



U.S. SOLAR INDUSTRY DIVERSITY STUDY 2019

New Resources on Diversity and
Inclusion in the Solar Workforce





About The Solar Foundation

The Solar Foundation® is a national 501(c)(3) nonprofit organization whose mission is to accelerate adoption of the world's most abundant energy source. Through its leadership, research, and capacity building, The Solar Foundation creates transformative solutions to achieve a prosperous future in which solar and solar-compatible technologies are integrated into all aspects of our lives.

Since 2010, The Solar Foundation has published its annual *National Solar Jobs Census*, which has tracked the extraordinary growth in the U.S. solar workforce over the past decade. In 2017, The Solar Foundation published the first report in the *U.S. Solar Industry Diversity Study* series, which follows up on the demographic information in the *Solar Jobs Census* with more detailed information on wages, career paths, and employer policies related to improving workplace culture and increasing diversity and inclusion.

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The Solar Energy Industries Association (SEIA®) is the driving force behind solar energy and is building a strong solar industry to power America through advocacy and education. As the national trade association for the U.S. solar energy industry, which employs more than 242,000 Americans, we represent all organizations that promote, manufacture, install and support the development of solar energy. SEIA works with its 1,000 member companies to build jobs and diversity, champion the use of cost-competitive solar in America, remove market barriers and educate the public on the benefits of solar energy.



Acknowledgements

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The Solar Foundation and the Solar Energy Industries Association would like to extend their gratitude to the numerous sponsors of this report. Without their financial contributions, this report would not have been made possible.

The Solar Foundation and SEIA would also like to thank all the solar employers and employees who participated in the BW Research Partnership-administered survey. Your responses were critical in providing us with accurate and timely data.

Thanks to Melanie Santiago-Mosier, Lavannya Pulluveetil Barrera, the Sierra Club, Swinerton Renewable Energy, and the Smart Electric Power Alliance for reviewing advance copies of this report. All content is the responsibility of the report authors. Report layout is by Top Shelf Design.

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Please cite this publication when referencing this material as:

U.S. Solar Industry Diversity Study 2019, The Solar Foundation.
Available at www.TheSolarFoundation.org/diversity.



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Executive Summary



The *U.S. Solar Industry Diversity Study 2019* is the second comprehensive study on diversity and inclusion in the solar workforce. Released by The Solar Foundation and the Solar Energy Industries Association (SEIA), it provides in-depth data on women and people of color in the U.S. solar industry. It offers insights on career pathways, employee wages, employee satisfaction, and career development at solar firms. It looks at the diversity and inclusion strategies that solar companies have in place and identifies areas where the industry could improve.

This report builds on the findings in The Solar Foundation's annual *National Solar Jobs Census*, which provides baseline demographic data for U.S. solar workers. Like many comparable industries, the solar industry has more work to do to reflect the diversity of the broader population. The *National Solar Jobs Census 2018* found that of the more than 242,000 solar workers nationwide, women represented 26.3% of the solar workforce, while gender non-binary employees comprised 1.4%. Hispanic or Latino workers represented 16.9% of the workforce, Asian workers represented 8.5%, and black or African American workers comprised 7.6%.

Today, industry leaders are naming diversity, inclusion, and equity as top business priorities. Research shows that diversity stimulates more creativity, cooperation, and innovation in the workplace, and it also improves a company's bottom-line results.¹ Moreover, in today's tight labor market, 26% of solar companies said it was "very difficult" to hire qualified workers in 2018, an increase from 18% the previous year. A commitment to diversity and inclusion is vital in order for the industry to build a skilled, innovative, and competitive 21st-century workforce.

Methodology

The *U.S. Solar Industry Diversity Study 2019* is based on two separate national surveys of solar employers and employees. These surveys were administered by BW Research Partnership over the phone and online in the winter of 2018, resulting in 377 responses from solar industry employers and 398 responses from employees. The margin of error for both surveys is +/- 4.90% at a 95% confidence interval. This margin of error applies to all survey questions, as there were very few questions skipped by survey respondents.

It is important to note that, as with any survey,

there is an inherent risk of respondent bias in self-reported views and opinions. Respondents tend to under-report or over-report their thoughts, opinions, and information on some topics. These particular surveys also deal with a topic that can be difficult to discuss and subject to nuance. The results of these surveys should not be interpreted as the last word on diversity and inclusion in the solar workforce, but as an important part of a longer and much-needed conversation.

The following is a list of key findings from the *U.S. Solar Industry Diversity Study 2019*.

Diversity by Position Type

- **Men are more likely to be represented at the Manager, Director, President (MDP) level than women.** In the solar industry, 37% of men hold MDP-level positions and only 28% of women do. These results are similar to the 2017 findings in the previous *U.S. Solar Industry Diversity Study*.*
- **Hispanic or Latino respondents are significantly more likely to hold MDP-level positions compared to non-Hispanic respondents.** Black or African American respondents are slightly less likely to hold MDP-level positions than white respondents, but the difference is within the margin of error.†
- **When the MDP level is broken down to include only executive-level positions, the average firm reported its senior executives are all white men.** Among all senior executives reported by solar firms, 88% are white and 80% are men, presenting a pronounced lack of diversity across gender, ethnicity, and race at the executive level.‡



* The employee survey for this study did not receive responses from employees who identify as gender non-binary.

† Respondents were asked two separate race and ethnicity questions. Hispanic and non-Hispanic respondents could also identify as any race; therefore, results from these questions are presented separately.

‡ Employers were asked to report the demographic makeup of their executive team (gender, ethnicity, and race). The reported average is the median of the data points provided by employers.



Like many comparable industries, the solar industry has more work to do to reflect the diversity of the broader population.

Employee Wages and Satisfaction

- **There is a 26% gender wage gap in the solar industry, as men are more likely to earn higher wages than women at all position levels.** 37% of men fall in the wage bracket of \$31 to \$74 per hour, compared to only 28% of women. Further, the median wage reported for men was \$29.19, and for women it was only \$21.62.
- **Wage distributions across races or ethnicities appear to be more equitable.** 39% of Hispanic or Latino respondents fall in the wage bracket of \$31 to \$74 per hour, compared to only 33% of non-Hispanic respondents. Further, 50% of black or African American respondents fall in the wage bracket of \$31 to \$74 per hour, compared to only 36% of white respondents. Black or African American respondents reported a median wage of \$33.26, compared to the median wage of \$26.51 for white respondents.*
- **Men are more likely to be satisfied with their wage and position, as almost 40% of men indicated they are “very satisfied.”** For comparison, only 26% of women reported they are “very satisfied” with their wage and position. White respondents are slightly more likely to be very satisfied with their wage and position than black or African American respondents. Meanwhile, 46% of Hispanic or Latino respondents indicated they are “very satisfied,” while only 30% of non-Hispanic respondents feel this way.
- **Men are more likely to feel they have successfully moved up the career ladder than women.** The survey found 52% of men feel this way compared to only 37% of women. In the 2017 study, the same percentage of men and 47% of women felt they had successfully moved up the career ladder.
- **51% of white respondents indicated they have successfully moved up the career ladder,** compared to 49% of Hispanic or Latino respondents and 47% of black or African American respondents.

* Reported annual salaries were equated to hourly wages.

Recruitment of Solar Employees

- **Three of the top five recruitment methods participants cited for filling open positions relied on professional and personal networks.** This reliance on personal networks can lead these companies to overlook candidates from diverse backgrounds or not spend the time to cast a wider net. Over a quarter of Hispanic or Latino and black or African American respondents “strongly agree” they have not had the right connections with people making hiring decisions.
- **People of color were much less likely to find their current position through an employee referral or by word of mouth.** Only 28% of Hispanic or Latino and 28% of black or African American respondents indicated they found their jobs through a referral or by word of mouth. For comparison, 44% of white employees and 49% of non-Hispanic employees found their position through an employee referral or by word of mouth.
- People of color were more likely to rely on job fairs and training programs to find their current position than white and non-Hispanic employees.

Tracking and Promoting Diversity

- **Most solar companies still do not track metrics on employee diversity, though a growing number of companies are doing so.** The survey found that 36% of solar firms formally track employee demographics and diversity, an increase from the 27% of firms that did so in 2017.
- **A small but growing percentage of solar companies have strategies in place to make the workforce more diverse.** The percentage of firms reporting a strategy to increase the representation of women increased from 14% in 2017 to 24% in the latest survey. The percentage of firms reporting a strategy in place to increase the representation of people of color is up from 7% in 2017 to 22% in the latest survey.
- **The majority of solar employees surveyed report a positive working environment.** 71% of employees feel that they fit in and are valued by their coworkers, although this is down from the 86% of employees who felt this way in 2017.



Career Development

- **Women place much greater value than men in their professional connections and networking opportunities to advance their careers.** Over half of women indicate that professional connections and networking are vital to their successful career navigation, while only 30% of men consider their connections and networking opportunities to be vital.
- While 90% of employee respondents indicated both formal and informal mentorship has been very important or somewhat important to their career advancement, **only 37% of solar firms offer informal or formal mentorship opportunities.**
- Women of color often feel they are required to provide more evidence of their competence compared to their peers, and that they have not made the right connections to people in charge of hiring decisions.
- Most women of color that were interviewed believe that the solar industry relies too heavily on its established network to fill positions, and often fails to make the effort to reach out to a more diverse candidate pool.

In summary, while the solar industry is making significant progress in some areas (for example, with a greater number of solar companies tracking diversity metrics), there is still a significant wage, leadership, and “job satisfaction” gap that needs to be filled.

The solar industry is not unique in this challenge. Electric utilities, information technology, construction, and other related industries are also facing significant hurdles toward building a more diverse workforce. In the coming decades, however, the solar industry will play a unique and transformative role in our society as we ramp up the use of renewable energy and confront the challenge of climate change. This gives the solar industry an opportunity to lead. Those companies who embrace the values of diversity and inclusion will be better positioned to compete, thrive, and bring a vibrant and sustainable clean energy economy to fruition.

All solar companies, no matter the size, can take positive and meaningful steps to create a more diverse and inclusive workplace. These range from

new hiring and recruiting policies, to adopting new approaches to make the work environment more inclusive. For any organization, the most important quality is leadership. Executives should make a public commitment to diversity and inclusion and set clear and measurable goals for the organization to follow.

The appendices to this report provide data comparing solar industry workforce diversity to other industries, as well as additional resources and checklists to help advance diversity and inclusion at large and small solar companies. The Solar Foundation and SEIA have released an updated [diversity and inclusion best practices guide](#) to help the industry chart a path forward.





Introduction

The solar industry is already changing America. Solar now employs more Americans than the coal industry, and solar made up nearly one-third of the new electricity capacity additions in 2018.² Solar was considered a niche product as recently as a decade ago, but there are now nearly 2 million solar installations in the United States.³ To meet the urgent challenge of climate change and bring about a healthy and prosperous future for all, it is inevitable and essential that solar, battery storage, and other solar-compatible technologies be a major part of our energy mix in the decades to come.

It is anticipated that to avoid the most dangerous impacts of a warming climate, renewable energy will have to make up 70-85% of the world's energy capacity by 2050.⁴ Achieving that goal will require a rapid buildup in solar energy capacity, which means tens of thousands of new solar jobs in the United States alone.

As solar installations multiply across the country, it is incumbent on the industry to develop a strong and capable workforce that is representative of the American economy. By providing equal employment opportunities to everyone and a work environment that is fair and inclusive, solar companies will open new avenues for innovation, expansion, and profit. But it will take a long-term commitment and several immediate actions, company by company, to create a diverse workforce that is welcoming to all.

The *U.S. Solar Industry Diversity Study 2019* is a comprehensive report on diversity and inclusion in the solar workforce, based on new surveys of solar employers and employees. It is a follow up to the first *U.S. Solar Diversity Study* released in 2017 by The Solar Foundation.⁵ This new study, released in partnership with the Solar Energy Industries Association (SEIA), provides more detailed information to help assess the current state of the industry and chart a path forward.

This report builds on the demographic data in The Solar Foundation's annual *National Solar Jobs Census*.⁶ Among other findings, it includes new quantitative data on:

- Race and gender breakdowns for manager-

level positions and executives

- Wages broken down by gender and race
- Company policies on recruitment and employee diversity tracking
- Opportunities to move up the career ladder
- Employee perspectives on creating an inclusive work environment

The report also includes a chapter on the illustrative experiences of women of color in the solar industry. It features individual case studies on employees from a range of diverse backgrounds and their experiences navigating the solar workforce.

THE BUSINESS CASE FOR DIVERSITY AND INCLUSION

This report includes data on women, people of color, and the LGBTQ community in the solar industry. In its broadest sense, however, **diversity** encompasses factors such as age, socio-economic status, educational background, religion, political views, and veterans status, to name a few examples. It refers not only to diversity in demographics, but also the unique lived experiences that people bring to the job. A diverse workplace will welcome people from all backgrounds, recognizing that an organization is stronger when its employees have many different ways of approaching and solving a problem.⁷

Alongside diversity in hiring, successful companies also prioritize creating a workplace environment that values inclusion and equity. **Inclusion** refers to a culture where people with diverse needs and perspectives are free to express their identities in



Research has repeatedly shown that diversity improves a company's bottom-line results.

the workplace. These companies create a culture of respect and accommodation where all employees feel that they can “be themselves” at work.⁸ **Equity** refers to the notion that everyone in the workplace has an equal opportunity to succeed.* An equitable company works hard to create a fair working environment and equality of wage, promotion, and other opportunities to all employees.

A commitment to diversity, inclusion, and equity has become a necessity in an increasingly diverse America. Non-Hispanic whites are expected to make up 44% of the U.S. population by 2060, compared to 62% today.⁹ Women have consistently made up 47% of the U.S. workforce since 2000, an increase from 28.6% in 1948.¹⁰ To tap into the skills of people from all walks of life, candidates from all backgrounds deserve to be fairly considered and cultivated from their early education years throughout their careers. But a diverse workforce is more than a laudable goal — it is also a business imperative, with direct and measurable impacts on a company's success in the marketplace.

