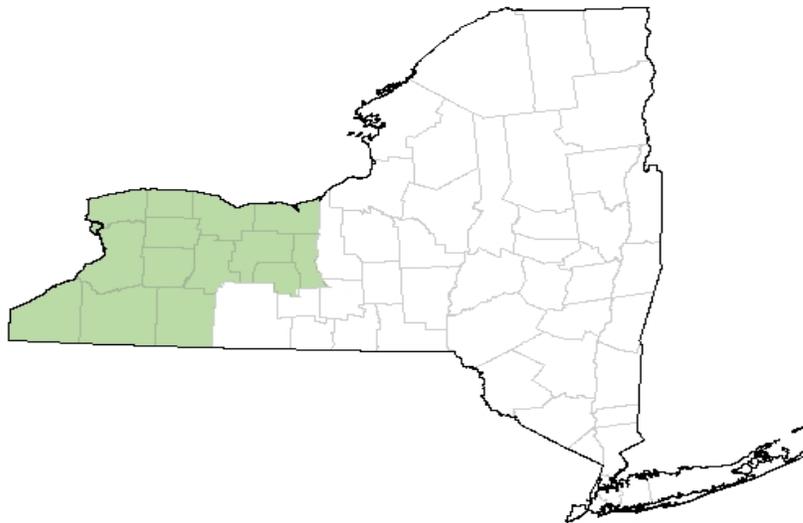




New York State Green Jobs Survey

Report for the Western New York/Finger Lakes Combined Region



**New York State Department of Labor
Division of Research & Statistics**



New York State Green Jobs Survey

Western New York/Finger Lakes Report

Introducing the Green Jobs Study

As part of the American Recovery and Reinvestment Act of 2009, the New York State Department of Labor was awarded a \$1.1 million grant from the United States Department of Labor to conduct research on the green labor market in New York State.

This research goes hand-in-hand with New York State’s commitment to increasing energy efficiency and maximizing growth in its clean energy sector, in keeping with the Energy Efficiency Portfolio Standard; the Renewable Portfolio Standards; the Regional Greenhouse Gas Initiative; and the State Energy Plan.

As one part of the study, the New York State Department of Labor and its research partners surveyed 20,000 businesses in late 2010 to determine the number and types of green jobs in the State. Five thousand three hundred and fifty of those businesses were in the combined Western New York/Finger Lakes region.



Questions Answered

Policymakers, researchers and the public have a variety of questions about the green labor market in New York State. To get answers, the Department of Labor surveyed businesses in industry clusters where green jobs were likely to be found. The Department of Labor sought out companies that produce goods or deliver services that increase energy efficiency or generate renewable energy. The resulting information was used to develop answers to the questions below.



- [How many firms in this region have green jobs?](#) 4
- [How many workers in this region have green jobs?](#) 5
- [Do firms expect their green employment to change?](#) 6
- [What are the most common credentialing agencies?](#) 7
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Defining Green

While “green” touches nearly every sector of the economy (such as agriculture, education, energy, transportation, etc.), New York State’s Green Jobs Survey focused on two spheres of green economic activity: **Renewable Energy** and **Energy Efficiency**.

Here are a few definitions used in the New York State Green Jobs Survey:

- **Green economic activities:** Activities that produce goods or deliver services that increase energy efficiency or generate renewable energy.
- **Green employer:** An employer engaged in a targeted green economic activity, such as retrofitting buildings or generating power from wind energy.
- **Green employee:** A worker primarily engaged in producing green products or services, such as a photovoltaic installer, an insulation worker or a wind turbine assembler.

Future research may include other green sectors such as pollution abatement or waste remediation, which would require more expansive green definitions.

Industry Spotlight

The Green Jobs Survey was sent to firms in several industry clusters. Its findings focus on the following clusters that reported a significant green component:

- ✓ **Construction Trades**
- ✓ **Building Services**
- ✓ **Component Manufacturing**
- ✓ **Professional Services**

Research Partners

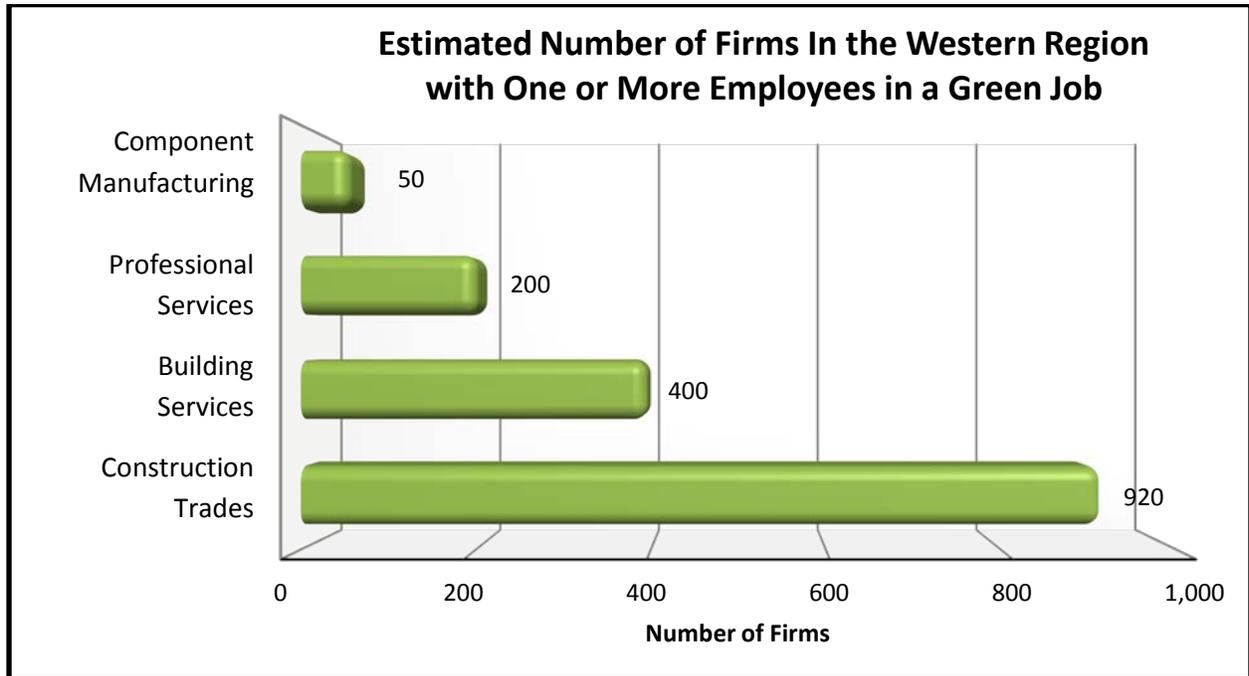
- ***The City University of New York’s Graduate Center’s New York City Labor Market Information Service (NYCLMIS)***
The University at Albany’s College of Nanoscale Science and Engineering’s Energy and Environmental Technology Applications Center (E2TAC)
- ***Stony Brook University’s Advanced Energy Center (AEC)***

Survey Conventions

While every effort was made to ensure that the survey findings are representative, please note:

- As with all surveys, results are subject to sample and non-sample sources of error
- Estimates are based on employer self-identification and have not been independently verified
- Adding regional firm and employment estimates may not equal state totals
- Firm and employment estimates are rounded to the nearest ten
- Percentages are calculated from unrounded data and rounded to the nearest percentage point

**New York State Green Jobs Survey Finding
In the Western New York/Finger Lakes Region
How Many Firms Have Green Jobs?**



Regional Firms	Component Manufacturing	Professional Services¹	Building Services	Construction Trades
Number with Green Jobs	50	200	400	920
Number in Cluster	390	1,100	1710	3,170
Percent with Green Employees²	14%	18%	23%	29%

In the combined Western New York and Finger Lakes region, there are approximately 1,570 firms that have one or more employees primarily engaged in producing goods or delivering services that increase energy efficiency or generate renewable energy.

