



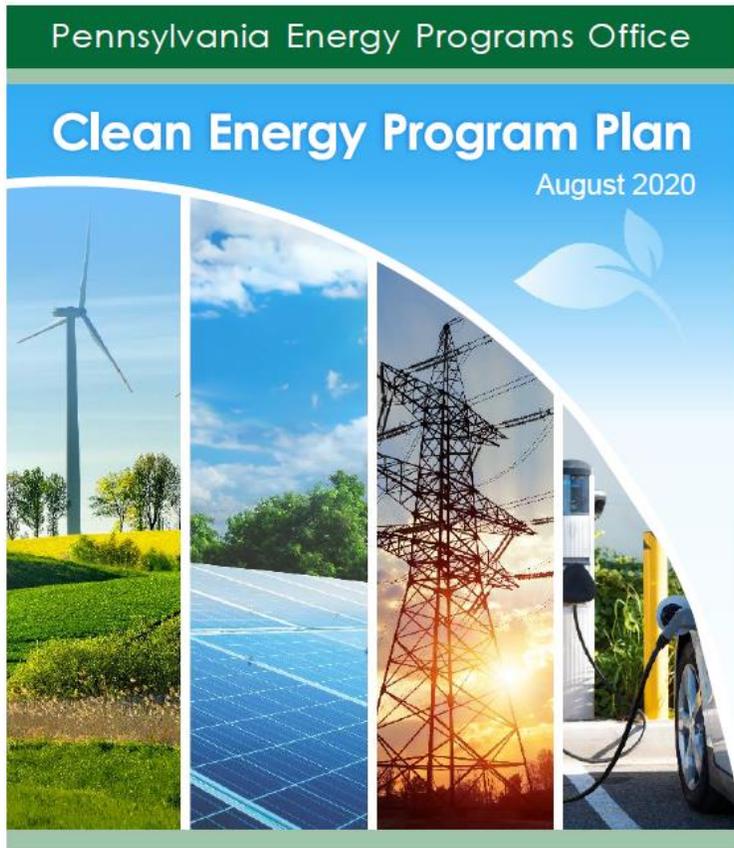
2021 PENNSYLVANIA CLEAN ENERGY INDUSTRY Workforce Development Needs Assessment & Gap Analysis

PA Chamber of Business and Industry
May 12, 2021

Tom Wolf, Governor

Patrick McDonnell, Secretary

DEP Energy Programs Office (EPO)



- EPO is the primary agency responsible for implementing clean energy programs in Pennsylvania.
- Responsible for supporting renewable energy, energy efficiency and conservation, climate change mitigation and adaptation, alternative transportation, energy assurance, and associated education, outreach and technical support efforts.
- EPO works with its partners to implement, coordinate, and facilitate clean energy programs

Why Workforce Development?

- EPO convened a stakeholder group beginning in 2018 to provide input on how to improve energy efficiency programming for the agricultural and industrial/manufacturing sector.
- Facilitated by the American Council for an Energy-Efficient Economy (ACEEE).
- One key outcome from the group and analysis was that EPO should support more training of workers in E2, P2, and water conservation

Why Workforce Development?

- EPO has been supporting workforce training for several years for the existing workforce
 - Building Operator Certification Training
 - Building Retuning Training
 - Building Energy Codes Training
- Growth in Clean Energy Sector indicates need for new entrants into the workforce

2020 PA Energy Employment Report



- Report completed by BW Research
- BW has completed the US Energy Employment Report for USDOE and NASEO for several years
- Completed a 2020 PA Energy Employment Report and 2020 PA Clean Energy Employment Report
- 2021 versions will be released this summer
- PAEER: ~269,000 jobs in energy at end of 2019 in Pennsylvania

[bw] RESEARCH PARTNERSHIP

2020 PA Clean Energy Employment Report



PRODUCED FOR THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION ENERGY PROGRAMS OFFICE

[bw] RESEARCH PARTNERSHIP

- Both PAEER and PACEER showed large and growing need for skilled workers in energy
- Between 2017 and 2019, nearly 8,000 jobs were created in the clean energy industry in Pennsylvania, a nearly 9% growth rate.
- 97,000 clean energy jobs
- 71,000 in energy efficiency

