

CLEAN JOBS PENNSYLVANIA

90,772 CLEAN ENERGY JOBS ACROSS PENNSYLVANIA¹

2019

CLEAN ENERGY DRIVING PENNSYLVANIA JOB GROWTH

Pennsylvania's clean energy sector continued its strong growth trend in 2018, topping 90,000 employees for the first time and adding jobs five times faster than the overall state employment growth rate. Since 2014, Pennsylvania has increased its workforce in clean technologies like renewables, energy efficiency, clean vehicles, storage, and grid modernization by nearly 60 percent, with no signs of slowing down anytime soon. Energy efficiency remains the largest clean energy employer with nearly 69,000 jobs. More Pennsylvanians also work in the renewable energy (9,200 jobs) and clean vehicles (7,800) sectors than ever before.

Led by one of the nation's top energy efficiency industries and supported by burgeoning renewable energy and clean vehicle sectors, Pennsylvania has developed one of the strongest diversified clean economies in the country with rural communities benefitting right alongside the Philadelphia and Pittsburgh metro areas.

While growth in clean energy jobs has been bolstered thanks primarily due to decreasing technology costs, as well as previous federal and state policies and increasing numbers of residents and businesses demanding more efficiency and renewable energy choices, many market barriers still hamper Pennsylvanians from benefiting as robustly as citizens in other states.

Thankfully, legislators are working on a multi-pronged slate of smart energy policies that work in tandem to tackle climate change while advancing energy efficiency, renewables and electric vehicles at the same time—ensuring Pennsylvania clean energy workers and businesses are set to thrive into the 2020s.

CLEAN ENERGY JOBS IN PERSPECTIVE

1 OUT OF 3

energy jobs in Pennsylvania are in clean energy

6% GROWTH

Clean energy jobs in Pennsylvania added 5,000 jobs in 2018—5X faster than overall employment growth in the state

#11

Pennsylvania's 90K clean energy jobs ranks 11th in U.S.

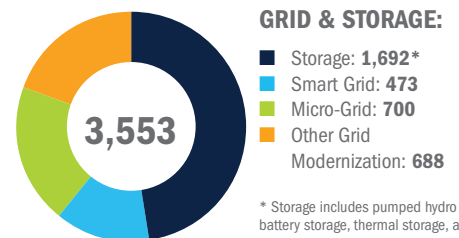
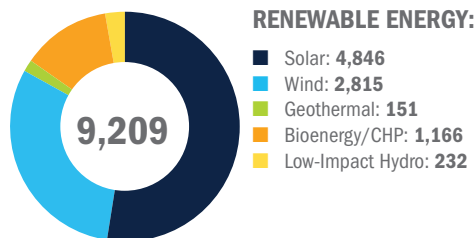
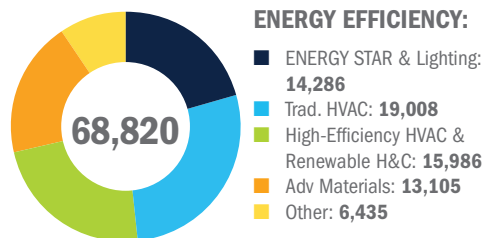
ALL 18

Congressional Districts employ at least 1,400 clean energy workers. 12 employ over 4,000

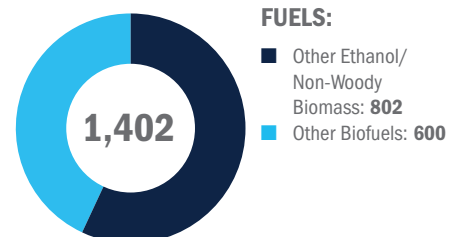
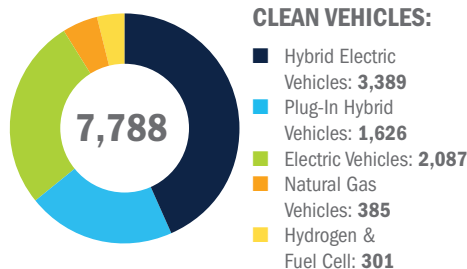
2x

Clean energy employs more than twice the number of Pennsylvania workers as fossil fuel industries²

INDUSTRY BREAKDOWN: JOBS



* Storage includes pumped hydro storage, battery storage, thermal storage, and mechanical storage detailed technologies.



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For more information, contact E2 Eastern States Advocate **Noah Dubin** at ndubin@e2.org.