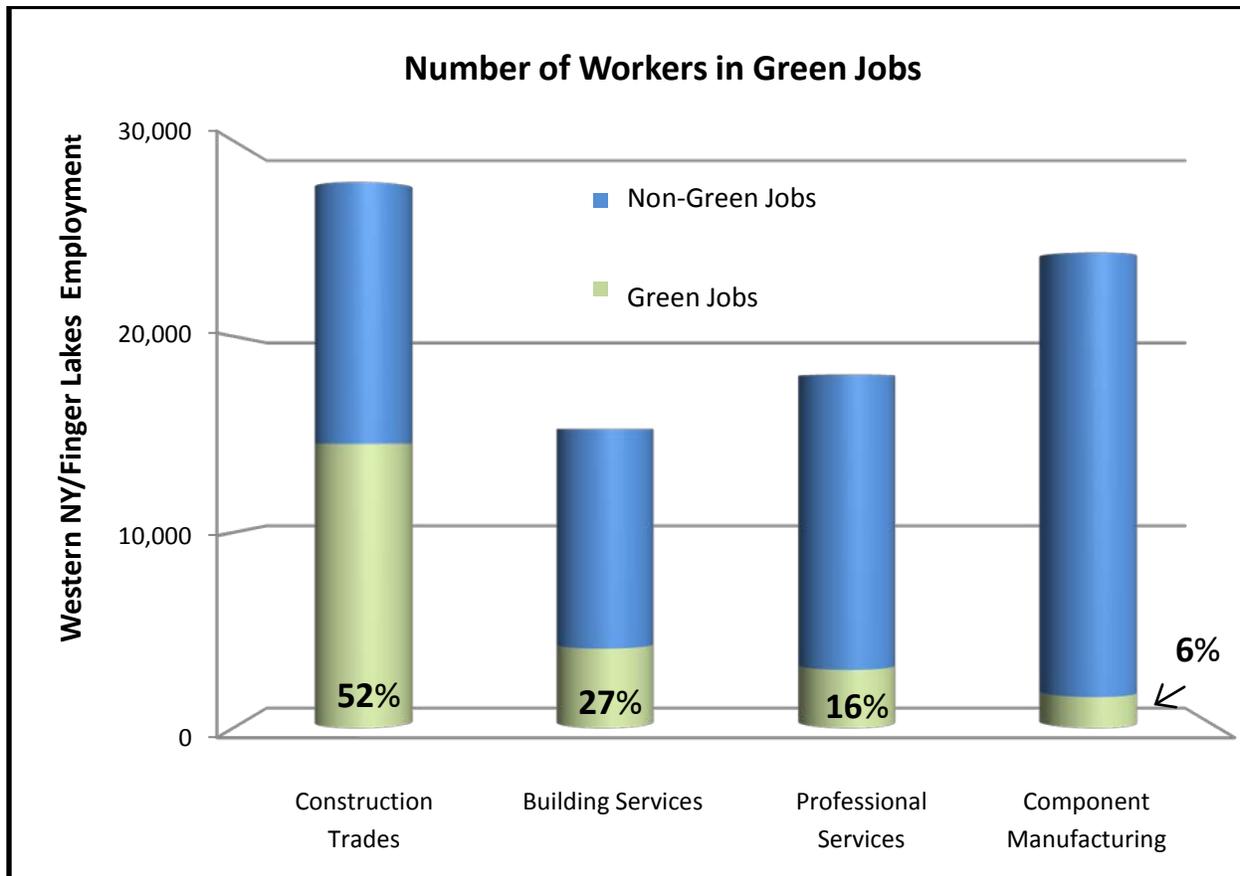
The smallest industry cluster listed above – Component Manufacturing – also has the fewest firms with green employment (50), whereas the largest – Construction Trades – has the most (920). Building Services is the second largest cluster and has the second highest number of firms with green employment (400), while Professional Services ranks third on both measures.

Construction Trades also has the largest share of firms with green workers with 29%, while Building Services has the second largest with 23%. Professional Services comes next with 18% and Component Manufacturing is last with 14% green employment.

¹ The Professional Services industry cluster excludes legal services.

² Percentages are based on unrounded figures.

**New York State Green Jobs Survey Finding
In the Western New York/Finger Lakes Region
How Many Workers Have Green Jobs?**



Region	Construction Trades	Building Services	Professional Services	Component Manufacturing
Green Employment	14,520	4,060	2,970	1,580
Cluster Employment	27,880	15,260	18,040	24,280

In the combined Western New York and Finger Lakes region, nearly 23,130 workers are employed in green jobs. Construction Trades not only has the greatest number of workers (27,880), but it also has the greatest number of workers in green jobs (14,520). It also has the largest occurrence of green employment (52%).

Workers engaged in green economic activity make up 16% (2,970 workers) of Professional Services' total employment of 18,040 workers and 27% (4,060 workers) of Building Services' total employment of 15,260.



**New York State Green Jobs Survey Finding
In the Western New York/Finger Lakes Region
Do Firms Expect their Green Employment to Change?**

Expected Over-the-Year Change in Green Employment

One Year Change	Building Services	Construction Trades	Component Manufacturing	Professional Services
For firms with green jobs, what is their expected change in green employment?				
Grow Larger	25%	21%	25%	33%
Unchanged	59%	53%	61%	58%
Become Smaller	3%	5%	0%	0%
Don't Know	13%	21%	13%	9%
Number of Firms	400	920	50	200
For firms without green jobs, do they expect to have green employment?				
Yes	4%	5%	2%	3%
No	71%	63%	67%	74%
Don't Know	25%	32%	31%	23%
Number of Firms	1,320	2,250	340	900

Firms with green jobs were asked if they anticipated their number of green jobs to change in the next year (grow larger, become smaller, remain unchanged). Firms which did not have green jobs were asked if they anticipate creating any green jobs in the upcoming year.

Among Western New York and Finger Lakes businesses with green jobs, Professional Services firms are most likely to expect a growth in green employment, with 33% predicting growth in the next year. Building Services and Component Manufacturing are tied at 25% of firms that expect growth in the next year, followed by the Construction Trades (21%).

Although the Component Manufacturing and Building Services are tied in terms of the share of firms predicting growth in green employment, Building Services has a larger number of firms predicting growth (100 firms) than Component Manufacturing (10 firms).

The least common prediction among all four industry clusters was for a ‘smaller’ green workforce; less than 6% of the combined Western New York and Finger Lakes region’s green firms, in any cluster, anticipate a loss of green jobs.

Among companies without green employment, those in the Construction Trades are most likely to predict an increase of at least one green job (5%).



New York State Green Jobs Survey Finding What are the Most Common Credentialing Agencies Preferred by Employers for their Green Jobs?

Leadership in Energy and Environmental Design (LEED)

Leadership in Energy and Environmental Design (LEED) is administered by the U.S. Green Building Council (USGBC). LEED offers certification for buildings and credentials for individuals. The Green Building Certification Institute (GBCI) administers LEED professional credentials in green building design, construction and maintenance, and neighborhood development. For more information about LEED credentials, visit www.gbci.org.

