

Trump is Killing Clean Energy Jobs

Trump stifles over a million jobs while focusing on fossil fuel CEOs

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TL/DR:

President Trump's war on clean energy and mishandling of the pandemic have cost the U.S. more than 1.1 million clean energy jobs.

- At least [514,270 clean energy jobs were lost](#) because of Trump's mishandling of the pandemic: The energy efficiency sector lost 359,976 jobs, renewable electric power generation lost 82,429 jobs, clean vehicles lost 38,193 jobs, grid & storage lost 22,788 jobs, and clean fuels lost 10,882 jobs since the start of the pandemic. [Click here](#) to jump to a state-by-state breakdown of job losses.
- [Another 622,000 clean energy jobs have been killed](#) by Trump's war on renewable energy: Between trade wars, letting tax incentives lapse, de-prioritizing clean energy development on federal lands, and changing the rules to keep aging coal plants open, Trump's policies will add up to an additional 622,000 lost jobs in the long run in addition to those lost during the pandemic.

- **Trump killed solar jobs:** Trump's tariffs on steel and solar panel equipment [cost](#) the U.S. [thousands of jobs](#), \$19 billion in new [investments](#), and \$10.5 million per day in [unrealized economic activity](#).
- **Trump killed wind jobs:** Trump's administration [withheld](#) approval for the country's first utility-scale offshore wind project and sought to [eliminate](#) the wind power tax credit.
- **Trump killed electric vehicle jobs:** Trump's fuel efficiency standards rollback [harmed](#) the clean vehicle industry [at the behest of](#) oil and gas CEOs and [reduced](#) the competitiveness of U.S. businesses on the global market. The administration's [own analysis](#) showed the rollback could cost hundreds of thousands of jobs.
- **Trump cut renewable energy funding again and again:** Trump [repeatedly](#) sought deep [cuts](#) to renewable energy funding with his budget request for fiscal year 2021 slashing [\\$2 billion](#) in funding from Energy Efficiency and Renewable Energy programs.

In 2020, Trump [delayed](#) the release of \$43 billion for clean energy projects authorized under COVID-19 CARES Act. **Meanwhile, Trump is focused on increasing the profits for fossil fuel companies:**

- While other countries are ramping up investments in their clean energy sectors, Trump has made enriching fossil fuel companies a priority in his response to the economic crisis generated by COVID-19. Read more on Trump's pro-polluter pandemic priorities [here](#).
- [Newly-released data](#) shows that between \$3 billion and \$7 billion in Paycheck Protection Program loans went to fossil fuel companies.

Clean energy jobs are good paying, high quality jobs that employ millions of Americans across the country:

- At the start of 2020, clean energy jobs [employed](#) nearly 3.4 million workers in the U.S., [three times](#) as many workers as employed by the fossil fuel industry.
- In rural areas, the clean energy economy employed over 400,000 people, outnumbering jobs in the fossil fuel industry by more than 82,000.
- Hourly wages for clean energy jobs [exceed](#) national averages by 8 to 19 percent, the clean energy economy offers more [opportunities](#) for low and middle-skilled workers than the national economy, and educational

barriers to entry are [lower](#) in clean energy jobs, even in high paying positions.

- Most clean energy jobs are [local by nature](#), and clean energy companies support a range of secondary jobs in their local areas. Wind energy is [cheaper](#) than natural gas, and in 2018, the [sector alone](#) paid \$1 billion to state and local governments and private landowners in tax and lease payments, and supported a supply chain of 500 factories in 42 states employing 24,000 workers.
- Clean energy companies [hire](#) a greater percentage of veterans than the national average, with veterans [filling](#) around 10 percent of the nation's advanced clean energy jobs. Clean energy also [employs](#) more veterans than the oil and gas industry.
- The renewable energy sector is [more diverse](#) than the workforce overall: it is less white, employs more workers who identify as Hispanic or Latinx, and employs 3 to 5 times more workers who identify as two or more races than the national average.
- Clean energy jobs provide a [long-proven](#) path to stability and reintegration for formerly incarcerated citizens, who were [unemployed](#) at a rate of 27 percent in 2018 and face over 45,000 [barriers](#) to reintegration.

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HERE'S WHAT'S HAPPENING

Since the beginning of his administration, Trump has waged war on clean energy. He has cost the solar industry [thousands of jobs](#) and [billions in investments](#) through his trade tariffs, his Department of Energy [withheld permits](#) for the nation's first utility-scale offshore wind project, and his rollback of fuel efficiency standards [reduced](#) the competitiveness of U.S. companies on the global market, costing [hundreds of thousands of jobs](#).

Alongside targeted attacks on clean energy sectors, Trump has [repeatedly](#) sought [deep cuts](#) to renewable energy funding, [delaying the release](#) of low-interest loans and [delaying funding](#) for energy efficiency research.

Trump's relentless attacks on renewable energy have cost the industry [622,000 jobs](#), a figure that has only worsened due to the economic downturn from the COVID-19 pandemic. By the end of June, 2020, an additional more than [514,270 workers](#) in the clean energy sector lost their jobs. In March, [30 percent](#) of clean energy firms reported cutting their workforces in response to the COVID-19 pandemic. Small businesses, which employ two thirds of the entire clean energy workforce, are the [most at risk](#) from the economic downturn triggered by coronavirus.

At the start of 2020, clean energy jobs [employed](#) nearly 3.4 million workers in the U.S., [three times](#) as many workers as employed by the fossil fuel industry. These green industry jobs are good jobs – paying [above-average](#) wages, offering more [opportunities](#) for low and middle-skilled workers, and having [lower](#) educational barriers to entry, even in high paying positions. In addition, most clean energy jobs are [local by nature](#), and clean energy companies support a range of secondary jobs in surrounding areas. Wind energy is [cheaper](#) than natural gas, and in 2018, the [sector alone](#) paid \$1 billion to state and local governments and private landowners in tax and lease payments, and supported a supply chain of 500 factories in 42 states employing 24,000 workers. In rural areas, the clean energy economy [employed](#) over 400,000 people, outnumbering jobs in the fossil fuel industry by more than 82,000.

The clean energy industry also hires a greater percentage of veterans than the national average, with veterans [filling](#) around 10 percent of the nation's advanced clean energy jobs, which is [higher](#) than the oil and gas industry. The renewable energy sector is [more diverse](#) than the workforce overall: it is less white, employs more workers who identify as Hispanic or Latinx, and employs 3 to 5 times more workers who identify as two or more races than the national average. Black people are underrepresented in the industry, but [research shows](#) that barriers to entry are a lack of training and an industry-

level lack of inclusive hiring practices, both of which have been [successfully overcome](#) in local programs.

Additionally, green jobs represent a [long-proven](#) path to stability and reintegration for formerly incarcerated citizens, who were [unemployed](#) at a rate of 27 percent in 2018 and face over 45,000 [barriers](#) to reintegration. In communities across the nation, examples abound of successful localized programs that connect returning citizens with employment in the green economy. In 2016, Illinois [passed](#) the Future Energy Jobs Act, which mandated the creation of 2,000 jobs for returning citizens, and in Baltimore the center For Sustainable Careers matches returning citizens with green jobs with a 92 percent success rate, placing them in [jobs](#) that earn between \$12 and \$20 per hour.

While the COVID-19 pandemic presents the U.S. with an opportunity to invest in the clean energy economy, creating good jobs for millions of Americans while reducing the country's carbon footprint, President Trump is focused on fossil fuels. In fact, [newly-released data](#) shows that between \$2.5 billion and \$6 billion in Paycheck Protection Program loans went to fossil fuel companies.

Trump has made enriching fossil fuel companies a priority in his response to the economic crisis generated by COVID-19. Read more on Trump's pro-polluter pandemic priorities [here](#).

