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# An Economic Impact Study of the Pennsylvania Section of the Cove Point Expansion

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# Regional Research Institute

Working Paper Series



## **An Economic Impact Study of the Pennsylvania Section of the Cove Point Expansion**

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**Abstract:** Dominion Resources, Inc. engaged the Regional Research Institute to determine the total economic impacts associated with pipeline construction and/or modernization proposals traversing several Pennsylvania jurisdictions. The proposed project represents an investment of approximately \$200 million. The scope of this analysis consists of estimating varying economic effects including job creation and resulting personal income, output and fiscal or tax revenue impacts directly associated with both the operational and construction phases of the proposed Pipeline expansion project. We calculate the spill-over or multiplicative impacts that will arise from the proposed Pipeline project. Additionally, some attempt is made in this analysis to capture the enhanced economic development potential of the region created by the new access to a secure, competitively priced energy source.

## 1. Overall Summary of Study

Dominion Resources, Inc. a Virginia based Energy Company, announced plans in February of 2004, to fund an expansion of its Cove Point natural gas importation facility in Maryland, and modernization and construction of new pipeline capacity in Pennsylvania. The Pennsylvania expansion involves the extension of an upgraded existing pipeline and will traverse the following jurisdictions: Centre, Clinton, Greene, Huntingdon, Juniata, Mifflin, and Potter Counties. This particular section of the proposed Pipeline expansion project represents a direct investment of approximately \$190 million by Dominion. This report presents an independent assessment of the economic, fiscal and qualitative benefits of the proposed project to the counties affected, and the Pennsylvania economy in general.

An expanded supply of energy in the region and Northeast will enhance current population and industrial growth; a trend that is expected to continue in the future. Without adequate energy supply, this growth cannot be sustained. The proposed Pipeline expansion project will address this and other related needs facing the region. Dominion's investment will generate new jobs due to both the construction and operations of the proposed Pipeline expansion project, but also the increased opportunities the new energy source will provide. Regional job growth will serve to augment local personal income levels, tax revenue streams and regional output. The RRI employs standard econometric techniques to calculate these expected economic benefits. It should be noted that all impacts presented in this study refer strictly to the new or upgraded portions of the Natural Gas pipeline - they do not include any potential impacts attributable to the existing importation pipeline.

We have determined that the proposed Cove Point Pipeline expansion project will provide benefits including employment impacts in Pennsylvania and the associated Centre, Clinton, Huntingdon, Juniata, and Mifflin Counties, in particular. It is significant to note that while temporary, many of these jobs are well-paying positions with average annual salaries in excess of state and local averages. Moreover, the proposed Pipeline expansion project will result in a net gain in the tax revenue stream and represents a positive net fiscal impact for state and local governments. Additionally, this study identifies qualitative impacts attributable to the proposed pipeline expansion project, including most significantly, its contribution to the provision of clean and affordable energy, which will further promote economic development in the region. Since a pipeline represents an investment in the infrastructure of the regional economy, the impacts it generates will be more regional in character, and thus the geographic area to be economically impacted by construction and operation of the pipeline is not limited solely to those Pennsylvania counties in which the pipeline is constructed.

The overwhelming majority of the new jobs (both direct and multiplicative) attributable to the proposed Pipeline expansion project are created during the construction phase. The relatively small balance of job creation occurs during the operations phase of the proposed project. Thus the majority of the impacts (jobs, income, tax revenue and output) are directly attributable to the proposed Pipeline expansion project. In other words, the new employees that are hired to construct the proposed Pipeline expansion generate these impacts. Any additional impacts attributable to the proposed pipeline expansion project are considered spillover or multiplicative. These impacts occur as existing state and local businesses benefit from the pipeline, the greater availability of natural gas, and the injection of funds within the local economy.

- Collectively, the construction and operations phases of the proposed Pipeline expansion project will generate 389 jobs, \$11.9 million in wage earnings and \$37.0 million in Gross State Product (GSP) for Pennsylvania economies. The proposed Pipeline expansion project will also generate approximately \$900,000 in tax revenues for state and local economies.
- Fully 98 percent (or 382) of the total jobs created are expected to be generated by the construction phase of the pipeline. These jobs are temporary in nature and will only be supported during the building period.
- The remaining 2 percent (or 7) of the total jobs created will be generated by the operations phase of the proposed Pipeline expansion project. These jobs are permanent and are expected to be supported over the entire life-span of facility operations (for the purposes of this analysis, RRI assumes that this life-span will extend fifty years);
- Of the 389 jobs created by the project, 59 percent (or 231) are direct jobs. Employees working directly for the proposed Pipeline expansion project will fill these positions. The annual earnings of these directly hired workers are significantly higher than the averages in the counties the pipeline traverses. Employees in the counties in question earned an average annual salary of \$28,653 compared to a projected \$72,000 annualized payment rate for the project.

#### Net Fiscal Impact

The fiscal benefits local governments will receive (in the form of tax revenues) from the proposed Pipeline expansion project are limited by the structure of Pennsylvania's taxation system. However, it is also the case that the fiscal costs that the development incurs are small. The results summarized above indicate that while the proposed Pipeline expansion project creates a total of 389 jobs, these are largely temporary in nature. While the creation of new jobs is considered to be a positive outcome for a given region because of the new income, tax revenue and GSP impacts associated with each new job, it is also true that each new job will incur some incremental costs for state and local governments in the form of increased demand for the provision of government services. The logic behind this conclusion is as follows: local governments in Southern Pennsylvania will need to ramp up spending levels to accommodate each new employee and resident that locates to the region as a result of the proposed Pipeline expansion project. Some of these new employees will move to the region and will require Southern Pennsylvania counties to increase their outlays on services such as water, sewer and public education. Other new employees will reside outside of the region, but will still require the region to ramp up spending for certain services, such as sanitation services.

