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Job Creation Estimates for Pennsylvania Through Inflation Reduction Act

Modeling State-Level Impacts of Climate,
Energy, and Environmental Provisions of Bill

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Sources for State-Level Budget Figures and Methodology for Inflation Reduction Act Job Creation Estimates

SOURCES FOR STATE-LEVEL BUDGET FIGURES

The expenditures modeled in this analysis include all of the climate, energy, and environmental justice programs in the Inflation Reduction Act (IRA) of 2022. This amounts to more than 100 total programs, each with a distinct section number in the legislation. Dollar figures for the tax credits come from the Congressional Budget Office and the Joint Committee on Taxation. All other dollar figures come from the legislation itself.

Specific references include the following:

Tax credit scores from the Congressional Budget Office and the Joint Committee on Taxation: https://www.cbo.gov/system/files/2022-08/hr5376_IR_Act_8-3-22.pdf

Text of the Inflation Reduction Act of 2022: https://www.democrats.senate.gov/imo/media/doc/inflation_reduction_act_of_2022.pdf

Line-item summary of the IRA programs modeled in this analysis: https://docs.google.com/document/d/1PpmSTgaA7gQ_hX2Sjpf04tsrD1I8p5MRtFrFYb7pzQ/edit

Spreadsheet tabulation of the IRA programs modeled in this analysis: <https://docs.google.com/spreadsheets/d/1iHbr4Ph3cD7r30Z093pWUMV2P1kLhywAeW2UilVp09U/edit#gid=0>

METHODOLGY FOR EMPLOYMENT ESTIMATES

We estimated state-level budgetary allocations for each individual program within the national IRA as the weighted average of the share of U.S. population and share of U.S. GDP for each state as of 2019. Thus for Pennsylvania, its population equaled 3.9 percent of U.S. population and its GDP equaled 3.7 percent of U.S. GDP. We therefore allocated 3.75 percent of total IRA spending to Pennsylvania in each individual IRA program category.

All figures have been estimated on the basis of calculations generated within the 2022 dollar year for the IMPLAN U.S. input/output tables. The IMPLAN U.S. input/output model features 546 industries within the U.S. economy. The data in the model are the state-level figures specific for Pennsylvania from 2019.

In presenting results for expenditure levels and job creation for each of the program categories within the IRA—such as electricity, transportation, buildings and manufacturing—the total figures we report for these broad categories do not always sum up exactly to the figures for each of the individual programs within a category. Such small discrepancies are due to rounding.

Time Dimension in Measuring Job Creation

Any type of spending activity creates employment over a given amount of time. To understand the impact on jobs of a given spending activity, one must therefore incorporate a time dimension into the measurement of employment creation. For example, a project that creates 100 jobs that last for one year only needs to be distinguished from another project that creates 100 jobs that continue for 10 years each. It is important to keep this time dimension in mind in any assessment of the impact on job creation of any investment activity.

There are two straightforward ways in which one can express such distinctions. One is through measuring “job-years.” This measures cumulative job creation over the total number of years that jobs have been created. Thus, an activity that generates 100 jobs for 1 year would create 100 job-years. By contrast, the activity that produces 100 jobs for 10 years would generate 1,000 job-years. The other way to report the same figures would be in terms of jobs-per-year. Through this measure, we show the year-to-year breakdown of the overall level of job creation. Thus, with the 10-year project we are using in our example, we could express its effects as creating 100 jobs per year for 10 years.

In the following tables, we report employment creation both in terms of jobs-per-year—i.e. average annual job creation—as well as cumulative job-years. For the purposes of the present analysis, we assume, for simplicity, that all programs in the IRA will operate for 10 years. In fact, most programs in the bill are scheduled to operate for 10 years. But a minority of programs in the bill are scheduled to operate for less than 10 years. Note that our assumption of a 10-year duration for all programs does not affect the figures we report for total budgets or total job-years.

Details on Employment Estimates

For in-depth discussions of our methodological approach to estimating job creation through investments in clean energy and infrastructure, see:

Pollin et al. (2014) *Green Growth*, <https://www.americanprogress.org/issues/green/reports/2014/09/18/96404/green-growth/>;

Pollin et al. (2015) *Global Green Growth*, https://www.unido.org/sites/default/files/2015-05/GLOBAL_GREEN_GROWTH_REPORT_vol1_final_0.pdf.