RESEARCH

TRUMP'S WAR ON RENEWABLES

JOBS LOSSES DATA

Job Losses Before The Pandemic

CAP Action Analysis Found That Trump's War On Renewable Energy Has Cost The Industry 622,000 Jobs. President Trump and his team have taken unprecedented steps to weaken and stall the renewables industry. The Trump administration is risking a burgeoning sector of employment to instead feed the bottom lines for its fossil fuel executive donors — with little to show for it regarding domestic job retention and creation. In fact, this analysis finds that the Trump administration's anti-renewables and pro-fossil fuel policies have led to the loss or suppression of at least 622,000 jobs in the renewable energy sector. With some experts predicting job losses of up to half the existing workforce due to the novel coronavirus crisis, the Trump administration's previous misguided efforts to undermine this otherwise successful industry puts it at an even greater disadvantage.”
[[Center for American Progress Action Fund, 4/13/2020](#)]

Jobs Losses During The Pandemic

By March, 2020, 30 Percent Of Clean Energy Firms Reported Cutting Their Workforces In Response To The Covid-19 Pandemic. According to E&E News Energywire: “The novel coronavirus pandemic is causing mass layoffs in the low-carbon energy sector and imperiling as much as \$5 billion in individual companies' revenues, according to two reports this week from industry associations. The American Council on Renewable Energy (ACORE) and Advanced Energy Economy (AEE), which represent developers and a wide variety of organizations with an interest in clean energy, conducted separate surveys of their members and found widespread concern that developers could miss deadlines for claiming federal tax credits for renewable projects. [...] Already, nearly 30% of AEE's members said they had reduced their workforces in response to the pandemic, and almost 43% had stopped hiring.” [[E&E News Energywire, 3/27/2020](#)]

By July, 2020, More Than 514,270 Clean Energy Jobs Had Been Lost Due To The Covid-19 Pandemic. According to the 2020 Clean Jobs America analysis of energy jobs data by the national nonpartisan business group E2 (Environmental Entrepreneurs), “The U.S. clean energy sector added 106,320 jobs in June, leaving over half a million (514,270) clean energy workers out of work despite nationwide re-openings. Despite the gains in June, there remains a nearly 15 percent decline over pre-COVID-19 employment levels, according to the latest analysis of unemployment data by BW Research for E2, E4TheFuture, and the American Council on Renewable Energy (ACORE).” [[June 2020 Unemployment Analysis, E2, July 2020](#)]

- **The Energy Efficiency Industry Reported 359,976 Jobs Lost.** According to the 2020 Clean Jobs America analysis of energy jobs data by the national nonpartisan business group E2 (Environmental Entrepreneurs), 431,762 people employed in the energy efficiency industry filed for unemployment in March through May of 2020. In June, 71,786 jobs were added, ending the month with a net 359,976 jobs lost. [[June 2020 Unemployment Analysis, E2, July 2020](#)]
- **The Renewable Energy Industry Reported 82,429 Jobs Lost.** According to the 2020 Clean Jobs America analysis of energy jobs data by the national nonpartisan business group E2 (Environmental Entrepreneurs), 99,717 people employed in the renewable energy industry filed for unemployment in March through May of 2020. In June, 17,287 jobs were added, ending the month with a net 82,429 jobs lost. [[June 2020 Unemployment Analysis, E2, July 2020](#)]
- **The Clean Vehicles Industry Reported 38,193 Jobs Lost.** According to the 2020 Clean Jobs America analysis of energy jobs data by the national nonpartisan business group E2 (Environmental Entrepreneurs), 48,528 people employed in the clean vehicles industry filed for unemployment in March 2020. In June, 10,335 jobs were added, ending the month with a net 38,193 jobs lost. [[June 2020 Unemployment Analysis, E2, July 2020](#)]
- **The Grid And Storage Industry Reported 22,788 Jobs Lost.** According to the 2020 Clean Jobs America analysis of energy jobs data by the national nonpartisan business group E2 (Environmental Entrepreneurs), 27,349 people employed in the grid and storage industry filed for unemployment in March through May of 2020. In June, 4,561 jobs were added, ending the month with a net 22,788 jobs lost. [[June 2020 Unemployment Analysis, E2, July 2020](#)]
- **The Clean Fuels Industry Reported 10,882 Jobs Lost.** According to the 2020 Clean Jobs America analysis of energy jobs data by the national

nonpartisan business group E2 (Environmental Entrepreneurs), 13,233 people employed in the clean fuels industry filed for unemployment in March through May of 2020. In June, 2,351 jobs were added, ending the month with a net 10,882 jobs lost. [[June 2020 Unemployment Analysis, E2, July 2020](#)]

Clean Energy Pandemic Job Losses In The States

Table Source: [June 2020 Unemployment Analysis, E2, July 2020](#)

State	CE Jobs Lost	Percent Decline	State	CE Jobs Lost	Percent Decline
Alabama	7,916	17.4%	Montana	1,654	15.0%
Alaska	1,326	21.6%	Nebraska	2,792	12.7%
Arizona	7,837	12.5%	Nevada	4,243	12.5%
Arkansas	2,726	12.7%	New Hampshire	1,471	8.5%
California	89,881	16.3%	New Jersey	9,877	17.2%
Colorado	6,065	9.0%	New Mexico	2,124	16.9%
Connecticut	5,664	12.8%	New York	17,408	10.6%
Delaware	2,055	14.5%	North Carolina	21,380	18.6%
District of Columbia	2,620	16.9%	North Dakota	1,543	15.5%
Florida	26,643	15.9%	Ohio	16,582	14.3%
Georgia	27,353	31.7%	Oklahoma	4,554	19.2%
Hawaii	3,801	25.3%	Oregon	7,462	12.3%
Idaho	1,566	11.2%	Pennsylvania	18,945	19.5%
Illinois	12,724	9.8%	Rhode Island	3,354	20.5%
Indiana	12,489	14.0%	South Carolina	8,107	14.2%
Iowa	4,448	12.1%	South Dakota	710	5.7%
Kansas	3,028	11.4%	Tennessee	8,351	9.7%
Kentucky	11,228	28.7%	Texas	24,847	10.1%
Louisiana	7,710	24.1%	Utah	3,032	6.8%
Maine	1,899	13.8%	Vermont	2,258	12.4%
Maryland	10,492	12.4%	Virginia	12,103	12.2%

Massachusetts	15,899	14.0%	Washington	18,513	20.8%
Michigan	24,659	18.5%	West Virginia	1,537	14.7%
Minnesota	10,068	15.6%	Wisconsin	8,974	11.4%
Mississippi	3,619	16.3%	Wyoming	883	10.0%
Missouri	7,851	13.3%	US TOTAL	514,270	14.8%

Impact On Small Businesses

2.2. Million Clean Energy Workers, Nearly Two-Thirds Of The Entire Workforce, Are Employed By Businesses With Fewer Than 19 Employees.

According to the 2020 Clean Jobs America analysis of energy jobs data by the national nonpartisan business group E2 (Environmental Entrepreneurs), “2.2 million clean energy workers—nearly two-thirds of the entire workforce—are employed by businesses with fewer than 19 employees.”

[\[Clean Jobs America 2020, E2, April 2020\]](#)

Such Small Businesses Are Some Of The Most At-Risk Companies In The U.S. Due To The Impact Of COVID-19.

According to the 2020 Clean Jobs America analysis of energy jobs data by the national nonpartisan business group E2 (Environmental Entrepreneurs), “Small firms, more dependent on consistent business and access to finance, are some of the most at-risk companies in the U.S. economy due to the impact COVID-19 has had on regular commerce.” [\[Clean Jobs America 2020, E2, April 2020\]](#)

UNDER TRUMP’S LEADERSHIP, THE CLEAN ENERGY INDUSTRY HAS FACED A SLEW OF ATTACKS

Under Trump, Clean Energy Developers Faced A Slew Of Threats That Could Slow Down The Industry's Growth. According to Time Magazine: “Less than a year into President Trump’s time in office, clean energy developers face a slew of unanticipated threats from the White House and Republicans in Congress that could slow the industry’s growth in ways unimaginable just a year ago.” [\[Time Magazine, 12/8/2017\]](#)

In The Midst Of The Coronavirus Pandemic, The Trump Administration Issued Retroactive Rent Bills To Wind And Solar Facilities On Federal Lands.

