The Occupations of Climate Ambition

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Summary

- Common Green Jobs are over 120 occupations that we have identified that would likely benefit from federal climate and infrastructure policy, such as the American Jobs Plan
- Common green jobs are spread throughout all of America's states and territories
- Each state and territory has unique natural resources and industries that make it especially strong for certain common green jobs
- > At greenjobsdata.com, we explore the characteristics of common green jobs
- Green job creation will not necessarily advance racial and gender justice, nor create union jobs, unless these goals are centered in policy
- The government could better benchmark progress in equitable green job creation by restoring and enhancing the Green Goods and Services program at the Bureau of Labor Statistics, and use its procurement power to support diverse, good-paying union jobs

Experts agree that ambitious U.S. climate and infrastructure policy will create millions of jobs. For example, Data for Progress's estimate of <u>electrifying America's public transportation system</u> projects that this initiative alone would create 960,000 jobs. Additionally, the THRIVE Agenda, a legislative package put forth by the Green New Deal Network, would create <u>over 15.5 million new jobs</u> over the next decade. The Biden administration's infrastructure proposals, the <u>American Jobs Plan</u> and <u>American Families Plan</u>, are likewise expected to add millions of new, good-paying jobs to our economy.

However, what is often lost in those numbers are the specific occupations that will be affected, analyses of who holds these jobs today, and projections about how diverse and widespread these jobs will be in the future. To begin to answer these questions, we determined the occupations that would benefit most from federal action, built a unique data explorer, and calculated the state of equitable job creation in the energy and care economies today.

What are Common Green Jobs?

From electricians to wind turbine technicians, there are dozens of occupations that are integral to a thriving clean energy economy — but what many of these jobs look like in communities across the country are still unclear to large swaths of Americans. To help shed light on specific green occupations, we identified what we define as "Common Green Jobs." A common green job is an occupation that economists model as likely to see growth due to climate and infrastructure policies. We compiled data from seven clean energy, infrastructure and other green jobs studies, authored by dozens of researchers. Through this, we identified **over 120 common green jobs**. While likely not a perfect count of all the occupations that will benefit from clean energy and infrastructure investments, our identified list of Common Green Jobs provides an estimate for how wide-ranging green occupations will be spread across our economy in the coming decades, if we can secure aggressive federal policy.

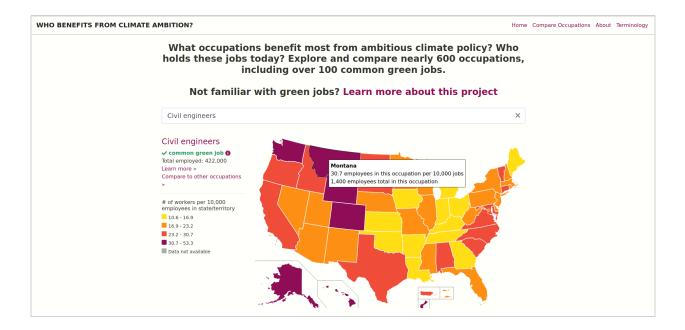
Common Green Jobs include everything from recognizable positions, like wind turbine and solar panel installers, to those that, while often overlooked or behind the scenes in office buildings, are no less essential, including financial managers, farmers and software developers. A recent <u>LinkedIn</u> analysis of job postings with the most green skills requirements supports this finding, identifying positions like customer service representatives and sales specialists as among the most common.

We built a database that combines government occupational data, including demographic and geographic data, to help illuminate the races, genders, ages and other identities of the people who hold green jobs today, and the states and territories where they work. We describe our process in more detail in the Methodology appendix.

GreenJobsData.com

Combining this data, we built a common green jobs data explorer at <u>www.greenjobsdata.com</u>. With this tool — the only one of its kind — users can:

See how green job creation can benefit all states and territories throughout the United States. While states with larger populations often have more jobs in total, many common green jobs are more highly concentrated in less populous states, relative to other occupations.