Research has repeatedly shown that diversity improves a company's bottom-line results, and this is particularly true for companies with diverse leadership. A 2018 study by McKinsey & Company found that “companies in the top quartile for gender diversity on their executive teams were 21% more likely to have above-average profitability than companies in the fourth quartile.” For executive teams with ethnic and cultural diversity, this likelihood rose to 33%.¹¹ A study by the Boston Consulting Group measured revenue tied to innovation (products and services launched in the past three years), finding this revenue was 19% higher for companies with above-average diversity in management.¹²

The reason is straightforward: Having a wide range of people at the table brings the necessary variation of perspectives needed to solve problems, as it stimulates more creativity, cooperation, and innovation than can be found in more monolithic groups of people. Interacting with coworkers from diverse backgrounds can inspire employees to adopt new ways of thinking and communication, and in the long run it leads to better outcomes. As one researcher put it, “when members of a group notice that they are socially different from one another, they change their expectations. They anticipate differences of opinion and perspective. They assume they will need to work harder to come to a consensus.”¹³

THE SOLAR INDUSTRY AND THE POTENTIAL FOR LEADERSHIP

As detailed in this report, however, the solar industry does not yet reflect America's diverse population. Both women and African Americans are underrepresented in the industry, and there is a major gender gap in wages and opportunities to move up the career ladder. The majority of solar companies also have not developed metrics or formal strategies to make the workforce more diverse.

This diversity shortfall is not unique to the solar industry. Related industries, such as construction and other energy sectors, show the same underrepresentation when it comes to gender and people of color (see Appendix A). The growing information technology sector is another prominent example. The Government Accountability Office found that as of 2015, women represent only 22% of the technology workforce and African American

* Diversity, inclusion, and equity are related but distinct terms. The Ford Foundation distinguishes them as follows: Diversity means “the representation of all our varied identities and differences (race, ethnicity, gender, disability, sexual orientation, gender identity, national origin, tribe, caste, socio-economic status, thinking and communication styles, etc.), collectively and as individuals.” Equity “seeks to ensure fair treatment, equality of opportunity, and fairness in access to information and resources for all,” while inclusion “builds a culture of belonging by actively inviting the contribution and participation of all people.” See: <https://www.fordfoundation.org/about/people/diversity-equity-and-inclusion/>

workers represent only 7%, figures that remained virtually unchanged over a decade.¹⁴ Across the entire business community, meanwhile, there remains a stunning lack of diversity in corporate executive suites. Only 27 of the Fortune 500 CEOs are women, and there were only three black Fortune 500 CEOs as of 2018.¹⁵ McKinsey & Company found that black Americans hold only 4% of senior executive positions.¹⁶

Recognizing that these disparities are present across the economy, the solar industry has an opportunity to lead. Today, an energy transformation is taking place in America as policymakers, business leaders, and individual households look for ways to lower the use of fossil fuels and reduce the emissions that are negatively impacting our climate. The benefits of a clean energy economy that is accessible to everyone should start with extending equal opportunities to participate in the solar workforce.

Expanding recruitment to more diverse candidates also leads to a competitive advantage. It will help solar companies improve their recruiting, allowing them to broaden their base of potential employees and create a pipeline of skilled workers. In the latest *National Solar Jobs Census*, one quarter of solar companies reported it was “very difficult” to hire qualified employees, compared to only 18% in 2017.¹⁷ Reaching out to diverse populations will build stronger teams and place companies in a better position for growth.

Finally, the industry should embrace diversity and inclusion in a broad sense, extending not only to their employees but also the customers and communities they serve. Today, people of color face many barriers to the use of solar energy. This is especially true in the residential market. Compared to white and non-Hispanic Americans, Hispanics

and African Americans are not as likely to own homes, which is usually a barrier to installing solar.¹⁸ African Americans and Hispanic Americans also have a lower median income and higher poverty rate compared to non-Hispanic whites.¹⁹ For African Americans, the legacy of slavery and systemic discrimination across generations have created a wealth gap that persists to this day.²⁰

Even when these socio-economic factors are taken into account, African Americans and Hispanics still are not as likely to enjoy the benefits of rooftop solar energy. Researchers at Tufts University and the University of California, Berkeley found that Census tracts with black and Hispanic majorities have installed less solar even after controlling for home ownership and household income. At the same time, the study found these communities adopt solar faster than white neighborhoods once “seeding” has occurred (when a few residents install solar panels, neighbors tend to follow their lead).²¹ This suggests there is enormous untapped potential for the solar industry to expand into neighborhoods where a majority of residents are people of color.

By itself, of course, a commitment to diversity in the workplace is not guaranteed to result in a more diverse set of customers, since there are many complex and systemic factors involved. However, diverse employees are able to utilize their unique knowledge and experiences to tap into these markets and help build a diverse customer base.

The report that follows provides a detailed look at the solar industry’s progress and challenges on diversity, inclusion, and equity. These metrics will help the industry understand where it now stands and chart a path toward improvement.



A commitment to diversity helps companies broaden their base of employees and create a pipeline of skilled workers.

SUNFOLDING



LISA KARLIN

Lisa Karlin provides a unique female perspective on the solar industry in her role as Vice President of Manufacturing Operations at Sunfolding. Since engineering and manufacturing are still predominantly male fields, Lisa has often found herself the only woman in a room throughout her career. Broadening representation in those very moments is a cornerstone of Sunfolding's mission. Based in San Francisco, Sunfolding designs, manufactures, and sells advanced solar tracking technology.

Lisa received her Bachelor's in chemistry from Arizona State University, and her career has led her through a wide array of positions — in engineering, product development, and value chain services, to name a few — in many different industries. She came to Sunfolding after a colleague from First Solar, her initial foray into the industry, recruited her to the team. "When I saw the technology and began to understand what Sunfolding is doing, it was impossible to say no," Lisa says. "There are few times in your life that you are able to be part of a disruptive technology."

Sunfolding values each employee's voice and opinion, constantly providing support and direction to its employees to foster an inclusive environment, Lisa says. Building a team with a diversity of backgrounds and approaches to problem solving is a top-down priority that is enacted and felt throughout the company. Specific programs to realize this include an incentive for diversifying the pool of candidates applying for STEM-related positions. Employees are given a referral bonus if they refer a new staff member who is hired full-time and self-identifies as a woman, LGTBQ, or underrepresented minority in a STEM field. This allows the company to reach beyond typical networks and actively engage employees in Sunfolding's diverse hiring practices.

LEILA MADRONE

Leila Madrone is the CTO and Founder of Sunfolding. She received both her Bachelor's and Masters in electrical engineering from MIT, and later worked at NASA and at a solar startup before developing the technology behind Sunfolding. Sunfolding was recently selected as one of ten 2019 New Energy Pioneers by BloombergNEF.

Leila's father is South Asian and she identifies as mixed-race. Leila says she most strongly identifies as a woman in engineering. She says the challenge of being a woman became more prevalent as she moved up in the ranks. "I was not introduced to many women in leadership positions early in my career," Leila says. "I was used to seeing only men in leadership, most often with a traditional hierarchical approach. Eventually I realized that I was allowed to be a different leader and build a different company than what I was used to, and that being female granted me a unique perspective to do so."

In building her company, Leila says it was critical to have some of her first leadership hires be diverse. "If you don't have women in leadership from day one, it will be difficult to build that up later," she says. Further, Leila is passionate about creating a company culture of active listening. "It is really important to build a company where people do not feel the need to repress their ideas or opinions. They must feel safe and trust others to hear and respect them even in the face of conflict. It is vital that every employee that is hired maintains and honors that level of thoughtfulness and openness."

*"Eventually I realized that **I was allowed to be a different leader and build a different company than what I was used to, and that being female granted me a unique perspective to do so.**"*

Leila Madrone
CTO and Founder,
Sunfolding





Methodology



The *U.S. Solar Industry Diversity Study 2019* is based on new data stemming from two separate national surveys of solar employers and employees. In addition to this primary data source, the report cites secondary data sources, including:

- U.S. Bureau of Labor Statistics (BLS)²²
- The Solar Foundation’s *National Solar Jobs Census 2018*²³

The diversity study surveys were administered over the phone and online in the winter of 2018, resulting in 377 responses from solar industry firms and 398 responses from employees. The employer survey was administered on behalf of The Solar Foundation by BW Research Partnership to a known universe of solar energy employers, derived from SEIA’s National Solar Database (NSD). The employee survey was administered via email and electronic newsletters (using anonymous survey links). The margin of error for both surveys is +/- 4.90% at a 95% confidence interval. This margin of error applies to all survey questions, as there were minimal respondent skips.

Only those survey responses that had a sample size larger than 30 are presented in this report, in order to display results with sufficient sample sizes that adhere to this margin of error. It is important to note that, as with any survey, there is an inherent risk of respondent bias in self-reported views and opinions. Respondents tend to under-report or over-report their thoughts, opinions, and information on some topics.

The Solar Foundation aligned its methodology on

race and ethnicity with the BLS. One difference from the BLS methodology is that employees had the option to identify as gender non-binary as well as male or female. The employee survey asked two separate ethnicity and race-related questions. In the ethnicity question, respondents were asked whether they identify themselves as Hispanic or Latino.* In the race-related question, employees were asked whether they identify as American Indian or Alaskan Native; Asian; black or African American; Native Hawaiian or other Pacific Islander; white; or more than one of the options. Thus, to avoid double counting, the results of these two questions are presented separately.

In addition to the two surveys, the research team conducted interviews with women of color to gain further insights into their experience in the solar industry. The results of these interviews are described in the Women of Color chapter (page 39). The authors also prepared detailed profiles of employees at several solar companies, which can be found throughout this report.

This report is a follow up to the first *U.S. Solar Industry Diversity Study* released in 2017 by The Solar Foundation. The new report includes a number of questions similar to those asked in the previous study, as well as new questions. However, year-to-year comparisons can only be made if the outcomes of the questions have sufficient

* Some Americans of Latin American origin prefer to use the term Latinx. This report uses the term “Hispanic or Latino” for consistency with the terminology used by the BLS.

sample size in both years. We were unable to make comparisons for survey responses across demographic categories (i.e. results from Hispanic or Latino and black or African American) due to low response rates in 2017. Additionally, survey responses from women of color did not have a large enough sample to present results this year.

EMPLOYEE RESPONDENT PROFILE

The Solar Foundation defines a solar employee as one who spends at least 50% of his or her time on solar-related work. Of the 398 solar employees that completed the survey, 72.5% were men, 27.2% were women, and no respondents identified as gender non-binary. Of all the respondents, 33% identified as Hispanic or Latino, 74.3% identified as white, 10.8% as black or African American, 5.3% as Asian, 2.3% as Native Hawaiian or other Pacific Islander, 1.8% as American Indian or Alaskan Native, and 3.3% as more than one of the above. The majority of respondents (52.4%) fell in the age bracket of 25 to 34, 33% were aged 35 to 44, 6.3% were aged 45 to 54, 6% were aged 15 to 24, and 2.3% were aged 55 years and older. Fully 11.1% identified themselves as veterans of the U.S. Armed Forces, and 23.4% identified themselves as part of the LGBTQ community.* **It is important to note that this respondent profile is not representative of the overall solar industry demographics; it is simply the demographics of those who responded to the survey.** Weights were applied to each sample based on their demographic to ensure proper representation in the survey results. (Complete demographic information for the solar industry, based on the *National Solar Jobs Census*, is detailed on page 25).

31.2% of respondents to the survey work for solar energy manufacturing firms, 27.7% work for installation and project development firms, 12.6% work for wholesale trade and distribution firms, 3% work for operations and maintenance firms, and 25.5% work for other categories of firms, such as research and development, finance, and consulting firms. These responses were disproportionate to their representation in the solar industry value chain. The overall solar industry sector breakdown is as follows: 64% of firms focus on installation and

project development, 14% focus on manufacturing, 12% focus on wholesale trade and distribution, 5% work in operations and maintenance, and 5% work in all other categories.²⁴ 95% of survey respondents work full time, and the average time spent working in the solar field is just over six years.

Only results with a normal distribution are reported from the employee survey, encompassing demographic results with more than 30 respondents.† These include results from male, female, LGBTQ, Hispanic or Latino, white, and black or African American respondents. Results from Asian, Native Hawaiian or other Pacific Islander, American Indian or Alaskan Native, and more than one of the above did not have enough responses to be statistically significant. Therefore, results for these demographics are combined and defined as "All Others."

EMPLOYER RESPONDENT PROFILE

Three hundred seventy-seven company representatives completed the employer survey on behalf of their firms. Of these, 40.5% represent solar installation and project development firms, 11.2% solar manufacturers, 3.2% wholesale trade and distribution firms, and 2.1% operations and maintenance services. For analytical purposes, the research team organized these groups into upstream companies, or manufacturing and wholesale trade and distribution firms; and downstream companies, or installation and project development and operations and maintenance firms. As such, 14.4% of survey respondents were categorized as upstream firms and 42.6% were categorized as downstream firms. All other employers, including research and development, finance firms, and consulting firms, were categorized as "other," comprising 42.6% of all respondents. Therefore, as with the employee respondents, the "other" category generates a higher proportion of employer responses than what is represented in the industry. 57% of firms were small companies (1 to 19 employees), 27% were medium companies (20 to 99), and 16% were large companies (over 100).

* This report uses the term LGBTQ for consistency with the question asked the survey. Some in the community prefer to use alternative terminology, such as LGBTQIA (lesbian, gay, bisexual, transgender, queer, intersex, and asexual).

† A normal distribution is a statistical term that means the data tends to be around the central value with little variation away from this value.





GEORGE-AXELLE BROUSSILLON

George-Axelle Broussillon is the Head of Diversity and Inclusion at Sunrun, where she designs and shapes the diversity strategy for the company. Sunrun is a leading home solar, battery, and energy services company, headquartered in San Francisco. George-Axelle grew up in France and started her career in the beauty industry with L'Oréal at a time when Diversity management was a new topic in France. While there, she shaped L'Oréal's first Diversity policies and strategies to diversify both their workforce and their customer base. A graduate in France, she then went on to pursue her Master's in public administration at Harvard. "I wanted to explore the public policy aspects of diversity. I had the business and communications experience, but needed the policy experience to really effect change," George-Axelle says. It was during this time that Sunrun reached out to her to join their team. She was excited by the prospect of joining the solar industry to make not only an impact on people, but an impact on the planet. "I joined Sunrun because I am convinced that only a cleaner and more resilient energy system will help us tackle one of the biggest challenges of our generation: climate change."

As a woman of color, she strives to convey the importance of workforce diversity & inclusion (D&I). A challenge throughout her career has been to ensure people understand that "D&I is just an acronym; we are really speaking about diversity management and inclusive leadership. Diversity goes beyond just hiring diverse people, it requires active leadership throughout the company and alignment with its business objectives."

