Delivering Energy Efficiency Jobs to Underserved Communities

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ABSTRACT

To address clean energy workforce demands in New Jersey, create a more inclusive and equitable clean energy workforce, and address underrepresentation of diverse communities within the industry, the Public Service Electric and Gas Company (PSE&G) Clean Energy Jobs program was established in June 2020. This paper explores the program's three primary areas of focus: underserved community-based recruitment, training, and promotion of supplier diversity.

Program success is driven by a steering committee that includes the New Jersey Department of Labor and Workforce Development and more than 40 community advocates and representatives from strategic hiring / recruiting partners. This unique public-private partnership provides job recruitment and career advancement referrals and raises awareness of the program with their respective constituents through various outreach channels that target underrepresented groups and underserved communities.

This on-the-job training program facilitates entry into the clean energy sector, includes wraparound services such as childcare and transportation assistance to facilitate participation, and Building Performance Institute (BPI) certification to help advance careers. A Jobs Program Platform connects this new talent pool to clean energy suppliers.

This program has received several Diversity, Equity, and Inclusion (DEI) awards, and has exceeded targets for pre-identified diversity goals, as well as goals for the number of jobs filled. To date, more than 2,500 job seekers have been placed. Additionally, the program bolsters opportunities for diverse small businesses to be awarded clean energy contracts throughout the state by helping them become Minority, Women, or Veteran Business Enterprise (MWVBE) certified.

Introduction

It is estimated that job growth related to decarbonization will create more than 25 million American jobs in the next fifteen years (Paul 2023: 5). This includes jobs to help upgrade infrastructure and water systems, build clean and renewable energy systems, and increase energy efficiency throughout the economy. Given American buildings account for 40% of energy use, jobs that help decarbonize and improve the energy efficiency of buildings will be a key component of this work (ibid.). In fact, the energy efficiency sector will be a key employment driver for the next ten years (Chan et al. 2022).

Despite the demand for a clean energy workforce,[1] there are not enough qualified workers to fill these roles (Simon 2023, Xie et al. 2023). For example, in New Jersey, energy

[1] Sources cited within this paper often used varying terms and definitions to describe occupations associated with decarbonization, clean energy, energy efficiency, including, but not limited to: clean energy jobs / workforce, green jobs, green talent, climate-related jobs, energy efficiency jobs / workforce, and the decarbonization workforce. Frequently, the specific skills and / or occupations included within these categories were not clearly defined or delineated within each source. The author recognizes this limitation, and to help compensate for the comparison of potentially different categories, used the exact terminology cited in the reference source when possible.

efficiency work is expected to increase eight-fold by 2031. But while demand is strong, supply will be problematic if more workers aren't trained in this space (Council on the Green Economy 2022: 30).

PSE&G's Clean Energy Jobs program[2] (CEJ) helps address this need by providing workforce training that advances sustainability and equity and spurs economic growth, while also contributing to New Jersey's 2020 Energy Master Plan (Fazelpoor 2023). This paper contextualizes CEJ within the decarbonization workforce landscape and identifies gaps, challenges, and opportunities to build this workforce. It then discusses how the program has been designed to address clean energy workforce needs in New Jersey via community-based recruitment, training, and promotion of supplier diversity.

The Decarbonization Workforce: Gaps, Challenges, and Opportunities

The U.S. Inflation Reduction Act (IRA) allocates $370 billion toward energy security and climate action. An analysis by the Energy Futures Initiative (EFI) found that this legislation will create 1.5 million jobs by 2030 (Moniz and Scanlon 2022), in industries such as manufacturing, construction, and the utility sector, which is estimated to gain 590,000 jobs (Foster, Maranville, and Savitz 2023: 13). This projected growth, however, is dwarfed by estimates for overall job growth related to decarbonization, which is anticipated to create more than 25 million American jobs in the next fifteen years[3] (Griffith, Calisch, and Laskey 2020; Paul 2023: 5).