The Building Performance Institute, Inc. (BPI)

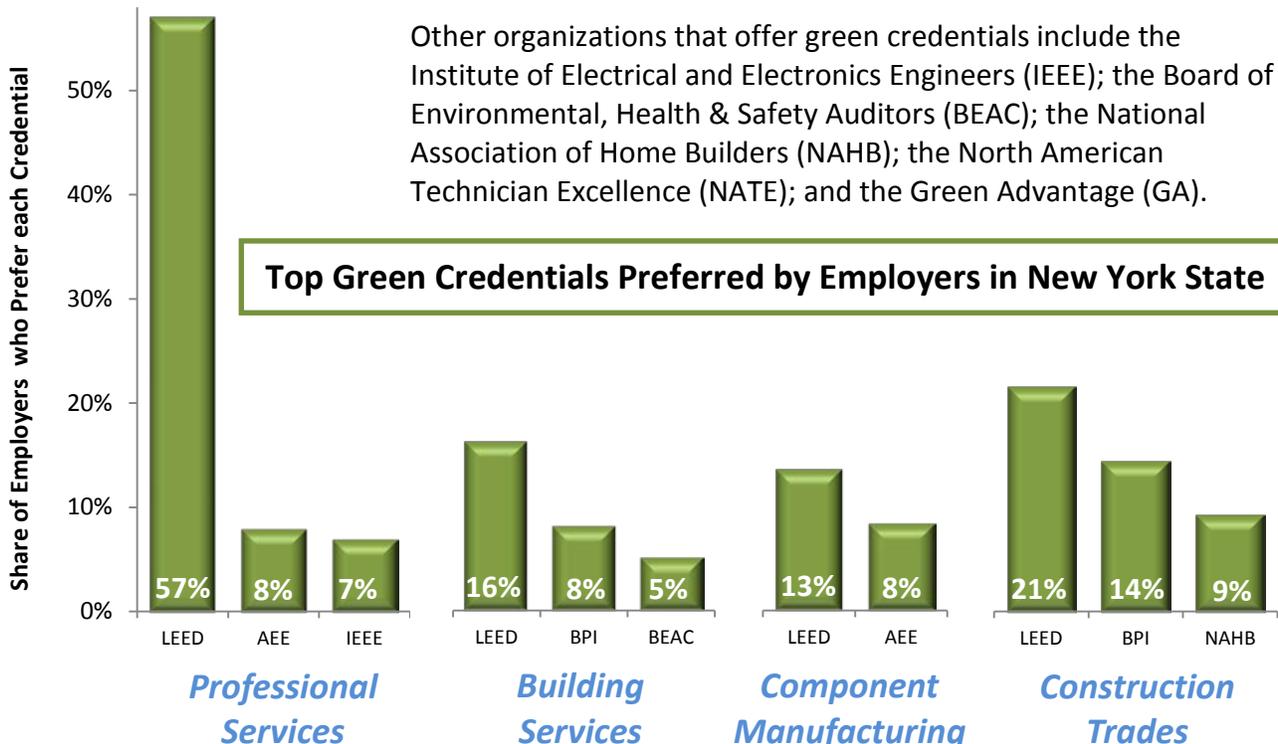
The Building Performance Institute, Inc. (BPI) is an independent non-profit organization that develops industry standards for residential energy efficiency retrofits and weatherization. BPI offers company accreditations and professional credentialing. Many professional certification types are available, including building envelope, manufactured housing, and multifamily. For more information, see www.bpi.org.

The Association of Energy Engineers (AEE)

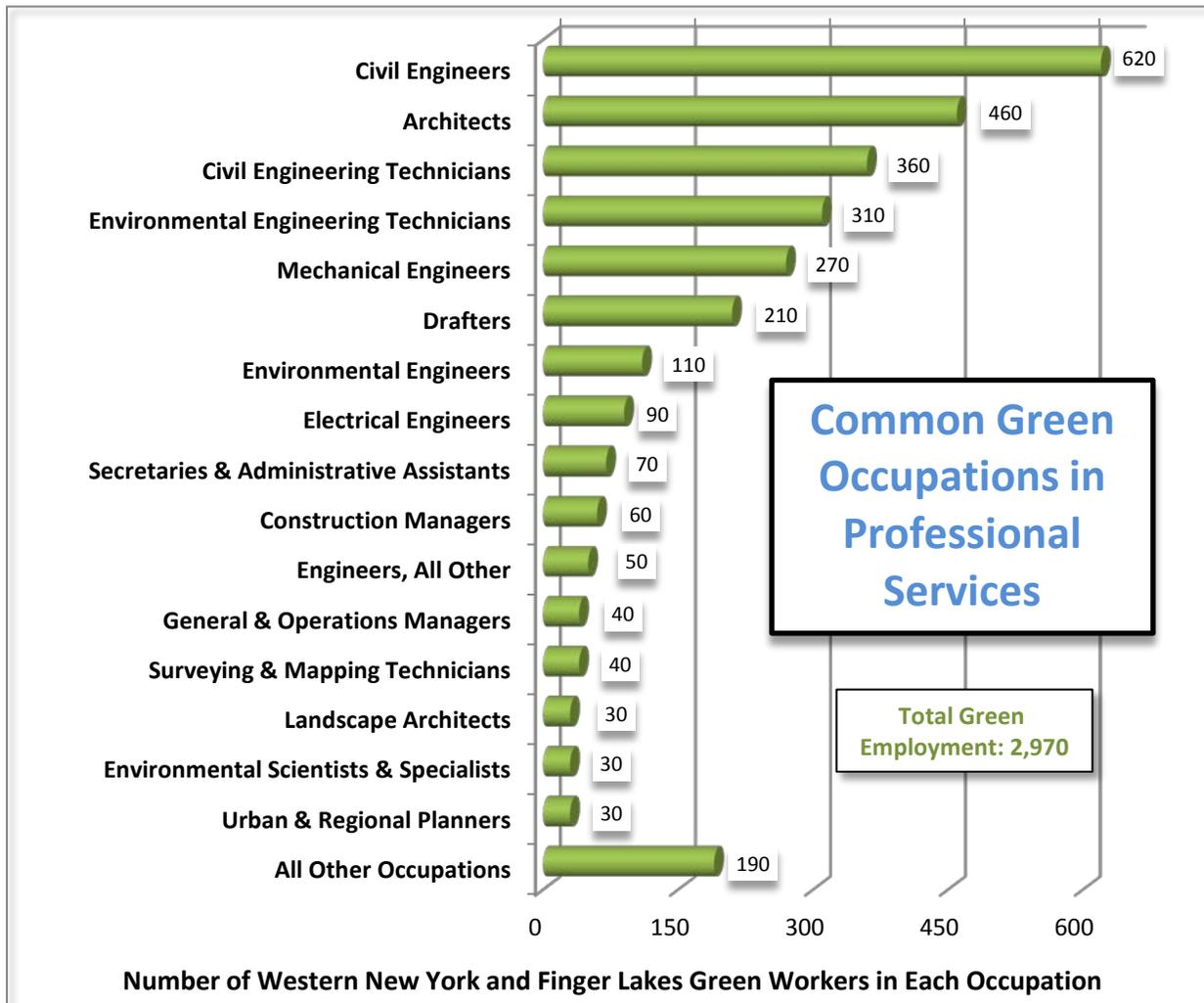
The Association of Energy Engineers (AEE), a non-profit professional society with over 14,000 members, offers a broad range of professional certifications in the energy industry. AEE certification programs require candidates to pass written examinations as well as meet specific educational and/or experience criteria. To learn more, go to www.aeecenter.org.

Other Green Groups

Other organizations that offer green credentials include the Institute of Electrical and Electronics Engineers (IEEE); the Board of Environmental, Health & Safety Auditors (BEAC); the National Association of Home Builders (NAHB); the North American Technician Excellence (NATE); and the Green Advantage (GA).