The RRI calculates the cost of services attributable to the proposed Pipeline expansion project in order to determine the net fiscal impact of the proposed development. Subtracting the expected fiscal costs from the expected fiscal benefits yields the net fiscal impact. This study finds that, over the life span of the proposed Pipeline expansion project, the expected tax revenue stream received by state and local governments exceeds the expected cost of services attributable to the development.

This study also identifies additional qualitative benefits attributable to the proposed Pipeline expansion project. These benefits are not directly included in the RRI's findings, as they do not have a clear-cut dollar value assignment; nevertheless, they are significant and should be noted. The most significant of these benefits resulting from the proposed Pipeline expansion project is the provision of a competitively priced, clean burning energy source for the counties in question, the balance of Pennsylvania and extending to the Northeastern region. This access will serve to enhance the economic development potential of these areas for the following reasons:

- The expansion enhances energy security by maintaining fuel diversity and reducing dependency on any one energy source.
- By supplementing the current supply of natural gas, the proposed project will act as a damper on price spikes caused by existing supply constraints during periods of peak consumption.
- Various industries require certain forms of energy, which if not available locally serve as an impediment to economic development.
- The expansion provides an appropriate infrastructure enhancement that is in the proper location to help sustain the high growth, mid-Atlantic region.

## **2. Study Scope**

### **2.1 Introduction**

The RRI was contracted by Dominion Resources, Inc. to determine the total economic impacts associated with pipeline construction and/or modernization proposals traversing several Pennsylvania jurisdictions. The proposed project represents an investment of approximately \$200 million. The scope of this analysis consists of estimating varying economic effects including job creation and resulting personal income, output and fiscal or tax revenue impacts directly associated with both the operational and construction phases of the proposed Pipeline expansion project. We calculate the spill-over or multiplicative impacts that will arise from the proposed Pipeline project. Additionally, some attempt is made in this analysis to capture the enhanced economic development potential of the region created by the new access to a secure, competitively priced energy source.

### **2.2 Methodology**

When considering the influence of a new business entering or expanding into a specific area, economists and other regional researchers generally separate the economic impacts into three categories: direct, indirect, and induced. The direct economic effects are the new jobs and income provided by the firm. The overall economic contributions of the Pipeline project extend beyond

the direct effects described above. The added contributions arise due to the indirect and induced effects stimulated by the Pipeline project. The indirect effect refers to the secondary impacts on area businesses that supply goods and services to the Pipeline project while the induced effect refers to the secondary impacts related to consumer spending. Local spending by Pipeline-based establishments for services, supplies, and materials initiates the indirect effect. Major items purchased locally include communications, electricity, fuel, water and other utility services, landscaping and building maintenance, office supplies and furniture, equipment, and professional services. Area businesses that sell goods and services to the Pipeline project hire workers and purchase needed materials and supplies, with a portion of the purchases occurring locally, these businesses also hire workers and purchase needed inputs.

Local spending by households for goods and services initiates the induced effect. Payroll expenditures by Dominion (direct effect) and by employers that supply inputs to the establishments (indirect effect) are spent by households for items such as housing, electricity, natural gas, water and waste water, transportation, food, clothing, telephone, entertainment, and taxes. Spending for these goods and services creates revenue for businesses such as retailers, restaurants, grocery stores, gasoline stations, and movie theaters. These businesses support their own payrolls, resulting in household income and household expenditures. The ripple effect continues, with the impact of each successive round diminishing because of leakages from the regional economy. The economic effect generated by the increase in local spending is described by the induced impacts. The measurement of economic impacts associated with the construction and operation of the proposed pipeline is an estimate of the economic activity in Southern Pennsylvania and the balance of the state that could occur due to the construction and eventual operation of the proposed pipeline, thus, in the absence of the proposed construction, the State and local area would not realize the economic benefits described herein.

The analysis was conducted in two stages. First, estimates of expenditures and employment were obtained from individuals at Dominion. These responses were the primary basis for the direct economic impacts. The direct economic impacts were then processed using computer-modeling tools and the indirect and induced economic (or multiplicative) impacts were then estimated. To generate estimates of the multiplicative impacts, the RRI utilized a modified IMPLAN input/output model, an economic impact assessment software system. The system was originally developed by the U.S. Forest Service and is now maintained by the Minnesota IMPLAN Group (MIG). The model is based on Bureau of Economic Analysis (BEA) industrial multiplier tables and has been customized by the RRI to better reflect the economy of the counties in question as well as the greater Pennsylvania economy. The RRI generated IMPLAN model generates both the direct and multiplicative impacts in terms of output, employment and tax revenues for the proposed Pipeline expansion project. These economic impacts represent the potential economic activity that could result from the proposed pipeline and increased natural gas availability. Given the vagaries of the economy, neither the RRI, nor Dominion can guarantee the actual levels of impacts the proposed improvements will generate.