Training Programs Needed to Help Fill High, Unmet Demand within Workforce

The current and future anticipated demand for a decarbonization workforce is substantial, but there are not enough qualified workers (Griffith, Calisch, and Laskey 2020; Simon 2023; Takemura 2023). A study conducted by LinkedIn based on more than 930 million users worldwide found that the concentration of workers with green skills—or those required for climate-related jobs in general—is rising, yet demand for green talent cannot be met, and is outpacing the increase in supply. Between 2022 and 2023, the share of job postings requiring green skills (22.4%) was more than double the rise in supply (12.3%) (LinkedIn Economic Graph 2023: 3).

The marked labor shortage within the decarbonization workforce, in part, stems from inadequacies within the piecemeal training system, which primarily includes trade union apprenticeships, employer-sponsored programs, and vocational schools where students pay their own tuition (Simon 2023).

Federal and state governments have a critical role to play in helping U.S. workers take advantage of new job opportunities within this space (FREE 2024). Toward this end, the Biden administration is investing nearly $41 million into new educational centers to train students and workers (DOE 2023). This funding will help create 27 new centers to train individuals in energy

[2] This Program is part of PSE&G's $1 billion Clean Energy Future Energy Efficiency (CEF-EE) initiative, which is the largest commitment to energy efficiency in New Jersey, and includes broader programs designed to help residential and commercial customers reduce their carbon footprint and save on energy costs while creating economic opportunities and boosting the state's economy (PSE&G 2022).

[3] As the country decarbonizes, there will be job losses in some energy sectors, such as oil and gas extraction, coal mining, and petroleum refining sectors. Yet, there will be gains in jobs with similar skills, like those required in mining and mining activities and basic chemical manufacturing, among others (Foster, Maranville, and Savitz 2023). Overall, decarbonized workforce growth will dwarf fossil fuel job losses (Thomson 2021).

efficiency, decarbonization, and clean energy manufacturing, with the goal of training at least 3,000 people over the three-year funding period. More than 75% of the funds will go toward training students from disadvantaged communities (Takemura 2023).

While this program will help fill the extensive labor shortage gap, there is still a significant need for the creation of other job training programs, including those sponsored by employers (Simon 2023), such as CEJ.

Adequate Wages and Rebranding Also Required to Help Fill Energy-Related Jobs

Training alone, however, will not solve this labor shortage if the associated wages are low paying, as there won't be enough incentive to bring people into these fields given current low unemployment rates (Simon 2023). The good news is, according to the Foundation for Renewable Energy and Environment, jobs created in the energy sector tend to offer above average pay (FREE 2024). In fact, the Department of Energy found that energy jobs pay about 34% higher wages on average than the median pay across all industries in the U.S. (DOE 2021). This will help entice workers and contribute to higher living standards for those employed in this sector (FREE 2024).

Yet even with higher wages, there is still a branding issue associated with energy sector jobs. To some segments of the Millennial and Gen Z population, this sector is frequently associated with the burning of fossil fuels, fracking, and smokestacks, thereby deterring these groups from seeking these jobs (Thomson et al. 2021). Depicting the energy sector as an innovative force shaping the shift to a low-carbon society could potentially change prospective employee perceptions, helping to entice them to enter this field (ibid.). Additionally, highlighting the increasingly digital components of this work may help draw female candidates, who traditionally have viewed this field as male-dominated manual labor (Barbosa et at. 2017).

Opportunities to Diversify the Workforce and Benefit Underserved Communities

The U.S. Department of Commerce and the U.S. Department of Labor Good Jobs Principles emphasize building an equitable economy that "lifts up workers and families" and "allow everyone to share in prosperity and support local communities and the entire U.S. economy." These principles include, among others, active recruitment and hiring from underserved communities, benefits that promote economic security and mobility, and fostering a culture supportive of Diversity, Equity, Inclusion, and Accessibility (DOL and DOC 2023).

Building the decarbonization workforce will provide an opportunity to support these Good Job Principles. Careers in clean energy can be a pathway to career advancement and financial security—yet historically, minorities have been underrepresented within this field (Shoemaker, M. R. Ayala, and D. York. 2020).

As a comparison, for example, the Science, Technology, Engineering, and Math (STEM) workforce, also lacks representation of women and minority groups in associated occupations. Women comprise only 28% of the STEM workforce related to the energy sector, and other minorities—such as Latinx, Blacks, and American Indians/Alaska Natives—also represent disproportionately small shares (Thomson et al. 2021).

