

CLEAN ECONOMY WORKS



An Economic Impact Analysis of Major Clean Energy Projects Announced In Year One of the Inflation Reduction Act

PRODUCED FOR E2



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Introduction

In August 2022, Congress passed, and President Biden signed into law, the Inflation Reduction Act (IRA). In addition to advancing the country's climate goals, the IRA investments are designed to help the country better compete in the estimated [\\$23 trillion global clean economy](#) and advance U.S. innovation and jobs – while incorporating equity and environmental justice.

In the first year alone following the signing of the IRA, private companies announced investments of at least \$86 billion in 210 major clean energy and electric vehicle projects that together are expected to create at a minimum of 75,000 jobs across America, [based on publicly available information compiled by E2](#).

This analysis uses the original \$86 billion in estimated capital expenditures that companies announced in investments for new developments and extrapolates another \$20 billion in additional capital expenditures for project announcements that did not include a dollar amount or required an updated estimate based on available information. In addition to the direct benefits of these expenditures, new modeling from BW Research measures the broader economic benefits and the multiplier effect of the investments and jobs expected if the 210 announced projects were completed over the next five years.

When these broader economic benefits are factored in, BW's modeling expects 403,000 new jobs—including nearly 100,000 permanent jobs—would be created and supported throughout the economy, \$156 billion added to U.S. GDP, \$111 billion in new wages for workers, and more than \$32 billion generated in tax revenue for federal, state, and local governments. These benefits will continue long after the projects are built. For more details, see Key Findings below.

These secondary economic benefits are far-reaching. When new clean energy projects and clean vehicle factories and thousands of new jobs come to a community, local restaurants sell more meals. Schools, police departments and local public works projects benefit from increases in local tax revenues. Local manufacturers and wholesalers sell more goods to feed the growing local supply chain. And small businesses such as accounting firms, construction contractors, landscaping companies and caterers see new revenue streams.

Together, these direct and indirect jobs and investments tell a nationwide story of opportunity for domestic manufacturing, clean energy production, transportation and infrastructure modernization and American ingenuity, thanks to the clean energy incentives and investments made possible by the IRA.

They are also just the beginning as E2 continues to track new projects being announced every month.¹

¹ E2 Clean Economy Works project tracking. Available at <https://e2.org/announcements/>.

Key Findings

This modeling shows that (if all projects are completed) the 210 major projects tracked by E2 between August 2022-August 2023 will create or support more than **400,000 jobs**, including **303,500 construction jobs each year** during construction and another **99,600 jobs each year** after that.

These private-sector investments and jobs will add **\$155.5 billion to the nation's GDP** while the projects are under construction, and another **\$13.1 billion annually** once they are up and running.

Additionally, these projects will result in **\$32.5 billion in new tax revenues** for federal, state, and local governments while under construction, and an additional **\$2.9 billion annually** after that.

COMBINED JOBS, WAGE, TAX AND GDP IMPACTS OF MAJOR CLEAN ENERGY PROJECTS ANNOUNCED IN FIRST YEAR OF THE IRA

\$106.4 BILLION in total private capital investments
+ \$11.3 BILLION in annual investments during the operational life of projects

\$110.5 BILLION in labor income during construction phase
+ \$8.4 BILLION in labor income annually during the operational life of projects

\$155.5 BILLION added to U.S. GDP during construction phase
+ \$13.1 BILLION added to U.S. GDP annually during the operational life of projects

\$32.5 BILLION in tax revenue generated during construction phase
+ \$2.9 BILLION in tax revenue generated annually during the operational life of projects

303,500 JOBS each year for 5 years during construction phase
+ 99,600 JOBS supported annually during the operational life of projects

TOTAL INVESTMENTS INTO AND ANNUAL JOBS SUPPORTED BY CLEAN ENERGY PROJECTS, DETAILED BY ENERGY SECTOR

Sector	Total Construction Phase Jobs (Annual jobs for 5 years)	Annual Operations Phase Jobs (Annual jobs for lifetime of projects)
Solar	35,054	12,139
Wind	7,046	5,933
EV	185,673	54,500
Electric T&D	5,565	2,035
Battery Storage	48,795	13,633
Clean Fuels	21,322	11,342
Total	303,455	99,584

Sector	Announced Capital Investment (\$billions)	Extrapolated Capital Investment (\$billions)	Total Capital Investment (\$billions)	Annual Operational Investment (\$billions)
Solar	\$10.21	\$1.94	\$12.15	\$1.35
Wind	\$1.64	\$1.18	\$2.82	\$0.76
EV	\$56.06	\$5.52	\$61.58	\$6.16
Electric T&D	\$1.46	\$0.51	\$1.97	\$0.27
Battery Storage	\$12.19	\$5.61	\$17.80	\$1.90
Clean Fuels	\$5.09	\$4.99	\$10.08	\$0.83
Total Capital Investment	\$86.66	\$19.74	\$106.40	\$11.27

To analyze these economic impacts from the clean energy programs and policies in the IRA, BW Research used IMPLAN economic modeling software to estimate the overall economic benefits from publicly sourced clean energy project announcements. BW Research developed a dozen economic impact models in total to represent six tracked sectors: Solar, Wind, Electric Vehicle (EV), Electricity Transmission & Distribution (Electric T&D), Battery Storage, and Clean Fuels. Based on this common methodology and assumptions, BW generated outputs at the national level, including earnings, tax revenue, employment and overall GDP value add.

For more information on this modeling effort please refer to Appendix B: Modeling Methodology, beginning on page 17.

Economic Impact Definitions

Employment and economic impacts for both construction and operational phases of a project are divided into direct, indirect, and induced effects across the local economy. This section provides an overview of the types of economic impacts discussed in the findings.

- **Direct effects** show the change in the economy associated with the initial job creation and initial economic activity. For the purposes of this research, direct jobs range from construction workers involved in building and improving the manufacturing facility to production, sales and administrative employees in the operations and management phase.
- **Indirect effects** include all the backward linkages or the supply chain responses resulting from the initial direct economic activity. An example, an indirect job added to the local economy would be a new worker at a lumber mill hired to handle the increased demand for construction lumber that results from the initial investment.
- **Induced effects** refer to the effects of increased household spending and are the result of direct and indirect workers spending their wages within the local economy. An example of an induced job would be a local restaurant hiring more staff because construction workers during the construction phase and factory workers during the operations phase have new disposable income and eat at this local restaurant.

Other terms used in this economic impact analysis are:

Capital Investments	Initial short-term investments made by announced projects to begin the project process. This includes the purchase of necessary manufacturing and electric generation, transmission, distribution, and storage equipment, and the construction and retrofitting of facilities.
Operational Expenditures	Annual investments made by announced projects to support the manufacture of products, and operations and maintenance of electric generation, transmission, distribution, and storage systems for the lifetime of the projects. This takes the form of worker wages, intermediate goods of production, and other supply chain purchases.
Labor Income	The total payroll cost paid to employees (wages, salaries, benefits, payroll taxes) and payments received by self-employed individuals.
GDP/Value Added	Gross output less intermediate inputs. This is equivalent to Gross Domestic Product (GDP) for national outputs and Gross State Product (GSP) for state-level outputs. This is the net economic activity generated by the construction or operations of developments, less the cost of input materials to avoid double-counting economic activity.

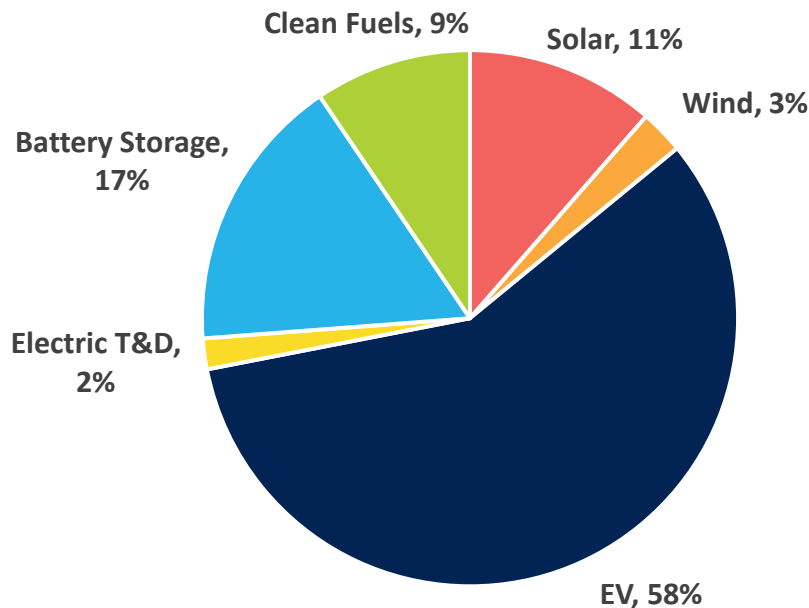
Clean Energy Sector Impacts

The clean energy projects announced since the passing of the IRA total \$106.4 billion in capital investments (publicly announced and estimated) across the six sectors modeled: Solar, Wind, Electric Vehicles (EV), Electricity Transmission & Distribution (Electric T&D), Battery Storage, and Clean Fuels (including hydrogen and biofuels). Additional investments from annual operations of these projects total \$11.3 billion (Figure 1).

