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Job Creation Estimates Through Proposed Economic Stimulus Measures

Modeling Proposals by Various U.S. Civil Society Groups; Macro-Level and Detailed Program-by-Program Job Creation Estimates

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Technical Notes for Job Creation Estimates

All figures have been estimated on the basis of calculations generated within the 2018 IMPLAN U.S. input/output tables. The IMPLAN U.S. input/output model features 546 industries within the U.S. economy.

Macro-Level Job Creation Estimates

We have estimated the employment effects of an overall $580 billion per year public investment program, starting in the year 2020 and continuing until 2029. The overall investment model consists of the following components:

1. ***$320 billion per year in clean energy and land restoration investments, comprised of:***
   - $240 billion in clean renewable energy
   - $50 billion in energy efficiency
   - $30 billion in land restoration/reclamation.

We assume that this overall level of public investments will be matched equally by the same level of investment undertaken by private sector sources. Thus, we assume that the overall level of clean energy investments will be $640 billion annually. This amounts to about 3.0 percent of U.S. GDP for 2019.

Advanced over a 10-year time frame, this clean energy/land investment program, budgeted at $640 billion per year, should be sufficient to lower annual U.S. CO_2 emissions by 45 percent by 2030 relative to the current level of about 5.2 billion tons. This 45 percent emissions reduction target is consistent with the global emissions reduction goal for 2030 stipulated by the Intergovernmental Panel on Climate Change (IPCC) in their October 2018 report, *Global Warming of 1.5^{0}C*.[1]

2. ***$260 billion per year in infrastructure investments specified by the BlueGreen Alliance and ASCA***

These public investments are broken out and weighted according to the BlueGreen alliance budgetary allocations, as presented in their 2017 report, *Making the Grade 2.0: Investing in America's Infrastructure to Create High-Quality Jobs and Protect the Environment.*[2]

Detailed Program-by-Program Job Creation Estimates

[1] https://www.ipcc.ch/sr15/
[2] http://www.bluegreenalliance.org/wp-content/uploads/2017/09/MakingTheGrade-2.pdf

We specified each program described in Michael Brune's 4/27/20 letter to Nancy Pelosi et al. within the framework of the 546 industries specified in the 2018 IMPLAN model for the U.S. economy.[3]

The job creation figures we report for each of the individual program areas cannot be aggregated into total job creation figures. This is because we have included "manufacturing programs" as a separate program area, while we have also included manufacturing job creation estimates for each of the other six individual program areas—i.e. energy, transportation, buildings, water, outdoors/land, and other.

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 of 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. annual job creation—as well as cumulative job years.[4]

[3] Brune's letter is here: https://www.sierraclub.org/sites/www.sierraclub.org/files/COVID%20stimulus.pdf. The Sierra Club notes that other civil society groups also are advocating for many of these proposals, including the BlueGreen Alliance, the Equitable and Just National Climate Platform, and the Climate Action Campaign."

[4] For in-depth discussions of our methodological approach to estimating job creation through investments in clean energy and infrastructure, see:
Pollin et al. (2009) *How Infrastructure Investments Support the U.S. Economy,* http://s3-us-west-2.amazonaws.com/aamweb/uploads/research-pdf/Infrastructure_2009.pdf;
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

MACRO-LEVEL JOB CREATION ESTIMATES

Note: Figures for Individual Programs Aggregated in Summary Table

1. INFRASTRUCTURE

1A) Job Creation from Macro Infrastructure Programs: Direct, Indirect, and Induced Jobs

	Job Creation per $1 Million in Spending							
	Jobs in All Sectors				Manufacturing Sector Jobs Only			
	1) Direct Jobs	2) Indirect Jobs	3) Induced Jobs	4) Total Jobs *(= columns 1+2+3)*	5) Direct Jobs	6) Indirect Jobs	7) Induced Jobs	8) Total Jobs *(= columns 5+6+7)*
Surface Transportation	11.6	3.3	5.7	20.6	0.6	0.7	0.2	1.5
Water/Wastewater	5.9	3.4	5.4	14.7	0.7	0.5	0.2	1.4
Electricity	3.2	3.1	4.2	10.5	1.6	0.9	0.2	2.7
Airports	3.6	2.5	4.1	10.2	0.5	0.7	0.2	1.4
Inland waterways/marine ports	4.0	3.9	4.9	12.8	1.2	0.7	0.2	2.1
Dams	8.0	3.8	6.8	18.6	0.8	0.7	0.3	1.8
Hazardous and solid waste	6.5	3.4	5.4	15.3	0.0	0.5	0.2	0.7
Levees	8.1	3.8	6.9	18.8	0.8	0.7	0.3	1.7
Public parks and recreation	11.6	3.4	6.2	21.2	0.0	0.3	0.3	0.6
Rail	3.2	3.5	4.5	11.2	0.6	0.9	0.2	1.6
Schools	12.0	2.4	6.4	20.8	0.0	0.4	0.3	0.7
Gas distribution pipelines—leak repairs only	9.9	2.9	4.5	17.3	0.0	0.1	0.2	0.3
Broadband	2.5	3.6	4.0	10.1	0.6	0.5	0.2	1.3

