
GREEN JOBS NOW:
IOWA

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Table of Contents

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Foreword

Since our launch in August of 2016, WorkingNation has had a very clear mission: tell stories about solutions to today's workforce issues and point people in the direction of opportunities that will prepare them for the skills they need to get good, life-sustaining jobs or careers.

For the last two years, we have collectively held our breath while waiting for things to "return to normal." But as we embark on the year 2022, we face a new challenge — one that is less about getting things back to the way they were and more about embracing a future that is entirely different from what we once imagined. Social isolation, an unpredictable job market, and financial uncertainty have taken a mental and physical toll on the American worker, who has grown weary and exhausted. At present, it feels like our nation's recovery hinges on instilling hope for a brighter tomorrow.

So, where do we begin? Our answer is with jobs.

We see job opportunities across the entire economy, but we believe one area that deserves a more in-depth look is the green economy. All too often, conversations about the environment focus solely on the threats to our planet. But protecting and repairing the environment is not just good news for our world, it is also good news for the American worker. With the passage of the Infrastructure Investment and Jobs Act at the end of 2021, we know that most of the new infrastructure is being designed or built with climate resilience in mind — and with that comes the potential for massive job creation.

The world of work is changing rapidly and so are the skills needed to successfully compete in today's workforce. The public and private sectors are already hard at work on initiatives and programs to ensure that all Americans have access to opportunities that will ready them for the jobs of today and tomorrow. WorkingNation continues the work we started more than five years ago to tell stories that will point the American worker toward life-sustaining, purposeful jobs. With that in mind, we invite you to read, watch, and listen to our newest storytelling series, Green Jobs Now, in which we'll showcase the enormous potential in the green economy, moving it to the foreground in the vital discussion about the future of work.

To help us better inform and shape our journalism, podcasts, and video content, we've partnered with two respected and established leaders in research, data collection, and data analysis — Emsi Burning Glass, a leading authority on job skills, workforce talent, and labor market dynamics, and MISI, an economic and energy research firm specializing in the environment.

From MISI, we learn that 9% of the American workforce is in a green job already and that number is expected to grow enormously over the next decade. From Emsi Burning Glass, we learn that job postings in the green economy were up 17% in 2021 over the previous year.

So, what do you need to know to be a part of this growth?

Using the original research and analysis, and our skills as journalists and storytellers, Green Jobs Now will answer the following questions:

What is a green job? Is the current definition too narrow?

Where are the green jobs of today and who is hiring?

What skills are employers looking for to fill these jobs?

How can you acquire the skills that you need to make you employable in this space for years to come?

It is vitally important to reconsider and expand upon the traditional definition of a green job in order for workers, employers, workforce groups, advocacy teams, and policymakers to see these jobs as an economic driver, regionally and nationally, in a way they may not have considered before.

Federal authorization for new infrastructure will undoubtedly create jobs in construction, water purification, and solar or electric energy associated with these upgrades. But what about the architects and engineers doing these designs? What about workers installing climate-friendly insulation or water-efficient plumbing in office buildings and homes, which directly and positively impact the environment?

Research tells us those are green jobs too.

Tech companies, law firms, hospitals and retail are already hiring for green positions, but the language describing those jobs is too narrow to connect them to the environment. So these opportunities are not counted as green — *even though they should be.*

We believe this redefinition and reconsideration is necessary to change how state and local leaders and labor groups talk about the jobs in their region in a way that is inspirational and shows growth.

Over the next year on WorkingNation.org, we will use our original research to tell stories on a national, state, and local level. We will be talking to employers whose businesses have already embraced the green economy, and we will introduce the training programs that will prepare jobseekers with the valued and in-demand skills they need to thrive in this space.

Thanks to the Walton Family Foundation and other funders for making this important and timely discussion of green jobs possible.

We hope that our stories will inspire Americans to appreciate that not only can they attain a great job in any number of sectors, but their work can have a tangible impact on the environment, even if they are not employed in occupations traditionally considered green.

