

MARCELLUS SHALE ADVISORY COMMISSION

Work Group Recommendation Format

WORK GROUP: Workforce & Economic Development
SUBMITTED BY COMMISSION MEMBER(s): C. Alan Walker, Secretary, PA Department of Community & Economic Development; Gene Barr, Vice President, Government and Public Affairs, PA Chamber of Business and Industry

SUMMARY OF CHALLENGE OR OPPORTUNITY:

Pennsylvania is in need of infrastructure improvement, particularly its bridges, throughout the state. The Pennsylvania Department of Transportation (PennDOT) reports that the Commonwealth has the third largest number of bridges in the country, but leads nationwide in the number of bridges classified as "structurally deficient." The average age of bridges on the state system is 50-years-old.

According to a March 2010 PennDOT study, the Commonwealth has:

- **25,321** state-owned bridges with **5,242 (20.70%)** categorized as structurally deficient.
- **6,334** bridges on locally owned roads with **2,164 (34%)** categorized as structurally deficient.

The Commonwealth will need to address the increased risk of structurally deficient state- and locally-owned bridges in the Marcellus Shale region as a result of industry usage.

A potential funding source for bridge repair are the royalties collected by the state from leasing state land for Marcellus Shale natural gas production.

Dan Devlin, Director of the Bureau of Forestry (PA Department of Conservation and Natural Resources) reports that from 1947 to 2007, the state forests received \$4 to \$5 million in royalties from leasing state land to oil and gas companies. Since 2008, however, the Commonwealth has received \$413 million from leasing 138,866 acres of state land and \$12.7 million in royalty revenue.

According to a May 2011 presentation by the Marcellus Shale Coalition, the Commonwealth is projected to receive up to \$11.8 billion in royalties from existing leases on state forest land by 2030.

RECOMMENDATION (Including benefit, challenges to implementation, and timing):

Market Development

The Commonwealth should carefully evaluate and strategically target the investment of revenues generated from natural gas development on state-owned land; including the enhancement of bridges and other Infrastructure within the Shale-producing regions.

LEGISLATION AND/OR REGULATORY CHANGE NEEDED? (If yes, please summarize) N/A

POTENTIAL FISCAL IMPACT: N/A

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With increasing interest in the development of shale gas from energy companies nationwide, the Commonwealth could create the infrastructure necessary for these companies to invest in the Marcellus Shale region of Pennsylvania and its workforce in a timely manner.

In order to fully capture the benefits of the Marcellus Shale resource, Pennsylvania needs to be positioned to accommodate the expansion and location of companies in Pennsylvania. We know from some recent successes that having pad ready sites is a critical component to securing business investment. Companies cannot afford to spend the two years it typically may take to secure land development approvals, permits, and financing to install the infrastructure necessary to construct a facility. Developing sites now to capture business investments that are and will continue to present themselves is urgently needed.

The most imminent need for pad ready business sites happens to be in some of the most rural areas of Pennsylvania where the current inventory of sites and the financial capacity to develop new sites is lacking. That is why it is important for state economic development agencies to proactively seek out and assist local economic development groups and private sector developers who will construct the necessary inventory of business sites.

RECOMMENDATION (Including benefit, challenges to implementation, and timing):Market Development

The Commonwealth should identify strategic locations to construct regional business parks capable of tapping into existing infrastructure, partnering with local economic development agencies seeking the development, and utilize available financial incentives, such as the proposed Liberty Financing Authority.

The Business in Our Sites (BOS) Program and the Pennsylvania Industrial Development Authority (PIDA) are two financing tools that have been used successfully to prepare sites for businesses. Unfortunately, the capability of these programs to make meaningful investments to develop new sites is limited due to their current financial positions. However, BOS and PIDA are two of the programs that are proposed to be included in the new Liberty Financing

Authority that will aggregate the assets of 26 existing programs in one place and will have the capability to create new resources by leveraging those assets.

LEGISLATION AND/OR REGULATORY CHANGE NEEDED? (If yes, please summarize)

Yes. The newly established Liberty Financing Authority (LFA) will serve as a one-stop shop for job creators seeking the resources to grow. The 26 existing programs will be consolidated under one authority, with the programs being largely transferred unchanged and maintaining their intended purpose and guidelines, along with their respective money silos. The main purpose of legislation is to improve customer service and ease of access to resources for business.

The LFA will fill the gap in lending from the banks by providing low interest loans, which will be repaid to the authority with interest.

By pooling the resources from the authorities, investments and loan funds under one authority, the Commonwealth will have the option to leverage additional private funds to invest in economic development – flexibility that the Commonwealth does not currently have.