FIGURE 1. TOTAL INVESTMENT BY SECTOR, NATIONAL

Sector	Total Capital Investment (\$billions)	Annual Operational Investment (\$billions)
Solar	\$12.15	\$1.35
Wind	\$2.82	\$0.76
EV	\$61.58	\$6.16
Electric T&D	\$1.97	\$0.27
Battery Storage	\$17.80	\$1.90
Clean Fuels	\$10.08	\$0.83
Total Investment	\$106.40	\$11.27

FIGURE 2. TOTAL CAPITAL INVESTMENT DISTRIBUTION BY SECTOR, NATIONAL



CONSTRUCTION PHASE ECONOMIC IMPACTS

If we assume private-sector capital investments announced this prior year are invested evenly across the next five (5) years, this \$106 billion in capital investment translates to about \$21.3 billion invested annually for five years. This \$21 billion annual investment is estimated to support about 303,500 jobs throughout the economy annually for five years.² For comparison, this is roughly equivalent to the number of firefighters employed nationwide in the first quarter of 2023.³ Of these 303,500 annual jobs, 142,300 (47%) are a result of the direct investment, while 55,900 jobs (18%) are supported throughout the value chain. An additional 105,300 jobs (35%) are induced jobs, or jobs supported through the economic impact generated by direct and indirect workers spending their paychecks in the local economy.

Clean energy projects announced over the past year are also estimated to generate nearly \$31.1 billion in value added each year during the five-year construction phase, or \$155.4 billion total, which represents a 146% return on the original \$106 billion capital investments over five years. This \$31.1 billion in annual value added is roughly equivalent to the Gross Domestic Product (GDP) generated by the nation's broadcast media industry, for comparison.⁴ Additional impacts generated from the construction phase of clean energy projects include \$22.1 billion in annual labor income, and \$6.5 billion in annual local, state, and federal tax revenue (Figure 3).

FIGURE 3. CONSTRUCTION PHASE ANNUAL IMPACTS BY IMPACT TYPE, NATIONAL, ALL SECTORS

	Jobs	Value Added	Labor Income	Taxes	
Direct	142,265	\$11,085,439,831	\$10,435,287,414	Local	\$833,063,456
Indirect	55,928	\$7,849,684,451	\$4,730,510,247	State	\$1,262,274,165
Induced	105,262	\$12,135,305,907	\$6,894,385,197	Federal	\$4,403,059,789
Total	303,455	\$31,070,430,188	\$22,060,182,859	Total	\$6,498,397,410

² Outputs in this memo are reported in average annual job-years. The 303,500 annual jobs for five years translate to about 1,517,300 total job-years.

³ Firefighters (SOC Code 33-2010) employment is 305,827. Data as of 2023Q1, from JobsEQ.

⁴ Radio and Television Broadcasting Stations (NAICS 5161) GDP is \$36.1 billion. Data as of 2022, from JobsEQ.

FIGURE 4. CONSTRUCTION PHASE ANNUAL IMPACTS PER SECTOR, NATIONAL

Sector	Jobs	Value Added	Labor Income	Taxes
Solar	35,054	\$3,582,769,957	\$2,538,907,695	\$746,204,666
Wind	7,046	\$720,255,564	\$473,861,419	\$136,599,034
EV	185,673	\$18,481,847,345	\$13,382,325,932	\$3,913,600,503
Electric T&D	5,565	\$579,393,146	\$401,813,658	\$119,947,461
Battery Storage	48,795	\$5,017,638,982	\$3,526,701,689	\$1,035,117,483
Clean Fuels	21,322	\$2,688,525,194	\$1,736,572,465	\$546,928,263
Total	303,455	\$31,070,430,188	\$22,060,182,859	\$6,498,397,410

CAPITAL BY SECTOR

Electric Vehicles: The EV sector shows the strongest response to the IRA incentives, representing more than half of the total capital investment (58%) and supporting 185,700 jobs annually for five years as a result of \$61.6 billion capital investment. The EV sector contributes the most value to the economy, generating about \$18.5 billion in value added each year for five years.

Battery Storage: The Battery Storage sector follows, with 48,800 jobs supported annually during the five-year construction phase spurred by the \$17.8 billion capital investment.

Solar: The Solar sector contributes 35,000 jobs annually for five years as a result of the \$12.2 billion capital investment.

Combined, these three policy groups represent 89% of annual construction phase jobs impacts generated from the private-sector capital investments in the clean energy projects.

The Clean Fuels, Wind, and Electric T&D sectors represent the remaining 11%, with 21,300 jobs in Clean Fuels, 7,000 jobs in Wind, and 5,600 jobs in Electric T&D annually for five years (

Figure 4).

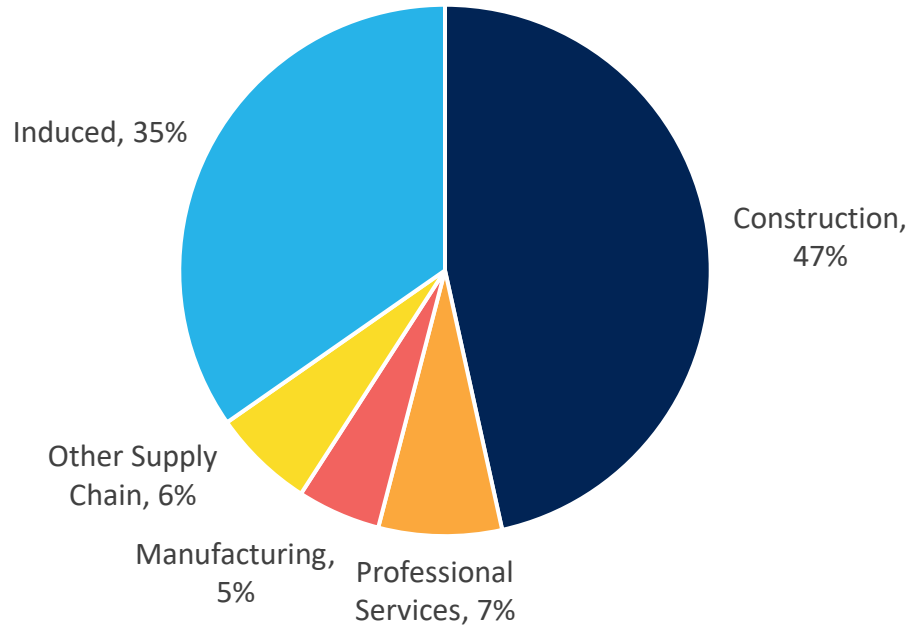
The 303,500 annual construction phase jobs are spread across six industry categories: construction, professional services, manufacturing, other supply chain, and induced.⁵ The construction industry makes up nearly half (47%) of total employment impacts, due to the significant jobs impacts from the construction of manufacturing facilities. Professional services industries follow, representing 7% of total jobs impacts, while other supply chain industries and manufacturing make up 6% and 5% of total jobs supported, respectively. Jobs found in induced industries, or throughout the general economy, represent the remaining 35% (Figure 5).

The induced jobs supported by these clean energy projects are spread across various fields in the economy. Healthcare, Retail, Professional Business Services (PBS), Finance, Insurance, and Real Estate (FIRE), and Hospitality are the industries that benefit the most from workers spending their wages in the local economy (

⁵ "Other Supply Chain" includes employment in the Retail and Wholesale Trade, Transportation, and Utilities industries.