Joan Lynch

WorkingNation Chief Content and Programming Officer

Introduction

The fabric of the economy is becoming greener by the day. There are emerging green technologies, larger investments in green infrastructure, and renewed efforts to mitigate climate change in the United States and beyond that are building momentum for a global green revolution. However, with new support for green initiatives and technologies comes a new need for workers with green skills. As the potential for positive environmental impact spreads across a wide range of industries, this will give rise to a new class of green workers who can design, install, and maintain green infrastructure. These workers will be critical to enabling the shift to a greener economy.

To date, however, there is limited and inconsistent insight into the jobs associated with the green economy. Many conversations on green jobs focus on the obvious green roles, such as solar installers or hydroelectric engineers. However, this does not capture the far larger number of workers in jobs not traditionally considered green but nonetheless are critical to building a greener economy - such as mechanical engineers designing greener technologies, or technicians who must learn to maintain these technologies.

These jobs are already in-demand across the country, and Iowa is no different. But we cannot prepare workers for these jobs if we cannot understand them. Therefore, to understand Green Jobs Now in Iowa we first need a more comprehensive definition of green jobs. To build this definition, we developed a framework that recognizes different levels of the green jobs, based upon the role they play in the green economy and the intensity of green skills within each role. This framework includes four different levels of green jobs, which are detailed in Figure 1.

Figure 1:

The Green Jobs Ecosystem

The resulting analyses leverage this definition to pinpoint green jobs across the state and provide detailed insight into current and future trends in the green workforce.

CORE GREEN JOBS

These are jobs with a primary responsibility associated with the green economy (e.g. Solar Engineers, Hydroelectric Engineers, Energy Efficiency Specialists, etc.).

GREEN ENABLED JOBS

These are jobs with primary responsibilities separate or tangential to the green economy, but increasingly require green skills (e.g. HVAC installers working with new, energy efficient cooling systems, the mechanical or industrial engineers building those systems, etc.).

GREEN ENABLING JOBS

These are jobs that aren't associated with green tech per se, but they support the green economy by working at firms associated with green tech or innovations (e.g. the marketing manager at a solar panel manufacturer).

POTENTIAL GREEN JOBS

These are jobs that may not yet require green skills but could benefit from green skills in the near future. These could be maintenance techs, engineers, or other jobs that are likely to become increasingly green in the coming years and practitioners will benefit from learning these skills today.

Key Findings

Iowa's Green Workforce is Large and Growing:

We estimate that there are over 13,118 workers in Iowa's green economy, and there were 2,871 green job openings in the state in 2021. By comparison, this is more than twice the number of Pharmacy Technicians and Production Supervisors demanded in Iowa in 2021. We project that in the next five years, employment demand for green jobs will increase by 18.8%, far above the national average of 5.7%.

Demand for Green Enabled Jobs is Strong and Green Jobs Are Spreading Across Industries:

Demand for green enabled jobs, that is, workers in roles that are not considered green by default, but who are required to have at least one green skill or competency, is significant, with 2,193 openings in 2021. Workers with green skills are also spreading across a wide range of industries - such as Utilities, Manufacturing, and Professional Services - illustrating the increasing need for green skills across Iowa's economy.

Green Jobs Exist in Many Fields and Workers Across Occupations and Education Levels Can Benefit by Learning Green Skills:

The top occupations across the green jobs ecosystem range from Wind Turbine Technicians, to Electrical Engineers, to Facilities Managers. In many of these roles, green skills offer significant average annual salary boosts of $2,000 or more, with some roles commanding a boost upwards of $8,000. This demonstrates the value of learning green skills for workers in many different fields.

Skills Related to Energy Efficiency, Renewable Energy, and Other Green Specializations are In Demand and Offer Significant Salary Bumps:

The most demanded skills related to the green economy in Iowa are Renewable Energy, Energy Conservation, and Energy Efficiency. These same green skills offer strong salary boosts across roles, the highest being Carbon Reduction which commands an average salary boost of $2,800 annually. This suggests that investing in training workers in these skills will have strong returns, but Iowa must ensure a green training infrastructure exists to support reskilling workers in these capabilities.