Just last year, Sunrun was the first solar company to achieve 100% pay parity for its employees, regardless of gender, who perform similar work in similar locations across the United States, convincing George-Axelle of their commitment to D&I efforts. "I told myself that if they are the first providing fair compensation for work performance in this industry, it proves they are really committed to making changes, which is why I accepted the position." George-Axelle now has the opportunity to continue these efforts and take them a step further, securing Sunrun as a leader of diversity and inclusion in the solar industry.

NAREN YENDLURI

Naren Yendluri is Vice President of Engineering and Technology at Sunrun. In this role, he helped grow the IT technology platforms and products that support Sunrun's business; enabling Sunrun to expand from its 10,000 customers in 2013 when he started, to over 233,000 customers today. Prior to his work at Sunrun, Naren held a variety of positions in the IT industry — software development, customer support, mergers and acquisitions, sales and marketing, and research and development, to name a few. Of the many companies Naren has encountered, he truly believes in the mission of Sunrun. "No other company I have worked for or consulted with has a higher level of purpose and mission. We truly believe in our mission of making a planet run by the sun."

Naren grew up in India, where he attended college and received his Bachelor's in electronics and education. He then came to the U.S. in 1992 to pursue his Master's in math and computer science at Indiana State University. Naren faced challenges when he first moved to the U.S. "I struggled with American culture when I first came here and was constantly fighting the urge to go back to India, but what kept me going were the endless opportunities I had here that were not attainable in India."

As a person of color in America, he feels he has had equal opportunity for career advancement. "That is what I appreciate about the U.S. If you demonstrate results and business outcomes of your work, the opportunity is always there for you to grab it. You just have to work for these opportunities one day at a time." Naren's hard work and achievements are the reason he is a leader at Sunrun today.



*"I joined Sunrun because I am convinced that only a **cleaner and more resilient energy system** will help us tackle one of the biggest challenges of our generation: **climate change.**"*

George-Axelle Broussillon

Head of Diversity and Inclusion, Sunrun



Diversity by Position Type, Wages, and Career Path

Solar Industry Demographics

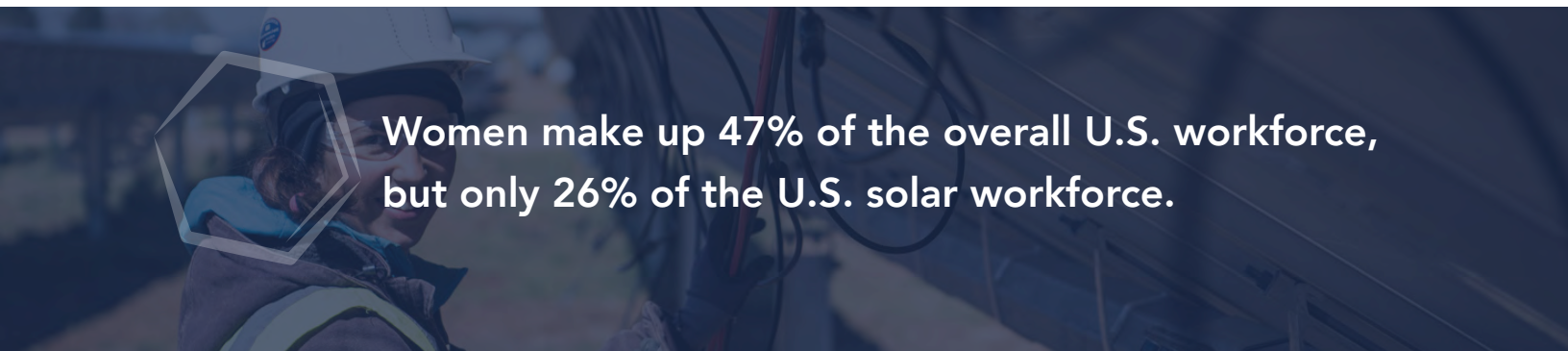
The solar industry was one of America’s leading job creators over the past decade, but it does not yet reflect the country’s diversity in the demographic makeup of the workforce. The Solar Foundation’s *National Solar Jobs Census* each year collects demographic data, as presented in Table 1. In 2018, women made up 26.3% of the solar workforce, a slight decline from 2017. Among industry sectors, wholesale trade and distribution had the highest representation of women, followed by “other” sectors, which include research and development firms and finance firms. Hispanic or Latino employees made up 16.9% of the solar workforce, with the highest representation in the wholesale trade and distribution sector. Black or African American employees made up 7.6% of the solar workforce in 2018, with the highest proportion in the manufacturing sector.

TABLE 1: 2018 SECTOR DEMOGRAPHIC BREAKDOWN

	Women	Gender Non-Binary	Hispanic or Latino	American Indian or Alaska Native	Asian	Black or African American	Native Hawaiian or other Pacific Islander	White	Two or more races	Veterans	55 and over
Installation and Project Development	24.5%	1.0%	17.3%	1.0%	7.1%	7.7%	1.3%	73.7%	8.9%	7.5%	9.1%
Wholesale Trade and Distribution	35.9%	0.1%	21.4%	1.3%	9.2%	5.7%	2.8%	59.3%	11.6%	7.2%	9.9%
Operations and Maintenance	25.5%	1.6%	15.2%	0.4%	8.5%	8.3%	0.5%	79.3%	3.7%	8.1%	9.2%
Manufacturing	28.3%	4.3%	20.9%	1.0%	15.5%	8.8%	1.5%	56.8%	13.3%	10.2%	14.3%
All Others	33.6%	1.2%	15.5%	1.1%	11.1%	4.6%	0.8%	79.1%	6.0%	5.3%	16.7%
Overall	26.3%	1.4%	16.9%	1.1%	8.5%	7.6%	1.2%	73.3%	8.3%	7.8%	10.5%

The solar industry lags the overall American workforce in several demographic areas. Notably, women make up 47% of the overall U.S. workforce, but only 26% of the U.S. solar workforce. Further, black or African American employees make up 12.1% of the American workforce.²⁵ However, the solar industry is comparable to the overall workforce in the representation of Hispanic or Latino employees. Additionally, the number of veterans and those aged 55 and over is greater in the solar workforce than the overall workforce. See Appendix A (page 58) for detailed tables on the comparison of solar industry demographics to the national workforce.

Table 2 presents the demographic trends of the solar workforce since 2014, based on the *National Solar Jobs Census*. In general, the representation of women and people of color has increased since 2014, with slight variations over the years.



Women make up 47% of the overall U.S. workforce, but only 26% of the U.S. solar workforce.

TABLE 2: SOLAR WORKER DEMOGRAPHIC BREAKDOWN, 2014-2018

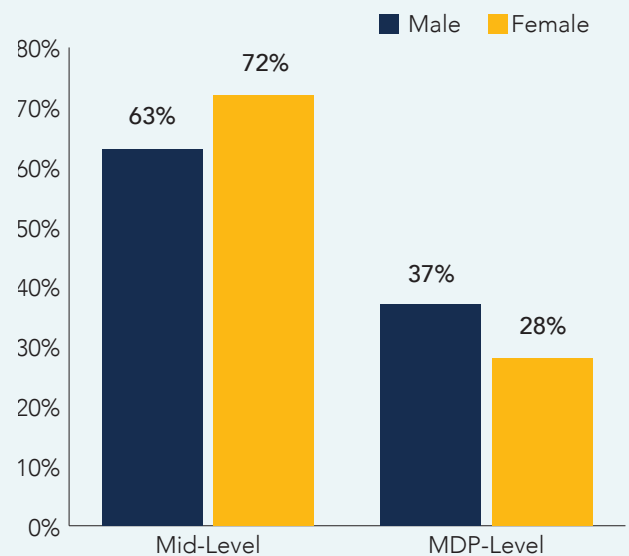
	2014 % of Workforce	2015 % of Workforce	2016 % of Workforce	2017 % of Workforce	2018 % of Workforce
Women	21.6%	23.9%	28.0%	26.9%	26.3%
Gender Non-Binary	–	–	–	–	1.4%
Hispanic or Latino	16.3%	11.3%	17.2%	16.8%	16.9%
American Indian or Alaska Native	–	–	1.1%	1.0%	1.1%
Asian	7.0%	8.7%	9.1%	8.4%	8.5%
Black or African American	6.0%	5.2%	6.6%	7.4%	7.6%
Native Hawaiian or other Pacific Islander	–	–	1.3%	1.2%	1.2%
White	–	–	73.6%	73.7%	73.3%
Two or more races	–	–	8.3%	8.3%	8.3%
Veterans	9.7%	8.1%	9.0%	8.6%	7.8%
55 and over	–	18.5%	11.2%	11.4%	10.5%

DIVERSITY BY POSITION TYPE

This study expands on the *National Solar Jobs Census* with more detailed information on position type and wages broken down by gender and race. Overall, 65% of respondents are mid-level employees, and 35% are Manager, Director, President level (MDP-level).^{*} Examples of mid-level positions include engineers, human resources professionals, solar electricians, and solar installers. MDP-level positions include employees in leadership positions with responsibility over larger teams, including managers, directors, vice presidents, and executives. Examples of MDP-level positions include the vice president of operations or the construction manager.

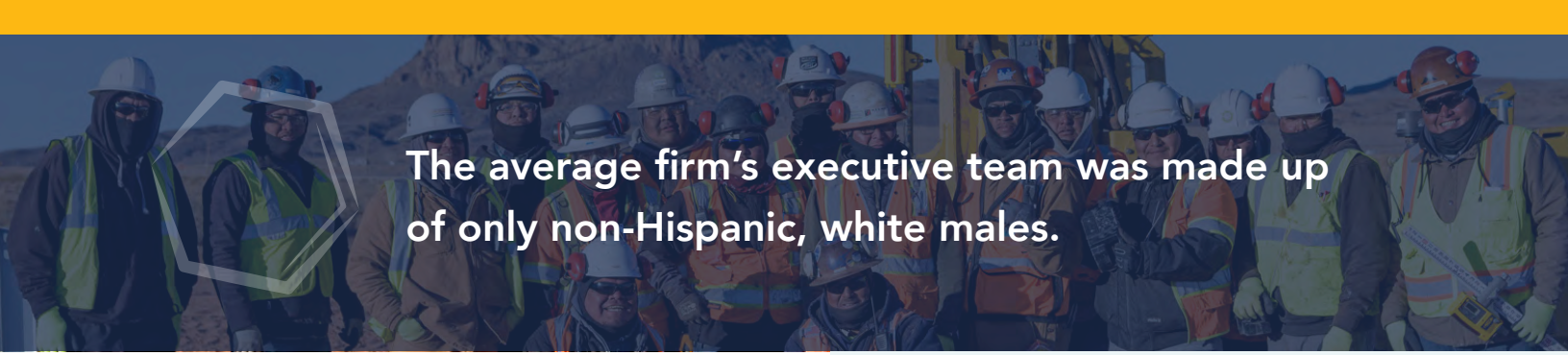
Despite earning more undergraduate and postbaccalaureate degrees than men, women are still underrepresented at higher level positions in the solar industry.²⁶ Results from the employee survey show that men are more likely than women to hold MDP-level positions, as depicted in Figure 1. These results are similar to the previous *U.S. Solar Industry Diversity Study* findings in 2017.[†]

FIGURE 1: POSITION TYPE BY GENDER



^{*} Position level was determined by the self-reported position titles from the employee survey. Those positions with Manager, Director, or President in the title were determined as MDP. The position level could not be further divided in order to adhere to the overall margin of error.

[†] In 2017, 54% of women held mid-level positions compared to 48% of men, and 46% of women held MDP-level positions compared to 52% of men.



The average firm's executive team was made up of only non-Hispanic, white males.

Though concerning, this result is consistent with other industries. Research conducted by McKinsey & Company evaluating the demographics of corporate America concluded that in 2018, men far outnumbered women at the manager level.²⁷ The report found that 62% of manager level positions were held by men and only 38% were held by women.

Hispanic or Latino respondents were significantly more likely to hold MDP-level positions compared to non-Hispanic respondents, as shown in Figure 2. Black or African American respondents were slightly less likely to hold MDP-level positions than white respondents, but the difference is within the margin of error, as shown in Figure 3. There is a larger gap for the likelihood to hold MDP-level positions within the All Others demographic. Since the 2017 diversity study did not have sufficient sample sizes to make a comparison, it is unclear if these figures for people of color represent a change from the prior year.

When analyzing position level by sexual orientation and gender identity, 39% of those who identify as part of the LGBTQ community hold MDP-level positions, higher than the overall percentage of respondents who hold these positions. In addition, 61% of LGBTQ respondents hold mid-level positions. This suggests the solar industry has generally adopted an inclusive and welcoming environment for the LGBTQ community. One caveat to note is that according to research by the Human Rights Campaign, 46% of LGBTQ workers are not open about their identity at work.²⁸ Further, this research found that 50% of non-LGBTQ workers reported there are no employees at their company who are open about being LGBTQ.

