PERI REPORT

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Job Creation Estimates Through Proposed Economic Stimulus Measures

Modeling Proposals by Various U.S. Civil Society Groups

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Budget Figures for Program Areas and Methodology for Job Creation Estimates

SOURCES FOR BUDGET FIGURES BY PROGRAM AREA

Infrastructure

Overall: The annual investment amounts for most infrastructure subsectors are derived from the 2017 Infrastructure Report Card of the American Society of Civil Engineers (ASCE). The amounts that have been assigned to each investment area are based on the ASCE's assessment of the level of new investments necessary to bring the overall U.S. infrastructure up to a "B" level—i.e. to a "good" quality standard according to the ASCE. As of its most recent 2017 assessment, the ASCE graded the overall U.S. infrastructure at a "D+" level—i.e. on the higher end of "poor" quality. We use the ASCE's estimates for these public infrastructure investment areas: Surface Transportation, Airports, Inland Waterways/ Marine Ports, Dams, Hazardous and Solid Waste, Levees, Public Parks and Recreation, and Schools.

Water/Wastewater: The annual investment in water infrastructure is the sum of the following investments, as supported by a range of civil society organizations and as reflected in the Sierra Club's April 2020 letter to Congress: \$20 billion/year for the Clean Water and Drinking Water State Revolving Funds, \$4.5 billion/year for the Reducing Lead in Drinking Water program, \$4 billion/year for wastewater infrastructure, \$1.75 billion/year for the U.S. Department of Agriculture's Water and Waste Disposal Loan and Grant program, \$0.45 billion/year for programs to reduce PFAS (Per- and polyfluoroalkyl substances) contamination, and \$1.51 billion/year for various other programs (School Drinking Fountain Replacement, Sewer Overflow Control, Alaska Native Villages and Rural Communities Water, U.S.-Mexico Border Water Infrastructure, Small and Disadvantaged Communities).²

Electricity: The annual investment in electricity infrastructure is the sum of the following investments, as supported by a range of civil society organizations: \$20 billion/year for energy democracy solutions (including a new Clean Community Energy Fund), \$17.7 billion/year in electrical grid upgrades (from ASCE's Infrastructure Report Card), and \$5 billion/year for rural electric cooperatives (via the U.S. Department of Agriculture's Rural Utilities Service, Rural Housing Service, and Rural Business-Cooperative Service). ³

Rail: The annual investment in rail infrastructure comes from the Rail Passengers Association's survey of unfunded rail upgrade plans from Amtrak and state rail authorities.⁴

Gas distribution pipelines – **leak repairs only**: The annual investment amount for replacing leaks in gas distribution pipelines is based on the BlueGreen Alliance's Making the Grade 2.0 report.⁵

Broadband: The annual investment amount for broadband infrastructure is based on the Communications Workers of America proposal.⁶

Clean Energy

Building retrofits: The annual investment amount for building retrofits is a sum of the following investments, as supported by a range of civil society organizations and as reflected in the Sierra Club's April 2020 letter to Congress: \$17.2 billion/year for a Green New Deal for public housing; \$17 billion/year for the Low Income Home Energy Assistance Program; \$7 billion/year for the Weatherization Assistance Program; \$6.12 billion/year for upgrading Municipal, University, School, and Hospital (MUSH) buildings; \$6 billion/year for Community Development Block Grants; and \$3.2 billion/year for the Energy Efficiency and Conservation Block Grant program.⁷

Industrial efficiency: The annual investment amount for industrial efficiency is an estimate of the public investments that would be needed to lower annual U.S. greenhouse gas emissions by 45 percent by 2030, in alignment with the global emissions reduction goal for 2030 stipulated by the Intergovernmental Panel on Climate Change in their October 2018 report, Global Warming of 1.5 °C.8 We assume that this overall level of public investments will be match equally by the same level of investment undertaken by private sector sources.

