Appendix 7-A

The Economic and Fiscal Impacts of the Construction of the "Valley Energy Center" in the Town of Wawayanda, Orange County, New York

The Economic and Fiscal Impacts of the Construction and Operation of the "*Valley Energy Center*" in the Town of Wawayanda, Orange County, NY

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I. Executive Summary

This report examines the impact on jobs, output, income and government revenues resulting from the construction and operation of the *Valley Energy Center* (*VEC*) in the town of Wawayanda, Orange County, New York. The *VEC* will be able to generate 580 megawatts (MW) with additional capacity during times of peak energy demand. The maximum output the power generating facility will be capable of producing is 630 MW. The Center will be fueled by clean burning natural gas and will have the ability to burn ultra-low sulfur oil in the event of an interruption of natural gas supplies. The *Valley Energy Center* will occupy approximately 28 acres of a 122 acre parcel of land that is currently in agricultural use.

In addition to using clean power technologies, the *VEC* will be an environmentally sensitive facility. It will use air condenser technology for its cooling requirements to avoid any burden on area water supplies and infrastructure, thus eliminating concerns regarding discharge water. The project will supply much needed power while simultaneously generating significant economic and fiscal benefits to the town of Wawayanda and Orange County region.

The purpose of this report is to provide an independent analysis of data that will inform elected and appointed officials and members of the public who are interested in the economic and fiscal impacts of the project. All analyses in this study employ standard economic methods and models widely used by economists and extensively reviewed in academic journals. All data used in the construction of models and in calculating impacts (with the exception of facility construction and operating cost data) is publicly available from federal and state government agencies.

We begin by describing the characteristics of Wawayanda and the Orange County region and discussing the composition and performance of the regional economy to provide a context from which to evaluate the impacts of the *Valley Energy Center*. Economic impacts will then be estimated for the construction phase of the project and for the annual ongoing operations of the facility. Impacts are calculated for a primary economic area, comprised of a single Orange County region and a supplementary analysis is conducted to measure the amount that the project's economic impact will occur outside of the primary region, but which will remain within the state of New York.

Two detailed economic models using unique data for Orange County and the state of New York were constructed to demonstrate the above-mentioned calculations. In addition to impacts

on the town of Wawayanda, Orange County, and in the state of New York, some project expenditures will be made outside of the County and will have impacts on neighboring counties in New York as well as other parts of the country that may supply equipment and materials[1] needed for the construction and operation of the facility. No analysis was conducted to determine impacts on counties in neighboring states; only the impacts on Wawayanda, Orange County and the state of New York are analyzed in this study.

Results indicate that the construction and operation of the *Valley Energy Center* will provide substantial economic benefits to Orange County and produce significant economic activity outside of Orange County, as well as generate millions of dollars of revenue for state and local government.

Major Findings of Project Impacts:

- Of the approximately $680 million project construction and development costs ($800 total project cost), over $259 million of direct expenditures to construct the *Valley Energy Center* will be made in the Wawayanda and the Orange County region.
- Construction of the project will directly support a total of 908 jobs, on average[2,] in each year of the two-year construction phase, including an estimated 690 in the construction trades.
- The indirect and induced job (multiplier) impacts of the construction activity will result in a total of 568 jobs in Orange County each year of the construction phase and a total of more than 1,797 jobs throughout the state of New York.
- An estimated $153.6 million in labor income (or $76.8 each year of the construction phase) will be earned in Orange County as a result of construction of the *VEC* and its secondary and tertiary multiplier impacts. Across New York, another $28.8 million ($14.4 million each year) in labor income will be earned.
- Construction of the *VEC* and the economic activity it generates will produce $22.2 million in additional state and local tax revenues during the construction phase.
- Once operational, the *Valley Energy Center* will employ approximately 25 full time workers and have impacts that result in the addition of 49 jobs in Wawayanda and the

[1] For example, equipment such as gas turbines and other unique machinery used in the electric generating process will be manufactured outside of the region and New York.
[2] Construction expenditures will not be evenly divided in each of the two years of the construction phase but as this analysis was conducted, a detailed schedule of construction expenditures was not available.

Orange County region. Average annual wages of these jobs will be significantly higher than the current regional average.

- With a high percentage of local taxable land comprised of residential property, the town of Wawayanda is likely to be relatively more affected by the fiscal stress confronting property tax revenue-dependent local governments, as a result of the decline in real estate and construction markets. Construction and operation of the *VEC* would significantly expand the tax base of Wawayanda while it decreases the relative burden on residential property owners.
- The operation of the *Valley Energy Center* will generate economic activity throughout New York that will increase state and local revenues by $2.47 million annually.
- Annual labor income will increase by $5.24 million in Wawayanda and by an additional $940,000 in other parts of New York as a result of annual *VEC* operations.

Table 1
Summary of Annual Impacts of the Construction Phase of the *Valley Energy Center* (Each Year of Construction Phase) ($ Millions)

		Totals
Output	Orange County	**$197.0**
	Rest of New York	**$36.3**
Jobs	Orange County	**1,476**
	Rest of New York	**321**
Income	Orange County	**$76.8**
	Rest of New York	**$14.4**

Table 2
Annual Impacts of the Operation of *Valley Energy Center* ($ Millions)

		Totals
Output	Orange County	**$19.8**
	Rest of New York	**$3.5**
Jobs	Orange County	**74**
	Rest of New York	**20**
Income	Orange County	**$5.24**
	Rest of New York	**$.94**

II. Introduction

Competitive Power Ventures (CPV), LLC is planning to construct and operate the *Valley Energy Center* (*VEC*) in Orange County, New York. The facility will use clean burning, natural gas fueled, and environmentally friendly processes to generate electric power. CPV, LLC has commissioned this report to analyze the economic and fiscal impacts of the proposed project.

Although commissioned by the Competitive Power Ventures, this report was prepared independent of the company. The company supplied data on construction and operating expenditures as well as employment and labor required to operate the facility on an annual basis. Economic methods and models used in this report were chosen independent of the company. CPV, LLC was provided an opportunity to suggest corrections to the description of the project and its operations and to correct material errors in the description or details of project expenditures. However, the company had no role in calculating economic impacts outlined in the report and was not given an opportunity to edit any of the results or presentation of impact analyses.

The report is an independent, quantitative assessment of the economic and fiscal impacts resulting from the construction and operation of the proposed *Valley Energy Center*. The report can help inform elected and appointed officials and members of the public interested in the economic impacts of the project.