1B) Macro Infrastructure Programs: ***Total Jobs Created*** with Budgetary Figures

	1) Total jobs/$1 million *(from Table 1A)*	Annual Job Creation		Job-Years Created, All Years		
		2) Annual budget	3) Job creation per year *(= columns 1 x 2)*	4) # of years	5) Total Budget	6) Total job years *(= columns 4 x 5)*
Surface Transportation	20.6	$110.1 billion	2,268,060	10	$1101 billion	22,680,600
Water/Wastewater	14.7	$10.5 billion	154,350	10	$105 billion	1,543,500
Electricity	10.5	$17.7 billion	185,850	10	$177 billion	1,858,500
Airports	10.2	$4.2 billion	42,840	10	$42 billion	428,400
Inland waterways/marine ports	12.8	$1.5 billion	19,200	10	$15 billion	192,000
Dams	18.6	$3.9 billion	72,540	10	$39 billion	725,400
Hazardous and solid waste	15.3	$0.3 billion	4,590	10	$3 billion	45,900
Levees	18.8	$7 billion	131,600	10	$70 billion	1,316,000
Public parks and recreation	21.2	$10.2 billion	216,240	10	$102 billion	2,162,400
Rail	11.2	$2.9 billion	32,480	10	$29 billion	324,800
Schools	20.8	$38 billion	790,400	10	$380 billion	7,904,000
Gas distribution pipelines—leak repairs only	17.3	$18.3 billion	316,590	10	$183 billion	3,165,900
Broadband	10.1	$35 billion	353,500	10	$350 billion	3,535,000
Totals	---	$259.6 billion	4,588,240	10	$2,596 billion	45,882,400

1C) Macro Infrastructure Programs: ***Manufacturing Jobs Only*** Created with Budgetary Figures

	1) Total jobs/$1 million *(from Table 1A)*	Annual Job Creation		Job-Years Created, All Years		
		2) Annual budget	3) Job creation per year *(= columns 1 x 2)*	4) # of years	5) Total Budget	6) Total job years *(= columns 4 x 5)*
Surface Transportation	1.5	$110.1 billion	166,558	10	$1101 billion	1,665,579
Water/Wastewater	1.4	$10.5 billion	14,723	10	$105 billion	147,234
Electricity	2.7	$17.7 billion	47,790	10	$177 billion	477,900
Airports	1.4	$4.2 billion	5,685	10	$42 billion	56,855
Inland waterways/marine ports	2.1	$1.5 billion	3,185	10	$15 billion	31,852
Dams	1.8	$3.9 billion	7,052	10	$39 billion	70,521
Hazardous and solid waste	0.7	$0.3 billion	219	10	$3 billion	2,186
Levees	1.7	$7 billion	12,058	10	$70 billion	120,575
Public parks and recreation	0.6	$10.2 billion	5,321	10	$102 billion	53,211
Rail	1.6	$2.9 billion	4,696	10	$29 billion	46,962
Schools	0.7	$38 billion	26,600	10	$380 billion	266,000
Gas distribution pipelines—leak repairs onl	0.3	$18.3 billion	5,144	10	$183 billion	51,438
Broadband	1.3	$35 billion	45,500	10	$350 billion	455,000
Totals	---	$259.6 billion	344,531	10	$2,596 billion	3,445,312

2. CLEAN ENERGY AND AGRICULTURE

2A) Job Creation from Macro *Clean Energy/Agriculture* Programs: Direct, Indirect, and Induced Jobs

	Job Creation per $1 Million in Spending							
	Jobs in All Sectors				Manufacturing Sector Jobs Only			
	1) Direct Jobs	2) Indirect Jobs	3) Induced Jobs	4) Total Jobs *(= columns 1+2+3)*	5) Direct Jobs	6) Indirect Jobs	7) Induced Jobs	8) Total Jobs *(= columns 5+6+7)*
Energy Efficiency								
Building retrofits	5.8	4.0	5.5	15.3	0.0	0.7	0.3	1.0
Industrial efficiency	6.1	3.6	6.3	16.0	1.5	0.7	0.3	2.5
High-efficiency autos	1.4	3.7	5.1	8.6	1.4	1.3	0.2	2.9
Renewable Energy								
Wind energy	4.0	3.4	5.1	12.5	2.0	0.8	0.2	3.0
Solar energy	6.1	2.8	5.4	14.3	1.8	0.6	0.3	2.7
Geothermal energy	4.8	2.8	5.2	12.8	0.2	0.4	0.2	0.8
Land and Agriculture								
Land restoration	7.5	2.9	5.8	16.2	0.0	0.5	0.2	0.7
Agriculture	10.6	2.5	5.9	19.0	0.9	0.6	0.3	1.7

