

NETL's mission is to implement a research, development, and demonstration program to resolve the environmental, supply, and reliability constraints of producing and using fossil resources.



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National, State, and Regional Economic and Environmental Impacts of NETL: Pennsylvania-West Virginia Region

Throughout Pennsylvania, West Virginia, and the Nation, the U.S. Department of Energy's National Energy Technology Laboratory (NETL) provides support for scientific research and development (R&D) and for science education. Through these actions—and participation in the two-state economy from employment and operational activities—NETL serves as an important economic catalyst for the region. To quantify the laboratory's economic and environmental impacts on the combined Pennsylvania-West Virginia region, NETL developed a regional-level environmental input-output (IO) model. Presented here is a summary of the resulting analysis.

The data in the following table represent NETL's direct impact on Pennsylvania and West Virginia's economy during 2006. The data include employment, wages, and salaries of Pennsylvania and West Virginia residents employed at NETL's sites in Morgantown, WV and Pittsburgh, PA. It also includes NETL's direct operational expenditures and R&D award and grant monies spent within the region. The data show that NETL directly supported the employment of 1,166 Pennsylvanians and West Virginians in 2006 and injected \$192 million into the state economy.

Direct Economic Impact of NETL on the Pennsylvania-West Virginia Region, 2006

Input Category*	Pennsylvania-West Virginia
Federal Employment (jobs)	506
Site-Support Contractor Employment (jobs)	660
Federal + Site-Support Contractor Employment (jobs)	1,166
Federal Wages and Salaries	\$55.9
Site-Support Contractor Wages and Salaries	\$39.8
Federal + Site-Support Contractor Wages & Salaries	\$95.7
Federal Operational Expenditures	\$15.2
Site-Support Contractor Operational Expenditures	\$6.2
Federal + Site-Support Contractor Operational Expenditures	\$21.4
Federal R&D Awards/Grants, Costs	\$75.3
Total Direct Impact on Pennsylvania and West Virginia	\$192.4

* Monetary data shown in millions of dollars (\$2006)



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Because the Pennsylvania and West Virginia economies supply a portion of NETL's total employment and operational demand, NETL activities produce extended (indirect) impacts on the region's economy. NETL's total impact on the region, both direct and indirect, is shown below.

*Direct and Indirect Economic Impact of NETL
on the Pennsylvania-West Virginia Region, 2006*

Impact Category*	Pennsylvania-West Virginia
Expenditures (including wages, salaries, and operational and R&D spending)	\$283
Employment (jobs)	3,180
Output Multiplier	1.47
Employment Multiplier	2.73
Employment per Million \$	20.2

* Monetary data shown in millions of dollars (\$2006)

The results of the analysis show that the economic output multiplier for the Pennsylvania-West Virginia region is 1.47. Therefore, for every \$1 million of NETL final demand that remains within the states of Pennsylvania and West Virginia, the regional economy grows by \$1.47 million. The employment multiplier of 2.73 indicates that for every one employee at NETL, an additional 1.73 employees are needed throughout the region to fulfill the regional demands of NETL's supply-chain; this yields a total employment impact of 3,180 jobs. On an employment-per-dollar basis, the analysis shows that employment increases by approximately 20 persons for each \$1 million that remains in the region.

NETL strives to be an environmental steward and emphasizes environmental responsibility in the workplace. Not surprising, then, is the relatively small environmental impact on the Pennsylvania-West Virginia region stemming from NETL activity. Below are data that reflect NETL's contribution to the region's criteria pollutant emissions.

NETL Contribution to Pennsylvania-West Virginia Emissions, 2006

Criteria Pollutant	Total Pennsylvania-West Virginia Emissions (metric tonnes)	Total NETL Emissions (metric tonnes)	NETL Relative Impact on Pennsylvania-West Virginia
SO _x	1,797,682	264.0	0.015%
CO	1,957,636	944.0	0.048%
NO _x	1,148,911	249.0	0.022%
VOC	250,852	86.2	0.034%
PM10	127,281	16.5	0.013%
PM2.5	46,298	7.0	0.015%

NETL's analysis excludes induced income impacts—those resulting from households spending their salaries in the regional economy. The analysis also excludes impacts stemming from the deployment of NETL-sponsored technologies. Therefore, NETL's impact on the Pennsylvania-West Virginia region, as represented in this study, is considered to be a conservative estimate.

For more details about the economic theory underlying the study, the study's project methodology, and its analysis and results, please read the full report, National, State, and Regional Economic and Environmental Impacts of NETL, which is located online at <http://www.netl.doe.gov/energy-analyses/pubs/NETLimpactsPAandWV.pdf>.



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