Targeted policies and training programs that recognize underrepresented groups within the energy sector and intentionally engage them can help make this workforce more inclusive and equitable. This includes, but is not limited to, "broader and proactive support packages for affected communities and engaging local stakeholders" (Xie et al. 2023: 1209). Partnerships and

community-based organizations are coming together to address this shortfall by designing training programs that reinforce diversity and inclusion. To help entice participants some of these programs offer wages during training to reduce the financial burden on participants (Shoemaker, M. R. Ayala, and D. York. 2020). Both of these approaches—tapping into the community to enhance diversity and offering wages—are key parts of CEJ.

Early Actors Will Gain a Competitive Advantage

States that act early in the transition to a low-carbon society may create a competitive advantage in skills expertise, at least in the medium term. Even if states don't act early, the majority will benefit from the decarbonization transition (Xie et al. 2023).

New Jersey is an early actor, driven in part by Governor Phil Murphy. Once labeled the "Greenest Governor," Murphy upped the state's target for 100% clean energy from 2050 to 2035 in the 2020 Energy Master Plan, shortening the target range by 15 years (Sobka and Fallon 2023). Further, the state's Clean Energy Act set a target for New Jersey electric utilities to implement energy efficiency measures to achieve at least 2% average annual energy reductions (PSE&G 2023a). Perhaps stemming from these endeavors, energy efficiency is the largest energy sector in the state (E4TheFuture, E2, and BW Research Partnership 2021).

Clean Energy Jobs: A Model for Building the Decarbonization Workforce

PSE&G launched CEJ to help source and train New Jersey residents for careers in energy efficiency and to ensure urban communities get their fair share of benefits from the decarbonization workforce shift. The program aligns with Governor Murphy's clean energy agenda, which focuses on jobs, economic development, and training, with emphasis on providing economic opportunities for underrepresented and economically disadvantaged individuals.

The main goal was to create economic opportunities for up to 2,000 unemployed and underemployed residents—a goal that already has been exceeded. To achieve this success, PSE&G works closely with the program's steering committee, which includes the New Jersey Department of Labor, as well as various community advocates and strategic hiring and recruiting partners (PSE&G 2023b).

In terms of operations, the training and job placement initiatives include managing more than 30 jobs suppliers (vendors), contract management, budget management, and reporting, which captures monthly hires, hire demographics, and job forecasts. Monthly conversations are held with jobs suppliers to stay updated on current and future job openings and the knowledge, skills, and abilities (KSAs) required to fill these roles. Typically, suppliers can identify roles they need to fill within the next six months.

In addition to having monthly performance / status meetings, CEJ has also established hiring and diversity targets for all jobs suppliers, and meetings are held to check the status of supplier performance and to hold them accountable. To encourage suppliers to retain the hired employee beyond the training program, CEJ offers them a monetary milestone, bonus, or incentive payment. A bonus is also offered for hiring diverse talent that contributes to each targeted category: female, Latino / Hispanic, Black / African American, and Other, which includes Asian, American Indian, Alaskan Native, Native Hawaiian or other Pacific Islander, Disabled, LGBTQ, and Veterans.

Within CEJ, there are three primary areas of focus:

1. Outreach to underrepresented groups through community-based recruitment to identify candidates and fill job postings, thereby helping to improve inclusivity within the clean energy sector.
2. Training to build a qualified workforce, including on-the-job to facilitate entry into the clean energy sector and Building Performance Institute (BPI) certification for career advancement, as well as resources to help secure job placement.
3. Promoting diversity among clean energy suppliers[4] by setting targets for diversity supplier spend and by facilitating small business Minority, Women, or Veteran Business Enterprise (MWVBE) certification, thereby helping to increase opportunities for contract awards (PSE&G 2023a).

Reaching Underserved Groups through Community-based Recruitment

"The energy efficiency sector is the largest employer in the clean energy economy. It offers competitive pay, but not everyone is benefiting from this economic powerhouse: Hispanic people, Black people, and women represent a smaller share of the energy efficiency workforce than the national workforce" (MacPherson and Ayala 2020: 1). Recognizing this shortfall, national programs to build the decarbonization workforce, such as CEJ, are shifting their strategies to include outreach specifically targeting underrepresented groups and underserved communities.

