



Empowered Futures

2024 **CLEAN ENERGY** **CAREERS REPORT**

Insights from Millennials and Generation Z

Executive Summary

Engaging Impact Generations in the Next Great Job Market Expansion

The U.S. economy is on the cusp of transformational growth. The clean energy transition -- powered by the invention and commercialization of renewable energy resources, grid modernization, built environment efficiencies, and other climate technologies -- is fundamentally changing how energy is generated, transmitted, and consumed. It's also reshaping the future of our economy, driving job creation and a massive demand for skilled, sustainability-focused careers.

According to the U.S. Department of Energy (DOE) [2024 U.S. Energy and Employment Report](#), clean energy employment increased by 142,000 jobs in 2023, accounting for more than half of all new jobs in the energy sector. Clean energy jobs grew by 4.2%, more than double the robust 2% growth rate of the overall economy.¹ And clean energy jobs aren't just abundant, they're well-paying. [A study by E2](#) found that jobs in the renewable and clean energy sector pay up to 25% more than the national median wage and are more likely to include health insurance and retirement benefits.²

Yet despite the high demand and competitive pay, the clean energy industry is struggling to fill open roles. [According to a survey by the IEA](#), a growing number of energy industries are citing skilled labor shortages as a key barrier to their expansion.³ With millions of new workers needed to help local governments, companies, and organizations meet sustainability goals and modernize energy infrastructure, we set out to understand what is driving this labor shortage within the clean energy sector. We've focused on what education is needed to help the current and emerging workforce understand the benefits of a clean energy career.

We conducted an online survey specifically targeting the two generations that make up nearly 45% of the U.S. workforce—Millennials and Generation Z.⁴ The survey, which was conducted in August 2024, surveyed 600 respondents, ages 18-43. Of those surveyed, 50% are considered Generation Z (ages 18-27), and 50% are considered Millennials (ages 28-43).

Our findings reveal that both Generation Z and Millennials believe their generation will be known for making a positive difference in the world and value competitive paying jobs that offer a sense of purpose. While many might assume that a position in the clean energy sector fulfills both

criteria, both Generation Z and Millennials expressed confusion—not only about what a clean energy job entails but also about the qualifications required to secure one. However, this confusion presents a promising opportunity to attract these “Impact Generations” to the industry by clearly defining the clean energy sector and its requirements. Importantly, both groups indicated a willingness to pursue careers in clean energy. It’s our sector’s responsibility to help them understand what clean energy entails, what a job in this field looks like, and how it can offer long-term benefits.

Key survey findings:

- While Generation Z and Millennials both value competitive paying jobs that offer a sense of purpose, **nearly 90% said they need to know that the work they do matters.**
- When asked what comes to mind first when thinking of clean energy jobs, respondents most mentioned types of energy (23%), employment (22%), the environment (20%), and cleaning (8%). These responses highlight **confusion about the meaning of clean energy and the nature of jobs in the sector.**
- **Over half** of Generation Z and Millennials **believe that you need to have an engineering or science background** to work in clean energy.
- **81% of respondents said working in the clean energy sector would be a good career path.**

While pay is important to Generation Z and Millennials, **it’s crucial that their work feels meaningful, aligns with their core values, and allows them to give back through their job.**

While many might assume a job in clean energy checks both boxes – offering competitive pay and a sense of purpose – there seems to be **confusion about what clean energy is and what a job in the sector involves.** Some respondents even associated clean energy with cleaning services.

Both generations agree that a career in clean energy offers a promising path, highlighting a real opportunity to clear up misconceptions and boost interest in the field through better education and engagement.