III. The Area for Study

Selecting a geographic area for analysis is a critical aspect of any economic impact study. Depending on how the area of study is defined, economic impacts will be included or excluded from the calculation of project impacts. Defining a large area for study will capture a larger portion of the economic impacts of a project while a small geographic area captures a more limited portion of economic impacts.

Figure 1

Impacts Will be Determined by the Components of a Functional Economic Area

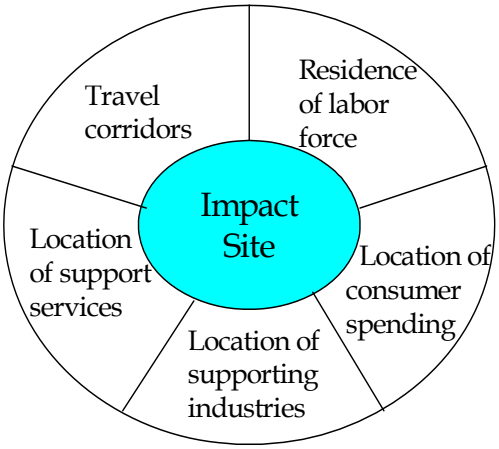
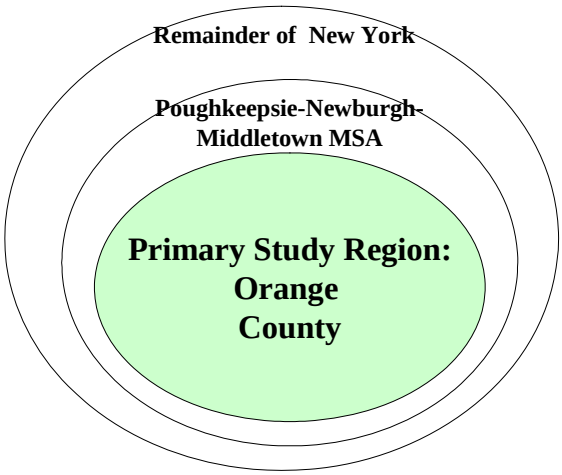


Figure 2

Project Impacts are Concentrated in Wawayanda and Orange County But Extend Well Beyond the County



The availability of economic data influences the selection of a geographic area for study. For geographic areas smaller than the state level, with the exception of major cities, the richest and most complete economic data required to accurately calculate economic impacts is available at the county or metropolitan statistical area (MSA) level. In general, it is best to choose the smallest area for study as is feasible in order to avoid overstating the economic impacts of a project.

This study uses county level data in analyzing the economic impacts of the proposed *VEC*. Construction industries serve primarily local markets and it is expected that most of the direct expenditures for facility construction will occur in Orange County. Where it is known that project expenditures will go to firms outside the region, they are excluded from the impact analysis. Expenditures related to project financing, insurance and some costs related to project development, such as engineering along with the acquisition of specialized industrial machinery manufactured outside of the region and outside of New York, were also excluded from consideration as regional and state economic impacts. Estimating the residency of workers who will be hired as a result of the *VEC* project, along with where they spend the income earned from project-related employment, is also important to assessing economic impacts.

The town of Wawayanda, with a population of just over 7,000, has a relatively small employment base with fewer of the industries that will supply the products and services required to construct and operate the *VEC*. In addition to the impacts on the town of Wawayanda, construction of the facility will draw upon the labor, goods and services of the Orange County region. With a population of over 377,000 and employment of over 130,000, the county will provide much of the products, services, and labor required for construction and operation of the facility.

Our review of regional data suggests that Orange County is a net exporter of labor, meaning that many more workers commute out of the county to work (52,588 in 2000) than commute into Orange County to work (27,714 in 2000). Orange County's growing population at the same time it has significant out-migration of labor is an indication that the county is viewed as an attractive place to live but that it has relatively fewer jobs that attract workers both inside and outside the County. Rather than work in Orange County, an increasingly large percentage of new county residents are employed outside of the county. Increasingly, as Table 3 indicates, Orange County is home to residents who live in the County but work in the greater New York City area in

counties such as New York, Rockland, Westchester and Bronx. Our analysis of the Wawayanda and Orange County economy in the next section of this report supports this conclusion and discusses some of the implications of the trend. In creating higher-skill, well-paying job prospects, the proposed *Valley Energy Center* presents an opportunity to reduce the export of labor from Wawayanda and Orange County; while at the same time expanding the town's tax base and providing significant fiscal and economic benefits to Wawayanda, Orange County, and the state of New York.

Table 3
Orange County Commuting Patterns (2000 Census)

Commute	Commute To	% Change From 1990	Commute In From	2000 Net Commute
Rockland	9,746	11.9%	1,739	-8,007
New York Co.	9,610	36.7%	115	-9,495
Bergen, NJ	7,310	-10.6%	486	-6,824
Westchester	5,569	26.0%	1,233	-4,336
Dutchess	5,160	-8.4%	3,828	-1,332
Bronx	2,414	22.2%	204	-2,210
Ulster	1,995	14.3%	8,676	6,681
Kings	1,117	40.7%	205	-912
Sullivan	865	11.9%	4,900	3,948

% Working Residents Living & Working in Orange County:	65.5%
% Working Residents Living in Orange Commuting Out of County:	34.5%
% of Jobs in Orange County Held by Orange County Residents:	78.3%
% of Jobs in Orange County Held by Non-County Residents:	21.7%

Source: U.S. Census Bureau's "County-to-County Worker Flow" files available at: *http://www.census.gov/population/www/cen2000/commuting/index.html*.

For this report we have chosen Orange County as the primary region for analysis. Wawayanda and Orange County are part of a larger economic region known as the Poughkeepsie-Newburgh-Middleton metropolitan statistical area (MSA) that includes Dutchess County. Including additional counties in the analysis would result in more of the overall economic activity associated with the project falling within the study region. We believe, however, that the result

would be to overstate the project's impact on the Town of Wawayanda and the nearby communities within Orange County. Although we consider the project's economic impacts to be those that occur within Orange County, additional impacts will occur in neighboring areas and throughout the state of New York, as well as neighboring states and other areas of the country. In addition to the impacts on Orange County, we report the additional economic impacts that will occur outside of Orange County but which will remain within the state of New York.

IV. The Wawayanda and Orange County Economic Region

The Wawayanda and Orange County economic region is characterized by:

- Strong population growth led by net domestic in-migration (more residents from other states and counties moving into Orange than moving out.)
- Relatively high housing costs but relatively lower average wage per job.
- Job growth commensurate with employment growth but slower growth in higher-wage industries.
- Relatively lower wage employment opportunities compared to many southern New York state counties.
- A relatively high percentage of local government property tax revenue dependent upon residential property valuation in Wawayanda compared to many surrounding cities and towns.