### **2.3 Major Assumptions/Notes**

When calculating impacts in this study the following assumptions were imposed:

- All dollar figures appearing in this analysis represent 2004 dollars (i.e., future dollars are discounted back to 2004).

- As per Dominion, construction of the expanded pipelines will extend six months and be completed by 2008.
- The RRI's analysis is based on a fifty-year operational life, Dominion's minimum estimated compression station lifespan.
- However, as per Dominion, the operational lifespan of the pipeline is potentially one hundred years.
- Present value figures provided in this study represent the revenue attributable over the life of the proposed project, discounted to account for inflation. The discount rate used for this analysis was set at 6.83% (the 40 year average of the 30-year Treasury bond rate) when calculating the present value.

It should be noted that the long-term impacts calculated in this study represent only half of the pipeline's potential lifespan. However, compressor stations are integral to the operation of a natural gas pipeline and thus their operational lifespan was adopted as the overall project's operational lifespan as well.

### **3. Economic Impacts Associated with the Proposed Pipeline Expansions**

Since the pipeline improvements are in non-contiguous areas the results of the economic impact study will be disaggregated accordingly. Therefore this section of the report is organized as follows: The first subsection provides an overall summary of the impacts for all counties involved. Subsections follow this for each of the contiguous-county pipeline construction project areas. Finally, an overall fiscal impact is provided for the state as a whole.

#### **3.1 Overall Impact Summary**

The capital investments that finance the renovation of existing pipeline, and the construction of new pipeline, will be responsible for an initial series of economic and fiscal impacts. Such impacts arise from the purchases of services, materials and supplies associated with the construction activity, as well as the subsequent iterations of business and consumer purchases of goods and services by construction workers, suppliers, and others affected by the infusion of capital. The RRI has determined that the proposed Pipeline expansion project will generate a positive economic impact. To arrive at this conclusion, we quantified the impacts associated with both the construction and operations phases of the proposed Pipeline expansion project. Table 1 details impacts attributable to the proposed Pipeline expansion project. Please note the following: all impacts presented in this subsection refer to the Pennsylvania region as a whole, which comprises the following Pennsylvania jurisdictions: Centre, Clinton, Greene, Huntingdon, Juniata, Mifflin, and Potter Counties.

- The proposed Pipeline expansion project is expected to generate approximately 231 direct jobs, \$8.3 million in direct earnings, \$25 million in economic output and \$350,000 in state and local average direct tax revenues.



- Through the multiplier effect, additional impacts will be generated including 158 jobs, \$4.2 million in multiplicative annualized earnings, \$12 million in output, and \$550,000 in tax revenues (includes both state and local tax revenues).

Table 1:

Construction & Operation Economic Impacts (All Pennsylvania) <i>2004 Dollars</i>				
	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Output	\$25,050,422	\$5,447,389	\$6,569,187	\$37,066,998
Wages	\$8,360,560	\$1,875,177	\$2,360,766	\$12,596,503
Employment	231	69	89	389
Taxes	\$347,878	\$200,730	\$352,003	\$900,612

To accurately account for the risks associated with development as well as for the time value of money (interest rate) for projects that span multiple years or are completed in the future, economists calculate the present value of economic and fiscal impacts. As reported in Table 1, the values have already been discounted to current dollars. These figures also include the discounted expected impacts of the operations phase generated over the lifespan of the proposed project (which is expected to be fifty years including both the construction and operations phases).

### 3.1.1 Overall Short-Term Impacts: Construction Phase

Pipeline expansion and construction is expected to span approximately 6-7 months. According to Dominion, an estimated 228 Pennsylvania workers are expected to be employed directly by the construction of the proposed Pipeline expansion project (please refer to Table 2). The creation of the 158 equivalent annualized full-time direct jobs will generate \$5.5 million in wages and \$12.2 million in economic output for the counties in Pennsylvania. Through the multiplier effect, the construction phase of the proposed Pipeline expansion project is estimated to generate an additional 86 jobs, \$2.4 million in earnings and \$6.1 million in economic output for the economy of Pennsylvania.

Jobs in the pipeline corridor counties would temporarily expand in response to the income stimulus, as businesses increase their payrolls to accommodate the rise in demand. The estimates from Dominion indicate that in addition to the 228 jobs sourced in Pennsylvania; another 429 employees from other states would commute or be stationed in the area providing further stimulus to the local economy. While over 650 workers would be involved during the peak months of construction, the 144 additional workers hired by local businesses would not be expected to provide long-term stability; instead, workers and owners would put in overtime and businesses would hire temporary employees to handle the spike in demand. Centre, Clinton, Huntingdon, Juniata, and Mifflin Counties would experience the largest increment of employment due to having the largest components of the proposal. The smaller proportion of working-age population in rural Greene County suggests that jobs generated by the proposed project for local residents would support relatively more dependents per worker household than in the eastern counties.

Although many specific construction activities will be short-lived, e.g., pouring concrete or laying pipe, the cumulative effects on employment, payroll, output and taxes summed over time are significant. Construction of the proposed Pipeline expansion project will involve the purchase of goods and services from state and local providers. Dominion estimates that \$18.1 million in construction materials will be purchased from Pennsylvania area suppliers. These purchases from supporting industries are responsible for the generation of a significant portion of the multiplicative impacts listed in Table 2. The construction phase is estimated to yield a total of \$11.7 million in total earnings and \$34.4 million in total output for Pennsylvania and the counties in question.

