



# KeyState: River Hill - Fertilizers, Fuels, and Chemicals

## IMPLAN Economic Impact Study

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# Project Overview



KeyState is a \$2 billion capital project to provide more than 1,000,000 tons per year (tpy) of vital fertilizers and chemicals to Pennsylvania and a 15-state, Northeast/Mid-Atlantic region. Currently this region is without the production of essential hydrogen, ammonia, and urea products and is dependent upon international imports.

KeyState's proposed Clearfield County, PA facility will displace a majority of fertilizer imported into Eastern ports. Historically, this high cost, unpredictable supply has come from Russia and the Middle East.

KeyState has a sound business case, with competitive advantage in proximity to market and gas feedstock price with 60% of KeyState's production already committed under 10-year off take agreements.

The typical lifespan for US ammonia plants is more than 60 years. Historically, other chemical plants and related businesses relocate to be near major ammonia and fertilizer production facilities. Synergies with Pennsylvania's world-leading powdered metallurgy industry nearby are being explored. The implications for North-Central Pennsylvania are profound.

KeyState won acceptance into the Appalachia Regional Hydrogen Hub for pioneering work in reducing emissions in natural gas production, vertically integrating natural gas extraction with manufacturing, and using geological storage of CO<sub>2</sub>, receiving a provisional award of \$70,000,000. This \$70,000,000 represents less than 4% of KeyState's total project cost but is an essential financing tool for attracting additional development-stage investment to rural Pennsylvania.

KeyState has secured more than 50% of funds needed to reach project final investment. More than \$10,000,000 of private funds and seven years of local hard work have been invested in KeyState to date.

Much of the last four years has been spent navigating federal energy and emissions policy, all which has resulted in a larger, stronger, strategically significant mega-project.

## Study Purpose

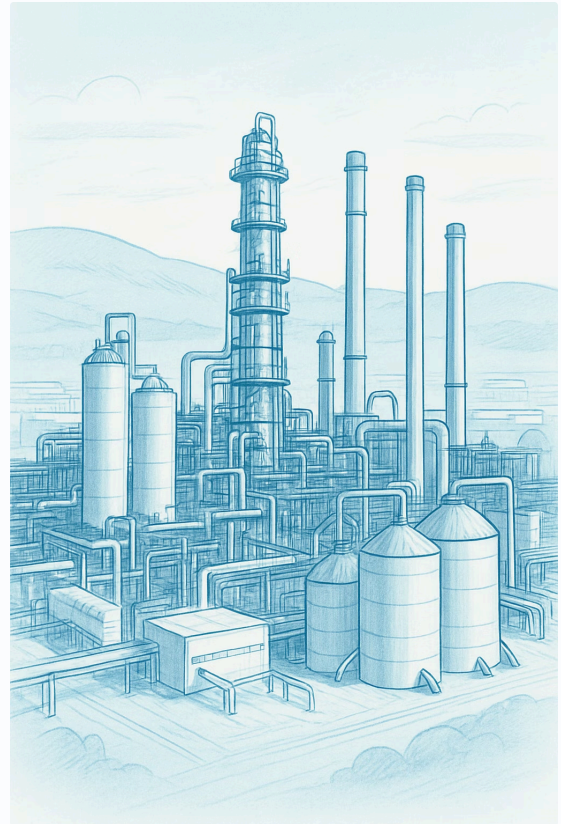
The basis of this study is to quantify the economic impact to the region and commonwealth through the construction and full-time operations of this proposed facility.