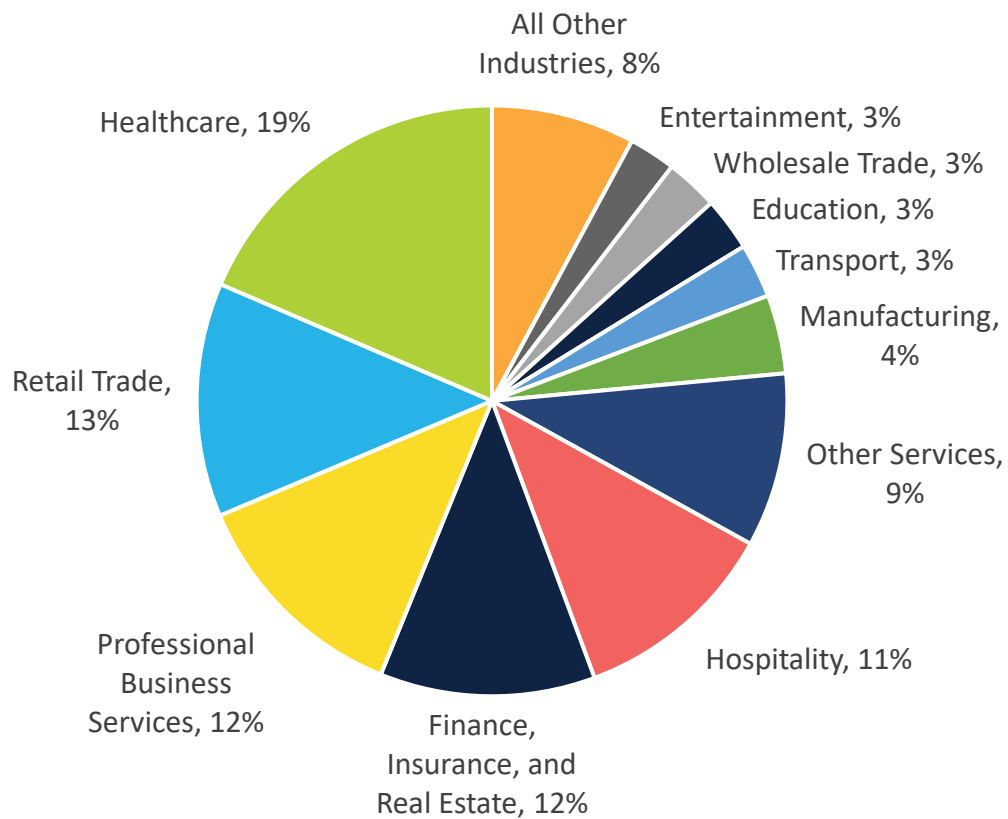
Figure 6).⁶

FIGURE 5. CONSTRUCTION PHASE JOBS BY INDUSTRY, NATIONAL



⁶ "All Other Industries" includes employment in Distribution, Information, Agriculture, Government, Construction, Utilities, and Mining & Extraction

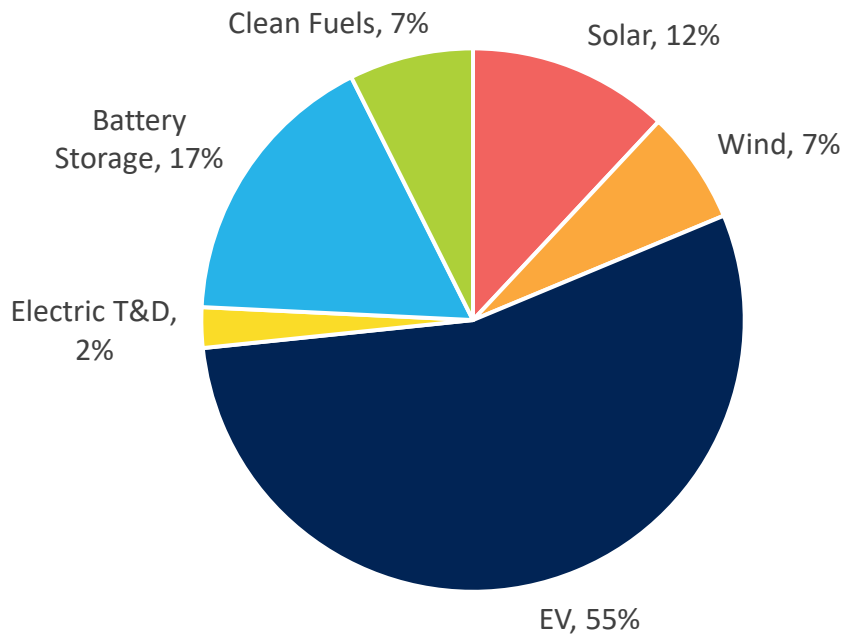
FIGURE 6. CONSTRUCTION PHASE INDUCED JOBS BY INDUSTRY, NATIONAL



OPERATIONS PHASE ECONOMIC IMPACTS

While capital investment spurs strong short-term economic activity during the construction phase, sustained long-term jobs are also secured by establishing clean energy projects. Annual operations phase investments from clean energy projects announced since the passing of the IRA total \$11.3 billion (Figure 1). These operations investments are estimated to sustain about 99,600 jobs annually for the lifetime of these clean energy projects. Of these 99,600 jobs, 25,000 (25%) are the result of direct investment, while 34,500 jobs (35%) are supported each year throughout the supply chain. The remaining 40%, or 40,100 jobs, are induced jobs, supported by workers spending their earnings in the local economy each year.

FIGURE 7. TOTAL OPERATIONS INVESTMENT DISTRIBUTION BY SECTOR, NATIONAL



Additional benefits generated from the annual operations of these clean energy projects include \$13.1 billion in annual value added, \$8.4 billion in annual labor income, and \$2.9 billion in annual local, state, and federal tax revenue (Figure 8).

THE EV SECTOR SUPPORTS MORE THAN HALF (55%) OF THESE 99,600 OPERATIONS PHASE JOBS, TOTALING ABOUT 54,500 JOBS. THE BATTERY STORAGE, SOLAR, AND CLEAN FUELS SECTORS SUPPORT BETWEEN 11 AND 14% OF TOTAL OPERATIONS PHASE JOBS, WITH 13,600 JOBS IN BATTERY STORAGE, 12,100 JOBS IN SOLAR, AND 11,300 JOBS IN CLEAN FUELS OPERATIONS. THE WIND AND ELECTRIC T&D SECTORS MAKE UP THE REMAINING 8%, OR 8,000 JOBS (

Figure 9).

FIGURE 8. OPERATIONS PHASE ANNUAL IMPACTS BY IMPACT TYPE, NATIONAL, ALL SECTORS

	Jobs	Value Added	Labor Income		Taxes
Direct	25,032	\$3,496,679,259	\$2,717,597,227	Local	\$518,061,220
Indirect	34,478	\$4,998,282,359	\$3,024,031,052	State	\$661,336,387
Induced	40,074	\$4,622,284,486	\$2,624,798,544	Federal	\$1,735,588,354
Total	99,584	\$13,117,246,103	\$8,366,426,824	Total	\$2,914,985,962

FIGURE 9. OPERATIONS PHASE ANNUAL IMPACTS PER SECTOR, NATIONAL

Sector	Jobs	Value Added	Labor Income	Taxes
Solar	12,139	\$1,764,557,845	\$1,055,154,113	\$343,928,333
Wind	5,933	\$786,627,343	\$478,657,970	\$251,137,175
EV	54,500	\$7,019,610,644	\$4,263,752,308	\$1,452,401,968
Electric T&D	2,035	\$309,548,824	\$170,903,022	\$66,716,887
Battery Storage	13,633	\$1,783,613,806	\$1,132,141,486	\$368,396,194
Clean Fuels	11,342	\$1,453,287,640	\$1,265,817,925	\$432,405,406
Total	99,584	\$13,117,246,103	\$8,366,426,824	\$2,914,985,962

The 99,600 annual operations jobs are spread across the six industry categories differently than the construction phase outputs, highlighting the full breadth of jobs supported by clean energy investments. The manufacturing industry makes up nearly one-third (30%) of total employment impacts, due to the significant jobs associated with operating clean energy and EV manufacturing facilities. Other supply chain industries follow, representing 15% of total operations-phase jobs impacts, while professional services and construction make up 12% and 3% of annual operations jobs supported, respectively.⁷ Jobs found in induced industries, or throughout the general economy, represent the remaining 40% (

⁷ "Other Supply Chain" includes employment in the Retail and Wholesale Trade, Transportation, and Utilities industries.

Figure 10). The induced jobs supported by the operations of clean energy projects share the same industry distribution as detailed in the construction phase outputs (Figure 11).