2B) Macro *Clean Energy/Agriculture* Programs: *Total Jobs Created* with Budgetary Figures

	1) Total jobs/$1 million *(from Table 2A)*	Annual Job Creation		Job-Years Created, All Years		
		2) Annual budget	3) Job creation per year *(= columns 1 x 2)*	4) # of years	5) Total Budget	6) Total job years *(= columns 4 x 5)*
Energy Efficiency						
Building retrofits	15.3	$37.5 billion	573,750	10	$375 billion	5,737,500
Industrial efficiency	16.0	$6.25 billion	100,625	10	$62.5 billion	1,006,250
High-efficiency autos	8.6	$6.25 billion	53,750	10	$62.5 billion	537,500
Renewable Energy						
Wind energy	12.5	$108 billion	1,350,700	10	$1080 billion	13,507,000
Solar energy	14.3	$108 billion	1,545,200	10	$1080 billion	15,452,000
Geothermal energy	12.8	$24 billion	307,350	10	$240 billion	3,073,500
Land and Agriculture						
Land restoration	16.2	$10 billion	162,000	10	$100 billion	1,620,000
Agriculture	19.0	$20 billion	380,000	10	$200 billion	3,800,000
Totals	---	$320 billion	4,473,375	---	$3,200 billion	44,733,750

2C) Macro *Clean Energy/Agriculture* Programs: ***Manufacturing Jobs Only*** Created with Budgetary Figures

	1) Total jobs/$1 million *(from Table 2A)*	Annual Job Creation		Job-Years Created, All Years		
		2) Annual budget	3) Job creation per year *(= columns 1 x 2)*	4) # of years	5) Total Budget	6) Total job years *(= columns 4 x 5)*
Energy Efficiency						
Building retrofits	1.0	$37.5 billion	37,196	10	$375 billion	371,962
Industrial efficiency	2.5	$6.25 billion	15,818	10	$62.5 billion	158,182
High-efficiency autos	2.9	$6.25 billion	18,123	10	$62.5 billion	181,231
Renewable Energy						
Wind energy	3.0	$108 billion	324,222	10	$1,080 billion	3,242,218
Solar energy	2.7	$108 billion	287,145	10	$1,080 billion	2,871,453
Geothermal energy	0.8	$24 billion	20,258	10	$240 billion	202,576
Land and Agriculture						
Land restoration	0.7	$10 billion	7,285	10	$100 billion	72,854
Agriculture	1.7	$20 billion	33,860	10	$200 billion	338,602
Totals	---	$320 billion	743,907	10	$3,200 billion	7,439,078

3. MACRO-LEVEL JOB CREATION ESTIMATES
Summary Figures

TOTAL JOB CREATION
Summary Figures from Tables 1b and 2b

	ANNUAL BUDGET AND JOB CREATION FIGURES		***TOTAL BUDGET AND JOB-YEARS FIGURES***	
	Annual Budget	Annual Job Creation	Total Budget	Total Job Creation, Job-Years
Infrastructure Programs	$260 billion	4.6 million	$2.6 trillion over 10 years	45.9 million
Clean Energy and Agriculture Programs	$320 billion *(public funding only)*	4.5 million	$3.2 trillion over 10 years	44.7 million
TOTALS	$580 billion	9.1 million	$5.8 trillion over 10 years	90.6 million

MANUFACTURING JOB CREATION ONLY
Summary Figures from Tables 1c and 2c

	Annual Budget and Job Creation Figures		***Total Budget and Job-Years Figures***	
	Annual Budget	Annual Manufacturing Job Creation	Total Budget	Total Manufacturing Job Creation, Job-Years
Infrastructure Programs	$260 billion	344,000	$2.6 trillion over 10 years	3.4 million
Clean Energy and Agriculture Programs	$320 billion *(public funding only)*	744,000	$3.2 trillion over 10 years	7.4 million
TOTALS	$580 billion	1.1 million	$5.8 trillion over 10 years	10.8 million

INDIVIDUAL PROGRAM-LEVEL JOB CREATION ESTIMATES

Note: The figures from these tables cannot be aggregated. See technical note at beginning of document

1. ENERGY

1A) Job Creation from ***Individual-Level Energy Programs***: Direct, Indirect, and Induced Jobs