# Project Details

## Facility Overview

The facility in Clearfield County will be supplied with approximately 12.5 billion cubic feet (bcf) of natural gas per year from a site just nine miles away in Clinton County. This feedstock will be transmitted to the new manufacturing facility in Clearfield County where it will be transformed into the following products:

- 100,000tpy of ammonia for agricultural and industrial uses (17.5mm kg year of Qualified Clean H<sub>2</sub>)
- 300,000tpy of dry urea fertilizer
- 450,000tpy of urea ammonium nitrate (UAN) fertilizer
- 360,000tpy of 50% & 33% Urea blend for emissions reduction treatment for power plants and diesel engines
- Industrial gases such as oxygen, nitrogen, argon
- Specialty chemicals such as ammonia and nitric acid



## Construction Requirements

To construct the manufacturing facility in Clearfield County, it will require at least 1,000 construction workers over a period of 2.5 years. The pipeline to connect the natural gas extraction site in Clinton County will require at least 20 workers for 1 year.

## Equipment and Operations

During the 2.5 year construction phase of the plant, industrial equipment worth approximately \$500,000,000 will be installed. Once operational, the new manufacturing facility will employ approximately 200 workers in the area of urea, UAN, and ammonia production, and DEF manufacturing.

# Analysis Design

The primary analysis tool used for this study is IMPLAN, a regional economic analysis software application. IMPLAN is designed to estimate the impact or ripple effect (specifically backward linkages) of a given economic activity within a specific geographic area through the implementation of its Input-Output model.

This economic analysis was completed as a Multi-Regional Input-Output, including all of Pennsylvania in the model area. The first impact area is Clearfield County, PA – where the construction of the manufacturing plant and the full-time manufacturing jobs will be located. The second location is Clinton County where the natural gas extraction will occur. The third region includes the other 65 counties within the Commonwealth of Pennsylvania to capture as much of the indirect and induced jobs from a project of this magnitude. Unless otherwise noted, all figures are in dollar year 2025.

## Inputs:

The given variables to allow for input-output analysis are as follows and correspond to IMPLAN's industry categories based on the North American Industrial Classification System:

- 1,000 "construction of new manufacturing facility" jobs – Clearfield County
- \$38,250,000 industry output (annual) of "oil and gas extraction" (based on current market price of 12.5bcf of natural gas) – Clinton County
- 10 "construction of new power structures (pipeline)" – Clinton County
- 10 "construction of new power structures (pipeline)" – Clearfield County
- 175 "nitrogenous fertilizer manufacturing" – Clearfield County
- 25 "all other petroleum product manufacturing" – Clearfield County

## Terminology

### Jobs

An industry-specific mix of full-time, part-time, and seasonal employment. An annual average that accounts for seasonality and follows the same definition used by the Bureau of Labor Statistics and Bureau of Economic Analysis.

### Direct effects/jobs

The set of expenditures applied to the I-O multipliers for impact analysis. It is one or more production changes or expenditures made by producers/consumers because of an activity or policy. Direct effects can be positive or negative. These initial changes are determined by an analyst to be a result of this activity or policy being analyzed. Applying these initial changes to the multipliers in IMPLAN will then display how the Region will respond economically to these initial changes.

### Indirect effect/jobs

Economic Effects stemming from business-to-business purchases in the supply chain.

### Induced effects/jobs

Economic Effects stemming from household spending of Labor Income, after removal of taxes, savings, and commuter income.