Chapter One

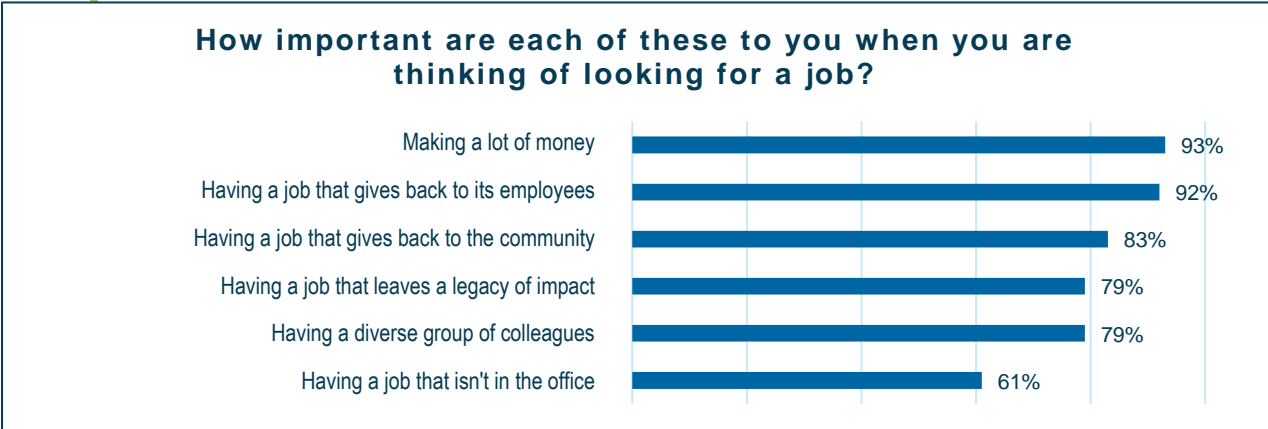
Generation Z and Millennials: The Impact Generations

It's where altruism meets ambition. In our survey, nearly 90% of Generation Z and Millennials believe that knowing their work makes a difference is essential, with 88% emphasizing it must align with their values. While salary is important, they also seek a sense of purpose and the opportunity to give back.

Both generations are motivated by a belief in the greater good, confident that their success can create a meaningful impact in their communities and the world. Over 80% feel their generation will be recognized for making a positive difference globally.



When ranking job decision factors, both generations ranked money, giving back to employees, and giving back to the community as their top three priorities. This highlights how these Impact Generations seek a holistic approach to their careers. They are ambitious and want to ensure that any well-paying job also contributes to the greater good.



Chapter Two

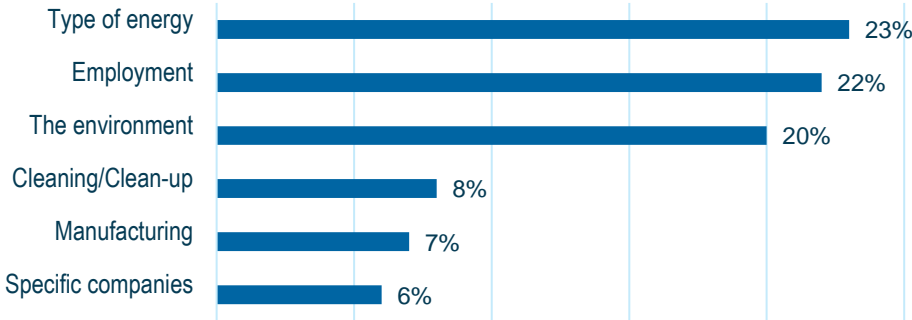
Clean Energy Careers Offer the Best of Both Worlds – So Why the Talent Gap?

Clean energy jobs provide a strong sense of purpose by enabling employees to directly contribute to environmental sustainability and community well-being, aligning with their values and priority on making a positive impact. This sector fosters innovation and collaboration, creating a fulfilling work experience that supports a sustainable future. Moreover, it's a well-paying industry, offering salaries up to 25% higher than the national median wage.²

By all accounts, it appears to be an industry that can serve as the ultimate motivator for generations prioritizing both impact and income. Yet, despite this, the industry is struggling to recruit employees to meet its growing demand. [A report from the Boston Consulting Group](#) projects a global shortage of seven million skilled workers by 2030 to support essential climate and energy initiatives.⁵ **The question is: why?**

Our survey revealed significant confusion among potential employees about what “clean energy” entails and what a career in the industry involves. When asked what comes to mind first when thinking of clean energy jobs, answers ranged from it being a type of energy (23%) to jobs involving cleaning (8%). Most responses could not clearly articulate what clean energy meant, identifying a significant opportunity for better education about the industry.

When you think of clean energy jobs or working in clean energy, what is the first thing that comes to your mind?