FIGURE 10. OPERATIONS PHASE JOBS BY INDUSTRY, NATIONAL

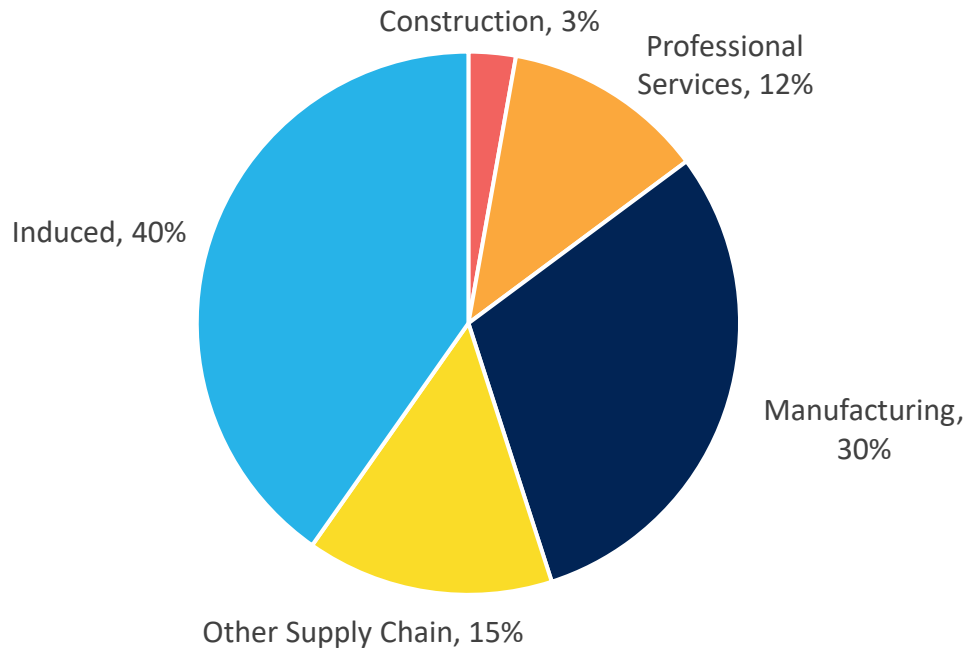
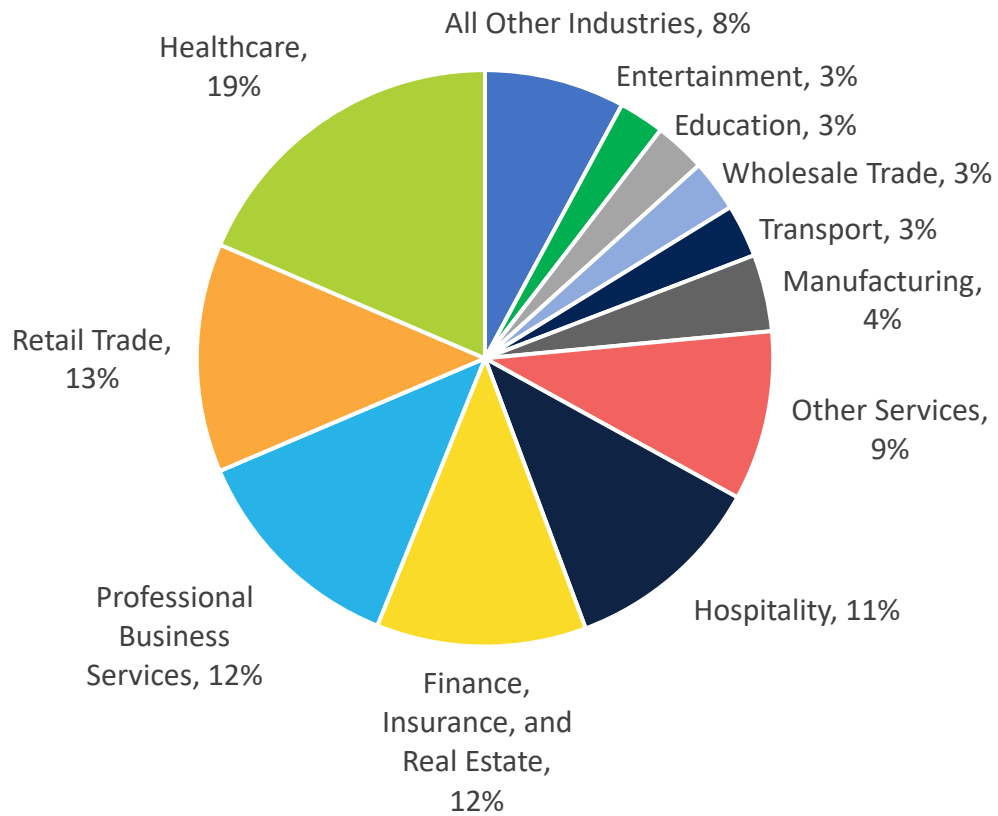


FIGURE 11. OPERATIONS PHASE INDUCED JOBS BY INDUSTRY, NATIONAL



Appendix A: National Sector Output Tables

SOLAR ANNUAL CONSTRUCTION PHASE IMPACTS (5 years)					
	Jobs	Value Added	Labor Income		Taxes
Direct	16,703	\$1,289,445,501	\$1,206,785,398	Local	\$94,706,327
Indirect	6,269	\$897,723,391	\$539,285,593	State	\$144,480,772
Induced	12,082	\$1,395,601,066	\$792,836,703	Federal	\$507,017,566
Total	35,054	\$3,582,769,957	\$2,538,907,695	Total	\$746,204,666

SOLAR ANNUAL OPERATIONS PHASE IMPACTS (Annually)					
	Jobs	Value Added	Labor Income		Taxes
Direct	3,407	\$639,231,583	\$360,403,003	Local	\$50,644,649
Indirect	3,709	\$544,522,845	\$364,983,512	State	\$71,738,836
Induced	5,023	\$580,803,417	\$329,767,599	Federal	\$221,544,848
Total	12,139	\$1,764,557,845	\$1,055,154,113	Total	\$343,928,333

WIND ANNUAL CONSTRUCTION PHASE IMPACTS (5 years)					
	Jobs	Value Added	Labor Income		Taxes
Direct	1,673	\$129,130,479	\$122,805,589	Local	\$18,029,260
Indirect	2,851	\$324,292,729	\$198,818,678	State	\$27,463,032
Induced	2,523	\$266,832,356	\$152,237,153	Federal	\$91,106,742
Total	7,046	\$720,255,564	\$473,861,419	Total	\$136,599,034

WIND ANNUAL OPERATIONS PHASE IMPACTS (Annually)					
	Jobs	Value Added	Labor Income		Taxes
Direct	1,497	\$174,664,808	\$164,791,059	Local	\$45,144,844
Indirect	2,038	\$345,905,551	\$162,505,931	State	\$56,933,609
Induced	2,399	\$266,056,985	\$151,360,979	Federal	\$149,058,721
Total	5,933	\$786,627,343	\$478,657,970	Total	\$251,137,175

EV ANNUAL CONSTRUCTION PHASE IMPACTS (5 years)					
	Jobs	Value Added	Labor Income		Taxes
Direct	90,143	\$6,622,412,094	\$6,515,030,878	Local	\$495,279,895
Indirect	31,841	\$4,502,210,675	\$2,687,827,065	State	\$754,027,865
Induced	63,689	\$7,357,224,576	\$4,179,467,990	Federal	\$2,664,292,743
Total	185,673	\$18,481,847,345	\$13,382,325,932	Total	\$3,913,600,503

EV ANNUAL OPERATIONS PHASE IMPACTS (Annually)					
	Jobs	Value Added	Labor Income		Taxes
Direct	11,518	\$1,549,628,508	\$1,000,145,532	Local	\$249,229,876
Indirect	22,578	\$3,110,287,743	\$1,923,917,699	State	\$325,165,365
Induced	20,405	\$2,359,694,393	\$1,339,689,077	Federal	\$878,006,727
Total	54,500	\$7,019,610,644	\$4,263,752,308	Total	\$1,452,401,968

ELECTRIC T&D ANNUAL CONSTRUCTION PHASE IMPACTS (5years)					
	Jobs	Value Added	Labor Income		Taxes
Direct	2,665	\$219,332,264	\$193,432,515	Local	\$15,832,727
Indirect	988	\$139,157,074	\$82,890,009	State	\$23,671,158
Induced	1,912	\$220,903,808	\$125,491,135	Federal	\$80,443,576
Total	5,565	\$579,393,146	\$401,813,658	Total	\$119,947,461