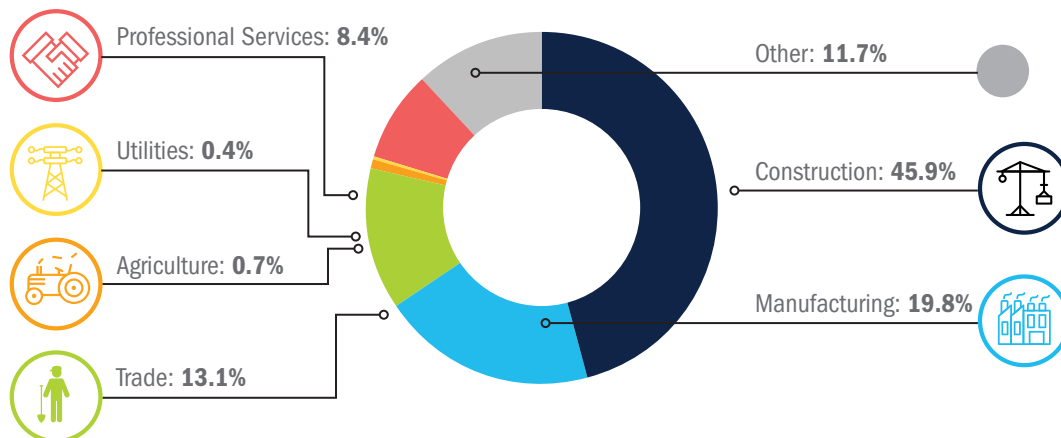
For questions regarding this report, visit E2's report FAQ at <https://www.e2.org/reports/clean-jobs-america-faq>.



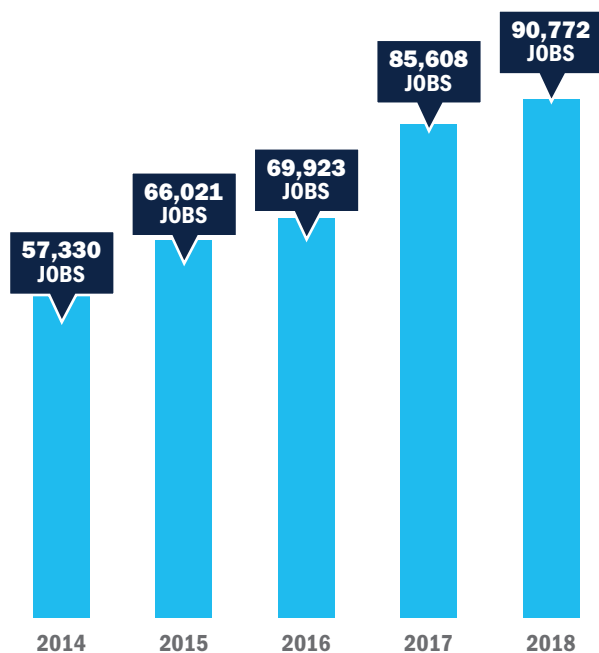
IN PARTNERSHIP WITH:



CLEAN JOBS BREAKDOWN BY VALUE CHAIN



CONSISTENT JOB GROWTH³



SMALL BUSINESSES FUEL SUCCESS

2 OUT OF EVERY 3

CLEAN ENERGY WORKERS

are employed by businesses with fewer than 20 employees



1-4 EMPLOYEES: **33.3%**

5-19 EMPLOYEES: **33.3%**

20-99 EMPLOYEES: **22.9%**

100-499 EMPLOYEES: **3.8%**

500+ EMPLOYEES: **6.7%**

BEYOND THE BIG CITIES: CLEAN ENERGY JOBS THROUGHOUT THE STATE

44%

of Pennsylvania's clean energy workforce is located outside the Pittsburgh and Philadelphia metro areas

**LEADING PENNSYLVANIA
IN JOB DENSITY**

Jefferson County ranks second in the state in clean energy jobs per capita. 31 of the county's 34 municipalities are rural.

11,178

clean energy jobs in Pennsylvania are located in rural areas

POLICIES MATTER

While clean energy jobs are growing steadily in Pennsylvania, the Commonwealth has created fewer jobs than neighboring states because it has relatively weak clean energy policies. For example, Pennsylvania's Alternative Energy Portfolio Standard (AEPS) requires that just 8% of electricity sales must come from renewables and other "Tier 1" resources by 2021. By contrast, New York, New Jersey, and Maryland all have state goals of 50% renewables by 2030; even Ontario, Canada has installed about 8 times more solar energy than the Keystone state.