According to Reuters: “The Trump administration has ended a two-year rent holiday for solar and wind projects operating on federal lands, handing them whopping retroactive bills at a time the industry is struggling with the fallout

of the coronavirus outbreak, according to company officials. The move represents a multi-million-dollar hit to an industry that has already seen installation projects canceled or delayed by the global health crisis, which has cut investment and dimmed the demand outlook for power. It also clashes with broader government efforts in the United States to shield companies from the worst of the economic turmoil through federal loans, waived fees, tax breaks and trimmed regulatory enforcement." [[Reuters, 5/18/2020](#)]

Attacks On Solar Power

In 2018, Jobs In Solar Declined In Part Due To Trump's Tariffs On Steel And Solar Panels. According to E2's Clean Jobs America 2019 report, 2018 saw a decline in solar jobs due in part to tariffs on steel and solar panels. [[2019 Clean Jobs America Report, E2, March 2019](#)]

- **In 2018, Solar Jobs Declined By 3.2 Percent, Or 8,000 Jobs, Compared To 2017.** According to The Solar Foundation's National Solar Jobs Census for 2018: "This year's National Solar Jobs Census found that solar employment experienced its second decline since The Solar Foundation first began tracking jobs in 2010. As of November 2018, the solar industry employs over 242,000 solar workers, representing a decline of 3.2%, or 8,000 fewer jobs, since 2017." [[National Solar Jobs Census 2018, The Solar Foundation, February 2019](#)]
- **The Solar Foundation Pointed To Uncertainty Over The Trump Administration's Solar Tariffs As A Key Factor Spurring The Industry's Decline In 2018.** According to The Solar Foundation's National Solar Jobs Census for 2018: "Key factors behind the decline in solar jobs from 2017 to 2018 include: Uncertainty over the outcome of the Section 201 trade case before the new solar tariffs were announced in January 2018. This uncertainty led to project delays, especially for the larger, utility-scale installations." [[National Solar Jobs Census 2018, The Solar Foundation, February 2019](#)]
- **Trump's Solar Tariffs Cost The U.S. 62,000 Jobs And Nearly \$19 Billion In New Industry Investment.** According to The Hill: "Tariffs on solar panels implemented under President Trump have significantly harmed the U.S. solar industry, according to a new analysis released Tuesday. More than 62,000 jobs and nearly \$19 billion in new private sector investment has been lost due to the 2018 tariffs Trump placed on solar imports, according to the study by the Solar Energy Industries Association (SEIA). The number of jobs lost is nearly double the toll the SEIA first estimated when Trump announced the tariffs." [[The Hill, 12/03/2019](#)]

- **Trump's Tariffs On Solar Imports Also Cost An Additional \$10.5 Million Per Day In Unrealized Economic Activity.** According to The Hill: "The group additionally estimated that the tariffs cost the U.S. more than \$10.5 million per day in unrealized economic activity. From a climate perspective, the SEIA also estimated that reduced solar panel deployment activity in the U.S., stemming from the tariffs, would increase emissions equivalent to 5.5 million cars." [[The Hill, 12/03/2019](#)]

In 2018, Billions In U.S. Solar Projects Were Shelved After Trump's Panel Tariffs. According to Reuters: "President Donald Trump's tariff on imported solar panels has led U.S. renewable energy companies to cancel or freeze investments of more than \$2.5 billion in large installation projects, along with thousands of jobs, the developers told Reuters...The tariff's bifurcated impact on the solar industry underscores how protectionist trade measures almost invariably hurt one or more domestic industries for every one they shield from foreign competition. Trump's steel and aluminum tariffs, for instance, have hurt manufacturers of U.S. farm equipment made with steel, such as tractors and grain bins, along with the farmers buying them at higher prices. White House officials did not respond to a request for comment." [[Reuters, 6/7/18](#)]

Attacks On Wind Power

The Trump Administration Has Dealt Several Blows To The Wind Power Industry, Including Withholding Approval For The Country's First Utility-Scale Offshore Wind Project. According to NBC News: "The Interior Department surprised and alarmed wind industry supporters in August, when the agency unexpectedly announced it was withholding approval for the country's first utility-scale offshore wind project, a \$2.8 billion complex of 84 giant turbines. Slated for building 15 miles (24 kilometers) off Martha's Vineyard, Vineyard Wind has a brisk 2022 target for starting operations. Its Danish-Spanish partners already have contracts to supply Massachusetts electric utilities. Investors backing more than a dozen other big wind farms are lined up to follow Vineyard Wind with offshore wind projects of their own." [[NBC News, 9/30/2019](#)]

The Trump Administration Planned To Completely Phase Out The Wind Power Tax Credit. According to Reuters: "The U.S. wind power tax credit has seen its value drop since 2017 and was scheduled to be phased out completely by this year. The wind power tax credit is currently worth 1.5 cents for every kilowatt-hour of electricity produced. The credit's value began dropping in 2017 and was scheduled to be phased out completely next year." [[Reuters, 1/16/2020](#)]

Attacks On Clean Vehicles

Oil Industry Groups Ran A Stealth Campaign To Roll Back Car Emissions Standards. In December of 2018, the New York Times reported: "In Congress, on Facebook and in statehouses nationwide, Marathon Petroleum, the country's largest refiner, worked with powerful oil-industry groups and a conservative policy network financed by the billionaire industrialist Charles G. Koch to run a stealth campaign to roll back car emissions standards, a New York Times investigation has found. The campaign's main argument for significantly easing fuel efficiency standards — that the United States is so awash in oil it no longer needs to worry about energy conservation — clashed with decades of federal energy and environmental policy." [[New York Times, 12/13/2018](#)]

Trump's Planned Rollback Of Obama-Era Fuel Efficiency Standards Was Set To Harm The Clean Vehicle Industry By Removing Requirements That Automakers Invest In Hybrid, Electric And Low-Pollution Vehicles. According to the New York Times, "The Trump administration is expected on Tuesday to announce its final rule to rollback Obama-era automobile fuel efficiency standards, relaxing efforts to limit climate-warming tailpipe pollution and virtually undoing the government's biggest effort to combat climate change. [...] The new rule creates short-term regulatory relief for automakers, lifting requirements that had forced them to invest heavily in developing and marketing hybrid, electric and low-pollution vehicles." [[New York Times, 3/31/2020](#)]

- **Automakers Said Trump's Rollback Would Reduce The Competitiveness Of The U.S. Industry, Leaving U.S. Companies Behind As Foreign Manufacturers Produce Efficient Vehicles To Meet Fuel Efficiency Standards In Other Global Markets.** According to Forbes: "The Trump administration says that the freeze will help sell more cars, but as the United Auto Workers union and 17 major automakers have told the Trump administration, it will reduce the competitiveness of U.S. vehicle manufacturing – U.S. companies will be left behind as foreign manufacturers produce increasingly efficient vehicles to meet fuel efficiency and GHG emissions standards in other global markets." [[Forbes, 8/7/2019](#)]
- **The Administration's Own Analysis Showed Trump's Rollback Of Vehicle Fuel Efficiency Standards Could Cost Hundreds Of Thousands Of Jobs.** According to the Washington Post, "An environmental adviser to the Trump administration projects that its attempt to reverse Obama-era fuel-efficiency standards could have a steep long-term toll on the U.S. economy and eventually cost the country hundreds of thousands of jobs."

[...] The Trump administration's proposal to freeze standards on tailpipe emissions for new cars and light trucks at 2020 levels, or otherwise watering down their stringency, would create 236,000 fewer jobs by 2035 than if the Obama-era standards stayed intact, according to the paper published late last month in the peer-reviewed Journal of Policy Analysis and Management." [[Washington Post, 4/2/2019](#)]

Attacks On Renewable Energy Funding

Trump Repeatedly Sought Deep Cuts To Renewable Energy Funding.