High-efficiency autos: The annual investment amount for high-efficiency autos is the sum of the following investments, as supported by a range of civil society organizations and as reflected in the Sierra Club's April 2020 letter to Congress: \$45.4 billion/year for the Clean Cars for America proposal, \$4.5 billion/year for electric vehicle charging infrastructure, \$4 billion/year to electrify school and transit buses, \$1.23 billion/year to extend and expand the electric vehicle tax credit, \$0.6 billion/year to electrify postal vehicles, and \$0.3 billion/year for the Clean Corridors Act.⁹

Renewable energy: The annual investment amounts for wind, solar, and geothermal energy are estimates of the public investments that would be needed to lower annual U.S. greenhouse gas emissions by 45 percent by 2030, in alignment with the global emissions reduction goal for 2030 stipulated by the Intergovernmental Panel on Climate Change in their October 2018 report, Global Warming of 1.5 °C. ¹⁰ We assume that this overall level of public investments will be matched equally by the same level of investment undertaken by private sector sources.

Overall, we assume that the overall level of clean energy investments—including both public and private investments—will be about \$720 billion annually. This will amount to about 3 percent of U.S. GDP for 2021.

Agriculture and Land Restoration

Agriculture: The annual investments in agriculture include the following, as supported by a range of civil society organizations: \$91 billion/year for land, training, and resources for Black, Brown, Indigenous, immigrant, young, and other marginalized farmers; \$41 billion/year to equip farmers transitioning to ecologically regenerative practices that rebuild rural communities and protect the climate and environment; \$25 billion/year for farmland conservation (e.g., Conservation Stewardship, Agricultural Conservation Easement, and Regional Conservation Partnership programs); \$2.5 billion/year for research and development in regenerative agricultural practices; and \$1.5 billion for transitioning to organic farming.

Land restoration: The annual investments in land restoration include the following investments, as supported by a range of civil society organizations and as reflected in the Sierra Club's April 2020 letter to Congress: \$12 billion/year for closing orphaned and leaking oil and gas wells, \$5.6 billion/year for the Environmental Cleanup Infrastructure Act, \$4 billion/year for Superfund site cleanup, \$2 billion/year for Brownfields site cleanup, \$1 billion/year for the RECLAIM Act and Abandoned Mine Land Reauthorization Act, and \$1 billion/year for the creation of a Stewardship Corps to protect and restore forests, wetlands, and other ecosystems.¹¹

Care Economy, Public Health, and Postal Service

Care economy: The annual investments in the care economy (child care, care for people with disabilities, and care for the elderly) are based on The Biden Plan for Mobilizing American Talent and Heart to Create a 21st Century Caregiving and Education Workforce.¹²

Public health: The annual investments in public health services include investments in the State Climate and Health program of the Centers for Disease Control and Prevention, improvements in public health emergency preparedness, and funding to address social determinants of health and advance health equity.

Postal service: The annual investments in the postal service are based on the U.S. Postal Service estimates of the investments that would be needed to modernize and sustain the public postal service.¹³

DATA SOURCE AND METHODOLOGY

Data Source

All figures have been estimated on the basis of calculations generated within the 2020 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 from 2018.

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. annual job creation—as well as cumulative 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. (2009) How Infrastructure Investments Support the U.S. Economy¹⁴
- Pollin et al. (2014) Green Growth¹⁵
- Pollin et al. (2015) Global Green Growth¹⁶

TABLE 1: Infrastructure

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

			Job	Creation per \$1	Million in S	pending		
		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	4.2	10.3	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	1.8
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	1.7
Schools	12.0	2.4	6.4	20.8	0.0	0.4	0.3	0.7
Gas distribution pipelines—leak repairs only	1.1	2.3	5.2	8.6	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

TABLE 1: Infrastructure (cont.)