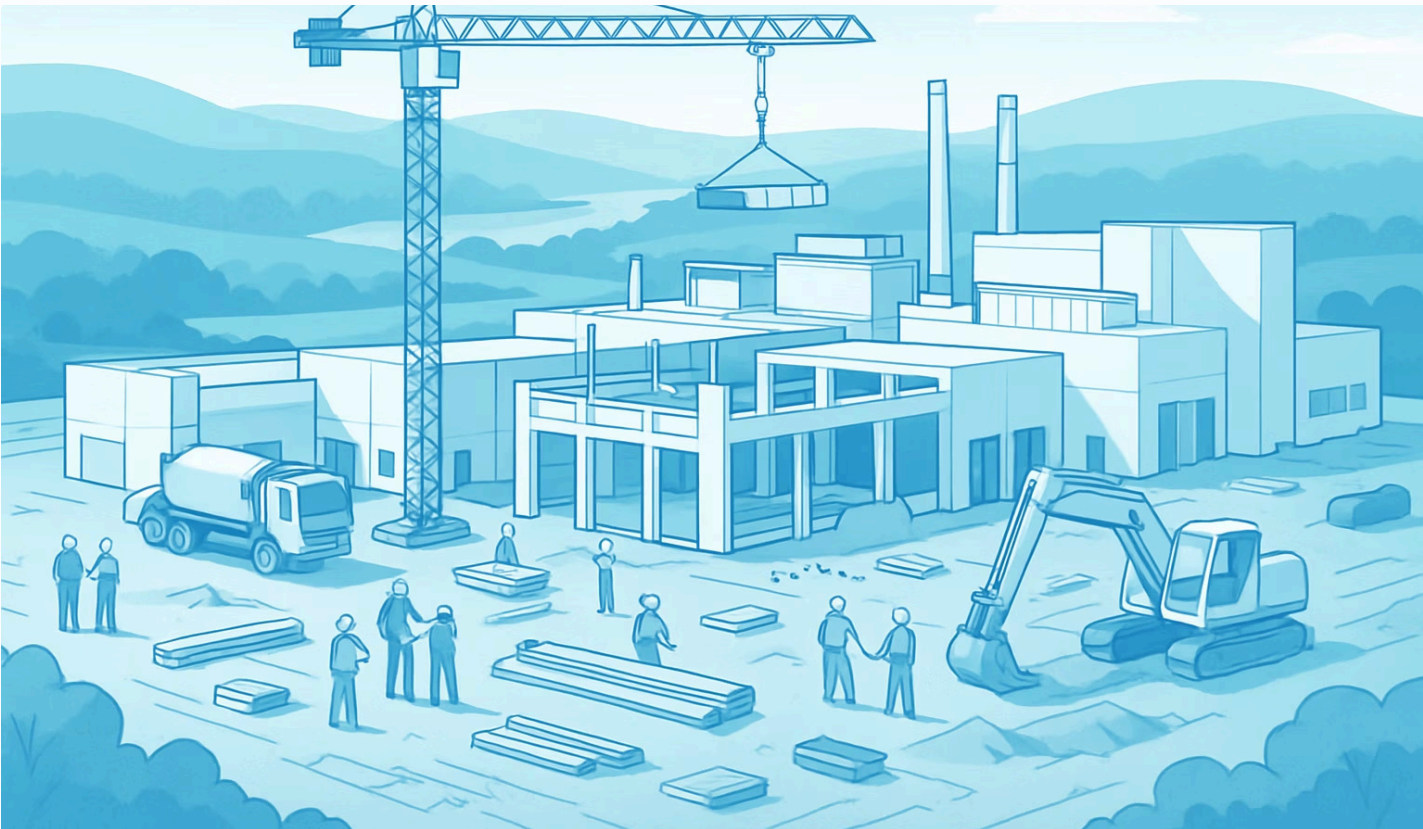


# Facility Construction Phase

## Economic Impact

There will be 1,000 new construction jobs over the course of 2.5 years in Clearfield County, Pennsylvania. These jobs will generate labor income of \$53,843,330.48 per year (in 2025-dollar value) for a total of at least \$134,608,326.20 over the course of the project. These 1,000 jobs will directly add \$195,454,459.35 of value to the overall economy. There will be 296 indirect and 307 induced jobs supported by the direct employment of the 1,000 new construction of manufacturing facility jobs. All combined, the direct, indirect, and induced jobs created from the construction phase of the manufacturing facility totals \$233,056,690.45 in labor income, \$369,509,256.45 in value added, with total economic output of \$777,282,319.10. It is important to note that equipment will be installed at the plant estimated at \$500,000,000.00 during this phase. This investment was not quantified in the IMPLAN study and would be in addition to the aforementioned totals.