The demographic picture for executive-level positions is very different from the broader category of MDP-level positions. Of the almost 300 solar companies surveyed, the average firm's executive team was made up of only non-Hispanic, white

FIGURE 2: POSITION TYPE BY ETHNICITY

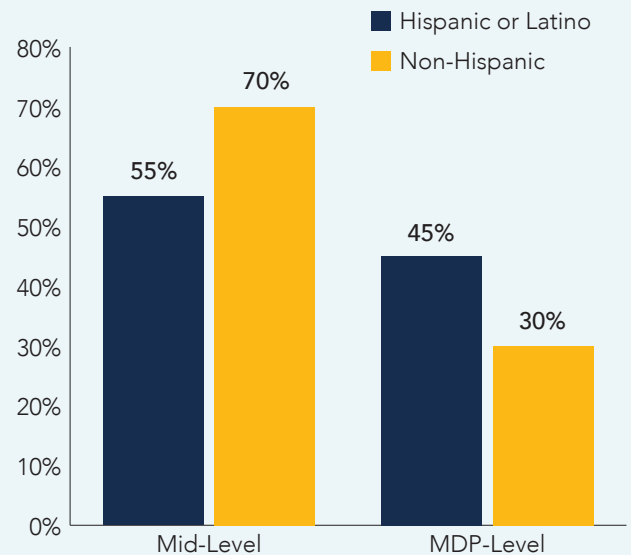
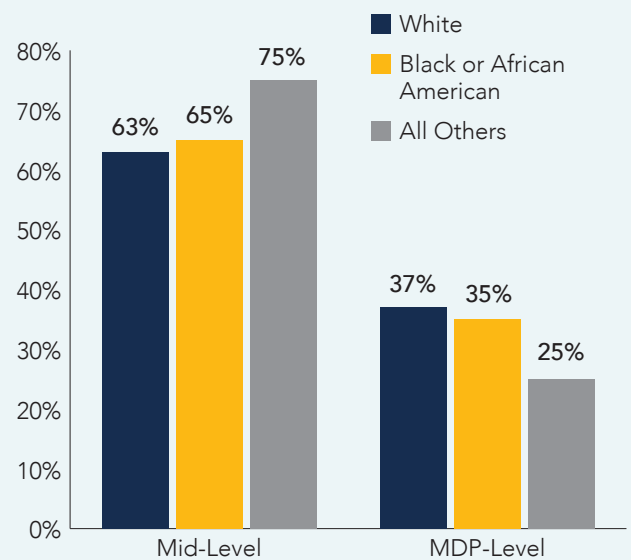
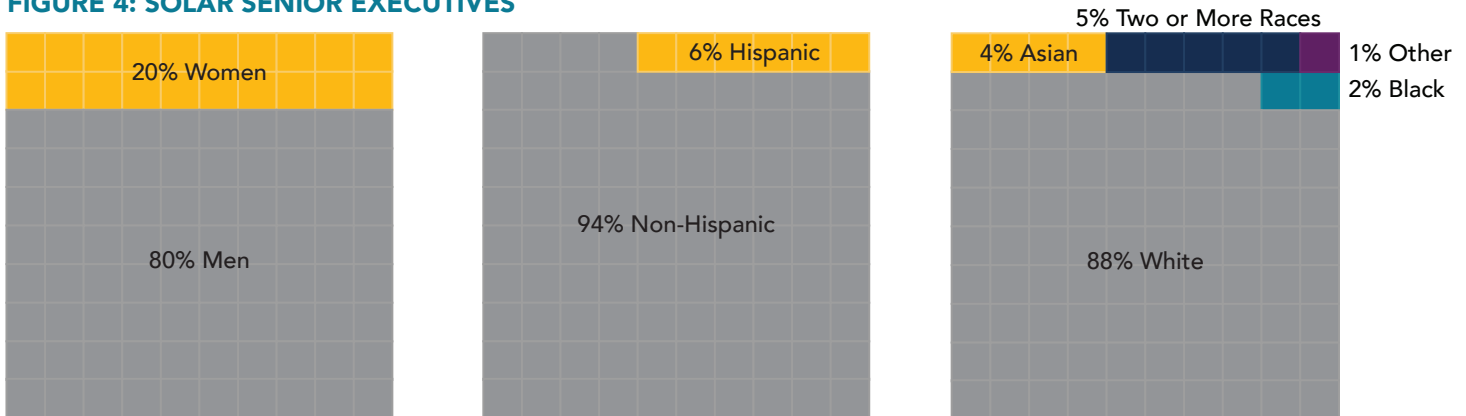


FIGURE 3: POSITION TYPE BY RACE



males.* When combining results from all firms, employers reported a total of only 20% of their senior executives were women and 12% were non-white, as shown in Figure 4.

FIGURE 4: SOLAR SENIOR EXECUTIVES



These disappointing results show a vast underrepresentation of women and people of color at the senior executive level. This discrepancy should be a major concern for the solar industry, though it is worth noting that it is relevant across corporate America. According to McKinsey & Company, only 22% of C-suite leaders are women, while only 13% of C-Suite leaders are people of color.²⁹

EMPLOYEE WAGES

This year's *U.S. Solar Industry Diversity Study* provides new data on employee wages that is more detailed than the data available in previous surveys. Men were more likely to earn higher wages than women, as 37% of men fell in the wage bracket of \$31 to \$74 per hour compared to only 28% of women, which is consistent across position level, as shown in Figure 5. About 6% of both men and women fell into the wage range of \$75 per hour or more.[†]

The median level wage for men was \$29.19, while the median level wage for women was only \$21.62. Therefore, the gender wage gap is 26%, meaning that women in solar make 74 cents on the dollar compared to men. When breaking this down by position level, 59% of women at mid-level positions

fell into the wage bracket of \$1-\$30 per hour, compared to 43% of men. Further, 16% of MDP-level women make \$31 to \$74 per hour, while 18% of men do.[‡]

This gender wage gap is present across the national workforce. In 2017, full-time women employees made only 80.5 cents for every dollar earned by men, translating to a gender wage gap of 20%.³⁰ Further, the gap increased in middle-skill occupations across the national workforce. For jobs that require more than a high school diploma but less than a Bachelor's degree, women only make 66 cents for every dollar earned by men. When looking at research regarding this subject, the pay gap widens most sharply within the age range of late 20s to mid-30s, when many women have children. College-educated women earn 90% of what men earn at age 25 and only 55% of what men earn at age 45. Further, women who do not have children and are unmarried earn closer to what men do. However, even when a woman is married without children, employers may assume they are preparing to have children and offer them less responsibility at work.³¹ Companies could begin to address this discrepancy through paid family leave policies and other strategies to make work-family balance more achievable.[§]

* Employers were asked to report the demographic makeup of their executive team (gender, ethnicity, and race). The reported average is the median of the data points provided by employers.

† Reported annual salaries were equated to hourly wages.

‡ The 2017 *U.S. Solar Industry Diversity Study* did not provide statistically significant results for wages between \$1 and \$30 per hour. Therefore, it is not possible to compare the latest wage data with the prior year.

§ A link to a toolkit on paid family leave from the PL+US Paid Family Leave Workshop is available in Appendix C.

Women in solar make 74 cents on the dollar compared to men.

Meanwhile, wage differences across different races or ethnicities appear to be more promising. When broken down by race and ethnicity, Hispanic or Latino respondents were more likely to earn higher wages than non-Hispanic respondents (Figure 6). Black or African American respondents were more likely to earn higher wages than white respondents, as shown in Figure 7. The survey found that 50% of black or African American respondents fell under the wage bracket of \$31 to \$74 per hour, while 36% of white respondents fell within that bracket. All Other races were most likely to earn the least, as almost 72% fell under the \$1 to \$30 wage bracket. The median hourly wage for Hispanic or Latino respondents was \$30, and for non-Hispanic respondents it was \$25.16. The median hourly wage for African American respondents was \$33.26, for white respondents it was \$26.51, and for All Others was \$24.66.

It is very encouraging to see that wages for survey respondents across Latino or Hispanic, white,

and African American employees are similar, as this is not the standard across industries in the United States. Despite the fact that there are fewer Hispanic employees and African Americans in the solar industry, they seem to be paid more than white and non-Hispanic employees. Nationwide in 2018, median hourly wages for African Americans were 24% less than wages for white workers, while the median hourly wages for Hispanics or Latinos were 26% less than white workers.³² While it is somewhat surprising that the solar industry would diverge from this national trend, results from this survey suggest industry offers more equitable pay across several racial and ethnic demographics.

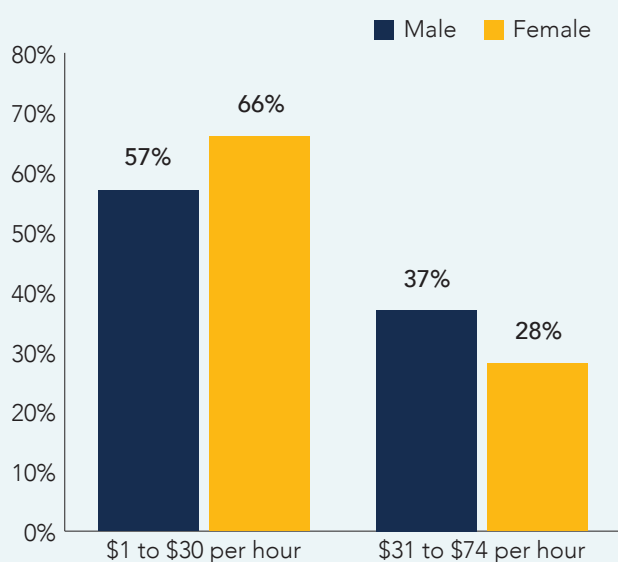
SATISFACTION OF EMPLOYEES

When respondents were asked “how satisfied are you with your current pay and responsibility at your firm,” 35% reported they were “very satisfied,” 53% reported they were “somewhat satisfied,” 9% reported “somewhat dissatisfied,” while 3% reported “very dissatisfied.”

Men were more satisfied than women with their wage and position, as 38% of men indicated they were “very satisfied” compared to only 26% of women (Figure 8). Further, women were more likely to be very dissatisfied with their wage and position, as 6% of women responded they were “very dissatisfied” compared to only 2% of men. Women’s dissatisfaction with their wage and position is consistent with the results showing women’s underrepresentation at MDP-level and executive level positions, along with their lower hourly wages compared to men. These findings are also consistent with the 2017 *U.S. Solar Industry Diversity Study*.*

Hispanic or Latino respondents were more likely to be satisfied with their wage and position than non-Hispanic respondents. 46% of Hispanic or Latino respondents indicated they were “very satisfied,”

FIGURE 5: HOURLY WAGES BY GENDER



* In the 2017 study, 41% of women were “very satisfied” compared to 56% of men.

FIGURE 6: HOURLY WAGES BY ETHNICITY

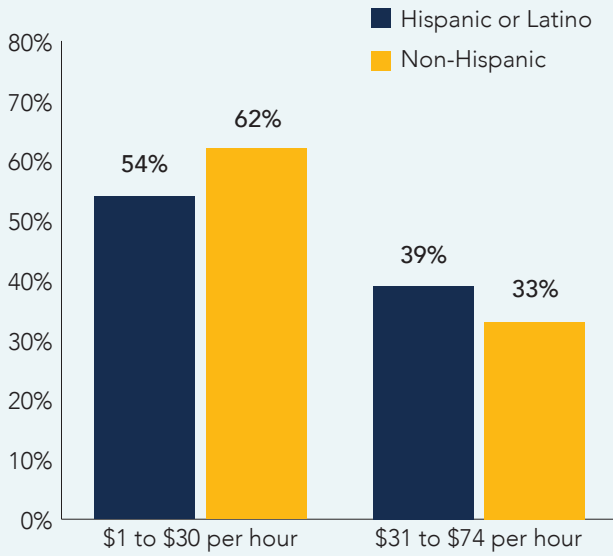
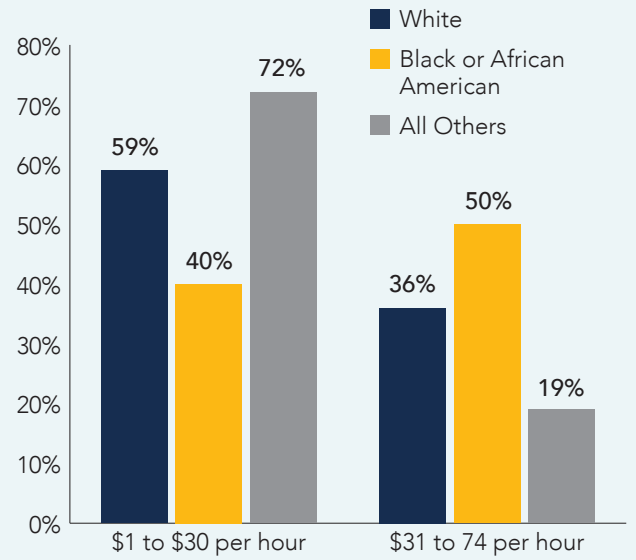


FIGURE 7: HOURLY WAGES BY RACE



Note: Respondents also had the option to choose a \$75 or more per hour wage category, but few respondents chose this option.

FIGURE 8: SATISFACTION WITH WAGE AND POSITION BY GENDER

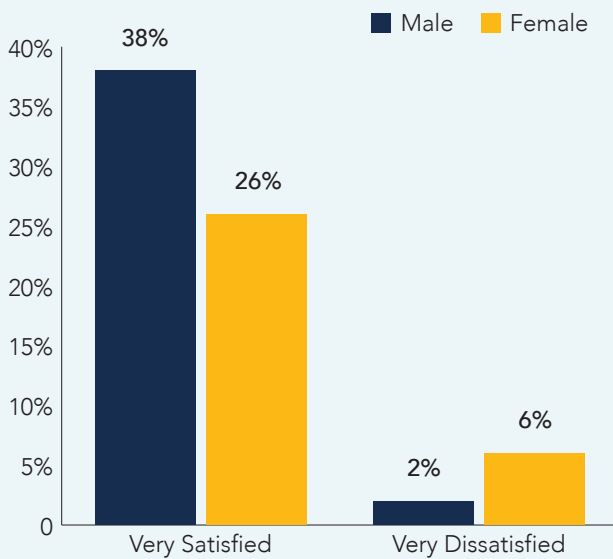
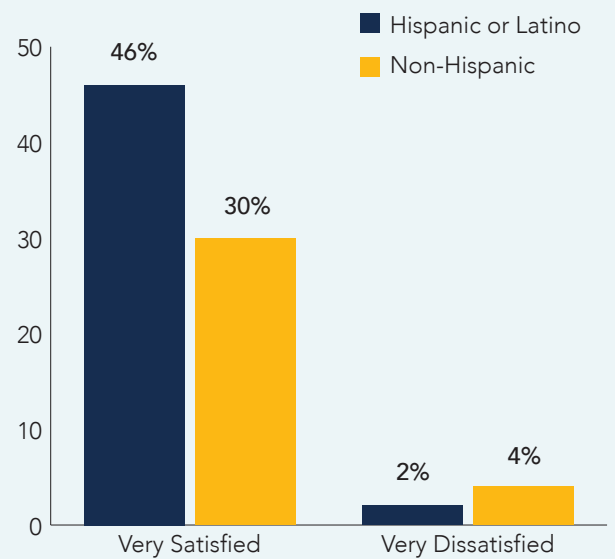
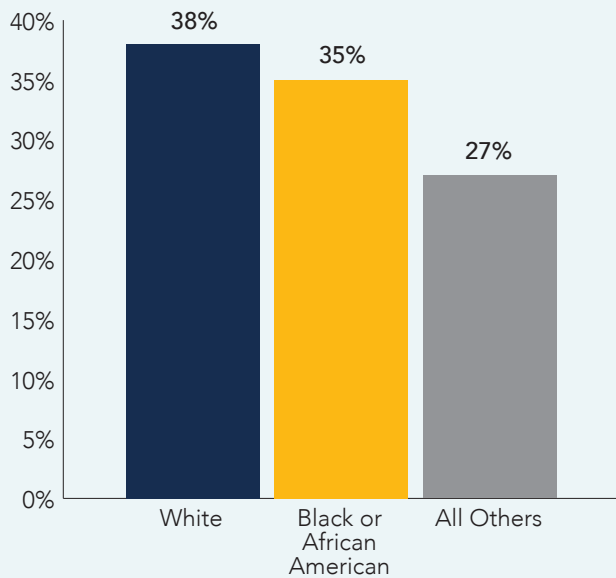


FIGURE 9: SATISFACTION WITH WAGE AND POSITION BY ETHNICITY



Men were more likely than women to be “very satisfied” with their wages and position.