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

		Annual Jo	b Creation	Job-Years Created, All Years			
	1) Total Jobs/ \$1 Million (from Table 1A)	2) Annual Budget	3) Job Creation per Year (= columns 1 x 2)	4) # of Years	5) Total Budget	6) Total Job Years (= columns 3 x 4)	
Surface transportation	20.6	\$110.1 billion	2,268,060	10	\$1,101 billion	22,680,600	
Water/wastewater	14.7	\$32.2 billion	474,810	10	\$322 billion	4,748,100	
Electricity	10.5	\$42.7 billion	448,350	10	\$427 billion	4,483,500	
Airports	10.3	\$4.2 billion	43,260	10	\$42 billion	432,600	
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 billon	45,900	
Levees	18.8	\$7.0 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	\$20.9 billion	234,080	10	\$209 billion	2,340,800	
Schools	20.8	\$38.0 billion	790,400	10	\$380 billon	7,904,000	
Gas distribution pipelines—leak repairs only	8.6	\$18.3 billion	157,380	10	\$183 billion	1,573,800	
Broadband	10.1	\$35 billion	353,500	10	\$350 billion	3,535,000	
Totals		\$324.3 billion	5,214,010	10	\$3,243 billion	52,140,100	

TABLE 1: Infrastructure (cont.)

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

		Annual Jo	b Creation		Job-Years Created, A	II Years
	1) Total Jobs/ \$1 Million (from Table 1A)	2) Annual Budget	3) Job Creation per Year (= columns 1 x 2)	4) # of Years	5) Total Budget	6) Total Job Years (= columns 3 x 4)
Surface transportation	1.5	\$110.1 billion	165,150	10	\$1,101 billion	1,651,500
Water/wastewater	1.4	\$32.2 billion	45,220	10	\$322 billion	452,200
Electricity	2.7	\$42.7 billion	115,290	10	\$427 billion	1,152,900
Airports	1.4	\$4.2 billion	5,880	10	\$42 billion	58,800
Inland waterways/ marine ports	2.1	\$1.5 billion	3,150	10	\$15 billion	31,500
Dams	1.8	\$3.9 billion	7,020	10	\$39 billion	70,200
Hazardous and solid waste	0.7	\$0.3 billion	210	10	\$3 billon	2,100
Levees	1.8	\$7 billion	12,600	10	\$70 billion	126,000
Public parks and recreation	0.6	\$10.2 billion	6,120	10	\$102 billion	61,200
Rail	1.7	\$20.9 billion	35,530	10	\$209 billion	355,300
Schools	0.7	\$38 billion	26,600	10	\$380 billon	266,000
Gas distribution pipelines—leak repairs only	0.3	\$18.3 billion	5,490	10	\$183 billion	54,900
Broadband	1.3	\$35 billion	45,500	10	\$350 billion	455,000
Totals		\$324.3 billion	473,760	10	\$3,243 billion	4,737,600

TABLE 2: Clean Energy

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

			Job	Creation per \$1	Million in S	pending		
		Jobs in	All Sectors			Manufacturir	ng 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	4.7	4.0	4.7	13.4	0.0	0.8	0.2	1.0
Industrial efficiency	5.2	3.4	5.6	14.2	1.5	0.7	0.2	2.4
High-efficiency autos	1.4	3.7	3.5	8.6	1.4	1.3	0.2	2.9
Renewable energy								
Wind energy	3.6	3.5	4.7	11.8	1.9	0.7	0.2	2.8
Solar energy	3.8	3.1	4.4	11.3	2.2	0.7	0.2	3.1
Geothermal energy	3.7	3.2	4.8	11.7	0.4	0.4	0.2	1.0

TABLE 2: Clean Energy (cont.)