IMPACT	EMPLOYMENT	LABOR INCOME	VALUE ADDED	OUTPUT
Direct	1,000	\$53,843,330.48	\$78,181,783.74	\$181,461,455.38
Indirect	296	\$22,645,222.65	\$38,444,115.40	\$78,622,931.51
Induced	307	\$16,734,123.05	\$31,177,803.44	\$50,828,540.75
Totals	1603	\$93,222,676.18	\$147,803,702.57	\$310,912,927.64



# Top Employment Sectors During Facility Construction

## Top 10 Indirect Employment: Construction Phase

Truck Transportation	25
Wholesale – Machinery, equipment, supplies	20
Employment Services	19
Wholesale – Other durable goods	16
Ready-mix concrete manufacturing	13
Architectural, engineering, and related services	11
Couriers' services	11
Management of companies and enterprises	11
Other real estate	11
Accounting, bookkeeping, payroll services	10

## Top 10 Induced Employment: Construction Phase

Hospitals	16
Limited-service restaurants	15
Full-service restaurants	15
Religious organizations	13
Offices of physicians	11
Individual and family services	11
Retail – General merchandise stores	11
Retail – Food and beverage stores	10
Nursing and community care facilities	9
Retail – Motor vehicle and parts dealers	7

## Estimated Tax Revenue (2.5-year construction period)

Local	State	Federal	Total
\$8,879,123.55	\$18,737,665.78	\$55,584,291.05	\$83,201,080.38

