



VIEWS & VISIONS

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Natural Gas Provides Lifeblood for Economic Development

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MATRIC

Steven M. Hedrick is the president and chief executive officer of the Mid-Atlantic Technology, Research & Innovation Center (MATRIC).

He has an extensive chemical industry background, most recently having served as vice president and head of Bayer CropScience's Institute Industrial Park, located in West Virginia. Additionally, he held previous positions of increasing responsibility at Bayer MaterialScience and Lyondell. Mr. Hedrick currently serves on the board of directors for several organizations, including the West Virginia Manufacturers Association (WVMA), Charleston Area Alliance, Charleston Area Chamber of Commerce, and Kanawha County Metro-911. He is immediate past chair of the WVMA's Chemical Industry Committee, which serves as West Virginia's Chemical Industry Council.

His entry into the chemical industry followed service as an officer in the United States Army. A native of West Virginia, he holds a bachelor of science degree in chemical engineering from the United States Military Academy at West Point, New York.

What a wonderful time to be engaged in business in the Mountain State. Less than a decade ago, many chemical and energy experts believed that America would need to import a lot of expensive liquefied natural gas (LNG) for domestic consumption. So much so, in fact, that enormous investments were made to construct import facilities for LNG transport into the United States from around the world.

But shale gas production in the United States has dramatically lowered the cost of our natural gas supplies and more than doubled the size of North America's natural gas resources. And, this revelation has caused owners of such import facilities to consider converting them to *export* facilities.

West Virginia contains vast supplies of this underground wealth and has a big stake in the careful development of our Marcellus and Utica shale resources. As the industry continues to responsibly develop this resource, as I expect we will, it will create real value to our economy in terms of jobs and economic growth.

These shale gas reserves also contain ethane, an essential petrochemical feedstock. The recent announcement by Odebrecht, and prior announcements by Shell, signal the simple truth associated with shale gas: it is real, it is accessible, and petrochemical investment based on it is a great element to a company's strategic plan.

These announcements should be indicative of what is to come across the next decade. Natural gas is the industry's lifeblood, the building block for more than 96 percent of all manufactured goods. Natural gas to the manufacturing industry is like flour to a bakery. Businesses that use ethane-based chemicals – like plastics, elastomers, performance fluids, and fibers – will



likely be part of this resurrection of the heavy petrochemical industry in our region...an industry that has provided high-paying jobs with excellent benefits to generations of West Virginians.

Research by the American Chemistry Council indicates that these companies stand to gain as many as 80,000 new jobs nationally.

U.S. News & World Report recently released a STEM (science, technology, engineering and mathematics) Index of the United States, and the data certainly suggests that there are two major trends: 1) the number of STEM graduates is growing, year-on-year, and 2) our educational system is not producing enough STEM graduates to keep up with the growing needs of our nation. We should applaud the efforts that are beginning to show movement in the trend that we're producing more STEM graduates, but we must recognize that more must be done to ensure that our nation has the necessary talented, skilled workforce available to meet the growing need.

We must continue to make STEM education a priority, as it relates to our local and national education curricula. And, STEM isn't just about producing chemical or mechanical engineers. We're talking about a STEM-literate citizenry: lawmakers who have a sound understanding of science; citizens who expect actions will be taken by government and business based on sound science, not emotion; educators who teach science in a way that keeps young students

interested; and journalists who understand STEM and can accurately report on STEM-related issues.

Because, without a STEM-literate citizenry, we can't have informed, healthy debate on all issues and topics related to the energy industry. Debate remains a healthy element to how we best position ourselves for success. Informed debate, based on sound science, will allow the shale gas industry and petrochemical growth to proceed in a responsible way. The debate helps drive innovation that leads to industry best practices, including ever-improving performance in occupational and process safety. This debate is not only welcome, but necessary.

Unfortunately, some still believe that we must choose between environmental

protection or shale gas extraction. Or, that we may have safe communities or the chemical industry. We must continue our efforts to bring appropriate information to our colleagues, to our friends, to our communities, to our journalists and to government representatives, to help them better understand that the value proposition is not about such a choice. It is not a win-lose situation; it is win-win.

I remain hopeful that the resurgence in the petrochemical industry in our state, and in our region, will yield great benefits to the people who live here today and tomorrow. As a reminder to us all, the resurgence in chemical manufacturing can create real value to:

- the companies involved, to their suppliers and to their customers;

- the people who design and build the plants;
- chemical plant employees, including operators, engineers, maintenance, and support personnel;
- employees' families; and to
- their neighbors and community, as their jobs create mutually beneficial employment in the area.

All of this value will cascade and spread widely throughout the region, if only we embrace and enable the opportunity before us. ▽

Putting Shale Gas Molecules To Work in WV, OH, PA, KY

