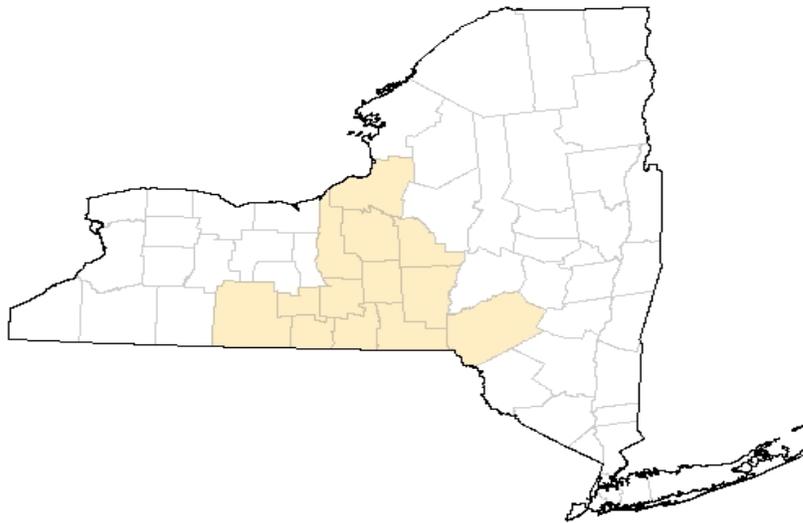




# **New York State Green Jobs Survey**

## **Report for the Central New York/Southern Tier Combined Region**



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



# New York State Green Jobs Survey Central New York/Southern Tier Region

## *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. One thousand one hundred and thirty of those businesses were in the combined Central New York and Southern Tier 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
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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

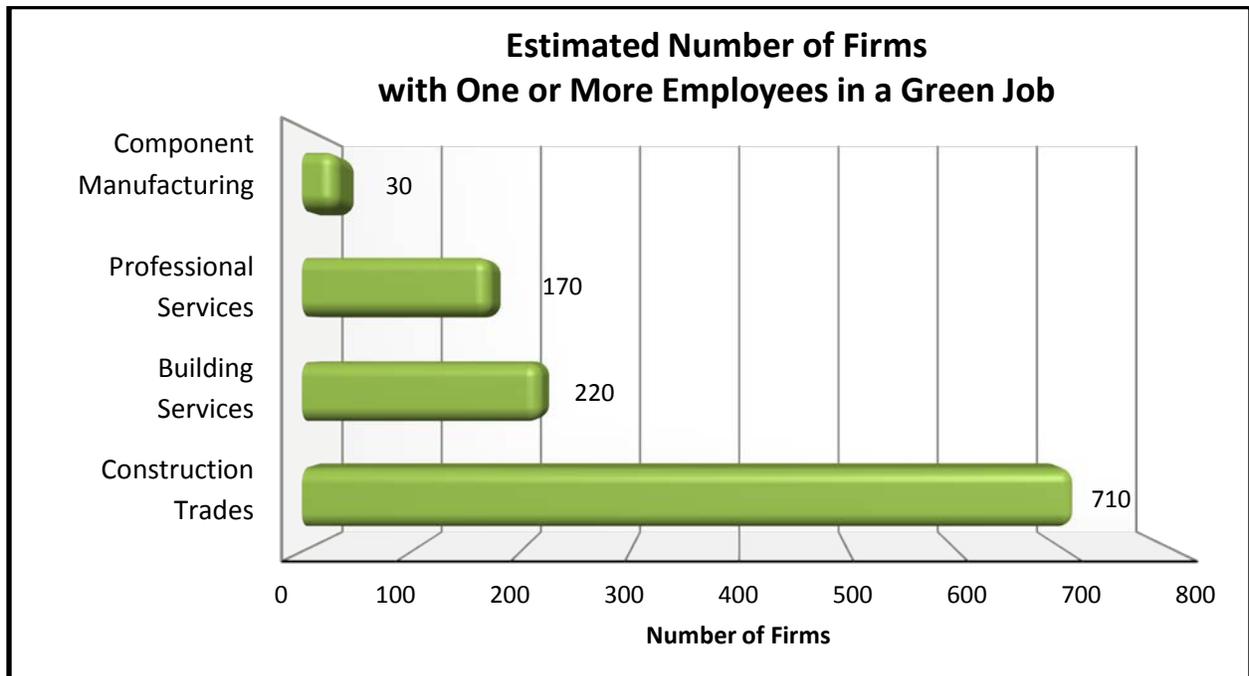
- **The City University of New York’s Graduate Center’s New York City Labor Market Information Service (NYCLMIS)**
- **The University at Albany’s College of Nanoscale Science and Engineering’s Energy and Environmental Technology Applications Center (E2TAC)**
- **Stony Brook University’s Advanced Energy 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 Central New York/Southern Tier Region,  
How Many Firms Have Green Jobs?**



<b>Regional Firms</b>	<b>Component Manufacturing</b>	<b>Professional Services<sup>1</sup></b>	<b>Building Services</b>	<b>Construction Trades</b>
Number with Green Jobs	30	170	220	710
Number in Cluster	210	610	910	1,850
<b>Percent with Green Employees<sup>2</sup></b>	<b>15%</b>	<b>28%</b>	<b>24%</b>	<b>38%</b>

In the combined Central New York and Southern Tier region, there are approximately 1,130 firms that have one or more employees primarily engaged in producing goods or delivering services that increase energy efficiency or generate renewable energy.