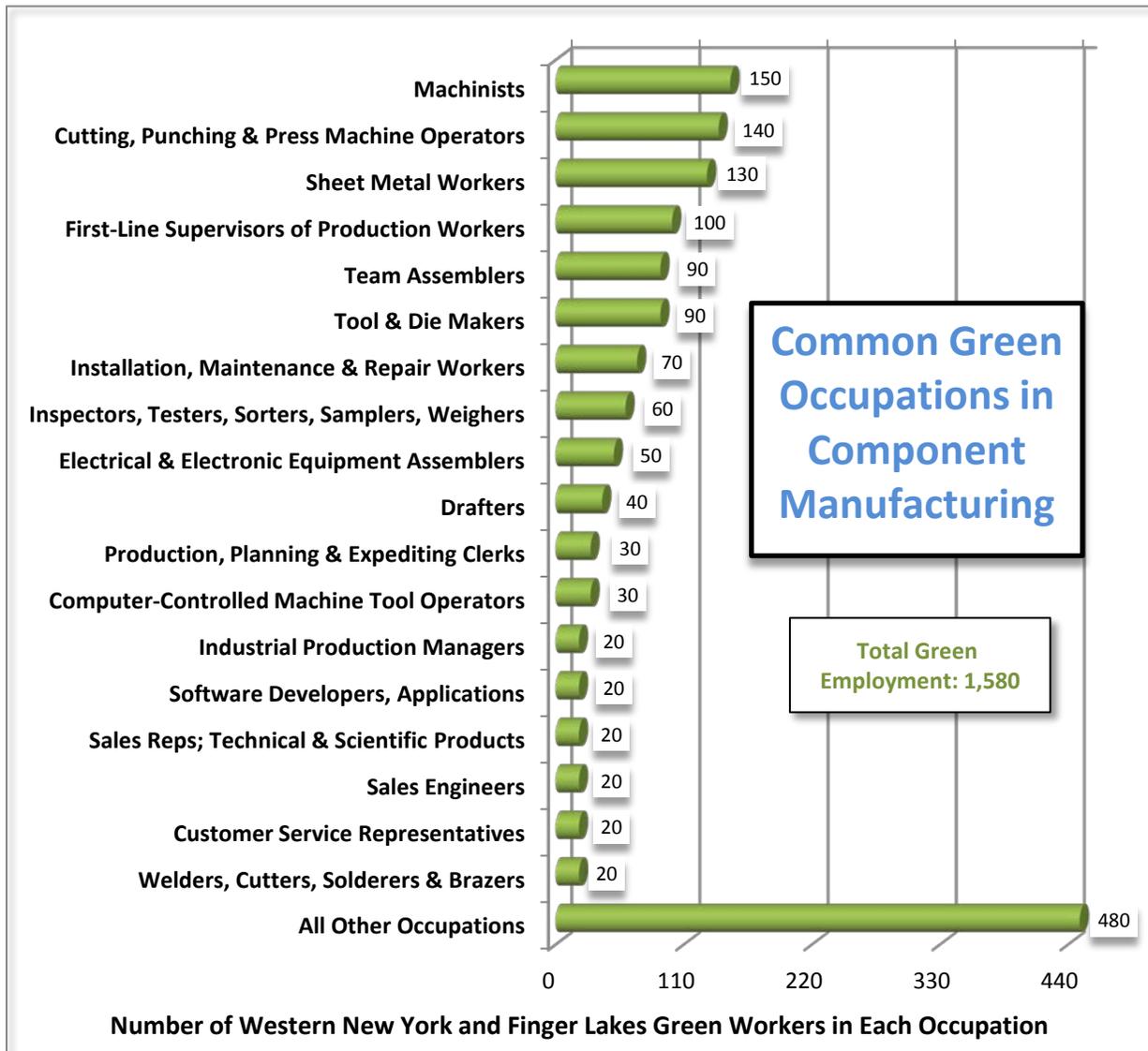
**New York State Green Jobs Survey Finding
In the Western New York/Finger Lakes Region
Which Occupations are Green, or Greening?**



The most common green occupations in Professional Services – Civil Engineers, Architects, Civil Engineering Technicians, Environmental Engineering Technicians, and General and Operations Managers – are involved not only in energy efficiency activities, but also in recycling and green cleaning.

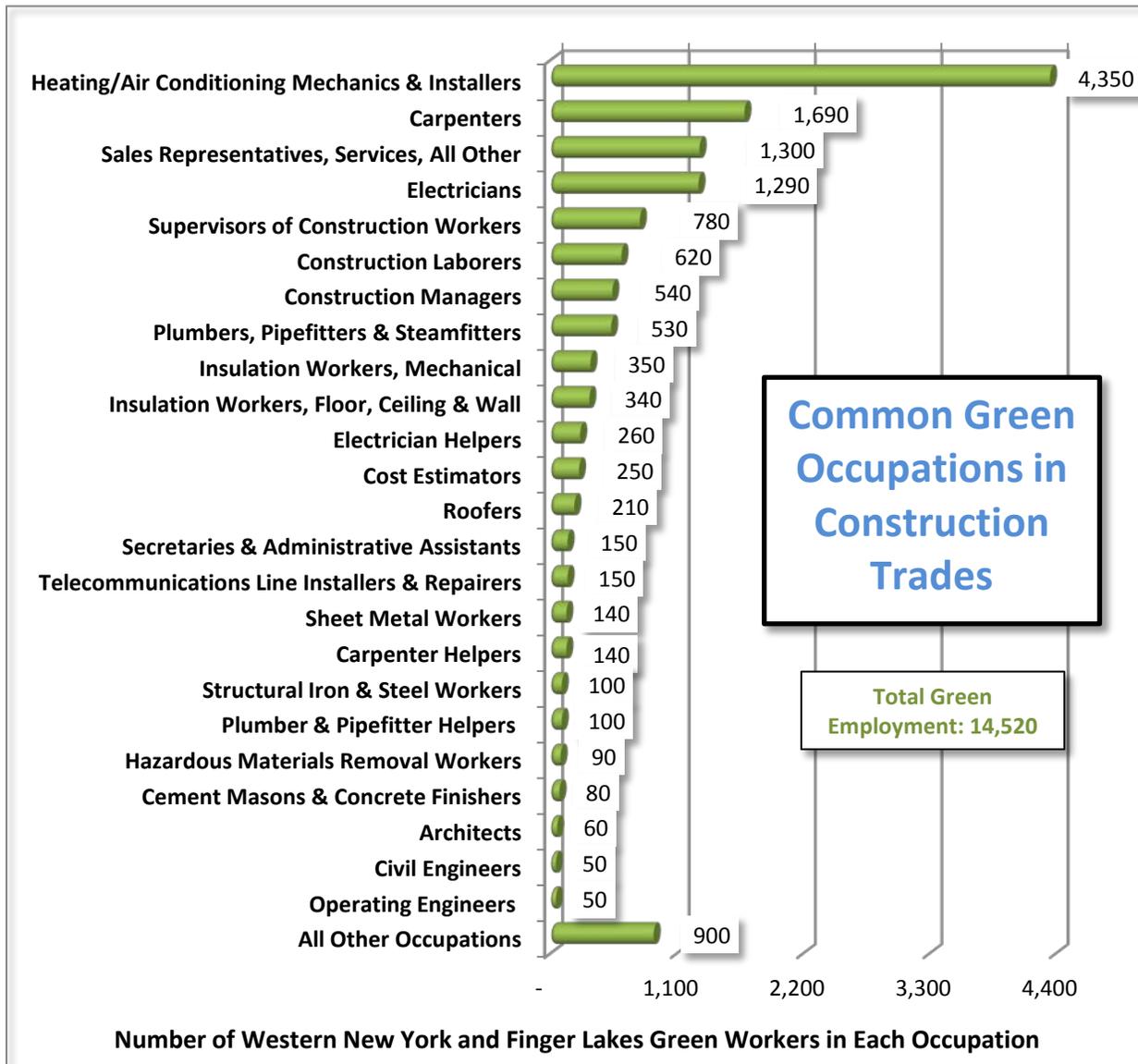
The top five occupations listed above contribute over two-thirds of the green jobs in this sector.