There are an Estimated 595,926 Workers in Iowa Who Could be Reskilled into Green Jobs:

These workers come from a variety of different occupations and educational backgrounds, and reskilling them could build the pipeline of green workers faster than relying on new postsecondary graduates alone. However, doing so will require a mix of training program formats that support the reskilling and redeployment of these workers.

Green Jobs in Iowa at a Glance

Figure 2: Green Jobs by the Numbers in Iowa

Note: Full Year 2021

13,118
Workers in Green Jobs

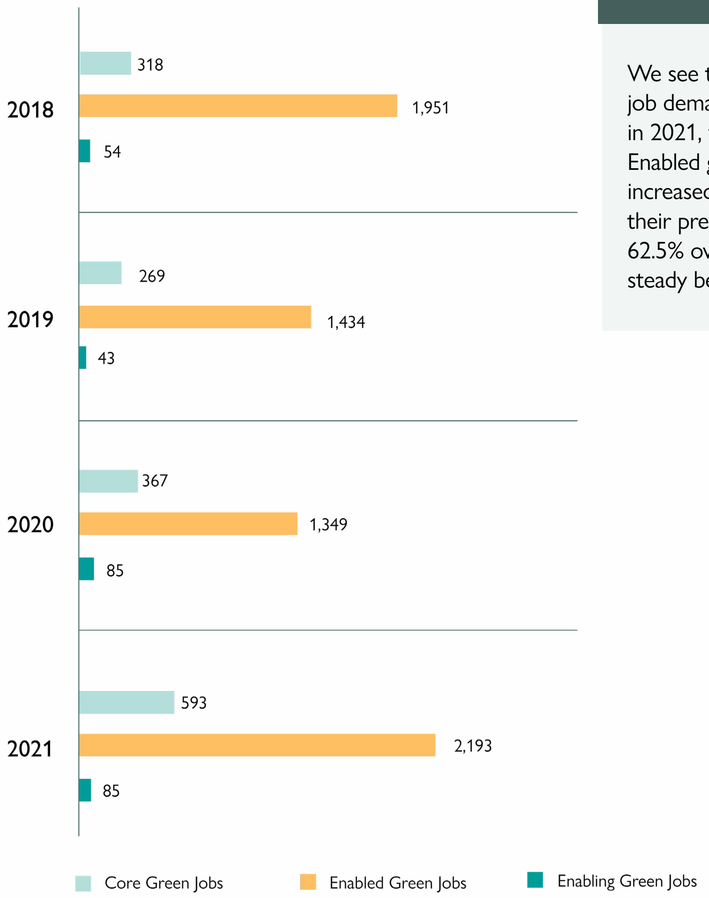
$56,320
Average Salary of Green Jobs

595,926
Potential Green Workers

18.8%
Projected Five-year Growth for Green Jobs

2,871
Total Green Job Openings

YEARLY JOB POSTINGS

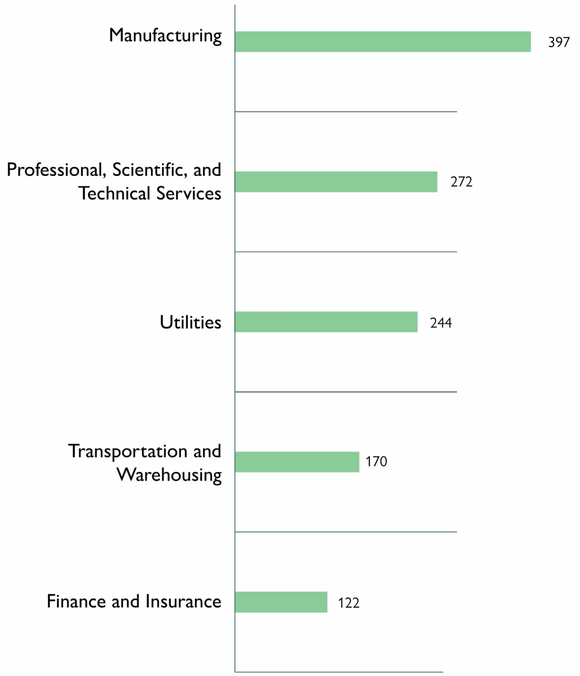


Source: Emsi Burning Glass Data, 2022

Figure 3:
Annual Green Job Postings in Iowa by Green Job Type

We see three disparate patterns in the trends of Iowa's job demand. Core green jobs reached their highest point in 2021, with a strong deviation from their historical levels. Enabled green jobs were decreasing prior to 2021, when they increased sharply. In 2021, green enabled jobs far outpaced their previous high with 2,193 job openings, and increased 62.5% over the previous year. Green enabling jobs have held steady between 2020 and 2021 at 85 openings per year.