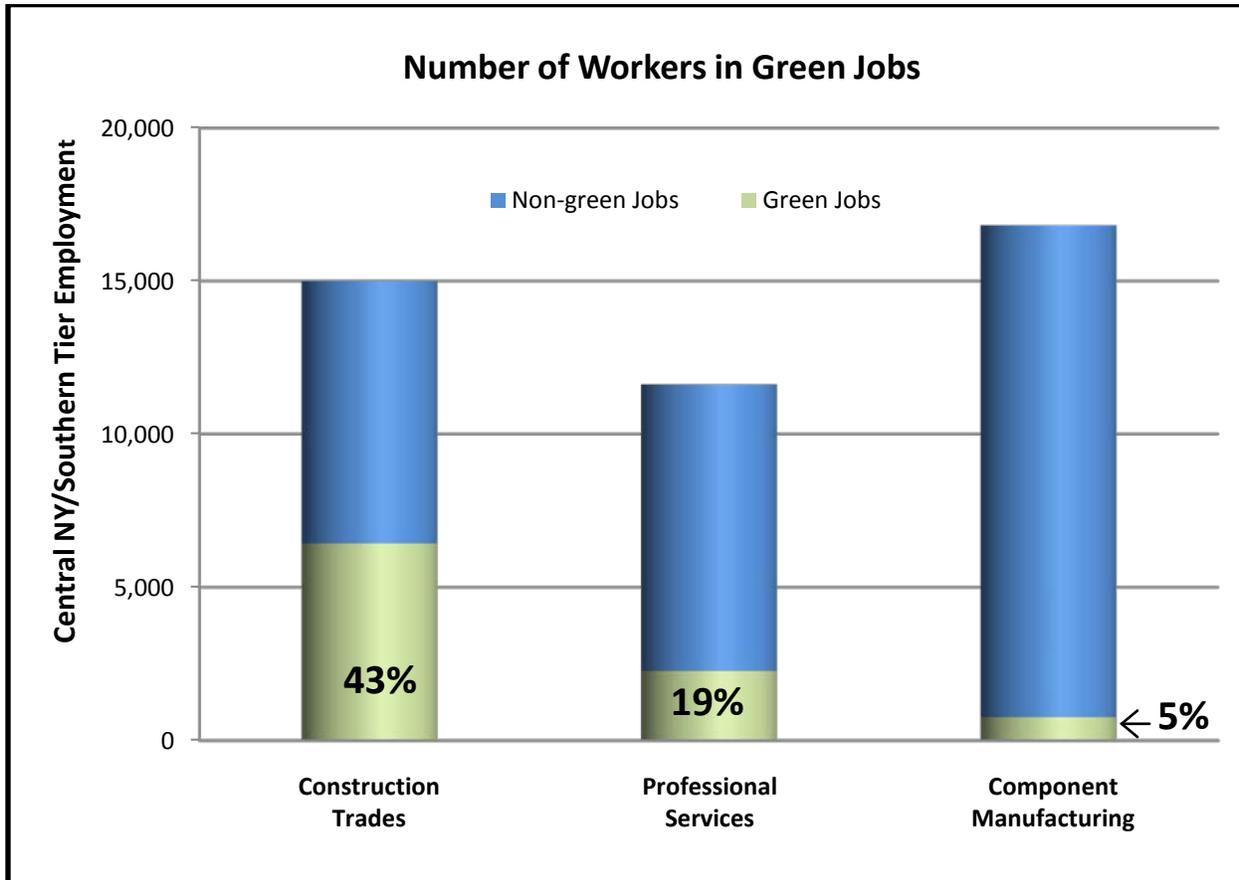
Construction Trades has the largest share of firms with green workers with 38%, while Professional Services is second with 28%. Building Services comes next with 24% and Component Manufacturing is last with 15% green employment.

The smallest industry cluster listed above – Component Manufacturing – also has the fewest firms with green employment (30 firms), whereas the largest – Construction Trades – has the most (710 firms).

<sup>1</sup> The Professional Services industry cluster excludes legal services.

<sup>2</sup> Percentages are based on unrounded figures.

**New York State Green Jobs Survey Finding  
In the Central New York/Southern Tier Region,  
How Many Workers have Green Jobs<sup>3</sup>?**



Region	Construction Trades	Professional Services	Component Manufacturing
Green Employment	6,430	2,260	760
Cluster Employment	14,990	11,620	16,820

In the combined Central New York and Southern Tier region, in these three clusters, over 9,000 workers are employed in green jobs. Construction Trades has the greatest number of workers (14,990), the largest number of workers in green jobs (6,430), and it has the largest occurrence of green employment (43%).

Workers engaged in green economic activity make up 19% (2,260) of Professional Services' total employment of 11,620 workers and 5% (760) of Component Manufacturing's total employment of 16,820 workers.

<sup>3</sup> Some Building Services data has been suppressed from the Central NY/Southern Tier report due to statistical issues.



**New York State Green Jobs Survey Finding  
In the Central New York/Southern Tier Region,  
Do Firms Expect their Green Employment to Change?**

**Expected Over-the-Year Change in Green Employment**

One Year Change	Component Manufacturing	Professional Services	Building Services	Construction Trades
For firms with green jobs, what is their expected change in green employment?				
Grow Larger	28%	44%	15%	46%
Unchanged	50%	43%	61%	37%
Become Smaller	13%	1%	1%	2%
Don't Know	8%	12%	23%	16%
<b>Number of Firms</b>	<b>30</b>	<b>170</b>	<b>220</b>	<b>710</b>
For firms without green jobs, do they expect to have green employment?				
Yes	3%	7%	1%	8%
No	68%	83%	72%	68%
Don't Know	30%	11%	27%	24%
<b>Number of Firms</b>	<b>180</b>	<b>440</b>	<b>690</b>	<b>1,140</b>

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 the combined Central New York and Southern Tier region businesses with green jobs, Construction Trades and Professional Services firms are most likely to expect a growth in green employment. Forty-six percent of Construction Trades and 44% of Professional Services firms increased their level of green employment.