The LFA shall be governed by a 15-member board, including four members of the Governor’s Cabinet (Secretaries of DCED, Agriculture, Banking and Budget), and 11 members appointed from the private sector: three who shall be appointed by the Governor, and eight who shall be appointed by each of the 4 legislative caucus leaders of the General Assembly (2 each by the President of the Senate, the Minority Leader of the Senate; the Speaker of the House, and the Minority Leader of the House), and all of whom may not be members or staff of the General Assembly, nor otherwise employed of the Commonwealth.

The Governor shall appoint a chairperson, and the members shall select among themselves such other officers as they shall determine. Eight members of the board shall constitute a quorum with a majority of those present necessary to take any action on behalf of the authority.

The Authority will produce a yearly financing strategy to the Governor and legislature which will identify the current needs of business and the best areas to invest based on the current economic climate.

POTENTIAL FISCAL IMPACT: N/A

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SUMMARY OF CHALLENGE OR OPPORTUNITY:

Marcellus Shale Industry trucks are increasingly impacting our state highway system, both from a congestion and pollution standpoint. Most drilling takes place in mountainous, rural areas, with dirt and gravel roads. These roads were not constructed to handle heavy truck traffic. While the gas companies have invested \$400 million in road improvement, the overall damage occurring on the roadway system could be minimized by utilizing the rail system. If the state were to undertake the process of converting these roads from dirt to pavement, it is estimated that this would cost \$668 million.

At the same time, according to the Pennsylvania Department of Transportation (PennDOT), the Commonwealth is ranked 5th in the nation for the largest rail network, with approximately 5,600 miles of active rail.

PennDOT also report

- Four of the seven Class I railroads are operating in PA – CSX, Norfolk Southern, Bessemer & Lake Erie (Canadian National), and Delaware & Hudson (Canadian Pacific).
- A total of 66 railroads are operating in Pennsylvania.
- In 2009, 166.96 million tons of freight originated, passed through or terminated in Pennsylvania.

RECOMMENDATION (Including benefit, challenges to implementation, and timing):

Market Development.

PENNDOT, or an independent consultant, should evaluate the future rail needs necessary for maximizing shale development to facilitate the efficient targeting of financial assistance programs and remove additional truck traffic from roadways.

LEGISLATION AND/OR REGULATORY CHANGE NEEDED? (If yes, please summarize) N/A

POTENTIAL FISCAL IMPACT: N/A

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SUMMARY OF CHALLENGE OR OPPORTUNITY:

A goal of the Commonwealth should be to attract a wide-range of long-term, value added opportunities – realize maximum economic gain and monetize Pennsylvania’s natural gas, particularly opportunities in downstream activities including chemicals manufacturing such as polyethylene for domestic and export markets.

Two-thirds of industrial energy use comes from liquid fuels and natural gas, and provides the basic feedstocks for many chemicals and materials. The newly abundant supply of clean, low cost shale gas creates an opportunity to attract and reinvigorate industries that have large energy or chemical feedstock needs.¹

Additionally, natural gas by-products can be used to create a number of products including: pulp, paper, metals, chemicals, petroleum refining, stone, clay and glass, plastic, and food processing industries. These businesses account for over 84 percent of all industrial natural gas use.

RECOMMENDATION (Including benefit, challenges to implementation, and timing):

Market Development

A comprehensive evaluation of Pennsylvania’s competitive business climate should be conducted to ensure that the Commonwealth is best positioned to attract private investment capital and maximize downstream natural gas use, such as in chemical manufacturing, plastics and other uses.

Emphasis should be put on aggressively identifying and evaluating sites, infrastructure, workforce, permitting factors, etc., as necessary to effectively widen shale gas industrial opportunities having a significant economic impact. Since the Marcellus, and other shale plays span several Appalachian states, Pennsylvania should explore working relationships with neighboring states for mutual benefit.

¹ Penn State University-Office of Research: <http://www.research.psu.edu/events/naturalgas/working-groups>

On the subject of permitting, the Commonwealth should work to improve customer service and promote consistency in the permit review system; currently, different regions have different ways of reviewing permit applications, which can cost time. Also, Special consideration should be given to permits that foster mid- and downstream job creation. For example, special consideration should be given to permitting for new quarries, as many counties in the Marcellus Shale play cannot keep up with the industry's demand for stone (aggregate), thereby driving up costs for local boroughs and municipalities.

LEGISLATION AND/OR REGULATORY CHANGE NEEDED? (If yes, please summarize) Maybe.

POTENTIAL FISCAL IMPACT: N/A

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SUMMARY OF CHALLENGE OR OPPORTUNITY:

Currently, Pennsylvania ranks 10th in its use of natural gas vehicles (NGVs). However, natural gas has the potential to allow the transportation system in Pennsylvania to move toward a lower-cost and lower-emission model. A major impediment to the use of NGVs is the large capital cost of the fueling stations. An increased number of fueling stations along major routes and Interstates in Pennsylvania could increase the willingness of major companies and public transit systems to convert fleet vehicles to natural gas.