**New York State Green Jobs Survey Finding
In the Western New York/Finger Lakes Region
Which Occupations are Green, or Greening?**



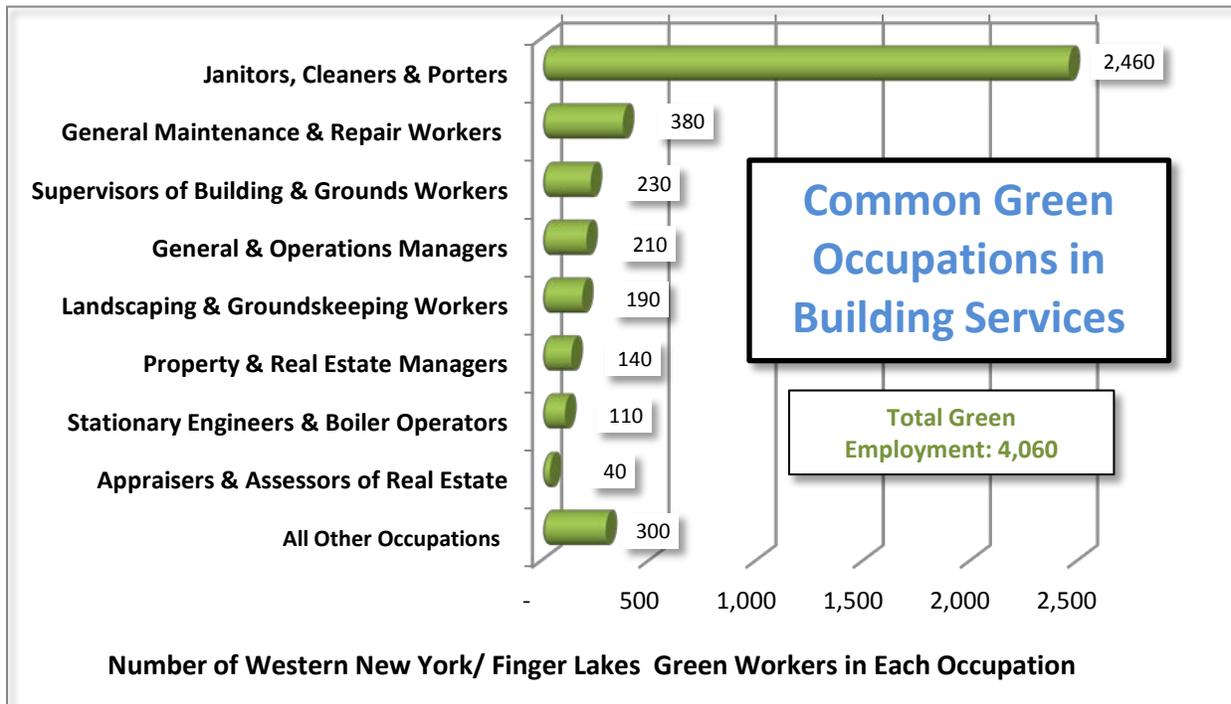
In the combined Western New York and Finger Lakes region, green employment in Component Manufacturing sector is relatively dispersed among several occupations. The top five occupations – Machinists; Cutting, Punching & Press Machine Operators; Sheet Metal Workers; First Line Supervisors of Production Workers; and Team Assemblers – make up 38% of green employment in the sector.

**New York State Green Jobs Survey Finding
In the Western New York/Finger Lakes Region
Which Occupations are Green, or Greening?**



In the combined Western New York and Finger Lakes region, the most prevalent occupation with green employment in Construction Trades is Heating/Air Conditioning and Refrigeration Mechanics and Installers. These workers make up 29% of the green jobs found in Construction Trades in the region.

**New York State Green Jobs Survey Finding
In the Western New York/Finger Lakes Region
Which Occupations are Green, or Greening?**



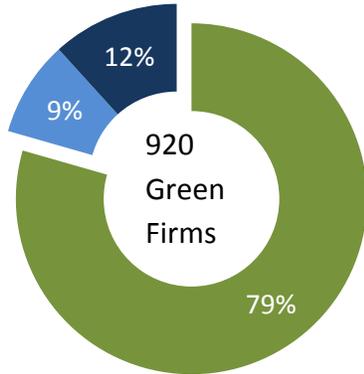
In the combined Western New York and Finger Lakes region, green employment in the Building Services sector is dominated by one occupation: Janitors, Cleaners and Porters. By itself, this occupation supplies 60% of the green jobs found in this sector.

How is Green Defined Differently in Building Services?

In Building Services, green is defined as helping buildings and facilities achieve greater energy efficiency, use new energy technologies, or achieve other environmental sustainability goals. For this cluster, people engaged in recycling and green cleaning were counted as green workers in the Green Jobs Survey.

**New York State Green Jobs Survey Finding
In the Western New York/Finger Lakes Region
Are Firms Able to Fill All Their Green Jobs?**

**The short answer – “In most cases, there’s no problem.”
In New York State, most businesses have little difficulty
finding and hiring qualified employees for their green jobs.**

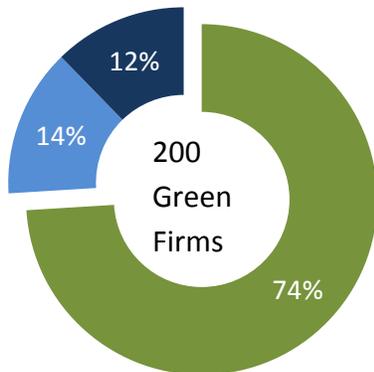
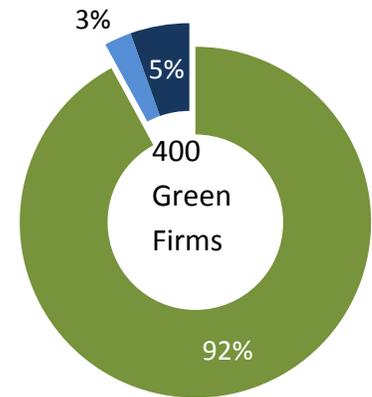


Construction Trades

Of the 920 green firms in Construction Trades in the combined Western New York and Finger Lakes region, 21% (190) have difficulty recruiting qualified green workers. 12% have difficulty recruiting for more than one occupation.

Building Services

Of the 400 green firms in Building Services in the combined Western New York and Finger Lakes region, 8% (30) have difficulty recruiting qualified green workers. 5% have difficulty recruiting for more than one occupation.