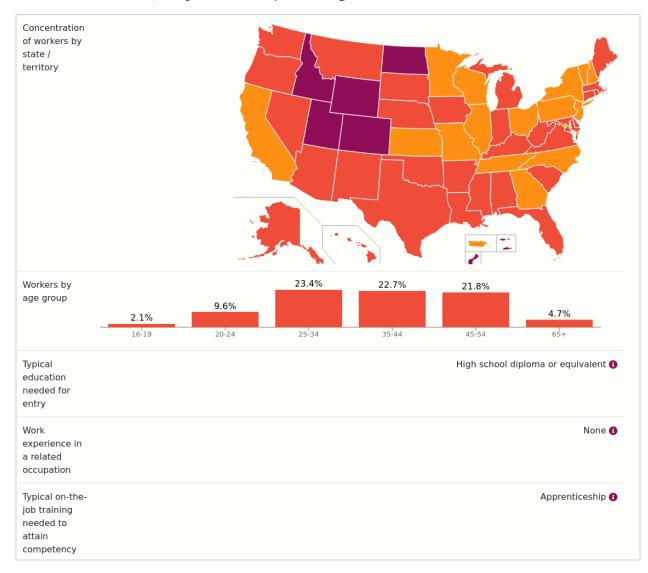
Explore which common green jobs are most concentrated within each state to see how each state and territory can capitalize on green job creation by playing to its natural and economic strengths. For example, Texas's mix of steady winds and heavy industry make wind turbine installers and boilermakers the top common green jobs. Meanwhile, New York leads in rail, legal and supply chain occupations.

WHO BENEFITS FROM CLIMATE AMBITION?				Home	Compare Occupations	About	Terminolog
Texas Total employed: 12,102,370		pommon green jobs in Te upations are concentrated more in certa x of natural resources and industries. Jo s occupation are found in this state / ter	in places than others. This d b concentration measures	epends on each state's			
	Rank 🕯	↓ Occupation ↑↓	Job concentration $\uparrow \downarrow$	Total employed $\uparrow \downarrow$			
	1	Wind turbine service technicians	29.3%	1,430			
	2	Boilermakers	28.3%	3,620			
	3	Chemical engineers	22.4%	5,800			
	4	Sales engineers	17.1%	10,840			
	5	Helpersinstallation, maintenance, and repair workers	16.1%	15,000			
	6	Construction managers	14.1%	40,320			
	7	Structural metal fabricators and fitters	13.6%	9,300			
	8	Bill and account collectors	13.1%	29,340			
	9	Telecommunications line installers and repairers	13.1%	16,120			
	10	Dispatchers, except police, fire, and ambulance	12.2%	23,140			

View common green jobs that employ high numbers of women, Black, Latinx (see below) or Asian workers, and that pay above average wages. For example, many infrastructure-related positions have above average Latinx employment, and many financial and analysis positions employ above average numbers of women.

Search					1 2 3	4 5 >	>> 10
Occupation ↑↓	Common green job ↑↓	US workers ↑↓	Women ↑↓	Black↑↓	Hispanic / Latino ↑↓	Asian ↑↓	Weekly Earnings ↑↓
Drywall installers, ceiling tile installers, and tapers		165,000	5.8%	1.0%	73.1%	2.8%	\$784
Insulation workers	~	53,000	2.9%	9.6%	54.5%	2.4%	
Cement masons, concrete finishers, and terrazzo workers	~	55,000	2.8%	8.4%	53.3%	1.3%	\$782
Carpet, floor, and tile installers and finishers		172,000	3.9%	2.5%	53.2%	1.1%	\$770
Roofers	~	210,000	3.3%	5.1%	53.2%	1.4%	\$732
Painters and paperhangers		524,000	8.3%	5.4%	51.2%	0.6%	\$691
Miscellaneous agricultural workers	~	834,000	24.4%	4.2%	47.2%	1.0%	\$574
Maids and housekeeping cleaners		1,163,000	88.3%	17.3%	46.1%	4.1%	\$503
Construction laborers	×	1,902,000	3.8%	8.0%	46.0%	1.4%	\$783
Landscaping and groundskeeping workers	~	1,066,000	6.5%	9.0%	44.5%	1.0%	\$605

• Dive deep into specific occupations, and compare them to the average job in the economy. For example, many common green jobs don't require a college degree (and the student loan debt that comes with it), and provide on-the-job training.