Within the state of New Jersey, green jobs frequently have below-average representation of women and ethnic and racial minorities. Women in particular are underrepresented—while they make up just over half of New Jersey's overall labor market, only 17-28% of green jobs are filled by female workers. Similarly, Black or African American workers account for nearly 16% of the New Jersey labor market, yet they represent only nine to 10% of green jobs across the state (Council on The Green Economy 2022: 6).

Getting to the heart of this issue, CEJ was modeled to help meet the growing need for skilled and diverse workers in the energy efficiency industry and has set aggressive diversity hiring targets to ensure the demographic makeup of hires in clean energy are more representative of New Jersey's population (PSE&G 2022).

In addition to working with the Department of Labor and organizations such as the African American Chamber of Commerce of New Jersey (AACCNJ) and the Statewide Hispanic Chamber of Commerce of New Jersey (SHCCNJ) to recruit candidates CEJ, PSE&G has also fostered strong partnerships with community, social, and religious-based organizations in underserved communities. In total, more than 40 community partners (Figure 1) collaborate with PSE&G by providing recruitment referrals and raising awareness of CEJ to their respective constituents through various outreach channels.

PSEG Community Partners

African American Chamber of Commerce of New Jersey * Commerce and Industry Association of New Jersey * Diversity Plus Magazine * Eastern Minority Supplier Development Council * Edison Electric Institute's Supplier Diversity Committee * National Minority Supplier Development Council * New Jersey Board of Public

[4] For the purposes of this paper, clean energy suppliers are defined as companies that PSE&G hires to administer, implement, and evaluate energy efficiency programs.

Utilities Supplier Diversity Development Council * New Jersey Small Business Development Center * New York & New Jersey Minority Supplier Development Council, Inc. * NJ State Veterans Chamber of Commerce * Regional Alliance for Small Contractors * Statewide Hispanic Chamber of Commerce of New Jersey * Urban League of Essex County * Goode Education Group

Figure 1. List of PSE&G Community Partners who help facilitate outreach to underserved communities. *Source*: Public Service Enterprise Group (PSEG) 2023.

Program staff are continually looking for additional partnerships to facilitate recruitment and fill job postings. To date, they've presented the program at more than 120 events, including seminars, career expositions, and job fairs, among others. Presently, the team is assessing events that will predominately target Hispanic and female populations to help increase diverse hiring in 2024.

Through these efforts, CEJ has been quite successful in helping to diversify the clean energy workforce (Table 1). Female workers from this program accounted for 33% of reported hires (n=1,386), whereas this group typically only comprises 17-28% of green jobs within the state (Council on The Green Economy 2022: 6). Black or African American workers only represent 9-10% of green jobs in New Jersey (ibid.), yet from the OJT Program, this group made up 21% of reported hires—more than double the norm within green jobs.

Finally, the Latino / Hispanic population makes up roughly 20% of the labor market in New Jersey (U.S. Bureau of Labor Statistics 2021), and nearly 17% of the clean energy workforce in the country (E2 et al. 2021: 6). Reported Latino / Hispanic hires from this program (20%) are representative of the percentage within the New Jersey labor market and slightly more than the national average in the clean energy workforce.

CEJ Diversity Data*	
Category	% of Reported Hires
Black / African American	21%
Latino / Hispanic	20%
Female	33%
Other	19%

Table 1. Diversity data from the Clean Energy Jobs Program as of January 2024. *Please note that data is reliant upon new hires opting into self-reporting diversity data; n=1,386. *Source*: PSE&G Clean Energy Jobs Program internal document.

According to Governor Murphy, "the partnership with the PSE&G Clean Energy Jobs Program strikes deep into the heart of both economic and environmental justice…It not only showcases the talent and the skill of New Jersey, but proves that these talents and skills are found in a workforce that looks like New Jersey," the most diverse American state (PSE&G 2023a).

As part of a separate effort related to recruitment and filling job postings, in March of 2022, PSE&G launched a public-facing website to help job seekers, job suppliers, and community partners have a single, secure platform to participate in CEJ. It currently has more than 498 profiles for New Jersey job seekers looking for careers in the clean energy industry. This platform is a key tool utilized for CEJ recruiting and referral, in addition to the marketing and outreach events.