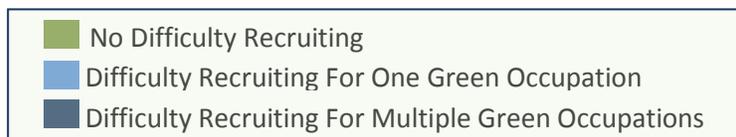
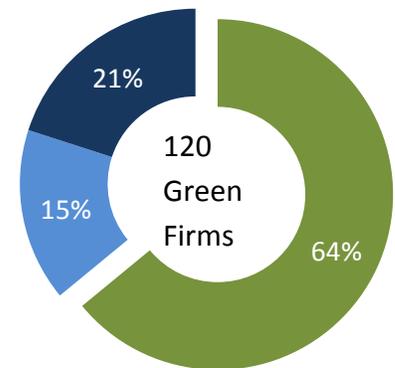


Professional Services

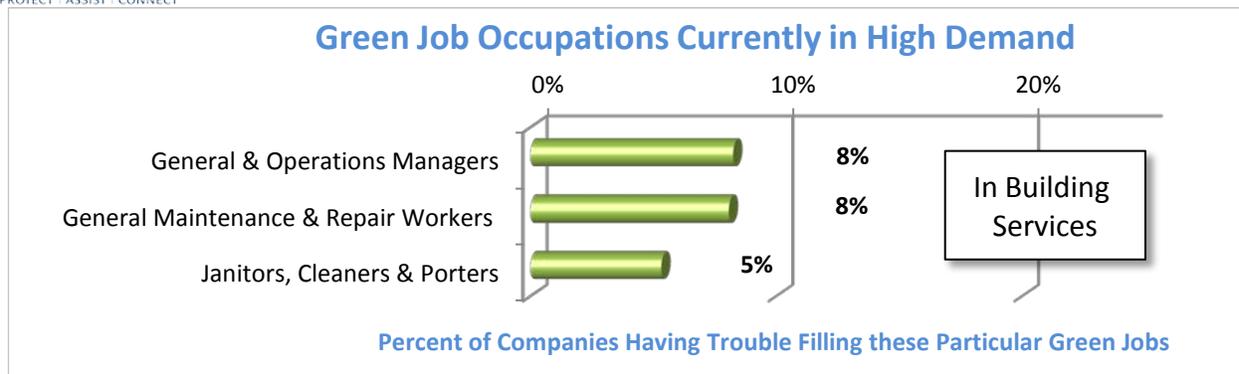
Of the 200 green firms in Professional Services in the combined Western New York and Finger Lakes region, 26% (50) have difficulty recruiting qualified green workers. 12% have difficulty recruiting for more than one occupation.

Component Manufacturing

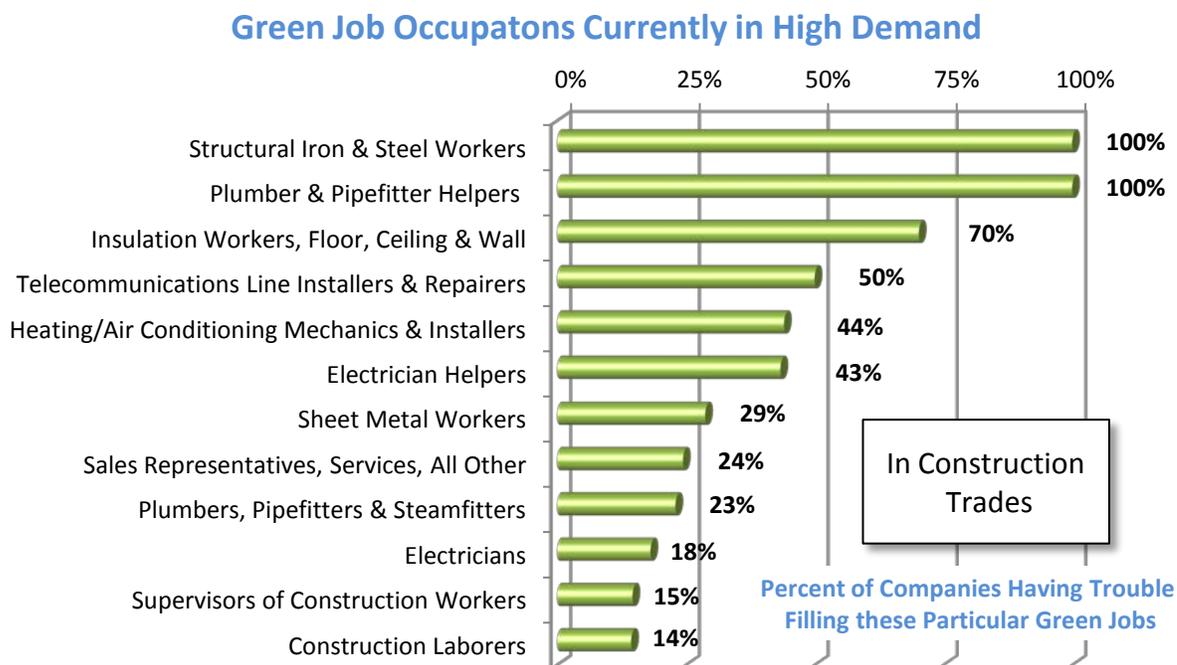
Of the 120 green firms in Component Manufacturing in Upstate New York (which includes the Western New York and Finger Lakes region), 36% (40) have difficulty recruiting qualified green workers. 21% have difficulty recruiting for more than one occupation.



New York State Green Jobs Survey Finding
In the Western New York/Finger Lakes Region
Which Green Job Occupations are in High Demand?



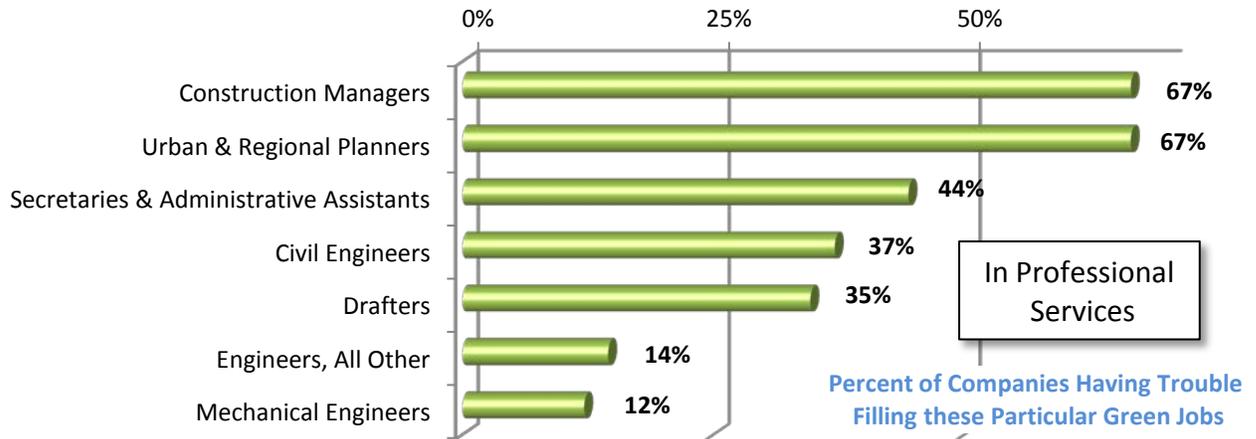
Most Building Services companies in the combined Western New York and Finger Lakes region that employ or are looking to employ green workers are having little difficulty filling these positions. Less than 10% of firms are having trouble finding workers, in any occupation, to fill green jobs.



Almost every Construction Trades firm in the combined Western New York and Finger Lakes region that employs or seeks to employ green Structural Iron and Steel Workers is having difficulty recruiting qualified green workers for these jobs. These workers raise, place, and unite iron or steel girders, columns, and other structural members to form completed structures or structural frameworks.