Pennsylvania has made some improvements to its clean energy policies in recent years, including Act 40 of 2017, which incentivizes in-state solar development, as well as updates to the state's building energy codes and a Commercial Property Assessed Clean Energy (C-PACE) law. But on the whole the state has focused more on expanding natural gas and petrochemical infrastructure. As a result, Pennsylvania is not only locking in dangerous levels of greenhouse gas emissions; it is also losing clean energy economic development opportunities to other states. Stronger energy efficiency and renewable energy policies would direct private investment into more sustainable types of development, generate more tax revenue, and create more jobs in state—all while avoiding the risk that fossil fuel infrastructure will be "stranded" in a carbon-limited future.

Lawmakers in Harrisburg can strengthen clean energy in Pennsylvania by taking the following policy actions:



Increase the requirement for renewable energy in the AEPS.

While the state's AEPS was a forward-looking policy when it passed in 2004, most states have since set far more aggressive renewable energy portfolio standards and realized greater job growth as a result. For example, although Massachusetts has only half the population of Pennsylvania it has more than four times as many solar jobs (nearly 20,000), largely because it established a goal of 1600 MW of solar energy by 2020.

Two bills recently introduced in Pennsylvania—House Bill 1195 and Senate Bill 600—would spur more renewables jobs by increasing the AEPS from 8% by 2021 to 30% by 2030, with 10% of that coming from in-state solar. The bills would also require a study to determine targets for energy storage—a cleaner way to balance

intermittent renewables than gas-fired "peaker" plants. According to the *Finding Pennsylvania's Solar Future* plan completed by Pennsylvania's Department of Environmental Protection (DEP), a 10% solar electricity goal by 2030 would result in 60,000 to 100,000 more jobs throughout the state as well as a net economic benefit of over \$1.6 billion annually.⁴



Lift the energy efficiency investment cap on utilities.

Pennsylvania's main energy efficiency policy, Act 129, has delivered \$6.4 billion in benefits to Pennsylvania electric customers since 2009 and cut electricity consumption by an amount equivalent to the annual usage of 330,000 Pennsylvania households. According to a report issued by the Pennsylvania Public Utility Commission (PUC), for every \$1 invested in energy efficiency over the past three years, Pennsylvania electricity customers have received \$1.70 in benefits. However, under current law, utility investment in energy efficiency programs is limited to two percent of each utility's 2006 total revenues. Largely due to this limitation, the state's electricity usage has only been reduced by about 0.8% every year. But the PUC's Statewide Evaluator has found that those savings could be doubled up to 2% if the cap were removed. Senate Bill 232 would do that, and make other improvements to increase efficiency savings in Pennsylvania.



Permit community shared solar in Pennsylvania.

Community solar programs enable families who cannot host solar panels on their own properties to support a solar installation elsewhere and be directly credited for its generation on their electric bill. Under Pennsylvania's current "net metering" regulations, community solar is not permitted. The state should enact House Bill 531, which would authorize community solar and encourage the inclusion of low- to moderate-income individuals in community solar programs.



Adopt Policies to decarbonize transportation sector.

Last year, Pennsylvania joined the Transportation and Climate Initiative – a coalition of nine Northeast and mid-Atlantic states and the District of Columbia aiming to reduce pollution from the transportation sector while making

critical investments in low-carbon and electric transportation infrastructure. Electrifying transportation is a critical step in reducing greenhouse gas pollution, but adoption of EVs has been slow in Pennsylvania due to a lack of charging infrastructure. The state can maximize investments in infrastructure by leveraging Volkswagen settlement funds and adopting Senate Bill 596, legislation that would both incentivize investment and ensure that charging stations are strategically located. Both steps would grow jobs in Pennsylvania's clean transportation sector.



Implement carbon limits and a carbon pricing program.