According to the New York Times: President Trump's budget proposal for 2018 envisions a flurry of changes to domestic energy policy, reaping billions of dollars in one-time revenue from oil and gas resources while cutting research into future energy technologies that could pay long-term dividends. [...] At the same time, the budget would cut \$3.1 billion from energy research programs at the Energy Department, an 18 percent reduction from last year's spending. These programs are aimed at developing innovative technologies like better batteries for electric vehicles or carbon capture for coal and gas plants — all of which could one day help reduce greenhouse gas emissions and combat global warming." [[New York Times, 5/23/2017](#)]

Trump Proposed Cutting Energy Efficiency And Renewable Energy Funding By \$2 Billion. According to a budget document from the Department of Energy, President Trump's budget request for fiscal year 2021 proposed to fund Energy Efficiency and Renewable Energy programs at a level of \$719,563,000, down over \$ billion from the fiscal year 2020 level enacted by Congress at \$2,777,277,000. [[Department of Energy FY 2021 Budget Justification Volume 3, Part 1](#)]

- **2020: Trump's Proposed Budget Slashed Funding For A Range Of Environmental Programs And Cut The EPA's Budget By 26 Percent.** According to The Hill: "President Trump's budget would eliminate 50 EPA programs and impose massive cuts to research and development, while also nixing money for the Energy Star rating system. The Energy Star program, which measures the efficiency of electronics and appliances, would instead rely on businesses to pay a fee to participate in the program." [[The Hill, 2/10/2020](#)]

Trump's Department Of Energy Delayed The Release Of \$43 Billion In Low-Interest Loans For Clean Energy Projects Provided Under The Covid-19 Relief Bill. According to the New York Times: "As the government struggles to keep businesses afloat through the pandemic, the Trump administration is sitting on about \$43 billion in low-interest loans for clean energy projects, and critics are accusing the Energy Department of partisan opposition to

disbursing the funds. [...] The loans — which would aid renewable power, nuclear energy and carbon capture and storage technology — had some bipartisan support even before the coronavirus pushed 30 million people onto the unemployment rolls. But some supporters of the program said it was being held back by a president who has falsely claimed wind power causes cancer and consistently sought deep cuts to renewable energy spending, including the loan program.” [\[New York Times, 4/30/2020\]](#)

Attacks On Research And Development

In February 2020, Trump's Department Of Energy Delayed The Release Of Funding For Energy Efficiency Research. According to The Hill: “Democrats on the House Science, Space and Technology Committee grilled Department of Energy (DOE) staff Wednesday on delays in releasing funds for energy efficiency research, a topic that has broad bipartisan support in Congress but not from the White House. Members on both sides of the aisle have repeatedly listed energy efficiency measures as a must-have feature in any eventual climate legislation. But the Trump administration has repeatedly sought to ax numerous such programs in its budget.” [\[The Hill, 2/5/2020\]](#)

The DOE's Office Of Energy Efficiency And Renewable Energy (EERE) Cancelled \$46 Million In Grants For Solar Research And Development Before They Could Be Awarded. According to The Hill: “The Trump budget for last year would have cut EERE's budget by 80 percent, a cut Congress ignored. But many of those funds have remained unspent in Energy coffers; EERE carried over \$823 million into this year, more than a third of its budget. The office also canceled \$46 million in grants for solar research and development before they could even be awarded.” [\[The Hill, 2/5/2020\]](#)

GREEN JOBS ARE GOOD JOBS

THE U.S. GREEN ECONOMY

The U.S. Green Economy Represented \$1.3 Trillion In Annual Sales Revenue In 2019. In an October 2019 article in Nature, researchers wrote: “Through the Low Carbon and Environmental Goods and Services Sector (LCEGSS) dataset, the US green economy is estimated to represent \$1.3 trillion in annual sales revenue and to employ nearly 9.5 million workers; both of which have grown by over 20% between 2012/13 and 2015/16.” [\[Nature, 10/15/2019\]](#)

The U.S. Green Economy Grew 20 Percent from 2012 to 2016. In an October 2019 article in Nature, researchers wrote: “Through the Low Carbon and Environmental Goods and Services Sector (LCEGSS) dataset, the US green economy is estimated to represent \$1.3 trillion in annual sales revenue and to employ nearly 9.5 million workers; both of which have grown by over 20% between 2012/13 and 2015/16.” [Nature, [10/15/2019](#)]

At The Start Of 2020, Clean Energy Employment Increased To Nearly 3.4 Million Workers, Accounting For 2.25 Percent Of Total U.S. Employment. According to E2: “At the start of 2020, clean energy employment increased for the fifth straight year since this annual report was first released—growing beyond 3.3 million workers nationwide. [...] As a result of the industry’s consistent growth, clean energy accounted for more than 40 percent of America’s entire energy workforce and over 2.25% of the nation’s overall employment at the end of 2019.” [[E2, 4/15/2020](#)]

In 2019, The Clean Economy Supplied A Total Of 3,355,419 Jobs In The United States. According to the 2020 Clean Jobs America analysis of energy jobs data by the national nonpartisan business group E2 (Environmental Entrepreneurs), the clean energy industry supplied 3,355,419 jobs in 2019. [[Clean Jobs America 2020, E2, April 2020](#)]

- **2019: The Renewable Energy Sector Supplied A Total Of 522,811 Jobs.** According to the 2020 Clean Jobs America analysis of energy jobs data by the national nonpartisan business group E2 (Environmental Entrepreneurs), the renewable energy sector supplied a total of 522,811 jobs. Solar energy supplied 345,393, wind energy supplied 114,774 jobs, and other industries, including geothermal and bioenergy, supplied 62,644 jobs. [[Clean Jobs America 2020, E2, April 2020](#)]
- **2019: The Energy Efficiency Industry Supplied 2,378,893 Jobs.** According to the 2020 Clean Jobs America analysis of energy jobs data by the national nonpartisan business group E2 (Environmental Entrepreneurs), the energy efficiency industry supplied 2,378,893 jobs. [[Clean Jobs America 2020, E2, April 2020](#)]
- **2019: The Clean Storage And Grid Modernization Industries Supplied A Total Of 147,644 Jobs.** According to the 2020 Clean Jobs America analysis of energy jobs data by the national nonpartisan business group E2 (Environmental Entrepreneurs), the clean energy storage and grid modernization industries supplied a total of 147,644 jobs. Clean energy storage supplied 76,669 jobs, while grid modernization supplied 67,945 jobs. [[Clean Jobs America 2020, E2, April 2020](#)]

- **2019: The Clean Vehicle Industry Supplied 266,368 Jobs.** According to the 2020 Clean Jobs America analysis of energy jobs data by the national nonpartisan business group E2 (Environmental Entrepreneurs), the clean vehicle industry supplied 266,368 jobs. [[Clean Jobs America 2020, E2, April 2020](#)]
- **2019: The Fuel Industry Supplied A Total Of 39,704 Jobs.** According to the 2020 Clean Jobs America analysis of energy jobs data by the national nonpartisan business group E2 (Environmental Entrepreneurs), the clean fuel industry supplied a total of 39,704 jobs. Other Ethanol/non-woody biomass supplied 20,694 jobs, while other biofuels supplied 19,009 jobs. [[Clean Jobs America 2020, E2, April 2020](#)]

The Bureau Of Labor Statistics Reported Solar Panel Installers And Wind Turbine Technicians Are The Fastest Growing Jobs In The Nation. In September 2019, the bureau of Labor Statistics reported that “Solar photovoltaic installers” and “Wind turbine service technicians” top the list of “20 occupations with the highest percent change of employment between 2018-28,” growing by 63% and 58% respectively. [Bureau of Labor Statistics, [09/4/2019](#)]

More Americans Worked In Clean Energy Than Were Employed As School Teachers, Farmers, Or Real Estate Brokers. According to the 2020 Clean Jobs America analysis of energy jobs data by the national nonpartisan business group E2 (Environmental Entrepreneurs): “Before the COVID-19 crisis, nearly 3.4 million Americans worked in clean energy—solar, wind, energy efficiency, clean vehicles, and more, according to this new analysis. For perspective, that’s more people than worked as school teachers or farmers or real estate brokers in our country, and three times as many as worked in fossil fuels.” [E2 Clean Jobs America 2020, [4/2020](#)]

Three Times As Many Americans Were Employed In The Clean Energy Economy Than Fossil Fuels, And In 2019 The Industry Added Nearly Five Times More Jobs Than The Fossil Fuel Industry. According to the 2020 Clean Jobs America analysis of energy jobs data by the national nonpartisan business group E2 (Environmental Entrepreneurs): “Across the entire U.S. energy sector, clean energy jobs now represent about 40 percent of the workforce. Clean energy accounted for more than half (55 percent) of the sector’s net employment growth in 2019. Not only does clean energy employ about three times the number of workers as the entire U.S. fossil fuel industry, the number of clean energy jobs added last year was nearly five times greater than fossil fuel jobs added.” [E2 Clean Jobs America 2020, [4/2020](#)]