TOP INDUSTRIES DEMANDING GREEN WORKERS NOW



Source: Emsi Burning Glass Data, 2022

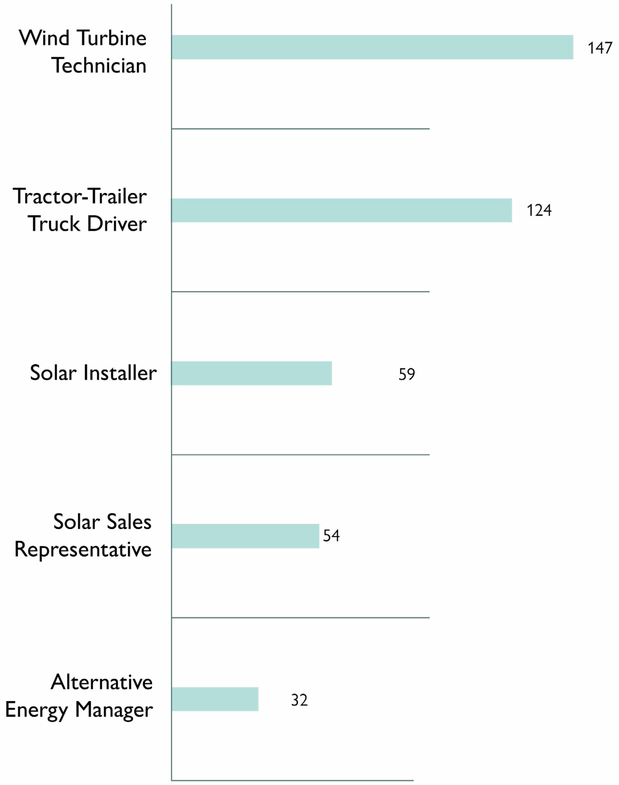
Figure 4:
Industries Demanding Green Workers Now

In addition to strong demand for green jobs across occupation types, green jobs are found across many different industries. To understand the full breadth of green jobs, we can look at the industry breakdown of core, enabled, and enabling green jobs in 2021. The top industries for core and enabled green jobs are shown in Figure 4, along with their demand in 2021.

Striking here is the wide range of industries. While industries like Utilities and Manufacturing may be more commonly thought of as pockets of green jobs, we see surprising industries such as Professional, Scientific, and Technical Services coming up as having the highest demand for green workers in Iowa. The workers in this industry include Software Developers, Business Management Analysts, and others. This is yet further evidence of the breadth of today's green economy.

In Finance and Insurance we find workers tasked with an understanding of the green energy market, showing the breadth of green jobs.