Table 2:

Construction Economic Impacts (All Pennsylvania) 2004 Dollars				
	Direct	Indirect	Induced	Total
Output	\$23,323,894	\$4,974,870	\$6,056,962	\$34,355,726
Wages	\$7,860,845	\$1,699,187	\$2,164,908	\$11,724,940
Employment	228	63	81	372
Taxes	\$288,890	\$186,245	\$326,006	\$801,142

The proposed pipeline would have a positive impact on local government finances. Purchases of materials and equipment for construction would generate sales and use taxes, while the expansion of Dominion's land holdings and facilities (i.e., its real and personal property) may add to local jurisdictions' assessed valuations and property taxes. Based on current sales and use tax rates in each of the corridor counties, the counties and state would receive the additional tax revenues shown in Table 2. Property taxes would be due and payable when the state determines the assessable value of the facilities improvements. Because construction is to take less than 1 year, no property taxes would likely be assessed during that phase. Construction of the pipeline would generate temporary increases in economic activity in the pipeline corridor counties in the form of increased business for local businesses, expanded employment, increased personal income, and additional tax revenues. The impact of construction is therefore largely beneficial from a socioeconomic perspective, and no mitigating measures are required.

### 3.1.2 Overall Economic Impacts: Operations Phase

The operations phase of this project would employ a small workforce. Efforts would be made to hire local individuals as much as practicable, thus reducing the potential effect on the local population. Thus, impacts on populations along the pipeline corridor would be negligible. Because operation employs such a small number of personnel and they would be hired locally from the existing workforce, local housing would not be affected. After completion of construction, operation of the proposal would generate a small but steady flow of income, employment, and taxes in the pipeline corridor counties.

Table 3 illustrates the direct and multiplicative economic impacts attributable to the operations phase in its entirety (all fifty years). These totals were calculated by summing the present value of each year's impacts, where the present value for each year is simply the annual impact, discounted for inflation.

As detailed in Table 3, a total of 3 employees are potentially directly supported by long-term operations of the proposed Pipeline expansion project. The creation of these jobs will generate an estimated \$499,715 in earnings and \$1.7 million in economic output across the 50 year operational lifespan. These expenditures result in the generation of additional spin-off impacts. The operations phase of the proposed Pipeline expansion project will generate an additional 14 jobs, \$371,848 in earnings and \$984,744 in economic output for Pennsylvania's economy. Operations of the proposed Pipeline expansion project will involve the purchase of goods and services from local area and State providers. These purchases from supporting industries are responsible for the generation of a significant portion of the multiplier impacts listed in Table 3.

Table 3:

Economic Impacts of Operation (All Pennsylvania) 50 years discounted to 2004 Dollars				
	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Output	\$1,726,528	\$472,519	\$512,225	\$2,711,272
Wages	\$499,715	\$175,990	\$195,858	\$871,563
Employment	3	6	8	17
Taxes	\$58,988	\$14,485	\$25,997	\$99,470

### 3.2 Centre, Clinton, Huntingdon, Juniata, and Mifflin Counties

To gain a better perspective on the individual regional impacts an examination of the individual contiguous country regions is presented below. As may be noted comparing Tables 4 and 1, this region accounts for a majority of the benefits that the proposed pipeline generates for Pennsylvania. This region contains 84 miles of the proposed pipeline and is the primary recipients of the benefits of the operational impacts, as the newly constructed compressor stations are to be located in Centre and Juniata counties. In addition to the short-term construction benefits, and longer operations phase of the pipeline, the employment impacts to this region are particularly strong since over \$10 million will be spent by Dominion to obtain rights-of-way within this region.

Table 4:

Economic Impacts (Centre, Clinton, Huntingdon, Juniata, Mifflin) 2004 Dollars				
	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Output	\$17,046,216	\$4,109,449	\$5,433,951	\$26,589,616
Wages	\$6,475,871	\$1,488,923	\$2,004,546	\$9,969,339
Employment	142	50	74	266
Taxes	\$277,036	\$143,310	\$285,269	\$705,615

Property taxes would be due and payable when the assessable value of the facilities improvements is determined. After operations commence, the facilities would be assessed and local jurisdictions would levy their taxes. The state would also impose other taxes on operations. An estimate of the total taxes that would be levied on the proposed pipeline is summarized in Table 4. Of the amount shown, total annual property taxes directly attributable to the new facility in the corridor counties would amount to approximately \$47,000. This would be approximately equally split between Centre and Juniata counties.

### 3.3 Potter County

Table 5, presents the impact results for the 20 miles of pipeline construction within this county. Primary impacts here arise from the temporary employment of 53 workers from the surrounding areas, and local provision of materials. Additional economic benefits and a large proportion of the multiplicative impacts arise from the approximately \$1.5 million in right-of-way acquisition income provided to local landowners.

Table 5:

Economic Impacts (Potter County) 2004 Dollars				
	Direct	Indirect	Induced	Total
Output	\$4,867,714	\$816,334	\$699,298	\$6,383,346
Wages	\$1,202,057	\$225,197	\$213,175	\$1,640,428
Employment	53	11	9	73
Taxes	\$43,816	\$33,866	\$42,622	\$120,304

### 3.4 Greene County

Greene County is least affected by the proposed pipeline construction with only 11 miles of construction within its borders. As such it receives the least benefits in all measures. However, this county is among the poorest of Pennsylvania counties, and therefore the impacts presented in Table 6 below, may have more significance than the raw numbers might indicate.