Table 4 summarizes the relative performance of Orange County on some key economic metrics. The table compares Orange County with Dutchess County (also a part of the Poughkeepsie-Newburgh-Middletown MSA), the larger Poughkeepsie-Newburgh-Middletown MSA, and the median for all New York counties.

Table 4

Relative Economic Performance of Orange County (Rank Among All 62 NY Counties)

	Orange County	Dutchess County	MSA	Median All NY Counties
Population Growth (2000-2007)*	10.5% (1)	4.5% (7)	8.5%	-0.5%
Job Growth (1999-2006)**	8.7% (8)	9.2% (6)	9.0%	3.1%
Per Capita Income (2006)**	$33,322 (21)	$39,803 (10)	$36,164	$29,623
Average Wage Per Job (2006)**	$36,507 (21)	$42,284 (10)	$39,213	$33,540
Median Home Sales Price (2007)***	$315,000 (7)	$324,740 (6)	$319,223	$116,000

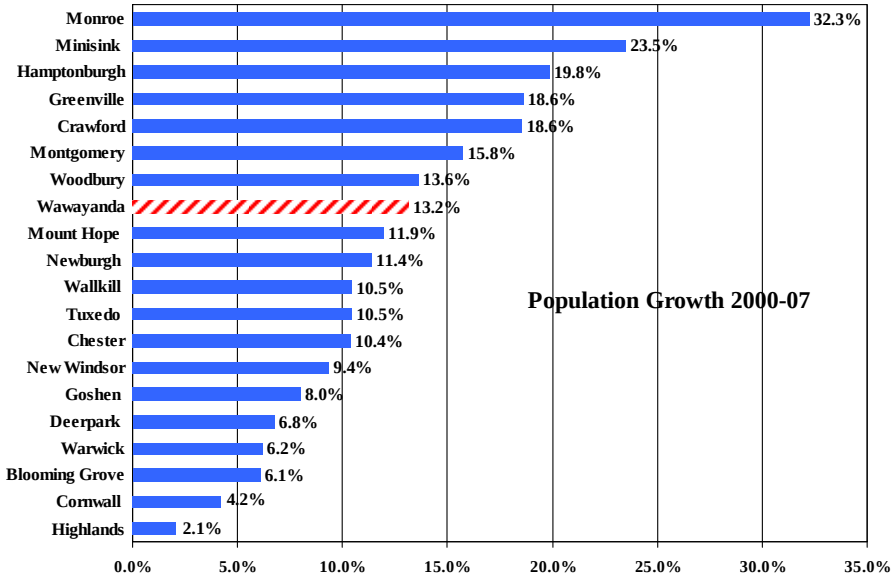
Sources: *NY State Department of Labor site:
http://www.labor.state.ny.us/workforceindustrydata/nys/statewide_population_data.asp.
**US Bureau of Economic Analysis Regional Economic Information System:
http://www.bea.gov/regional/index.htm#state
***NY State Office of Real Property Services: *http://www.orps.state.ny.us/cfapps/MuniPro/index.cfm.*

Strong Population and Housing Growth Driven by Domestic In-Migration to the County

The most significant trend in Orange County is strong population and housing growth this decade. More than one-half of New York's 62 counties experienced a loss of population between 2000 and 2007. Orange County's population grew by 10.5% between 2000 and 2007, the highest rate of growth among the 28 New York counties with population growth during this decade.

Population growth in the town of Wawayanda, at 13.2%, is above the median for all Orange County towns this decade (Figure 3.)

Figure 3
Wawayanda's Population Growth is Slightly Above the Median Among Orange County Towns

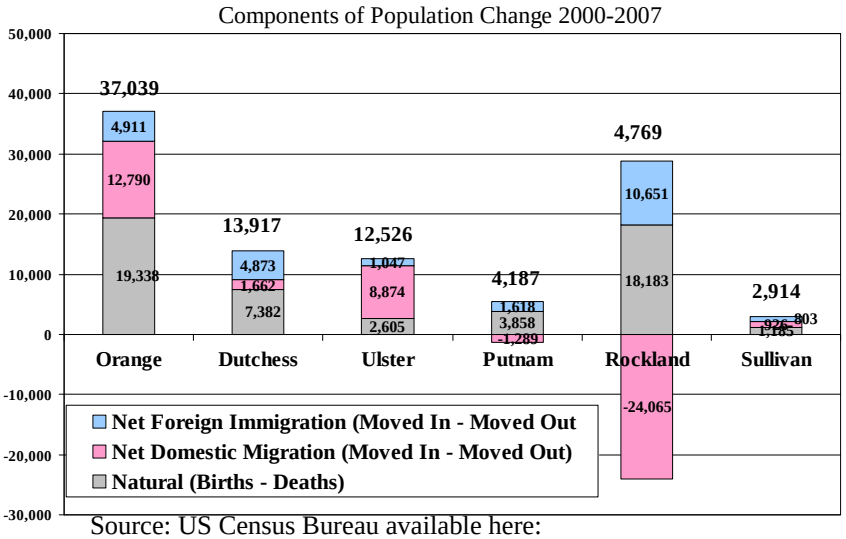


Source: NY State Data Center:
http://www.nylovesbiz.com/nysdc/popandhous/ESTIMATE.asp.

Further analysis of population growth trends reveals significant information about the composition of population growth in Orange County. Population growth can occur in three ways: as a result of natural increase (more people being born than die in a region), net international migration (more people moving into a region from another country than move out of the region to another country), and net domestic migration (more people moving into a region from another location in the U.S. than leave for another U.S. location.) New York State has been characterized this decade by slow population growth and a dramatic loss of residents through net domestic migration. Since 2000, over 1.4 million more New York residents left the state than moved into New York from another state. A large number of international migrants (860,000) and significant natural population growth kept the state from a net loss of population. In contrast, Orange County had the largest increase in population (absolute numbers not just percentage increase) as a result of net domestic migration of any county in New York from 2000-2007. Figure 4 shows the components of population change in Orange County this decade, and compares Orange County with some neighboring counties.