Training to Open Doors into the Clean Energy Sector

The CEJ training initiative was designed to empower entry level professionals and other interested individuals in the clean energy sector. The aim is to promote awareness, knowledge, and expertise in clean energy technologies, energy efficiency, and sustainable practices for the transition to a low-carbon society. An array of courses and certifications are offered that cater to different levels of expertise and interest. These courses range from an introductory level for individuals new to clean energy, to an advanced level for professionals seeking to further enhance their skills and knowledge in specific areas.

Two aspects of this training initiative are explored below: a four-month on-the-job training program and a monthly BPI certification effort to enable career advancement.

On-the-Job training program overview. PSE&G's On-the-Job Training (OJT) program was informed by similar initiatives successfully conducted by the District of Columbia Sustainability Energy Utility Energy Efficiency Workforce Development Program and the Newark Beth Israel Medical Center Job Readiness Boot Camp[5] (PSE&G 2023a). This program provides candidates with a living wage while they are trained on KSAs that PSE&G suppliers have identified as those that align with their current and anticipated future job needs.

The resulting curriculum is multidisciplinary in nature and inclusive of learning styles. Training format ranges in technique depending on KSAs and is comprised of field work, shadowing / mentoring, self-paced, proctor-conducted, and courses with quizzes and homework (PSE&G 2023a). Candidates become versed in the Building Sciences to further their understanding of the relationships between the building envelope, heating, A/C, insulation, mechanical ventilation, lighting, appliances, and other systems of the home, although these skills are also transferrable to commercial and industrial buildings. Examples of training provided to date include:

- Field Technician / Weatherization Technician Trainee: OSHA10 Training; Introduction to Clean Energy courses; Air Leak Control Installer. The transferrable skills gained are mechanical aptitude and customer service skills.
- Energy Efficiency Specialist Trainee / Administrative Professional Trainee: Customer Relationship Management / Tracking Database; Introduction to Clean Energy Courses. The transferrable skills gained are customer service and Microsoft Office proficiency (e.g., Word, PowerPoint, Excel, and Outlook) (PSE&G 2023a).

Bolstering the candidates' professionalism is also an integral part of this program. All candidates are required to take interpersonal skills courses, including communication; customer service; time management; problem solving and proactive and critical thinking; and techniques for performing well under pressure (PSE&G 2023a). Further, each candidate receives weekly check-ins from their Program Lead and mentor, who addresses any challenges and provides positive feedback. According to one graduate, this specialized attention, combined with the small class size, made the experience that much more enjoyable and helpful.

[5] Other similar programs and case studies for comparison include: the New York State Energy Research & Development Authority Workforce Training Investment Plan, the ComEd Diverse Energy Efficiency Service Provider Incubator Program, the Ameren Illinois: Market Development Initiative, and the Tennessee Valley Authority Building Futures Contractor and Workforce Development Program (Shoemaker, Ayala, and York 2020).

To better enable training and completion of the program, trainees are offered wraparound services such as childcare, transportation, and help in resume writing to ensure their success. During OJT orientation, these services are described, and candidates can seek them upon request according to their specific needs. Several CEJ women graduates have emphasized that these wraparound services—especially being paid during training—were critical to them being able to participate in and complete the program, while both men and women graduates noted that the on-the-job training and continued support is what enticed them to join.

Finally, this program is heavily dependent upon community partner and key stakeholder referrals, as these stakeholders are closely involved with the communities this program aims to serve. Since the placement positions are entry level and do not require experience, Program Leads from PSE&G and the third-party training vendor work with these community stakeholders to find dedicated and passionate individuals who wish to carve a career pathway into the growing clean energy industry. Between 20 and 40 candidates are selected for each training cohort (PSE&G 2023a).

BPI certification for career advancement. An industrywide survey of more than 1,000 workers revealed that, of the utility workers who responded, 53% stated their employer did not invest in job skill and career development. This lack of employer investment can contribute to employees leaving the employer and industry (Thomson et al. 2021).