FIGURE 10: “VERY SATISFIED” WITH WAGE AND POSITION BY RACE



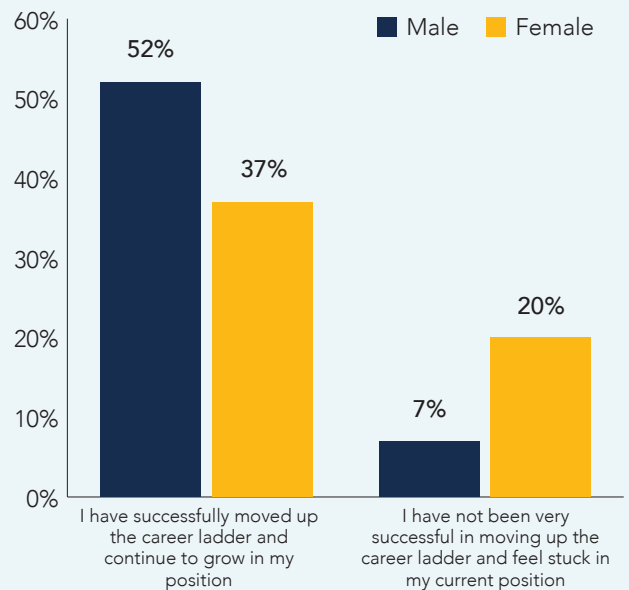
while only 30% of non-Hispanic respondents felt this way (Figure 9). When broken down by race, white respondents were slightly more likely to be very satisfied with their wage and position than black or African American respondents (Figure 10). One-third of respondents that identify as part of the LGBTQ community report feeling “very satisfied” with their wage and position, while only 1% report feeling “very dissatisfied.”

It may be relevant to note that other research on personal satisfaction often shows higher positive responses from Hispanic or Latino populations. An Aflac workforce report found in 2015 that Hispanic or Latino employees are more satisfied in their jobs compared to non-Hispanic employees (65% vs. 59%).³³ Furthermore, in a 2016 Gallup poll, 47% of Hispanic respondents indicated they were satisfied with the way things were going in the U.S. at the time, compared to only 28% of non-Hispanic whites.³⁴

CAREER GROWTH BY GENDER AND RACE

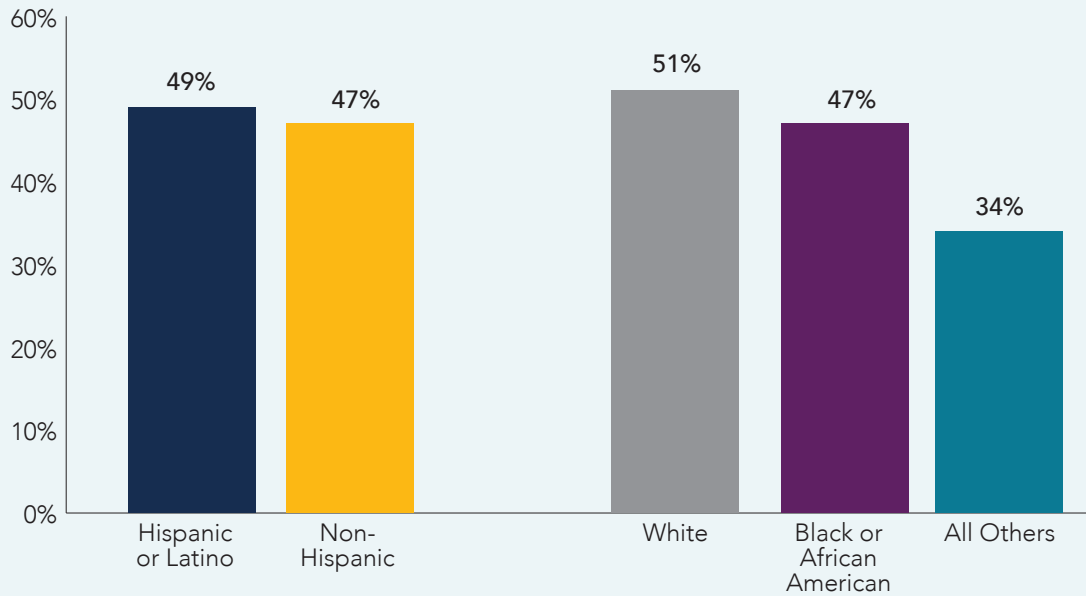
Men in the solar industry are more likely to be satisfied with their career growth compared to women. As shown in Figure 11, over half (52%) of men feel they have successfully moved up the career ladder and continue to grow in their positions, compared to only 37% of women. Additionally, 20% of women feel they have not been very successful in moving up the career ladder and feel stuck in their current position, while only 7% of men feel this way. This difference in opinions is more stark than in 2017, when 52% of men and 47% of women felt they had successfully moved up the career ladder. This finding also matches the other differences among men and women in the solar industry regarding position level, wages, and employees’ satisfaction with their wages and positions. Additionally, 54% of those

FIGURE 11: CAREER GROWTH BY GENDER



Note: The two responses in this chart represent two out of five response options listed in the survey, one including non-response option.

FIGURE 12: EMPLOYEES WHO FEEL SUCCESSFUL IN THEIR CAREER GROWTH



respondents that identify as part of the LGBTQ community feel they have successfully moved up the career ladder.

When analyzed by race and ethnicity, just over half of white respondents feel they have successfully moved up the career ladder. This perspective is not as likely among some people of color, as shown in Figure 12. 47% of Black or African American respondents and 34% of All Others indicate they have successfully moved up the career ladder. Hispanic or Latino employees were slightly more likely to feel they have successfully moved up the career ladder compared to non-Hispanic employees.







DHRUV PATEL

Dhruv Patel is the Vice President of Engineering, Procurement, and Construction (EPC) for the Solar and Energy Storage Group of McCarthy Building Companies, an EPC firm headquartered in Phoenix, Arizona. Along with two other employees, Dhruv helped to establish McCarthy's Solar and Energy Storage Group as a leading EPC in the industry. Today, with his leadership, this group has grown to more than 150 solar employees and has constructed more than 1.7 Gigawatts of utility-scale solar plants from coast to coast, with a new 300 MW energy storage facility under construction.

Dhruv was born and raised in India and moved to the United States in 2000 to obtain his Bachelor's in electrical engineering at Arizona State University. After graduation, he worked as an engineer for an electric utility company in Arizona and also received his MBA from Auburn University. His career began in the solar industry by chance, when the company began investing resources in the booming solar market around 2007. As the company began procuring larger projects, they enlisted Dhruv to head the development of the utility's distribution interconnection process. "I found myself quickly becoming an internal solar expert, overseeing the technical side of interconnection evaluation procedures on multiple projects," Dhruv says.

Following this, the combination of Dhruv's technical background, solar experience, and newly earned MBA steered him into a renewable and conventional generation resource procurement role at the utility. Dhruv led the development of over 200 MW of the utility's solar portfolio. When a position opened to be part of the newly forming Solar and Energy Storage Group at McCarthy, Dhruv jumped on the opportunity. He began as a Director six years ago and was promoted to Vice President of EPC in 2017.

Throughout his career, Dhruv says that networking and mentorship have helped him bring his experience to the next level. "I have been fortunate to have great mentors along the way that have really supported me. They take time out of their busy work schedule to educate and advise me, which has helped advance my career." Dhruv adds that networking was difficult for him at first. "I was not comfortable talking in a networking setting coming out of college. I challenged myself to get out of my comfort zone, and through actively networking I have developed vital relationships and have found great mentors that have helped me get to the position where I am now."

In addition, McCarthy has provided multiple career development opportunities. As an employee-owned company, McCarthy encourages employees at every level to participate in training programs in management and leadership. "These are meant to challenge you and provide the depth and breadth of knowledge to be a business leader at McCarthy," Dhruv says.

As an Indian American, Dhruv has always felt welcome and included at McCarthy, which has a multitude of strategies and programs to increase diversity and inclusion. In fact, McCarthy was just named among the Forbes 2019 list of the nation's top 500 best employers for diversity. One such program is McCarthy's Partnership for Women, which supports the recruitment, development, and retention of women. McCarthy works with area schools, community organizations, young women from middle school through high school, and college-aged women. The company conducts outreach and provides mentoring programs to inspire these girls and women to pursue construction careers. Additionally, McCarthy's talent acquisition team prioritizes outreach to diverse candidates by posting jobs on diversity-specific job boards and working with local and regional community organizations. Finally, McCarthy has an extensive internship program that reaches local colleges. In 2018, the company had 165 interns, 46% of which were from diverse categories. This internship program helps to create a network of diverse candidates ready to join the industry after graduation.

"I challenged myself to get out of my comfort zone, and through actively networking I have developed vital relationships and have found great mentors that have helped me get to the position where I am now."

Dhruv Patel
Vice President
of Engineering,
Procurement,
and Construction,
McCarthy Building
Companies





*“It can be tricky and frustrating at times, but it is important to believe in and understand **the value that you bring to the table.**”*

Brenda Byers
Preconstruction Director,
McCarthy Building
Companies

BRENDA BYERS

Brenda Byers is the Preconstruction Director for the solar division at McCarthy. Through this role, she leads the design and procurement tasks for solar projects. Brenda began as a Preconstruction Manager two and a half years ago and was recently promoted to this leadership role. Brenda received her Bachelor’s in mathematics from Wichita State University. She then went on to work as an aerospace engineer for three years, but found her passion in solar when she pursued her Master’s in solar energy engineering from Arizona State University. During school, she interned at First Solar, where she then worked for five years before joining McCarthy.

Similar to her coworker Dhruv, Brenda has had the opportunity to participate in a multitude of professional development opportunities at McCarthy, which have helped her develop into her leadership role now. McCarthy took an active role in supporting Brenda’s advancement, such as signing her up for trainings, trusting her to take on leadership responsibilities before being promoted, and encouraging her to take advantage of advancement opportunities. Brenda says the most valuable professional development opportunities are her on-the-job experiences. “Having good leadership during projects and finding good mentors and peers who are willing to help guide and support me has been instrumental,” Brenda says. These relationships are especially meaningful because McCarthy is an employee-owned company. “Every employee values the success of projects, which in turn creates a collaborative and supportive environment where everyone’s success is paramount to the company’s success.”

Being in a male-dominated space both throughout school and in her career, Brenda is all too familiar with being the only woman in a

room. Throughout her career, she has learned how to navigate a male-dominated workplace. "It can be tricky and frustrating at times, but it is important to believe in and understand the value that you bring to the table," she says. "I have learned not to compromise or let myself work in conditions where I am undervalued, because companies and bosses that value diversity do exist, particularly here at McCarthy."

Brenda spoke to the importance of McCarthy's Partnership for Women in creating an inclusive work environment. This program focuses on supporting and encouraging women's equality in and out of the workplace. Brenda says the program offers women a safe and open environment to speak with other women in the company about workplace challenges, advice, career development, and mentorship opportunities. Further, an important dynamic of this program is the promotion of not only women supporting other women, but men supporting women. Men are encouraged to attend these meetings and participate in the mentorship and coaching opportunities to help support their female coworkers. In addition, 40% of McCarthy's Southwest Regional Leadership Team, where the solar team is based, is comprised of women. "By demonstrating first-hand what we can accomplish as a woman in a primarily male-dominated industry, this inspires me and other women at McCarthy to excel," Brenda says.





Women of Color in the Solar Industry

Women and men typically have very different experiences at work, but women of color also have markedly different experiences compared to white women. This makes it impossible to lump all women together and assume they share the same challenges and perspectives in the workplace. Diversity and inclusion strategies should bring forth the unique perspectives and realities of women of color in the solar industry.

In fact, the 2017 *U.S. Solar Industry Diversity Study* found stark differences in job satisfaction between women of color and white women. For the current study, The Solar Foundation interviewed a group of women of color to understand their experiences, specifically with regard to their advancement opportunities, their perception of barriers to increasing diversity at their firms, and their level of comfort in the workplace. These answers are reported anonymously to allow for candid expression of views.

ON PROMOTION AND HIRING

According to McKinsey & Company's *Women in the Workplace* report, women of color are underrepresented at all position levels across corporate America. Women of color hold only 4% of C-suite positions and 4% of Senior Vice President (SVP) positions. This is significantly lower than white women, who hold 19% of these positions. Further, the study found that women of color are less likely to receive promotions. For every 100 men who are promoted to manager, just 60 black women and 84 white women are promoted.³⁵

During the interviews for this report, women of color often mentioned that they feel frustrated by their promotion and advancement opportunities in the solar industry. Two common themes regarding women's career advancement frequently came up. One was the perceived need to provide more evidence of their competence compared to their peers. The other was not having the right connections to the people that make hiring decisions.

One woman of color said: "I have often found barriers to advancing my career in the clean energy world as a woman of color and feel frustrated that I constantly have to prove myself more than others around me." Another respondent said: "The solar industry relies too heavily on word of mouth when hiring and promoting. There is a direct correlation with promotion and who you know."

Across corporate America, women of color face similar experiences. According to McKinsey & Company, 42% of black women report feeling the need to provide more evidence of their competence than their peers in other genders or races, compared to only 29% of white women and 16% of men. Further, 59% of black women and 54% of Latinas have never had an informal interaction with a senior leader, compared to 40% of white men and 47% of white women. This makes it less likely for women of color to form meaningful relationships that are vital to get ahead in their careers.³⁶

"The solar industry relies too heavily on word of mouth when hiring and promoting. There is a direct correlation with promotion and who you know."



For women of color in solar, important activities that have helped them advance their careers include their professional networks and the female mentorships that have helped them move up the ladder. These female mentors provide support and the perspective that stems from experience, one respondent said. "Sometimes I need someone who has been in the industry longer than me to provide perspective on my ideas."

