

**HOUSE MAJORITY POLICY COMMITTEE PUBLIC HEARING
DOWNSTREAM JOB CREATION AND THE MARCELLUS SHALE INDUSTRY**

THE MARCELLUS SHALE SUPPLY CHAIN

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Good morning and thank you, Chairman Reed and members of the House Republican Policy Committee for inviting me to speak with you today about the positive impact that natural gas development has had on Chester Engineers. As you are well aware, the decisions that you make in Harrisburg have direct bearing on not only the success of Chester Engineers but of small businesses throughout the Commonwealth. My story is one of many, and they are all dependent on good policy that encourages the responsible development of our natural resource to ensure the continued economic vitality of our state and growth of Pennsylvania small businesses.

My testimony will include an overview of Chester Engineers to provide perspective of where the company fits in the Marcellus Shale Supply Chain and a brief discussion of the components that make up the Supply Chain itself. The Marcellus Shale Supply Chain consists of multiple layers including the Direct Effect, Supply Chain Effect and Consumption Effect, or In-Direct Effect. There are hundreds of companies providing services or products to companies operating in the Marcellus Shale with close to 50 in the consulting engineering industry alone. With a long-term, sustainable project base and good policy emanating from Harrisburg that encourages development the consulting engineering industry in Pennsylvania will thrive for decades to come. This is an industry with high-tech careers offering sustainable, family-supporting incomes that are vital not only to the economic health of our region but also the environmental health and safety of the entire state. For many consulting engineers in Pennsylvania, the gas industry is a new market that has revitalized our business and created a new source of revenue. Consulting engineers ensure environmental protection and regulatory compliance. In fact, we have been protecting Pennsylvania's natural resources since long before the development of the Marcellus Shale.

Overview of Chester Engineers and the Marcellus Shale Supply Chain: Chester Engineers is a local success story. Founded in Pittsburgh in 1910 and headquartered here ever since, Chester Engineers has been a leader in providing high quality engineering services to the oil and gas industry for over one hundred years. Our experienced and professional multi-disciplinary staff of engineers, scientists, technical specialists, and support personnel offers a wide range of engineering services to the oil & gas industry. Our turn-key approach for project delivery includes the early planning and permitting stages through project commissioning and operational support. Chester maintains four local offices in the Pittsburgh market with additional offices in twelve states, the Caribbean and Africa.

Breakdown of Chester Services in the Marcellus Shale: Chester provides turn-key project delivery services to companies operating in the Marcellus Shale Play. We offer a wide range of services to the oil and gas industry including:

- Total Water Management
- Total Energy Resource Management
- Water and Wastewater Design Services
- Pipeline and Compressor Station Design Services
- Civil-Site and Transportation Design Services
- Environmental Planning and Permitting
- Geographic Information Systems/Asset Management
- Regulatory Compliance
- Construction Management
- Safety

Industry Challenges and Opportunities: Considering that challenge equals opportunity, there are numerous challenges to working in the natural gas industry as well as numerous opportunities. The natural gas industry in the Marcellus Shale, particularly in Pennsylvania, is one of the most heavily regulated industries in the country. Act 13 was a major contributor to this ranking. Many of the services required by the industry are applicable to what most consultants have been doing in the region for decades but there are some new technologies and project delivery methods within the industry that had to be developed. With the increased interest in the Marcellus and the competitive nature of the consulting engineering business, finding and retaining qualified staff is a major issue as well as the resulting competitive fee structures. The competitive field in the region is so diverse there are firms with thousands of employees competing against firms with under 100. We have found that as long as you have researched where you fit in the supply chain, know your product or service and deliver it accurately, on time and are cost effective, the gas industry supply chain in the Marcellus Shale is relatively easy to navigate.

Direct Benefit From Chester's Marcellus Shale Operations: Chester Engineers Marcellus Shale operations fit into the direct supply chain (Direct Effect) which includes companies providing services to facilitate site preparation, well construction, transportation and logistics, water management, piping design and processing water, and well site completion and maintenance. These services support the exploration, drilling, production, pipeline, construction/operations, and distribution companies. Chester and other consulting firms also provide services to other vendors in the supply chain such as construction companies, pipe suppliers, steel industry, and water supply utilities.