Figure 4

On Net, More People Moved Into Orange County Between 2000 and 2007 Than Moved Into Any Other County in New York



Source: US Census Bureau available here:
http://www.census.gov/popest/counties/CO-EST2007-04.html

The chart shows that almost 13,000 more residents moved into Orange County than moved out this decade, more than neighboring counties and any other county in the state. One implication of population growth resulting from in-migration is an increase in the number of

households in a region and the need for housing units. Orange County ranks first out of 62 counties in New York in growth in new housing structures. The county ranks 833 of 3,141 in growth in residential structures (housing units) in counties throughout the United States. High rates of housing growth typically lead to rapid price appreciation. The median sales price of homes in Orange County was $315,000 in 2007, the 7th highest median price among all New York counties, despite the fact that average wages per job and per capita incomes are relatively modest in the county compared to all New York counties.

Orange County Employment Trends

Table 5 presents employment and average annual wages by industry in Orange County for 2000 and 2007 along with growth rates during the time period. The table highlights several important trends in the county:

- Overall employment growth has been solid this decade.
- Federal, state and local government employ more people in Orange County than any other major industry super sector.
- Retail trade is the largest private sector major industry sector in Orange County. National and state economic conditions suggest that this sector will likely experience employment losses in the near term.
- Nearly one-third (28%) of the manufacturing jobs in the county were lost this decade.
- Health care and social services are a large and growing industry sector but with relatively lower wages.
- With the exception of professional and technical services, which have experienced solid growth, higher wage industries such as information, finance and insurance have declined or grown more slowly in the county this decade.
- Recent developments in financial and credit markets may accelerate the decline in finance and insurance employment in the county.
- Trends in housing markets and business investment suggest construction jobs will also decline.

Table 5

Orange County Employment and Wage Growth 2000-2007

Industry	Emp 2000	Emp 2007	% Growth '00-'07	Avg. Annual Wage 2000	Avg. Annual Wage 2007	Avg. Annual % Growth '00-'07
Construction	4,777	5,591	17.0%	$34,268	$42,729	3.5%
Manufacturing	10,758	7,736	-28.1%	$35,168	$42,673	3.0%
Wholesale Trade	6,681	7,277	8.9%	$37,796	$48,712	4.1%
Retail Trade	18,791	21,954	16.8%	$20,220	$25,252	3.6%
Transportation & Warehousing	5,110	5,276	3.2%	$33,023	$38,563	2.4%
Information	2,732	2,472	-9.5%	$34,092	$44,885	4.5%
Finance and Insurance	3,902	3,578	-8.3%	$32,808	$47,818	6.5%
Real Estate	1,401	1,763	25.8%	$23,508	$30,458	4.2%
Prof. and Technical Services	3,996	4,932	23.4%	$40,591	$47,100	2.3%
Admin. and Waste Services	3,587	4,406	22.8%	$21,091	$27,595	4.4%
Health Care and Social Services	14,216	17,639	24.1%	$26,567	$36,929	5.6%
Arts, Entertainment, and Rec.	1,383	1,562	12.9%	$14,156	$17,283	3.2%
Accommodations and Food Services	7,329	8,560	16.8%	$12,380	$15,281	3.3%
Other Services	4,549	5,159	13.4%	$19,508	$23,777	3.1%
Government	25,303	27,371	8.2%	$36,701	$49,401	4.9%
Total, All Industries	**119,572**	**130,050**	**8.8%**	**$29,356**	**$37,448** [3]	**3.9%**
Total, All Private Sector	**94,269**	**102,679**	**8.9%**	**$27,385**	**$34,262**	**3.6%**

Source: NY State Department of Labor: *http://www.labor.state.ny.us/workforceindustrydata/lsqcew.shtm*

Already a net exporter of labor to other counties, Orange County is likely to see even fewer higher wage job opportunities for at least the near term. Construction of the *Valley Energy Center* would likely provide a significant economic and employment stimulus to the region to help offset some of the more problematic employment trends noted above.

Economic Trends Will Produce Fiscal Stress For Local Governments

Because taxes on real property are the primary source of revenue of local government in the U.S., low levels of new construction activity and declines in home values are beginning to affect the fiscal health of local government across the country. State government revenues are slowing or declining in most states, as sales and income taxes slump, and increases in state aid are

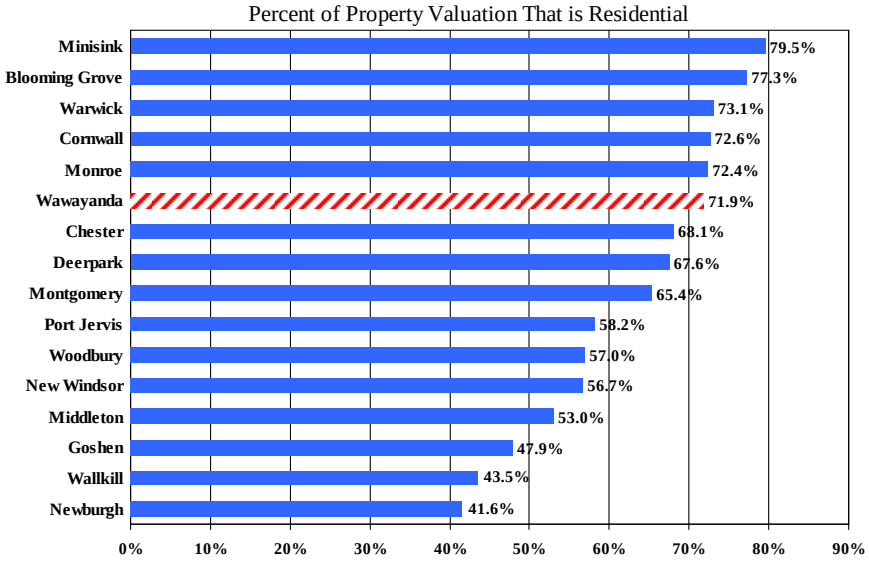
[3] This number differs slightly from the figure in Table 4 because the wages in this table include only employment covered by unemployment insurance, as reported by the Bureau of Labor Statistics. Table 2 figures are from the U.S. Bureau of Economic Analysis and also include "non-covered" employment. BEA data is used for comparison purposes in Table 2 because average wages are available from the BEA for a larger number and type of geographies.

unlikely to provide relief to strapped local governments. In general, commercial and industrial property values are subject to less fluctuation than residential property. Utility property is unique and difficult to characterize. Although generally stable in value, across the nation some utilities have challenged assessments in recent years in response to what they see as a tendency of government to overvalue utility property in order to shift property tax burdens away from residential property. Nevertheless, the presence of utility property absorbs much of the property tax burden in areas where it is located.

Local governments will not be able to rely on increased residential property values for increased revenues in the future as they have thus far this decade. It follows then that towns that are more reliant on residential property to fund local government and schools will experience relatively more fiscal stress.