Respondents noted that good mentors strive for their mentees to be more successful than they are, becoming an advocate for their career advancement. Participants especially noted the value of having other women of color looking out for them. One woman said that in order to succeed, you must "find your tribe" of other women of color to "build a network and safe space to brainstorm work ideas, pursue professional development opportunities, and attend conferences together." These relationships will in turn provide guidance and support throughout one's professional career to aid in advancement and promotion opportunities.

"The solar industry still operates like a boys club. The people who tend to get hired are the people who have personal connections to employers."

ON BARRIERS IN THE INDUSTRY

When asked about their perceptions of barriers to diversity in the solar industry, participants most commonly pointed to the heavy reliance on connections and professional networks for hiring. "The solar industry still operates like a boy's club. The people who tend to get hired are the people who have personal connections to employers," one respondent said. Another respondent noted an instance where her organization essentially created a position for someone they wanted on their team. The position was not even advertised to anyone else, and "people of color were completely omitted from this great opportunity," she said.

Additionally, participants noted that many women of color may not be aware of the opportunities in renewable energy and often assume that a technical background is required. One participant mentioned that the solar industry is constantly competing with other, more established industries to hire qualified employees. Women of color who have solidified their careers in other industries may find it difficult to make the move to solar.

Participants were asked to suggest ways the solar industry could increase its representation of women of color. The following is a list of ideas respondents commonly provided:

- Bring awareness of solar and the solar industry early on, even during K-12 education, so that people of all backgrounds are exposed to the technology and its benefits and opportunities.
- Do not limit applicants to those with solar industry experience. Allow candidates from other industries to qualify, as many of these skills are transferrable.
- Recruiters need to be more thoughtful on how positions are filled. Find candidates from outside the typical networks used to hire candidates, and practice intentional outreach to networks representing women of color.
- Increase advertising of positions to communities that are more diverse and attend career fairs focused on diversity.
- Make a concerted effort to expand professional networks beyond people who look like oneself, and take the time to talk with people of color at networking events.
- Workplace conversations around diversity and inclusion must be open and include women of color.

ON WORKPLACE EXPERIENCES

A report by Catalyst, a nonprofit focused on building workplaces that work for women, provided evidence of the "emotional tax" among women of color in the workplace. The report found that the majority of women of color experience this emotional tax, affecting their overall health, well-being, and ability to thrive in the workplace. Over 50% of women of color report being highly "on guard" at work. Among the 50% of respondents who do feel on guard, 40% anticipate racial/ethnic bias in the workplace.³⁷

To learn more about the work environment in the solar industry, interviewees were asked if they have ever experienced microaggressions at work. These are defined as experiences that underline everyday sexism, racism, ageism, and classism, which may come in the form of mistaking a senior employee for someone more junior, or hearing demeaning comments about gender or race. The McKinsey & Company study found that black women deal with a greater variety of microaggressions than women of other races. According to the study, 40% of black women indicated having their judgement questioned in their area of expertise, compared to only 27% of all men, 32% of Latinas, and 36% of white women.³⁸

Our interviews suggest these incidents are all too common within the solar industry as well. All interview participants acknowledged that they have experienced microaggressions in their careers. One participant offered this example: “In my work I attend a variety of meetings not exclusive to my company, and more than one time I have heard jokes with undertones of the browning of the industry or the feminizing of the industry.” Other examples provided include the outright dismissal of a participant’s ideas and contributions in a meeting. When a coworker who was not a person of color brought up the same idea minutes later, this person received praise. These microaggressions lead to an emotional tax on women of color, negatively affecting their experience at work.

Despite these experiences, the majority of interview participants said they feel supported and valued by both their managers and their peers. Most feel that their leadership values diversity and inclusion, and they believe their companies and the solar industry broadly are working to make the workforce more diverse. One woman said: “Being a woman of color in the industry gives you a lot of power and access to drive policies and changes that you are passionate about.”

All participants said they are excited to be part of a forward-thinking, fast-paced, adaptable industry. They are especially excited that the solar industry has the opportunity to reach a diverse set of customers and empower low-income communities. Participants share a passion for renewable energy and believe there is a direct connection between civil rights, social justice, and clean energy. Women of color have a unique perspective that will help

advance the industry and facilitate a clean energy economy for all communities.

ON ADVICE FOR THOSE ENTERING THE INDUSTRY

“Being a woman of color in the industry gives you a lot of power and access to drive policies and changes that you are passionate about.”

Finally, participants were asked to provide one piece of advice for women of color entering the solar industry. One participant said the industry’s recent commitments to diversity bode well for the future. “The solar industry at large is a welcoming community and celebrates when there are diverse people in the room. For a long time it has been an unintentionally monolithic type of community, but it is encouraging to see the investment in diversity and inclusion happening at all levels of the industry.” Another’s advice: “You must be bold, challenging, and speak out even when it is not easy or welcome. If you feel there is unfairness and injustices in the workplace, you have to call them out.”



A photograph of a modern office environment with several people working at computer workstations. The scene is dimly lit, with blue and white tones. In the foreground, a man with a beard and a light-colored shirt is seated at a desk, looking towards the right. Behind him, a woman with long dark hair is seated at another workstation. To the left, a man in a dark t-shirt is standing and looking at a computer monitor. The office has multiple computer monitors, desks, and a clean, professional atmosphere. A large white triangle is overlaid on the right side of the image, containing the text.

Hiring Practices

Solar firms and employees were asked about their methods and policies for recruitment. This information is helpful in understanding potential barriers to developing a more diverse workforce.

RECRUITMENT

In 2018, the *National Solar Jobs Census* found that 26% of all solar firms said it was “very difficult” to hire qualified employees, a substantial increase from 18% in 2017. When combined with employers who said hiring qualified employees was “somewhat difficult,” 82% of firms reported difficulty hiring in 2018. By exploring new strategies for recruitment, solar companies can attract more skilled employees and also help make their talent pools more diverse.

In our survey, respondents were asked to choose their top three preferred methods for recruiting employees. As shown in Figure 13, companies most commonly prefer to post jobs on sites such as Indeed and Monster (41%) as well as use employee referrals (41%). The third most preferred method

to recruit candidates was word of mouth (32%), followed by referrals from non-employees (27%) and online media platforms such as Facebook (21%).

Three of the top five recruitment methods rely on connections, suggesting that solar companies prefer to recruit employees through their professional networks. While hiring within networks can often present the least risk and easiest option for firms, this method often fails to reach a diverse pool of candidates. Research on affinity bias shows that humans are naturally drawn to people who are similar to themselves, often unintentionally leaving out groups of people in different social circles.³⁹ Therefore, when companies rely on their own networks to recruit candidates, they will inadvertently leave many qualified individuals out of the candidate pool.

FIGURE 13: PREFERRED METHODS TO RECRUIT EMPLOYEES



Note: Solar firms were asked to select their three most preferred methods to recruit candidates.

Three of the solar industry's top five recruitment methods rely on connections and professional networks.

Word of mouth recruitment is especially prevalent at small solar firms, where 41% prefer word of mouth over any other recruitment method, followed by employee referrals. This suggests that small firms rely heavily on their networks to hire employees. This presents barriers for certain groups and can make it difficult to enter the solar industry as an outsider. In fact, over a quarter of both Hispanic or Latino and black or African American respondents “strongly agree” that they have not had the right connections with people that make hiring decisions, compared to only 18% of white respondents and 15% of non-Hispanic respondents.

The survey also asked solar employees the methods they used to find their current position. As shown in Figure 15, 44% of white employees discovered their position through a referral by another employee or through word of mouth, while only 28% of black or African American employees found their position in this way. Almost

half of non-Hispanic employees found their positions through an employee referral or word of mouth, while only 28% of Hispanic or Latino employees did so (Figure 14).

This shows that white and non-Hispanic employees are more likely to find themselves within the professional or personal networks often used to recruit candidates for open positions in the solar industry. People of color are more likely to find their positions through a job fair or be directly recruited from a training program, suggesting these are important tools for recruiters to hire people of color. Solar companies should also consider utilizing local workforce development boards, which can be excellent resources to help recruit candidates within diverse candidate pools. They can also recruit more diverse candidates through historically black colleges and universities, Hispanic-serving institutions, or local community colleges.*

FIGURE 14: HOW EMPLOYEES DISCOVERED THEIR POSITION BY ETHNICITY

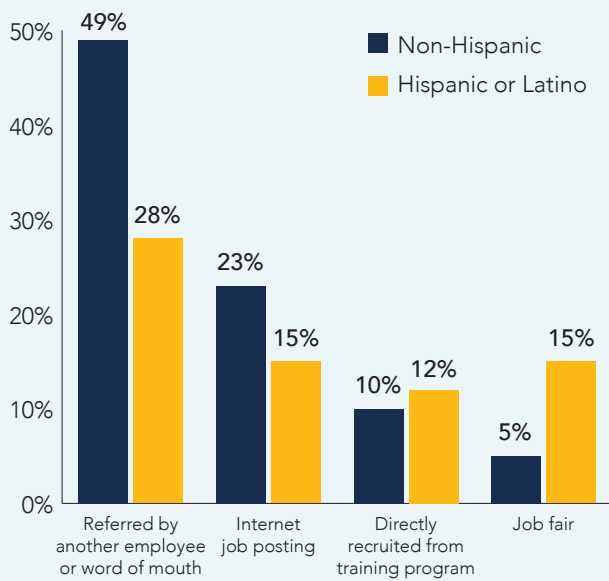
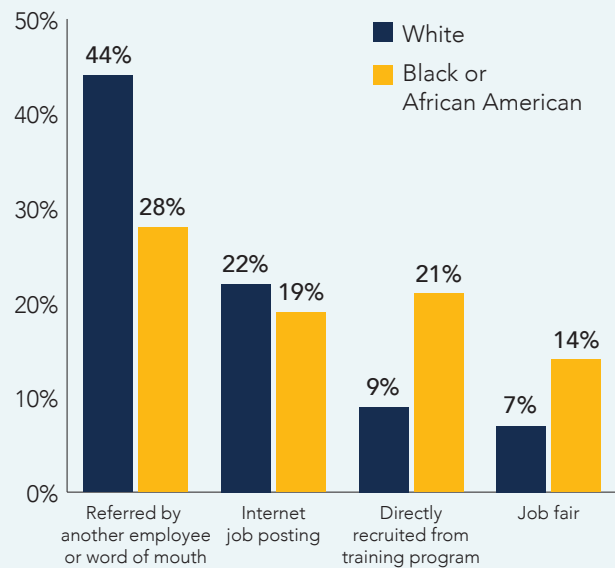


FIGURE 15: HOW EMPLOYEES DISCOVERED THEIR POSITION BY RACE



* Links to websites where companies can find local workforce development boards, educational institutions, and other resources are available in Appendix C.

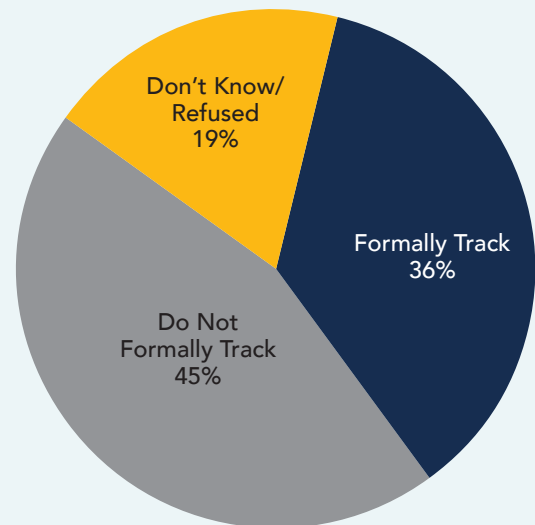
TRACKING AND PROMOTING DIVERSITY

Just over a third of all solar firms formally track and monitor gender diversity, ethnic and racial diversity, and veteran status for new and existing employees. This is up 9% from the number of firms who formally tracked employee diversity in the 2017 *U.S. Solar Industry Diversity Study*, suggesting the industry is improving its efforts in diversity tracking. Based on the most recent survey, 45% of solar firms do not formally track diversity, and 19% did not know or refused to answer.

When examining diversity tracking by type of firm, upstream firms are much more likely to track employee diversity. Among upstream firms, 55% formally track diversity, compared to 41% of downstream firms and only 22% of other firms, as shown in Table 3. Not surprisingly, large firms are more likely to formally track diversity (67% of large firms do so, compared to 37% of medium firms and 29% of small firms).

Solar companies were also asked about specific programs to promote diversity and inclusion through their hiring and training programs. As seen in Table 3, large firms are more likely to have these programs in place compared to medium and small firms. While 58% of large firms have a diversity and/or inclusion training program, only 15% of small firms have such a program in place. This is most likely because of the greater resources available to large firms, whereas small firms are limited in their ability to dedicate funds to such programs. Additionally, large firms are more likely to implement strategies to increase the representation of women, people of color, and veterans on their payrolls, as well as strategies to hire employees from the local community. While small companies certainly face resource challenges, there are proven strategies that companies of

FIGURE 16: FORMAL DIVERSITY TRACKING AT SOLAR FIRMS



all sizes can and should pursue. Many tools are available for companies to track diversity and inclusion metrics and survey their employees on the level of inclusiveness in the workplace. (See the accompanying [best practices guide](#) and Appendix C for more information.)

Few solar companies have formal strategies to promote diversity and inclusion, although the percentage has increased compared to the 2017 *U.S. Solar Industry Diversity Study*. Based on the latest survey, 24% of firms have a strategy to increase female representation, compared to only 14% in 2017. Similarly, 22% have a strategy to increase people of color representation, compared to 7% in 2017. Additionally, 17% of companies indicate they have a strategy to increase veteran representation, compared to only 12% in 2017.



Few solar companies have formal strategies to promote diversity and inclusion.

Even though most solar companies do not have formal diversity and inclusion strategies, a majority of employees report that they feel comfortable where they work. Overall, 71% of employees agree with the statement, “I feel like I fit in and am valued by my coworkers.” However, this is down from the 86% who expressed this view in the 2017 survey (one possible factor may be the two years of declining employment in the industry). In addition, 73% of employees agree with the statement, “I feel

like my firm cultivates a culture of respect, equity, and positive recognition of differences.” When looking at this statement across demographics, women and men feel the same. Hispanic or Latino employees were less likely to agree with these statements compared to non-Hispanic employees. Black or African American and white respondents both felt similarly about these statements (Table 4).