• **Compare two occupations, such as common green jobs and fossil fuel jobs.** For example, there are already about as many solar installers as there are oil and gas drillers.

Solar photovoltalc installers Derrick, rotary drill, and service unit operat Occupation Solar photovoltalc installers Vorkers employed in the US 20,000	WHO BENEFITS FROM CLIMATE A	MBITION?			Home	Comp	are Occupations	are Occupations About	are Occupations About	are Occupations About T	are Occupations About Ter	are Occupations About Termi	are Occupations About Termin	are Occupations About Termino	are Occupations About Terminol	are Occupations About Terminolo
Occupation Solar photovoltaic installers Derrick, rotary drill, and service unit operators, oil and gas Common green job? ✓ Yes No Workers employed in 20,000 22,000		Compare occupa	ations													
Occupation Solar photovoltaic installers Derrick, rotary drill, and service unit operators, oil and gas Common green job? ✓ Yes No Workers employed in 20,000 22,000			Solar photovoltaic installers	Derrick, rotary drill, and service unit operat	~											
operators, oil and gas Common green job? Yes No Workers employed in 20,000 22,000																
Workers employed in 20,000 22,000		Occupation	Solar photovoltaic installers													
		Common green job?	✓ Yes		No											
			20,000	22	2,000											

While the diverse array of common green jobs have the potential to transform our economy from coast to coast, **green job creation must also advance equity and unions**. As shown in the table below, renewable energy industries are <u>not</u> substantially different from fossil fuel industries in terms of their representation of women, non-white workers, or unions. This is true even when accounting for administrative positions and others that are not pure manufacturing jobs. While these green industries do pay substantially better wages than the average job in the economy (with annual mean wages \$20,000-\$40,000 above average), so do fossil fuel jobs.

Since investments in green industries are <u>widely agreed</u> to create more jobs total than continued investments in fossil fuels, ambitious climate policy will provide economic empowerment by creating more and higher-paying jobs. However, just creating more jobs in these industries will not address racial and gender disparities, nor the lack of union jobs.

Creating a More Sustainable, Equitable Economy

In <u>Redefining Green Jobs</u>, our colleagues argued in 2019 for including education and health care occupations in the definition of a green job. The American Jobs Plan also calls for substantial investments in the care economy, <u>which voters overwhelmingly support</u>. Our data shows that occupations in the education and health care industries currently offer well-above-average employment percentages for women and Black workers, but lower wages and a mixed picture for union advancement, compared to the economy as a whole. An emphasis on better wages and union jobs is a key feature of the American Jobs Plan, THRIVE Agenda, and the Green New Deal.

To understand if policies are creating green jobs across races, gender and other key demographics, we need better data. While our work helps to fill this gap, decision makers need ongoing data collection. The United States Bureau of Labor Statistics previously ran a <u>Green Goods and Services</u> program that reported detailed changes in the number of green jobs over time. Unfortunately, this program was cut in 2013 as part of the successful Republican-led effort to slash government spending. Additionally, this program did not collect demographic data. The **Biden administration should restart the Green Goods and Services program, and add data collection to measure equitable job creation**. Procurement policies can also help. Data for Progress polling finds that <u>voters support</u> the government using its purchasing power to promote union jobs and the clean energy sector. Procurement policies could likewise target a certain percentage of purchases from companies with more diverse workforces.

As our research makes clear, green jobs are now a common feature of wider parts of the American economy, poised to grow significantly through ambitious climate, infrastructure, or other job creation policies. However, policymakers can do more to ensure that these new green jobs are equitable, prounion, and pay a living wage. With better data collection, we can help ensure that these policies are meeting the goal of creating good, green jobs for everyone.

TABLE 1 • Demographic Characteristics of Energy and Care Economy Industries

Values at or above the national average are in **bold**.