Table 6:

Economic Impacts (Greene County) 2004 Dollars				
	Direct	Indirect	Induced	Total
Output	\$3,136,492	\$521,606	\$435,938	\$4,094,036
Wages	\$682,633	\$161,058	\$143,045	\$986,736
Employment	36	8	6	51
Taxes	\$27,026	\$23,554	\$24,113	\$74,692

### 3.5 Net Fiscal Impact

The economic activity associated with pipeline construction has significant implications for public sector tax revenues as well. The IMPLAN model derives estimates of selected revenues using coefficients derived from federal, state and local government census data. Those coefficients reflect statewide averages; therefore, it was necessary to supplement the local sales and property tax estimates to reflect the local sales and use tax provisions pertaining to the counties in question. Only the state sales, income and local sales, property and use taxes were reported in the previous tables. As with the construction jobs and income, the estimates are cumulative totals over time.

State and local governments will benefit from increased tax revenue generation attributable to the operation of the proposed Pipeline expansion project. As shown in Table 1, the proposed Pipeline expansion project is expected to generate \$288,890 in direct taxes. These taxes are

comprised of property taxes, sales tax, income taxes and the Pennsylvania Business Property Tax. RRI relied on information provided by Dominion to derive the basis for direct tax revenues. Multiplicative taxes average nearly \$512,252 according to the RRI's estimates. These impacts include taxes such as indirect business sales taxes and business and personal income taxes and were generated by the RRI's IMPLAN model. (Further details may be found in Table 16 in the appendix) Of the tax estimates reported, only approximately \$85,000 is collectable on an annual basis, the remainder is a one-time construction based windfall.

Estimates of the local tax revenues are reported in aggregate terms: in other words, no distribution of tax revenues among the affected local jurisdictions is provided. For the purposes of this analysis only the counties in question had impacts calculated. Local sales tax receipts generally tend to be more widely dispersed throughout the economy than the construction jobs because the distribution of sales are tied more to the residency patterns of the construction work force than the job site. Thus the incorporated sales-tax revenue increases resulting from the proposed pipeline are apt to overstate the true values by some unknown amount.

To determine the net fiscal impact of the proposed Pipeline expansion project, it was necessary for the RRI to compare expected tax revenues with expected cost of services levels. Cost of services refers to the annual operational costs or government services costs that the study area will have to assume for each employee and resident in Pennsylvania as a result of the operations and construction phases of the proposed Pipeline expansion project. These costs measure the increased operational costs the counties in Pennsylvania will likely bear due to the proposed Pipeline expansion project and the associated increased level of government services demanded. These services include water, sewer and public safety services to name a few.

Cost of services is expected to amount to approximately \$209,000 on a net present value basis. To determine the net fiscal impact of the proposed Pipeline expansion project, the estimated cost of services must be removed from the expected tax revenue streams. This study concludes that the proposed Pipeline expansion project is estimated to generate \$592,142. This figure represents the net fiscal gain that Pennsylvania and the counties could receive were the proposed Pipeline expansion project to go forward. Thus, while the expected fiscal gains from this project are not considerable, neither are the costs, and therefore the proposed project yields a net gain.

#### **4.0 Other Considerations**

Access to a diverse array of fuel sources enhances the economic development appeal of a region. This is true for several reasons. First, access to a variety of energy supplies fosters increased price competition and further enhances opportunities for both industrial users and residential consumers. Second, various industries require certain forms of energy and if supply is not available locally, those industries cannot consider a region for economic expansion. Dominion identifies the following general benefits and characterizations of Natural Gas:

- ◆ Clean and efficient
  - Natural gas is the cleanest and most efficient fossil fuel.

- Natural gas is today's environmental energy choice -- increased use of natural gas can help address several environmental concerns simultaneously, including smog, acid rain and greenhouse gas emissions.
- Natural gas is highly efficient. About 90 percent of the natural gas produced is delivered to customers as useful energy.
- ◆ Safe and reliable
  - Natural gas is delivered to customers through 1.4 million miles of safe, efficient pipeline: 1,139,000 miles of local distribution pipes; 258,800 miles of transmission (large-volume) pipes and 34,500 miles of field and gathering.
- ◆ Price
  - Natural gas costs less in 2002 than other major home energy sources, according to the Department of Energy. On average, one million Btus of natural gas cost \$6.56, compared with \$24.27 for the same amount of electricity, \$9.53 for propane, \$9.11 for kerosene and \$7.79 for No. 2 heating.
- ◆ Demand
  - Natural gas is the nation's fastest-growing major energy source, with consumption projected to increase 54 percent during the next 25 years, according to the Department of Energy.
  - Natural gas supplies nearly one-fourth (22 percent) of all of the energy used in the United States.
  - Most American homes (59.7 million households, or 61 percent of all U.S. households) use natural gas. Natural gas is the most popular home-heating fuel. In fact, nearly 70 percent of all newly built single-family homes feature natural gas heat, far surpassing electricity (27 percent) and heating oil (3 percent).
  - Manufacturing plants and other industrial customers use more natural gas than any other sector. The industrial sector consumes approximately 45 percent of all the natural gas used in the U.S.