2020 USEER Supplemental Report



Wages, Benefits, and Change

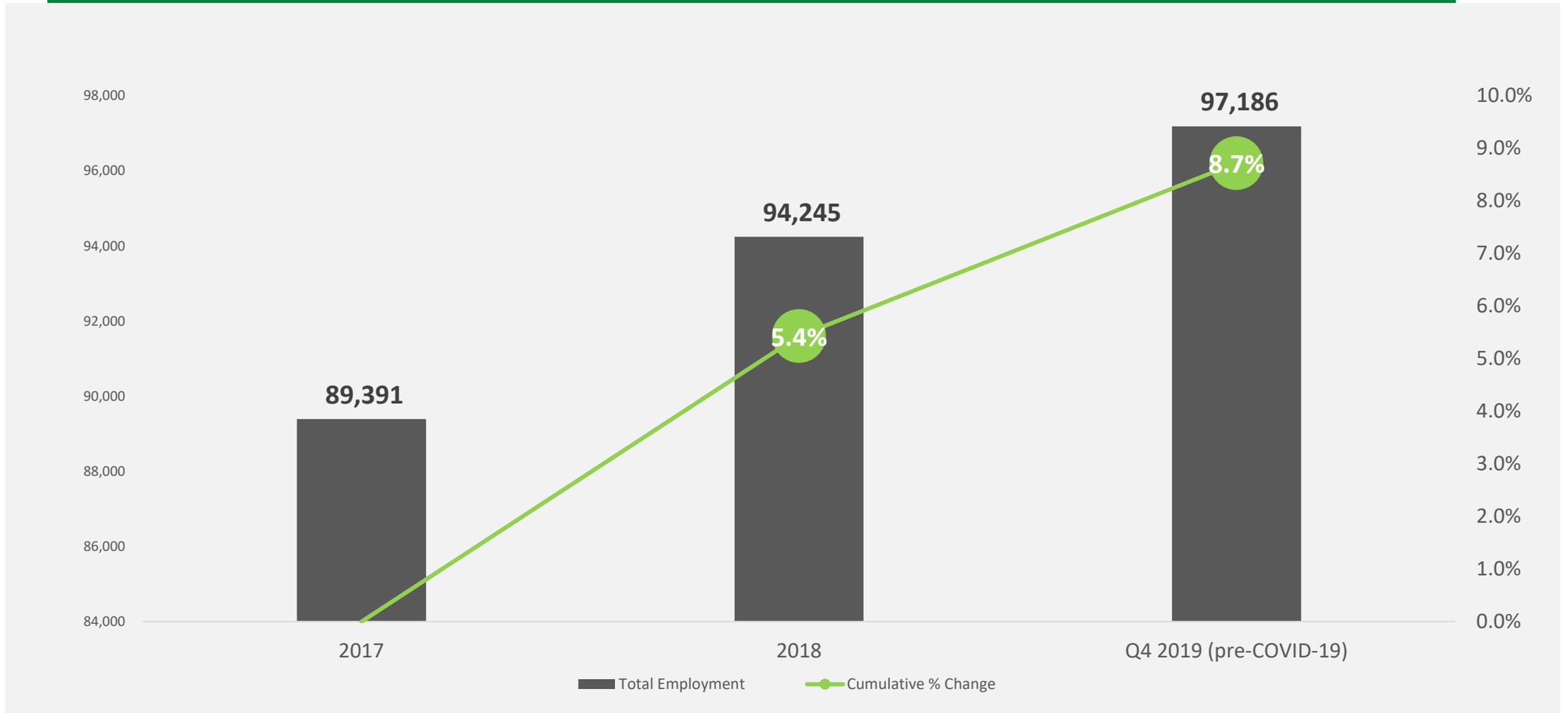
A Supplemental Report to the Annual
U.S. Energy and Employment Report