Figure 5 highlights how the town of Wawayanda compares with several other cities and towns in Orange County on the percentage of its property value that is residential property. Over

Figure 5
Wawayanda Has a Relatively High Percentage of It's Total Local Property Valuation in Residential Property – Increasing the Potential for Fiscal Stress



Source: NY State Office of Real Property Services: *http://www.orps.state.ny.us/cfapps/MuniPro/index.cfm.*

71% of the property value in the town of Wawayanda is comprised of residential property. The percentage is an indication of how much of the overall property tax burden is borne by residential property owners. Rural towns typically have a higher portion of local valuation in residential

property compared to cities and metropolitan areas but there is variation and as Figure 5 indicates, the town of Wawayanda places a relatively high burden on residential property even compared to other rural towns and thus may be relatively more affected by the revenue impacts of slumping housing and construction markets.

This report does not attempt to estimate what the assessed value of the proposed *Valley Energy Center* would be but it does estimate the total increase in state and local property taxes that will result from the economic activity related to construction and operation of the facility. We find that the property tax and other revenue impacts of the project will be significant. These findings will be discussed later in this report.

V. Analytical Approach and Impact Methodology

This study uses an input-output (I/O) methodology to determine the economic and fiscal impacts of the project on the regional economy. Input-output models trace the linkages of inter-industry purchases and output within a given county, region, state or country. These models use information on the inputs required from all industries in order to produce a dollar of output for a specified industry, as well as how much of the required inputs from industries can be supplied locally within the study area.

In addition to the direct spending required to produce a dollar amount of a given product or service, economic impacts occur as a result of "indirect" purchases that businesses, organizations, and government make among one another in the study region with their revenue from direct spending. Induced spending includes the purchases made by individuals and households within the study area as a result of the income they receive from the businesses and organizations in response to the direct and indirect sales in the region. Input-output models yield "multipliers" that are used to calculate the total direct, indirect, and induced effect on jobs, income and output resulting from a dollar of spending on goods and services in the study area. The "IMPLAN" input-output model developed by the U.S. Government and the University of Minnesota (available from the Minnesota IMPLAN Group, Inc.) was used in this analysis to calculate economic impacts.[4]

The IMPLAN model was chosen because of its ability to construct a model using data

4. A description of the IMPLAN model and technical references is available to readers at www.Implan.com Note: a brief sampling of bibliography of studies is presented in Appendix A .

from Orange County while maintaining rich detail on impacts for hundreds of industrial sectors. In addition to being widely used in regional economic analysis, the model and its methodology have been extensively reviewed in professional and economic journals. Data from the U.S. Bureau of Economic Analysis, U.S. Census Bureau and other sources, along with the IMPLAN model, were used to determine the inter-industry transactions in the region required for calculating the impact of the *Valley Energy Center* project. Analytical results are reported for the economic measures of greatest interest to policy makers, elected and appointed officials and the general public.

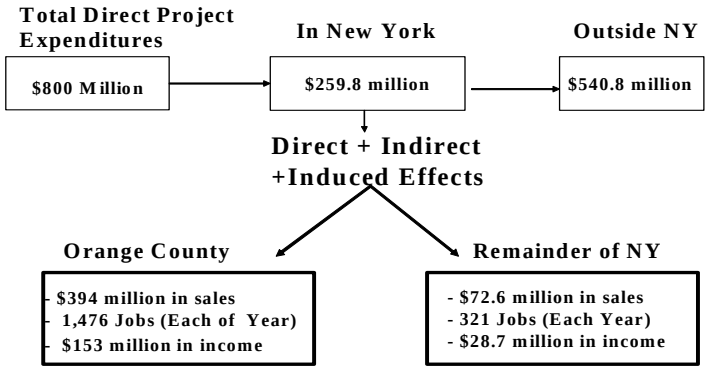
Impacts were modeled for both the construction and operating phase of the project. Project impacts were modeled first for Orange County. A second analysis was performed by modeling project expenditures in the entire state of New York. This analysis was used to determine the additional economic impacts that will occur outside of Orange County but that remain within the state of New York.

Substantial additional impacts will also occur outside of the state of New York (as a result of manufacture and purchase of the industrial machinery [turbines] and equipment used for the generation of power at the *VEC*, as a result of the manufacture of construction machinery, or as some business revenues or wage and salary income earned as a result of the project is spent outside of the state of New York).

Because the town of Wawayanda's economy is small and less self-sufficient than either the Orange County, New York, or U.S. economies, more of the labor, goods and services required to construct and operate the *VEC* must be purchased or imported from surrounding regions and beyond and as indirect and induced economic impacts "leak" from the region and are captured by other regions in the state or the nation. "Leakage" of the economic impacts to outside the region occurs for several reasons. These reasons include the inability of the region to supply the needed products and services required by the project because wages and salaries are paid to residents outside of the region or because income earned as a result of the project is used to make purchases outside of the region.

Figure 6

Economic Impact of Construction: Flowchart



Timing and Location of Impacts

Input-Output models calculate the total economic impacts associated with a project but determining the timing of project impacts requires a timetable of project expenditures. CPV's *Valley Energy Center* is expected to take two years to construct. CPV provided a listing of project expenditures but a "construction draw" schedule (breakdown of expenditures by time period) was not available at the time of this analysis, thus our report does not include a detailed estimate of the timing of the construction impacts over the two-year construction period. Rather, the report calculates total economic impacts and also reports them on an annual basis which assumes that construction expenditures are equally distributed across each year of the two-year construction phase.

Although some leakage of project impacts from the region will occur, results of the analysis suggest that the construction of CPV's proposed project would yield large economic benefits to the region. Based on our analysis of CPV's approximately $800 million project budget, we estimate that approximately $259 million in expenditures will occur within Orange County during the development and construction phase of the project. The impact of these expenditures will be an increase in overall economic activity in Orange County of $394 million and an increase economic activity in other areas of New York by another $73 million.

Once constructed, the operation of the facility will increase regional economic activity by another $19.8 million annually in Orange County and $3.5 million annually outside of the county

but within New York state. The analysis indicates that the Orange County region will capture over 80% of the project's construction impacts on the state of New York. Another 20% of impacts occur in New York but are "leakage" outside of the county. Figure 6 presents an overview of the construction impacts from the *Valley Energy Center*

The construction and operation of the *VEC* will present the town of Wawayanda with signficant opportunities to leverage the economic stimulus that a large construction project and new employer create in the region. This could occur as businesses move into or expand in the town in response to the increased economic activity resulting from construction activity as supplying industries or retailers locate in the region in response to increased income or demand for products. The long-term effect would be to expand the economic base and reducing "leakage" from the local economy. In addition, once a industry locates in a region, there are opportunities to capture "forward linked" industries (industries that use the products of services of the new industry). "Leakages" point to additional opportunities for the region to expand its economy.