## 5.0 Appendix

The following pages list the output, wages, and employment results for each of the study areas aggregated into sectors by two-digit NAICS codes. This provides a greater level of detail and specificity than the more aggregated tables used in the report proper. All values are given in 2004 dollars and represent both construction and operation of the proposed pipeline.

**Output:** Centre, Clinton, Huntingdon, Juniata, and Mifflin Counties

<b>Industry</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture/Forestry	\$0	\$26,654	\$54,069	\$80,723
Mining	\$0	\$58,180	\$8,199	\$66,379
Utilities	\$0	\$25,614	\$50,104	\$75,718
Construction	\$15,177,507	\$95,967	\$146,373	\$15,419,846
Manufacturing	\$0	\$671,475	\$442,963	\$1,114,438
Wholesale Trade	\$0	\$188,384	\$110,022	\$298,406
Transportation & Warehousing	\$1,868,709	\$392,584	\$166,453	\$2,427,745
Retail trade	\$0	\$364,196	\$764,841	\$1,129,037
Information	\$0	\$142,108	\$207,837	\$349,944
Finance & insurance	\$0	\$244,204	\$360,444	\$604,648
Real estate & rental	\$0	\$128,385	\$274,136	\$402,521
Professional Services	\$0	\$958,855	\$130,982	\$1,089,836
Management of companies	\$0	\$24,039	\$18,163	\$42,202
Administrative & waste services	\$0	\$113,858	\$78,461	\$192,318
Education	\$0	\$9,931	\$33,406	\$43,337
Health & social services	\$0	\$734	\$770,124	\$770,858
Arts- entertainment & recreation	\$0	\$6,002	\$38,142	\$44,144
Accommodation & food services	\$0	\$41,926	\$378,256	\$420,182
Other services	\$0	\$573,793	\$376,802	\$950,595
Government & non NAICs	\$0	\$42,560	\$1,024,176	\$1,066,737
<b>Total</b>	<b>\$17,046,216</b>	<b>\$4,109,449</b>	<b>\$5,433,951</b>	<b>\$26,589,616</b>

**Wages/payroll:** Centre, Clinton, Huntingdon, Juniata, and Mifflin Counties

<b>Industry</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture/Forestry	\$0	\$4,379	\$8,807	\$13,185
Mining	\$0	\$3,732	\$549	\$4,281
Utilities	\$0	\$4,921	\$10,505	\$15,427
Construction	\$5,933,125	\$49,256	\$66,043	\$6,048,424
Manufacturing	\$0	\$130,710	\$89,287	\$219,997
Wholesale Trade	\$0	\$69,793	\$40,761	\$110,555
Transportation & Warehousing	\$542,745	\$133,993	\$62,888	\$739,626
Retail trade	\$0	\$161,764	\$332,747	\$494,510
Information	\$0	\$43,510	\$57,373	\$100,883
Finance & insurance	\$0	\$68,201	\$90,484	\$158,684
Real estate & rental	\$0	\$23,215	\$39,257	\$62,473
Professional Services	\$0	\$550,700	\$72,452	\$623,153
Management of companies	\$0	\$12,843	\$9,704	\$22,547
Administrative & waste services	\$0	\$54,384	\$34,943	\$89,328
Education	\$0	\$4,175	\$14,775	\$18,950
Health & social services	\$0	\$192	\$383,769	\$383,960
Arts- entertainment & recreation	\$0	\$2,196	\$17,117	\$19,313
Accommodation & food services	\$0	\$19,147	\$176,248	\$195,394
Other services	\$0	\$138,501	\$114,998	\$253,499
Government & non NAICs	\$0	\$13,308	\$381,841	\$395,149
<b>Total</b>	<b>\$6,475,871</b>	<b>\$1,488,923</b>	<b>\$2,004,546</b>	<b>\$9,969,339</b>

**Employment:** Centre, Clinton, Huntington, Juniata, and Mifflin Counties

Industry	Direct	Indirect	Induced	Total
Agriculture/Forestry	0	0	1	1
Mining	0	0	0	0
Utilities	0	0	0	0
Construction	138	1	2	140
Manufacturing	0	3	2	5
Wholesale Trade	0	3	1	4
Transportation & Warehousing	4	4	2	10
Retail trade	0	8	17	25
Information	0	1	1	2
Finance & insurance	0	2	3	5
Real estate & rental	0	1	2	3
Professional Services	0	17	2	19
Management of companies	0	0	0	1
Administrative & waste services	0	3	2	4
Education	0	0	1	1
Health & social services	0	0	10	10
Arts- entertainment & recreation	0	0	2	2
Accommodation & food services	0	1	7	8
Other services	0	6	7	12
Government & non NAICs	0	0	11	11
<b>Total</b>	<b>142</b>	<b>50</b>	<b>74</b>	<b>266</b>