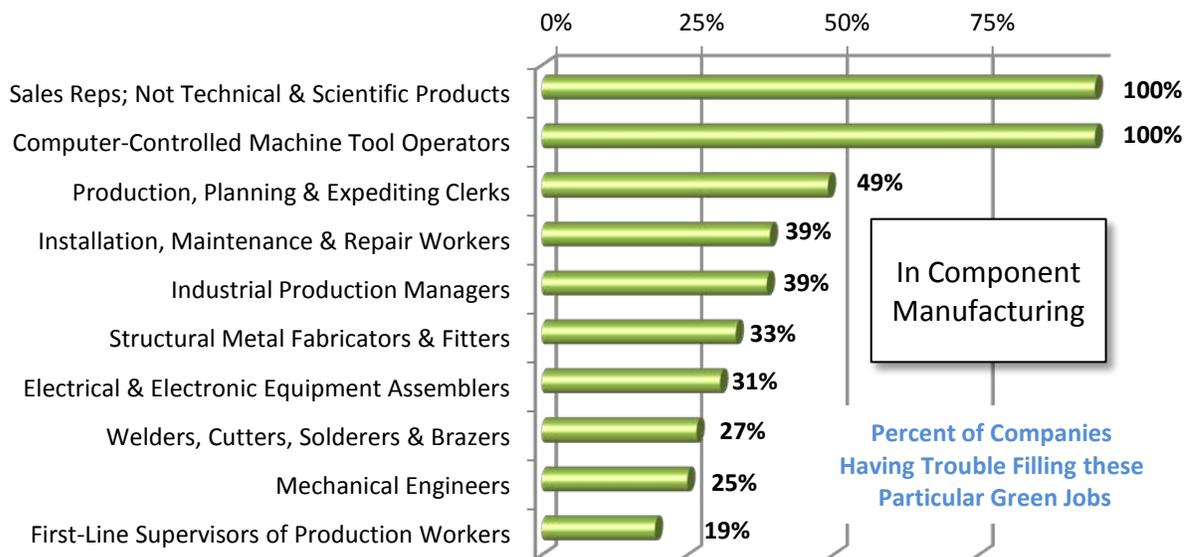
**New York State Green Jobs Survey Finding
In the Western New York/Finger Lakes Region
Which Job Occupations are in Demand?**

Green Job Occupations Currently in High Demand



Of the Professional Services companies in the combined Western New York and Finger Lakes region that employ or are looking to employ green Construction Managers, 67% are having difficulty filling these positions. These workers plan, direct, coordinate, or budget activities concerned with the construction and maintenance of structures, facilities, and systems.

Green Job Occupations Currently in High Demand

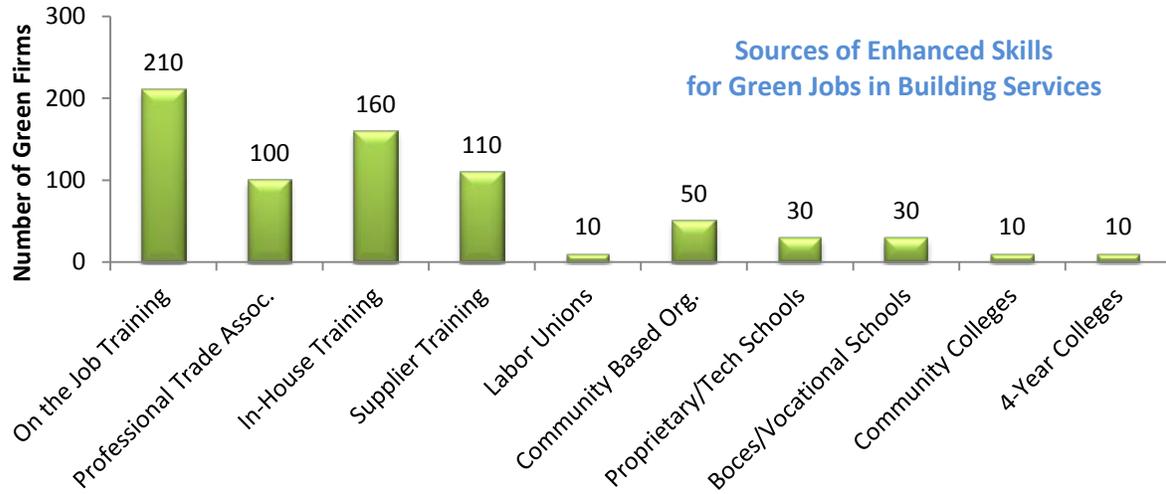


Of the Construction Trades companies in the combined Western New York and Finger Lakes region that employ or are looking to employ green Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products, almost all are having difficulty filling these positions. These workers sell goods for wholesalers and manufacturers to businesses or groups of individuals. Their job requires substantial knowledge of items sold.

**New York State Green Jobs Survey Finding
In the Western New York/Finger Lakes Region
What is the Need for Additional Training?**

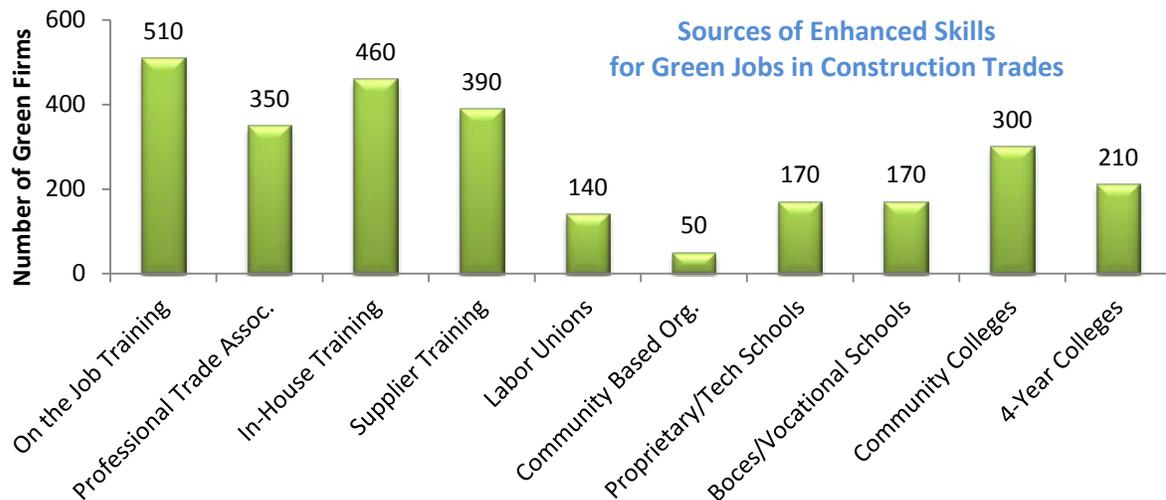
Building Services

In Building Services, 64% (250) of green firms require that their employees have some form of enhanced skills to deliver green services. To train their employees, firms most often utilize on-the-job training and/or in-house training programs.