RECOMMENDATION (Including benefit, challenges to implementation, and timing):

Market Development

Pennsylvania must develop "Green Corridors" for natural gas fueled vehicles, including Compressed Natural Gas (CNG) and Liquefied Natural Gas (LNG) fueling stations, located at least every 50 miles and within 2 miles of designated highways.

A major challenge to the implementation would be the high cost of CNG infrastructure.

LEGISLATION AND/OR REGULATORY CHANGE NEEDED? (If yes, please summarize) Yes; the legislation would include the parameters outlined below.

Eligibility

- A company must demonstrate to the department a comprehensive plan to build one or more natural gas fueling stations (Compressed Natural Gas or Liquefied Natural Gas) or to add compressed natural gas fueling capacity to one or more existing stations which sells gasoline or a combination thereof.
- Must be open to the public.
- The stations must be located within 2 miles of an eligible corridor.
- Eligible corridors would include the **Pennsylvania Turnpike, I-78, I-79, I-80, I-81, I-83, I-95, I-180, RT-6, RT-15**

Prioritization

- Ranking will be according to the total number of stations proposed to be built along a single eligible corridor or a continuous travel route utilizing the eligible corridors. Stations must have a spacing of at least 50 miles from another natural gas station which is within 2 miles of the eligible corridor and a maximum spacing of 100 miles.

Tax Credit

- Worth 50% of the total cost of the natural gas station or the total cost of adding natural gas fueling capacity to an existing station which sells gasoline.
- The total cost is capped at \$500,000 per site with a maximum allocation of \$25 million; this would allow for the development of roughly 50 sites.
- The tax credit is transferable.

POTENTIAL FISCAL IMPACT: N/A

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SUMMARY OF CHALLENGE OR OPPORTUNITY:

Pennsylvania is positioned to become the second largest producer of natural gas in the United States. Based on the abundance and price stability of this low cost, low emissions resource, we must try to increase the usage of natural gas for fleet vehicles. This unique resource is also virtually carbon free and burns 30 to 40 percent cleaner than diesel. In addition, conversion of fleet vehicles could potentially result in positive economic impacts through the creation and development of additional Compressed Natural Gas (CNG) infrastructure.

RECOMMENDATION (Including benefit, challenges to implementation, and timing):

Market Development

Create financial incentives for the conversion of mass transit and school bus fleets to natural gas, as well as for the manufacture of engines and other component parts, utilizing funding sources such as the Alternative Fuels Incentive Grant fund.

Recommend incentivizing Pennsylvania mass transit services and fleet operators (including public school buses) to convert to or purchase Compressed Natural Gas powered vehicles. The intended outcome is an increased demand for such vehicles in the Commonwealth powered by natural gas extracted within our own borders; similarly, the need for fleet and publicly accessible natural gas fueling stations/infrastructure is expected to grow substantially. It is further recommended that specific opportunities be identified to aggressively market Pennsylvania as global leader in natural gas production, downstream manufacturing and Natural Gas Vehicles ("NGV") utilization. By correlation the Commonwealth should equally promote investment opportunities by NGV manufacturers or NGV component parts manufactures, as well as manufacturers of fueling station equipment and/or component parts.

Consideration for strategic business incentive programs to attract large scale investment and jobs creation projects may include, but not limited to: investment tax credit, adoption or expansion of the KOZ program specifically for major investments involving downstream shale gas industrial opportunities, or other creative programs which otherwise make a Pennsylvania a location of choice for such projects.

LEGISLATION AND/OR REGULATORY CHANGE NEEDED? (If yes, please summarize)

Yes, for the investment tax credit and the adoption/expansion of the KOZ program.

POTENTIAL FISCAL IMPACT:

N/A

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SUMMARY OF CHALLENGE OR OPPORTUNITY:

The Marcellus Shale play enhances the economic, societal and environmental benefits of cogeneration (also known as Combined Heat & Power, CHP) technology, which is the on-site production of electricity and useful thermal energy from a single fuel source. Unlike conventional electricity generation, waste energy from cogeneration is captured and utilized for heating purposes.

Cogeneration technology has the potential to produce many attractive and practical benefits to businesses and communities in the Marcellus Shale region, from creating jobs to significantly lowering energy costs and their environmental footprint.

RECOMMENDATION (Including benefit, challenges to implementation, and timing):

Market Development

The Commonwealth should promote the use of cogeneration technology (Combined Heat & Power (CHP)) through the use of Permit-by-Rule, standardized utility power grid interconnection rules and direct financial incentives.

According to the Commonwealth Recycled Energy Economic Development Alliance, cogeneration would provide the following benefits.