In 2019, Clean Energy Companies Employed 2.25 Percent Of All Workers In The U.S. According to E2's Clean Jobs America 2020 report, "Nationally, clean energy companies employed 2.25% of all workers in the U.S. in 2019." [E2 Clean Jobs America 2020, [4/2020](#)]

Miami, Florida Is The #8 Metro Area For Clean Energy Jobs. According to E2's Clean Jobs America 2020 report, Miami, FL ranks 8th among US metro areas for clean energy jobs with 60,963. [E2 Clean Jobs America 2020, [4/2020](#)]

Detroit, Michigan Is The #11 Metro Area for Clean Energy Jobs. According to E2's Clean Jobs America 2020 report, Detroit, MI ranks 11th among US metro areas for clean energy jobs with 55,466. [E2 Clean Jobs America 2020, [4/2020](#)]

Atlanta, Georgia Is The #12 Metro Area for Clean Energy Jobs. According to E2's Clean Jobs America 2020 report, Atlanta, GA ranks 12th among US metro areas for clean energy jobs with 55,085. [E2 Clean Jobs America 2020, [4/2020](#)]

Philadelphia, Pennsylvania Is The #13 Metro Area for Clean Energy Jobs. According to E2's Clean Jobs America 2020 report, Philadelphia, PA ranks 13th among US metro areas for clean energy jobs with 49,510. [E2 Clean Jobs America 2020, [4/2020](#)]

Holland-Grand Haven, Michigan Is The #2 Small Or Medium Metro Area for Clean Energy Jobs. According to E2's Clean Jobs America 2020 report, Holland-Grand Haven, MI ranks 2nd among small and medium US metro areas for clean energy jobs with 3,538, or 8.6% of its workforce. [E2 Clean Jobs America 2020, [4/2020](#)]

Miles-Benton Harbor, Michigan Is The #10 Small Or Medium Metro Area for Clean Energy Jobs. According to E2's Clean Jobs America 2020 report, Miles-Benton Harbor, MI ranks 10th among small and medium US metro areas for clean energy jobs with 2,685, or 4.2% of its workforce. [E2 Clean Jobs America 2020, [4/2020](#)]

WAGE DATA

Bloomberg Headline: "A Bottom-Line Case For The Green New Deal: The Jobs Pay More." [Bloomberg CityLab, [4/24/2019](#)]

A 2011 Brookings Institute Study Found That The Clean Energy Economy Offers More Opportunities And Better Pay For Low-And Middle-Skilled Workers Than The National Economy As A Whole. According to the

Brookings Institute's Sizing the Clean Economy report: "The clean economy offers more opportunities and better pay for low-skilled workers than the national economy as a whole. Another strength of the clean economy is the access it affords to decent jobs up and down the skills ladder. Typical wages in the clean economy exceed those in the aggregate U.S. economy by roughly 13 percent, based on an analysis of the dataset. The median wage of a typical clean economy job approaches \$44,000. This figure far exceeds the compensation level of the typical job in the United States. The national median wage is just \$33,190 (or \$38,616 if calculated using a weighted average of the medians, as was done for the clean economy)." [[Brookings Institute, Sizing the Clean Economy Report, 2011](#)]

Brookings: Hourly Wages For Clean Energy Jobs Exceed National Averages By 8 To 19 Percent. In an April 2019 analysis, Brookings researchers found: "Workers in clean energy earn higher and more equitable wages when compared to all workers nationally. Mean hourly wages exceed national averages by 8 to 19 percent. Clean energy economy wages are also more equitable; workers at lower ends of the income spectrum can earn \$5 to \$10 more per hour than other jobs." [Brookings, [4/18/2019](#)]

Low-Wage Workers Make \$5 To \$10 More Per Hour In Green Jobs Than They Would In Other Jobs. In an April 2019 analysis, Brookings researchers found: "Clean energy economy wages are also more equitable; workers at lower ends of the income spectrum can earn \$5 to \$10 more per hour than other jobs." [Brookings, [4/18/2019](#)]

Four Percent Of Green Jobs Earn Less Than \$15 An Hour, Compared To More Than 30 Percent Of Jobs Nationally. . In an April 2019 analysis, Brookings researchers found: that four percent of green jobs paid less than \$15/hour, while more than 30% of jobs do in the economy overall. [Brookings, [4/18/2019](#)]

Educational Barriers To Entry Are Lower In Clean Jobs, Even In High-Paying Jobs. In an April 2019 analysis, Brookings researchers found: "Even when they have higher pay, many occupations within the clean energy economy tend to have lower educational requirements. This is especially true within the clean energy production and energy efficiency sectors, which include sizable occupations like electricians, carpenters, and plumbers. Roughly 50 percent of workers attain no more than a high school diploma yet earn higher wages than similarly-educated peers in other industries." [Brookings, [4/18/2019](#)]

- **"50 Percent Of Workers Attain No More Than A High School Diploma Yet Earn Higher Wages Than Similarly-Educated Peers In Other Industries.**

” In an April 2019 analysis, Brookings researchers found: “Roughly 50 percent of workers attain no more than a high school diploma yet earn higher wages than similarly-educated peers in other industries.”

[Brookings, [4/18/2019](#)]

ECONOMIC IMPACT DATA

Local Impact

By Nature Many Clean Energy Jobs Cannot Be Outsourced, And They Contribute To The Growth Of Local Economies. In their explanation of their Climate Corps program, the Environmental Defense Fund wrote: “Many jobs in the solar and energy efficiency space are in installation, maintenance and construction, making these jobs inherently local and contributing to the growth of local economies.” [Environmental Defense Fund, accessed [6/19/20](#)]

Economic Growth

Obama's White House Council Of Economic Advisors Said Green Stimulus Investments Boosted GDP By 2 To 3 Percent From 2009 To 2011. In February 2016, Obama's Council of Economic Advisors released a report on the green stimulus programs included in the 2009 stimulus package. They wrote: “A new report released today by the White House Council of Economic Advisors (CEA) estimates that the entire Recovery Act raised the level of GDP by between 2 and 3 percent from late 2009 through mid-2011.” [Obama White House, [2/25/2016](#)]

Obama's White House Council Of Economic Advisors Said Green Stimulus Programs Created Equivalent Of 900,000 Jobs Between 2009 And 2015. In February 2016, Obama's Council of Economic Advisors released a report on the green stimulus programs included in the 2009 stimulus package. They wrote: “CEA estimates that the Recovery Act clean energy-related programs supported roughly 900,000 job-years in innovative clean energy fields from 2009 to 2015.” [Obama White House, [2/25/2016](#)]

Obama's Green Stimulus Supported \$44 Billion In Economic Output. In an April 2012 study, The U.S. Department of Energy's National Renewable Energy Lab wrote: “NREL's analysis estimates that up to 75,000 direct and indirect jobs and up to \$44 billion in total economic output were supported by the design, manufacturing, construction, and installation of solar photovoltaic (PV) and wind projects funded by the 1603 Treasury grant program. In addition, the study estimates that the operation and

maintenance of these solar and wind facilities will continue to sustain up to \$1.8 billion per year in economic output over the lifetime of the facilities (20 - 30 years)." [US Department of Energy National Renewable Energy Lab, [4/6/2012](#)]

Obama's Green Stimulus Created 75,000 Direct And Indirect Jobs. In an April 2012 study, The U.S. Department of Energy's National Renewable Energy Lab wrote: "NREL's analysis estimates that up to 75,000 direct and indirect jobs and up to \$44 billion in total economic output were supported by the design, manufacturing, construction, and installation of solar photovoltaic (PV) and wind projects funded by the 1603 Treasury grant program. In addition, the study estimates that the operation and maintenance of these solar and wind facilities will continue to sustain up to \$1.8 billion per year in economic output over the lifetime of the facilities (20 - 30 years)." [US Department of Energy National Renewable Energy Lab, [4/6/2012](#)]