Construction Trades

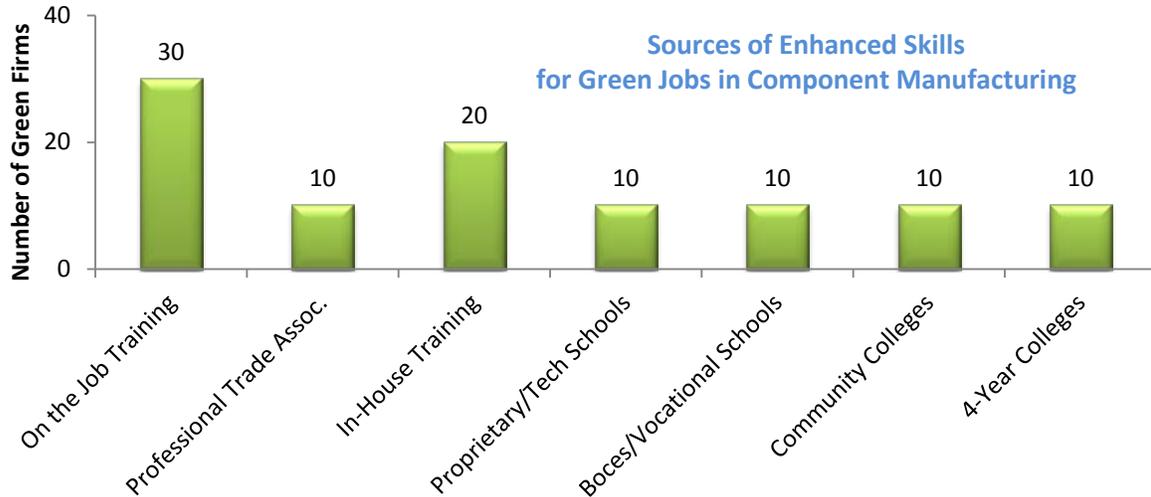
Approximately 81% (750) of green firms in Construction Trades require employees to have enhanced skills in order to produce green products or services. To train their employees, firms most often utilize on-the-job training, in-house training and/or supplier based programs.



**New York State Green Jobs Survey Finding
In the Western New York/Finger Lakes Region
What is the Need for Additional Training?**

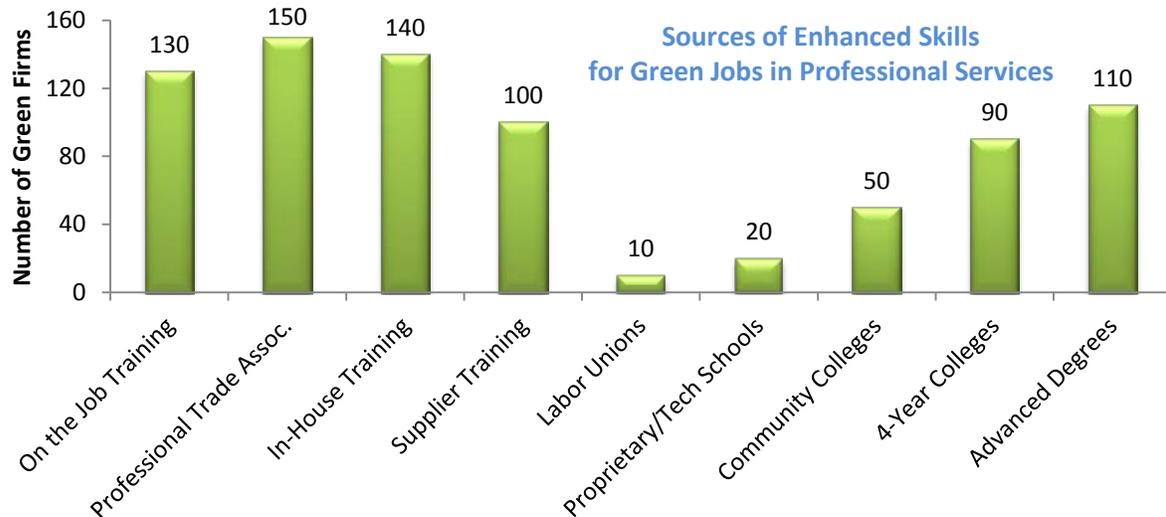
Component Manufacturing

The share of green Component Manufacturing firms requiring that employees have enhanced skills to produce green products or services is 64% (30). To train their employees, firms most often utilize on-the-job training and/or in-house training programs.



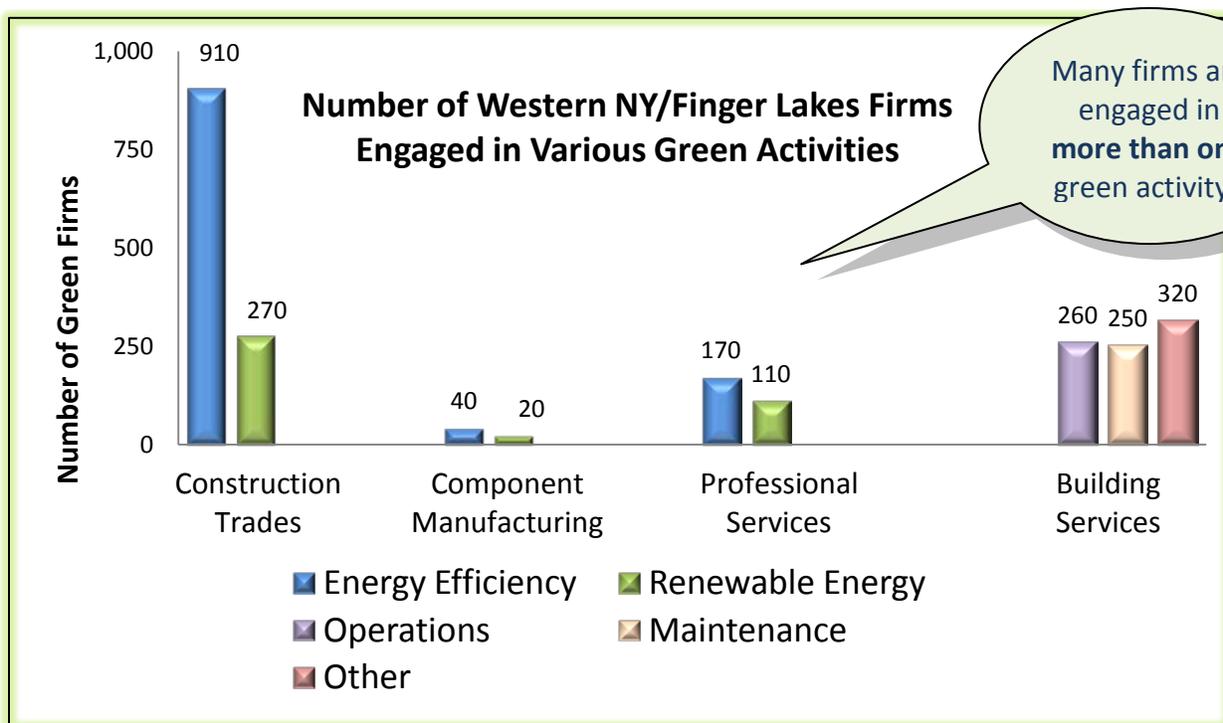
Professional Services

Ninety-two percent (190) of green employers in Professional Services require that employees have enhanced skills to produce green products or services. To train their employees, firms most often utilize professional trade associations and/or in-house training programs.



**New York State Green Jobs Survey Finding
In the Western New York/Finger Lakes Region
Which Green Activities are Businesses Engaging In?**

Companies may participate in a wide variety of green activities, even within the same industry cluster. For example, of the 920 construction firms in the Western New York and Finger Lakes region with green jobs (see page 4), the overwhelming majority are engaged in energy efficiency (910) such as retrofitting or new green construction.



*Since the categories are not mutually exclusive (some workers fall into both the Energy Efficiency and Renewable Energy categories), the green firm counts cannot be added together to get a total employment figure for an occupation. Rather, the sum of the green firm counts would overestimate the total number of green firms. Jobs Survey Finding #1 contains green firm estimates.

Green Activity Groups and Subgroups

Energy Efficiency includes Retrofitting and/or New Construction.

Renewable Energy includes Solar PV, Solar Thermal, Wind, Biomass, Geothermal and Hydro.

Operations include Meter Reading/Reporting, Performance Monitoring/Optimization, Retro-Commissioning and New Technologies.

Maintenance includes Renewable Energy Systems, Green Roofs/Landscaping and Indoor Air Quality.

Green Cleaning & Recycling has Green Cleaning and Recycling as distinct subgroups.