VI. Economic Impacts

In analyzing the VEC project's impact on Orange County and New York, we estimate that approximately $259.2 million of the $800 million ($650 of engineering, procurement and construction expenditures) project expenditures will occur in the Orange County region.

Expenditures for specialized equipment and machinery used in the generation of power (gas turbines are the largest single expenditure of the project) as well as project financing, some engineering, design and other project costs will not be captured by businesses in the Orange County region or the state of New York.

In fact, some expenditures related to financing and other project expenditures may well benefit New York but without some level of certainty we have excluded the impacts of the expenditures from our assessment of project impacts. Table 6 presents the impacts from the project, on both an annual and total impact basis.

Table 6

Impact of *VEC* Construction

Millions of 2007 Dollars)

Orange County	**Annual**	**Total**
Direct	$129.60	$259.2
Indirect	$27.50	$55.0
Induced	$39.85	$79.7
Total	**$196.95**	**$393.9**
Remainder of New York	$36.30	$72.6
Total Economic Impact in NY	**$233.25**	**$466.5**

Our analysis indicates that the $259.2 million in direct construction project expenditures, occurring over a two year period, will result in total output of $466.5 million in the state of New York, of which $393.9 million ($197 million per year) will occur within Orange County.[5] Another $72.6 million will occur in other areas of New York beyond Orange County. Construction phase impacts will be spread over the two-year construction phase of the project.

The annual operations of the *Valley Energy* facility will result in an increase in regional economic activity of $19.8 million and will have another $3.5 million impact throughout the rest of New York. The impacts that occur as a result of the operation of the *VEC* will occur annually and may increase over time. The annual impact of operations is presented in Table 7.

[5] We report impacts on both an annual and total impact basis. Our annual estimates assume that construction expenditures are divided equally in each of the two years during construction. In reality, expenditures are unlikely to be evenly divided but at the time this analysis was completed a schedule of construction expenditures (construction "draw") was not avaialbe.

Table 7

Annual Impact of
VEC **Operations**
(Millions of 2007 Dollars)

Orange County	**Total**
Direct	$14.3
Indirect	$1.6
Induced	$3.9
Total	**$19.8**
Remainder of New York	**$3.5**
Total Economic Impact	**$23.3**

VII. Job Impacts

The job impacts from construction activity will be large, and with indirect and induced (multiplier) impacts, will occur across many industries. A total of 908 construction industry and construction related jobs, including an estimated 690 workers in the construction trades, will be supported as a result of direct project expenditures in each year of the two-year construction phase.

This estimate of construction employment impacts is derived using standard methodologies with input-output models. The dollar value of the project's construction expenditures occurring in the region is divided by the average productivity (the value of what each worker produces in one year) of workers employed in non-residential construction industries (commercial, industrial and utility structures) in the region. Data used in calculating the average productivity of construction workers is reported by the U.S. Census Bureau "Census of Construction Industries" for New York. Data on industry earnings and employment at the county level is used to calculate the productivity of construction workers in the region and is reported by the U,S. Bureau of Economic Analysis (BEA) of the Department of Commerce. With a base estimate of the number of construction industry workers needed to construct the *VEC*, we made a number of additional adjustments to arrive at our final estimate. First, using "Census of

Construction Industries" data for the state of New York, we determined the occupational distribution of non-residential construction industries in the region in order to allocate the employment impacts of constructing the Valley Energy Center among construction trades people, management, supervisory personnel, and support workers in the construction industry. From this we determined that approximately 76 percent of the construction industry employment impacts would be allocated to construction trades people.

A second adjustment is made that has a significant impact on our estimates of the employment impacts. Our original estimate of construction employment impacts is based on the productivity of each worker in the region and is based on an average work week of approximately 35 hours. In fact, it is likely that the average work week would be longer on a project such as the *VEC*. Assuming an additional 7 hours per week (to 42 hours) increases the amount that each worker can produce in a year by 20 percent. The net effect is to reduce our estimate of the number of employees needed to construct the project and our estimated employment impacts by 20 percent. It does not, however, reduce our estimate of the labor income earned from the construction phase because that estimate is derived as a percentage of the dollar value of the construction project (on average, labor costs in the non-residential construction industry in New York represent just under 40% of the value of the construction put in place.)

Our model-based estimates of the employment impacts of the construction phase, adjusted for the factors noted above, are presented in Table 8 below. The productivity, practices, and staffing patterns of individual companies differ; these employment estimates are based on industry averages in the region and are not specific to any individual company. Thus they are likely to differ from the estimates of any individual construction company. We believe, however, they represent an empirically sound and conservative estimate of the employment impacts of the construction phase of the project.

Table 8

Job Impacts of *VEC* Construction (Each Year of Construction Phase)

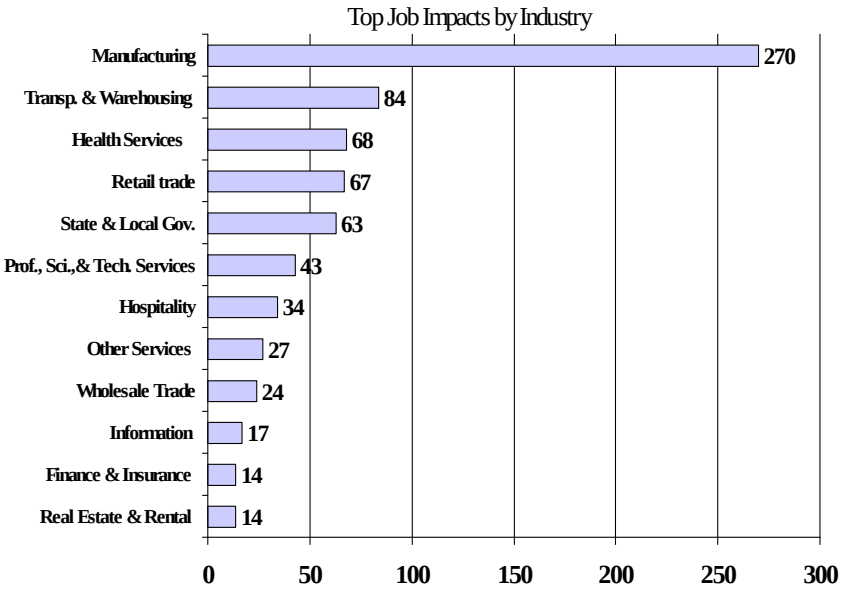
Orange County	Annual
Direct	908
Indirect	199
Induced	369
Total in Orange Co.	**1,476**
Remainder of New York	**321**
Total Job Impacts	**1,797**

The number of on-site construction workers will vary during the construction phase with a peak construction employment on site of between 600 and 700. In addition to the direct construction employment impacts from project expenditures, the indirect and induced expenditures related to the project will support another 568 jobs in the region in a wide variety of industries. Finally, another 321 jobs will be created outside of Orange County region but within other areas of New York for a total job impact of 1,797 in each year of the construction phase of the *Valley Energy Center*. Figure 7 highlights some industries in addition to construction that are forecast to experience job growth in the county as a result of the construction phase of the *Valley Energy Center*.

