private support for reducing foreign energy dependence is at an all-time high after last year's spike in gas prices.

Setting up the grid for a project as large as this would not only bring thousands of construction jobs to the area, but would also leave many permanent high-paying manufacturing jobs behind.

"We can just do the research and the work to facilitate the idea to be replicated across the whole country," McGeachin said. "We could kind of lead the way for our country so we can become independent."

McGeachin went on to say that these systems may help solve foreign-oil dependence and also help stimulate the economy by building things in this area.