TABLE 3: DIVERSITY AND INCLUSION EFFORTS AT SOLAR FIRMS

Diversity & Inclusion Effort	% of All Solar Firms	% of Upstream Firms	% of Downstream Firms	% of "Other" Firms	% of Small Firms	% of Medium Firms	% of Large Firms
Formal Diversity Tracking	36%	54%	41%	22%	29%	37%	67%
Diversity and/or Inclusion Training Program	29%	45%	26%	24%	15%	43%	58%
Hiring Documents Allow Option for Gender Non-Binary Identification	31%	18%	19%	22%	32%	32%	28%
Strategy to Increase Representation of Women	24%	29%	24%	24%	19%	26%	30%
Strategy to Increase People of Color Representation	22%	24%	11%	24%	17%	25%	32%
Strategy to Increase Veteran Representation	17%	17%	21%	17%	14%	19%	24%
Strategy to Recruit from the Local Community	29%	43%	33%	25%	21%	40%	27%

TABLE 4: RESPONDENTS WHO AGREE OR STRONGLY AGREE WITH THESE STATEMENTS

	Hispanic	Non-Hispanic	White	Black or African American	All Others
I feel like I fit in and am valued by my coworkers	67%	75%	75%	76%	67%
I feel like my firm cultivates a culture of respect, equity, and positive recognition of differences	66%	78%	76%	76%	58%





ELIZABETH AKINKUGBE

Elizabeth Akinkugbe began her career at Sunnova, a leading residential solar and battery storage service provider headquartered in Houston, five and a half years ago. She started out as an entry-level customer service specialist and now runs her own team as a Project Team Manager for Construction Operations. Elizabeth started her career as a small business banker after college, and was introduced to a position at Sunnova by a friend. She was excited by the emerging solar industry and felt she could make a greater impact on the world through her work at Sunnova.

Though she has moved up at Sunnova, this has not come without challenges and hard work, Elizabeth says. "I had to fight hard and put in long hours to show I am worthy of moving up." Elizabeth deeply values the female mentors at Sunnova who have helped her grow into her management position. "Having a woman mentor there for me has been vital. They provide guidance and encouragement, and really display the strength of being a woman in management." In addition, Elizabeth has taken advantage of a multitude of professional development experiences at Sunnova, including management and leadership training.

As a woman of color at Sunnova, Elizabeth feels very welcome and included in every respect. She describes the company culture as open and friendly, and feels she has had equal opportunity to take advantage of promotion opportunities. When asked to give advice for candidates looking to join the solar workforce, Elizabeth says: "If renewable energy is something you are passionate about, keep going no matter what issue and challenge you are presented with. There are so many opportunities to learn and grow in this industry."

JENNIFER YAN

Jennifer Yan is a Senior Financial Analyst at Sunnova and has been with the company for four years. Like Elizabeth, Jennifer quickly advanced up the career ladder, and has been promoted twice after starting out as a Business Financial Analyst. Prior to working at Sunnova, she was a data analyst at an electronic company. She was excited by the prospect of solving challenging numerical analysis for a company aiming to power energy independence.

Jennifer grew up in China and moved to the U.S. to attend graduate school at Michigan State University. As an Asian woman, she has always felt included and welcome at Sunnova with access to the same opportunities as others. The biggest challenge Jennifer has faced during her career has been balancing her life at home and at work. "Working at Sunnova and in the solar industry in general is challenging and requires a lot of time and effort, as the technology is always changing. It has been challenging for me to balance my time at home while at the same time producing high quality work at Sunnova."

Having participated in the hiring process for some employees, Jennifer says diversity and inclusion are clear priorities for the company. "Sunnova values diversity in employees regarding demographics and the different backgrounds and experiences each employee brings. We have people join with a very different background than solar, but their interpersonal skills and expertise in their skill area allow them to succeed at Sunnova."

In terms of specific policies to promote diversity and inclusion at Sunnova, it starts with the top. The CEO sponsors, encourages, and supports diversity at every level of the organization. Further, Sunnova has a robust training program to prevent, monitor, and respond to harassment and bullying in the workplace. Employees know that collectively, all levels of management take the issue seriously and strive to ensure Sunnova has a workplace that is free of this behavior to further create an inclusive culture. Finally, Houston is one of the most diverse cities in the United States. Sunnova is able to take advantage of this and benefits from receiving applicants from a wide range of diverse groups.



*"Having a woman mentor there for me has been vital. They **provide guidance and encouragement,** and really display the strength of being a woman in management."*

Elizabeth Akinkugbe
Project Team Manager for
Construction Operations,
Sunnova



Career Development

Solar employees were asked questions regarding their career development to help identify the most important tools and strategies to ensure successful career advancement for people from all backgrounds.

EDUCATION

The survey found that 67% of respondents have received formal education or training specific to solar energy. Specific examples include a Bachelor's degree, North American Board of Certified Energy Practitioners (NABCEP) certification, graduate degree, Associate's degree, and both formal and informal on-the-job training. 81% of Hispanic or Latino respondents indicated they have received formal education or training, compared to 62% of non-Hispanic respondents. 68% of white respondents and 67% of black or African American respondents have received formal education specific to the solar industry. 90% of respondents agree that gaining more education and/or credentials was either very or somewhat important to their career advancement.

CAREER DEVELOPMENT TOOLS

Employees were asked to select, from a pre-determined list, the tools that have been most important in their successful career navigation (i.e., their ability to successfully advance to new jobs with increased pay and responsibilities). Respondents were able to select multiple tools in the survey. Overall, the tool chosen the most was "previous work experience" as selected by 41% of respondents, followed closely by "Bachelor's degree" and "professional connections."

When analyzing differences across gender, Figure 17 shows that women place much greater value in networking opportunities and their professional connections compared to men. Just over half of women believe "in-person networking" in addition to "professional connections" is vital to their successful career navigation, while only 30% of men believe this is true.

Additionally, 55% of women believe previous work experience has been important in successful career navigation, while only 37% of men hold this view. Women regard their previous experience and skills

as paramount to their advancement, while men feel less strongly that their experience leads to career success. Other research shows that women place greater value in their previous experience and their perceived qualifications compared to men. In fact, a Hewlett Packard internal report released in 2014 found that men apply for a job when they meet only 60% of the qualifications, but women apply only if they believe they meet 100% of the qualifications listed for a position.⁴⁰

Respondents were then asked to evaluate a list of activities based on their importance for career advancement. 71% of women indicated that networking was "very important" for their career advancement, while only 59% of men agreed. Interestingly, 41% of men and only 20% of women indicated that fitting in with the status quo culture of the office, such as learning a social sport or going out for happy hour, was very important in

FIGURE 17: THE MOST IMPORTANT TOOLS FOR SUCCESSFUL CAREER NAVIGATION BY GENDER

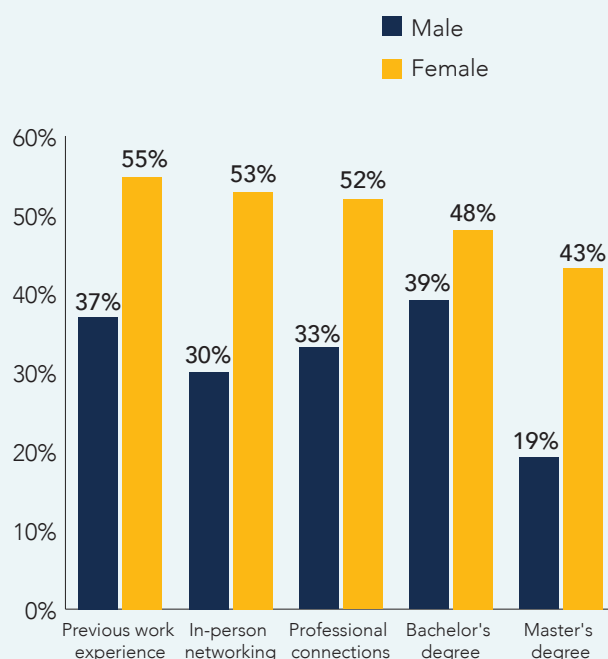


FIGURE 18: THE MOST IMPORTANT TOOLS FOR SUCCESSFUL CAREER NAVIGATION BY ETHNICITY

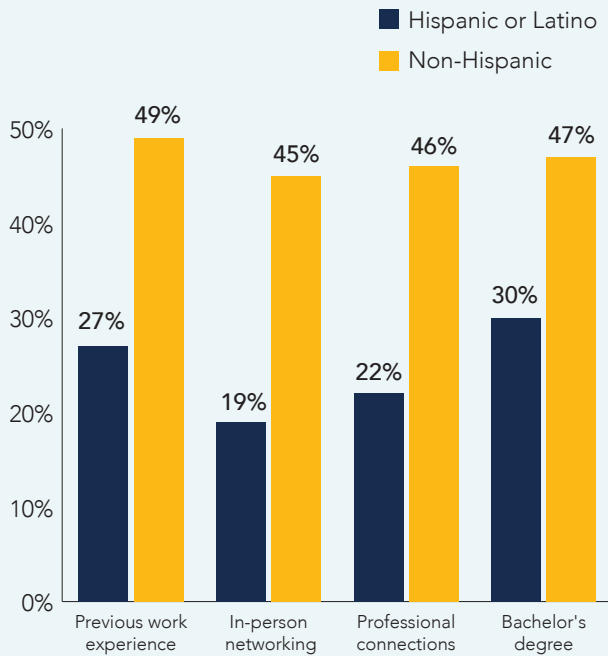
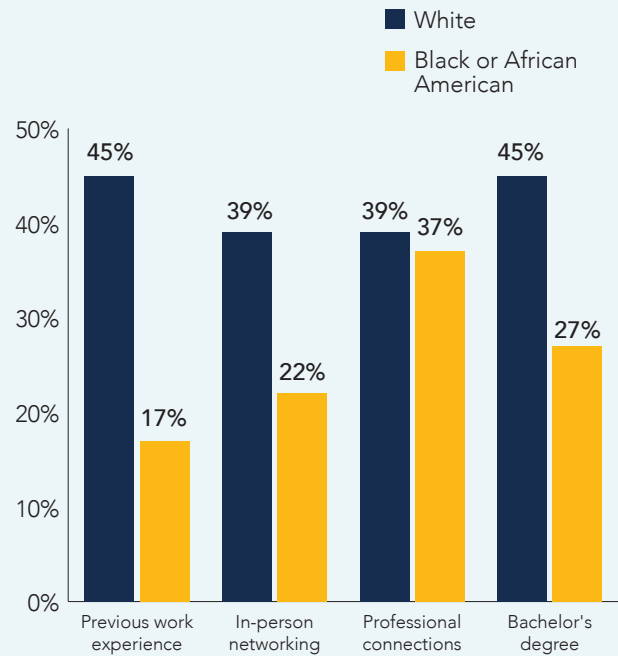


FIGURE 19: THE MOST IMPORTANT TOOLS FOR SUCCESSFUL CAREER NAVIGATION BY RACE



their career advancement. This could speak to the culture around less formal social events in the office (i.e., happy hours, office parties, etc.) being skewed more toward men, whereas formal networking opportunities are more important for women to grow their professional connections.

Figures 18 and 19 show the importance of each of these activities as perceived across ethnicity and race. White employees rely more heavily on previous work experience and in-person networking than African Americans. Notably, 45% of white employees believe previous work experience has been important to their career navigation, compared to 17% of black or African American employees. Additionally, white and non-Hispanic respondents were more likely to rely on in-person networking and professional connections compared to black or African American and Hispanic or Latino respondents.

MENTORSHIP AND SPONSORSHIP OPPORTUNITIES

Mentorship and sponsorship (formal and informal) are recognized as powerful tools to help employees grow in their careers. In fact, nearly 90% of all respondents rated both formal and informal mentorship as very or somewhat important to their career advancement. However, only 37% of firms indicated they have a mentorship or sponsorship program in place (either formal or informal), as shown in Figure 20, which is down from the 41% of firms with a mentorship program in place in 2017, though within the margin of error.

Especially for women and people of color, mentorship and sponsorship opportunities are vital in supporting successful career growth. Mentors serve as advisors, offering career support while helping to build self confidence in their mentees, while sponsors take an active role in their promotion opportunities and career advancement.⁴¹ According to research summarized by Bentley University, about 70% of men and women who have a sponsor report satisfaction with the pace of their career growth, while only

57% of their peers who don't have sponsors report satisfaction.⁴²

As shown in Figure 21, three-quarters of men indicated they currently or in the past have had a mentor or sponsor, compared to 67% of women. Additionally, men are more likely to serve as mentors or sponsors compared to women. Other research shows that mentorship/sponsorship is especially important for women; 85% of working mothers who have sponsors will continue to work, while only 58% of those without sponsors will continue their careers. Additionally, women with sponsors are 27% more likely to seek a raise than their counterparts who do not have sponsors, most likely leading to greater career satisfaction and advancement.⁴³

Figure 22 shows Hispanic or Latino respondents were more likely to have had a mentor or sponsor, and also more likely to have served as a mentor or sponsor compared to non-Hispanic respondents. Black or African American respondents were less likely to have had a mentor or sponsor or to serve as one, compared to the white and the All Other categories.

As these survey results have found, women and people of color do not feel as strongly that they have successfully moved up the career ladder (page 31). Mentorship and sponsorship relationships can help to accelerate career advancement and aid in overcoming obstacles people of color may face during their careers. Additionally, these mentorship programs should be tailored to foster an inclusive culture. Compared to white women, women of color are more likely to have mentors who lack the influence needed to promote their mentees for important workplace opportunities.⁴⁴ Firms should ensure their mentorship opportunities offer equitable access to influential relationships.