A direct benefit from the Marcellus Shale in the region is job growth. Chester Engineers has added over 50 new hires since January 2011 and we are still in hiring mode. These are excellent jobs including engineers, scientists, technicians and administrative support. These new hires represent a 25% growth over the period for Chester and a significant increase to the average

we had been seeing in the market over the past 10-15 years. With the long-term, sustainable nature of the Marcellus Shale, Chester Engineers and other companies have changed their recruiting focus. We are now extending our recruiting beyond college campuses to high schools where we are helping to educate students on the benefits of a technical career and we are using the Marcellus Shale opportunities as an example. We're reaching a much broader audience now. It's amazing to see the excitement in high school students for our industry that previously was confined to the serious math and science students. I have been in this industry for over 25 years and I will retire working on Marcellus Shale related projects, that's not a news flash. What is exciting news is that my 6 year old grandson who wants to be an engineer can also retire working on Marcellus Shale related projects.

The chemical and plastics industries are excellent examples of the direct benefit of the development of the Marcellus Shale. The Marcellus provides a low cost feedstock fueling operational expansion by several major chemical companies and spurring the construction of new ethane cracker plants in Texas and potentially Pennsylvania. The potential direct and indirect benefits from an ethane cracker plant in southwestern Pennsylvania simply cannot be measured. A plant of this type will generate literally thousands of well-paying, permanent jobs and provide a growth opportunity for hundreds of companies in a wide range of industries. Plans to construct world-scale polyethylene plants and large-scale pipelines to move natural gas liquids (NGL's) are also on the upswing. Another potential benefit from the Marcellus Shale is China. With China's natural gas consumption currently outpacing its production by a sizeable margin and consumption expected to triple by 2020, they will be looking at all available sources to keep up with the demand.

With the influx of oil & gas companies and the consulting engineers, contractors, attorneys, accountants, etc., serving them into the local economy across Pennsylvania the retail sector is also experiencing an upswing. Many of the people in the industry, over 75% now, live here as well as work here. There are very few rotating in and out due to living in another state. If they aren't local they have relocated here. This benefit to commerce in the local communities as well as the social benefit from having people who are leaders becoming involved in their communities is extremely important. Chances are your child's baseball coach or cub scout leader works in some phase of the Marcellus Shale Supply Chain.

In-Direct Benefits From Chester's Marcellus Shale Operations: The ancillary benefit from Chester Engineers' Marcellus Shale operations is realized in the in-direct supply chain (Supply Chain and Consumption Effect). Supply and service companies providing services and products such as heavy equipment, trucking, real estate, gas processing, safety equipment, stone, legal services, accounting, pipe, cement, iron and steel, food and beverage, housing, utilities, health care, and entertainment are realizing benefits not only from the exploration and production companies and drillers but also from the companies providing services in the direct supply chain. Chester also provides services to some of these supplier firms and our staff are consumers of others. Current Department of Labor and Industry statistics show that 29,000 people are working in the drilling industry in Pennsylvania with average annual earnings of

\$81,000. There are about 238,000 people working in related industries such as the consulting engineering industry.

The development of the Marcellus Shale has reinvigorated the consulting engineering industry in Pennsylvania. Our industry was basically stagnant in our core business lines of water, wastewater, civil/site design, transportation, and industrial process. We are now seeing unprecedented growth as evidenced by the hiring boom within the local and regional firms as well as the influx of national and international firms into the region. These local and regional firms have created stand-alone Natural Gas departments within their organizations and for the first time in recent memory we are retaining our homegrown technical talent. Pennsylvania is importing technical talent from other states such as Texas, Oklahoma and Colorado, rather than sending our most talented young engineers to the Sun Belt states and elsewhere for jobs. Local and regional firms such as Chester Engineers have experienced between 25% and 50% staff increases with the large national firms establishing local offices and moving staff to the region or hiring locals.

Example of direct effect thru consumption effect: A small example of this can be seen right here in this building. Chester Engineers world headquarters is located on the fourth and fifth floors. The new staff additions have benefitted Chester in the form of increased revenues but have also benefitted other tenants of the building. There has been increased breakfast and lunch service at the NOVA Café and an additional 20 Chester Engineer staff have joined the on-site fitness center operated by Corporate Fitness Works.

So what does all of this mean to the House Republican Policy Committee? As elected officials, I ask that you endorse good public policy to ensure that the success of Chester Engineers endures. Our customer base is dependent on the decisions that you make in Harrisburg, so as you return to our capital in the fall and begin a new session next year please think of Chester Engineers and all of the Chester Engineers throughout the Commonwealth when you cast votes that impact this industry. Those decisions impact me, my co-workers and all of our families. And they impact families like ours around Pennsylvania. Chester Engineers joined the Marcellus Shale Coalition for a reason- to align our goals with those of our customers to ensure our collective success. Therefore, as you are faced with policy decisions that impact this industry, I urge you to work with the Coalition; they truly represent the best interests of my customers, of me and of my family. Thank you again for inviting me to speak with you this morning, and I look forward to answering your questions.