	Job Creation per $1 Million in Spending							
	Jobs in All Sectors				Manufacturing Sector Jobs Only			
	1) Direct Jobs	2) Indirect Jobs	3) Induced Jobs	4) Total Jobs *(= columns 1+2+3)*	5) Direct Jobs	6) Indirect Jobs	7) Induced Jobs	8) Total Jobs *(= columns 5+6+7)*
Clean Energy Industry	3.9	3.1	4.6	11.6	1.6	0.7	0.2	2.5
National Climate Bank Act	5.7	2.7	5.5	13.9	0.9	0.4	0.2	1.5
Low-Income Home Energy Assistance Program	4.3	3.8	4.5	12.6	0.0	0.7	0.2	0.9
LIFT America Act	4.2	3.4	4.7	12.3	1.2	0.7	0.2	2.1
Closing Orphaned Oil/Gas Wells	7.1	3.2	5.6	15.9	0.0	0.3	0.2	0.5
Energy Storage and Smart Grid Programs	3.5	2.9	4.5	10.9	0.5	0.3	0.2	1.0
Energy Storage Tech Partnership	3.3	2.7	4.1	10	0.9	0.4	0.2	1.5

1B) Individual-Level Energy Programs: ***Total Jobs Created*** with Budgetary Figures

	1) Total jobs/$1 million *(from Table 1A)*	Annual Job Creation		Job-Years Created, All Years		
		2) Annual budget	3) Job creation per year *(= columns 1 x 2)*	4) # of years	5) Total Budget	6) Total job years *(= columns 4 x 5)*
Clean Energy Industry	11.6	$8.3 billion	96,367	5	$41.5 billion	481,836
National Climate Bank Act	13.9	$6 billion	83,400	5	$30 billion	417,000
Low-Income Home Energy Assistance Program	12.6	$17 billion	214,200	1	$17 billion	214,200
LIFT America Act	12.3	$4.3 billion	52,890	5	$21.5 billion	264,450
Closing Orphaned Oil/Gas Wells	15.9	$12 billion	190,800	5	$60 billion	954,000
Energy Storage and Smart Grid Programs	10.9	$0.9 billion	9,810	5	$4.5 billion	49,050
Energy Storage Tech Partnership	10.0	$0.05 billion	505	10	$0.5 billion	5,050
Totals	---	$48.6 billion	647,972	---	$175 billion	2,385,586

1C) Individual-Level Energy Programs: ***Manufacturing Jobs Only*** Created with Budgetary Figures

	1) Total jobs/$1 million *(from Table 1A)*	Annual Job Creation		Job-Years Created, All Years		
		2) Annual budget	3) Job creation per year *(= columns 1 x 2)*	4) # of years	5) Total Budget	6) Total job years *(= columns 4 x 5)*
Clean Energy Industry	2.5	$8.3 billion	20,769	5	$41.5 billion	103,844
National Climate Bank Act	1.5	$6 billion	9,000	5	$30 billion	45,000
Low-Income Home Energy Assistance Program	0.9	$17 billion	15,300	1	$17 billion	15,300
LIFT America Act	2.1	$4.3 billion	9,030	5	$21.5 billion	45,150
Closing Orphaned Oil/Gas Wells	0.5	$12 billion	6,000	5	$60 billion	30,000
Energy Storage and Smart Grid Programs	1.0	$0.9 billion	900	5	$4.5 billion	4500
Energy Storage Tech Partnership	1.5	$0.05 billion	75	10	$0.5 billion	750
Totals	---	$48.6 billion	61,074	---	$175 billion	244,544

2. TRANSPORTATION

2A) Job Creation from ***Program-Level Transportation Programs***: Direct, Indirect, and Induced Jobs

	Job Creation per $1 Million in Spending							
	Jobs in All Sectors				Manufacturing Sector Jobs Only			
	1) Direct Jobs	2) Indirect Jobs	3) Induced Jobs	4) Total Jobs *(= columns 1+2+3)*	5) Direct Jobs	6) Indirect Jobs	7) Induced Jobs	8) Total Jobs *(= columns 5+6+7)*
Public Transit System	6.4	3.5	4.3	14.2	0.6	1.0	0.2	1.8
Passenger Rail	6.4	3.5	4.3	14.2	0.6	1.0	0.2	1.8
Complete Streets Projects	4.7	2.8	4.5	12.0	0.0	0.7	0.2	0.9
Electrify School/Transit Buses	5.5	3.0	5.5	14.0	0.9	0.6	0.2	1.7
Driving America Forward Act	5.5	3.0	5.5	14.0	0.9	0.6	0.2	1.7
Clean Cars for America	5.5	3.0	5.5	14.0	0.9	0.6	0.2	1.7
Clean Corridors Act	5.5	3.0	5.5	14.0	0.9	0.6	0.2	1.7
Transit to Trails Act	12.0	3.1	4.8	19.9	0.3	0.6	0.2	1.1

2B) Individual-Level Transportation Programs: ***Total Jobs Created*** with Budgetary Figures