Industry	Annual mean wage	Women	White	Black or African American	Asian	Hispanic or Latino	Represented by Union
National Average	\$56,310	48%	77%	13%	6%	18%	12%
ENERGY ECONOMY							
Oil & Gas Drilling	\$97,600	33%	79 %	10%	8%	17%	10%
Coal Mining	\$63,280	10%	82 %	9%	3%	29 %	16%
Hydroelectric	\$80,600	28%	80%	11%	6%	21%	12%
Fossil Fuel Electric	\$87,000	28%	80%	11%	6%	19%	12%
Natural Gas Distribution	\$87,470	32%	80%	10%	6%	18%	11%
Nuclear	\$101,150	30%	78 %	10%	8%	15%	14%
Solar	\$98,230	22%	82 %	9%	6%	19 %	10%
Wind	\$85,000	25%	82 %	9%	6%	18%	12%
Geothermal	\$78,610	22%	80%	11%	6%	21%	13%
Biomass	\$71,230	25%	80%	11%	6%	21%	13%
CARE ECONOMY							
Elementary and Secondary Schools	\$54,890	66%	80%	11%	5%	14%	30%
Social Assistance	\$35,880	73%	72%	19 %	6%	17%	14%
Home Health Care Services	\$41,940	80%	69%	21%	7%	17%	10%
Nursing and Residential Care Facilities	\$39,300	71%	71%	19%	7%	19%	10%

Appendix: Methodology

IDENTIFYING COMMON GREEN JOBS

We develop the term "common green job," defined as an occupation that researchers have cited as being likely to see growth due to green policies. Specifically, we look at occupations within the United States.

Due to the significant number of green jobs studies already produced, rather than attempting to define green occupations ourselves, we sought to identify occupations listed in previous studies. We chose this approach to avoid reliance on any one study's methodology for identifying occupations, and to highlight how diverse green occupations can be. We used the following criteria to select studies:

- Produced since about 2008, since this is when the bulk of green jobs research has occurred, and to ensure the research was relevant to the current economy
- Referenced concepts like the Green New Deal, green jobs, or other relevant descriptors, such as renewable energy jobs or energy efficiency jobs
- Analyzed investments or policies in large portions of the economy
- Examined the entire United States
- Named specific occupations

Based on these criteria, we identified the following studies (from oldest to newest):

Pollin, Robert, and Jeannette Wicks-Lim. 2008. "JOB OPPORTUNITIES FOR THE GREEN ECONOMY: A STATE-BY-STATE PICTURE OF OCCUPATIONS THAT GAIN FROM GREEN INVESTMENTS." Political Economy Research Institute. Available at: www.peri.umass.edu/ fileadmin/pdf/other_publication_types/Green_Jobs_PERI.pdf.

White, Sarah, and Jason Walsh. 2008. "Greener Pathways: Jobs and Workforce Development in the Clean Energy Economy." Center on Wisconsin Strategy. Available at: www.cows.org/_data/documents/1226.pdf.

Booz Allen Hamilton. 2008. "U.S. GREEN BUILDING COUNCIL GREEN JOBS STUDY." USGBC. Available at: <u>www.iccsafe.org/gr/</u> Documents/GreenToolkit/GreenJobs-USGBC.pdf.

The American Solar Energy Society, and Management Information Services, Inc. 2008. "Defining, Estimating, And Forecasting The Renewable Energy And Energy Efficiency Industries In The U.S And In Colorado". Available at: <u>https://www.greenbiz.com/research/report/2009/01/15/defining-estimating-and-forecasting-renewable-energy-and-energy-efficienc</u>. {Note: Colorado data were not included}

Pollin, R., Wicks-Lim, J., Garrett-Peltier, H. 2009. "Green Prosperity: How Clean Energy Policies Can Fight Poverty and Raise Living Standards in the United States." Political Economy Research Institute, Natural Resource Defense Council and Green for All. Available at: <u>http://www.peri.umass.edu/fileadmin/pdf/other_publication_types/green_economics/green_prosperity/Green_Prosperity.pdf</u>.

Pollin, Robert, Heidi Garrett-Peltier, James Heintz, and Bracken Hendricks. 2014. "Green Growth: A U.S. Program for Controlling Climate Change and Expanding Job Opportunities." Political Economy Research Institute and Center for American Progress. Available at: <u>http://www.peri.umass.edu/fileadmin/pdf/Green_Growth_2014/GreenGrowthReport-PERI-Sept2014.pdf</u>.