Once constructed, the facility is expected to require approximately 25 permanent, higher-wage, full-time jobs to operate. In addition, another 49 indirect and induced jobs will be created

Figure7

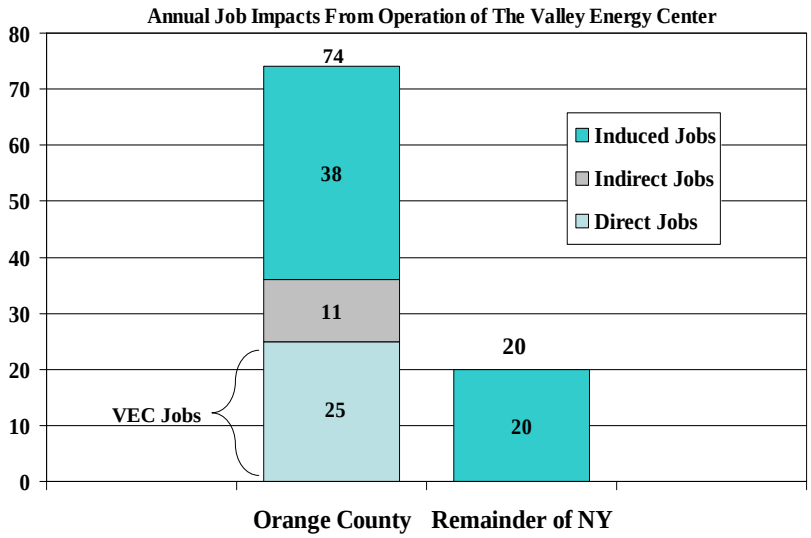
In Addition to Construction Jobs, Employment Impacts Will Include Jobs in Many Well-Paying Industries



in the region as a result of operation of the facility and the income earned from the direct and indirect employment impacts for a total annual impact of 74 jobs in the region. Finally, 20 jobs will be created or "leak" from the region in other areas of New York as a result of *VEC* annual operations. Total job impacts in New York resulting from annual *VEC* operations are estimated to be 94.

Figure 8 presents total annual job impacts from the *VEC*'s operations. The job impacts in Orange County resulting from the *VEC* will create jobs in a number of well-paying industries and significantly increase demand for labor especially skilled labor, in the county.

Figure 8
The *Valley Energy Center* 's Addition of 25 Employees Will Increase Annual Employment by a Total of 74 Jobs in Orange County and Another 20 Jobs in Other New York Counties



VIII. Labor Income Impacts

The direct, indirect and induced employment impacts resulting from the construction of the *Valley Energy Center* will increase labor income in Orange County by $153.6 million over the two-year construction phase. In addition, indirect and induced employment impacts from construction that leak out of the county but which remain in New York will increase labor income in other regions of New York by $28.8 million, for a total labor income impacts from construction of $182.4 in New York.

Table 9
Labor Income Impacts of VEC Construction
(Millions of 2007 Dollars)

Orange County	Annual	Total
Direct	$51.2	$102.4
Indirect	$10.5	$21.0
Induced	$15.1	$30.2
Total in Orange Co.	**$76.8**	**$153.6**
Remainder of New York	**$14.4**	**$28.8**
Total Income Impacts	**$91.2**	**$182.4**

The impacts of the *VEC* construction on labor income are presented in Table 9.

The annual operating impacts of the *VEC* will be large and will have a lasting impact on the region. Once fully operational, the *VEC* is expected to employ 25workers at the facility.

The labor income impacts of the *VEC* operations are presented in Table 10. The total direct, indirect and induced income impacts (including all non-wage salary and benefits) in the region are estimated to be $5.2 million with another $940,000 of labor income increases occurring in other New York counties, for a total impact of the *VEC* on labor income of $6.2 million. The direct and indirect labor income impacts suggest that the average annual wages resulting from facility operations will be significantly higher than the current average annual wages in the region.

Table 10
Annual Labor Income Impacts From *VEC* Operations
(Millions of 2007 Dollars)

Orange County	Total
Direct	$2.91
Indirect	$0.49
Induced	$1.84
Total	$5.24
Rest of New York	**$.94**
Total Labor Income Impacts	**$6.18**

IX. Tax Impacts

Data available with the IMPLAN model includes information on non-market monetary flows between households and government and between businesses and governments. These flows are in the form of tax payments and expenditures can be used to estimate payments that will be made to governments as a result of changes in economic activity in a region. The data used to construct these flows comes from the Federal Government's *Annual Survey of Government Finances*.

Economic models can be used to determine the changes in value-added in the region in response to the proposed project. This information can then be applied to the information on non-market monetary flows in the region (a social accounts matrix or SAM) to derive an estimate of the revenue impact on various levels of government due to changes in economic activity.[6]

In addition to large employment and income impacts from the construction and operation of the *Valley Energy Center*, it will also yield millions of dollars of tax revenue.

The construction phase is expected to yield approximately $22.2 million as a result of the direct construction activity, the indirect effects on other businesses in New York and as a result of the income earned and the expenditures of New York residents who benefit from the project. The timing of these tax revenues will depend upon the schedule of construction activities but the total of $22.2 million will be spread over the three-year construction period and for a short time following its completion.