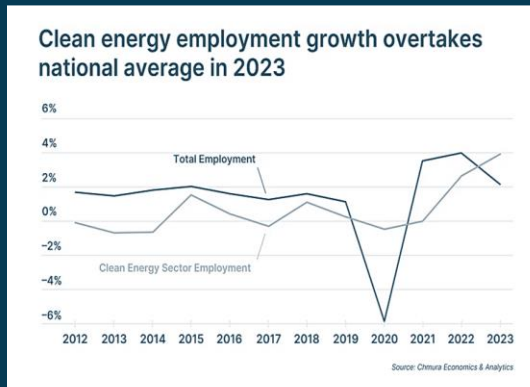
The confusion continues as we explore the perception of qualifications needed for working in the clean energy sector. More than half of respondents believe that a background in engineering or a science degree is required. This belief is particularly prevalent among Generation Z, with 59% thinking an engineering background is necessary and 60% believing a science degree is essential. While a good portion of jobs in the clean energy sector do require an engineering background, that’s not true of all job opportunities and presents a real opportunity for clarification in requirements.

How strongly do you agree with the following statements?

	Total	Gen Z	Millennials
You can only work in clean energy if you have an engineering background.	55%	59%	50%
You can only work in clean energy if you have a science degree.	54%	60%	48%



What's driving job growth in clean energy?



In 2023, clean energy jobs more than doubled the growth rate of the overall economy.¹ The growing demand for clean technologies, global efforts to combat climate change, and two key government policies are creating millions of new jobs in industries such as solar, wind, energy storage, and green transportation. Here we look at the two key policies and their impact on industry growth:

The Inflation Reduction Act (IRA), signed into law in August 2022, aims to reduce carbon emissions by 40% by 2030 through historic investments in clean energy, offering tax credits, incentives, and subsidies to accelerate the adoption of renewable technologies and drive green job growth.⁷

Clean energy investments⁷:

- \$126 billion in estimated direct private investments
- \$81 billion in electric vehicle and battery company projects

Its impact on clean energy jobs: More than 330 major clean energy and clean vehicle projects have been announced since the IRA was signed into law. These projects have the potential to create more than 109,000 new jobs in 40 states.⁸

The Bipartisan Infrastructure Law (BIL), also known as the Infrastructure Investment and Jobs Act, was signed into law in November 2021 and is a \$1.2 trillion federal investment aimed at modernizing U.S. infrastructure, including roads, bridges, public transit, broadband, clean water, and energy systems. It focuses on upgrading water and energy infrastructure and enhancing climate resilience – among other initiatives – while also creating jobs and boosting the clean energy sector through investments in renewable energy and electric vehicle infrastructure.

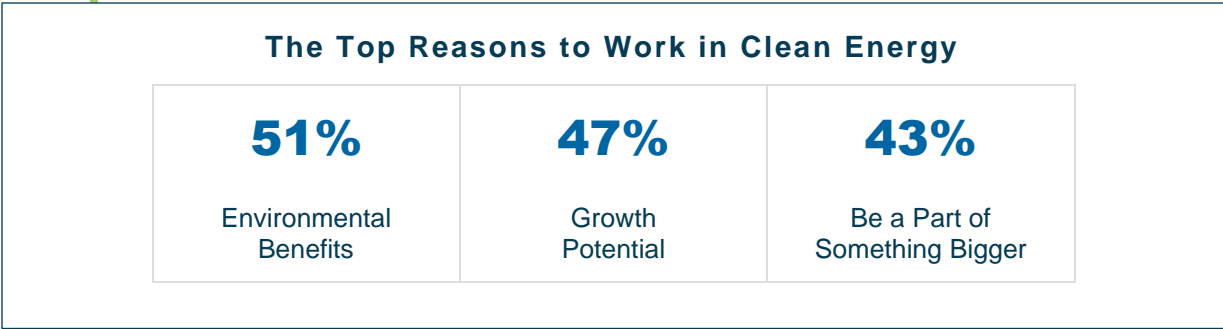
Clean energy investments⁹:

- \$7.5 billion investment to build out a national network of electric vehicle chargers
- \$65 billion investment in clean energy transmission and grid infrastructure
- \$39 billion investment to modernize transit systems & lower greenhouse gas emissions

Its impact on clean energy jobs: The BIL is projected to add approximately 1.5 million jobs per year for the next 10 years.⁹

Despite Confusion, Impact Generations are Ready for Clean Energy

While many Generation Z and Millennials aren't entirely sure what the clean energy industry entails, they do believe it represents something positive. More than 80% agree that working in clean energy would be a good career path, with nearly half of those respondents saying it "definitely would be." The top reasons for seeing the industry positively include its environmental benefits (51%), its growth potential (47%), and the opportunity to be part of something bigger (43%).