Muro, Mark, et al. 2019. "Advancing Inclusion through Clean Energy Jobs." Brookings Institute. Available at: <u>www.brookings.edu/</u> research/advancing-inclusion-through-clean-energy-jobs/.

There is some overlap in authorship for individuals connected to the Political Economy Research Institute (PERI), with three of

seven reports including PERI authors. This likely overemphasizes the occupations highlighted in those reports, though there is some variation in the occupations listed across reports that have PERI authors. Additionally, two out of three reports with PERI authors also include authors from other institutions, which in theory means that additional experts contributed to defining which occupations could be green jobs in each study.

There is, of course, no definitive accounting of what "counts" as a green occupation and what does not. Common green jobs are probably not the only occupations that will benefit from ambitious climate policy. We included ones that are commonly mentioned, and might benefit more than other occupations. Likewise, not every occupation listed here may see job growth from every possible climate, infrastructure, clean energy or other green policy.

CONSTRUCTING A DATABASE OF OCCUPATIONAL CHARACTERISTICS

Occupational characteristics all came from the Bureau of Labor Statistics (BLS), as outlined below. BLS data were chosen because they are widely used in labor economics, and nearly all green jobs studies cited above use these data. While BLS provides a single source for all the data, they are spread across multiple different datasets and BLS divisions. We sought to unify these data into a single dataset, to make exploring various occupational characteristics easier, and to enable the rest of our analysis below. The other advantage of using all BLS data is that occupational categorization is all based on the same Standard Occupational Classification¹.

That said, the various BLS data sources do have some variation, in that different data are collected via different population and business surveys in some instances. Still, we judge it to be reasonable to combine characteristics into a single dataset, owing to the overlap in Standard Occupational Classification and the absence, to our knowledge, of any other dataset that offers this many occupational statistics derived from a single agency. In combining data from different BLS sources, we matched demographic, geographic, etc. characteristics using only exact name matches for the occupation. This conservative approach avoids introducing any of our own calculations or judgements about combining occupations, and instead relies solely on how BLS defined each occupation. However, since each dataset does not have data for every occupation included in every other dataset, this leads to many occupations without values for some fields. For example, ½ of occupations in CPS Table 11 (see table below) do not have complete demographic data. Different datasets also cover somewhat different occupations. For example, CPS Table 11 covers over 600 occupations, but the OES table includes over 800 occupations.

Characteristic	Units	Year	BLS Source
Total Employed in United States	# of workers (thousands)	2020	CPS Table 11 ²
Gender, Race, Ethnicity of Worker (Women, White, Black or African American, Asian, Hispanic or Latino)	% of total employed	2020	CPS Table 11 ³
Represented by Unions ⁴	% of total employed	2020	CPS Table 42 ⁵
Age Range of Worker (16-19 years old, 20-24, 25-34, 35-44, 45-54, 55-64, 65 and over) Median Age	# of workers (thousands) Years	2020	CPS Table 39 ⁶
Median Weekly Earnings	US\$	2020	CPS Table 39 ⁷
Workers by State or Territory (50 states, District of Columbia, Guam, Puerto Rico, Virgin Islands)	# of workers	2020	OES ⁸
Education and Experience (Typical education needed for entry, Work experience in a related occupation, Typical on-the-job training needed to attain competency in the occupation	Multiple text values (see source for definitions)	2019	EMP ⁹

TABLE A1 · Data Sources of Occupational Characteristics

To show the geographic distribution of jobs, we used state-by-state employment data by occupation from our master dataset.

GEOGRAPHIC APPROACH 1: BY TOTAL EMPLOYMENT

We can use the number of people employed in a common green job in each state. The results of the analysis are shown in the table below for the first 8 states, listed alphabetically. There is very little variation in the top jobs from state to state. This is unsurprising because common green jobs with large employment numbers in total are likely to exist in most states: e.g. there are substantial numbers of electricians in the country, and they are distributed across all states and territories.