Leveraging Public Funds to Expand Overall Public and Private Spending

Private spending incentive programs. For all tax credit and related programs in which public spending is designed to incentivize further private spending, we assume that the overall level of public spending will be matched equally by the same level of private spending—i.e. \$2 in total spending for every dollar of public funding. For example, we assume that the proposed \$7,500 tax credit per electric vehicle would incentivize another \$7,500 in private spending for electric vehicle purchases, for a total of \$15,000 in overall spending. The literature on leveraging public sector funds for incentivizing private spending considers a large number of variables and presents a range of estimates as to

the likely private spending levels that result from such leveraging programs. We deliberately assume here a relatively low leveraging rate for the relevant IRA programs.¹

Loan guarantee programs. The Department of Energy’s loan guarantee programs stipulate the loan authority associated with each level of appropriation. This includes a \$250 billion loan authority associated with a \$5 billion appropriation for the larger DOE program and a \$40 billion authority based on a \$3.6 billion appropriation. For the Tribal Loan Guarantee program, we assume the authority is \$3.8 billion based on an appropriation of \$75 million. The program thus assumes an approximate 50-to-1 leveraging ratio.²

1 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/438763/bis-15-340-relationship-between-public-and-private-investment-in-R-D.pdf; <https://www.cgdev.org/sites/default/files/assessing-leverage-climate-investment-funds.pdf>

2 Discussion of the larger DOE program is at <https://prospect.org/environment/inflation-reduction-bill-uses-public-finance-to-stoke-energy-investment/>. We note that this 50-to-1 leveraging ratio for the DOE loan guarantees is close to the 47-to-1 ratio resulting from the DOE’s 1705 loan guarantee program within the 2009 American Recovery and Reinvestment Act. See Pollin et al. (2014), pp. 260 – 263 for discussion on the this earlier loan guarantee program.

TOTAL JOB CREATION ESTIMATES FOR PENNSYLVANIA
Summary Figures

	Average Annual Budget and Job Creation Figures over 10 Years			Total Budget and Job-Years Figures over 10 Years	
	Public Spending	Total Spending (= <i>public</i> + <i>private spending</i>)	Annual Job Creation	Total Spending	Total Job Creation, Job-Years
Electricity Programs	\$805 million	\$2.5 billion	12,254	\$24.9 billion	122,541
Transportation Programs	\$125 million	\$210 million	1,683	\$2.1 billion	16,830
Building Programs	\$179 million	\$353 million	3,166	\$3.5 billion	31,656
Manufacturing Programs	\$252 million	\$481 million	2,536	\$4.8 billion	25,363
Environmental Justice and Community Resilience Programs	\$42 million	\$42 million	319	\$415 million	3,188
Lands Programs	\$41 million	\$41 million	452	\$411 million	4,516
Agriculture Programs	\$81 million	\$81 million	831	\$814 million	8,305
TOTALS	\$1.5 billion	\$3.7 billion	21,240	\$37 billion	212,400

ELECTRICITY

Public Spending Only Programs

1A) Job Creation per \$1 Million in Spending: Direct, Indirect, Induced, and Total Job Creation

	Direct Jobs	Indirect Jobs	Induced Jobs	Total Jobs
Greenhouse Gas Reduction Fund: <i>Sec. 60103</i>	1.7	1.2	1.7	4.6
Rural Electric Cooperative Loans <i>Sec. 22044</i>	1.7	1.2	1.7	4.6
National Laboratory Investments <i>Sec. 50144</i>	3.1	2.2	2.9	8.3
Hydrogen and Fuel Cell Technologies <i>Sec. 22002</i>	1.6	1.4	1.6	4.6
Underutilized Renewable Energy Technologies <i>Sec. 22002</i>	1.7	1.2	1.8	4.7
Uranium Investments <i>Sec. 50173</i>	0.2	0.2	0.2	0.5
Interstate Transmission Line Grants <i>Sec. 501152</i>	2.6	1.2	2.0	5.8
Interregional Transmission Planning Investments <i>Sec. 50153</i>	2.6	1.2	2.0	5.8

1B) ELECTRICITY Public Spending Only Programs:
Total Jobs Created with Budgetary Figures

	1) Total Jobs/ \$1 Million (from Table 1A)	Average Annual Job Creation Over 10 Years			Total Job-Years Created Over 10 Years	
		2) Public Spending	3) Total Spending (= public + private spending)	4) Job Creation per Year (=column 1 x column 3)	5) Total Budget	6) Total Job- Years (=column 4 x 10)
Greenhouse Gas Reduction Fund <i>Sec. 60103</i>	4.6	\$101 million	\$101 million	464	\$1.0 billion	4,637
Rural Electric Cooperative Loans <i>Sec. 22044</i>	4.6	\$36.5 million	\$36.5 million	167	\$365 million	1,666
National Laboratory Investments <i>Sec. 50144</i>	8.3	\$7.5 million	\$7.5 million	62	\$75.2 million	621
Hydrogen and Fuel Cell Technologies <i>Sec. 22002</i>	4.6	\$3.8 million	\$3.8 million	17	\$37.6 million	174
Underutilized Renewable Energy Technologies <i>Sec. 22002</i>	4.7	\$0.7 million	\$0.7 million	3.1	\$6.7 million	31
Uranium Investments <i>Sec. 50173</i>	0.5	\$2.6 million	\$2.6 million	1.3	\$26.3 million	13
Interstate Transmission Line Grants <i>Sec. 501152</i>	5.8	\$2.9 million	\$2.9 million	17	\$28.6 million	166
Interregional Transmission Planning Investments <i>Sec. 50153</i>	5.8	\$0.4 million	\$0.4 million	2.2	\$3.8 million	22

