

Getting carbonated

New company makes activated carbon from Campbell County coal

- [By KATHY BROWN News Record Senior Writer kbrown@gillette newsrecord.net](#)
- Jul 3, 2016



Bags of powdered activated carbon sit at the Atlas Carbon facility on North Garner Lake Road on Thursday afternoon. Atlas Carbon produces 100,000 pounds of activated carbon a week, most of it gets sold to coal-fired power plants in Wyoming. A new partnership with NALCO will allow the company to venture into the water filtration industry as well.

While Jim Ford brought Wyoming legislators up to date on the Atlas Carbon project in Gillette, he also used the opportunity to urge lawmakers to think ahead as they consider the future of coal in Campbell County.

Ford, who grew up in the area, has a unique perspective. He's the chief operating officer and vice president of Atlas Carbon LLC, a company that produces activated carbon for uses ranging from removing mercury and chemicals from power plants to treating water or fuel through use of filters and more.

It's a growing industry in the United States and Atlas Carbon, a company that began in 2014 at the former Fort Union Coal mine site outside of Gillette, is using a new process and the best coal "on the planet" to produce its product.

Ford knows his business likely will never put enough people to work to erase the effects of a coal mine closing. But he does know alternative uses of coal could mean a lot to the future of Campbell County and the state.

He urged lawmakers and regulators to be more flexible and also allow the industry and academia to play a greater role in determining the future uses of coal.

His background in the energy industry and his lifetime in Wyoming provided some clarity in his presentation to the Joint Minerals, Business and Economic Development Interim Committee as it met in Gillette on Wednesday morning.

The committee is co-chaired by state Sen. Michael Von Flatern, R-Campbell, and state Rep. Thomas Lockhart, R-Natrona. Among its 14 members is Rep. Norine Kasperik, R-Campbell.

“Hopefully, this is a little bit of good news in the local economy here in the Powder River Basin, Campbell County and the town of Gillette,” Ford said.

What is Atlas Carbon?

Located within 20 acres of the former coal mine facilities on the 1,100-acre site north of Gillette, it took the Department of Environmental Quality’s approval of a minor source emissions environmental permit in June 2015 to begin preparation for production to begin in January. If successful, Atlas could eventually produce 108 million pounds of activated carbon per year.

The coal is used in a four-to-one ratio. Four tons of coal will create one ton of carbon.

DEQ also has worked with Atlas Carbon to ease reclamation regulations at the mine site. That cooperation has been another key.

“Under the current rules for reclamation ... that mine site is looked at as a reclamation liability for the permit holder,” Ford said, adding 750 acres of the 1,100-acre site is to be reclaimed overall.

“DEQ allowed us to go in and put those assets to work, rather than require us to reclaim it,” he said. “It (DEQ) realized it can be used for other things.”

As a new company using a new process to make activated carbon, Atlas saved capital by using the old mine facilities instead of having to build new. Atlas Carbon has been running its first line for a few months now.

Atlas has 15 employees and a payroll of about \$1.37 million at this point.

On Thursday, company chairman and CEO Frank Levy announced an agreement has been made with the Nalco Water division of Ecolab to supply it with all of its activated carbon requirements.

Nalco Water is the world’s leading provider of water treatment and process improvements and Ecolab is a global leader in water, hygiene and energy technology services.

“They’ll market our carbon as part of their extensive market line,” Levy said. “We’re excited.”

While Atlas Carbon has no timeline for its first expansion to production of about 50,000 pounds of activated carbon a year, the agreement may hasten the process.

“We think, with Nalco, we can expand at a much faster rate,” he said. “We’re happy to be one of the first players in this field here.”

Atlas will use 30,000 tons of coal this year and pay about \$65,000 in property tax, permits and fees to produce 5 million pounds of activated carbon.

The initial line will be capable of producing 16 million to 20 million pounds per year, Ford said. Atlas Carbon plans to add three 32 million-pounds-per-year lines as demand dictates and ultimately be capable of producing 108 million pounds a year.

Levy estimated Wednesday that Atlas will grow to about 45 employees after its first expansion with a payroll of \$3 million, coal consumption of 240,000 tons, and pay about \$105,000 in property tax, permits and fees.

At this point, the company is buying its coal supplies from Alpha Natural Resources' Eagle Butte Mine and trucking it a few miles to the plant site of what is now the Fort Union Industrial Park complex.

Atlas Carbon is one of three tenants on the property, which is within a few miles of five coal mines.

"We feel very good about not ever being in a pinch for coal supply," Ford said.