Obama's Green Stimulus Sustains \$1.8 Billion Per Year In Economic Output. In an April 2012 study, The U.S. Department of Energy's National Renewable Energy Lab wrote: "NREL's analysis estimates that up to 75,000 direct and indirect jobs and up to \$44 billion in total economic output were supported by the design, manufacturing, construction, and installation of solar photovoltaic (PV) and wind projects funded by the 1603 Treasury grant program. In addition, the study estimates that the operation and maintenance of these solar and wind facilities will continue to sustain up to \$1.8 billion per year in economic output over the lifetime of the facilities (20 - 30 years)." [US Department of Energy National Renewable Energy Lab, [4/6/2012](#)]

The Wind Industry Invests Between \$10-20 Billion In The U.S. Economy Every Year. In a 2018 report, Cleantechica cited a Wind Energy Foundation report saying: "Since 2005, American wind power has attracted more than \$100 billion in new investment. At the current rate, the wind industry is investing between \$10 billion and \$20 billion per year in the U.S. economy." [Cleantechica citing the Wind Energy Foundation, [3/10/2018](#)]

Holistic Benefits

A 2016 Study Found Green Investments Would Boost Global Welfare. In a 2016 report, the International Renewable Energy Agency created a new welfare metric to capture policy impacts beyond what is captured by GDP. They found "The impact of renewable energy deployment on global welfare is positive, increasing by 2.7% (compared to 0.6% GDP improvement) if the share of renewables doubled. It would rise by 3.7% (compared to 1.1% GDP

improvement) if achieved through the higher electrification of heat and transport. In other words, the benefits of renewable energy go beyond the traditional and limited measurements of economic performance. They improve human welfare in a much broader manner and in a way that allows for future long-term growth and positive socioeconomic development.”

[International Renewable Energy Agency, [2016](#)]

Cheap Energy

In 2017, Scientific American Wrote “Wind Energy Is One Of The Cheapest Sources of Electricity In The United States.” In August 2017, Scientific American wrote: “Wind Energy Is One of the Cheapest Sources of Electricity in the United States: While the all-in price of wind energy directly depends on the wind speeds at a particular site, examining national trends in the installed cost of wind energy definitively shows that wind energy has become an extremely inexpensive source of electricity.” [Scientific American, [08/28/2017](#)]

- **By 2017, An “Enormous Amount Of Wind Energy” Had Been Procured At 2 Cents Per Megawatt Hour Across The U.S., Very Competitive Against The Standard Rate Of 2 To 4 Cents Per Megawatt Hour.** In August 2017, Scientific American wrote: “The average U.S. consumer pays about 12 cents per kilowatt-hour for electricity. That price includes the cost of generating power, the wires that deliver it from generators to our homes, and the cost of running the utility business. The actual cost of electricity generation alone is something like 2 to 4 cents per kilowatt-hour – that’s the price that wind energy has to compete with to be successful. In recent years, an enormous amount of wind energy has been procured at or below a price of 20 dollars per megawatt-hour – or just 2 cents per kilowatt-hour. That is competitive with typical wholesale electricity market prices by any measure.” [Scientific American, [08/28/2017](#)]
- **Even Without Subsidies, Wind Energy Is Cheaper Than Natural Gas.** In August 2017, Scientific American wrote: “But it’s important to note that the price of wind energy offered through a PPA is an all-in price that includes the effect of subsidies such as the federal wind production tax credit, which provides a tax subsidy of 18 to 23 dollars per megawatt hour of energy produced. When you exclude the production tax credit and look at the levelized cost of energy (LCOE) from interior wind, it still comes in at an extremely competitive cost of less than 50 dollars per megawatt-hour (5 cents per kilowatt-hour). For comparison, the Energy Information Administration estimates a best-in-class combined cycle natural gas power plant has an LCOE of about 54 dollars per megawatt-

hour (5.4 cents per kilowatt-hour). So even when you account for the effect of the federal wind production tax credit, wind energy remains an extremely competitive generating resource.” [Scientific American, [08/28/2017](#)]

Wind

In 2018, “Wind Projects Or Wind-Related Manufacturing Facilities Are Present In 69 Percent Of U.S. Congressional Districts, Including 78 Percent Of Republican Districts And 62 Percent Of Democratic Districts.” In April 2019, the American Wind Energy Association reported that: “Under the 116th U.S. Congress, wind projects or wind-related manufacturing facilities are present in 69 percent of U.S. congressional districts, including 78 percent of Republican districts and 62 percent of Democratic districts.” [American Wind Energy association, [4/9/2019](#)]

Wind Sector Employs 114,000 People Across All 50 States. In a 2019 report, the American Wind Energy Association wrote: “With a footprint in all 50 states, the wind industry supports local economic development, investing more than \$12 billion in new wind projects in 2018, employing a record 114,000 Americans, and paying over \$1 billion to state/local governments and private landowners in tax and lease payments.” [American Wind Energy Association, [4/9/2019](#)]

In 2018, Wind Projects Paid \$1 Billion To State And Local Governments And Private Landowners In Tax And Lease Payments. In a 2019 report, the American Wind Energy Association wrote that Wind power projects paid “over \$1 billion to state/local governments and private landowners in tax and lease payments.” [American Wind Energy Association, [4/9/2019](#)]

In 2018, The Wind Sector Employed 24,000 Manufacturing And Supply Chain Jobs. In a 2019 report, the American Wind Energy Association wrote: “Wind energy supports a thriving domestic manufacturing sector with over 500 factories in 42 states producing components for the industry. At the end of 2018, the wind industry supplied 24,000 manufacturing and supply chain jobs.” [American Wind Energy Association, [4/9/2019](#)]

Wind Farm Lease Payments Support Precarious Farmers. “The project has also been a major boon for Sheldon’s dairy farmers. Dairy farming is a tight-margin business, and the lease payments many farmers receive help them keep things running in years when milk prices are low or drought hits, both of which have been the case in 2016. When farming is more lucrative, the payments help pay for new, more efficient equipment and repairs to farm infrastructure.” [American Wind Energy Association, [09/17/2016](#)]

Sheldon, NY Was Able To Eliminate Local Taxes Completely With Revenue From Its Wind Farm. According to the American Wind Energy Association: “For the town of Sheldon, N.Y., that’s been the case since a wind farm came online eight years ago. Sheldon sits in the upper western corner of New York, just a short ride from Buffalo. It’s an agricultural community with more dairy farms than any other county in the state. In 2009, Invenergy’s High Sheldon wind farm started generating electricity, and the project’s benefit’s have been helping the people of Sheldon ever since. The payments the town of 2,500 receives every year were enough to eliminate local taxes for the first eight years of the project’s life. Only this past year was there a small tax, levied just to cover the cost of some newly purchased highway equipment.” [American Wind Energy Association, [09/17/2016](#)]

IMPACT ON RURAL COMMUNITIES

Clean Energy Employed 430,000 People Across The Rural U.S. In 2017. In May 2020, E2 released a report on the impact of the clean energy sector on rural communities in the US. They found: “Clean energy employed more than 430,000 people across the rural U.S. in 2017, accounting for 13 percent of nation’s total clean energy jobs. Of these jobs, about 320,000 are in energy efficiency fields while 50,000 are renewable energy jobs. The remaining jobs are in sustainable transportation, advanced grid technologies, and alternative fuels.” [E2: Clean Jobs Rural America 2019, [5/12/2020](#)]

99 Percent Of U.S. Wind Capacity Is In Rural Areas. In May 2020, E2 released a report on the impact of the clean energy sector on rural communities in the US. They found: “99% Of U.S. Wind Capacity Is In Rural Areas.” [E2: Clean Jobs Rural America 2019, [5/12/2020](#)]

Bloomberg: Wind Energy Is “Transforming Low-Income Rural Areas In Ways Not Seen Since The Federal Government Gave Land To Homesteaders 150 Years Ago.” In a 2016 article, Bloomberg reported: “Wind energy, the fastest-growing source of electricity in the U.S., is transforming low-income rural areas in ways not seen since the federal government gave land to homesteaders 150 years ago.” [Bloomberg, [10/6/2016](#)]

In Rural Areas, Energy Efficiency Sectors Employ 82,844 More Workers Than Fossil Fuel Jobs. In May 2020, E2 released a report on the impact of the clean energy sector on rural communities in the US. They found: “Energy efficiency alone employs 82,844 more rural workers than fossil fuels, a

difference nearly equal to the entire workforce of the U.S. coal industry.” [E2: Clean Jobs Rural America 2019, [5/12/2020](#)]