- Create hundreds of new supplier, construction and engineering jobs and retain thousands.
- Provide immediate economic advantage on energy pricing for small and large businesses. Reduced energy costs also allow the business to expand operations and/or hire more employees.
- Delivers low cost supply-side method of reducing carbon emissions (by 50 percent versus grid power and natural gas boilers).
- Lowers the marginal cost of electric power (by 40 percent less primary energy versus grid power and natural gas boilers).

While cogeneration projects can require relatively expensive initial investment, entities can expect a payback within a few years. Other challenges to successful cogeneration include availability of historic data, predicting fuel costs, utility industry resistance, and technical expertise for project development and ongoing operations, and creating legal/regulatory incentives for small- and medium-sized businesses to embrace cogeneration technology.

LEGISLATION AND/OR REGULATORY CHANGE NEEDED? (If yes, please summarize)

Yes. A few proposals worth consideration include:

- Continuation and Expansion of Alternative Fuel Incentive Grant Program (AFIG)
- \$600/kW for plants up to 3 MW
- \$300/kW for plants above 3 MW or \$10/MWh Alternative Energy Credit
- Capital Grant Funding Capped at \$1.0 MM/Project
- Permit by Rule – Standardized air permitting for compliant equipment with fixed schedules
- Standard Utility Power Grid Interconnection Rules – Standardized agreement with fixed schedule for up to 3 MW and above 3 MW to 30 MW
- Loan Guarantees – Government guaranteed commercial loans with minimum 15-year term

POTENTIAL FISCAL IMPACT: N/A

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SUMMARY OF CHALLENGE OR OPPORTUNITY:

The Pennsylvania Alternative Energy Portfolio Standard (AEPS), Act 213 of 2004, requires that an annually increasing percentage of electricity sold to retail customers in Pennsylvania is from alternative energy sources. Compliance is based upon Alternative Energy Credits equal to a megawatt-hour of qualified generation. The Act requires that certain thresholds be met for the use of Tier 1, Tier 2 and solar photovoltaic resources. Natural gas is currently not included in AEPS.

Tier 1 (8% by compliance year 2020-2021) – Energy derived from:

- Solar photovoltaic energy
- Solar thermal
- Wind power
- Low-impact hydropower
- Geothermal energy
- Biologically derived methane gas (including landfill gas)
- Fuel cells
- Biomass energy
- Coal mine methane
- Black Liquor (PA only)
- Large-scale hydropower (certain restrictions apply)

Tier 2 (10% by compliance year 2020-2021) – Energy derived from:

- Waste coal
- Distributed generation systems
- Demand-side management
- Large-scale hydropower
- Municipal solid waste
- Generation of electricity utilizing by-products of the pulping process and wood
- Integrated combined coal gasification technology

Solar Photovoltaic Resources (0.5% compliance by 2020-2021)

RECOMMENDATION (Including benefit, challenges to implementation, and timing):

Market Development

The Alternative Energy Portfolio Standards Act should be amended to include natural gas as an eligible Tier 2 fuel source.

LEGISLATION AND/OR REGULATORY CHANGE NEEDED? (If yes, please summarize)

Yes.

POTENTIAL FISCAL IMPACT:

N/A

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SUMMARY OF CHALLENGE OR OPPORTUNITY:

The Commonwealth's energy policy is currently developed by the Pennsylvania Department of Environmental Protection (DEP) and the Public Utility Commission (PUC), two agencies that do not work in tandem for the overall development of a statewide energy policy.

The Commonwealth needs a balanced energy policy that utilizes all of its resources (e.g., coal, nuclear, wind and solar, natural gas) to reduce adverse environmental impacts and energy costs, and works toward achieving energy security and independence.

A similar need in Pennsylvania was addressed back in 1970s during the Mideast Oil Crisis. In 1979, Governor Milton Shapp issued an Executive Order creating the Governor's Energy Council whose primary goal was to achieve energy security for the Commonwealth by the mid-1980s.

Additional duties and responsibilities of the Council were:

- To develop a Comprehensive Energy Plan for the Commonwealth.
- To serve as the primary recipient and coordinator of federal and private energy funds assigned to Pennsylvania, and to distribute such funds as needed to implement planning, energy conservation, and research and development of new sources of energy.
- To collect, coordinate, and make available to the public and private sectors of the Commonwealth information relating to energy conservation and innovative uses of available resources and emerging sources.
- To assist the Governor, other state agencies, and the private sector in the study and review of all energy plans, policies, and programs and to aid in the evaluation of needs, assessments of existing resources, analysis of existing programs, and the development and implementation of new policies and programs.

The Council was chaired by the Lieutenant Governor and included cabinet secretaries and representation from the legislature.

The Executive Order creating the Council was rescinded in 1987 with the Pennsylvania Energy Office taking its place.