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

		Annual Jo	b Creation		Job-Years Created, A	II Years
	1) Total Jobs/ \$1 Million (from Table 2A)	2) Annual Budget	3) Job Ccreation per Year (= columns 1 x 2)	4) # of Years	5) Total Budget	6) Total Job Years (= columns 3 x 4)
Energy Efficiency						
Building retrofits	13.4	\$56.5 billion	757,368	10	\$565.2 billion	7,573,680
Industrial efficiency	14.2	\$6.3 billion	88,750	10	\$62.5 billion	887,500
High-efficiency autos	8.6	\$56.0 billion	481,858	10	\$560.3 billion	4,818,580
Renewable Energy						
Wind energy	11.8	\$108 billion	1,274,400	10	\$1,080 billion	12,744,000
Solar energy	11.3	\$108 billion	1,220,400	10	\$1,080 billion	12,204,000
Geothermal energy	11.7	\$24 billion	280,800	10	\$240 billion	2,808,000
Totals		\$358.8 billion	4,103,576	10	\$3,588 billion	41,035,760

TABLE 2: Clean Energy (cont.)

2C) Clean Energy Programs: Manufacturing Jobs Only Created with Budgetary Figures

		Annual Jo	b Creation		Job-Years Created, A	II Years
	1) Total Jobs/ \$1 Million (from Table 2A)	2) Annual Budget	3) Job Creation per Year (= columns 1 x 2)	4) # of Years	5) Total Budget	6) Total Job Years (= columns 3 x 4)
Energy Efficiency						
Building retrofits	1.0	\$56.5 billion	56,520	10	\$565.2 billion	565,200
Industrial efficiency	2.4	\$6.3 billion	15,000	10	\$62.5 billion	150,000
High-efficiency autos	2.9	\$56.0 billion	162,487	10	\$560.3 billion	1,624,870
Renewable Energy						
Wind energy	2.8	\$108 billion	302,400	10	\$1,080 billion	3,024,000
Solar energy	3.1	\$108 billion	334,800	10	\$1,080 billion	3,348,000
Geothermal energy	1.0	\$24 billion	24,000	10	\$240 billion	240,000
Totals		\$358.8 billion	895,207	10	\$3,588 billion	8,952,070

TABLE 3: Agriculture and Land Restoration

3A) Job Creation from Agriculture and Land Restoration Programs: Direct, Indirect, and Induced Jobs

			Job	Creation per \$1	Million in S	pending		
		Jobs in	All Sectors			Manufacturir	g 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)
Agriculture								
Regenerative agriculture	14.1	4.9	4.8	23.8	0.0	0.4	0.2	0.6
Farmland conservation	9.6	3.4	6.4	19.4	0.0	0.2	0.3	0.5
Organic farming	14.1	4.9	4.8	23.8	0.0	0.4	0.2	0.6
Resources for marginalized farmers	15.7	3.3	6.4	25.3	0.0	0.2	0.3	0.5
Agricultural R&D	3.4	3.7	5.5	12.6	0.0	0.1	0.2	0.3
Land Restoration								
Pollution cleanup	7.3	2.9	5.7	15.9	0.0	0.2	0.3	0.5
Closing orphaned wells	7.1	3.2	5.6	15.9	0.0	0.3	0.2	0.5
Ecosystem restoration	13.2	3.4	6.4	23.0	0.0	0.2	0.3	0.5

TABLE 3: Agriculture and Land Restoration (cont.)

3B) Job Creation from Agriculture and Land Restoration Programs: *Total Jobs* Created with Budgetary Figures

		Annual Jo	b Creation		Job-Years Created, A	II Years
	1) Total Jobs/ \$1 Million (from Table 3A)	2) Annual Budget	3) Job Creation per Year (= columns 1 x 2)	4) # of Years	5) Total Budget	6) Total Job Years (= columns 3 x 4)
Agriculture						
Regenerative agriculture	23.8	\$41 billion	975,800	10	\$410 billion	9,758,000
Farmland conservation	19.4	\$25 billion	485,000	10	\$250 billion	4,850,000
Organic farming	23.8	\$1.5 billion	35,700	10	\$15 billion	357,000
Resources for mar- ginalized farmers	25.3	\$91 billion	2,302,300	10	\$910 billion	23,023,000
Agricultural R&D	12.6	\$2.5 billion	31,500	10	\$25 billion	315,000
Land Restoration						
Pollution cleanup	15.9	\$12.6 billion	200,300	10	\$126 billion	2,003,000
Closing orphaned wells	15.9	\$12.0 billion	190,800`	10	\$120 billion	1,908,000
Ecosystem restoration	23.0	\$1.0 billion	23,000	10	\$10 billion	230,000
Totals		\$186.6 billion	4,244,400	10	\$1,866 billion	42,444,000

TABLE 3: Agriculture and Land Restoration (cont.)