ELECTRIC T&D ANNUAL OPERATIONS PHASE IMPACTS (Annually)					
	Jobs	Value Added	Labor Income		Taxes
Direct	605	\$107,662,086	\$58,167,670	Local	\$15,377,401
Indirect	615	\$107,627,943	\$59,217,016	State	\$17,670,254
Induced	815	\$94,258,796	\$53,518,336	Federal	\$33,669,232
Total	2,035	\$309,548,824	\$170,903,022	Total	\$66,716,887

BATTERY STORAGE ANNUAL CONSTRUCTION PHASE IMPACTS (5 years)					
	Jobs	Value Added	Labor Income		Taxes
Direct	23,375	\$1,865,280,818	\$1,688,052,290	Local	\$130,033,953
Indirect	8,638	\$1,213,931,685	\$737,393,286	State	\$199,951,414
Induced	16,783	\$1,938,426,479	\$1,101,256,114	Federal	\$705,132,116
Total	48,795	\$5,017,638,982	\$3,526,701,689	Total	\$1,035,117,483

BATTERY STORAGE ANNUAL OPERATIONS PHASE IMPACTS (Annually)					
	Jobs	Value Added	Labor Income		Taxes
Direct	4,941	\$698,246,368	\$491,470,340	Local	\$57,550,556
Indirect	3,282	\$459,901,960	\$285,512,887	State	\$78,598,745
Induced	5,410	\$625,465,478	\$355,158,260	Federal	\$232,246,893
Total	13,633	\$1,783,613,806	\$1,132,141,486	Total	\$368,396,194

CLEAN FUELS ANNUAL CONSTRUCTION PHASE IMPACTS (5 years)					
	Jobs	Value Added	Labor Income		Taxes
Direct	7,706	\$959,838,674	\$709,180,745	Local	\$79,181,295
Indirect	5,342	\$772,368,897	\$484,295,617	State	\$112,679,922
Induced	8,274	\$956,317,622	\$543,096,103	Federal	\$355,067,046
Total	21,322	\$2,688,525,194	\$1,736,572,465	Total	\$546,928,263

CLEAN FUELS ANNUAL OPERATIONS PHASE IMPACTS (Annually)					
	Jobs	Value Added	Labor Income		Taxes
Direct	3,063	\$327,245,905	\$642,619,624	Local	\$100,113,893
Indirect	2,256	\$430,036,317	\$227,894,008	State	\$111,229,579
Induced	6,023	\$696,005,418	\$395,304,293	Federal	\$221,061,933
Total	11,342	\$1,453,287,640	\$1,265,817,925	Total	\$432,405,406

Appendix B: Modeling Methodology

This analysis provides a thorough economic prediction of the impacts of the 210 announcements by filling in the gaps of publicly announced information. Modeled impacts differ from initial estimates offered by companies announcing new projects, tracked by E2. Fifty-six of the 210 announcements provided no capital investment estimate and sixty-eight provided no job creation estimate. Additionally, those estimates were inconsistently defined, lacking clarity on if they are direct jobs only or direct, indirect, and induced jobs, and if they were for construction or permanent positions.

This section details the capital, operational, and total investment for each sector, the extrapolation methods used in the investment processing, and the economic modeling assumptions for each sector.

TOTAL INPUTS BY SECTOR

Announced, extrapolated, and total capital investments for each sector are detailed in the table below.

Sector	Announced Capital Investment (\$billions)	Extrapolated Capital Investment (\$billions)	Total Capital Investment (\$billions)
Solar	\$10.21	\$1.94	\$12.15
Wind	\$1.64	\$1.18	\$2.82
EV	\$56.06	\$5.52	\$61.58
Electric T&D	\$1.46	\$0.51	\$1.97
Battery Storage	\$12.19	\$5.61	\$17.80
Clean Fuels	\$5.09	\$4.99	\$10.08
Total Capital Investment	\$86.66	\$19.74	\$106.40

Annual operational investments for each sector are detailed in the table below, all values are extrapolated.

Sector	Annual Operational Investment (\$billions)
Solar	\$1.35
Wind	\$0.76
EV	\$6.16
Electric T&D	\$0.27
Battery Storage	\$1.90
Clean Fuels	\$0.83
Total Operational Investment	\$11.27

Extrapolation and economic impact modeling methods are detailed below.

INVESTMENT EXTRAPOLATION METHODS

For project announcements that did not provide capital investment amounts, the research team extrapolated such data using a stepwise approach depending on other available data, detailed below. Projects were first sorted by the six sectors, then further by project type: manufacturing or electric/fuel generation

1. For projects with estimated generation/production data in announcement, BW used average cost per production unit from similar projects to extrapolate capital investment.
2. For projects with anticipated jobs in announcement, BW used average cost per job from similar projects to extrapolate capital investment.
3. For projects without any data in announcement, BW used average cost of all similar projects to extrapolate capital investment.

Operations phase investment extrapolations relied on secondary data by sector to create OPEX to CAPEX investment ratios that were applied to each sector's capital investments. The OPEX to CAPEX investment ratios are detailed in the table below, along with the source for the assumptions.

Sector	Project Type	OPEX to CAPEX Ratio	Source
Solar	Generation	20%	COMED – E3 Solar cost data ⁸
Solar	Manufacturing	10%	NREL solar cost benchmarking ⁹
Wind	Generation	36%	Internal review of wind manufacturing operating costs
Wind	Manufacturing	21%	NREL JEDI land-based wind model
EV	Installation	N/A	N/A – no projects in this model
EV	Manufacturing	10%	UC Davis – Cost Structure of an ICEV and a BEV ¹⁰
Electric T&D	Generation	9%	COMED – E3 Charging infrastructure cost data ¹¹
Electric T&D	Manufacturing	16%	Internal review of EV charger manufacturing operating costs
Battery Storage	Generation	14%	COMED – E3 Battery Storage cost data ¹²
Battery Storage	Manufacturing	10%	Large-scale battery cell manufacturing operational costs ¹³
Clean Fuels	Generation	8%	NYSERDA JTWG Jobs Study – E3 Hydrogen cost data ¹⁴
Clean Fuels	Manufacturing	8%	NYSERDA JTWG Jobs Study – E3 Hydrogen cost data ¹⁵

⁸ <https://www.ethree.com/wp-content/uploads/2022/12/E3-Commonwealth-Edison-Decarbonization-Report.-December-2022.pdf>

⁹ <https://www.nrel.gov/docs/fy19osti/72134.pdf>

¹⁰ <https://steps.ucdavis.edu/wp-content/uploads/2018/02/FRIES-MICHAEL-An-Overview-of-Costs-for-Vehicle-Components-Fuels-Greenhouse-Gas-Emissions-and-Total-Cost-of-Ownership-Update-2017-.pdf>

¹¹ <https://www.ethree.com/wp-content/uploads/2022/12/E3-Commonwealth-Edison-Decarbonization-Report.-December-2022.pdf>

¹² Ibid

¹³ <https://www.sciencedirect.com/science/article/pii/S0925527320303315>

¹⁴ https://www.bwresearch.com/docs/BWR_NY-JTWG-JobsStudy2021.pdf

¹⁵ Ibid

ECONOMIC IMPACT MODELING ASSUMPTIONS

The research team used IMPLAN and NREL’s JEDI modeling software to estimate the economic impacts reported in this analysis. To do so, the research team developed economic impact models specific to each sector, project type, and investment phase; the details of which can be found in the tables below.