CORE GREEN JOBS: TOP OCCUPATIONS

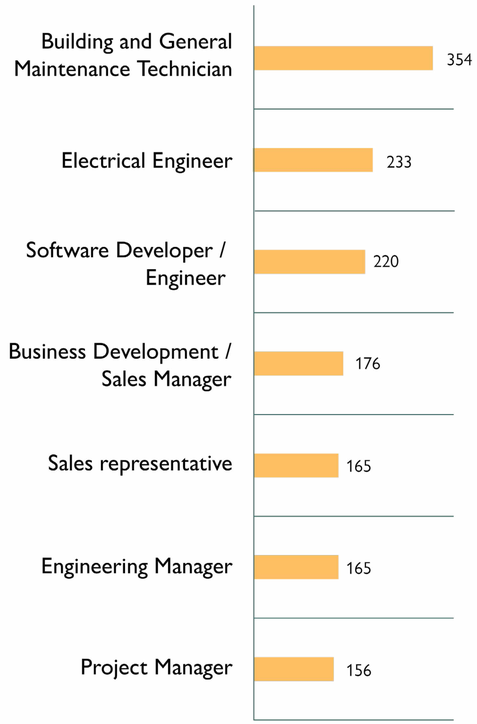


Source: Emsi Burning Glass Data, 2022

Figure 5:
Top Occupations in Iowa's Core Green Jobs Ecosystem

Green jobs exist in many fields and workers across occupations and education levels can benefit by learning green skills. The top demanded occupations amongst core green jobs focus heavily on solar energy and energy efficiency. We see occupations involved in green energy production, manufacturing and transportation of green energy technology, and sales within the top core green occupations, and both solar and wind energy are represented amongst the top occupations.

GREEN ENABLED JOBS: TOP OCCUPATIONS



Source: Emsi Burning Glass Data, 2022

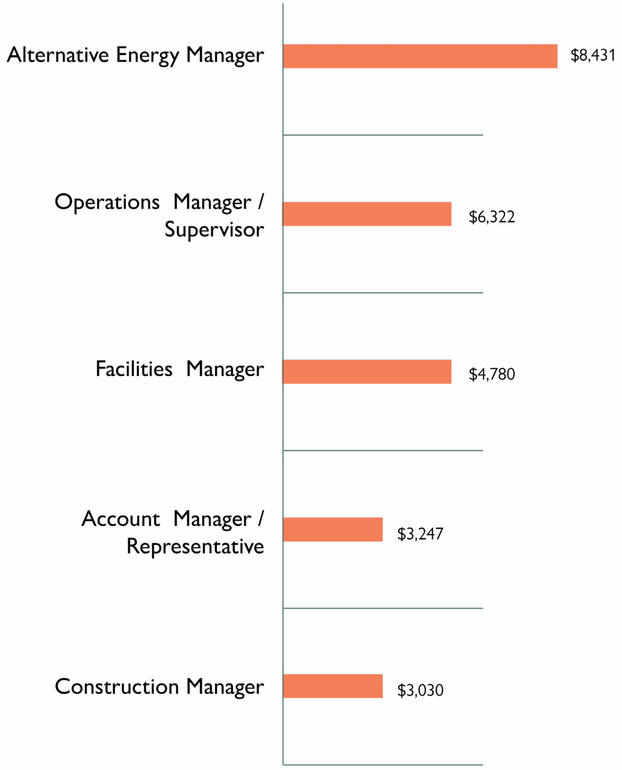
Figure 6:
Top Occupations in Iowa's Green Enabled Jobs Ecosystem

When looking at the top demanded green enabled jobs, we find workers involved in the daily use of green systems and procedures taking up three of the five top positions. This suggests that there is a growing emphasis on the implementation and use of green systems across the state.

Building and General Maintenance Technicians are the highest demanded green enabled workers, suggesting the importance of green systems in buildings across Iowa. As focus on energy efficiency and energy efficient buildings increases, the demand for these workers with green skills will only grow.

Green enabling jobs run the gamut, as they encompass all workers who play a role in a company or organization that has sustainability or conservation as a part of their mission. In all, over 232 different specialized occupations were represented in the jobs identified as green enabling in Iowa in 2021.