TABLE A2 \cdot Top 3 common green jobs by state, based on total number of positions in state

State	1	2	3
Alabama	Electrical and electronics repairers, powerhouse, substation, and relay	Electricians	Carpenters
Alaska	Electrical and electronics repairers, powerhouse, substation, and relay	Carpenters	Electricians
Arizona	Electrical and electronics repairers, powerhouse, substation, and relay	Carpenters	Electricians
Arkansas	Electrical and electronics repairers, powerhouse, substation, and relay	Electricians	Carpenters
California	Electrical and electronics repairers, powerhouse, substation, and relay	Carpenters	Helperselectrician
Colorado	Electrical and electronics repairers, powerhouse, substation, and relay	Electricians	Carpenters
Connecticut	Electrical and electronics repairers, powerhouse, substation, and relay	Electricians	Carpenters
Delaware	Electrical and electronics repairers, powerhouse, substation, and relay	Electricians	Carpenters

GEOGRAPHIC APPROACH 2: STATE-BY-STATE CONCENTRATION

While some occupations are relatively well distributed across the country, others are more concentrated in certain states. We can normalize the state employment numbers to the total employment numbers for the country. For instance, we divide the number of electricians in every state by the total number of electricians in the country. By doing this, we are calculating the percent of electricians, out of all electricians in the country, who work in a particular state. We can then rank these percentages within each state. This gives us occupations in each state having a relatively high share of those workers compared to other states.

The results are displayed in the data explorer. For instance, California's most concentrated job is "solar photovoltaic installers" while lowa's is "Wind turbine service technicians," reflecting the dominant renewable energy industries for the respective states. By comparison, while there are many electrician positions in every state, they are relatively evenly distributed across states compared to many other occupations.

The Equity of Green Job Creation

Another motivation for this study was to help illustrate differences and similarities between the demographics and equity of different industries. This will help to illuminate where a policy can be a pathway for economic justice, especially in comparison to less comprehensive or less environmental justice-centered proposals.

Again, this is a well studied area, with previous research suggesting that the most commonly cited green jobs may not be that demographically different from fossil fuel jobs. Additionally, a full input-output analysis was beyond the scope of this project. Instead, we sought to use a relatively compact example to illustrate how simply transitioning away from fossil fuels may not achieve equity in the workforce, and how investments in other types of infrastructure, such as health care and education, can support diverse job creation.

Here again, the Bureau of Labor Statistics provides breakdowns of all primary occupations involved in a particular industry and for the economy as a whole, from engineers to managers to administrative assistants¹⁰. Occupations are again classified using the Standard Occupational Classifications, permitting us to match the demographic and union representation values from our dataset to each occupation. To contrast "dirty" versus "clean" industries, we chose the following industries. Industries classification is based on North American Industry Classification System (NAICS):

- Cross-industry, private, federal, state, and local (this approximates the entire U.S. economy)
- > 211100 Oil and Gas Extraction
- 212100 Coal Mining
- > 221111 Hydroelectric Power Generation
- > 221112 Fossil Fuel Electric Power Generation
- > 221113 Nuclear Electric Power Generation
- > 221114 Solar Electric Power Generation
- > 21115 Wind Electric Power Generation
- > 221116 Geothermal Electric Power Generation
- > 221117 Biomass Electric Power Generation
- > 221200 Natural Gas Distribution

Additionally, in another Data for Progress report,¹¹ the authors argue for the inclusion of health care and education careers in the definition of green jobs, in part because occupations in these industries have more favorable demographics for underrepresented workers. To help illustrate this point, we also include data for the industries that primarily encompass the occupations specifically mentioned in that report¹²:

- 611100 Elementary and Secondary Schools
- 624000 Social Assistance
- ▶ 621600 Home Health Care Services
- 623000 Nursing and Residential Care Facilities

The datasets contain the following values for each occupation in the industry:

Occupation	Occupation title (click on the occupation title to view an occupational profile)	\$ Group	Employment	≑ Employment RSE	Percent of total employment	♦ Median hourly wage	Mean hourly wage	Annual mean wage	Mean wage RSE	
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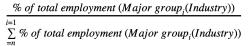
We are primarily interested in: Occupation Title, Group, Percent of Total Employment, and Annual Mean Wage. "Group" refers to the specificity or disaggregation of the occupational category and has values, in increasing levels of specificity/disaggregation: Total; Major; Broad; Detail; Minor. We focus on occupations in the "Major" Group, because at this level we can achieve complete matching with the Occupational titles in our demographic dataset. More detailed Groups have too much missing data. The "Major" Group level also has a cumulative "Percent of Total Employment" near 100%¹³ for every industry, ensuring that we are capturing demographics for the whole industry.