Overall, nearly 70% of Generation Z and Millennials say they have considered or would consider a career in clean energy. Among interested Generation Z respondents—many still in school—22% are actively pursuing a career in the field, while another 22% are completing their degrees with plans to enter the industry.

Among those already employed, 65% said they would consider switching jobs to pursue a career in clean energy, a slight decrease from the 71% who expressed general interest in changing industries. This strong interest in clean energy careers highlights the growing appeal of industries that align with sustainability and the greater good. As awareness of the benefits of clean energy continues to grow, the sector is well-positioned to attract even more talent.

Key Takeaways

Clearing Up Confusion to Empower the Future

The clean energy industry is fortunate to have both the funding and the potential for growth. It is our responsibility to attract talent that will empower a sustainable future. These Impact Generations will play a crucial role in shaping that future, as their values align closely with what the clean energy sector has to offer.

Our task now is to eliminate confusion around the industry, clearly communicate job requirements, and provide these generations—and those that follow—with opportunities to thrive in this field. This can be done by:

- 1. Better Defining the Industry and its Players**
- 2. Dividing Roles into Non-Technical and Technical**
- 3. Offering Advancement through Education**



1. Better Defining the Industry and its Players

From how we discuss the industry in everyday publications to how we market our job opportunities, clearly articulating and defining what clean energy is, what it entails, and how it benefits the greater good will significantly enhance recruitment efforts. Consider the following to help you deliver your own internal definitions:

Clean Energy Industry refers to the broader sector encompassing companies, technologies, services, and innovations focused on the generation, transmission, and use of energy with minimal environmental impact, particularly energy that does not release significant emissions or pollutants.

Driven By:
Energy Demand, Sustainability Targets, Aging Infrastructure, Technological Advances

Industries Involved:
Power Generation, Transportation, Manufacturing, Real Estate & Construction, Technology, Agriculture, Finance

Services & Solutions:

Renewable Energy Generation	Energy Storage	Energy Efficiency Solutions	Electric Vehicles & Charging Infrastructure	Environmental Consulting & Sustainability Services
Technologies:				
<ul style="list-style-type: none"> • Solar panels and photovoltaic systems • Wind turbines • Hydroelectric power stations • Geothermal energy plants • Biomass energy systems 	<ul style="list-style-type: none"> • Lithium-ion batteries • Flow batteries • Grid-scale energy storage systems • Compressed air energy storage (CAES) • Flywheel energy storage 	<ul style="list-style-type: none"> • Smart meters and grids • Building automation systems • Energy-efficient HVAC systems and lighting • Building insulation and retrofitting • Demand-response technology 	<ul style="list-style-type: none"> • Electric vehicles (cars, buses, trucks) • Public and private EV charging stations • Fast-charging technologies • Vehicle-to-grid (V2G) systems 	<ul style="list-style-type: none"> • Carbon footprint assessment • Life cycle analysis • Renewable energy procurement services • Regulatory compliance and certification • Circular economy strategies

Industries Involved:
Service Providers | Research and Development | Advocacy and Nonprofits | Government & Regulatory Agencies | Financial Institutions

2. Dividing Roles into Non-Technical and Technical

Our survey revealed widespread confusion about the qualifications needed to enter the clean energy sector. While many roles do require or prefer a background in engineering or science, it's important to note that a variety of positions exist where such degrees aren't essential. Corporate services and support functions—such as marketing, accounting, finance, human resources, legal, government and policy relations, and administrative roles—do not typically require technical degrees, opening opportunities for a broader range of professionals.

Additionally, many vocational roles in clean energy, like solar panel installation, wind turbine repair, and energy efficiency auditing, offer accessible career paths without the need for a four-year degree. And then there are also those more traditional technical roles, such as construction, project management, operators, maintenance and technicians, R&D, compliance and others.