USEENERGYJOBS.ORG

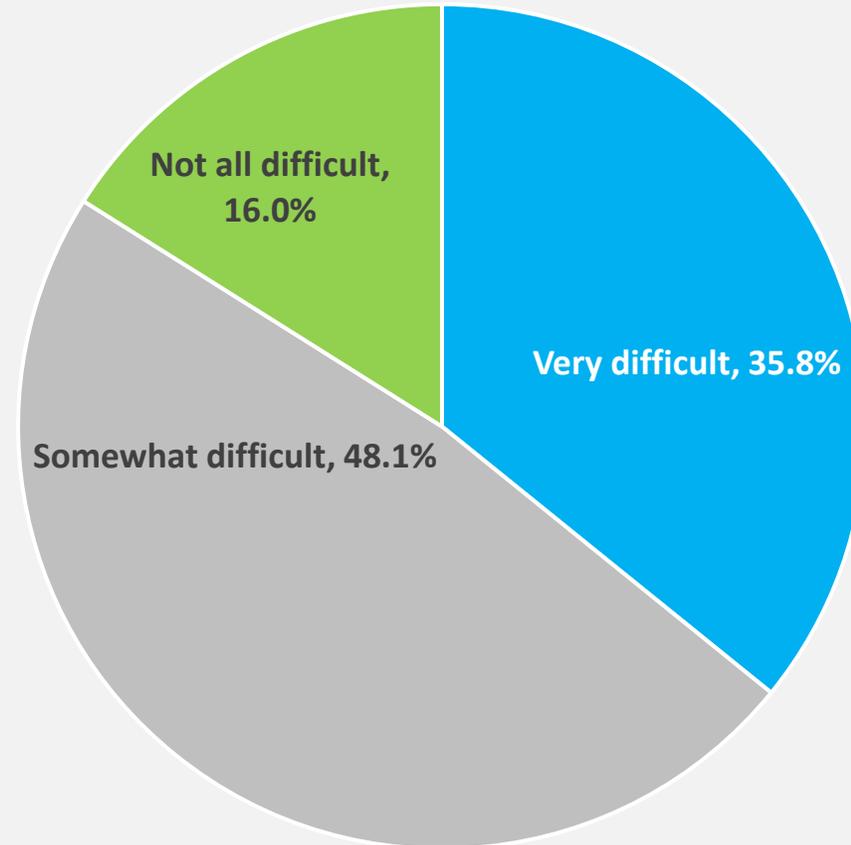


- National report shows trends in energy production and job numbers and quality
- Energy jobs generally pay well compared to US median
- 8.27 million workers in energy represent ~5.4% of all US jobs
- Over 915,000 new energy jobs from 2015-19
- Since 2000, US energy production and associated employment has trended away from coal and towards natural gas, petroleum, and renewables.