SALARY BOOST FOR GREEN SKILLS

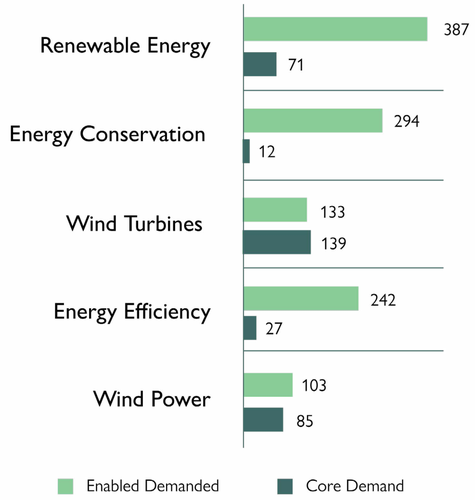


Source: Emsi Burning Glass Data, 2022

Figure 7:
Annual Salary Boost for Green Skills in Selected Occupations in Iowa

For workers in many core green and green enabled occupations, there is a significant salary boost for having green skills and competencies on their resume. For example, a Production Supervisor who has green skills and competencies could make $13,560 more than average for the occupation. Figure 7 shows additional roles with significant demand for green skills that command a salary boost in Iowa.

TOP DEMANDED GREEN SKILLS



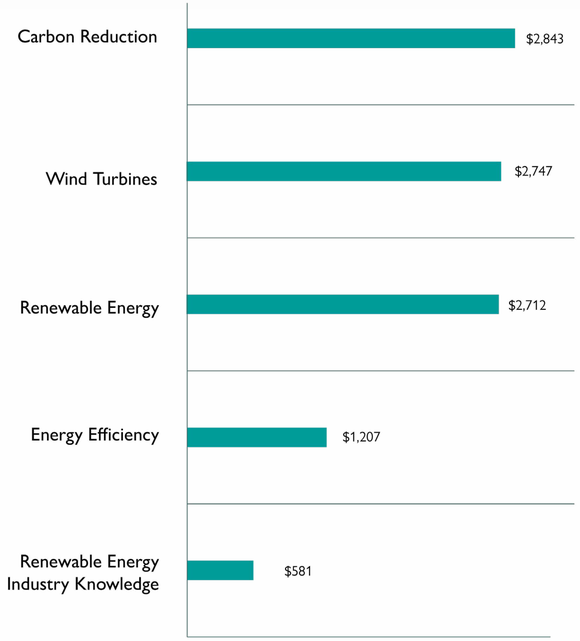
Source: Emsi Burning Glass Data, 2022

Figure 8:
Most-Demanded Green Skills in Iowa

Skills related to energy efficiency, renewable energy, and other green specializations are in demand and offer significant salary boosts.

The top demanded green skills in core green jobs are shown in Figure 8. These skills and competencies represent opportunities for existing and new entrants to upskill in order to be qualified for more jobs. A worker in a core green or green enabled job, as well as a potential green worker can benefit financially from adding these skills to their toolkit. The upskilling necessary would likely be something that could be completed in a shorter period of time and could be serviced by local workforce development, or other means.