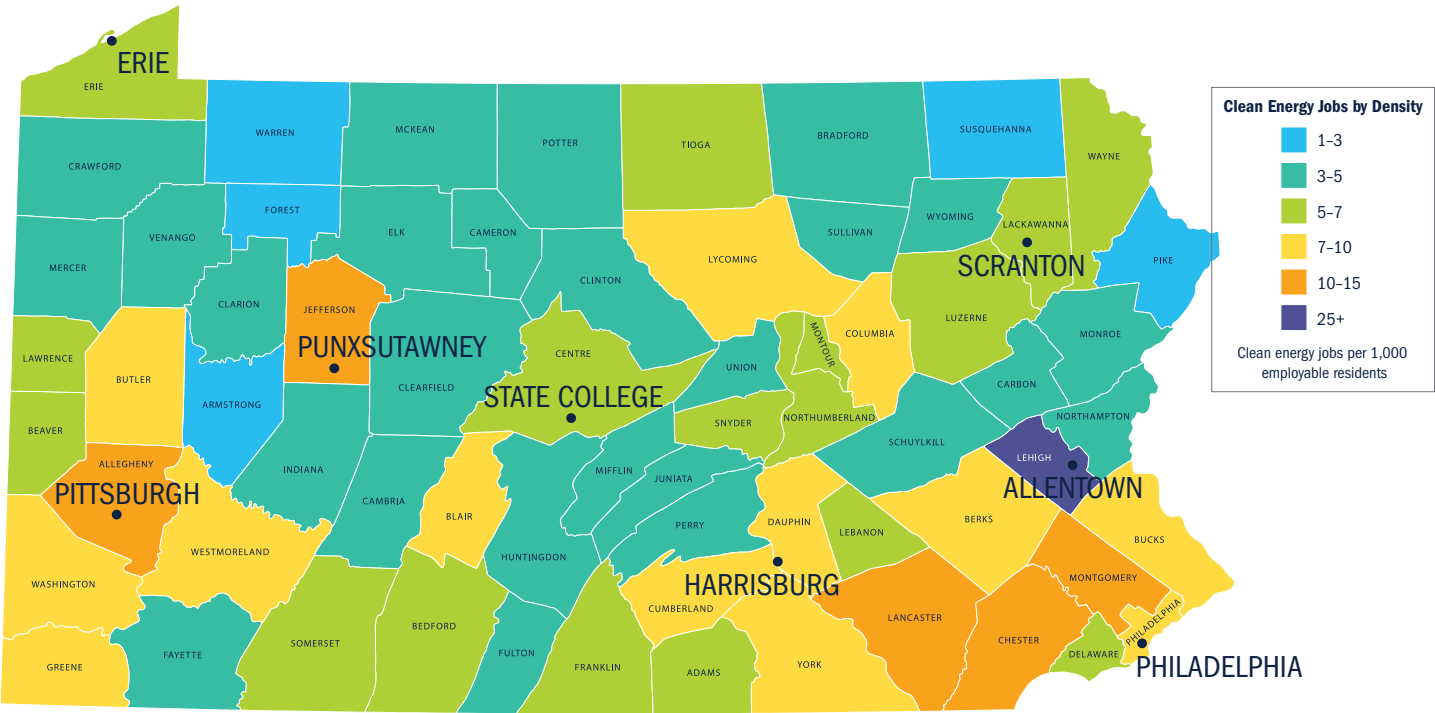
Limits on carbon emissions, together with an auction of emission permits and market-based permit trading, are the surest way for Pennsylvania to reduce greenhouse gas emissions. And auction proceeds can be invested in renewable energy and energy efficiency measures to create jobs. One "cap and invest" program that Pennsylvania could join is the Regional Greenhouse Gas Initiative (RGGI), which caps and prices CO₂ pollution from the electricity sector. New Jersey and Virginia are in the process of joining RGGI, whose nine Northeastern states have already reduced CO₂ pollution in their power sectors more than 45% through RGGI in 2005. The economies of these states have expanded, and RGGI investments have returned billions of dollars of energy savings to households and businesses while supporting significant renewable energy development.



The state's PUC should issue a strong policy statement on alternative ratemaking that prioritizes energy efficiency and distributed renewable energy.

Act 58 of 2018 authorized electric, gas, and water utilities in Pennsylvania to propose "alternative ratemaking" methodologies. Some of these methodologies, like "revenue decoupling" and performance incentives, could be used by utilities to help customers save energy, install solar panels, and use electricity at times when there is less strain on the grid. To ensure the market for energy efficiency and distributed energy continues to grow, the state PUC should make it clear in its Final Policy Statement that utility rates should incentivize the deployment of energy efficiency and other clean energy technologies.