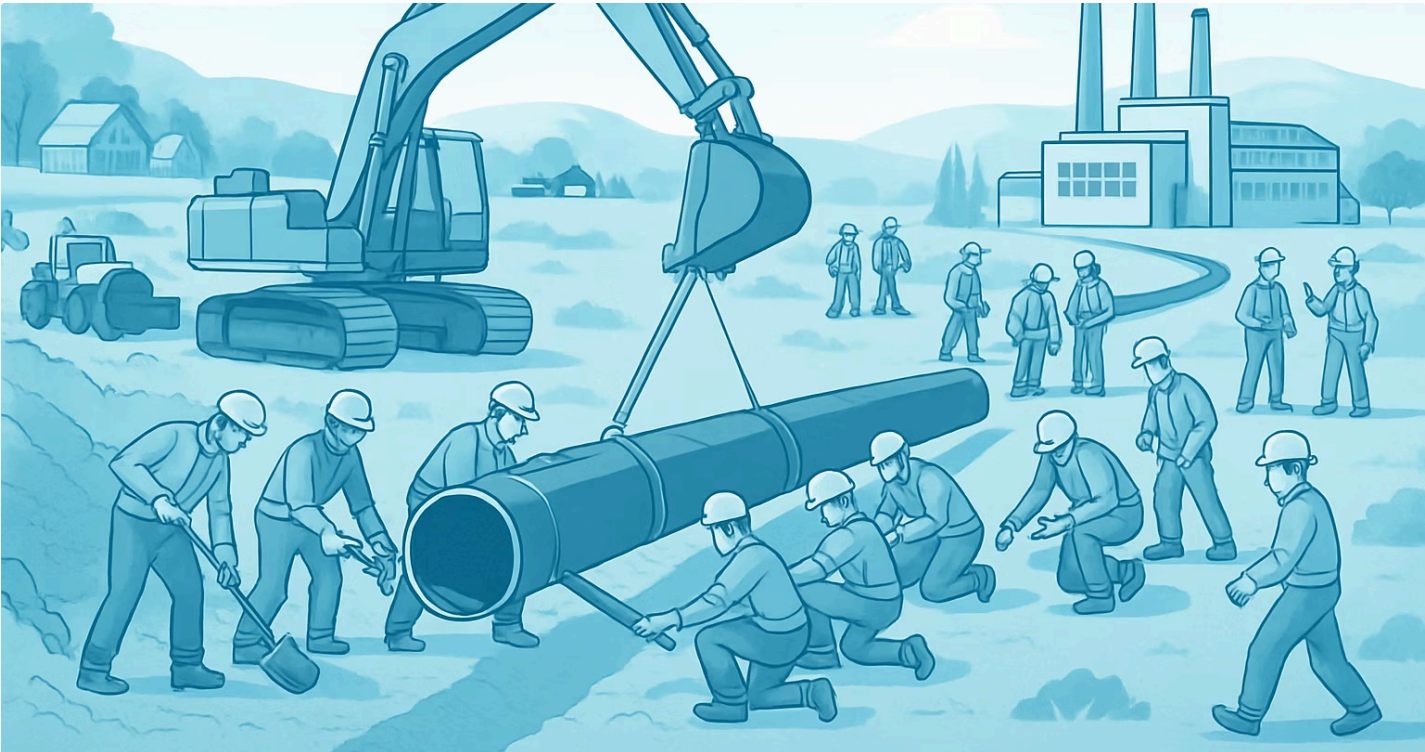
# Pipeline Construction Impact

An estimated nine miles of pipeline will be needed to connect the natural gas source in Clinton County to the manufacturing facility in Clearfield County. This amount of pipe will likely require 20 workers (10 in Clinton County, 10 in Clearfield County) one year to complete. The indirect and induced effects of this part of the project are low due to the lower number of temporary workers in a location where there is already major construction happening. However, the labor income and thus the tax results of this portion of the project are not insignificant.

IMPACT	EMPLOYMENT	LABOR INCOME	VALUE ADDED	OUTPUT
Direct	20	\$1,348,493.31	\$1,907,403.37	\$2,981,091.81
Indirect	3	\$227,681.03	\$398,834.45	\$783,216.01
Induced	6	\$298,584.09	\$575,961.42	\$938,434.99
Totals	29	\$1,874,758.43	\$2,882,199.24	\$4,702,742.80

## Estimated Tax Revenue: Pipeline Construction (1-year)

Local	State	Federal	Total
\$70,522.84	\$135,580.72	\$438,819.92	\$644,923.48





# Natural Gas Production Impact

In Clinton County, a natural gas well will harvest 12.5bcf of natural gas needed to sustain the operations of the plant at a site nine miles away in Clearfield County. Given current market conditions, the value of that gas totals \$38,250,000.00 as a direct industry output. As a result of that increased output, there would be 32 direct jobs created in Clinton County with labor income totaling \$2,060,618.20. The value this direct activity would have totals \$24,660,724.68, with total output of \$38,250,000.00 (direct variable). The direct jobs at the wellhead would support 43 indirect jobs and 24 induced jobs for a total of 98 jobs related to the new economic activity.

### Top 5 Indirect Employment: Natural Gas Production

- Custom computer programming services: 8
- Management of companies and enterprises: 7
- Pipeline transportation: 3
- Computer system design services: 2
- Other real estate: 2

### Top 5 Induced Employment: Natural Gas Production

- Hospitals: 1
- Limited-service restaurants: 1
- Full-service restaurants: 1
- Individual and family services: 1
- Retail – general merchandise stores: 1

## Estimated Tax Revenue: Natural Gas Production (per year)

Local	State	Federal	Total
\$1,280,261.12	\$2,127,206.14	\$2,812,614.87	\$6,220,082.12





# Manufacturing Operations Impact

After a 2.5-year construction process, the continuing manufacturing operations at the River Hill site will have lasting benefits, year over year. Manufacturing jobs have the largest multiplier effect of any sector, adding the most indirect and induced jobs while adding the most value to the economy. The IMPLAN results prove this fact as the 200 direct jobs support 659 indirect jobs and 377 induced jobs. The labor income of the 200 direct jobs is quite high at \$35,778,126.34, showing the high-value of the manufacturing sector. Combined, the indirect and induced jobs provide an additional \$82,473,089.86 in labor wages, \$158,444,031.53 in value added, and a total output of \$291,215,604.18. While the employment would likely remain steady over the life of the facility (60+ years), the labor income, value added, total output, and thus the tax revenue will only increase over time.