RECOMMENDATION (Including benefit, challenges to implementation, and timing):

Market Development

The development and utilization of Marcellus Shale and other unconventional gas resources should be a critical and prominent component of an established state energy plan for the Commonwealth.

LEGISLATION AND/OR REGULATORY CHANGE NEEDED? (If yes, please summarize)

This is non-regulatory and can be created by an Executive Order.

POTENTIAL FISCAL IMPACT: N/A

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SUMMARY OF CHALLENGE OR OPPORTUNITY:

The Marcellus industry has resulted in employment opportunities for industries that are both directly and indirectly involved in the drilling process. Though not directly related to the process of drilling, the potential exists for the commercialization of high-impact technologies. The state has the opportunity to create public/private partnerships between universities and entrepreneurs to work together to discover, support and advance technologies which will result in new business opportunities and increased employment in Pennsylvania.

RECOMMENDATION (Including benefit, challenges to implementation, and timing):Market Development

Academic research efforts across the Commonwealth, including initiatives such as SAFER (Shale Alliance for Energy Research), the Ben Franklin Technology Partners' Shale Gas Innovation and Commercialization Center, the Keystone Alliance for Marcellus Shale and Natural Gas Technologies and others, must be marshaled to focus academic-supported efforts on needs such as research and development, business start-up incubation and seed-capital start-up assistance.

Elements of such an initiative would include:

- Seed capital to start-up companies looking to capitalize on the shale gas resource.
- Strategic and management assistance to emerging and existing companies to accelerate their growth in new shale and gas-utilization related technologies (e.g., mentoring, consulting or advisory teams to address specific company development issues).
- An incubator program to greatly increase the success rate of early-stage companies (e.g., creating a "synergistic community of shale gas companies").
- Research & technology development spearheaded by Pennsylvania's leading research universities to provide real-time solutions to meet the challenges facing industry, government, environmental, and health and human service providers surrounding Marcellus Shale development.

LEGISLATION AND/OR REGULATORY CHANGE NEEDED? (If yes, please summarize) N/A
POTENTIAL FISCAL IMPACT: N/A

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SUMMARY OF CHALLENGE OR OPPORTUNITY:

Regional tourism offices within the Marcellus Shale play have an excellent opportunity to highlight their outdoor recreational opportunities.

RECOMMENDATION (Including benefit, challenges to implementation, and timing):

Market Development

The Department of Conservation and Natural Resources and other public resource agencies should be tasked with ensuring access to mixed land uses within the Marcellus Shale region to highlight and ensure the viability of recreational activities, such as hiking, canoeing, snowmobiling, ATV and other uses.

This would also provide the large influx of temporary and permanent shale gas industry employees, including their families, with information on recreational opportunities in the area.

LEGISLATION AND/OR REGULATORY CHANGE NEEDED? (If yes, please summarize)

N/A

POTENTIAL FISCAL IMPACT:

Increased revenue from tourism, food and lodging.

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SUMMARY OF CHALLENGE OR OPPORTUNITY:

According to the Public Utility Commission, a rough estimate for cost savings in restructuring to more of a local supply basis compared to the Gulf area would be between \$0.25/Mcf and \$0.55/Mcf (on total PGC costs); when all cost savings plus incremental costs are considered.

This estimate assumes: (a) Long line demand cost will be saved, but only to the extent these costs are for capacity outside of the market area; the current path through the market area will still need to be retained for ultimate tie-in to the current distribution system; (b) As with demand savings, savings will be achieved related to a much shorter path for both commodity and fuel variable costs; (c) there are no significant rate changes by the delivering interstate pipelines (for example, moving to postage stamp rate design for those not having that rate structure today); (d) new market area costs (such as those related to new gathering lines) will need to be incurred to move gas from the wellhead to the ultimate delivering pipeline or direct connection into the distribution system (relatively expensive for the short distances when compared to some of the older embedded capacity costs in the portfolios), along with associated fuel and transport costs; and (e) considerations for managing a portfolio comprised of local production related to reliability and operational concerns (operating reserve margins).

RECOMMENDATION (Including benefit, challenges to implementation, and timing):

Market Development

The Commonwealth should incentivize the development of intra-state natural gas pipelines to ensure the in-state use of Marcellus Shale and to lower costs to consumers through the avoidance of interstate pipeline transmission costs.