Although Construction Trades and Professional Services are close in terms of the share of firms predicting growth in green employment, Construction Trades has a larger number of firms predicting growth (320 firms) than Professional Services (70 firms).

While the least common prediction for all four industry clusters was for a 'smaller' green workforce; a significant 13% of the combined Central New York and Southern Tier region green Component Manufacturing 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 (8%). The Construction Trades also had the largest number of firms predicting an increase in green employment (90 firms).



## 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](http://www.gbci.org).

### The Building Performance Institute, Inc. (BPI)

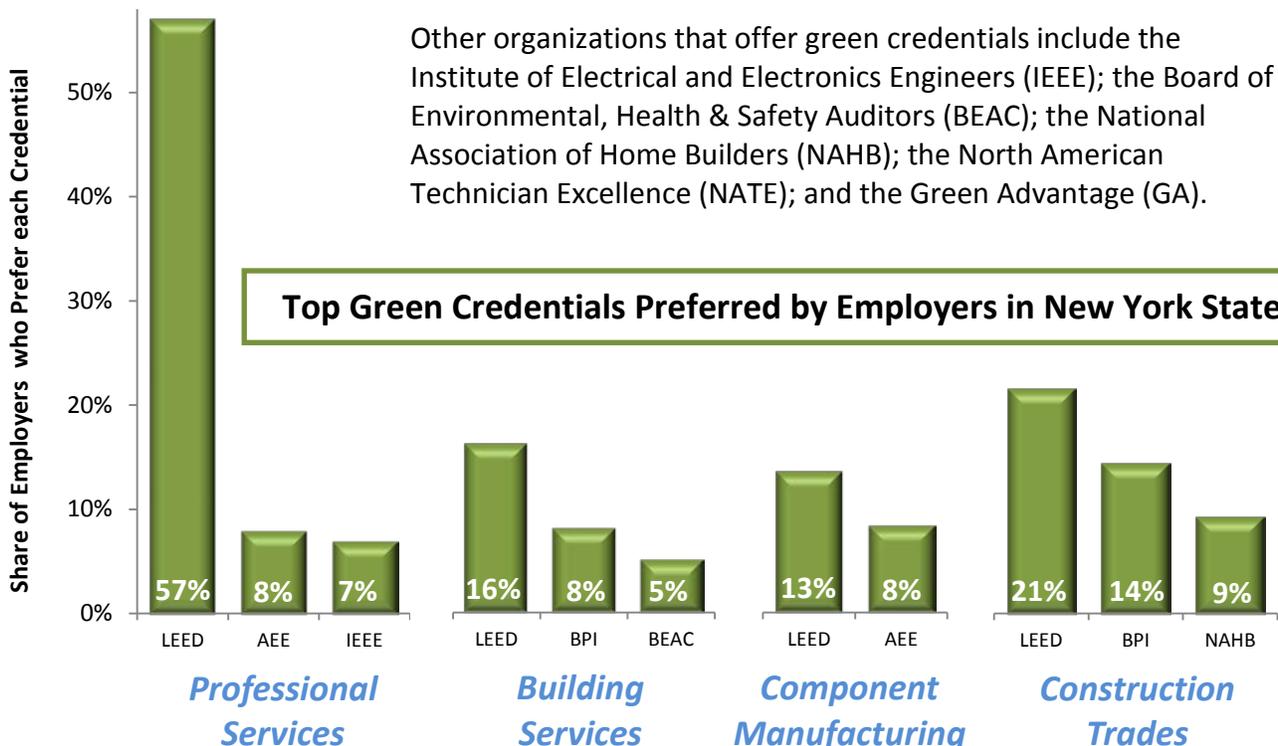
The Building Performance Institute, Inc. (BPI) is an independent non-profit organization that develops industry standards for residential energy efficiency retrofits and weatherization. BPI offers company accreditations and professional credentialing. Many professional certification types are available,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