Clean Energy Employs Seven Times More Rural Workers Than Department Stores Do Nationally, And More Than Restaurants In Eighteen States. In May 2020, E2 released a report on the impact of the clean energy sector on rural communities in the US. They found: “7X MORE Clean energy in rural areas employs about seven times more workers than department stores nationally, and more than restaurants in 18 states.” [E2: Clean Jobs Rural America 2019, [5/12/2020](#)]

Clean Energy Jobs Accounted For Between 3 To 4 Percent Of Rural Employment In Michigan, Wisconsin, Florida, And North Carolina In 2019. In May 2020, E2 released a report on the impact of the clean energy sector on rural communities in the US. They found: “Clean energy jobs in America’s rural areas account for over 2.5 percent of total employment, across all sectors. Seven states had clean energy jobs account for more than four percent of overall employment, including Connecticut (4.9%), California (4.4%), Oregon (4.3%), Washington (4.2%), and Michigan (4%). Clean energy made up at least three percent of total jobs in eight other states, including North Carolina (3.7%), South Carolina (3.6%), Wisconsin (3.3%), Florida (3%), and Minnesota (3.0%).” [E2: Clean Jobs Rural America 2019, [5/12/2020](#)]

IMPACT ON VETERAN EMPLOYMENT

Clean Energy Companies Hire A Greater Percentage Of Veterans Than The National Average. According to the 2020 Clean Jobs America analysis of energy jobs data by the national nonpartisan business group E2 (Environmental Entrepreneurs), “Small businesses—the backbones of America’s economy—employ nearly two out of three clean energy workers. And clean energy companies hire a greater percentage of veterans than the national average.” [[Clean Jobs America 2020, E2, April 2020](#)]

In 2019, Veterans Filled Around 10 Percent Of The Nation’s Advanced Clean Energy Jobs, Compared To 6 Percent Of Total Jobs. According to the 2020 U.S. Energy & Employment Report published by the Energy Futures Initiative and the National Association of State Energy Officials, veterans filled about 10% of the nation’s advanced energy jobs in 2019, compared to 6% of total jobs. [[U.S. Energy & Employment Report, 2020](#)]

Clean Energy Employs A Greater Percentage Of Veterans Than The Oil And Gas Industry. According to the 2020 Clean Jobs America analysis of energy jobs data by the national nonpartisan business group E2 (Environmental Entrepreneurs), “Clean energy employs a greater percentage of veterans

than most industries—including oil and gas. Percentage of veterans in the workforce of: 10% Wind, 9% Solar PV, 10% Energy Efficiency, 8% Concentrated Solar Power, 6% National Average, 6 To 9% Fossil Fuel and Nuclear.” [[Clean Jobs America 2020, E2, April 2020](#)]

Associated Press HEADLINE: For Vets Returning To US, Green Energy Jobs Await. [[Associated Press, 11/26/2011](#)]

IMPACT ON COMMUNITIES OF COLOR

Workforce Demographics

Solar

Solar Sector Is Less White Than The Economy Overall. The National Association of State Energy Officials' 2020 U.S. Energy & Employment Report reported that the Solar Photovoltaic sector employed 71% workers who identify as White, and the Concentrating Solar Power sector employed 70% people who identify as White, compared to 78% of the workforce nationally. [National Association of State Energy Officials: [2020 U.S. Energy & Employment Report](#)]

Solar Power Generation Employs Five Times More People of Two Or More Races Than The Economy Overall. The National Association of State Energy Officials' 2020 U.S. Energy & Employment Report reported that the Solar Photovoltaic sector employed 9% workers who identify as “two or more races,” and the Concentrating Solar Power sector employed 11% people who identify as “two or more races,” compared to 2% of the workforce nationally. [National Association of State Energy Officials: [2020 U.S. Energy & Employment Report](#)]

Solar Power Generation Employs More Workers of Two Or More Races Than Fossil Fuel Power Generation. The National Association of State Energy Officials' 2020 U.S. Energy & Employment Report reported that the Solar Photovoltaic sector employed 9% workers who identify as two or more races, and the Concentrating Solar Power sector employed 11% people who identify as two or more races, compared to 9% of the workforce for oil electric power generation, 14% of workers in Natural Gas Electric Power Generation, and 7% of workers employed in Coal Electric Power Generation. [National Association of State Energy Officials: [2020 U.S. Energy & Employment Report](#)]

Solar Power Generation Employs More Latinx Workers Than The Economy Overall. The National Association of State Energy Officials' 2020 U.S. Energy & Employment Report reported that the Solar Photovoltaic sector employed 20% workers who identify as Hispanic or Latino, and the Concentrating Solar Power sector employed 21% people who identify as Hispanic or Latino, compared to 18% of the workforce nationally. [National Association of State Energy Officials: [2020 U.S. Energy & Employment Report](#)]

Solar Power Generation Employs More Latinx Workers Than Fossil Fuel Power Generation. The National Association of State Energy Officials' 2020 U.S. Energy & Employment Report reported that the Solar Photovoltaic sector employed 20% workers who identify as Hispanic or Latino, and the Concentrating Solar Power sector employed 21% people who identify as Hispanic or Latino, compared to 18% of the workforce for oil electric power generation, 18% of workers in Natural Gas Electric Power Generation, and 14% of workers employed in Coal Electric Power Generation. [National Association of State Energy Officials: [2020 U.S. Energy & Employment Report](#)]

Solar Power Generation Employs Fifty Percent More Asian Workers Than The Economy Overall. The National Association of State Energy Officials' 2020 U.S. Energy & Employment Report reported that the Solar Photovoltaic sector employed 9% workers who identify as Asian, and the Concentrating Solar Power sector employed 9% people who identify as Asian, compared to 6% of the workforce nationally. [National Association of State Energy Officials: [2020 U.S. Energy & Employment Report](#)]

Wind

Wind Sector Is Less White Than The Economy Overall. The National Association of State Energy Officials' 2020 U.S. Energy & Employment Report reported that the Wind Electric Power Generation sector employed 69% workers who identify as White, compared to 78% of the workforce nationally. [National Association of State Energy Officials: [2020 U.S. Energy & Employment Report](#)]

Wind Power Generation Employs Five Times More People of Two Or More Races Than The Economy Overall. The National Association of State Energy Officials' 2020 U.S. Energy & Employment Report reported that the Wind Electric Power Generation sector employed 11% workers who identify as "two or more races," compared to 2% of the workforce nationally. [National Association of State Energy Officials: [2020 U.S. Energy & Employment Report](#)]

Wind Power Generation Employs More Latinx Workers Than The Economy Overall. The National Association of State Energy Officials' 2020 U.S. Energy & Employment Report reported that the Wind Electric Power Generation sector employed 20% workers who identify as Hispanic or Latino, compared to 18% of the workforce nationally. [National Association of State Energy Officials: [2020 U.S. Energy & Employment Report](#)]

Wind Power Generation Employs Fifty Percent More Asian Workers Than The Economy Overall. The National Association of State Energy Officials' 2020 U.S. Energy & Employment Report reported that the Wind Electric Power Generation sector employed 10% workers who identify as Asian, compared to 6% of the workforce nationally. [National Association of State Energy Officials: [2020 U.S. Energy & Employment Report](#)]

Hydroelectric

Hydroelectric Sector Is Less White Than The Economy Overall. The National Association of State Energy Officials' 2020 U.S. Energy & Employment Report reported that the Hydroelectric Power Generation sector employed 68% workers who identify as White, compared to 78% of the workforce nationally. [National Association of State Energy Officials: [2020 U.S. Energy & Employment Report](#)]

Hydroelectric Employs Four Times More People of Two Or More Races Than The Economy Overall. The National Association of State Energy Officials' 2020 U.S. Energy & Employment Report reported that the Hydroelectric Power Generation sector employed 8% workers who identify as "two or more races," compared to 2% of the workforce nationally. [National Association of State Energy Officials: [2020 U.S. Energy & Employment Report](#)]

Hydroelectric Employs Fifty Percent More Asian Workers Than The Economy Overall. The National Association of State Energy Officials' 2020 U.S. Energy & Employment Report reported that the Hydroelectric Power Generation sector employed 10% workers who identify as Asian, compared to 6% of the workforce nationally. [National Association of State Energy Officials: [2020 U.S. Energy & Employment Report](#)]