3C) Job Creation from Agriculture and Land Restoration Programs: *Manufacturing Jobs Only* Created with Budgetary Figures

	, ,					
		Annual Jo	b Creation		Job-Years Created, A	II Years
	1) Total Jobs/ \$1 Million (from Table 3A)	2) Annual Budget	3) Job Creation per Year (= columns 1 x 2)	4) # of Years	5) Total Budget	6) Total Job Years (= columns 3 x 4)
Agriculture						
Regenerative agriculture	0.6	\$41 billion	24,600	10	\$410 billion	246,000
Farmland conservation	0.5	\$25 billion	12,500	10	\$250 billion	125,000
Organic farming	0.6	\$1.5 billion	900	10	\$15 billion	9,000
Resources for marginalized farmers	0.5	\$91 billion	45,500	10	\$910 billion	455,000
Agricultural R&D	0.3	\$2.5 billion	750	10	\$25 billion	7,500
Land Restoration						
Pollution cleanup	0.5	\$12.6 billion	6,300	10	\$126 billion	63,000
Closing orphaned wells	0.5	\$12.0 billion	6,000	10	\$120 billion	60,000
Ecosystem restoration	0.5	\$1.0 billion	500	10	\$10 billion	5,000
Totals		\$186.6 billion	97,050	10	\$1,866 billion	970,500

TABLE 4: Care Economy, Public Health, and Postal Service

4A) Job Creation from Care Economy, Public Health, and Postal Service: 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)			
Care economy	18.6	2.9	7.1	28.6	0.0	0.3	0.3	0.6			
Public health	8.0	3.2	5.9	17.1	0.0	0.2	0.3	0.5			
Postal Service	7.6	2.2	6.2	16.0	0.4	0.5	0.3	1.2			

TABLE 4: Care Economy, Public Health, and Postal Service (cont.)

4B) Job Creation from Care Economy, Public Health, and Postal Service: *Total Jobs* Created with Budgetary Figures

		Annual Jo	b Creation	Job-Years Created, All Years			
	1) Total Jobs/ \$1 Million (from Table 4A)	2) Annual Budget	3) Job Creation per Year (= columns 1 x 2)	4) # of Years	5) Total Budget	6) Total Job Years (= columns 3 x 4)	
Care economy	28.6	\$77.5 billion	2,216,500	10	\$775 billion	22,165,000	
Public health	17.1	\$4.5 billion	76,950	10	\$45 billion	769,500	
Postal Service	16.0	\$2.5 billion	40,000	10	\$25 billion	400,000	
Totals		\$84.5 billion	2,333,450	10	\$845 billion	23,334,500	

TABLE 4: Care Economy, Public Health, and Postal Service (cont.)

4C) Job Creation from Care Economy, Public Health, and Postal Service: *Manufacturing Jobs Only* Created with Budgetary Figures

		Annual Jo	b Creation	Job-Years Created, All Years			
	1) Total Jobs/ \$1 Million (from Table 4A)	2) Annual Budget	3) Job Creation per Year (= columns 1 x 2)	4) # of Years	5) Total Budget	6) Total Job Years (= columns 3 x 4)	
Care economy	0.6	\$77.5 billion	46,500	10	\$775 billion	465,000	
Public health	0.5	\$4.5 billion	2,250	10	\$45 billion	22,500	
Postal Service	1.2	\$2.5 billion	3,000	10	\$25 billion	30,000	
Totals		\$84.5 billion	51,750	10	\$845 billion	517,500	