ELECTRICITY
Public and Incentivized Private Spending Programs

**2A) Job Creation per \$1 Million in Spending:
Direct, Indirect, Induced, and Total Job Creation**

	Direct Jobs	Indirect Jobs	Induced Jobs	Total Jobs
Renewable Energy Production Tax Credit <i>Sec. 13101</i>	1.7	1.2	1.7	4.6
Clean Energy Investment Tax Credit: <i>Sec. 13102</i>	1.7	1.2	1.7	4.6
Nuclear Production Tax Credit <i>Sec. 13105</i>	3.0	1.0	1.7	5.7
Energy Investment Tax Credit <i>Sec. 13102</i>	1.7	1.2	1.7	4.6
Clean Electricity Production Tax Credit <i>Sec. 13701</i>	1.7	1.2	1.7	4.6
Carbon Capture Tax Credit <i>Sec. 13104</i>	9.3	1.3	4.0	14.7
Cost Recovery for Energy Technology <i>Sec. 13703</i>	2.9	1.2	1.9	5.9
Rural Renewable Energy Loans <i>Sec. 22001</i>	1.7	1.2	1.7	4.6
Transmission Facility Loans <i>Sec. 50151</i>	1.9	1.0	1.7	4.5

2B) ELECTRICITY Public and Incentivized Private Spending Programs:
Total Jobs Created with Budgetary Figures

	1) Total Jobs/ \$1 Million (from Table 2A)	Average Annual Job Creation Over 10 Years			Total Job-Years Created Over 10 Years	
		2) Public Spending	3) Total Spending (= public + private spending)	4) Job Creation per Year (=column 1 x column 3)	5) Total Budget	6) Total Job- Years (=column 4 x 10)
Renewable Energy Production Tax Credit <i>Sec. 13101</i>	4.6	\$192 million	\$384 million	1,752	\$3.8 billion	17,517
Clean Energy Investment Tax Credit <i>Sec. 13102</i>	4.6	\$192 million	\$384 million	1,752	\$3.8 billion	17,517
Nuclear Production Tax Credit <i>Sec. 13105</i>	5.7	\$113 million	\$226 million	1,290	\$2.3 billion	12,900
Energy Investment Tax Credit <i>Sec. 13102</i>	4.6	\$52.7 million	\$105 million	481	\$1.1 billion	4,808
Clean Electricity Production Tax Credit <i>Sec. 13701</i>	4.6	\$41.4 million	\$82.8 million	378	\$828 million	3,778
Carbon Capture Tax Credit <i>Sec. 13104</i>	14.7	\$12.2 million	\$24.3 million	356	\$243 million	3,561
Cost Recovery for Energy Technology <i>Sec. 13703</i>	5.9	\$2.3 million	\$4.7 million	28	\$47.0 million	279
Rural Renewable Energy Loans <i>Sec. 22001</i>	4.6	\$3.8 million	\$7.5 million	34	\$75.2 million	343
Transmission Facility Loans <i>Sec. 50151</i>	4.5	\$7.5 million	\$15.0 million	68	\$150 million	682

ELECTRICITY
Loan Guarantee Programs

**3A) Job Creation per \$1 Million in Spending:
Direct, Indirect, Induced and Total Job Creation**

	Direct Jobs	Indirect Jobs	Induced Jobs	Total Jobs
Tribal Energy Loan Guarantees <i>Sec. 50145</i>	2.5	0.8	1.5	4.9
Clean Energy Loan Guarantees <i>Sec. 50141</i>	2.5	0.8	1.5	4.9
Energy Infrastructure Reinvestments <i>Sec. 50144</i>	2.5	0.8	1.5	4.9

3B) ELECTRICITY Loan Guarantee Programs:
Total Jobs Created with Budgetary Figures

		Average Annual Job Creation Over 10 Years			Total Job-Years Created Over 10 Years	
		1) Total jobs/ \$1 Million (from Table 3A)	2) Public Budget	3) Total Spending (= <i>public</i> + <i>private</i> <i>spending</i>)	4) Job Creation per Year (= <i>column 1</i> x <i>column 3</i>)	5) Total Budget
Tribal Energy Loan Guarantees <i>Sec. 50145</i>	4.9	\$0.3 million	\$14.3 million	70	\$143 million	696
Clean Energy Loan Guarantees <i>Sec. 50141</i>	4.9	\$13.5 million	\$151 million	733	\$1.5 billion	7,328
Energy Infrastructure Reinvestments <i>Sec. 50144</i>	4.9	\$18.8 million	\$941 million	4,580	\$9.4 billion	45,801