	1) Total jobs/$1 million *(from Table 2A)*	Annual Job Creation		Job-Years Created, All Years		
		2) Annual budget	3) Job creation per year *(= columns 1 x 2)*	4) # of years	5) Total Budget	6) Total job years *(= columns 4 x 5)*
Public Transit System	14.2	$15 billion	213,000	10	$150 billion	2,130,000
Passenger Rail	14.2	$5.8 billion	82,360	5	$29 billion	411,800
Complete Streets Projects	12.0	$4.5 billion	54,000	10	$45 billion	540,000
Electrify School/Transit Buses	14.0	$4 billion	56,000	5	$20 billion	280,000
Driving America Forward Act	14.0	$1.23 billion	17,220	10	$12.3 billion	172,200
Clean Cars for America	14.0	$45.4 billion	635,600	10	$454 billion	6,356,000
Clean Corridors Act	14.0	$0.3 billion	4,200	10	$3 billion	42,000
Transit to Trails Act	19.9	$0	199	10	$0.1 billion	1,990
Totals	---	$76.2 billion	1,062,579	---	$713.4 billion	9,933,990

2C) Individual-Level Transportation Programs: ***Manufacturing Jobs Only*** Created with Budgetary Figures

	1) Total jobs/$1 million *(from Table 2A)*	Annual Job Creation		Job-Years Created, All Years		
		2) Annual budget	3) Job creation per year *(= columns 1 x 2)*	4) # of years	5) Total Budget	6) Total job years *(= columns 4 x 5)*
Public Transit System	1.8	$15 billion	27,000	10	$150 billion	270,000
Passenger Rail	1.8	$5.8 billion	10,440	5	$29 billion	52,200
Complete Streets Projects	0.9	$4.5 billion	4,050	10	$45 billion	40,500
Electrify School/Transit Buses	1.7	$4 billion	6,800	5	$20 billion	34,000
Driving America Forward Act	1.7	$1.23 billion	2,091	10	$12.3 billion	20,910
Clean Cars for America	1.7	$45.4 billion	77,180	10	$454 billion	771,800
Clean Corridors Act	1.7	$0.3 billion	510	10	$3 billion	5,100
Transit to Trails Act	1.1	$0.01 billion	11	10	$0.1 billion	110
Totals	---	$76.2 billion	128,082	---	$713.4 billion	1,194,620

3. BUILDINGS

3A) Job Creation from ***Program-Level Building Programs***: Direct, Indirect, and Induced Jobs

	Job Creation per $1 Million in Spending							
	Jobs in All Sectors				Manufacturing Sector Jobs Only			
	1) Direct Jobs	2) Indirect Jobs	3) Induced Jobs	4) Total Jobs *(= columns 1+2+3)*	5) Direct Jobs	6) Indirect Jobs	7) Induced Jobs	8) Total Jobs *(= columns 5+6+7)*
Green New Deal for Public Housing	4.6	4.2	4.6	13.4	0.0	0.8	0.2	1.0
Community Development Block Grants	7.9	2.0	5.5	15.4	0.0	0.4	0.2	0.6
Weatherization Assistance Program	4.6	4.2	4.6	13.4	0.0	0.8	0.2	1.0
Energy Efficiency and Conservation Block Grant	6.5	3.7	5.8	16.0	0.0	0.7	0.3	1.0
Municipal, University, School, and Hospital Buildings	4.8	3.9	4.8	13.5	0.0	0.8	0.2	1.0

3B) Individual-Level Building Programs: ***Total Jobs Created*** with Budgetary Figures

	1) Total jobs/$1 million *(from Table 3A)*	Annual Job Creation		Job-Years Created, All Years		
		2) Annual budget	3) Job creation per year *(= columns 1 x 2)*	4) # of years	5) Total Budget	6) Total job years *(= columns 4 x 5)*
Green New Deal for Public Housing	13.4	$17.2 billion	230,480	10	$172 billion	2,304,800
Community Development Block Grants	15.4	$6 billion	92,400	5	$30 billion	462,000
Weatherization Assistance Program	13.4	$1.4 billion	18,760	5	$7 billion	93,800
Energy Efficiency and Conservation Block Grant	16.0	$0.6 billion	10,240	5	$3.2 billion	51,200
Municipal, University, School, and Hospital Buildings	13.5	$12.2 billion	165,240	5	$61.2 billion	826,200
Totals	---	$37.5 billion	517,120	---	$273.4 billion	3,738,000

3C) Individual-Level Building Programs: ***Manufacturing Jobs Only*** Created with Budgetary Figures

	1) Total jobs/$1 million *(from Table 3A)*	Annual Job Creation		Job-Years Created, All Years		
		2) Annual budget	3) Job creation per year *(= columns 1 x 2)*	4) # of years	5) Total Budget	6) Total job years *(= columns 4 x 5)*
Green New Deal for Public Housing	1.0	$17.2 billion	17,200	10	$172 billion	172,000
Community Development Block Grants	0.6	$6 billion	3,600	5	$30 billion	18,000
Weatherization Assistance Program	1.0	$1.4 billion	1,400	5	$7 billion	7,000
Energy Efficiency and Conservation Block Grant	1.0	$0.6 billion	640	5	$3.2 billion	3,200
Municipal, University, School, and Hospital Buildings	1.0	$12.2 billion	12,240	5	$61.2 billion	61,200
Totals	---	$37.5 billion	35,080	---	$273.4 billion	261,400