TABLE 5: **Job Creation Estimates for All Categories:** *Summary Figures*

Total Job Creation: *Summary Figures from Tables 1B–4B*

	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	\$324.3 billion	5.2 million	\$3.2 trillion	52.1 million
Clean energy programs	\$358.8 billion	4.1 million	\$3.6 trillion	41.0 million
Agriculture and land restoration programs	\$186.6 billion	4.2 million	\$1.9 trillion	42.4 million
Care economy, public health, and postal service	\$84.5 billion	2.3 million	\$845 billion	23.3 million
TOTALS	\$954.2 billion	15.9 million	\$9.5 trillion	158.9 million

Manufacturing Job Creation ONLY: *Summary Figures from Tables 1C–4C*

	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	\$324.3 billion	473,760	\$3.2 trillion	4.7 million
Clean energy programs	\$358.8 billion	895,207	\$3.6 trillion	9.0 million
Agriculture and land restoration programs	\$186.6 billion	97,050	\$1.9 trillion	970,500
Care economy, public health, and postal service	\$84.5 billion	51,750	\$845 billion	517,500
TOTALS	\$954.2 billion	1.5 million	\$9.5 trillion	15.2 million

Endnotes

- 1 https://www.infrastructurereportcard.org/the-impact/economic-impact/
- 2 https://www.sierraclub.org/sites/www.sierraclub.org/files/COVID%20stimulus.pdf
- 3 https://www.infrastructurereportcard.org/the-impact/economic-impact/
- 4 https://www.railpassengers.org/tools-info/reports/unfunded-train-projects-in-america/
- 5 https://www.bluegreenalliance.org/wp-content/uploads/2017/09/MakingTheGrade-2.pdf
- 6 https://cwa-union.org/national-issues/secure-sustainable-jobs/broadband-buildout
- 7 https://www.sierraclub.org/sites/www.sierraclub.org/files/COVID%20stimulus.pdf
- 8 https://www.ipcc.ch/sr15/
- 9 https://www.sierraclub.org/sites/www.sierraclub.org/files/COVID%20stimulus.pdf https://brattlefiles.blob.core.windows.net/files/19421_brattle_-_opportunities_for_the_electricity_industry_in_ev_transition_-_final.pdf https://www.vox.com/energy-and-environment/2020/6/26/21302742/electric-vehicles-usps-postal-trucks-dem-ocrats-infrastructure-bill-electrify-service-mail
- 10 https://www.ipcc.ch/sr15/
- 11 https://www.sierraclub.org/sites/www.sierraclub.org/files/COVID%20stimulus.pdf
- 12 https://medium.com/@JoeBiden/the-biden-plan-for-mobilizing-american-talent-and-heart-to-create-a-21st-century-caregiving-and-af5ba2a2dfeb
- 13 https://www.vox.com/energy-and-environment/2020/6/26/21302742/electric-vehicles-usps-postal-trucks-democrats-infrastructure-bill-electrify-service-mail
- 14 http://s3-us-west-2.amazonaws.com/aamweb/uploads/research-pdf/Infrastructure_2009.pdf
- 15 https://www.americanprogress.org/issues/green/reports/2014/09/18/96404/green-growth/
- 16 https://www.unido.org/sites/default/files/2015-05/GLOBAL_GREEN_GROWTH_REPORT_vol1_final_0.pdf

POLITICAL ECONOMY RESEARCH INSTITUTE

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Established in 1998, PERI is an independent unit of the University of Massachusetts, Amherst, with close ties to the Department of Economics. PERI staff frequently work collaboratively with faculty members and graduate students from the University of Massachusetts, and other economists from around the world. Since its founding, PERI has become a leading source of research and policy initiatives on issues of globalization, unemployment, financial market instability, central bank policy, living wages and decent work, and the economics of peace, development, and environmental sustainability.