TRANSPORTATION
Public Spending Only Programs

**4A) Job Creation per \$1 Million in Spending:
Direct, Indirect, Induced and Total Job Creation**

	Direct Jobs	Indirect Jobs	Induced Jobs	Total Jobs
USPS Clean Fleet Investments <i>Sec. 70002</i>	8.4	1.3	2.2	11.8
Zero-Emission Heavy-Duty Vehicle Investments <i>Sec. 60101</i>	8.4	1.3	2.2	11.8
Low-Emission Aviation Grants <i>Sec. 13203</i>	5.0	1.7	2.0	8.7
Clean Port Investments <i>Sec. 60102</i>	3.4	1.7	2.1	7.1
Neighborhood Access and Equity Grants <i>Sec. 60501</i>	10.5	1.7	2.7	14.9
Biofuels Investments <i>Sec. 60108</i>	6.3	1.9	3.8	12.0

4B) TRANSPORTATION Public Spending Only Programs:
Total Jobs Created with Budgetary Figures

	1) Total Jobs/ \$1 Million (from Table 4A)	Average Annual Job Creation Over 10 Years			Total Job-Years Created Over 10 Years	
		2) Public Spending	3) Total Spending (= public + private spending)	4) Job Creation per Year (=column 1 x column 3)	5) Total Budget	6) Total Job- Years (=column 4 x 10)
USPS Clean Fleet Investments <i>Sec. 70002</i>	11.8	\$11.3 million	\$11.3 million	134	\$113 million	1,337
Zero-Emission Heavy-Duty Vehicle Investments <i>Sec. 60101</i>	11.8	\$3.8 million	\$3.8 million	45	\$37.6 million	446
Low-Emission Aviation Grants <i>Sec. 13203</i>	8.7	\$1.1 million	\$1.1 million	9.7	\$11.2 million	97
Clean Port Investments <i>Sec. 60102</i>	7.1	\$11.3 million	\$11.3 million	80	\$113 million	803
Neighborhood Access and Equity Grants <i>Sec. 60501</i>	14.9	\$11.5 million	\$11.5 million	171	\$115 million	1,710
Biofuels Investments <i>Sec. 60108</i>	12.0	\$0.1 million	\$0.1 million	0.7	\$0.6 million	7

TRANSPORTATION
Public and Incentivized Private Spending Programs

**5A) Job Creation per \$1 Million in Spending:
Direct, Indirect, Induced, and Total Job Creation**

	Direct Jobs	Indirect Jobs	Induced Jobs	Total Jobs
New EV Tax Credit <i>Sec. 13401</i>	1.3	0.8	1.0	3.1
Used EV Tax Credit <i>Sec. 13402</i>	1.7	0.4	0.7	2.8
Commercial EV Tax Credit <i>Sec. 13403</i>	8.4	1.3	2.2	11.8
Biodiesel Tax Credits <i>Secs. 13201 & 13202</i>	6.3	1.7	2.0	10.0
Clean Fuel Production Tax Credit <i>Sec. 13704</i>	6.3	1.7	2.0	10.0
EV Charging / Alt Fuel Tax Credit <i>Sec. 13404</i>	2.5	1.2	1.8	5.5
Aviation Fuel Tax Credit <i>Sec. 13203</i>	5.0	1.7	2.0	8.7

**5B) TRANSPORTATION Public and Incentivized Private Spending Programs:
Total Jobs Created with Budgetary Figures**

	1) Total Jobs/ \$1 Million (from Table 5A)	Average Annual Job Creation Over 10 Years			Total Job-Years Created Over 10 Years	
		2) Public Spending	3) Total Spending (= public + private spending)	4) Job Creation per Year (=column 1 x column 3)	5) Total Budget	6) Total Job-Years (=column 4 x 10)
New EV Tax Credit <i>Sec. 13401</i>	3.1	\$28.4 million	\$56.4 million	177	\$564 million	1,766
Used EV Tax Credit <i>Sec. 13402</i>	2.8	\$5.1 million	\$10.1 million	29	\$101 million	286
Commercial EV Tax Credit <i>Sec. 13403</i>	11.8	\$13.5 million	\$27.0 million	319	\$270 million	3,195
Biodiesel Tax Credits <i>Secs. 13201 & 13202</i>	10.0	\$21.2 million	\$42.3 million	422	\$423 million	4,217
Clean Fuel Production Tax Credit <i>Sec. 13704</i>	10.0	\$11.1 million	\$22.2 million	221	\$222 million	2,208
EV Charging / Alt Fuel Tax Credit <i>Sec. 13404</i>	5.5	\$6.5 million	\$13.1 million	73	\$131 million	725
Aviation Fuel Tax Credit <i>Sec. 13203</i>	8.7	\$0.2 million	\$0.4 million	3.2	\$3.7 million	32