LEGISLATION AND/OR REGULATORY CHANGE NEEDED? (If yes, please summarize) N/A

POTENTIAL FISCAL IMPACT: TBD

M

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SUMMARY OF CHALLENGE OR OPPORTUNITY:

Nationally, it is reported that in 2008 alone, natural gas jobs supported nearly 3 million American jobs, with 622,000 in direct employment. The industry also created "\$385 billion in economic activity, including \$181 billion in labor income, and more than 10,000 direct, indirect and induced jobs in 31 U.S. states."¹

Pennsylvania has already witnessed some of the positive economic impacts that the industry brings. According to the Department of Labor and Industry, from the 4th Quarter of 2009 to the 1st Quarter of 2011, there were 72,000 new hires in the Marcellus shale industry. In addition, a study conducted by Penn State University predicts that the industry could support up to 220,000 direct jobs by 2020.

In May 2011, the Marcellus Shale Coalition released a survey of nearly one-third of its 180-member companies that included a percentage breakdown of the direct jobs provided by the industry (below). If one were to incorporate Penn State University's projection, the Marcellus Shale industry would create the following distribution of jobs (in bold print).

Administrative – 11% **(24,200)**
Commercial – 1% **(2,200)**
Engineering & Construction – 24% **(52,800)**
Environmental Health & Safety – 3% **(6,600)**
Equipment Operations – 30% **(66,000)**
Geology – 2% **(4,400)**
Land – 4% **(8,800)**
Operations & Maintenance – 17% **(37,400)**
Purchasing – 1% **(2,200)**
Water Management – 4% **(8,800)**
Well Services – 1% **(2,200)**
Other – 2% **(4,400)**

¹ <http://www.anga.us/learn-the-facts/nat-gas-benefits>

These staggering statistics emphasize the industry's great potential in alleviating Pennsylvania's unemployment situation, and why it must identify its future needs so that its partners in state government, higher education and workforce development can adapt accordingly.

RECOMMENDATION (Including benefit, challenges to implementation, and timing):

Workforce Development

The Commonwealth must work with the natural gas industry to identify future employment opportunities, and partner with academic institutions, including trade and technical schools, to develop and disseminate curriculum and training needed to educate and provide employment opportunities for Pennsylvania workers.

It should also partner with technical schools, universities, community colleges and workforce investment boards in developing a curriculum; special consideration should be given to existing entities that are already developing a curriculum for "high priority" industry occupations to set benchmarks (i.e., ShaleNET). It should also consider funding grant and scholarship opportunities to facilitate the creation of a sizeable, well-trained workforce that is already in high demand.

LEGISLATION AND/OR REGULATORY CHANGE NEEDED? (If yes, please summarize) N/A

POTENTIAL FISCAL IMPACT: N/A

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SUMMARY OF CHALLENGE OR OPPORTUNITY:

Rural counties in the Northern Tier are experiencing unprecedented growth as a result of Marcellus Shale industry development. This region, which until recently had an economy focused mainly on agriculture and manufacturing, is now host to the biggest economic "game changer" that Pennsylvania has seen since the development of the steel industry in the early 20th century. Between April 2009 and 2010, employment increased by 2,500 and 900 for Bradford and Tioga Counties, respectively.¹

Unlike urban counties, these areas are historically slow to change and lack the capacity to handle rapid growth, particularly with respect to workforce development efforts in a new, innovative industry like the natural gas industry. Local education and training providers will need to address natural gas specific skills for "blue collar" jobs. Similarly, these providers will need to expand current capacity for "white collar" occupations found in the industry.

RECOMMENDATION (Including benefit, challenges to implementation, and timing):

Workforce Development

Provide assistance to rural regions unaccustomed to rapid economic growth, through state programs administered by the Department of Labor and Industry and the federal Shale-NET program.

LEGISLATION AND/OR REGULATORY CHANGE NEEDED? (If yes, please summarize) N/A

POTENTIAL FISCAL IMPACT: N/A

¹ Northern Tier Workforce Investment Board (April 2011 Presentation)

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SUMMARY OF CHALLENGE OR OPPORTUNITY:

As more and more members of our military return to the United States, they will need to find employment. A May 2011 report from the federal Bureau of Labor Statistics indicated that the unemployment rate among post-9/11 veterans was 10.9 percent, compared to all veterans (7.7 percent) and non veterans (8.5 percent); these veterans would have been more likely than nonveterans to be employed in industries such as mining, construction and manufacturing – which were all hit by the recession. What’s more, many veteran support groups worry that returning soldiers who do not find immediate employment run greater risks of addiction, homeless and suicide than civilians.

The growing Marcellus Shale natural gas industry has the immense potential to put these returning heroes back on the right track, providing them with well-paying, family-sustaining jobs.

The U.S. Chamber of Commerce is looking to sponsor 100 hiring fairs for veterans across the country. The goal of the hiring fairs will be to attempt to match any of our one million unemployed veterans in America with a new position.

RECOMMENDATION (Including benefit, challenges to implementation, and timing):

Workforce Development

The Commonwealth should work with potential partners, such as the U.S. Chamber of Commerce, the PA Chamber of Business and Industry, individual gas development companies and others to sponsor programs (such as Hiring Our Heroes) geared toward providing employment opportunities for veterans of the United States Armed Forces.