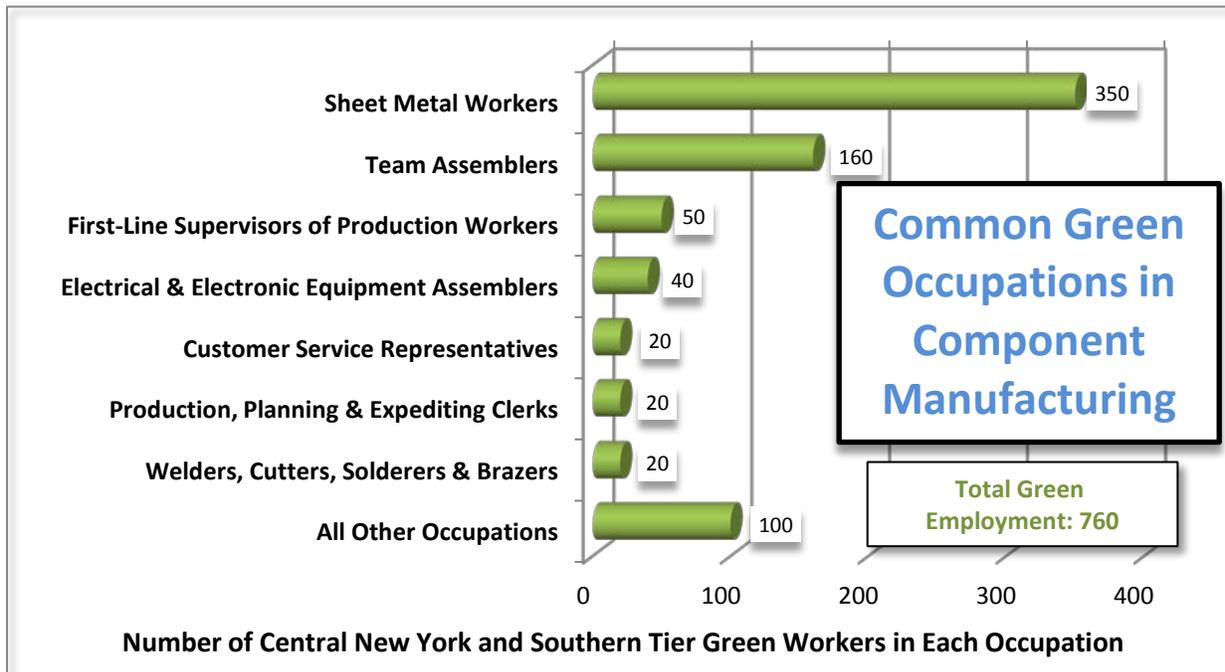


## New York State Green Jobs Survey Finding In the Central New York/Southern Tier Region, Which Occupations are Green, or Greening?



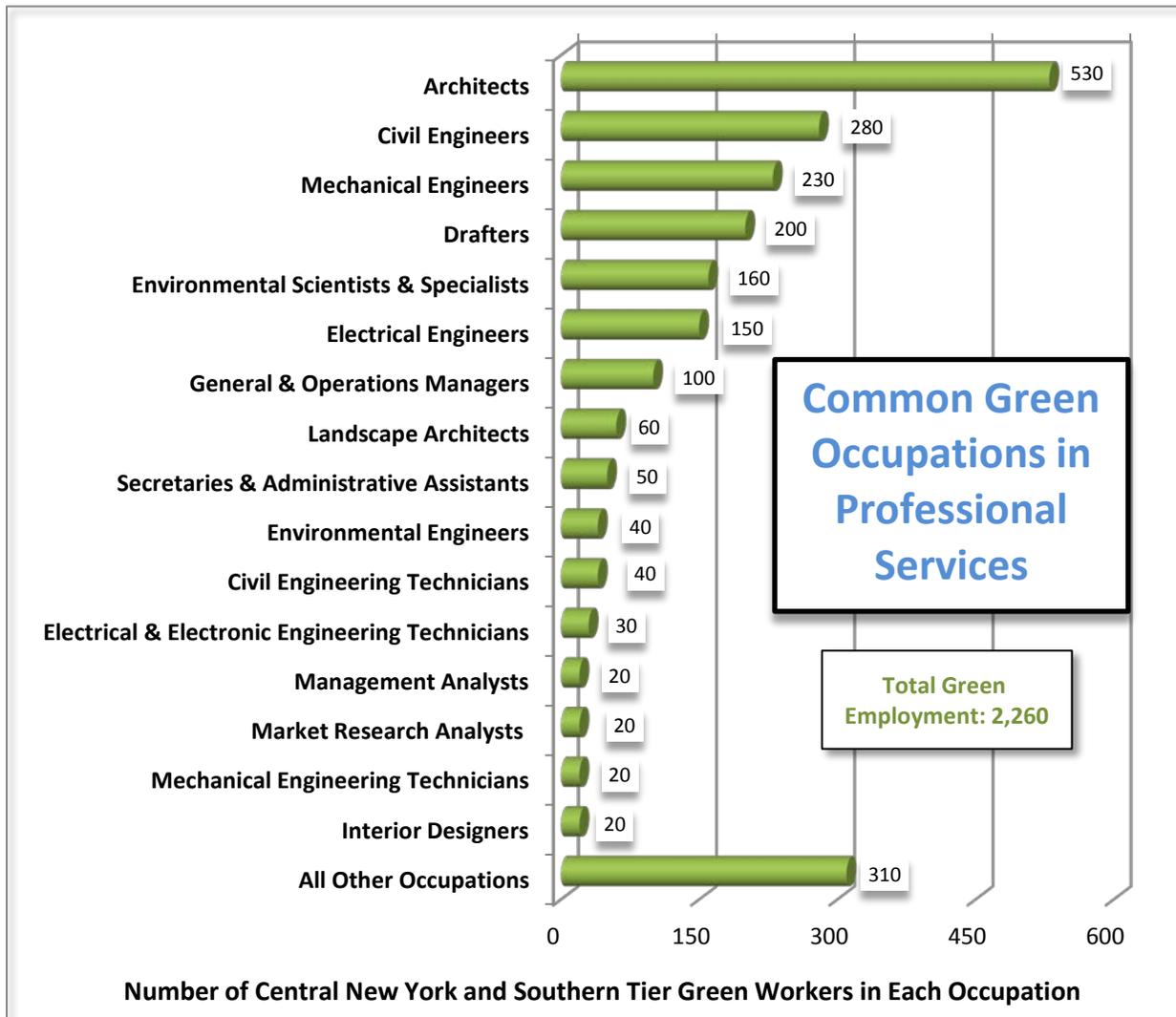
In the combined Central New York and Southern Tier region, green employment in the Construction Trades is relatively dispersed among several occupations. The top five occupations – Carpenters; Supervisors of Construction Workers; Heating, Air Conditioning, and Refrigeration Mechanics and Installers; Electricians; and Plumbers, Pipefitters, and Steamfitters – make up 55% of green employment in the sector.

**New York State Green Jobs Survey Finding  
In the Central New York/Southern Tier Region,  
Which Occupations are Green, or Greening?**



In the combined Central New York and Southern Tier region, green employment in Component Manufacturing is dominated by one occupation, Sheet Metal Workers. It alone makes up 46% of sector employment in the region, more than twice as much as the next occupation on the list (Team Assemblers).