Building Performance Institute certifications are offered each month through the CEJ and are facilitated by training vendors across New Jersey. These certifications help advance clean energy careers and are available to PSE&G job suppliers and their subcontractors. There are 11 different certifications currently available, including: Building Science Principles, Building Analyst-Technician, Building Analyst-Professional, OSHA-10, Occupant Education, Healthy Home Evaluator, Air Leakage Control Installer, Infiltration and Duct Leakage, and Multi-Family Building Analyst.

These certifications open doors to career advancement, as BPI is a nationally recognized certification of residential and building professional proficiencies in the energy efficiency and weatherization fields. To date, more than 600 individuals have trained in these PSE&G-sponsored BPI courses, which are a key component of the CEJ.

Promoting Diversity among Clean Energy Suppliers

Minority, woman, or veteran-owned business enterprise (MWVBE) certification is a critical support mechanism that enables these small businesses to access potential growth opportunities and resources that might otherwise be challenging to obtain. By prioritizing the inclusion and empowerment of diverse business owners, this certification aims to foster a more equitable and inclusive clean energy ecosystem.

To help address barriers to economic prosperity, equity, and social justice, PSE&G invests in and develops diverse suppliers (PSEG 2023). As part of CEJ, PSE&G partners with the Statewide Hispanic Chamber of Commerce of New Jersey and the African American Chamber of Commerce to hold master classes and provide one-on-one coaching to diverse segments of small business owners in New Jersey. The goal is to help small business enterprise owners grow their opportunities through certification. LGBTQ+ owned businesses have also been included in this process.

Examples of topics covered during the certification for each cohort include: an introduction to certifications and getting certified in New Jersey; contracting basics; common

pitfalls subcontractors make; how to market their business for success; creating business capability statements; how to use the PSEG Platform; and how to bid with PSE&G. Mentors, who provide one-on-one coaching for each training cohort, are supplied by both Chambers in partnership with PSE&G.

In 2023, more than 100 organizations successfully completed the eight-week certification master class, which is supplemented by a 10-week mentorship. An overview of the company's procurement process is also provided to encourage opportunities for contract awards.

According to John Harmon, CEO of the African American Chamber of Commerce of NJ, "This is not just a kind of heart-felt engagement. This is about changing lives and transforming New Jersey. It's about making our state more competitive" (Bergeron 2023).

In addition to certification and to bolster CEJ supplier diversification efforts, PSEG spent more than $1 billion on goods and services from diverse suppliers in 2022, a 35% increase from 2021. This represented more than 33% of purchases. And over the past two years, PSEG procurement has added more than 200 certified MWVBEs to their active vendor list. During this same time, they have overseen a 78% increase in prime suppliers' business with diverse subcontractors (PSEG 2023: 31).

Continually Refining CEJ from Lessons Learned

As CEJ has developed, there have been many learning opportunities that led to refining the program to better meet the needs of the trainees and employers, ranging from identifying the right partners to help with diversity and inclusion in the sector, adapting to a historic labor shortage, and maintaining an agile approach as new challenges arise.

Much of the program's success is due to the contributions from PSE&G's community partners, who have helped ensure the program serves underrepresented communities. When it became clear that participation in CEJ was being hindered by obstacles like childcare and lack of transportation, public sector partners, like the New Jersey Department of Labor and Workforce Development, worked with Program Leads to find and secure the critical support services to help alleviate these challenges.

Program Leads have also learned to listen to the job candidates and PSE&G partners, and quickly incorporate their feedback into the program. These stakeholders know how to best support candidates' needs and what barriers exist. They also aid in building trust within the targeted communities and raising awareness of a career path not typically considered.

Agility in training design is another key lesson, as the KSAs needed by job suppliers shift. Program Leads work with suppliers to build a six-month pipeline of future anticipated roles, then partner with industry experts to build a curriculum around these specific KSAs.

Another learning opportunity stemmed from the wages offered with this program. After recruiting the first group of trainees, it became clear that the wages being offered during training were not competitive. Consequently, Program Leads increased the participants' pay rates based on competitive market factors. This significantly increased the candidate pool and retention.

Understanding CEJ Impact from the Beneficiary Perspective

To date, the CEJ has placed more than 2,500 hires in clean energy jobs. But this quantitative result does not adequately capture the qualitative outcomes this program has had on participants. Testimonials from those who have benefitted (Table 2) help demonstrate the significant impact the program has had on participants' lives.