BUILDINGS
Public Spending Only Programs

**6A) Job Creation per \$1 Million in Spending:
Direct, Indirect, Induced, and Total Job Creation**

	Direct Jobs	Indirect Jobs	Induced Jobs	Total Jobs
Home Electrification and Energy Efficiency Rebates: Training for contractors <i>Sec. 50123</i>	4.3	2.2	2.5	9.0
Affordable Housing Resilience and Efficiency Investments <i>Sec. 30002</i>	4.3	2.2	2.5	9.0
Efficient Building Code Adoption Grants <i>Sec. 50131</i>	4.3	2.2	2.5	9.0
Federal Building Investments <i>Sec. 60502</i>	4.3	2.2	2.5	9.0

6B) BUILDINGS Public Spending Only Programs:
Total Jobs Created with Budgetary Figures

	1) Total Jobs/ \$1 Million <i>(from Table 6A)</i>	Average Annual Job Creation Over 10 Years			Total Job-Years Created Over 10 Years	
		2) Public Spending	3) Total Spending <i>(= public + private spending)</i>	4) Job Creation per Year <i>(=column 1 x column 3)</i>	5) Total Budget	6) Total Job- Years <i>(=column 4 x 10)</i>
Home Electrification and Energy Efficiency Rebates: Training for contractors <i>Sec. 50123</i>	9.0	\$0.8 million	\$0.8 million	6.7	\$7.5 million	67
Affordable Housing Resilience and Efficiency Investments <i>Sec. 30002</i>	9.0	\$3.8 million	\$3.8 million	34	\$37.6 million	337
Efficient Building Code Adoption Grants <i>Sec. 50131</i>	9.0	\$3.8 million	\$3.8 million	34	\$37.6 million	337
Federal Building Investments <i>Sec. 60502</i>	9.0	\$0.9 million	\$0.9 million	8.4	\$9.4 million	84

BUILDINGS
Public and Incentivized Private Spending Programs

**7A) Job Creation per \$1 Million in Spending:
Direct, Indirect, Induced, and Total Job Creation**

	Direct Jobs	Indirect Jobs	Induced Jobs	Total Jobs
Residential Clean Electricity Tax Credit <i>Sec. 13302</i>	4.3	2.2	2.5	9.0
Residential Energy Efficiency Tax Credit <i>Sec. 13301</i>	4.3	2.2	2.5	9.0
New Energy Efficient Home Tax Credit <i>Sec. 13304</i>	4.3	2.2	2.5	9.0
Commercial Energy Efficiency Tax Credit Deduction <i>Sec. 13303</i>	4.3	2.2	2.5	9.0
Home Electrification and Energy Efficiency Rebates: Whole-house energy efficiency retrofit rebates <i>Sec. 50121</i>	4.3	2.2	2.5	9.0
Home Electrification and Energy Efficiency Rebates: Electrification rebates <i>Sec. 50123</i>	4.3	2.2	2.5	9.0

**7B) BUILDINGS Public and Incentivized Private Spending Programs:
Total Jobs Created with Budgetary Figures**

	1) Total Jobs/ \$1 Million (from Table 7A)	Average Annual Job Creation Over 10 Years			Total Job-Years Created Over 10 Years	
		2) Public Spending	3) Total Spending (= public + private spending)	4) Job Creation per Year (=column 1 x column 3)	5) Total Budget	6) Total Job- Years (=column 4 x 10)
Residential Clean Electricity Tax Credit <i>Sec. 13302</i>	9.0	\$82.8 million	\$166 million	1,484	\$1.7 billion	14,839
Residential Energy Efficiency Tax Credit <i>Sec. 13301</i>	9.0	\$45.1 million	\$94.0 million	843	\$940 million	8,431
New Energy Efficient Home Tax Credit <i>Sec. 13304</i>	9.0	\$7.7 million	\$15.4 million	138	\$154 million	1,379
Commercial Energy Efficiency Tax Credit Deduction <i>Sec. 13303</i>	9.0	\$1.4 million	\$2.7 million	24	\$27 million	244
Home Electrification and Energy Efficiency Rebates: Whole- house energy efficiency retrofit rebates <i>Sec. 50121</i>	9.0	\$16.2 million	\$32.4 million	290	\$324 million	2,900
Home Electrification and Energy Efficiency Rebates: Electrification rebates <i>Sec. 50123</i>	9.0	\$16.9 million	\$33.9 million	304	\$339 million	3,035