4. MANUFACTURING

4A) Job Creation from ***Program-Level Manufacturing Programs*****: Direct, Indirect, and Induced Jobs**

	Job Creation per $1 Million in Spending							
	Jobs in All Sectors				Manufacturing Sector Jobs Only			
	1) Direct Jobs	2) Indirect Jobs	3) Induced Jobs	4) Total Jobs *(= columns 1+2+3)*	5) Direct Jobs	6) Indirect Jobs	7) Induced Jobs	8) Total Jobs *(= columns 5+6+7)*
Medical Supplies	2.1	3.4	4.3	9.8	2.1	0.7	0.2	3.0
Manufacturing of Electric Vehicles	1.4	3.7	3.6	8.7	1.4	1.3	0.2	2.9
Renewable Energy, Energy Storage and Energy Efficiency Goods (average of solar and wind)	2.7	3.2	4.1	10	2.7	0.7	0.2	3.6
Solar	2.9	3.1	4.0	10.0	2.9	0.7	0.2	3.8
Wind	2.5	3.3	4.2	10.0	2.5	0.7	0.2	3.4
Energy Efficiency								
Public Transit	4.9	3.9	4.2	13.0	1.6	1.4	0.2	3.2
Smart Grids	3.2	3.2	6.4	11.0	3.2	0.8	0.2	4.2
Industrial efficiency	3.0	3.6	4.4	11.0	3.0	1.0	0.2	4.2
Building Weatherization/Retrofits	2.8	3.7	4.1	10.6	2.8	1.1	0.2	4.1

4B) Individual-Level Manufacturing Programs: ***Total Jobs Created*** with Budgetary Figures

Financing Programs with Budget Allocations

Financing Programs	1) Total jobs/$1 million *(from Table 4A)*	Annual Job Creation		Job-Years Created, All Years		
		2) Annual budget	3) Job creation per year *(= columns 1 x 2)*	4) # of years	5) Total Budget	6) Total job years *(= columns 4 x 5)*
Electric Vehicle Manufacturing Support	8.7	$4.6 billion	40,020	5	$23 billion	200,100
Clean Energy Goods Manufacturing Tax Credit	10.0	$0.6 billion	6,000	5	$3 billion	30,000
Totals	---	$5.2 billion	46,020	5	$26 billion	230,100

Financing Programs without Budget Allocations to Date

1. Financing Program	2. Investment Projects to be Financed (from Table 4a)	3. Job Creation per $1 million *(from Table 4a)*	4. Job Creation per $1 billion *(= column 3 x 1,000)*
Procurement of Clean Energy Goods	Clean energy = ■ Smart grid ■ Industrial efficiency	11.0	11,000
	Clean transportation = ■ Public transit	13.0	13,000
	Clean buildings = ■ Building weatherization/retrofits	10.6	10,600
Economic Development and Industrial Bank	Clean energy = ■ Smart grid ■ Industrial efficiency	11.0	11,000
	Clean transportation = ■ Public transit	13.0	13,000
	Clean buildings = ■ Building weatherization/retrofits	10.6	10,600

4C) Individual-Level Manufacturing Programs: ***Manufacturing Jobs Only*** Created with Budgetary Figures

Financing Programs with Budget Allocations

Financing Programs	1) Total jobs/$1 million *(from Table 4A)*	Annual Job Creation		Job-Years Created, All Years		
		2) Annual budget	3) Job creation per year *(= columns 1 x 2)*	4) # of years	5) Total Budget	6) Total job years *(= columns 4 x 5)*
Electric Vehicle Manufacturing Support	2.9	$4.6 billion	13,340	5	$23 billion	66,700
Clean Energy Goods Manufacturing Tax Credit	3.6	$0.6 billion	2,160	5	$3 billion	10,800
Totals	---	$5.2 billion	15,500	5	$26 billion	77,500

Financing Programs without Budget Allocations to Date

1. Financing Program	2. Investment Projects to be Financed (from Table 4a)	3. Job Creation per $1 million *(from Table 4a)*	4. Job Creation per $1 billion *(= column 3 x 1,000)*
Procurement of Clean Energy Goods	Clean energy = ■ Smart grid ■ Industrial efficiency	4.2	4,200
	Clean transportation = ■ Public transit	3.2	3,200
	Clean buildings = ■ Building weatherization/retrofits	4.1	4,100
Economic Development and Industrial Bank	Clean energy = ■ Smart grid ■ Industrial efficiency	4.2	4,200
	Clean transportation = ■ Public transit	3.2	3,200
	Clean buildings = ■ Building weatherization/retrofits	4.1	4,100