PENNSYLVANIA CLEAN ENERGY JOBS BY DENSITY⁵



PENNSYLVANIA METRO AREAS BY CLEAN ENERGY JOBS

Metro Area	Clean Energy Jobs*	Renewable Energy Jobs	Energy Efficiency Jobs
Philadelphia-Camden-Wilmington	29,428	2,500	22,735
Pittsburgh	17,225	1,259	13,466
New York-Northern New Jersey-Long Island	4,813	2,368	2,129
Allentown-Bethlehem-Easton	4,456	215	3,593
Lancaster	3,782	488	2,778
Reading	3,756	909	2,401
Harrisburg-Carlisle	3,753	207	2,992

Metro Area	Clean Energy Jobs*	Renewable Energy Jobs	Energy Efficiency Jobs
Scranton-Wilkes-Barre	3,723	188	2,897
York-Hanover	2,480	111	1,998
Erie	1,713	92	1,371
State College	874	64	683
Altoona	850	39	684
Williamsport	812	38	653
Lebanon	772	53	607
Johnstown	618	33	494
Youngstown-Warren-Boardman	537	39	421

* Total includes all clean energy jobs categories, including solar, wind, energy efficiency, clean vehicles, battery storage, advanced biofuels, low-impact hydro and other areas.

CLEAN ENERGY JOBS BY COUNTY

County	Clean Energy Jobs*	Renewable Energy Jobs	Energy Efficiency Jobs
Allegheny	11,469	995	9,412
Philadelphia	8,931	755	7,268
Montgomery	8,730	816	6,827
Lehigh	7,369	145	6,678
Bucks	4,844	547	3,582
Chester	4,611	366	3,526
Lancaster	4,336	622	3,140
York	3,514	565	2,355
Berks	3,249	1,043	1,685
Delaware	3,129	263	2,423
Westmoreland	2,143	269	1,583
Dauphin	2,103	311	1,480
Cumberland	1,654	82	1,310
Erie	1,499	175	1,044
Luzerne	1,414	106	1,127
Washington	1,398	55	1,141
Butler	1,395	61	1,100
Northampton	1,219	52	991
Lackawanna	1,191	86	809
Beaver	870	346	392
Centre	765	54	645
Blair	748	41	531
Lycoming	672	45	500
Franklin	632	23	481
Lebanon	581	54	391
Cambria	562	42	425
Jefferson	537	367	137
Schuylkill	518	57	348
Adams	479	133	259
Mercer	465	15	342
Fayette	447	24	297
Monroe	426	21	324
Lawrence	424	23	351
Somerset	388	24	248

County	Clean Energy Jobs*	Renewable Energy Jobs	Energy Efficiency Jobs
Northumberland	387	34	220
Indiana	341	30	239
Clearfield	282	20	177
Crawford	274	53	161
Columbia	272	32	192
Carbon	234	29	97
Bedford	229	11	170
Tioga	225	11	125
Greene	222	7	172
Wayne	220	9	188
Clinton	210	21	109
Snyder	189	11	131
Bradford	182	7	134
Union	180	60	99
Armstrong	158	15	113
Venango	155	12	110
Clarion	150	19	93
McKean	142	10	115
Huntingdon	134	13	93
Mifflin	131	8	92
Perry	119	5	82
Elk	118	4	95
Wyoming	109	10	76
Susquehanna	103	8	80
Pike	102	16	68
Montour	100	4	44
Warren	94	6	56
Juniata	62	5	45
Fulton	59	7	31
Potter	58	4	21
Sullivan	23	8	14
Forest	11	0	9
Cameron	10	1	8

* Total includes all clean energy jobs categories, including solar, wind, energy efficiency, clean vehicles, battery storage, advanced biofuels, low-impact hydro and other areas.

PENNSYLVANIA CLEAN ENERGY JOBS BY DISTRICT

Data shows that distribution of clean energy jobs in Pennsylvania crosses all political boundaries, with clean energy jobs in every congressional and state assembly district.

U.S. CONGRESSIONAL DISTRICTS

District	Clean Energy Jobs*	Renewable Energy Jobs	Energy Efficiency Jobs
1 (Rep. Fitzpatrick)	6,100	562	4,709
2 (Rep. Boyle)	4,326	368	3,342
3 (Rep. Evans)	5,861	451	4,572
4 (Rep. Dean)	5,721	447	4,454
5 (Rep. Scanlon)	3,523	299	2,722
6 (Rep. Houlahan)	9,351	1,025	7,031
7 (Rep. Wild)	6,253	644	4,739
8 (Rep. Cartwright)	7,066	797	5,286
9 (Rep. Meuser)	4,985	379	3,889
10 (Rep. Perry)	5,377	403	4,198
11 (Rep. Smucker)	3,637	302	2,817
12 (Vacant)	6,452	792	4,779
13 (Rep. Joyce)	1,401	108	1,092
14 (Rep. Reschenthaler)	6,382	606	4,877
15 (Rep. Thompson)	6,181	1,165	4,235
16 (Rep. Kelly)	3,186	442	2,317
17 (Rep. Lamb)	2,287	219	1,663
18 (Rep. Doyle Jr.)	2,684	200	2,097