MANUFACTURING
Public Spending Only Programs

**8A) Job Creation per \$1 Million in Spending:
Direct, Indirect, Induced, and Total Job Creation**

	Direct Jobs	Indirect Jobs	Induced Jobs	Total Jobs
Low-Carbon Materials Investments 1 <i>Sec. 60112</i>	2.2	1.5	1.8	5.5
Low-Carbon Materials Investments 2 <i>Sec. 60116</i>	2.2	1.5	1.8	5.5
Low-Carbon Materials Investments 3 <i>Sec. 60503, Sec. 70006</i>	2.2	1.5	1.8	5.5
Low-Carbon Materials Investments 4 <i>Sec. 60504</i>	2.2	1.5	1.8	5.5
Low-Carbon Materials Investments 5 <i>Sec. 60506</i>	2.2	1.5	1.8	5.5
Defense Production Act <i>Sec. 30001</i>	2.2	1.5	1.8	5.5

8B) MANUFACTURING Public Spending Only Programs:
Total Jobs Created with Budgetary Figures

	1) Total Jobs/ \$1 Million (from Table 8A)	Average Annual Job Creation Over 10 Years			Total Job-Years Created Over 10 Years	
		2) Public Spending	3) Total Spending (= <i>public</i> + <i>private</i> <i>spending</i>)	4) Job Creation per Year (= <i>column 1</i> x <i>column 3</i>)	5) Total Budget	6) Total Job-Years (= <i>column 4</i> x 10)
Low-Carbon Materials Investments 1 <i>Sec. 60112</i>	5.5	\$0.9 million	\$0.9 million	5.1	\$9.4 million	51
Low-Carbon Materials Investments 2 <i>Sec. 60116</i>	5.5	\$0.4 million	\$0.4 million	2.1	\$3.8 million	21
Low-Carbon Materials Investments 3 <i>Sec. 60503, Sec. 70006</i>	5.5	\$8.1 million	\$8.1 million	44	\$80.9 million	442
Low-Carbon Materials Investments 4 <i>Sec. 60504</i>	5.5	\$3.7 million	\$3.7 million	20	\$36.7 million	200
Low-Carbon Materials Investments 5 <i>Sec. 60506</i>	5.5	\$7.5 million	\$7.5 million	41	\$75.2 million	411
Defense Production Act <i>Sec. 30001</i>	5.5	\$1.9 million	\$1.9 million	10	\$18.8 million	103

MANUFACTURING
Public and Incentivized Private Spending Programs

**9A) Job Creation per \$1 Million in Spending:
Direct, Indirect, Induced, and Total Job Creation**

	Direct Jobs	Indirect Jobs	Induced Jobs	Total Jobs
EV Manufacturing Grants <i>Sec. 50143</i>	1.3	0.8	1.0	3.1
Clean Manufacturing Investment Tax Credit <i>Sec. 13501</i>	2.9	1.2	1.9	5.9
Wind, Solar, and Battery Manufacturing Production Tax Credit <i>Sec. 13502</i>	2.9	1.2	1.9	5.9
EV Manufacturing Loans <i>Sec. 50142</i>	1.3	0.8	1.0	3.1
Industrial Emissions Reduction Investments <i>Sec. 50161</i>	2.2	1.5	1.8	5.5
Hydrogen Production Tax Credit <i>Sec. 13204</i>	0.9	1.5	1.6	4.1

**9B) MANUFACTURING Public and Incentivized Private Spending Programs:
Total Jobs Created with Budgetary Figures**

		Average Annual Job Creation Over 10 Years			Total Job-Years Created Over 10 Years	
		1) Total Jobs/ \$1 Million (from Table 9A)	2) Public Spending	3) Total Spending (= public + private spending)	4) Job Creation per Year (=column 1 x column 3)	5) Total Budget
EV Manufacturing Grants <i>Sec. 50143</i>	3.1	\$7.5 million	\$15.0 million	47	\$150 million	471
Clean Manufacturing Investment Tax Credit <i>Sec. 13501</i>	5.9	\$23.5 million	\$48.9 million	290	\$489 million	2,903
Wind, Solar, and Battery Manufacturing Production Tax Credit <i>Sec. 13502</i>	5.9	\$117 million	\$230 million	1,362	\$2.3 billion	13,619
EV Manufacturing Loans <i>Sec. 50142</i>	3.1	\$11.3 million	\$22.6 million	71	\$226 million	706
Industrial Emissions Reduction Investments <i>Sec. 50161</i>	5.5	\$21.9 million	\$45.1 million	246	\$451 million	2,465
Hydrogen Production Tax Credit <i>Sec. 13204</i>	4.1	\$48.9 million	\$97.8 million	397	\$978 million	3,971