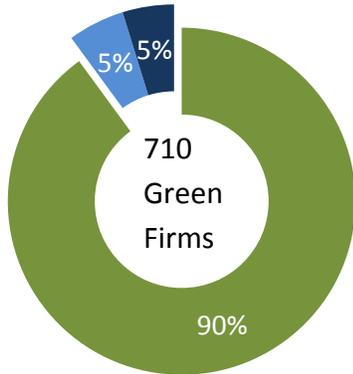
## New York State Green Jobs Survey Finding In the Central New York/Southern Tier Region, Which Occupations are Green, or Greening?



In the combined Central New York and Southern Tier region, green employment in the Professional Services cluster is concentrated in a few occupations. The three most common green occupations – Architects, Civil Engineers, and Mechanical Engineers-- account for almost half of the cluster’s green employment (1,040 workers). All of these occupations are involved in delivering energy efficiency products and services.

**New York State Green Jobs Survey Finding  
In the Central New York/Southern Tier Region,  
Are Firms Able to Fill All Their Green Jobs?**

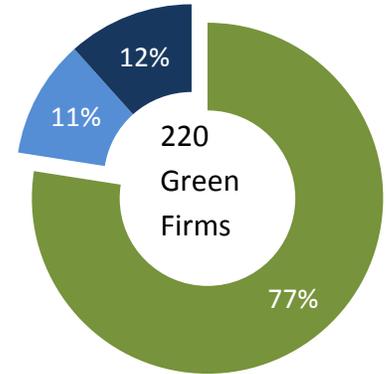
**The short answer – “In many cases, there's no problem.”  
In this region, the degree of difficulty companies have finding  
and hiring qualified green workers varies by industry cluster.**



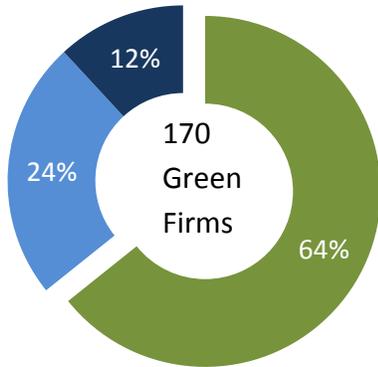
**Construction Trades**

Of the 710 green firms in Construction Trades in the combined Central New York and Southern Tier region, 10% (70) have difficulty recruiting qualified green workers. 5% have difficulty recruiting for more than one occupation.

**Building Services**



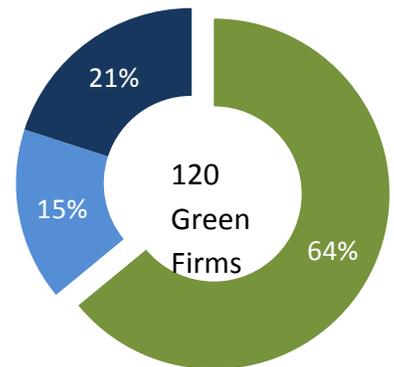
Of the 220 green firms in Building Services in the combined Central New York and Southern Tier region, 23% (50) have difficulty recruiting qualified green workers. 12% have difficulty recruiting for more than one occupation.



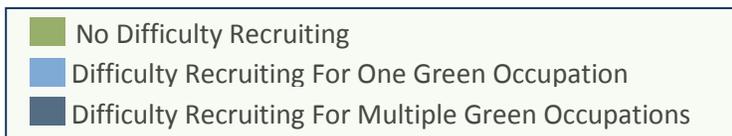
**Professional Services**

Of the 170 green firms in Professional Services in the combined Central New York and Southern Tier region, 36% (60) have difficulty recruiting qualified green workers. 12% have difficulty recruiting for more than one occupation.