STATE SENATE DISTRICTS

District	Clean Energy Jobs	District	Clean Energy Jobs	District	Clean Energy Jobs
1 (Sen. Farnese)	4,934	18 (Sen. Boscola)	1,513	35 (Sen. Langerholc)	1,105
2 (Sen. Tartaglione)	1,251	19 (Sen. Dinniman)	1,766	36 (Sen. Aument)	1,107
3 (Sen. Sharif)	364	20 (Sen. Baker)	1,559	37 (Sen. Iovino)	4,595
4 (Sen. Haywood)	1,801	21 (Sen. Hutchinson)	2,296	38 (Sen. Williams)	1,972
5 (Sen. Sabatina)	240	22 (Sen. Blake)	1,784	39 (Sen. Ward)	2,476
6 (Sen. Tomlinson)	4,044	23 (Sen. Yaw)	2,005	40 (Sen. Scavello)	964
7 (Sen. Hughes)	1,714	24 (Sen. Mensch)	1,056	41 (Vacant)	1,793
8 (Sen. Williams)	535	25 (Sen. Scarnati)	1,420	42 (Sen. Fontana)	2,829
9 (Sen. Killian)	4,523	26 (Sen. Kearney)	684	43 (Sen. Costa)	731
10 (Sen. Sanarsiero)	2,525	27 (Sen. Gordner)	1,176	44 (Sen. Muth)	395
11 (Sen. Schwank)	3,095	28 (Sen. Phillips-Hill)	2,379	45 (Sen. Brewster)	481
12 (Sen. Collett)	1,262	29 (Sen. Argall)	997	46 (Sen. Bartolotta)	1,514
13 (Sen. Martin)	2,985	30 (Sen. Ward)	2,463	47 (Sen. Vogel)	1,376
14 (Sen. Yudichak)	2,181	31 (Sen. Regan)	1,611	48 (Sen. Folmer)	739
15 (Sen. DiSanto)	2,295	32 (Sen. Stefano)	1,518	49 (Sen. Laughlin)	1,773
16 (Sen. Browne)	2,529	33 (Vacant)	824	50 (Sen. Brooks)	1,027
17 (Sen. Leach)	3,305	34 (Sen. Corman)	1,260		

STATE HOUSE

District	Clean Energy Jobs	District	Clean Energy Jobs	District	Clean Energy Jobs	District	Clean Energy Jobs
1 (Rep. Harkins)	762	6 (Rep. Roae)	482	11 (Rep. Mustello)	316	16 (Rep. Matzie)	400
2 (Rep. Merski)	658	7 (Rep. Longietti)	475	12 (Rep. Metcalfe)	603	17 (Rep. Wentling)	18
3 (Rep. Bizzarro)	298	8 (Rep. Nesbit)	723	13 (Rep. Lawrence)	788	18 (Rep. DiGirolamo)	854
4 (Rep. Sonney)	121	9 (Rep. Sainato)	524	14 (Rep. Marshall)	417	19 (Rep. Wheatley)	3,022
5 (Rep. Jozwiak)	1,059	10 (Rep. Bernstine)	395	15 (Rep. Kail)	634	20 (Rep. Ravenstahl)	981