Powder River Basin

The combination of new technology and Powder River Basin coal is a win-win, he added.

"We chose the Powder River Basin because we have the most abundant, most affordable, highest quality coal in the world, not just the U.S., but on the planet," he said. "That puts us in a real strong position in the Rockies and the West."

The company's nearest competitors are located east of the Mississippi River, he said.

Atlas Carbon uses a pneumatic flash calciner process, a new and proprietary technology it has a license to use, to produce activated carbon.

The other technologies traditionally are rotary kiln and multi-hearth furnaces. Great heat produces the carbon and the traditional methods take from two to six hours to produce

the product in furnaces as tall as 10 stories high. Atlas Carbon's process takes six to 10 seconds and is in a facility that looks something like a cement batch plant, Ford said.

On top of that, it costs \$2 to \$3 per pound with the multi-hearth process to produce carbon, and \$1.25 to \$2.25 for the rotary kiln, which are methods that have been used over the past 40 years.

But it costs anywhere from 75 cents to a \$1 for Atlas Carbon's process to produce a pound of activated carbon.

That, along with the quality produced, is an advantage for the Campbell County business.

"We've been in business less than two years and our process has allowed us, from a quality perspective, to bypass the third largest producer in the U.S.," Ford said. "We're pretty much neck and neck with Cabot (Corp.) Norit (North Dakota, Canada and headquartered in Boston), who is about the second largest producer, and we're sneaking up on Calgon (based in Kentucky and headquartered in Pittsburgh)," Ford said.

"We have a ways to go. It has a lot to do with the inherent characteristics of Powder Basin Coal," he said. "We can do some unique things, but you can't make a silk purse out of a sow's ear and we've got a good feedstock here."

What Atlas Carbon and the other companies are producing is the least valued product you can create with coal, he said. And it likely won't be a magic bullet for the Wyoming economy. But it will grow.

"Our consumption of coal is never going to be huge," Ford said, adding 240,000 tons of coal a year equals only about 2½ trains in the basin, which produces about 360 million tons of coal a year.

“So, our company, it will never replace losing a power plant back East. It will never replace jobs or the loss of a coal mine,” he said.

The future

Yet, the market trend in the use of activated carbon for water filters alone will increase 8.9 percent in 2016, according to forecasts.

“We will not use coal like the traditional thermal use of coal,” Ford said.

At the same time, the cost for coal is less than a penny a pound and it sells for 75 cents a pound after the carbon is produced.

“Thermal coal burning is the least profitable thing you can do with the product,” he said.

He’d also like the opportunity to explore the use of coal in other ways.

“Coal gasification, coal to gas and liquefaction, chemicals processing, it’s all there. It’s happening in other places,” he said. “The Great Plains Synfuels facility up in Beulah, North Dakota, is doing some amazing things with coal. It can be done. The Germans were making jet fuel out of it 70-some odd years ago. It can be done. In South Africa, they produce over 60 percent of their country’s motor fuel needs from coal. It can be done.

“So, while we think we’re doing something that’s better than shoveling coal into a burner and burning it up, there’s more from a coal perspective.”

We need to be smarter

He encouraged Gillette and state officials to look ahead and be innovative.

“As a lifetime Campbell County resident ... we need to all be smarter and allow ourselves to be flexible in our thinking, allow ourselves to be flexible in our legislation

and our rules, to allow industry and academia to do more with coal,” Ford said. “That’s a resource we have and we have more of it than anywhere in the rest of the world, and we should find some ways to leverage that.

“We see Atlas, while making carbon right now, we have the bones there at that plant to do some other neat things with gas processing and we’ll continue to do more of that.”

Ford urged the legislators to begin to work on an approach to again make coal a major ingredient in Campbell County and Wyoming. It may be down now, but it’s not out.

“If there’s going to be a new era for coal in Wyoming, in the Powder River Basin, I really do think that we all, as citizens of the state, even from within the (federal) regulatory bureaucracy ... there has to be things that are done to allow academia and industry to look at coal as a feedstock,” he added.

“What makes coal interesting as a fuel? The carbon, the hydrogen, the oxygen. What makes crude oil interesting? The carbon, the hydrogen, the oxygen. It’s all there. We’ve got the ability from the technological standpoint, the industry does, to refine coal in the way that we refine crude oil. It’s not as simple. But there’s a lot of things about the oil business that isn’t simple from a global perspective as well.

“We’ve got more resources right here under our feet in Campbell County than we could ever hope to use, if we’re allowed to use them.”