Sector	Project Type	Phase	Modeling Assumptions
Solar	Manufacturing	CAPEX	IMPLAN 51 - Construction of new manufacturing structures
Solar	Manufacturing	OPEX	IMPLAN 307 - Semiconductor and related device manufacturing
Solar	Generation	CAPEX	IMPLAN 52 - Construction of new power and communication structures - Adjusted spending patterns for Solar
Solar	Generation	OPEX	IMPLAN 60 - Maintenance and repair construction of nonresidential structures - Adjusted spending patterns for Solar
Wind	Manufacturing	CAPEX	80% in IMPLAN 51 - Construction of new manufacturing structures, 20% in IMPLAN 395 - Wholesale - Machinery, equipment, and supplies
Wind	Manufacturing	OPEX	IMPLAN 281 - Turbine and turbine generator set units manufacturing
Wind	Generation	CAPEX	NREL’s JEDI land-based wind model
Wind	Generation	OPEX	NREL’s JEDI land-based wind model
EV	Manufacturing	CAPEX	IMPLAN 51 - Construction of new manufacturing structures
EV	Manufacturing	OPEX	Industry input based on employment in relevant industries - see table below
EV	Installation	CAPEX	N/A – no projects in this model
EV	Installation	OPEX	N/A – no projects in this model
Electric T&D	Manufacturing	CAPEX	IMPLAN 51 - Construction of new manufacturing structures
Electric T&D	Manufacturing	OPEX	50% in IMPLAN 283 - Mechanical power transmission equipment manufacturing, 50% in IMPLAN 336 - Other communication and energy wire manufacturing
Electric T&D	Generation	CAPEX	IMPLAN 52 - Construction of new power and communication structures
Electric T&D	Generation	OPEX	IMPLAN 47 - Electric power transmission and distribution
Battery Storage	Manufacturing	CAPEX	IMPLAN 51 - Construction of new manufacturing structures
Battery Storage	Manufacturing	OPEX	IMPLAN 333 - Storage battery manufacturing
Battery Storage	Generation	CAPEX	IMPLAN 52 - Construction of new power and communication structures - Adjusted spending patterns for Battery Storage
Battery Storage	Generation	OPEX	IMPLAN 60 - Maintenance and repair construction of nonresidential structures - Adjusted spending patterns for Battery Storage
Clean Fuels	Manufacturing	CAPEX	IMPLAN 51 - Construction of new manufacturing structures
Clean Fuels	Manufacturing	OPEX	See table below
Clean Fuels	Generation	CAPEX	See table below
Clean Fuels	Generation	OPEX	IMPLAN 46 - Electric power generation - All other

Share of Total EV**Manufacturing****Capital Investment****IMPLAN Industry Code**

5%	194 - Tire manufacturing
24%	340 - Automobile manufacturing
4%	342 - Heavy duty truck manufacturing
5%	343 - Motor vehicle body manufacturing
6%	347 - Motor vehicle gasoline engine and engine parts manufacturing
6%	348 - Motor vehicle electrical and electronic equipment manufacturing
5%	353 - Motor vehicle steering, suspension component (except spring), and brake systems manufacturing
8%	349 - Motor vehicle transmission and power train parts manufacturing
7%	350 - Motor vehicle seating and interior trim manufacturing
8%	351 - Motor vehicle metal stamping
15%	352 - Other motor vehicle parts manufacturing
3%	339 - All other miscellaneous electrical equipment and component manufacturing
4%	330 - Motor and generator manufacturing

Share of**Clean Fuels****Investments****IMPLAN Industry Code**

58%	307 - Semiconductor and related device manufacturing
14%	236 - Fabricated structural metal manufacturing
17%	336 - Other communication and energy wire manufacturing
11%	52 - Construction of new power and communication structures

Appendix C: E2 Announced Projects Data

Sector	Developer Name	Project Type	Announced Investment	Extrap?	Date Announced (MM/DD/YYYY)	Location	Link
EV	Sion Power	Manufacturing	\$341,000,000		12-08-2022	AZ	Link
EV	Gotion	Manufacturing	\$2,360,000,000		10-06-2022	MI	Link
EV	Canoo	Manufacturing	\$706,507,719	Yes	11-02-2022	OK	Link
EV	Canoo	Manufacturing	\$547,577,353	Yes	11-09-2022	OK	Link
EV	Envision	Manufacturing	\$810,000,000		12-06-2022	SC	Link
EV	Evercharge	Manufacturing	\$706,507,719	Yes	12-07-2022	CA	Link
EV	EVelution Energy	Manufacturing	\$200,000,000		03-08-2023	AZ	Link
EV	Rivian	Manufacturing	\$10,000,000		04-27-2023	KY	Link
EV	Tritium	Manufacturing	\$273,788,677	Yes	02-15-2023	TN	Link
EV	Magna	Manufacturing	\$100,000,000		03-30-2023	MI	Link
EV	UCore North America	Manufacturing	\$75,000,000		04-06-2023	LA	Link
EV	Magna	Manufacturing	\$263,333,333		07-20-2023	TN	Link
EV	Magna	Manufacturing	\$263,333,333		07-20-2023	TN	Link
EV	Magna	Manufacturing	\$263,333,333		07-20-2023	TN	Link
EV	Magna	Manufacturing	\$426,000,000		10-25-2022	MI	Link
EV	Magna	Manufacturing	\$96,000,000		10-25-2022	MI	Link
EV	Junchuang North America	Manufacturing	\$21,000,000		07-25-2023	TX	Link
EV	Ford & Contemporary Amperex Technology	Manufacturing	\$3,500,000,000		02-13-2023	MI	Link
EV	Kempower	Manufacturing	\$41,200,000		02-07-2023	NC	Link
EV	Scout Motors	Manufacturing	\$2,000,000,000		03-03-2023	SC	Link
EV	Quench Chargers	Manufacturing	\$706,507,719	Yes	01-18-2023	CT	Link
EV	Bosch	Manufacturing	\$1,500,000,000		04-26-2023	CA	Link
EV	XCharge	Research, Training & Technology	\$706,507,719	Yes	08-02-2023	TX	Link
EV	Bosch	Manufacturing	\$260,000,000		10-25-2022	SC	Link
EV	BMW	Manufacturing	\$1,000,000,000		10-19-2022	SC	Link
EV	BMW	Manufacturing	\$700,000,000		10-19-2022	SC	Link
EV	Siemens	Manufacturing	\$109,515,471	Yes	12-14-2022	TX	Link
EV	StoreDot	Manufacturing	\$706,507,719	Yes	1-10-2023	CA	Link
EV	alpitronic Americas LLC	Manufacturing	\$18,300,000		05-23-2023	NC	Link

Sector	Developer Name	Project Type	Announced Investment	Extrap?	Date Announced (MM/DD/YYYY)	Location	Link
EV	Nissan	Manufacturing	\$250,000,000		01-23-2023	TN	Link
EV	Toyota	Manufacturing	\$2,100,000,000		05-31-2023	NC	Link
EV	Toyota	Research, Training & Technology	\$50,000,000		06-08-2023	MI	Link
EV	Honda	Manufacturing	\$233,333,333		10-11-2022	OH	Link
EV	Honda	Manufacturing	\$233,333,333		10-11-2022	OH	Link
EV	Honda	Manufacturing	\$233,333,333		10-11-2022	OH	Link
EV	Honda, LG Energy Solutions	Manufacturing	\$3,500,000,000		10-11-2022	OH	Link
EV	Toyota	Manufacturing	\$2,500,000,000		08-31-2022	NC	Link
EV	Advanced Nano Projects	Manufacturing	\$50,000,000		08-25-2022	KY	Link
EV	Daejin Advanced Manufacturing USA Inc.	Manufacturing	\$10,200,000		09-27-2022	TN	Link
EV	Ecoplastics Corporation	Manufacturing	\$205,000,000		01-05-2023	GA	Link
EV	Seoyon E-HWA	Manufacturing	\$76,000,000		02-01-2023	GA	Link
EV	Sewon America	Manufacturing	\$300,000,000		02-21-2023	GA	Link
EV	PHA	Manufacturing	\$67,000,000		03-07-2023	GA	Link
EV	LG Energy Solution	Manufacturing	\$1,800,000,000		03-23-2023	AZ	Link
EV	Seohan Auto	Manufacturing	\$72,000,000		04-11-2023	GA	Link
EV	Hanon Systems	Manufacturing	\$40,000,000		05-23-2023	GA	Link
EV	Woory Industrial Co	Manufacturing	\$18,000,000		06-07-2023	GA	Link
EV	NVH Korea	Manufacturing	\$72,000,000		06-23-2023	GA	Link
EV	Enchem America Inc	Manufacturing	\$152,500,000		06-26-2023	TN	Link
EV	Stellantis	Manufacturing	\$155,000,000		02-28-2023	IN	Link
EV	SK Signet	Manufacturing	\$200,413,311	Yes	11-15-2022	TX	Link
EV	Hanon Systems	Manufacturing	\$170,000,000		08-02-2023	TN	Link
EV	Hyundai	Manufacturing	\$205,000,000		10-27-2022	AL	Link
EV	LG Chem	Manufacturing	\$3,200,000,000		11-21-2022	TN	Link
EV	Hyundai	Manufacturing	\$926,000,000		11-23-2022	GA	Link
EV	Hyundai & SK On	Manufacturing	\$4,000,000,000		12-08-2022	GA	Link
EV	Kia	Manufacturing	\$200,000,000		07-12-2023	GA	Link
EV	Ingeteam	Manufacturing	\$20,000,000		05-09-2023	WI	Link
EV	ABB E-Mobility	Manufacturing	\$4,000,000		09-14-2022	SC	Link