One recent study revealed that clean energy sector offers a higher proportion of “high-quality” positions (calculated using a job-quality index that measures 11 elements of quality, including wages, benefits, health and safety, stability, etc.) compared to the broader labor market.¹⁰ Focusing on the energy efficiency sector—the area with the highest barriers to entry—the study found that while over two-thirds of high-quality jobs required at least a four-year degree, only 9% specifically required an engineering or architecture degree. Additionally, all medium-quality jobs in this sector were concentrated in business and financial operations, none of which demanded an engineering or science background.

While requirements will vary across clean energy sectors and organizations, it's a common misconception that an engineering or science background is always necessary to work in the industry. To improve recruiting efforts, companies should clearly articulate degree requirements in job postings and consider separating roles into technical and non-technical categories. Additionally, promoting career pathways and offering educational resources for candidates without technical backgrounds can help attract a more diverse talent pool to these roles.

3. Offering Advancement through Education

Imagine a workplace where employees feel valued not just for their daily contributions, but for their long-term potential. For Generation Z and Millennials, more than 90% believe it's important that their employer gives back to its people. One of the most meaningful ways to do this is by investing in their future—helping them grow and thrive in a field as promising as clean energy.

Think about it: offering educational opportunities that enable employees to advance their careers benefit the individual while creating a stronger, more skilled workforce. From scholarships and tuition coverage to comprehensive workforce training, professional development and mentorship programs, these initiatives cultivate clean energy experts from within. By empowering employees with the tools to succeed, you create a cycle of growth that fuels both your people and your organization.

Educational opportunities can also help cultivate a skilled workforce long before individuals enter the job market. Companies in the industry can foster a deeper understanding of sustainable use of clean energy among the next generation of workers.

Many clean energy companies are incorporating climate and sustainability education into their projects to prepare the next generation for driving the clean energy transition. Through apprenticeships, scholarships, internships, and STEM initiatives in local communities, these organizations are committed to building a skilled and knowledgeable workforce. By investing in both current and future talent, they are empowering young people to lead the shift toward a sustainable energy landscape.



Methodology

How we conducted our research

Ameresco commissioned a survey through Regina Corso Consulting, a market research firm focused on delivering strategic and creative research that delivers actionable data for communications programs. The online survey was conducted between August 20 and 26, 2024, with participation from 600 respondents, aged 18-43. Of those surveyed, 50% are considered Generation Z (ages 18-27), and 50% are considered Millennials (ages 28-43).

Footnotes

1: "2024 U.S. Energy & Employment Jobs Report." U.S. Department of Energy. August 28, 2024.

2: "Clean Jobs, Better Jobs: An Examination of Clean Energy Job Wages and Benefits." E2 (Environmental Entrepreneurs), The American Council on Renewable Energy, and The Clean Energy Leadership Institute. October 22, 2020.

3: "Clean technologies are driving job growth in the energy sector, but skills shortages are an increasing concern." IEA 50. November 15, 2023.

4: "Gen Z In The Workplace: How Should Companies Adapt?" Johns Hopkins University. April 18, 2023.

5: "Skills shortage delays global energy transition, puts climate targets at risk—report." Clean Energy Wire. October 2, 2023.

6: "Green Jobs Boom in 2023: Is the IRA a Leading Factor?" CHMURA. March 18, 2024.

7: "Summary: The Inflation Reduction Act of 2022." Senate Democrats. 2022.

8: "New Report: 334 Major Clean Energy, Clean Vehicle Projects Announced in First Two Years of IRA—\$128B in Investment, 109k Jobs Across 40 States." E2. August 14, 2024.

9: "Fact Sheet: The Bipartisan Infrastructure Deal." The White House. November 06, 2021.

10: "Who Has Access to Good Clean-Energy Jobs?" Urban Institute. May 1, 2024.



Ameresco (NYSE: AMRC) is a leading cleantech integrator and renewable energy developer, owner, and operator. We are powered by our team of purpose-driven people. We march together towards our collective vision to *energize a sustainable world* and our practices are shaped by our C.A.R.I.N.G. values. Ever since our early days, we've put our people first when solving our customers' greatest energy, resiliency, and decarbonization challenges.

Our global team of over 1,500 experts across North America and Europe are the driving force behind Ameresco's success as a leading cleantech integrator and renewable asset energy asset developer, owner, and operator. We foster an entrepreneurial, collaborative, and forward-thinking culture that thrives with innovation, diversity of thought, and inclusion. We are excited with all that the future holds for our industry, planet, and communities.

Learn more about us at: www.ameresco.com/careers