ENVIRONMENTAL JUSTICE
Public Spending Only Programs

**10A) Job Creation per \$1 Million in Spending:
Direct, Indirect, Induced, and Total Job Creation**

	Direct Jobs	Indirect Jobs	Induced Jobs	Total Jobs
Climate Pollution Reduction Grants <i>Sec. 60114</i>	4.7	1.5	2.5	8.6
Environmental and Climate Justice Block Grants <i>Sec. 60201</i>	2.5	1.6	1.9	6.0
Methane Reduction Investments <i>Sec. 60113</i>	4.7	1.5	2.5	8.6
Chief Readiness Officer Investments <i>Sec. 70001</i>	2.5	1.6	1.9	6.0
Tribal and Native Hawaiian Climate Resilience Investments <i>Sec. 8000</i>	2.5	1.6	1.9	6.0
Air Pollution Reduction Investments <i>Sec. 60104</i>	4.7	1.5	2.5	8.6
Funding for Environmental Data and Enforcement <i>Sec. 60401</i>	4.7	1.5	2.5	8.6
Low Emissions Electricity Program <i>Sec. 60107</i>	2.5	0.8	1.5	4.9
Superfund Reinstatement <i>Sec. 13601</i>	4.7	1.5	2.5	8.6
Black Lung Disability Trust Fund Extension <i>Sec. 13901</i>	2.5	1.6	1.9	6.0

10B) ENVIRONMENTAL JUSTICE Public Spending Only Programs:
Total Jobs Created with Budgetary Figures

	1) Total Jobs/ \$1 Million (from Table 10A)	Average Annual Job Creation Over 10 Years			Total Job-Years Created Over 10 Years	
		2) Public Spending	3) Total Spending (= public + private spending)	4) Job Creation per Year (=column 1 x column 3)	5) Total Budget	6) Total Job-Years (=column 4 x 10)
Climate Pollution Reduction Grants <i>Sec. 60114</i>	8.6	\$18.8 million	\$18.8 million	162	\$188 million	1,620
Environmental and Climate Justice Block Grants <i>Sec. 60201</i>	6.0	\$11.3 million	\$11.3 million	68	\$113 million	682
Methane Reduction Investments <i>Sec. 60113</i>	8.6	\$5.8 million	\$5.8 million	50	\$58.3 million	502
Chief Readiness Officer Investments <i>Sec. 70001</i>	6.0	\$1.9 million	\$1.9 million	11	\$18.8 million	114
Tribal and Native Hawaiian Climate Resilience Investments <i>Sec. 8000</i>	6.0	\$1.5 million	\$1.5 million	9.4	\$15.5 million	94
Air Pollution Reduction Investments <i>Sec. 60104</i>	8.6	\$1.5 million	\$1.5 million	13	\$14.7 million	127
Funding for Environmental Data and Enforcement <i>Sec. 60401</i>	8.6	\$0.4 million	\$0.4 million	3.3	\$3.8 million	33
Low Emissions Electricity Program <i>Sec. 60107</i>	4.9	\$0.3 million	\$0.3 million	1.6	\$3.3 million	16
Superfund Reinstatement <i>Sec. 13601</i>	8.6	\$0.0 million	\$0.0 million	0.0	\$0.0 million	0
Black Lung Disability Trust Fund Extension <i>Sec. 13901</i>	6.0	\$0.0 million	\$0.0 million	0.0	\$0.0 million	0

LANDS
Public Spending Only Programs

**11A) Job Creation per \$1 Million in Spending:
Direct, Indirect, Induced, and Total Job Creation**

	Direct Jobs	Indirect Jobs	Induced Jobs	Total Jobs
Coastal Climate Resilience Investments <i>Sec. 40001</i>	7.1	1.5	2.5	11
Non-Federal Forest Conservation Grants				
Urban and Community Forestry Assistance Program <i>Sec. 23003</i>	7.1	1.5	2.5	11
Forest Legacy Program <i>Sec. 23003</i>	7.1	1.5	2.5	11
Federal Forest Restoration Investments <i>Sec. 23001</i>	7.1	1.5	2.5	11
Public Lands Conservation Investments <i>Sec. 50221</i>	7.1	1.5	2.5	11
Environmental Reviews <i>Sec. 50301</i>	7.1	1.5	2.5	11
NOAA Equipment, Facilities, and Research <i>Sec. 40002</i>	7.1	1.5	2.5	11
Drinking water/wastewater/stormwater <i>Sec. 50231</i>	3.8	1.8	2.3	8
Non-Federal Forest Grants <i>Sec. 23002</i>	7.1	1.5	2.5	11
Fish and Wildlife Investments <i>Sec. 60301</i>	7.1	1.5	2.5	11

11B) LANDS Public Spending Only Programs:
Total Jobs Created with Budgetary Figures