Sector	Developer Name	Project Type	Announced Investment	Extrap?	Date Announced (MM/DD/YYYY)	Location	Link
EV	Kontrolmatik Technologies	Manufacturing	\$279,000,000		12-08-2022	SC	Link
EV	Joon Georgia, Inc	Manufacturing	\$317,000,000		11-09-2022	GA	Link
EV	Liochem	Manufacturing	\$104,000,000		01-26-2023	KY	Link
EV	Cabot Corporation	Manufacturing	\$75,000,000		01-26-2023	TX	Link
EV	Factorial Energy	Manufacturing	\$45,000,000		08-25-2022	MA	Link
EV	Aspen Aerogels	Research, Training & Technology	\$82,136,603	Yes	09-21-2022	MA	Link
EV	General Motors	Manufacturing	\$491,000,000		09-15-2022	IN	Link
EV	General Motors	Manufacturing	\$760,000,000		09-23-2022	OH	Link
EV	Our Next Energy	Manufacturing	\$1,600,000,000		10-05-2022	MI	Link
EV	General Motors	Manufacturing	\$45,000,000		11-19-2022	IN	Link
EV	Lear Corp	Manufacturing	\$37,500,000		12-13-2022	MI	Link
EV	Soulbrain MI	Manufacturing	\$75,000,000		12-13-2022	IN	Link
EV	Lear Corp	Manufacturing	\$37,500,000		12-13-2022	MI	Link
EV	Lear Corp	Manufacturing	\$37,500,000		12-13-2022	MI	Link
EV	Cirba Solutions	Manufacturing	\$200,000,000		12-15-2022	OH	Link
EV	Autokinition	Manufacturing	\$15,000,000		12-17-2022	OH	Link
EV	GM	Manufacturing	\$8,000,000		01-21-2023	OH	Link
EV	GM	Manufacturing	\$56,000,000		01-21-2023	NY	Link
EV	Shyft Group	Manufacturing	\$16,000,000		03-08-2023	MI	Link
EV	BorgWarner	Manufacturing	\$20,600,000		04-04-2023	MI	Link
EV	Hitachi Astemo Americas	Manufacturing	\$153,000,000		07-11-2023	KY	Link
EV	Bollinger	Manufacturing	\$22,000,000		07-25-2023	MI	Link
EV	Bollinger	Manufacturing	\$22,000,000		07-25-2023	MI	Link
EV	Redwood Materials	Manufacturing	\$3,500,000,000		12-14-2022	SC	Link
EV	Redwood Materials	Manufacturing	\$2,000,000,000		02-09-2023	NV	Link
EV	Cenntro Electric Group	Manufacturing	\$706,507,719	Yes	07-11-2023	CA	Link
EV	Atom Power	Manufacturing	\$4,200,000		05-09-2023	NC	Link
EV	Ultium Cells	Manufacturing	\$275,000,000		12-02-2022	TN	Link
EV	Entek	Manufacturing	\$1,500,000,000		03-20-2023	IN	Link
EV	Tesla	Manufacturing	\$717,000,000		01-11-2023	TX	Link
EV	Tesla	Manufacturing	\$3,500,000,000		01-24-2023	NV	Link
EV	Ecobat	Manufacturing	\$65,709,282	Yes	02-22-2023	AZ	Link
EV	Manner Polymers	Manufacturing	\$54,000,000		06-01-2023	IL	Link

Sector	Developer Name	Project Type	Announced Investment	Extrap?	Date Announced (MM/DD/YYYY)	Location	Link
EV	Wolfspeed	Manufacturing	\$5,000,000,000		09-09-2022	NC	Link
Electric T&D	Nyle Systems	Manufacturing	\$6,000,000		02-28-2023	ME	Link
Electric T&D	Chevron	Generation	\$146,400,000	Yes	12-14-2022	NV	Link
Electric T&D	Prismian Group	Manufacturing	\$22,500,000		04-26-2023	PA	Link
Electric T&D	Hitachi	Manufacturing	\$37,000,000		10-12-2022	VA	Link
Electric T&D	Prolec GE USA	Manufacturing	\$28,500,000		04-26-2023	LA	Link
Electric T&D	Equinor Wind	Generation	\$215,000,000		03-03-2023	NY	Link
Electric T&D	ABB	Manufacturing	\$40,000,000		03-30-2023	NM	Link
Electric T&D	ELM	Manufacturing	\$70,845,771	Yes	11-21-2022	TX	Link
Electric T&D	Berkshire Hathaway Energy	Manufacturing	\$500,000,000		09-13-2022	WV	Link
Electric T&D	Revel	Generation	\$146,400,000	Yes	01-09-2023	NY	Link
Electric T&D	Duke Energy	Generation	\$146,400,000	Yes	02-21-2023	NC	Link
Electric T&D	Nucor	Manufacturing	\$125,000,000		02-22-2023	AL	Link
Electric T&D	Nucor	Manufacturing	\$115,000,000		06-14-2023	IN	Link
Electric T&D	Hemlock Semiconductor	Manufacturing	\$375,000,000		09-07-2022	MI	Link
Solar	First Solar	Manufacturing	\$92,500,000		08-30-2022	OH	Link
Solar	First Solar	Manufacturing	\$92,500,000		08-30-2022	OH	Link
Solar	First Solar	Manufacturing	\$1,100,000,000		11-16-2022	AL	Link
Solar	First Solar	Research, Training & Technology	\$370,000,000		07-06-2023	OH	Link
Solar	First Solar	Manufacturing	\$1,100,000,000		08-10-2023	LA	Link
Solar	SPI Energy	Manufacturing	\$337,375,862	Yes	09-13-2022	CA	Link
Solar	SEM Wafertech & Solar4America	Manufacturing	\$65,900,000		04-26-2023	SC	Link
Solar	Enphase & Flex	Manufacturing	\$20,000,000		07-05-2023	SC	Link
Solar	SolRiver Captial	Generation	\$3,925,286	Yes	06-18-2023	OR	Link
Solar	Canadian Solar	Manufacturing	\$250,000,000		06-15-2023	TX	Link
Solar	Heliene	Manufacturing	\$145,000,000		07-24-2023	MN	Link
Solar	JA Solar	Manufacturing	\$60,000,000		01-11-2023	AZ	Link
Solar	Hounen Solar	Manufacturing	\$33,000,000		03-13-2023	SC	Link
Solar	Jinko Solar	Manufacturing	\$52,000,000		04-21-2023	FL	Link
Solar	Illuminate USA & Invenergy	Manufacturing	\$600,000,000		03-09-2023	OH	Link
Solar	Rayzon Solar	Manufacturing	\$81,837,798	Yes	04-12-2023	GA	Link
Solar	VSK Energy	Manufacturing	\$250,000,000		06-22-2023	CO	Link
Solar	Unimacts	Manufacturing	\$337,375,862	Yes	08-07-2023	NV	Link
Solar	Enel	Manufacturing	\$1,000,000,000		05-22-2023	OK	Link