FIGURE 20: SOLAR FIRMS WITH A FORMAL OR INFORMAL MENTORSHIP/SPONSORSHIP PROGRAM

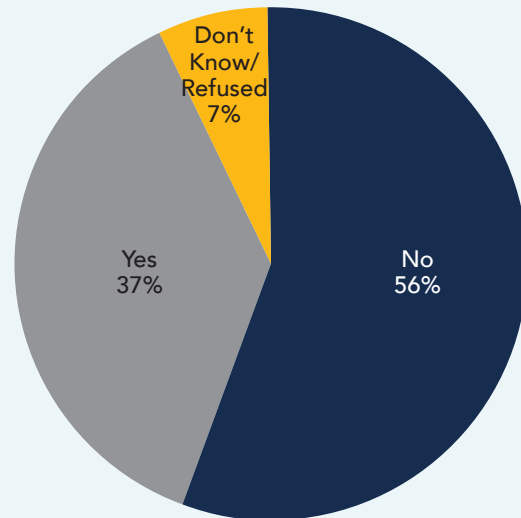
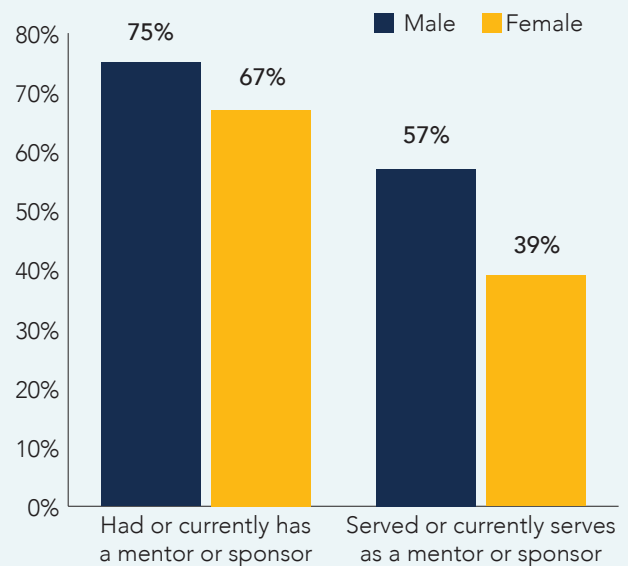


FIGURE 21: EXPERIENCE WITH MENTORSHIP/SPONSORSHIP BY GENDER



Women place greater value on networking opportunities and their professional connections than men.

FIGURE 22: EXPERIENCE WITH MENTORSHIP/SPONSORSHIP BY ETHNICITY

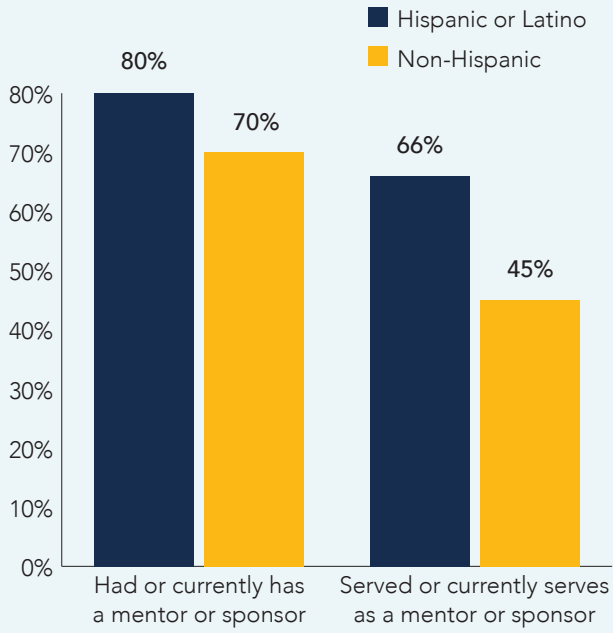
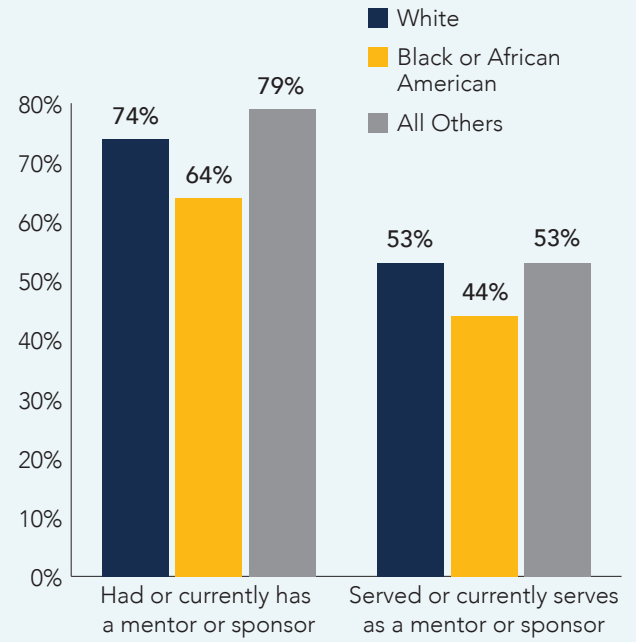


FIGURE 23: EXPERIENCE WITH MENTORSHIP/SPONSORSHIP BY RACE







Conclusion

As this report has shown, the solar industry is not immune to the challenges the wider business community faces in fostering a diverse and inclusive workforce.

Women and African Americans remain underrepresented in the solar industry, and the executive leadership is almost exclusively white men. This report found the gender wage gap persists in the industry, with women making 74 cents on the dollar compared to men, and with more men than women falling into a high wage bracket. One positive result of the survey was that wages appear to be similar among white, African American, and Hispanic employees. And the majority of employees feel they are valued by their coworkers and that their company fosters a culture of inclusion.

Meanwhile, this report found the majority of companies surveyed have not developed metrics and goals on employee diversity. The survey also found that solar companies should expand their recruitment strategies to attract more diverse employees. In addition, fewer than half of the companies surveyed have either a formal or informal mentorship program. And there is more work to be done to improve the workplace experience for women of color, who told us they often face barriers in advancing their careers.

Solar companies can use a number of proven strategies to improve diversity in hiring and make the workplace more inclusive. These strategies are outlined in detail in a [diversity best practices guide](#) for the solar industry, released concurrently with this report. While approaches will be different depending on whether a company is a large

corporation or a single-truck installer, there are effective actions that all types of companies can take. These include strategies to improve diversity in the hiring process, as well as management approaches that encourage a workplace culture open to employees from all backgrounds. For any company, however, the most important quality is leadership. A commitment to diversity and inclusion starts at the top. Executives should make diversity and inclusion a clear priority that is reflected in their policies and actions. They should set specific and measurable goals for workforce diversity and hold managers accountable for meeting them.*

It is a very encouraging sign that leaders across the solar industry are identifying diversity and inclusion as top priorities. A growing number of solar industry CEOs have signed the CEO Action for Diversity & Inclusion Pledge, which includes specific commitments to action.⁴⁵ More and more, America's leading solar companies are making diversity and inclusion an integral part of their business strategies. This will lead to more career opportunities for a diverse group of Americans, who in turn will help the industry expand into new markets and allow even more Americans to enjoy the benefits of clean, affordable solar energy. The resources in this report and the accompanying best practices guide can help the industry make measurable progress toward achieving these goals.

* As McKinsey & Company finds in its 2018 report, *Delivering Through Diversity*, "Companies increasingly recognize that commitment to [inclusion and diversity] starts at the top, with many publicly committing to an I&D agenda. Leading companies go further by cascading this commitment through their organizations and particularly to middle management." <https://www.mckinsey.com/business-functions/organization/our-insights/delivering-through-diversity>.

Appendix A: Solar Industry Demographics in Comparison to Other Industries*

	Solar	U.S. Workforce Overall	Construction	Manufacturing	Wholesale Trade	Oil and Gas Extraction	Utilities	Information
Women	26.3%	46.9%	9.1%	29.5%	29.9%	12.8%	21.4%	38.3%
Men	73.7%	53.1%	90.9%	70.5%	70.1%	87.2%	78.6%	61.7%
Gender Non-Binary	1.4%	–	–	–	–	–	–	–

	Solar	U.S. Workforce Overall	Construction	Manufacturing	Wholesale Trade	Oil and Gas Extraction	Utilities	Information
Hispanic or Latino	16.9%	16.9%	29.8%	16.6%	16.9%	13.9%	11.0%	12.2%
Not Hispanic or Latino	83.1%	83.1%	70.2%	83.4%	83.1%	86.1%	89.0%	87.8%

	Solar	U.S. Workforce Overall	Construction	Manufacturing	Wholesale Trade	Oil and Gas Extraction	Utilities	Information
Asian	8.5%	6.2%	1.9%	7.1%	5.8%	5.4%	3.0%	7.3%
Black or African American	7.6%	12.1%	6.1%	10.1%	9.3%	9.1%	9.0%	11.6%
White	73.3%	78.4%	88.8%	79.9%	82.4%	85.2%	85.5%	78.3%

	Solar	U.S. Workforce Overall	Construction	Manufacturing	Wholesale Trade	Oil and Gas Extraction	Utilities	Information
Veterans of the U.S. Armed Forces**	7.8%	6.6%	7.3%	7.9%	7.8%	8.8%	9.8%	6.9%
Non Veterans	92.2%	93.4%	92.7%	92.1%	92.2%	91.2%	90.2%	93.1%

	Solar	U.S. Workforce Overall	Construction	Manufacturing	Wholesale Trade	Oil and Gas Extraction	Utilities	Information
55 and Over	10.5%	21.1%	21.8%	24.9%	26.4%	25.3%	27.0%	19.5%
Younger than 55	89.5%	78.9%	78.2%	75.1%	73.6%	74.7%	73.0%	80.5%

* All U.S. workforce demographic data retrieved from the BLS Labor Force Statistics from the Current Population Survey. Data for Native Hawaiian or other Pacific Islander, American Indian or Alaskan Native, and Two or More Races is not available for U.S. industries.

** <https://www.bls.gov/news.release/pdf/vet.pdf>

Appendix B: Diversity and Inclusion Checklist

The following sample checklist identifies some of the basic actions any company can take to promote diversity and inclusion in the workforce. This is not meant to be an exhaustive list, but a starting point that companies can use while taking a comprehensive look at their diversity and inclusion strategies. For more details, please see the accompanying [best practices guide](#).

HIRING AND RECRUITING

- Do you include a diversity, equity and inclusion statement on all position description announcements?
- Do you review position descriptions to remove potentially biased language?
- Do you extend your recruitment outreach to attract diverse candidates? (For example, outreach to colleges and universities with diverse populations.)
- Have you implemented a blind hiring policy for reviewing resumes?
- Have you set goals for diversity in the hiring process?
- Do you have diverse representation on your hiring and interviewing committees?

WORKPLACE POLICIES

- Do you track and measure data on employee diversity and demographics?
- Do you survey employees on their sense of belonging and inclusion in the workplace?
- Have you updated your company policies on discrimination, sexual harassment, and family/medical leave?
- Do you provide training for employees on diversity and inclusion best practices?
- Do you provide mentorship opportunities for employees?
- Do you connect employees to affinity groups and networking associations for women and people of color (both inside and outside your company)?
- Do you encourage and provide opportunities for employees to learn about, appreciate, and understand diverse points of view?

LEADERSHIP

- Has your company's leadership made a public commitment to diversity and inclusion?
- Have you set clear and measurable goals for diversity and inclusion in the workplace?
- Has leadership received diversity and inclusion training?
- Do you tie performance to results and hold managers accountable for meeting diversity and inclusion goals?

Appendix C: Additional Resources

The following additional resources may be helpful as companies develop strategies for advancing diversity and inclusion.

CEO ACTION FOR DIVERSITY & INCLUSION

A list of more than 600 companies that have pledged to advance diversity and inclusion in the workplace. The website includes a database of actionable pledges these CEOs have made.

<https://www.ceoaction.com/>

DIVERSITYINC: TOP 50 COMPANIES FOR DIVERSITY

This list identifies companies that are leading the way on diversity and inclusion as well as actions they have taken to achieve their goals.

https://www.diversityinc.com/di_top_50/

WORKFORCE DEVELOPMENT BOARD FINDER

Use this tool to find your local Workforce Development Board, which can help companies post job opportunities and attract diverse candidates in their area.

<https://www.careeronestop.org/LocalHelp/WorkforceDevelopment/find-workforce-development-boards.aspx?newsearch=true>

COMMUNITY COLLEGE FINDER

Find local community colleges where your company can seek out diverse candidates for open positions.

<https://www.aacc.nche.edu/college-finder/>

HISTORICALLY BLACK COLLEGES AND UNIVERSITIES

A list of HBCUs by state, from the website HBCU Lifestyle.

<https://hbculifestyle.com/list-of-hbcu-schools/>

HISPANIC-SERVING INSTITUTIONS

A list of HSIs and other resources from the Hispanic Association of Colleges and Universities.

<https://www.hacu.net/hacu/hsis.asp>

PROJECT IMPLICIT

Online tests that track unconscious bias with regard to race, gender, or other characteristics.

<https://implicit.harvard.edu/implicit/takeatest.html>

TEXTIO

A data-driven tool to help strengthen job postings, including by removing gender-biased language.

<https://textio.com/>

SURVEY MONKEY/PARADIGM BELONGING AND INCLUSION TEMPLATE

A template for employee surveys on diversity and inclusion in the workplace (login required). This short survey is easy to implement for both large and small companies.

https://www.surveymonkey.com/create/?templated=1529&ut_source=mp&ut_source2=diversity_and_inclusion_survey_templates

CULTURAL MAPPING ASSESSMENT

For organizations seeking a more thorough assessment, this tool examines intercultural dynamics in the work environment. It is a 72-question online inventory that creates a profile along 12 dimensions of culture and how those dimensions affect behavior. Contact KnowledgeWorkz for more information.

www.knowledgeworkz.com

DIVERSITY AWARENESS PROFILE

The Diversity Awareness Profile (DAP) is a self-assessment tool that helps individuals improve working relationships among diverse co-workers and customers by increasing the awareness of their behavior and how it affects others. This six-page assessment can be bought as a stand-alone profile, or with the fully revised second edition of the DAP Facilitator's Guide.

www.wiley.com/WileyCDA/WileyTitle/productCd-0787995541.html

MODEL TRANSGENDER EMPLOYMENT POLICY

From the Transgender Law Center, a model policy for including transgender, gender non-conforming, and transitioning employees.

<https://transgenderlawcenter.org/wp-content/uploads/2013/12/model-workplace-employment-policy-Updated.pdf>

PL+US PAID FAMILY LEAVE WORKSHOP

A toolkit and template for developing a paid family leave program, from the organization PL+US.

<https://paidleave.us/workshop/>

EQUITY IN THE CENTER

This group provides resources to help address race equity in nonprofit and philanthropic organizations, including the report *Awake to Woke to Work: Building a Race Equity Culture*.

<https://www.equityinthecenter.org/>

THE MANAGEMENT CENTER

Provides management training and online tools for social change organizations, including on diversity and inclusion. One useful tool is the Smartie Goals Worksheet, a straightforward way to incorporate diversity and inclusion into your company's goals.

<http://www.managementcenter.org/>

<http://www.managementcenter.org/resources/smartie-goals-worksheet/>

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