**Output:** Potter County

Industry	Direct	Indirect	Induced	Total
Agriculture/Forestry	\$0	\$5,572	\$3,946	\$9,518
Mining	\$0	\$8,612	\$1,757	\$10,369
Utilities	\$0	\$4,117	\$8,801	\$12,918
Construction	\$4,867,714	\$12,146	\$15,206	\$4,895,066
Manufacturing	\$0	\$100,469	\$13,845	\$114,314
Wholesale Trade	\$0	\$59,074	\$20,477	\$79,550
Transportation & Warehousing	\$0	\$113,368	\$21,533	\$134,901
Retail trade	\$0	\$85,387	\$101,394	\$186,781
Information	\$0	\$42,340	\$37,536	\$79,876
Finance & insurance	\$0	\$34,513	\$38,419	\$72,933
Real estate & rental	\$0	\$11,949	\$23,051	\$35,000
Professional Services	\$0	\$162,644	\$13,490	\$176,134
Management of companies	\$0	\$14,556	\$6,527	\$21,084
Administrative & waste services	\$0	\$7,930	\$5,438	\$13,368
Education	\$0	\$2,034	\$2,138	\$4,172
Health & social services	\$0	\$2	\$144,111	\$144,113
Arts- entertainment & recreation	\$0	\$383	\$14,687	\$15,071
Accommodation & food services	\$0	\$4,331	\$31,160	\$35,491
Other services	\$0	\$137,377	\$59,712	\$197,089
Government & non NAICs	\$0	\$9,528	\$136,070	\$145,599
<b>Total</b>	<b>\$4,867,714</b>	<b>\$816,334</b>	<b>\$699,298</b>	<b>\$6,383,346</b>



**Wages/payroll: Potter County**

<b>Industry</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture/Forestry	\$0	\$295	\$401	\$696
Mining	\$0	\$726	\$146	\$872
Utilities	\$0	\$809	\$1,757	\$2,565
Construction	\$1,202,057	\$3,509	\$4,065	\$1,209,632
Manufacturing	\$0	\$19,818	\$2,588	\$22,405
Wholesale Trade	\$0	\$20,639	\$7,154	\$27,793
Transportation & Warehousing	\$0	\$30,346	\$7,031	\$37,377
Retail trade	\$0	\$31,896	\$36,148	\$68,044
Information	\$0	\$7,436	\$6,590	\$14,026
Finance & insurance	\$0	\$8,688	\$8,586	\$17,274
Real estate & rental	\$0	\$816	\$1,866	\$2,682
Professional Services	\$0	\$74,032	\$5,675	\$79,707
Management of companies	\$0	\$653	\$293	\$945
Administrative & waste services	\$0	\$2,240	\$1,576	\$3,815
Education	\$0	\$184	\$193	\$377
Health & social services	\$0	\$1	\$76,618	\$76,619
Arts- entertainment & recreation	\$0	\$116	\$4,519	\$4,635
Accommodation & food services	\$0	\$1,525	\$11,464	\$12,989
Other services	\$0	\$19,238	\$14,790	\$34,028
Government & non NAICs	\$0	\$2,231	\$21,717	\$23,947
<b>Total</b>	<b>\$1,202,057</b>	<b>\$225,197</b>	<b>\$213,175</b>	<b>\$1,640,428</b>

**Employment Potter County**

<b>Industry</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture/Forestry	0.0	0.1	0.0	0
Mining	0.0	0.0	0.0	0
Utilities	0.0	0.0	0.0	0
Construction	53.3	0.2	0.2	54
Manufacturing	0.0	0.7	0.1	1
Wholesale Trade	0.0	0.9	0.3	1
Transportation & Warehousing	0.0	1.1	0.3	1
Retail trade	0.0	2.3	2.6	5
Information	0.0	0.1	0.1	0
Finance & insurance	0.0	0.3	0.3	1
Real estate & rental	0.0	0.2	0.5	1
Professional Services	0.0	2.4	0.3	3
Management of companies	0.0	0.5	0.2	1
Administrative & waste services	0.0	0.0	0.0	0
Education	0.0	0.3	0.3	1
Health & social services	0.0	0.0	1.1	1
Arts- entertainment & recreation	0.0	0.0	0.1	0
Accommodation & food services	0.0	0.1	0.5	1
Other services	0.0	1.3	1.1	2
Government & non NAICs	0.0	0.1	0.6	1
<b>Total</b>	<b>53</b>	<b>11</b>	<b>9</b>	<b>73</b>

**Output: Greene County**

Industry	Direct	Indirect	Induced	Total
Agriculture/Forestry	\$0	\$301	\$1,935	\$2,237
Mining	\$0	\$8,507	\$2,656	\$11,162
Utilities	\$0	\$3,895	\$8,216	\$12,111
Construction	\$3,136,492	\$7,562	\$8,088	\$3,152,142
Manufacturing	\$0	\$16,783	\$8,538	\$25,321
Wholesale Trade	\$0	\$56,401	\$17,285	\$73,686
Transportation & Warehousing	\$0	\$50,473	\$10,519	\$60,992
Retail trade	\$0	\$60,439	\$66,530	\$126,969
Information	\$0	\$12,206	\$9,160	\$21,366
Finance & insurance	\$0	\$20,885	\$28,785	\$49,670
Real estate & rental	\$0	\$7,514	\$6,290	\$13,804
Professional Services	\$0	\$131,436	\$5,144	\$136,580
Management of companies	\$0	\$0	\$0	\$0
Administrative & waste services	\$0	\$7,069	\$3,841	\$10,910
Education	\$0	\$694	\$6,229	\$6,923
Health & social services	\$0	\$34	\$88,635	\$88,669
Arts- entertainment & recreation	\$0	\$160	\$3,439	\$3,599
Accommodation & food services	\$0	\$4,011	\$25,596	\$29,607
Other services	\$0	\$127,884	\$41,511	\$169,395
Government & non NAICs	\$0	\$5,351	\$93,543	\$98,894
<b>Total</b>	<b>\$3,136,492</b>	<b>\$521,606</b>	<b>\$435,938</b>	<b>\$4,094,036</b>