Sector	Developer Name	Project Type	Announced Investment	Extrap?	Date Announced (MM/DD/YYYY)	Location	Link
Solar	Toyota	Generation	\$49,000,000		04-05-2023	AL	Link
Solar	QCells	Manufacturing	\$2,500,000,000		01-11-2023	GA	Link
Solar	QCells	Manufacturing	\$337,375,862	Yes	01-11-2023	GA	Link
Solar	Hanwha Advanced Materials Georgia, Inc	Manufacturing	\$147,000,000		03-22-2023	GA	Link
Solar	Vitro	Manufacturing	\$93,600,000		04-26-2023	PA	Link
Solar	Stellantis	Generation	\$392,528,575	Yes	12-12-2022	MI	Link
Solar	Nextracker, MSS Steel Tubes USA	Manufacturing	\$6,000,000		05-18-2023	TN	Link
Solar	May Renewables LLC	Generation	\$70,000,000		02-20-2023	SC	Link
Solar	Maxeon	Manufacturing	\$1,000,000,000		08-10-2023	NM	Link
Solar	Meyer Burger	Manufacturing	\$400,000,000		07-28-2023	CO	Link
Solar	Revkor, H2Gemini	Research, Training & Technology	\$337,375,862	Yes	07-21-2023	UT	Link
Solar	Holcim US	Generation	\$24,533,036	Yes	06-20-2023	MI	Link
Solar	Entergy	Generation	\$245,330,360	Yes	10-04-2022	AR	Link
Solar	Mass Megawatts	Generation	\$700,000		07-26-2023	MA	Link
Solar	NewCo. Manufacturing	Manufacturing	\$100,000,000		04-12-2023	MO	Link
Solar	Unitil	Generation	\$16,300,000		11-09-2022	NH	Link
Solar	JFK Airport	Generation	\$7,516,922	Yes	01-26-2023	NY	Link
Solar	Ecoplexus	Generation	\$89,000,000		11-03-2022	SC	Link
Solar	Pine Gate Renewal	Generation	\$115,000,000		02-23-2023	MS	Link
Solar	Seg Solar	Manufacturing	\$60,000,000		09-21-2022	TX	Link
Solar	Mission Solar	Manufacturing	\$163,675,595	Yes	10-25-2022	TX	Link
Solar	Bullrock Renewables	Generation	\$3,238,361	Yes	03-09-2023	VT	Link
Solar	Alliant Energy	Generation	\$3,532,757	Yes	04-25-2023	WI	Link
Battery Storage	American Battery Factory	Manufacturing	\$1,200,000,000		12-06-2022	AZ	Link
Battery Storage	EPC Power	Manufacturing	\$5,000,000		11-02-2022	SC	Link
Battery Storage	Ampricus Technologies	Manufacturing	\$190,000,000		03-06-2023	CO	Link
Battery Storage	EnerVenue	Manufacturing	\$264,000,000		03-24-2023	KY	Link
Battery Storage	Li-Cycle	Manufacturing	\$447,612,119	Yes	02-26-2023	NY	Link

Sector	Developer Name	Project Type	Announced Investment	Extrap?	Date Announced (MM/DD/YYYY)	Location	Link
Battery Storage	Electrovaya	Manufacturing	\$75,000,000		10-03-2022	NY	Link
Battery Storage	Zinc8 Energy Solutions Inc	Manufacturing	\$828,911,332	Yes	09-02-2022	NY	Link
Battery Storage	SK Battery America	Manufacturing	\$19,000,000		01-26-2023	GA	Link
Battery Storage	Dongwha Elecrolte USA	Manufacturing	\$70,000,000		02-27-2023	TN	Link
Battery Storage	LG Energy Solution	Manufacturing	\$2,300,000,000		03-24-2023	AZ	Link
Battery Storage	Freyr Battery	Manufacturing	\$2,570,000,000		11-14-2022	GA	Link
Battery Storage	NanoGraf	Generation	\$554,136,364	Yes	12-13-2022	IL	Link
Battery Storage	Anovion Technologies	Manufacturing	\$800,000,000		05-18-2023	GA	Link
Battery Storage	FirstLight Power	Generation	\$554,136,364	Yes	10-12-2022	CT	Link
Battery Storage	Form Energy	Generation	\$760,000,000		12-28-2022	WV	Link
Battery Storage	Form Energy	Generation	\$554,136,364	Yes	01-31-2023	CO	Link
Battery Storage	Form Energy	Generation	\$554,136,364	Yes	01-31-2023	MN	Link
Battery Storage	6k Energy	Manufacturing	\$250,000,000		04-18-2023	TN	Link
Battery Storage	Cirba Solutions	Manufacturing	\$182,360,493	Yes	09-28-2022	AZ	Link
Battery Storage	BorgWarner	Manufacturing	\$42,000,000		04-19-2023	SC	Link
Battery Storage	Redwood Materials	Manufacturing	\$1,100,000,000		12-01-2022	NV	Link
Battery Storage	Aqua Metals	Manufacturing	\$554,136,364	Yes	01-18-2023	NV	Link
Battery Storage	Viridi Parente	Manufacturing	\$828,911,332	Yes	11-03-2022	NY	Link
Battery Storage	Sunlight Batteries USA	Manufacturing	\$40,000,000		11-09-2022	NC	Link
Battery Storage	Albemarle Corporation	Manufacturing	\$200,000,000		12-14-2022	NC	Link
Battery Storage	Cirba Solutions	Manufacturing	\$300,000,000		03-22-2023	SC	Link

Sector	Developer Name	Project Type	Announced Investment	Extrap?	Date Announced (MM/DD/YYYY)	Location	Link
Battery Storage	Albemarle Corporation	Manufacturing	\$1,300,000,000		03-22-2023	SC	Link
Battery Storage	EVE Energy North America	Manufacturing	\$57,000,000		12-29-2022	OH	Link
Battery Storage	Pallidus	Manufacturing	\$443,000,000		02-09-2023	SC	Link
Battery Storage	Green Giant Energy	Recycling	\$6,000,000		03-02-2023	TX	Link
Battery Storage	Microvast	Manufacturing	\$554,136,364	Yes	07-11-2023	CO	Link
Battery Storage	Alliant Energy	Generation	\$200,000,000		02-01-2023	WI	Link
Clean Fuels	Steel Dynamics	Generation	\$274,495,913	Yes	11-02-2022	MS	Link
Clean Fuels	Heliogen	Generation	\$848,633,333	Yes	11-07-2022	CA	Link
Clean Fuels	Plug Power	Manufacturing	\$387,000,000		05-26-2023	NY	Link
Clean Fuels	Syntex Industries	Generation	\$250,000,000		05-15-2023	AR	Link
Clean Fuels	EvoOH	Manufacturing	\$792,326,733	Yes	03-01-2023	MA	Link
Clean Fuels	Mott Corp	Manufacturing	\$686,239,782	Yes	02-22-2023	CT	Link
Clean Fuels	Nel ASA	Manufacturing	\$24,800,000		02-28-2023	CT	Link
Clean Fuels	HydrogenPro	Manufacturing	\$30,000,000		03-16-2023	TX	Link
Clean Fuels	Nel Hydrogen	Generation	\$400,000,000		05-03-2023	MI	Link
Clean Fuels	Cummins Inc	Manufacturing	\$686,239,782	Yes	10-11-2022	MN	Link
Clean Fuels	Electric Hydrogen Co	Manufacturing	\$848,633,333	Yes	05-04-2023	MA	Link
Clean Fuels	Air Products & AES	Generation	\$4,000,000,000		12-08-2022	TX	Link
Clean Fuels	Raven SR	Generation	\$848,633,333	Yes	01-09-2023	CA	Link
Wind	TPI Composites, Inc	Manufacturing	\$199,875,005	Yes	11-03-2022	IA	Link
Wind	Vestas	Manufacturing	\$20,000,000		07-18-2023	CO	Link
Wind	Vestas	Manufacturing	\$20,000,000		07-18-2023	CO	Link
Wind	Orsted	Manufacturing	\$14,000,000		04-21-2023	MD	Link
Wind	Gulf Wind Technology & Shell	Research, Training & Technology	\$10,000,000		03-12-2023	LA	Link
Wind	Siemens	Manufacturing	\$199,875,005	Yes	03-10-2023	KS	Link
Wind	Flender Corporation	Manufacturing	\$10,320,000	Yes	03-23-2023	IL	Link
Wind	Fincantieri Bay Shipbuilding	Manufacturing	\$199,875,005	Yes	01-18-2023	WI	Link

Sector	Developer Name	Project Type	Announced Investment	Extrap?	Date Announced (MM/DD/YYYY)	Location	Link
Wind	Fugro	Research, Training & Technology	\$3,096,000	Yes	06-26-2023	VA	Link
Wind	Crowley Wind Services	Manufacturing	\$165,120,000	Yes	10-06-2022	MA	Link
Wind	Crowley Wind Services	Manufacturing	\$199,875,005	Yes	10-28-2022	CA	Link
Wind	Regen Fiber	Recycling	\$199,875,005	Yes	01-12-2023	IA	Link
Wind	GE Vernova	Manufacturing	\$50,000,000		05-23-2023	NY	Link
Wind	GE Vernova	Manufacturing	\$20,000,000		03-02-2023	FL	Link
Wind	Arcosa	Manufacturing	\$55,000,000		03-14-2023	NM	Link
Wind	Apex Clean Energy	Generation	\$1,450,000,000		03-07-2023	OK	Link