To compute the overall demographics for an industry, we summed each demographic characteristic for each occupation, weighted by the percentage of total employment for that occupation. For example, to calculate the % of jobs in the solar industry occupied by women, we sum:

((% of total employment (Engineering Positions (Solar Industry)) * (% Women (Engineering Positions))

- + ((% of total employment (Administrative Positions (Solar Industry)) * (% Women (Administrative Positions))
- +...

Since the sum of the Major groups is slightly less than 100%, we apply a simple reweighting to each "% of total employment" above so that, within each industry, the sum of the "% of total employment" among the Major groups is 100%. The reweighting formula is:



As a quality control in combining our demographic dataset with the industry occupations dataset, we compare the economywide demographic and union percentages reported in the Current Population Survey data¹⁴ with those we calculated using our combined dataset at the "cross-industry, private, federal, state, and local" level. The results, below, suggest that the combined dataset gives reasonable demographic representations.

TABLE A3 • Economy-wide comparison of demographic values by source

Characteristic	Reported by CPS	Calculated Using Combined Dataset
Women	48.8%	46.8%
White	78.0%	77.2%
Black or African American	12.1%	12.9%
Asian	6.4%	6.3%
Hispanic or Latino	17.6%	18.4%
Represented by a Union	12.1%	12.1%

Our approach is not without flaws, however. It assumes that the demographic composition of an occupation is the same across industries. Previous green jobs studies make a similar assumption, and calculating variation in demographic composition across industries is not within the scope of this project. However, the data in the American Community Survey might allow for some estimate of this variation¹⁵.

ENDNOTES

- 1. Bureau of Labor Statistics. 2018. "Standard Occupational Classification." Available at: https://www.bls.gov/soc/2018/home.htm.
- 2. Bureau of Labor Statistics. 2021. "Labor Force Statistics from the Current Population Survey Annual average data". Available at: <u>https://www.bls.gov/cps/</u> cpsa2020.xlsx.
- 3. Ibid.
- 4. Data are available for aggregated ("Major") occupational categories only. "Represented by Unions" was chosen over the "Members of Unions" data that are also available, since union representation covers more workers.
- 5. Ibid.
- 6. Ibid.
- 7. Ibid.
- 8. Bureau of Labor Statistics. 2021. "Occupational Employment and Wage Statistics, May 2020, State". Available at: <u>https://www.bls.gov/oes/special.requests/oesm20st.zip</u>.
- 9. Bureau of Labor Statistics. 2020. "Education and training assignments by detailed occupation, 2019". Available at: <u>https://www.bls.gov/emp/ind-occ-matrix/occupation.xlsx</u>.
- 10. Bureau of Labor Statistics. 2021. "May 2020 National Industry-Specific Occupational Employment and Wage Estimates". Available at: <u>https://www.bls.gov/oes/current/oessrci.htm</u>.
- 11. Novello, Amanda, and Greg Carlock. 2019. "Redefining Green Jobs for a Sustainable Economy." Data for Progress. Available at: <u>http://filesforprogress.org/</u> memos/redefining-green-jobs.pdf.
- 12. Due to missing demographic data for the "Educational Instruction and Library Occupations" major group, we substitute the comparable "Education, training and library occupations".
- 13. Range: 97+% to 99+%
- 14. Bureau of Labor Statistics. 2021. "Labor Force Statistics from the Current Population Survey Annual average data". Available at: <u>https://www.bls.gov/cps/</u> cpsa2020.xlsx.
- 15. Census Bureau. 2021. "American Community Survey Data." Available at https://www.census.gov/programs-surveys/acs/data.html.