Where Are They Now: Clean Energy Job Program Testimonials		
Graduate	Clean Energy Jobs Journey	Testimonial
Richard Schulz	From a farm-based, minimum wage role to Field Technician at CMC Energy Services, a 45-year-old certified Women's Business Enterprise	"I loved working on a farm, but this career allows for a lot more growth…I was able to come into CMC in a really good spot, and the transition was pretty easy, without any issues at all."
Gwendolyn Small	Mother re-entering workforce into lighting industry, joined Encore LED, a provider of long-lasting, energy efficient, eco-friendly LED lighting products	The small class size "allowed for additional practice and we received additional assistance from the instructor…The company consistently expands into other ventures such as EV chargers and Span Electrical panels which allows all that work here to gain additional knowledge and skills."
Jada Rodriquez	From no experience to HVAC Service Technician at The Ice-Man	"I didn't have any prior HVAC experience before joining the PSE&G On-the-Job Training Program. It was an opportunity I couldn't pass up—paid training with no experience necessary…Now, I'm back in school, furthering my education in HVAC, with support from my employer who is helping me pay for it."
Carolina Ramos	First generation college graduate to Senior Analyst conducting building assessments thanks to recruiting efforts via the Latino Action Network	After five years as a sustainability department public servant for Jersey City, "I really wanted to learn more technical skills and…get into the clean energy industry…I'm very passionate about clean energy" and wanted to be "in (a) space where (there aren't) a lot of people like me."
Arielle Colasanto	Program Coordinator for CLEAResult, an energy efficiency supplier based in Denville, N.J.	"As a woman, I think it's important that (women customers) see that woman are doing these jobs. My daughter is so proud that I'm in this business."

Table 2. CEJ testimonials describe the impact this program has had on candidates' and recruits' lives. *Source*: Participant interviews conducted by the PSE&G CEJ team.

Conclusion

PSE&G has demonstrated that the energy industry has a significant role to play in building and developing a clean energy workforce for the future, and that this workforce reflects our communities. Since its inception, the Clean Energy Jobs Program has earned national recognition. Last year, PSE&G received a national Smart Energy Consumer Collaborative Award for successfully meeting the growing need for skilled workers in New Jersey's energy efficiency industry via the Clean Energy Jobs Program. More recently, PSE&G received the

2023 Outstanding Achievement in Diversity, Equity & Inclusion (DEI) Leadership Award from the Association of Energy Services Professionals for CEJ's work (PSE&G 2023b).

This recognition and success stems from the program's three primary areas of focus: underserved community-based recruitment, training and associated supportive services, and promotion of supplier diversity, which together uniquely bolster development of a decarbonization workforce.

The program's diverse steering committee and broad-based public-private partnerships facilitate strategic hiring, referrals, and recruiting from targeted underrepresented groups and underserved communities. As a result, within the CEJ program, female and Black or African American workers were nearly double the state average in green jobs, while the percentage of Latino / Hispanic workers were slightly above the national average. And CEJ staff continually look for partnerships that aid in recruiting and filling job postings. They've shared information about the program at more than 120 events, and plan on targeting predominately target Hispanic and female populations to help increase diverse hiring in 2024.

On-the-job training enables rapid and easy entry into the clean energy sector, while wrap-around services, such as childcare and transportation assistance, broaden the aperture of possible candidates to enter this field of work. In addition, all candidates are required to take interpersonal skills courses to boost professionalism, and Program Leads and mentors help address challenges and provide guidance and feedback. To advance careers, BPI certification is another component of the program. To date, more than 600 individuals have trained in these courses.

Finally, MWVBE certification is the third leg of CEJ's approach to building a decarbonization workforce. This critical support mechanism enables these small businesses to access potential growth opportunities and resources that might otherwise be challenging to obtain. In 2023, more than 100 organizations successfully completed the eight-week certification master class, and a focused strategy on supplier diversification has led to a 78% increase in diversity of prime suppliers.

In the herculean effort move to a low-carbon society, clean energy industry employer-sponsored programs will be a key part of decarbonization, especially when it comes to meeting qualified worker demand. Programs like CEJ, with its three-pronged approach to building the workforce, will be critical in this process.

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