CLEAN JOBS PENNSYLVANIA

State House CONTINUED

District	Clean Energy Jobs	District	Clean Energy Jobs	District	Clean Energy Jobs	District	Clean Energy Jobs
21 (Rep. Innamorato)	532	67 (Rep. Causer)	222	113 (Rep. Flynn)	452	159 (Rep. Kirkland)	616
22 (Rep. Schweyer)	870	68 (Rep. Owlett)	777	114 (Rep. Kosierowski)	136	160 (Rep. Barrar)	57
23 (Rep. Frankel)	192	69 (Rep. Metzgar)	303	115 (Rep. Madden)	641	161 (Rep. Krueger)	969
24 (Rep. Gainey)	380	70 (Rep. Bradford)	1,152	116 (Rep. Toohil)	609	162 (Rep. Delloso)	524
25 (Rep. Markosek)	772	71 (Rep. Rigby)	386	117 (Rep. Boback)	357	163 (Rep. Zabel)	703
26 (Rep. Hennessey)	1,037	72 (Rep. Burns)	216	118 (Rep. Carroll)	483	164 (Rep. Davidson)	<10
27 (Rep. Deasy)	1,094	73 (Rep. Sankey)	309	119 (Rep. Mullery)	552	165 (Rep. O'Mara)	437
28 (Rep. Turzai)	340	74 (Rep. Williams)	394	120 (Rep. Kaufer)	28	166 (Rep. Vitali)	<10
29 (Rep. Schroeder)	1,135	75 (Rep. Gabler)	375	121 (Rep. Pashinski)	101	167 (Rep. Howard)	<10
30 (Rep. Mizgorski)	31	76 (Rep. Borowicz)	1,097	122 (Rep. Heffley)	306	168 (Rep. Quinn)	18
31 (Rep. Warren)	1,171	77 (Rep. Conklin)	64	123 (Rep. Goodman)	392	169 (Rep. Klunk)	56
32 (Rep. DeLuca)	456	78 (Rep. Topper)	506	124 (Rep. Knowles)	241	170 (Rep. White)	236
33 (Rep. Dermody)	201	79 (Rep. Schmitt)	717	125 (Rep. Tobash)	220	171 (Rep. Beninghoff)	33
34 (Rep. Lee)	346	80 (Rep. Gregory)	68	126 (Rep. Rozzi)	412	172 (Rep. Boyle)	511
35 (Rep. Davis)	622	81 (Rep. Irvin)	164	127 (Rep. Caltagirone)	41	173 (Rep. Driscoll)	<10
36 (Rep. Readshaw)	250	82 (Rep. Hershey)	630	128 (Rep. Gillen)	395	174 (Rep. Neilson)	<10
37 (Rep. Fee)	2,226	83 (Rep. Wheeland)	701	129 (Rep. Cox)	63	175 (Rep. Isaacson)	2,584
38 (Rep. Kortz)	74	84 (Rep. Everett)	252	130 (Rep. Maloney)	259	176 (Rep. Rader)	157
39 (Rep. Puskaric)	708	85 (Vacant)	323	131 (Rep. Simmons)	997	177 (Rep. Hohenstein)	173
40 (Rep. Mihalek)	808	86 (Rep. Keller)	484	132 (Rep. Schlossberg)	534	178 (Rep. Thomas)	81
41 (Rep. Miller)	449	87 (Rep. Rothman)	1,097	133 (Rep. McNeill)	770	179 (Rep. Dawkins)	210
42 (Rep. Miller)	<10	88 (Rep. DeLozier)	215	134 (Rep. Mackenzie)	267	180 (Rep. Cruz)	<10
43 (Rep. Greiner)	789	89 (Rep. Kauffman)	523	135 (Rep. Samuelson)	153	181 (Rep. Kenyatta)	73
44 (Rep. Gaydos)	453	90 (Rep. Schemel)	16	136 (Rep. Freeman)	422	182 (Rep. Sims)	2,161
45 (Rep. Kulik)	49	91 (Rep. Moul)	678	137 (Rep. Emrick)	339	183 (Rep. Mako)	172
46 (Rep. Ortity)	166	92 (Rep. Keefer)	401	138 (Rep. Hahn)	312	184 (Rep. Fiedler)	256
47 (Rep. Gillespie)	1,330	93 (Rep. Jones)	596	139 (Rep. Peifer)	292	185 (Rep. Donatucci)	99
48 (Rep. O'Neal)	64	94 (Rep. Saylor)	65	140 (Rep. Galloway)	992	186 (Rep. Harris)	73
49 (Rep. Cook)	683	95 (Rep. Hill-Eans)	<10	141 (Rep. Davis)	103	187 (Rep. Day)	1,581
50 (Rep. Snyder)	139	96 (Rep. Sturla)	<10	142 (Rep. Farry)	627	188 (Rep. Roebuck)	98
51 (Rep. Dowling)	254	97 (Rep. Mentzer)	<10	143 (Rep. Ullman)	1,251	189 (Rep. Brown)	33
52 (Rep. Warner)	240	98 (Rep. Hickernell)	332	144 (Rep. Polinchock)	82	190 (Rep. Johnson-Harrell)	73
53 (Rep. Malagari)	1,154	99 (Rep. Zimmerman)	132	145 (Rep. Staats)	24	191 (Rep. McClinton)	<10
54 (Rep. Brooks)	1,471	100 (Rep. Cutler)	184	146 (Rep. Ciresi)	210	192 (Rep. Cephas)	25
55 (Rep. Petrarca)	528	101 (Rep. Ryan)	684	147 (Rep. Toepel)	128	193 (Rep. Ecker)	376
56 (Rep. Dunbar)	40	102 (Rep. Diamond)	106	148 (Rep. Daley)	1,315	194 (Rep. DeLissio)	298
57 (Rep. Nelson)	111	103 (Rep. Kim)	1,059	149 (Rep. Briggs)	1,278	195 (Rep. Bullock)	<10
58 (Rep. Walsh)	112	104 (Rep. Helm)	461	150 (Rep. Webster)	24	196 (Rep. Grove)	<10
59 (Rep. Reese)	392	105 (Rep. Lewis)	<10	151 (Rep. Stephens)	666	197 (Rep. Burgos)	<10
60 (Rep. Pyle)	285	106 (Rep. Mehaffie)	<10	152 (Rep. Murt)	458	198 (Rep. Youngblood)	59
61 (Rep. Hanbidge)	1,104	107 (Rep. Masser)	748	153 (Rep. Sanchez)	389	199 (Rep. Gleim)	<10
62 (Rep. Struzzi)	413	108 (Rep. Culver)	49	154 (Rep. McCarter)	186	200 (Rep. Rabb)	<10
63 (Rep. Oberlander)	304	109 (Rep. Millard)	155	155 (Rep. Otten)	478	201 (Rep. Kinsey)	32
64 (Rep. James)	332	110 (Rep. Pickett)	317	156 (Rep. Comitta)	2,252	202 (Rep. Solomon)	<10
65 (Rep. Rapp)	289	111 (Rep. Fritz)	628	157 (Rep. Shusterman)	454	203 (Rep. Fitzgerald)	<10
66 (Rep. Dush)	414	112 (Rep. Mullins)	1,012	158 (Rep. Sappey)	360		