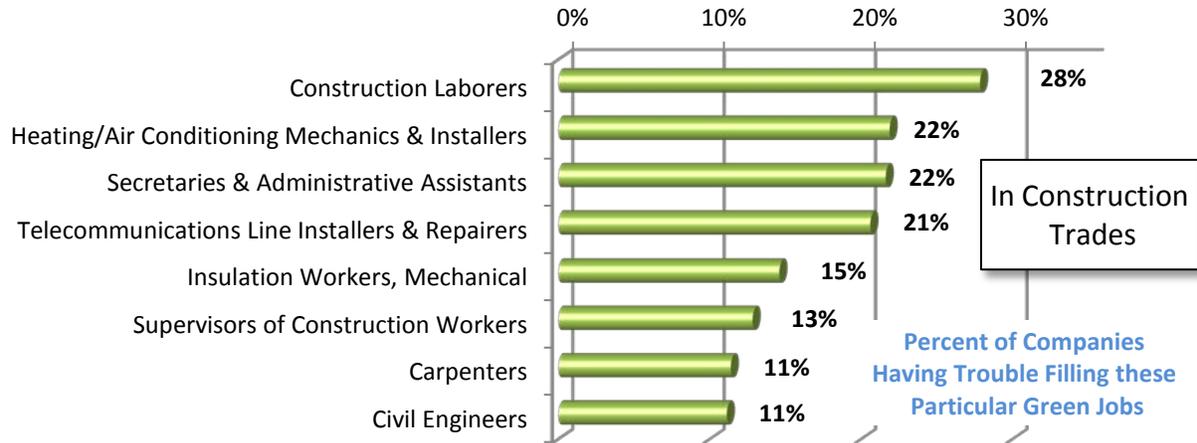
**Component Manufacturing**



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

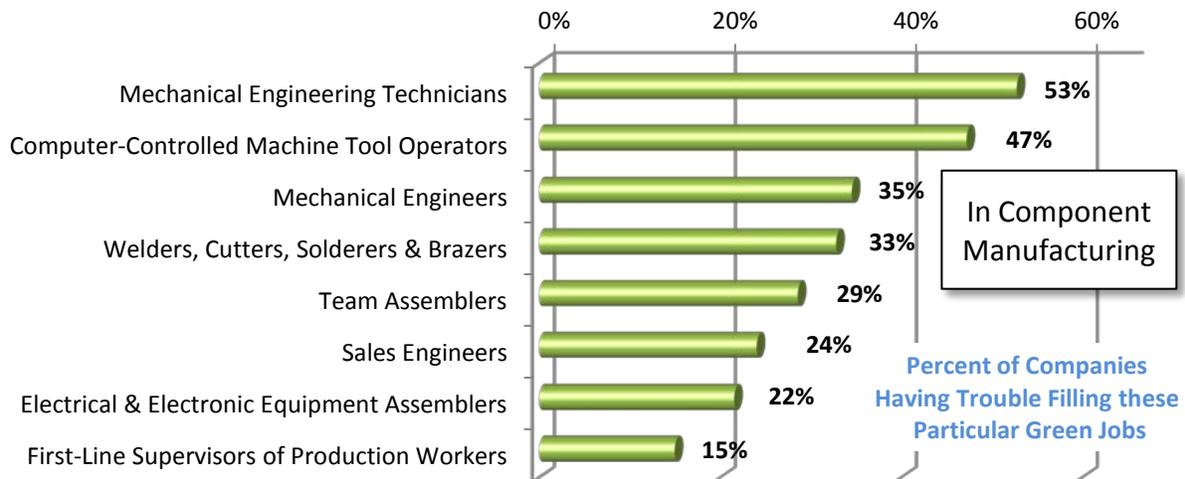


**New York State Green Jobs Survey Finding  
In the Central New York/Southern Tier Region,  
Which Green Job Occupations are in High Demand?**



Twenty-eight percent of the Construction Trades firms in the combined Central New York and Southern Tier region that employ or seek to employ green Construction Laborers have difficulty recruiting qualified green workers for these jobs. These workers perform tasks involving physical labor at construction sites; they operate hand and power tools of all types.

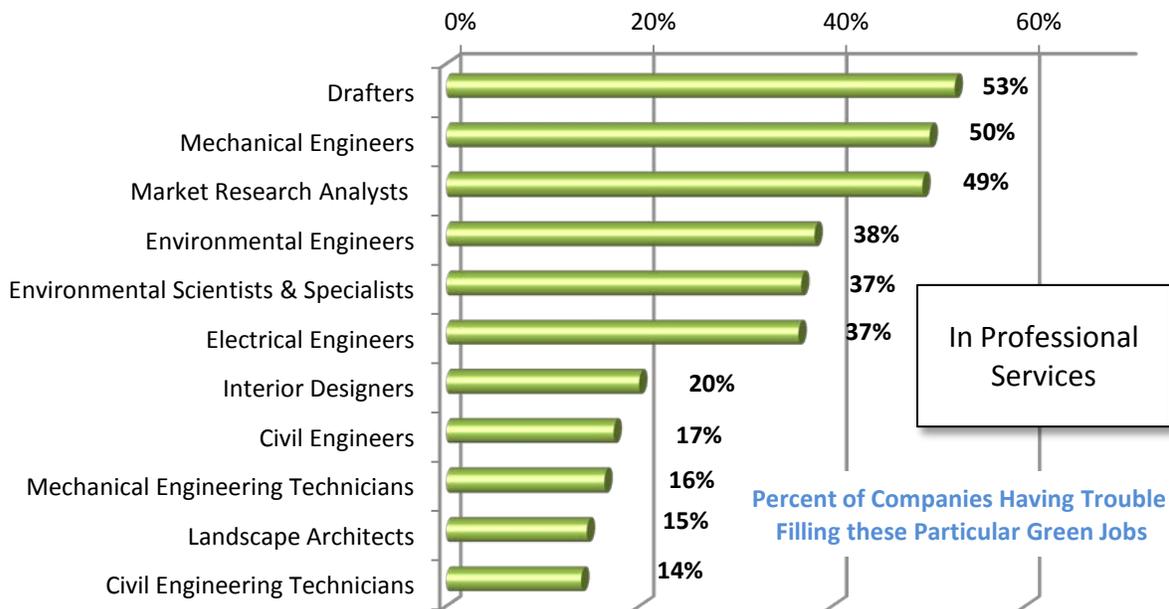
**Green Job Occupations Currently in High Demand**



Fifty-three percent of the Construction Trades firms in the combined Central New York and Southern Tier region that employ or seek to employ green Mechanical Engineering Technicians have difficulty recruiting qualified green workers for these jobs. These workers apply theory and principles of mechanical engineering to modify, develop, test, or calibrate machinery and equipment under direction of engineering staff or physical scientists.