ENERGY ANNUAL SKILLS SALARY PREMIUM

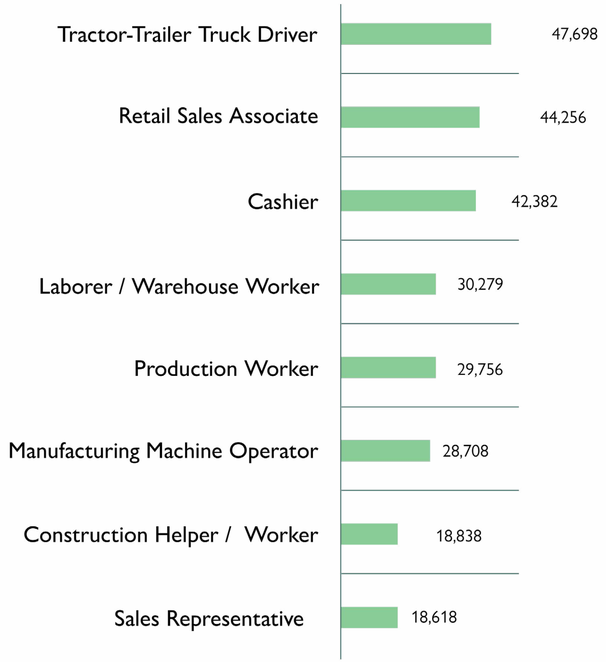


Source: Emsi Burning Glass Data, 2022

Figure 9:
Average Annual Salary Premium by Selected Green Skills in Iowa

From the most in-demand green skills, workers interested in entering the green workforce can prioritize what skills and competencies to acquire. Also important for existing and potential green enabled workers is identifying the skills and competencies that are most lucrative within the green workforce. We calculate the salary boost associated with green skills as the additional salary above the average that a worker might earn if they have the skill in their arsenal. As shown in Figure 9, many key green skills offer significant annual salary increases of $500 or, for some skills such as Carbon Reduction knowledge, considerably higher.

LARGEST POOLS OF POTENTIAL GREEN WORKERS



Source: Emsi Burning Glass Data, 2022

Figure 10:
Largest Occupations Where You Can Find Potential Green Workers

There are 416,810 workers in Iowa who could be reskilled into green jobs.

Examining occupations that are similar to core green jobs, which we would categorize as potential green jobs, we can identify the workers who are likely able to be upskilled at a lower cost, and on a shorter time horizon, for employment in a green job. There are 595,296 workers in Iowa, or nearly a third of the entire Iowa workforce, in potential green jobs – suggesting a vast and diverse pool of easily reskillable talent. Some of the largest pools of potential green workers are shown in Figure 10.

Summary of Findings

Iowa's Green Workforce is Large and Growing

We estimate that there are over 13,118 workers across core, enabled, and enabling green jobs in Iowa's green economy, and there were 2,871 green job openings in the state in 2021. Demand for these green workers is also growing steadily, which may put an increased demand on the training community helping to develop the next generation of green workers. We project that in the next five years, employment for green jobs will increase by 18.8%.

Demand for Green Enabled Jobs is Strong, and Green Jobs Are Spreading Across Industries

Green jobs have shown stability in Iowa in recent years. In 2021, there was significant demand for core, enabled, and enabling green jobs. While we see demand across Iowa for green workers, the greatest concentration is split between the Des Moines-West Des Moines, IA metro area and Ames, IA. The uptick in green job demand in 2021 as compared to previous years in Iowa is an indication that the green economy in the state is strengthening.

Figure 11:
Green Jobs Demand and Projected Growth in Iowa

13,118
CURRENT EMPLOYMENT
Workers estimated to be in green jobs today.

2,871
2021 JOB POSTINGS
Data covers the full year of 2021.

18.8%
PROJECTED GROWTH
Projecetd five-year growth for green jobs.

Recommendations

Individuals

Invest in learning green skills and preparing for green jobs that currently exist, and that are expected to grow or emerge in the coming years. There are many jobs across the economy that offer lucrative, sustainable career opportunities and support the transition to greener forms of energy generation and usage, water usage, construction techniques, and transportation strategies.

If you are just starting your training, or new to the workforce, consider looking at careers in green fields of interest to you. If you are an existing worker, understand the green jobs that rely on some of the skills you currently possess. Consider the green skills you could develop that will help you use your current position to conserve energy, water, or materials. See how additional green skills can help you advance in your existing field, increase your earning potential, or help you transition out of a declining or stagnant job into sustainable career opportunities that will be present for a long period of time as the green economy grows.

Employers

Focus on reskilling your workers in green skills. To do this effectively, first identify the jobs across your organization and industry that are most likely to be impacted by emerging green technologies and trends, and where within your operation you stand to make the most meaningful gains on energy purchase, energy and water efficiency, materials usage, and transportation efficiency. Then, determine what are the most important emerging and high-value skills your workforce will need to achieve those efficiencies that you can help them develop with targeted, high-return-on-investment training.