CLEAN JOBS PENNSYLVANIA

ENDNOTES

- 1 Unless otherwise stated, the data and analyses presented in Clean Jobs America E2 (Environmental Entrepreneurs) are based on data collected for the 2019 U.S. Energy Employment Report (2019 USEER), produced by the Energy Futures Initiative (EFI) in partnership with the National Association of State Energy Officials (NASEO) and collected and analyzed by BW Research Partnership (BWRP). Available at <https://www.usenergyjobs.org/>. See Pages 9-13 for methodology questions. For more questions regarding methodology, visit <https://www.e2.org/clean-jobs-america-faq>.
- 2 Data from 2019 USEER. By sector, fossil fuel jobs from electric power production are: coal (1,963), natural gas (2,748), and oil and other fossil fuels (224). Jobs from the fuel sector are: coal (6,241), oil and petroleum (17,984), and natural gas (14,146). Available at <https://www.usenergyjobs.org>.
- 3 Based on E2's annual clean energy jobs reports in Pennsylvania since 2014.
- 4 DEP's Solar Future Plan, November 2018. Available at www.dep.pa.gov and hyperlink to "https://www.dep.pa.gov/Business/Energy/OfficeofPollutionPrevention/SolarFuture/Pages/Finding-Pennsylvania%E2%80%99s-Solar-Future.aspx".
- 5 County employable population data based on 2017 American Community Survey (ACS) 5-year estimate of residents 16 years and older from the U.S. Census Bureau accessible at <https://factfinder.census.gov>.

PRESENTED BY:



E2 is a national, nonpartisan group of business leaders, investors and others who advocate for smart policies that are good for the environment and good for the economy.



Clean Jobs Count is a campaign to raise awareness of the economic importance of the clean economy. Visit www.cleanjobscount.org to join thousands of business leaders, workers and others to tell lawmakers and policymakers that clean jobs count.

IN PARTNERSHIP WITH:



The **Keystone Energy Efficiency Alliance** (KEEA) is a non-profit, tax-exempt 501(c)(6) corporation dedicated to promoting the energy efficiency and renewable energy industries in Pennsylvania.



The **Sustainable Business Network of Greater Philadelphia** (SBN) is a community of local independent businesses that demonstrates the degree to which businesses can build profitable enterprises while serving community needs, sharing wealth, and protecting the environment.



Green Building Alliance (GBA) advances innovation in the built environment by empowering people to create environmentally, economically, and socially vibrant places.



Sustainable Pittsburgh affects decision-making in the Pittsburgh region to integrate economic prosperity, social equity, and environmental quality as the enduring accountability, bringing sustainable solutions for communities and businesses.

THANKS TO SUPPORT FROM:

E2 wishes to express its appreciation to the **National Association of State Energy Officials** (NASEO), the **Energy Futures Initiative** (EFI) and **BW Research Partnership** ("BWRP") who made this report possible by producing the USEER and its underlying data.



2019 U.S. Energy
and Employment
Report