5. WATER

5A) Job Creation from ***Program-Level Water Programs*: Direct, Indirect, and Induced Jobs**

	Job Creation per $1 Million in Spending							
	Jobs in All Sectors				Manufacturing Sector Jobs Only			
	1) Direct Jobs	2) Indirect Jobs	3) Induced Jobs	4) Total Jobs *(= columns 1+2+3)*	5) Direct Jobs	6) Indirect Jobs	7) Induced Jobs	8) Total Jobs *(= columns 5+6+7)*
Clean Water and Drinking Water State Revolving Funds	5.7	3.3	5.4	14.4	1.1	0.6	0.2	1.9
Reducing Lead in Drinking Water	6.2	3.4	5.6	15.2	0.8	0.5	0.2	1.5
Wastewater Infrastructure	5.5	3.3	5.3	14.1	1.1	0.6	0.2	1.9
Relief from Water Shutoffs	4.2	3.0	4.7	11.9	0.0	0.2	0.2	0.4
Low Income Households Drinking/Wastewater Assistance	5.5	3.3	5.3	14.1	1.1	0.6	0.2	1.9
Water and Waste Disposal Program	5.5	3.3	5.3	14.1	1.1	0.6	0.2	1.9
Protection from PFAS	5.1	2.8	4.7	12.6	0.8	0.5	0.2	1.5
School Drinking Fountain Replacement, etc.	4.7	3.3	4.9	12.9	1.2	0.5	0.2	2.0

5B) Individual-Level Water Programs: *Total Jobs Created* with Budgetary Figures

	1) Total jobs/$1 million *(from Table 5A)*	Annual Job Creation		Job-Years Created, All Years		
		2) Annual budget	3) Job creation per year *(= columns 1 x 2)*	4) # of years	5) Total Budget	6) Total job years *(= columns 4 x 5)*
Clean Water and Drinking Water State Revolving Funds	14.4	$20 billion	288,000	5	$100 billion	1,440,000
Reducing Lead in Drinking Water	15.2	$4.5 billion	68,400	10	$45 billion	684,000
Wastewater Infrastructure	14.1	$4 billion	56,400	2	$6 billion	84,600
Relief from Water Shutoffs	11.9	$5 billion	59,500	1	$5 billion	59,500
Low Income Households Drinking/Wastewater Assistance	14.1	$3 billion	42,300	1	$3 billion	42,300
Water and Waste Disposal Program	14.1	$1.8 billion	24,675	10	$17.5 billion	246,750
Protection from PFAS	12.6	$0.5 billion	5,670	10	$4.5 billion	56,700
School Drinking Fountain Replacement, etc.	12.9	$1.5 billion	19,415	5	$7.5 billion	97,073
Totals	---	$40.2 billion	564,360	---	$188.5 billion	2,710,923

5C) Individual-Level Water Programs: ***Manufacturing Jobs Only*** Created with Budgetary Figures

	1) Total jobs/$1 million *(from Table 5A)*	Annual Job Creation		Job-Years Created, All Years		
		2) Annual budget	3) Job creation per year *(= columns 1 x 2)*	4) # of years	5) Total Budget	6) Total job years *(= columns 4 x 5)*
Clean Water and Drinking Water State Revolving Funds	1.9	$20 billion	38,084	5	$100 billion	190,421
Reducing Lead in Drinking Water	1.5	$4.5 billion	6,750	10	$45 billion	67,500
Wastewater Infrastructure	1.9	$4 billion	7,600	2	$6 billion	11,400
Relief from Water Shutoffs	0.4	$5 billion	1,792	1	$5 billion	1,792
Low Income Households Drinking/Wastewater Assistance	1.9	$3 billion	5,634	1	$3 billion	5,634
Water and Waste Disposal Program	1.9	$1.8 billion	3,287	10	$17.5 billion	32,866
Protection from PFAS	0.0	$0.5 billion	675	10	$4.5 billion	6,747
School Drinking Fountain Replacement, etc.	2.0	$1.5 billion	2,975	5	$7.5 billion	14,873
Totals	---	$40.2 billion	66,797	---	$188.5 billion	331,235

6. OUTDOORS/LANDS

6A) Job Creation from ***Program-Level Outdoors/Lands Programs***: Direct, Indirect, and Induced Jobs