IMPACT	EMPLOYMENT	LABOR INCOME	VALUE ADDED	OUTPUT
Direct	200	\$35,778,126.34	\$181,116,250.07	\$433,978,355.27
Indirect	649	\$60,134,975.43	\$116,945,150.14	\$223,867,059.27
Induced	377	\$22,338,114.43	\$41,498,881.39	\$67,348,544.91
Totals	1,226	\$118,251,216.20	\$339,560,281.60	\$725,193,959.44



# Top Employment Sectors During Manufacturing Operations

## Top 10 Indirect Employment: Manufacturing Operations

Truck Transportation	63
Employment services	59
Warehousing and storage	50
Natural gas distribution	47
Management of companies and enterprises	43
Insurance agencies, related activities	25
Wholesale – other nondurable goods	22
Rail transportation	18
Couriers' services	17
Monetary authorities and depository credit	17

## Top 10 Induced Employment: Manufacturing Operations

Hospitals	21
Limited-service restaurants	18
Full-service restaurants	18
Religious organizations	15
Individual family services	14
Offices of physicians	14
Retail – General merchandise stores	13
Retail – Food and beverage stores	12
Nursing and community care facilities	11
Other real estate	9

## Estimated Tax Revenue: Manufacturing Operations (per year)

Local	State	Federal	Total
\$10,112,193.32	\$21,505,703.80	\$35,466,108.22	\$67,084,005.33

# Five-Year Economic Impact Snapshot

While the life of the plant is expected to sustain upwards of 60 years or more, a five-year snapshot provides a glimpse of what a region can expect with a project of this magnitude. Encapsulated in this case study is the facility construction phase estimated for 2.5 years, pipeline construction for one year, with ongoing natural gas production and manufacturing operations for 2.5 years to reach the five-year mark.

FIVE YEAR TOTALS				
Impact	Employment (per year)	Labor Income (2.5 years)	Value Added (2.5 years)	Output (2.5 years)
Construction of manufacturing facility	1,603	\$233,056,690.44	\$369,509,256.44	\$1,277,282,319.09
Construction of pipeline	29	\$1,874,758.43	\$2,882,199.24	\$4,702,742.80
Natural gas production	99	\$18,894,129.72	\$81,834,200.51	\$134,735,397.08
Manufacturing operations	1,225	\$284,505,511.83	\$817,145,456.30	\$1,743,127,505.74
FIVE YEAR TOTAL	2,956	\$538,331,090.42	\$1,271,371,112.49	\$3,159,847,964.71