LEGISLATION AND/OR REGULATORY CHANGE NEEDED? (if yes, please summarize)

N/A

POTENTIAL FISCAL IMPACT: No fiscal impact.

P

MARCELLUS SHALE ADVISORY COMMISSION

Work Group Recommendation Format

WORK GROUP: Workforce & Economic Development
SUBMITTED BY COMMISSION MEMBER(s): C. Alan Walker, Secretary, PA Department of Community & Economic Development; Gene Barr, Vice President, Government and Public Affairs, PA Chamber of Business and Industry

SUMMARY OF CHALLENGE OR OPPORTUNITY:

A study conducted by the Pennsylvania Department of Labor & Industry, indicates an inverse correlation between regional Marcellus Shale well drilling activity and regional unemployment rates. For example, Bradford County which is located in the Northern Tier has an unemployment rate of 5.1 percent, much lower than the statewide average of 7.5 percent. At the same time, the Department of Labor estimates 2,700 Marcellus job posting statewide for April 2011. With the unemployment rates in Pennsylvania increasing, we must find a way to be able to link individuals who are unemployed with available positions provided by the Industry.

RECOMMENDATION (Including benefit, challenges to implementation, and timing):

Workforce Development

Enhance the utilization of the PA CareerLink program to better align and match the state's unemployed with job opportunities available across the Commonwealth, especially jobs available in regions of the state where unemployed workers may not be familiar.

The Pennsylvania Department of Labor & Industry will take the lead in connecting the unemployed, marketing to offices outside of the Marcellus Shale play, and incorporating career/job fairs.

LEGISLATION AND/OR REGULATORY CHANGE NEEDED? (If yes, please summarize) N/A

POTENTIAL FISCAL IMPACT: N/A

MARCELLUS SHALE ADVISORY COMMISSION

Work Group Recommendation Format

Q

WORK GROUP: Workforce & Economic Development

SUBMITTED BY COMMISSION MEMBER(s): C. Alan Walker, Secretary, PA Department of Community & Economic Development; Gene Barr, Vice President, Government and Public Affairs, PA Chamber of Business and Industry

SUMMARY OF CHALLENGE OR OPPORTUNITY:

Industry trucks are creating increased traffic volume and congestion on highways and local roads in the Marcellus Shale region. In their April 14, 2011 report to the Marcellus Shale subcommittee on Workforce & Economic Development, the Northern Tier Regional Planning & Development Commission reported that traffic "has increased on secondary roads from 150 vehicles a day to an additional 700 trucks per day." Naturally, this elevates safety concerns and the need for industry truck drivers to be adequately trained.

RECOMMENDATION (Including benefit, challenges to implementation, and timing):

Workforce Development

Enhance efforts to train, certify and employ individuals seeking work with Commercial Drivers' Licenses, through the deployment of standardized curriculum developed by Shale-NET and educational seminars like the "Marcellus Transportation Safety Day" sponsored by the Marcellus Shale Coalition.

Two related initiatives currently in existence are:

- ShaleNET – A coalition between Westmoreland County Community College (lead agency) and Pennsylvania College of Technology, West Virginia Northern Community College and Eastern Gateway Community College in Ohio, ShaleNET is developing a standardized curriculum for "high priority" industry occupations, including CDL truck drivers.
- "Marcellus Transportation Safety Day" – The Marcellus Shale Coalition is hosting two seminars to better educate carriers and truck drivers supporting the natural gas industry on Pennsylvania's regulations to improve their safety operating practices. Attendees will include: drivers, trucking company representatives, company safety coordinators or representatives or anyone with direct involvement with the transportation component of drilling operations.

LEGISLATION AND/OR REGULATORY CHANGE NEEDED? (If yes, please summarize): N/A

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POTENTIAL FISCAL IMPACT: N/A

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MARCELLUS SHALE ADVISORY COMMISSION

Work Group Recommendation Format

WORK GROUP: Workforce & Economic Development

SUBMITTED BY COMMISSION MEMBER(s): C. Alan Walker, Secretary, PA Department of Community & Economic Development; Gene Barr, Vice President, Government and Public Affairs, PA Chamber of Business and Industry

SUMMARY OF CHALLENGE OR OPPORTUNITY:

Currently, there are a number of misconceptions associated with the industry and the process of hydraulic fracturing. Due to the fact that this historic resource may be active for generations to come and has the potential to greatly impact the economy of Pennsylvania, it will be important for future generations to have a general understanding of these issues.