Combined Heat and Power Generation

Combined Heat and Power Sector Is Less White Than The Economy Overall. The National Association of State Energy Officials' 2020 U.S. Energy & Employment Report reported that the Combined Heat and Power sector employed 72% workers who identify as White, compared to 78% of the

workforce nationally. [National Association of State Energy Officials: [2020 U.S. Energy & Employment Report](#)]

Combined Heat and Power Employs Five Times More People of Two Or More Races Than The Economy Overall. The National Association of State Energy Officials' 2020 U.S. Energy & Employment Report reported that the Combined Heat and Power sector employed 10% workers who identify as “two or more races,” compared to 2% of the workforce nationally. [National Association of State Energy Officials: [2020 U.S. Energy & Employment Report](#)]

Combined Heat and Power Employs Fifty Percent More Asian Workers Than The Economy Overall. The National Association of State Energy Officials' 2020 U.S. Energy & Employment Report reported that the Combined Heat and Power sector employed 9% workers who identify as Asian, compared to 6% of the workforce nationally. [National Association of State Energy Officials: [2020 U.S. Energy & Employment Report](#)]

Energy Efficiency

Energy Efficiency Sector Is Less White Than The Economy Overall. The National Association of State Energy Officials' 2020 U.S. Energy & Employment Report reported that the Energy Efficiency sector employed 77% workers who identify as White, compared to 78% of the workforce nationally. [National Association of State Energy Officials: [2020 U.S. Energy & Employment Report](#)]

Energy Efficiency Employs Three Times More People of Two Or More Races Than The Economy Overall. The National Association of State Energy Officials' 2020 U.S. Energy & Employment Report reported that the Energy Efficiency sector employed 7% workers who identify as “two or more races,” compared to 2% of the workforce nationally. [National Association of State Energy Officials: [2020 U.S. Energy & Employment Report](#)]

Barriers To Green Employment

Eighty-Four Percent Of Energy Employers Reported Difficulty Hiring Qualified Workers. The National Association of State Energy Officials' 2020 U.S. Energy & Employment Report reported that: “Just over 84 percent of employers across these sectors (84.4 percent) reported difficulty hiring qualified workers over the last 12 months, an increase of over 7 percentage points from 2018 and a total of 14 percentage points since 2017. Almost three-in-ten employers (29 percent) noted it was very difficult (no change from 2018).” [National Association of State Energy Officials: [2020 U.S. Energy & Employment Report](#)]

Employers Cite “Need For Technical Training” As Biggest Barrier To Hiring.

The National Association of State Energy Officials' 2020 U.S. Energy & Employment Report reported that: “Lack of experience, training, or technical skills were again cited as the top reasons for hiring difficulty by employers across all five surveyed sectors. The need for technical training and certifications was also frequently cited, implying the need for expanded investments in workforce training and closer coordination between employers and the workforce training system.” [National Association of State Energy Officials: [2020 U.S. Energy & Employment Report](#)]

Brookings Reported That Current Recruitment And Hiring Practices Are A Barrier To Making Green Jobs Inclusive.

In a 2019 report on green jobs, Brookings wrote: “Certainly, some of these diversity trends reflect industry-wide employment practices. Public-sector occupations that dominate the environmental management sector are known for using equal opportunity hiring and recruitment practices, which tend to benefit minority and female workers. Likewise, the relatively high share of construction work under both the clean energy production and energy efficiency sectors naturally leads to greater likelihood of Hispanic employment. For the most part, the diversity shortfalls across the clean energy economy result in real economic consequences for the country's households. When occupations with sizable employment counts, high pay, and low barriers to entry are not being filled by all demographic groups, something is amiss with either widely-used recruitment practices, specific occupation practices, or both.” [Brookings, [4/18/2019](#)]

OPPORTUNITIES FOR RETURNING CITIZENS

Barriers to Employment

Over 27 Percent Of Returning Citizens Are Unemployed, More Than The General Population's Unemployment Rate During The Great Depression. In a July 2018 report, the Prison Policy Initiative found that citizens with a criminal record were unemployed at a rate of 27%, which is higher than the rate of unemployment in the general population during the Great Depression. [Prison Policy Initiative, [07/2018](#)]

Returning Citizens Face 45,000 Laws And Policies Preventing Them From Reintegrating Into Society. In a March 2018 report, the National Criminal Justice Reference service counted over 45,000 laws and policies that prevent returning citizens from reintegrating into various aspects of society. [National Criminal Justice Reference Service, [03/2018](#)]

Success Stories

Green Jobs Have Been Recognized As An Effective Re-Entry Channel For Returning Citizens For Nearly A Decade. In a 2012 article, Corrections One reported that “many communities are also recognizing that green jobs training reduces recidivism and smooths the reentry process, by lowering barriers to employment for formerly incarcerated individuals.” They went on to write, “Programs such as these provide offenders with a new identity – instead of returning to gangs, drugs, and violence, they can become part of the “green” economy, helping their country to pioneer new ways of living in balance with natural systems and community institutions. These programs are just a few of the many examples emerging from innovative partnerships between correctional facilities and local communities, to use the inspiration of the new “green” economy to reduce costs, provide new sources of revenue, and reduce recidivism.” [Corrections One, [7/18/2012](#)]

Baltimore-Based Center For Sustainable Careers (CSC) Has A 94 Percent Success Rate Placing Returning Citizens With Green Jobs. In September 2019, JMore reported, in an interview with the Director of the Center For Sustainable Careers Dana Stein, that the nonprofit's “placement rate is 94 percent, and our retention rate after two years is 92 percent.” [JMore, [10/10/2019](#)]

- **Graduates Receive Jobs With A Living Wage . According to CivicWorks, graduates of CSC earn “between \$12-20/hour.”** [CivicWorks, Accessed [6/22/20](#)]
- **CSC's Model Includes Teaching Inclusive Hiring To Employers And Giving Job Training To Employees.** According to their website, “Civic Works’ Center for Sustainable Careers (CSC) has pioneered a three-part model of workforce development, social enterprise and high-road business development for building an inclusive and equitable green economy. Our 3-Part Model: #1 Workforce Development: CSC’s workforce development component provides participants with the hard and soft skills training to succeed in family-sustaining careers. It has five career tracks: brownfields remediation, residential energy efficiency, stormwater management and solar installation, and through partnership with the Maryland Department of Natural Resources, land resource management. #2 Social Enterprise: CSC’s social enterprise component provides on-the-job training opportunities for each energy efficiency, solar, and stormwater student, and functions as a model for inclusive hiring and employment practices within the industry. #3 Job Quality Advancement: CSC’s job quality initiative helps employers raise the quality of and expand access to their entry-level positions by committing

them to equitable hiring and employment standards. In exchange, CSC helps grow these businesses by marketing them as socially responsible and channeling procurement opportunities to them." [CivicWorks, Accessed [6/22/20](#)]

NYC's HOPE Program Trains Many Returning Citizens, Has A 77 Percent Job Placement Rate. According to their 2019 yearly report, the HOPE Program in NYC has a 77% job placement rate. [The HOPE Program, [11/2019](#)]

- **HOPE Students And Graduates Earned A Total Of \$11.1 Million In 2019.** According to their 2019 yearly report, graduates of the HOPE Program in NYC earned \$11.1 million in 2019. [The HOPE Program, [11/2019](#)]
- **Average Starting Wages Are Over \$16 Per Hour, \$19 Per Hour At One Year.** According to their 2019 yearly report, graduates of the HOPE Program in NYC earned an average of \$16.62/hour in starting salary and \$19/hour after one year of employment. [The HOPE Program, [11/2019](#)]

Illinois' 2016 Future Energy Jobs Act Mandated 2,000 Jobs For Returning Citizens And Alumni Of The Foster Care System. In December 2016, Energy News reported "Governor Bruce Rauner signed the billed Wednesday, and it takes effect in June 2017." They went on to write: "The bill provides job training and incentives to employers meant to ensure that at least 2,000 jobs will be made available to alumni of the foster care system and to people with criminal records that make it hard for them to find work." [Energy News US, [12/8/2016](#)]