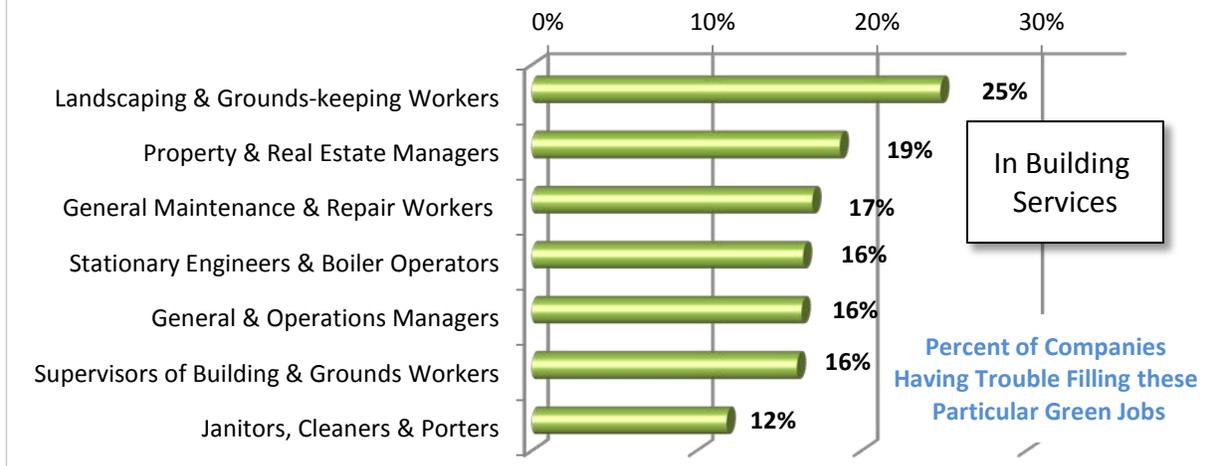
**New York State Green Jobs Survey Finding  
In the Central New York/Southern Tier Region,  
Which Green Job Occupations are in High Demand?**

**Green Job Occupations Currently in High Demand**



Fifty-three percent of the Construction Trades firms in the combined Central New York and Southern Tier region that employ or seek to employ green Drafters have difficulty recruiting qualified green workers for these jobs.

**Green Job Occupations Currently in High Demand**

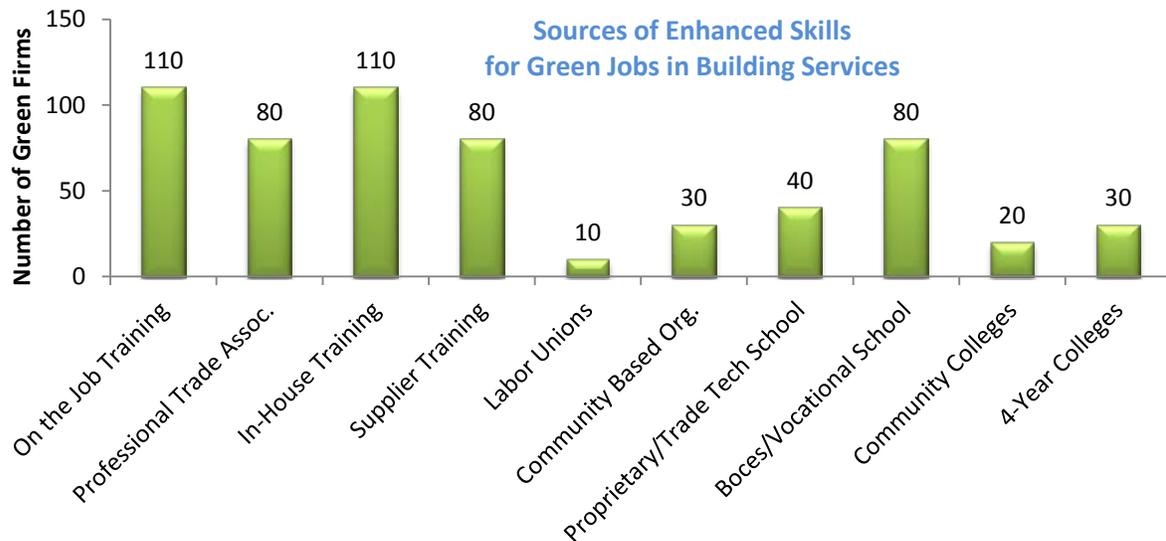


Twenty-five percent of the Building Services firms in the combined Central New York and Southern Tier region that employ or seek to employ green Landscaping and Grounds-keeping Workers have difficulty recruiting qualified green workers for these jobs. These workers landscape or maintain grounds and property using hand or power tools or equipment.

## New York State Green Jobs Survey Finding In the Central New York/Southern Tier Region, What is the Need for Additional Training?

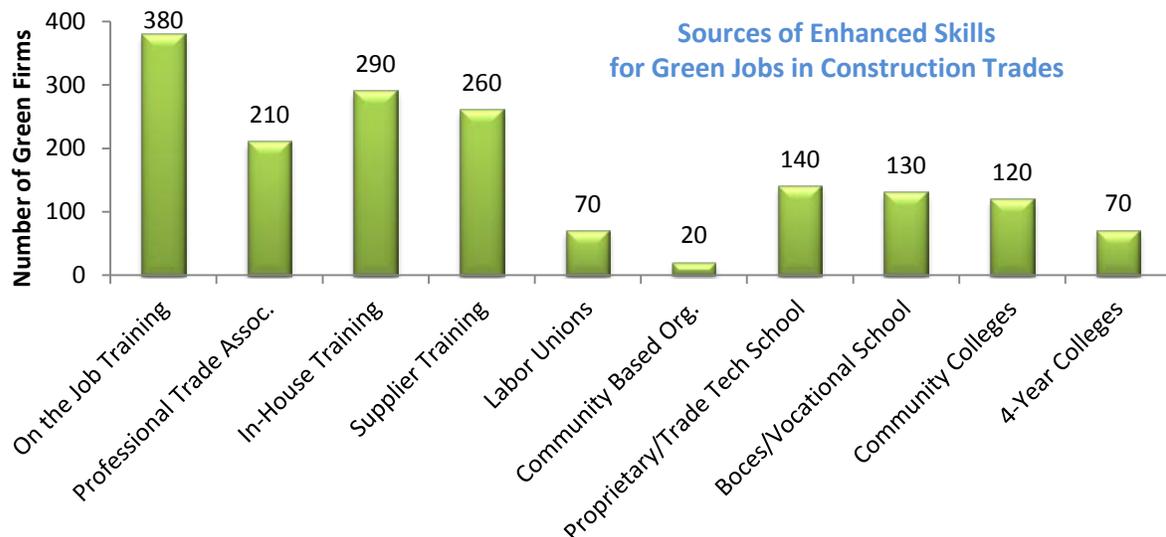
### Building Services

In Building Services, 71% (150) of green firms require that their employees have some form of enhanced skills to deliver green services in the Central New York and Southern Tier region. To train their employees, firms most often utilize on-the-job training and/or in-house training programs.



