VIEWS & VISIONS

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Overcoming Challenges and Creating Opportunities for Generations to Come

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Kevin DiGregorio is the Executive Director of The Chemical Alliance Zone, a nonprofit economic development group dedicated to advancing the chemical industry in West Virginia and boosting the state's technology economy. Kevin has a Ph.D. in chemical engineering from West Virginia University and more than 16 years of experience with Union Carbide Corporation and The Dow Chemical Company. He spent his last several years at Dow as the Change Leader at the South Charleston Technology Park. Kevin previously served as Executive Director of TechConnectWV.

He also is the President and owner of IMPACT Professional Services LLC, a firm offering consulting and executive management services. At IMPACT, Kevin has worked with numerous companies and organizations and has facilitated a number of collaborative and strategic planning efforts, including Vision 2015: The West Virginia Science and Technology Strategic Plan, the West Virginia University Advanced Energy Initiative Strategic Plan, and the West Virginia Statewide Cyberinfrastructure Strategic Plan.

Kevin conducted biomedical research for his master's and doctoral degrees and earned the Young Investigator Award from the Biomedical Engineering Society for his dissertation work. He was awarded the Corporate Fellows Technology Award at Union Carbide Corporation.

Kevin is a member of the West Virginia Governor's Marcellus to Manufacturing Task Force and is a director on a number of boards, including MATRIC, the West Virginia Regional Technology Park and TechConnectWV.

Although "Erasing Lines," the title of this issue of *Views & Visions*, refers specifically to lines between West Virginia, Pennsylvania and Ohio, it also could refer to lines between different industries, diverse organizations and even various ideologies.

The upshot? We need to erase a bunch of lines. If successful, we will grow an already large shale gas pie, more effectively share that pie, and better create opportunities for our kids and grandkids. Of course, there are significant challenges to overcome. I'll briefly cover the broad challenges of erasing the lines before considering specific opportunities and challenges for the shale gas play in our region.

Erasing the Big Lines

To make the best use of shale gas – including methane to provide energy and natural gas liquids (ethane, propane, butane) to make chemicals, polymers and other products – we must cooperate and collaborate. A simple framework offers a path to success.

Come Together

The Beatles had it right. "Come together, right now," they sang. And that is the first step, as 90 percent of all success is in showing up, communicating and developing relationships. The recent Tri-State Shale Summit in Morgantown, West Virginia, provided the spark to accomplish all three.

Find Common Goals

After coming together, the various states and groups need something to *keep* them together – finding common and extremely meaningful goals. For this group, the overarching objective is simple: creating investments and jobs (and lots of them) for our future generations.

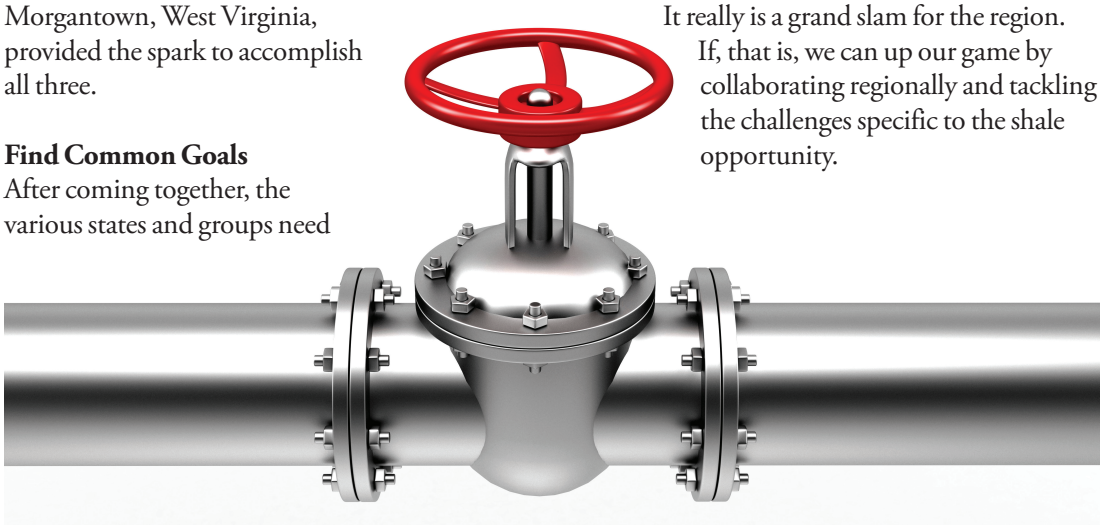
Compromise and Share

It's great to come together and find common goals, but once that is out of the way, various agendas and views begin to surface, muddying the waters. And everyone starts thinking about how to grab the biggest piece of the pie. To minimize that, all groups must be ready to acknowledge the competitive landscape, compromise their positions and share the pie. If not, the pie will shrink pretty rapidly.

Taking Advantage of the Opportunities

The economics of shale gas have been widely covered, from hundreds of millions of dollars invested in pipelines and gas separation plants, to potentially billions invested in ethane crackers, to potentially hundreds of millions or billions invested in downstream chemical, polymer and other manufacturing facilities. On top of that comes thousands of high-wage, high-skill jobs and a job multiplier across the rest of the economy – think teachers, business owners, bankers, plumbers, accountants and more – that ranges from two to five.

It really is a grand slam for the region. If, that is, we can up our game by collaborating regionally and tackling the challenges specific to the shale opportunity.



Tackling the Shale Gas Challenges

In my mind there are three key challenges for taking advantage of shale gas in the region: workforce, pipeline infrastructure and ethane storage.

Creating a Regional STEM-Based Workforce

We need highly skilled STEM (Science, Technology, Engineering and Math) workers for the natural gas, chemical and related firms already in the region, but also to attract companies looking to invest in the region.

The good news? Many programs and initiatives are in place or underway to provide the needed education and training, from high schools to community colleges to universities. The bad news? We aren't getting enough students to take advantage of the programs.

Companies will be attracted by the abundant natural resources in our region, but they will ultimately invest because of our human resources. We need to convince our citizens of the opportunities awaiting them in STEM fields across the region.

Creating a Regional Pipeline Network

We have enough industrial sites to build a handful of ethane crackers and related downstream manufacturing plants in the region. Unfortunately, we can't easily get ethane to many of those sites.

While pipeline projects are planned or underway to take ethane out of the region, few are planned to move ethane within the region. In short, supplying ethane to only one customer at a nearby manufacturing site is a much higher risk than supplying many customers outside the region.

A potential solution? A private-public partnership among regional players to share the risk but reap the reward from pipelines that fuel a regional manufacturing renaissance.

Creating a Regional Ethane Storage Facility

In the foreseeable future, much more ethane will be produced in the region than can be consumed. Ethane storage would not only provide ethane producers with a stable, regional outlet, but would also provide ethane users with a stable, ready supply of raw materials, working side by side with pipelines to attract manufacturing investments and jobs.

And, as with pipelines, a private-public partnership among regional players is a likely solution.

In the end, we must work collaboratively across state lines – and across industries and organizations – to take advantage of the opportunities that shale gas offers in our region. And we must be ready to tackle the hard challenges with an open mind and a focus on the long-term goal: creating jobs and a wealth of opportunities for our kids and grandkids for generations to come.