2,956

Total Jobs Supported

Direct, indirect, and induced employment

\$538M

Total Labor Income

Across all sectors

\$1.27B

Total Value Added

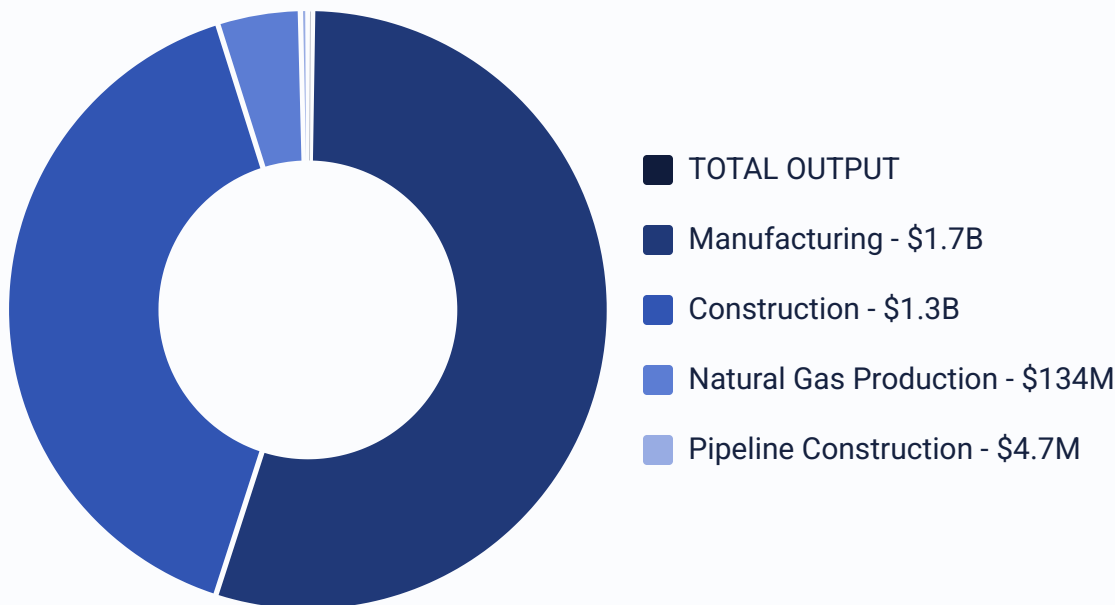
Economic contribution to GSP

\$3.15B

Total Output

Overall economic activity generated

# Five-Year Economic Impact Snapshot



## Tax Impact

Tax Impacts (5-year estimate):

Project Component	Local	State	Federal	Total
Construction (2.5 years)	\$8,879,123.55	\$18,737,665.78	\$55,584,291.05	\$83,201,080.38
Pipeline Construction (1 year)	\$70,522.84	\$135,580.72	\$438,819.92	\$644,923.48
Natural Gas Production (2.5 years)	\$3,200,652.80	\$5,318,015.35	\$7,031,537.18	\$15,550,205.30
Manufacturing Operations (2.5 years)	\$25,280,483.30	\$53,764,259.50	\$88,665,270.55	\$167,710,013.33
TOTAL	\$37,430,782.49	\$77,955,521.35	\$151,719,918.70	\$267,106,222.49



# Regional and Statewide Benefits

Given the rural Pennsylvania setting of the River Hill site, there will be impacts beyond the greater Clearfield/Clinton County area. The following data shows the regional impact in Clearfield/Clinton County versus the remaining 65 counties within the Commonwealth of Pennsylvania.

Clearfield/Clinton Counties Benefits	Remainder of Pennsylvania Benefits	Total Commonwealth Economic Benefits
<b>Total Jobs:</b> 2,447	<b>Total Jobs:</b> 509	<b>Combined Jobs:</b> 2,956
<b>Labor Income:</b> \$169,626,892.71	<b>Labor Income:</b> \$46,830,398.52	<b>Combined Labor Income:</b> \$216,457,291.23
<b>Value Added:</b> \$420,263,571.29	<b>Value Added:</b> \$90,014,193.25	<b>Combined Value Added:</b> \$510,277,764.54
<b>Output:</b> \$903,175,376.19	<b>Output:</b> \$163,585,455.38	<b>Combined Output:</b> \$1,066,760,831.57



# Summary

In summary, KeyState's River Hill project will directly increase employment by 1,252. This direct employment will support employment in the region and the commonwealth through indirect and induced employment by another 1,704 jobs - supporting 2,956 total jobs. In just five years, this project will generate more than \$500 million in labor income, adding nearly \$1.3 billion to Pennsylvania's economy, with total economic output of more than \$3 billion. Most importantly, the sustained economic growth of the ongoing plant operations will support more than 1,200 jobs and over \$700 million in economic output year-over year all while supplying the greater Mid-Atlantic/Northeast United States with a vital commodity utilizing Pennsylvania's abundant natural resources.

## Economic Impact of KeyState's River Hill Project