RECOMMENDATION (Including benefit, challenges to implementation, and timing):

Workforce Development

Pennsylvania should undertake a comprehensive effort to develop and disseminate education material and curriculum for use in primary and secondary education institutions regarding the development, extraction and uses of natural gas within the Commonwealth, drawing upon expertise from within industry, environmental, public health, academic, government and other sectors.

The effort should incorporate fact-based, unbiased information from experts in the fields of industry, higher education, environment and public health.

LEGISLATION AND/OR REGULATORY CHANGE NEEDED? (If yes, please summarize) N/A

POTENTIAL FISCAL IMPACT: N/A

MARCELLUS SHALE ADVISORY COMMISSION

Work Group Recommendation Format

WORK GROUP: Workforce & Economic Development

SUBMITTED BY COMMISSION MEMBER(s): C. Alan Walker, Secretary, PA Department of Community & Economic Development; Gene Barr, Vice President, Government and Public Affairs, PA Chamber of Business and Industry

SUMMARY OF CHALLENGE OR OPPORTUNITY:

Currently, companies in the industry conduct pre-screening to determine if potential employees have ever suffered from issues with drugs and alcohol. Due to extended schedules and the operation of many types of heavy equipment, it is incredibly important that individuals are performing their jobs with extreme care.

RECOMMENDATION (Including benefit, challenges to implementation, and timing):

Workforce Development

The Commonwealth should partner with public health agencies, as well as industry, to disseminate drug and alcohol awareness programs for the benefit of prospective employees, especially school-age students.

Possible partners in this initiative could include the Marcellus Shale Coalition, ShaleNET (Westmoreland County Community College, Pennsylvania College of Technology, West Virginia Northern Community College and Eastern Gateway Community College in Ohio), D.A.R.E., and the Pennsylvania Department of Health-Bureau of Drug & Alcohol Programs.

LEGISLATION AND/OR REGULATORY CHANGE NEEDED? (If yes, please summarize): N/A

POTENTIAL FISCAL IMPACT: N/A

T

MARCELLUS SHALE ADVISORY COMMISSION

Work Group Recommendation Format

WORK GROUP: Workforce & Economic Development

SUBMITTED BY COMMISSION MEMBER(s): C. Alan Walker, Secretary, PA Department of Community & Economic Development

SUMMARY OF CHALLENGE OR OPPORTUNITY:

Marcellus Shale gas drilling in Pennsylvania is a significant and rapidly developing market opportunity for the commonwealth's large and diverse manufacturing base. An existing base is well positioned for the commonwealth to build on, given the long history of oil and gas drilling in the state, but significant challenges and barriers exist that have slowed the entrance to this new market for many manufacturers. A significant issue is the Shale Gas supply chain model itself, which is significantly different than the traditional OEM supply chain structure most firms have dealt with. Direct supplier to buyer relationships are well known in the autos sector, aerospace, defense, transportation and other well developed industries, but a highly distributed supply chain where the drillers act as "general contractors" and subcontract out the development to distributors, supply houses, service firms and others is difficult to locate and access for most small and medium sized firms in the commonwealth. In addition quality, safety, welding certifications and other industry specific standards and requirements are not well known to our manufacturing base and are slowing access to the shale gas market.

RECOMMENDATION (including benefit, challenges to implementation, and timing):

The Department of Community & Economic Development should work closely with its regional economic development partners and gas producers to grow the number of existing manufacturing firms participating in the shale gas industry in Pennsylvania by helping suppliers adapt their products, meet industry standards, market their services and resources and identify qualified suppliers.

Areas for assistance include:

- Help firms adopt current their products or develop new products for the shale gas market – this would also include market research/validation to help manufacturing define the opportunity.
- Supplier scouting – improving the process to locate, qualify and connect small business and suppliers to the procurement opportunities offered by the shale gas industry. Focus on high demand parts, components instruments (e.g., frac tanks).
- Help firms to access industry vendor databases (like the IS Network) – this may require IT upgrades or broadband development for small manufacturers and other businesses

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- Look for opportunities to convert or increase the use of natural gas in manufacturing operations and processes as a possible low cost alternative. Ex: drying, heating applications, etc.
 - Help firms meet shale gas industry standards to take advantage of the location advantage and short lead times provided offered by PA manufacturers: new Quality Certifications (ISO), American Petroleum Institute Standards, Six Sigma, Safety, welding, etc.

LEGISLATION AND/OR REGULATORY CHANGE NEEDED? (If yes, please summarize)

No legislative changes are required. It would require the Pennsylvania Department of Community & Economic Development to work closely with its economic development partners to ensure these types of services and resources are being delivered.

POTENTIAL FISCAL IMPACT:

None. Support would need to remain for the regional economic development partners that support manufacturing to educate and implement these recommendations. Most efforts would be supported by manufacturing companies investing their funds in these areas, but it could also leverage existing state financing or workforce programs to assist in some areas.