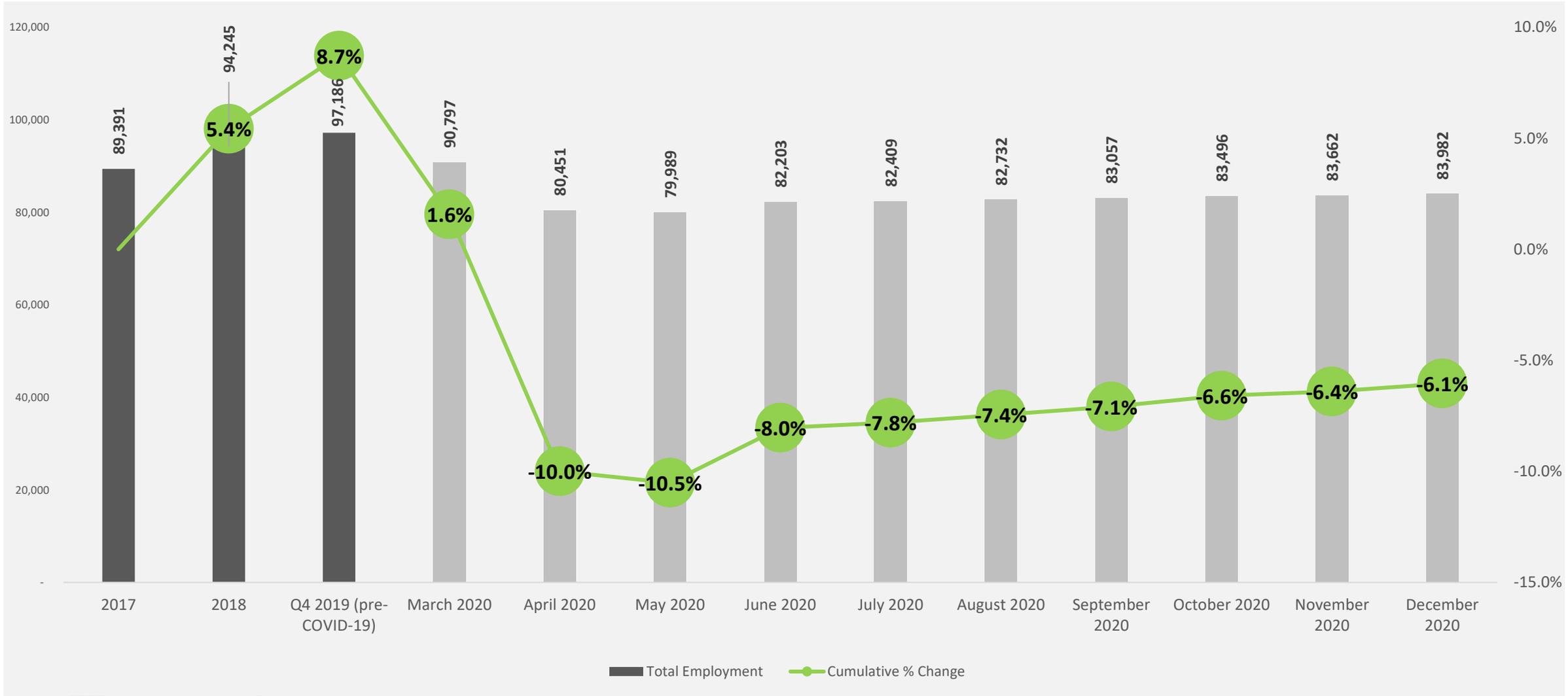
Clean Energy Employment, 2017 – October 2019



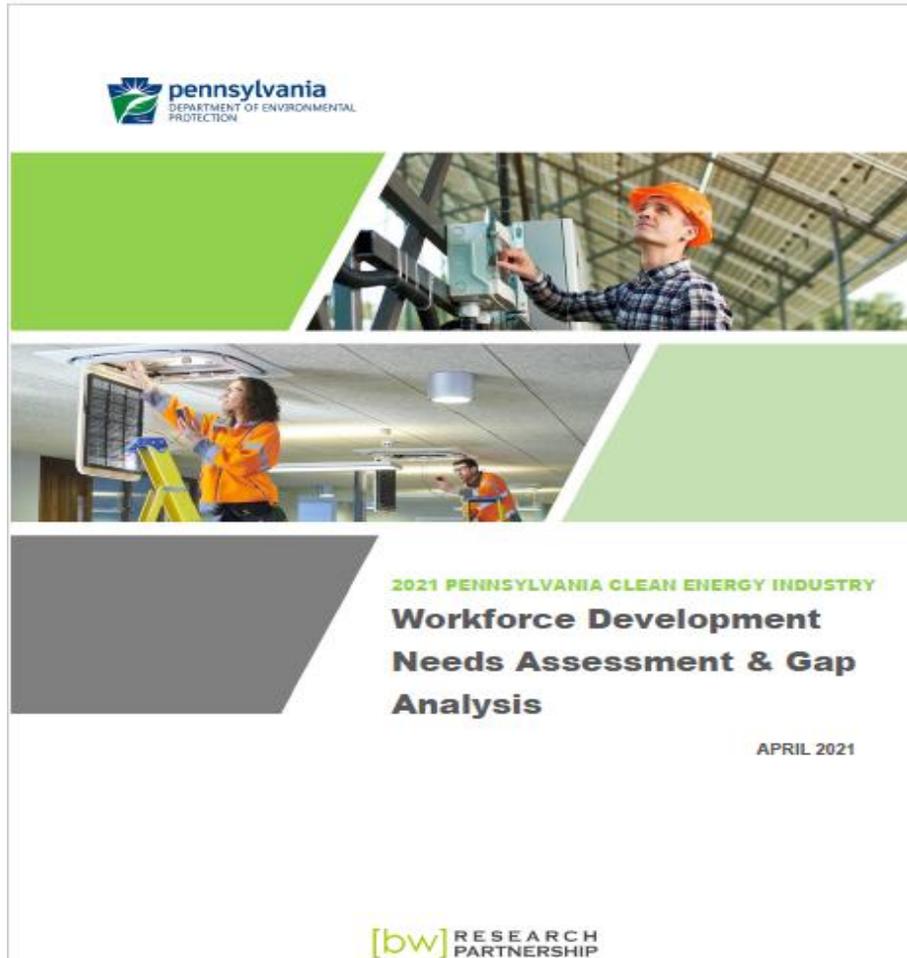
OVERALL HIRING DIFFICULTY (PRE-COVID-19)