	Job Creation per $1 Million in Spending							
	Jobs in All Sectors				Manufacturing Sector Jobs Only			
	1) Direct Jobs	2) Indirect Jobs	3) Induced Jobs	4) Total Jobs *(= columns 1+2+3)*	5) Direct Jobs	6) Indirect Jobs	7) Induced Jobs	8) Total Jobs *(= columns 5+6+7)*
Environmental Cleanup Infrastructure Act	7.5	2.9	5.8	16.2	0.0	0.2	0.3	0.5
Superfund and Brownfields Cleanup	7.5	2.9	5.8	16.2	0.0	0.2	0.3	0.5
RECLAIM Act and Abandoned Mine Land	5.2	2.9	5	13.1	0.0	0.2	0.2	0.4
Stewardship Corps, Outdoor Recreation	13.2	3.4	6.4	23.0	0.0	0.2	0.3	0.5

6B) Individual-Level Outdoors/Lands Programs: ***Total Jobs Created*** with Budgetary Figures

	1) Total jobs/$1 million *(from Table 6A)*	Annual Job Creation		Job-Years Created, All Years		
		2) Annual budget	3) Job creation per year *(= columns 1 x 2)*	4) # of years	5) Total Budget	6) Total job years *(= columns 4 x 5)*
Environmental Cleanup Infrastructure Act	16.2	$5.6 billion	90,720	10	$56 billion	907,200
Superfund and Brownfields Cleanup	16.2	$6 billion	97,200	5	$30 billion	486,000
RECLAIM Act and Abandoned Mine Land	13.1	$1 billion	13,100	10	$10 billion	131,000
Stewardship Corps, Outdoor Recreation	23.0	$1.1 billion	25,300	10	$11 billion	253,000
Totals	---	$13.7 billion	226,320	---	$107 billion	1,777,200

6C) Individual-Level Outdoors/Lands Programs: ***Manufacturing Jobs Only*** Created with Budgetary Figures

	1) Total jobs/$1 million *(from Table 6A)*	Annual Job Creation		Job-Years Created, All Years		
		2) Annual budget	3) Job creation per year *(= columns 1 x 2)*	4) # of years	5) Total Budget	6) Total job years *(= columns 4 x 5)*
Environmental Cleanup Infrastructure Act	0.5	$5.6 billion	2,800	10	$56 billion	28,000
Superfund and Brownfields Cleanup	0.5	$6 billion	3,000	5	$30 billion	15,000
RECLAIM Act and Abandoned Mine Land	0.4	$1 billion	400	10	$10 billion	4,000
Stewardship Corps, Outdoor Recreation	0.5	$1.1 billion	550	10	$11 billion	5,500
Totals	---	$13.7 billion	6,750	---	$107 billion	52,500

7. OTHER

7A) Job Creation from ***Program-Level Other Programs***: Direct, Indirect, and Induced Jobs

	Job Creation per $1 Million in Spending							
	Jobs in All Sectors				Manufacturing Sector Jobs Only			
	1) Direct Jobs	2) Indirect Jobs	3) Induced Jobs	4) Total Jobs *(= columns 1+2+3)*	5) Direct Jobs	6) Indirect Jobs	7) Induced Jobs	8) Total Jobs *(= columns 5+6+7)*
Broadband	2.5	3.6	4.0	10.1	0.6	0.5	0.2	1.3
FEMA Pre-disaster Mitigation	5.7	3.6	5.7	15.1	0.0	0.4	0.2	0.6
Partnerships for Opportunity and Workforce Economic Revitalization	15.5	3.6	6.9	26.0	0.0	0.2	0.3	0.5

7B) Individual-Level Other Programs: ***Total Jobs Created*** with Budgetary Figures

	1) Total jobs/$1 million *(from Table 7A)*	Annual Job Creation		Job-Years Created, All Years		
		2) Annual budget	3) Job creation per year *(= columns 1 x 2)*	4) # of years	5) Total Budget	6) Total job years *(= columns 4 x 5)*
Broadband	10.1	$35 billion	353,500	10	$350 billion	3,535,000
FEMA Pre-disaster Mitigation	15.1	$2.2 billion	32,465	4	$8.6 billion	129,860
Partnerships for Opportunity and Workforce Economic Revitalization	26.0	$0.5 billion	13,000	10	$5 billion	130,000
Totals	---	$37.7 billion	398,965	---	$363.3 billion	3,794,860

7C) Individual-Level Other Programs: ***Manufacturing Jobs Only*** Created with Budgetary Figures

	1) Total jobs/$1 million *(from Table 7A)*	Annual Job Creation		Job-Years Created, All Years		
		2) Annual budget	3) Job creation per year *(= columns 1 x 2)*	4) # of years	5) Total Budget	6) Total job years *(= columns 4 x 5)*
Broadband	1.3	$35 billion	45,500	10	$350 billion	455,000
FEMA Pre-disaster Mitigation	0.6	$2.2 billion	1,290	4	$8.6 billion	5,160
Partnerships for Opportunity and Workforce Economic Revitalization	0.5	$0.5 billion	250	10	$5 billion	2,500
Totals	---	$37.7 billion	47,040	---	$363.3 billion	462,660

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