	1) Total Jobs/ \$1 Million (from Table 11A)	Average Annual Job Creation Over 10 Years			Total Job-Years Created Over 10 Years	
		2) Public Spending	3) Total Spending (= public + private spending)	4) Job Creation per Year (=column 1 x column 3)	5) Total Budget	6) Total Job- Years (=column 4 x 10)
Coastal Climate Resilience Investments <i>Sec. 40001</i>	11.2	\$9.8 million	\$9.8 million	109	\$97.8 million	1,092
Non-Federal Forest Conservation Grants						
Urban and Community Forestry Assistance Program <i>Sec. 23003</i>	11.2	\$5.6 million	\$5.6 million	63	\$56.4 million	630
Forest Legacy Program <i>Sec. 23003</i>	11.2	\$2.6 million	\$2.6 million	29	\$26.3 million	294
Federal Forest Restoration Investments <i>Sec. 23001</i>	11.2	\$8.1 million	\$8.1 million	90	\$80.9 million	903
Public Lands Conservation Investments <i>Sec. 50221</i>	11.2	\$3.8 million	\$3.8 million	42	\$37.6 million	420
Environmental Reviews <i>Sec. 50301</i>	11.2	\$3.4 million	\$3.4 million	38	\$33.7 million	376
NOAA Equipment, Facilities, and Research <i>Sec. 40002</i>	11.2	\$2.7 million	\$2.7 million	30	\$26.7 million	298
Drinking water/wastewater/stormwater <i>Sec. 50231</i>	7.9	\$2.2 million	\$2.2 million	17	\$21.6 million	171
Non-Federal Forest Grants <i>Sec. 23002</i>	11.2	\$2.1 million	\$2.1 million	23	\$20.7 million	231
Fish and Wildlife Investments <i>Sec. 60301</i>	11.2	\$0.9 million	\$0.9 million	10	\$9.3 million	103

AGRICULTURE
Public Spending Only Programs

**12A) Job Creation per \$1 Million in Spending:
Direct, Indirect, Induced, and Total Job Creation**

	Direct Jobs	Indirect Jobs	Induced Jobs	Total Jobs
Farmland Conservation:				
Environmental Quality Incentives Program <i>Sec. 21001</i>	6.7	1.4	2.0	10.1
Regional Conservation Partnership Program <i>Sec. 21001</i>	6.7	1.4	2.0	10.1
Conservation Stewardship Program <i>Sec. 21001</i>	6.7	1.4	2.0	10.1
Agriculture Conservation Easement Program <i>Sec. 21001</i>	6.7	1.4	2.0	10.1
Agricultural Conservation Technical Assistance <i>Sec. 21002</i>	7.1	1.5	2.5	11.2
Biofuel Production Grants <i>Sec. 22003</i>	6.3	1.7	2.0	10.0

12B) AGRICULTURE Public Spending Only Programs:
Total Jobs Created with Budgetary Figures

	1) Total Jobs/ \$1 Million <i>(from Table 12A)</i>	Average Annual Job Creation Over 10 Years			Job-Years Created, All Years	
		2) Public Spending	3) Total Spending <i>(= public + private spending)</i>	4) Job Creation per Year <i>(=column 1 x column 3)</i>	5) Total Budget	6) Total Job-Years <i>(=column 4 x 10)</i>
Farmland Conservation:						
Environmental Quality Incentives Program <i>Sec. 21001</i>	10.1	\$31.8 million	\$31.8 million	322	\$318 million	3,223
Regional Conservation Partnership Program <i>Sec. 21001</i>	10.1	\$25.4 million	\$25.4 million	257	\$254 million	2,575
Conservation Stewardship Program <i>Sec. 21001</i>	10.1	\$12.2 million	\$12.2 million	124	\$122 million	1,240
Agriculture Conservation Easement Program <i>Sec. 21001</i>	10.1	\$5.3 million	\$5.3 million	53	\$52.7 million	534
Agricultural Conservation Technical Assistance <i>Sec. 21002</i>	11.2	\$4.9 million	\$4.9 million	55	\$48.9 million	546
Biofuel Production Grants <i>Sec. 22003</i>	10.0	\$1.9 million	\$1.9 million	19	\$18.8 million	187

TOTAL JOB CREATION ESTIMATES FOR PENNSYLVANIA
Summary Figures

	Average Annual Budget and Job Creation Figures over 10 Years			Total Budget and Job-Years Figures over 10 Years	
	Public Spending	Total Spending (= <i>public</i> + <i>private spending</i>)	Annual Job Creation	Total Spending	Total Job Creation, Job-Years
Electricity Programs	\$805 million	\$2.5 billion	12,254	\$24.9 billion	122,541
Transportation Programs	\$125 million	\$210 million	1,683	\$2.1 billion	16,830
Building Programs	\$179 million	\$353 million	3,166	\$3.5 billion	31,656
Manufacturing Programs	\$252 million	\$481 million	2,536	\$4.8 billion	25,363
Environmental Justice and Community Resilience Programs	\$42 million	\$42 million	319	\$415 million	3,188
Lands Programs	\$41 million	\$41 million	452	\$411 million	4,516
Agriculture Programs	\$81 million	\$81 million	831	\$814 million	8,305
TOTALS	\$1.5 billion	\$3.7 billion	21,240	\$37 billion	212,400

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