

Colleges pumping up curriculums to train students for oil and gas jobs

BY CRAIG LOVELACE | FOR BUSINESS FIRST

Joy Padgett knows Appalachia, and she knows the educational and economic challenges it faces in the region that encompasses a goodly portion of the state's eastern and southeastern counties.

So when this former state representative and senator and executive director for Foundation for Appalachian Ohio talks about the potential development boom brought by oil and gas exploration of the Utica Shale deposit, one has to at least listen to what she says.

"It's an extracting economy – it's boom or bust – but this thing seems to have long-term legs to it," said Padgett, who now is director of government affairs and grants at Central Ohio Technical College.

The college is one of a growing list of higher education institutions, including Ohio State University, that are looking at the best ways to ramp up their curriculums and get out ahead of the hundreds of thousands of jobs experts believe will materialize because of the development. From collaboration among nontraditional partners to nuts-and-bolts capital projects, schools are preparing for a future that some say is at Ohio's doorstep.

"I just think we are starting to see the tip of the iceberg," said Bob Chase, a professor and chairman of the petroleum engineering department at Marietta College and one of the eminent voices on the subject in Ohio.

He said the graduates of Marietta's petroleum engineering program – the only one of its kind in Ohio – can easily earn six figures their first year.

CALLING CARD – NATURAL RESOURCES

At Zanesville State College, a second class of students at the end of October began an 80-hour course that will, if completed successfully, make them qualified for jobs that pay about \$60,000 in the oil and gas industry.

"For three weeks of training, that's a lot of bang for the buck," said college President Paul Brown. "There's a lot of interest

and the challenge for us is keeping up with the demand. It's a good problem for us to have."

Oil and gas drilling has been part of Ohio's landscape for well in excess of 100 years, but new technologies are making it possible to extract natural gas and crude oil from deposits in the Utica Shale formation that stretches to Central Ohio. Hydraulic fracturing – or fracking – allows for drilling wells horizontally and much deeper than traditional vertical wells to extract the minerals. An economic impact study by Ohio's Natural Gas and Crude Oil Industry estimates that 204,520 jobs related to exploration of the shale formation will be created by 2015, a 4,332 percent increase over the 4,614 created this year.

The names of companies buying and leasing property for drilling reads like a stock exchange ticker, including publicly traded Chesapeake Energy Corp., Dominion Resources Inc., Devon Energy, Marathon Oil Corp., Exxon Mobil Corp. and Hess Corp. Their expanding presence in the state is lending a sense of urgency to Ohio and its educational institutions.

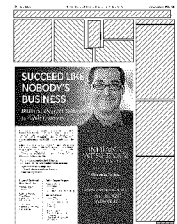
"In a bigger sense, we have been saying for the last 2½ years that the calling card for Appalachia has been natural resources and that means the energy sector," Brown said.

WHAT'S GOING ON?

The early popularity of Zanesville State's accelerated certificate program is an indication of what officials there expect to happen. The school has several disciplines aimed at training students for work in the energy sector and the recent interest in oil and gas exploration has them thinking bigger. Brown said it made a request to the state to help construct space at its education and training center in Cambridge dedicated to advanced science and technology education. The boom could mean a lot more students, as well.

"At least 1,000 more students a year, and that's a conservative estimate on my part," Brown said.

Zanesville State is among six colleges, community colleges and training centers – including Newark-based Central Ohio Technical College – all located within the Utica Shale region that are highlighted on the website for the Ohio Board of Regents,



whose office is touting the potential of shale exploration. The vast array of different professions the oil and gas industry needs – in addition to the engineers and geologists – also are listed on the website, providing a broad scope of what might lay ahead.

Padgett said a September forum at the college about the potential opened a lot of people's eyes.

"We wanted the community to understand what this is all about," she said.

The technical college's Lori Crocker is the school's resource manager for its Workforce Development Innovation Center whose duties include coordinating with area training centers to train workers. She said better emphasizing the state's Pathways program – which makes it easier for college credits to transfer from one school to another – dovetails with programs Central Ohio Technical College offers that are relevant to energy sector work and the type of jobs being offered by the petroleum industry.

"Central Ohio Technical College and (Career and Technical Education Centers of Licking County) have a matriculation
SEE STUDENTS, PAGE 27



B. Chase:
Marietta College

agreement in place that allows for 39 credits to transfer from C-TEC-s Multicraft Maintenance Adult Education program to COTC.

"These credits match up with classes in our electrical trades technology, electro-mechanical engineering technology and electronic engineering technology programs of study," Crocker wrote in an email. "This is only one example of several such agreements that exist between COTC and C-TEC as well as COTC and many other institutions – thus creating the career pathway between career and tech centers, two year colleges and four-year universities."

The college is planning on marketing its efforts but not before it has all of its ducks

in a row on how it will approach the plethora of opportunity expected, Padgett said.

"We need to do it at the very best time," she said. "We don't just want to roll out something that says we want to do it. We want to have a fully developed Pathways."

That type of collaborating is happening across the educational spectrum.

COTC is one of 12 research universities and two and four-year colleges comprising the University Clean Energy Alliance of Ohio.

"And they are all gearing up for this in education and training," said Jeff Daniels, an OSU professor in the school of earth sciences and a co-director of the university's Subsurface Energy Resource Center, "and we are absolutely on board."

OSU Extension has been helping property owners in the eastern part of the state with questions about leasing their land to drilling companies and financial management, for instance.

On the classroom side, the earth sciences curriculum will add oil and gas exploration classes next year for undergraduates, he said. Daniels also said conversations regarding collaboration between academia across the educational spectrum have been hot and heavy.

Chase said that is true, including talks he has had with Ohio State.

There are other reasons why the state's colleges and universities – and the state itself – must take advantage of the potential of shale exploration, he said.

The first is the development and jobs themselves, which leads into the second reason, which is the aging work force for the oil and gas industry.

The Society of Petroleum Engineers, Chase said, estimates the average age of an industry worker is 55, and half of them are expected to retire in the next 10 years.

"Things are looking very good for the student," he said.

Marietta College has been seeing double the number of applications to its petroleum engineering program, the only one of its kind in the state.

This year there were 350 applications and 75 people were accepted. Chase said he expects applications to top 400 by 2013. There might be more already, he said, but "the word hasn't really gotten out."

The expected crunch of new students also means a need for more space and

professors, Chase said. He has submitted a proposal for another faculty member and expansion of an existing training center will cost an estimated \$12 million.

Expanding capabilities will also go far in keeping more Ohio graduates looking for

opportunities in the oil and gas industry.

“Rather than have them go to Texas for all of their training,” he said, “they would be able to do it right here.”

CRAIG LOVELACE is a freelance writer.



JACK KUSTRON | FOR BUSINESS FIRST

Joy Padgett of Central Ohio Technical College is pictured outside the Oil and Gas Association's offices in Granville with a derrick. Partnerships with other schools will help train students for the energy sector.