For example, if you need workers with new energy efficiency or renewable energy skills, consider building a training program — or tapping into an existing program in the community — that can help upskill your existing workers rather than recruiting new workers with these skills that, on average, will command salaries higher than your current workers.

Educators

Pinpoint the green jobs and skills that are growing the most rapidly in your district or region and help your students understand which jobs are the most stable and offer the most favorable wages for occupations at various education levels.

Develop programs for all types of learners — such as recent high school graduates, members of the current workforce, unemployed and underemployed youth and adults — so that you can build programs that prepare workers in different fields and with different educational backgrounds for careers in the green economy. You may also partner with employers in your region to ensure your students have job opportunities upon graduation, and to ensure your programs align with the needs of local employers.

Policymakers

Invest in workers who can gain green skills and impact efficiency and sustainability and become competitive for the growing demand for workers in green core and green enabled occupations. Invest in training programs that focus on green skills, and couple investments in green infrastructure with investments in training to ensure that there are workers available to fulfill the sustainability and efficiency objectives. This may mean supporting reskilling programs for workers at risk of disruption — such as those in declining fields or energy industries that may be replaced by greener forms of energy generation — so these workers may be redeployed into more sustainable green jobs.

You may also use your power as a convener to bring together local stakeholders with an interest in building the green workforce, such as local employers, educators, and workforce development nonprofits.

About

About the Data

To conduct this research, EBG drew from its detailed database of online employer demand and worker supply, which includes over a billion current and historical job postings and career histories across the globe. Emsi Burning Glass collects postings from numerous online sources to develop a comprehensive, real-time portrait of labor market demand. Our software extracts top line information about each job such as title, employer and industry, and then "reads" each job description to identify actual job titles, skills, and qualifications listed in job records. We then eliminate duplicate jobs and place each job in a database for further analysis. Our detailed data offer the unique ability to identify and track important labor market trends as they happen, and before they are visible in other data series.

About WorkingNation

Launched in 2016, WorkingNation focuses on raising awareness of the gaps between the skills workers and job seekers have and the skills employers need and want in their 21st century workforce. WorkingNation knows that it is necessary to ignite a national conversation about the future of work and equitable access to opportunity, especially as we navigate a post-pandemic recovery which has accelerated tech innovation and changes in the way we work. It is imperative that we frame and deliver strong messages to multiple audiences with a strategic approach. WorkingNation does this through our focused storytelling — articles, video, podcasts, and live events — that both informs the supply-and-demand sides of the workforce equation and champions scalable solutions.

WorkingNation's ultimate goal is to help this country achieve a greater understanding of how in facing 21st Century economic challenges, no cohort (demographic, economic, geographic, etc.) is immune to the impact of a changing workforce, and that none can be left behind in the march for reskilling and upskilling workers.

WorkingNation was founded by venture capitalist Art Bilger and operates in partnership with its 501(c)(3) fiscal sponsor, Creative Visions Foundation.

www.workingnation.org

About Emsi Burning Glass

Emsi Burning Glass is the world's leading authority on job skills, workforce talent, and labor market dynamics, providing expertise that empowers businesses, education providers, and governments to find the skills and talent they need and enables workers to unlock new career opportunities.

With engineers and data specialists continually collecting and analyzing data from thousands of job boards, company websites, online resumes, employee profiles, and traditional government sources, the company produces the most comprehensive, up-to-date picture of the labor market available.

Emsi Burning Glass market research, analytical software, and data expertise is used by companies across the globe to better understand their own workforce and identify skilled and diverse talent for future growth. The company also guides colleges and universities in connecting their programs to the needs of the local labor market, and advises government entities in creating more effective programs for economic prosperity.

Headquartered in Boston, Massachusetts, and Moscow, Idaho, Emsi Burning Glass is active in more than 30 countries and has offices in the United Kingdom, Italy, New Zealand, and India. The company is backed by global private equity leader KKR.

www.emsibg.com