Clean Energy Employment, 2017 – December 2020



Clean Energy Employment Gap Analysis



- Purpose: To identify the educational and training needs of Pennsylvanians to fully benefit from the expansion of a clean energy economy.
- High-growth occupations prior to the pandemic will likely remain in demand in the coming years
- The clean energy industry has the potential to contribute to Pennsylvania’s economic recovery.
- Aligns with PA Chamber’s “Bringing PA Back” effort

Gap Analysis Methods

- What partnerships and programs can most effectively train and prepare the Pennsylvania workforce to meet the needs of clean energy businesses in the state?
- Data is from the 2020 United States Energy and Employment Report, the 2020 Pennsylvania Clean Energy Employment Report, two surveys administered in fall 2020 to both clean energy employers and workers in Pennsylvania, and executive interviews with clean energy businesses in the state.
- Data was gathered on:
 - Employer hiring needs and difficulties.
 - Current clean energy training and education offered in Pennsylvania.
 - Detailed data on seven clean energy occupations found in the state's key technology sectors.

Gap Analysis Key Findings

- Despite furloughs and layoffs due to COVID-19, the majority of surveyed employers indicated that they expect to have either the same or more workers by the end of the year.
- In general, prior to COVID-19, employers reported hiring difficulties related to a small applicant pool, lack of experience, and competition with other industries.
- Employers especially noted that they faced industry competition for skilled electricians.
- Lack of experience or qualified applicants with industry-specific knowledge is especially difficult in the aftermath of COVID-19.

Gap Analysis Key Findings

- Relevant work experience is required by significantly more employers over an academic degree.
- Surveyed clean energy workers also cited the importance of relevant work experience in landing their job.
- According to clean energy workers, programs that provide on-the-job training were pivotal to landing a clean energy job.
- Half of employers require or prefer specific certifications.

Gap Analysis Recommendations

- The report identifies a need for educators, training programs, unions, companies, and government programs to work together to fulfill growing employment demands, and recommends the following:
 - Facilitate on-the-job training opportunities and hands-on industry experience for workers.
 - Support curriculum sharing and procurement.
 - Create a pipeline for displaced workers to transition into the clean energy workforce.
 - Promote manufacturer-specific certifications for clean energy technologies.

Next Steps

- EPO is in discussions with L&I and DCED regarding how to work together to implement some of these recommendations
- EPO is getting the word out about these reports and the findings – thanks for giving us the opportunity to talk to you!



Thank you!

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EPO Workforce Web page: [Workforce Development \(pa.gov\)](http://www.dep.pa.gov/workforce-development)

DEP Website: www.dep.pa.gov