**Wages/payroll: Greene County**

Industry	Direct	Indirect	Induced	Total
Agriculture/Forestry	\$0	\$18	\$150	\$168
Mining	\$0	\$824	\$275	\$1,099
Utilities	\$0	\$672	\$1,475	\$2,147
Construction	\$682,633	\$1,949	\$2,086	\$686,668
Manufacturing	\$0	\$4,671	\$1,755	\$6,425
Wholesale Trade	\$0	\$19,459	\$5,964	\$25,423
Transportation & Warehousing	\$0	\$15,866	\$4,204	\$20,069
Retail trade	\$0	\$22,321	\$23,714	\$46,036
Information	\$0	\$2,453	\$1,832	\$4,285
Finance & insurance	\$0	\$5,167	\$6,274	\$11,441
Real estate & rental	\$0	\$1,915	\$1,281	\$3,197
Professional Services	\$0	\$60,541	\$2,089	\$62,629
Management of companies	\$0	\$0	\$0	\$0
Administrative & waste services	\$0	\$1,615	\$889	\$2,504
Education	\$0	\$306	\$2,953	\$3,259
Health & social services	\$0	\$9	\$43,445	\$43,453
Arts- entertainment & recreation	\$0	\$69	\$1,040	\$1,109
Accommodation & food services	\$0	\$1,218	\$7,034	\$8,253
Other services	\$0	\$20,178	\$9,937	\$30,116
Government & non NAICs	\$0	\$1,805	\$26,650	\$28,455
<b>Total</b>	<b>\$682,633</b>	<b>\$161,058</b>	<b>\$143,045</b>	<b>\$986,736</b>

**Employment : Greene County**

<b>Industry</b>	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
Agriculture/Forestry	0.0	0.0	0.1	0
Mining	0.0	0.0	0.0	0
Utilities	0.0	0.0	0.1	0
Construction	36.4	0.1	0.1	37
Manufacturing	0.0	0.1	0.1	0
Wholesale Trade	0.0	1.0	0.3	1
Transportation & Warehousing	0.0	0.5	0.1	1
Retail trade	0.0	1.4	1.5	3
Information	0.0	0.1	0.1	0
Finance & insurance	0.0	0.2	0.2	0
Real estate & rental	0.0	0.2	0.1	0
Professional Services	0.0	2.7	0.1	3
Management of companies	0.0	0.0	0.0	0
Administrative & waste services	0.0	0.2	0.1	0
Education	0.0	0.0	0.2	0
Health & social services	0.0	0.0	0.8	1
Arts- entertainment & recreation	0.0	0.0	0.2	0
Accommodation & food services	0.0	0.1	0.7	1
Other services	0.0	1.4	0.8	2
Government & non NAICs	0.0	0.0	0.7	1
<b>Total</b>	<b>36</b>	<b>8</b>	<b>6</b>	<b>51</b>

**Table 16. Fiscal Impacts: Taxes Generated by the Proposed Pipeline**

<b>Federal</b>	Employee	Proprietary Income	HH expenditure	Corporations	Indirect Business Taxes	Total
Corporate Profits Tax				36,540		36,540
Indirect Bus Tax: Custom Duty					13,735	13,735
Indirect Bus Tax: Excise Taxes					44,207	44,207
Indirect Bus Tax: Fed NonTaxes					15,602	15,602
Personal Tax: Estate and Gift Tax						0
Personal Tax: Income Tax			904,258			904,258
Personal Tax: NonTaxes (Fines- Fees)			10,771			10,771
Social Ins Tax- Employee Contribution	327,687	110,868				438,555
Social Ins Tax- Employer Contribution	339,337					339,337
<b>Total</b>	<b>667,024</b>	<b>110,868</b>	<b>915,029</b>	<b>36,540</b>	<b>73,545</b>	<b>1,803,006</b>
<b>State and Local</b>						
Corporate Profits Tax				6,054		6,054
Dividends				96		96
Indirect Bus Tax: Motor Vehicle Lic					5,792	5,792
Indirect Bus Tax: Other Taxes					66,320	66,320
Indirect Bus Tax: Property Tax					250,541	250,541
Indirect Bus Tax: S/L NonTaxes					15,281	15,281
Indirect Bus Tax: Sales Tax					250,498	250,498
Personal Tax: Estate and Gift Tax						0
Personal Tax: Income Tax			202,368			202,368
Personal Tax: Motor Vehicle License			13,514			13,514
Personal Tax: NonTaxes (Fines- Fees)			28,188			28,188
Personal Tax: Other Tax (Fish/Hunt)			3,559			3,559
Personal Tax: Property Taxes			5,236			5,236
Social Ins Tax- Employee Contribution	5,151					5,151
Social Ins Tax- Employer Contribution	18,543					18,543
<b>Total</b>	<b>23,693</b>	<b>0</b>	<b>252,864</b>	<b>6,150</b>	<b>588,432</b>	<b>871,139</b>
<b>Federal and State/Local Total</b>	<b>690,723</b>	<b>110,868</b>	<b>1,167,894</b>	<b>42,690</b>	<b>661,976</b>	<b>2,674,152</b>