Table 11
Total Tax Impacts of the *Valley Energy Center*
Construction Phase
(2007 Dollars)

Corporate Profits Taxes	$2,051,775
Dividends	$2,333,939
Indirect Bus Tax: Motor Vehicle License	$44,545
Indirect Bus Tax: Other Taxes	$784,807
Indirect Bus Tax: Property Tax	$4,560,584
Indirect Bus Tax: Non-Tax Fees/Charges	$119,433
Indirect Bus Tax: Sales Tax	$3,830,926
Indirect Bus Tax: Severance Tax	$0
Personal Tax: Estate and Gift Tax	$0

[6] A brief description of the methodology used to estimate tax impacts ("Using Social Accounts to Estimate Tax Impacts") is available at www.implan.com

Personal Tax: Income Tax	$7,100,029
Personal Tax: Motor Vehicle License	$106,608
Personal Tax: Non-Taxes Fees/Charges	$1,199,597
Personal Tax: Property Taxes	$106,882
Total	**$22,239,125**

The economic impacts that occur outside of Orange County but within the state of New York are included with Orange County impacts for purposes of the tax analysis. Income tax payments by individuals will be the largest source of new revenues with a total of $7.1 million paid over the construction period. Property taxes paid by businesses ($4.6 million) and personal sales taxes ($3.8 million) will also increase substantially as a result of the construction of the *VEC*.

The economic activity created by the annual operations of the *Valley Energy Center* as well as the indirect and induced economic activity that result from the *VEC* will increase state and local government revenue by an estimated $2.47 million annually, including nearly $1 million in property taxes from businesses[7], $727,000 in sales taxes , and $214,000 in corporate profits taxes.

Table 12
Annual Tax Impacts of the *Valley Energy Center* and its Multiplier Impacts
(2007 Dollars)

Corporate Profits Taxes	$214,092
Dividends	$243,535
Indirect Bus Tax: Motor Vehicle License	$8,452
Indirect Bus Tax: Other Taxes	$148,910
Indirect Bus Tax: Property Tax	$865,327
Indirect Bus Tax: Non-Tax Fees/Charges	$22,661
Indirect Bus Tax: Sales Tax	$726,881
Indirect Bus Tax: Severance Tax	$0
Personal Tax: Estate and Gift Tax	$0
Personal Tax: Income Tax	$202,888
Personal Tax: Motor Vehicle License	$3,047
Personal Tax: Non-Taxes Fees/Charges	$34,282
Personal Tax: Property Taxes	$3,052
Total	**$2,473,127**

[7] The property tax figure presented here is a ratio based estimate and not based on assumed state or local valuation of the VEC or other properties.

X. Conclusions

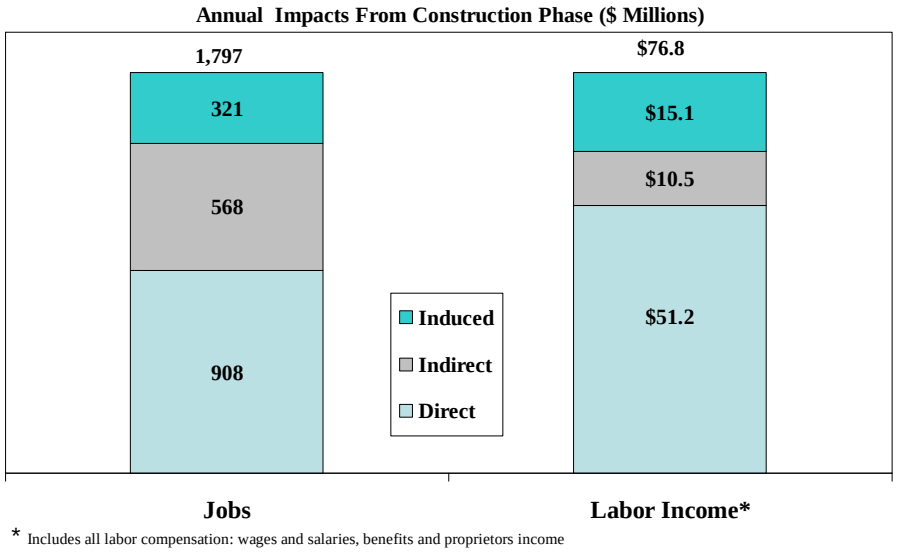
The *Valley Energy Center* in Orange County, New York will lead to significant increases in jobs, output, and income in the town of Wawayanda, the Orange County region and elsewhere in New York. The impact from construction activity will provide a strong lift to the regional economy that will support the addition of more than 1,476 jobs in each year of the two year construction period.

Once constructed, the operation of the facility will employ 25 people directly in high-skill and high-wage jobs and generate secondary and tertiary regional economic activity (so-called economic multipliers) that will result in the addition of over 49 jobs in Wawayanda and the county and another 20 jobs in other counties in New York.

Finally, the increased economic activity in Wawayanda and New York in response to the *VEC* will result in estimated annual tax revenues of $22.2 million during the construction phase of the project and from $2.47 annually once the facility begins operation.

Figure 9

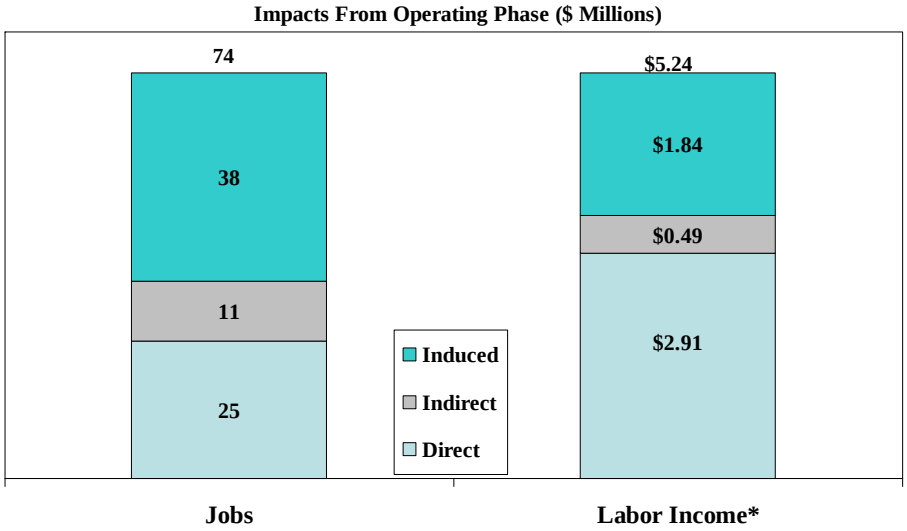
A Total of of 1,476 Jobs and $78.6 Million in Labor Income Will Result in Orange County Each Year as A Result of the Construction Phase



* Includes all labor compensation: wages and salaries, benefits and proprietors income

Figure 10

74 Jobs and $5.2 Million in Labor Income Will Result in Orange County From the Annual Operations of the *Valley Energy Center*



* Includes all labor compensation: wages and salaries, benefits and proprietors income

Appendix A

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