Game changing nature of Marcellus Shale dominates discussion at symposium

Everything Energy

Regional shale gas development and the major impact it has made globally dominated the discussion during Energy Symposium 2014 at Butler County Community College.

About 70 residents, municipal officials and business representatives spent the morning of March 13 in Founder’s Hall listening and learning from a handful of experts, including Marcellus Shale Coalition president and Cranberry Township resident Dave Spigelmeyer.

The Butler County Chamber of Commerce, in conjunction with the coalition, BC3, the Butler County Tourism and Convention Bureau, the Community Development Corporation of Butler County, EdgeMarc Energy and Northwest Savings Bank presented the event, which in years past had been held in three separate sessions.

Spigelmeyer, who has worked in the energy industry for about 30 years, said the past five years have been an “economic game changer.”

He explained that the technology and processes to drill for gas horizontally have improved, so has production—drastically in fact.

In 2008, which he referred to as the turning point for development in Pennsylvania, producers drilled about 4,900 wells in the state that yielded about 182 billion cubic feet of gas—about one-quarter of the 820 billion cubic feet burned in Pennsylvania.

Today, 181 billion cubic feet of gas is produced per day in the entire Marcellus Shale region. That translates to about $5 trillion cubic feet of gas per year, which is about 20 percent of the national supply.

“We’ve got the second-largest energy-producing region in the world now,” he said. “It’s a pretty incredible place we’ve got here.”

The energy market is global and most of the money being invested here to harvest gas is coming from around the world.

He also said by producing energy domestically, the United States can become more energy independent.

“Today, we’re at 42 percent and dropping rapidly as a result of shale gas development,” he said.

The average well in Pennsylvania produces enough gas to fuel 20,000 homes annually, he added.

The coalition, based in North Fayette Township, Allegheny County, formed in 2008 to represent companies active in shale gas development throughout the Appalachian region and to establish and promote safety guidelines.

“Today, we’re at 42 percent and dropping rapidly as a result of shale gas development across this country,” he said.

Along with generating tax revenue, the industry has worked with the Pennsylvania Department of Environmental Protection to raise well permit fees from $100 to $5,000.

This has allowed the DEP to expand its compliance and inspection staff from about 80 people in 2006 to a little more than 200 today. That makes Pennsylvania second only to Texas in the number of oversight officials regularly visiting well sites.

Spigelmeyer also said the industry has worked with the state to establish impact fees through Act 13 of 2012, which has resulted in about $60 million in additional revenue for the state, counties and individual municipalities.

While other portions of Act 13 were struck down by the state Supreme Court in December, he said the state “got it right” with the impact fees because the revenue is distributed to the areas in which the most development is taking place.

How does horizontal drilling work?

Callum Streeter, a petroleum engineer and EdgeMar’s operations manager, provided a detailed presentation on how technology and tools make extracting gas from shale rock formations possible.

EdgeMar, a two-year-old exploration and production company headquartered in Washington County, has all of its Marcellus Shale operations concentrated in Butler County with additional leased acreage in the Utica Shale in Ohio.

It currently has one drilling rig in the county, and Streeter said a second would start up in April. EdgeMar also is building a 4-mile pipeline from the northeastern corner of the county to the Evans City area to a facility that separates other recoverable substances from the extracted gas.

Streeter used graphics, charts and a makeshift model of a “bottom hole assembly” to show how drillers are able to turn the bit and bend drill pipe over thousands of feet.

The bottom hole assembly is about 30 feet long and comprised of three components: the drill bit, a positive displacement motor that can turn the bit about 10 to 15 degrees per 100 feet, and a measurement-while-drilling, or MWD, device that communicates with the workers on the surface through electromagnetic signals.
One of the amazing things about these wells is that if you took the length and diameter of a well, the actual ratio of the diameter to the length is finer than a human hair.

— Calum Streeter, EdgeMarc’s operations manager.

Bud Shufstead of Northwest Savings Bank addresses the crowd March 13 during Energy Symposium 2014 at Butler County Community College’s Founders Hall.

Opportunities for businesses

Stacey Lucas, who is responsible for EdgeMarc’s health, safety, and environmental department, spoke about what businesses need to know to work with the energy industry. While there are opportunities during all phases of development, from exploration to reclamation, she said there is an intensive prequalification process to ensure safety and quality.

“When it takes to work for EdgeMarc is pretty much applicable to any oil and gas operator in the industry,” she said.

“We try to be the best, but we’re not the best, we’re the best. We can’t compete with the major oil companies. We have to work with the smaller companies and the independents.”

Opportunities for individuals

Karen Zapp of BC3 shared the success stories of since many have taken career training courses at the school to work in the energy industry and related fields. Zapp manages BC3’s Trade Readiness and Training programs. BC3 offers a wide range of training opportunities, from entry-level to advanced, and the program is designed to help individuals develop the skills they need to succeed in the oil and gas industry.

Act 13 update

Joy Ruff, community outreach manager for the Marcellus Shale Coalition, addressed Act 13, including changes resulting from new regulations. The key result is that municipalities regain control over gas development. However, there has been much uncertainty for operators, she said.

Spigelmyer equated each municipality being allowed to make its own rules to a person having to carry a different driver’s license for each municipality.

As a result, Ruff said companies will go to where the business environment is most hospitable. Both she and Spigelmyer stressed the importance of working with and communicating better with local governments and taxing bodies. However, Ruff said Act 13 has been largely successful for local governments.

In Butler County alone, about $4.6 million in impact fee revenue has been distributed during the first two years of collection.

Economics of energy and looking ahead

Bud Shufstead, an attorney who heads up Northwest Savings Bank’s oil and gas legal division, spoke about the wealth created through gas production. The Warren County-based bank formed the division a couple of years ago because the gas industry had impacted the way it does business.

The division helps residents and municipalities manage and track lease bonuses and royalty payments. In regards to commercial business, the bank has been able to more supportive when lending to those working with the gas industry.

Shufstead said moving forward, there is going to be significant value in owning royalties because those wells will be going into production as gas lines are built to carry the product to market. He also said residents and businesses will start adopting more gas-based technologies.

Spigelmyer said the most potential is in electric generation, fleet transportation, heating other industries and exporting gas. The ongoing talks to get Royal Dutch Shell to build an ethane cracker plant in Beaver County also represent a potential boost because the plant would form the raw materials in plastics manufacturing.