### Construction Trades

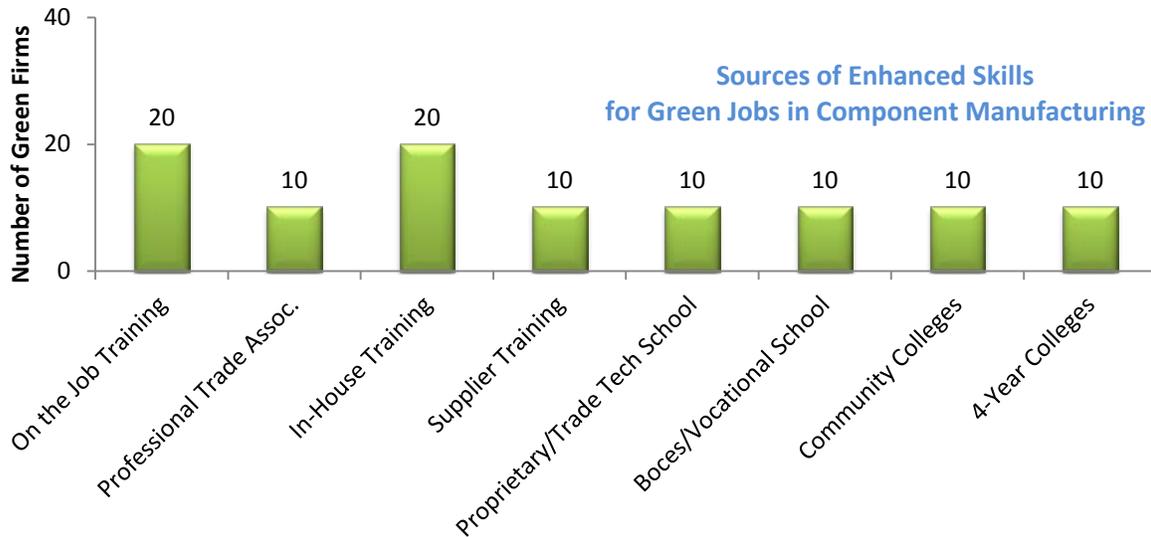
Approximately 65% (460) of green firms in Construction Trades require employees to have enhanced skills in order to produce green products or services. In this Central New York and Southern Tier region, firms most often utilize on-the-job training, in-house training and/or supplier based programs.



**New York State Green Jobs Survey Finding  
In the Central New York/Southern Tier Region,  
What is the Need for Additional Training?**

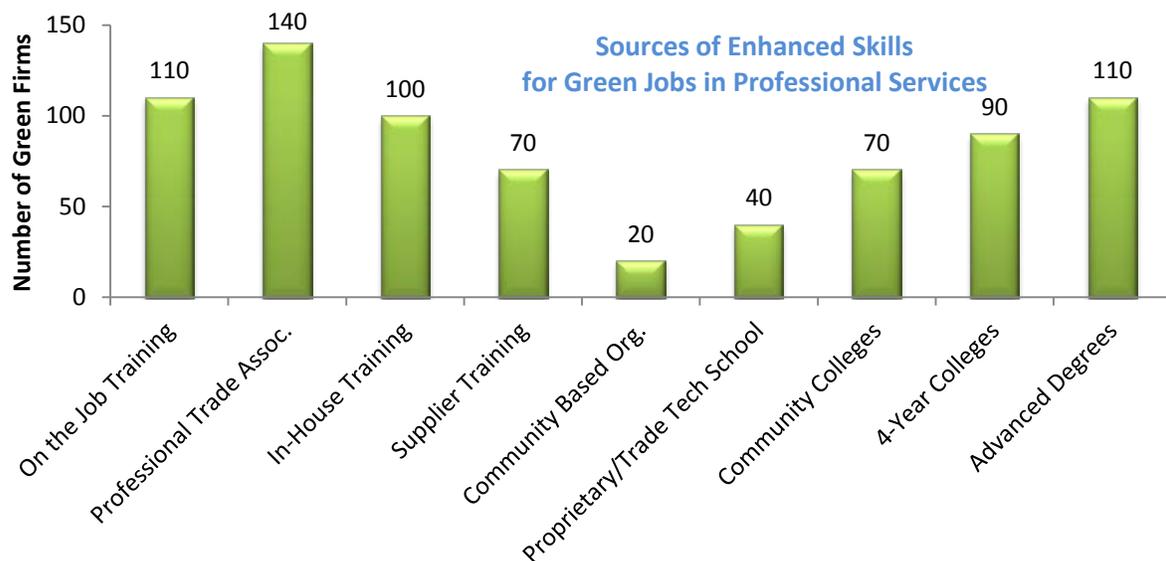
**Component Manufacturing**

The share of green Component Manufacturing firms requiring that employees have enhanced skills to produce green products or services is 84% (30). To train their employees, firms most often utilize on-the-job training and/or in-house training programs.



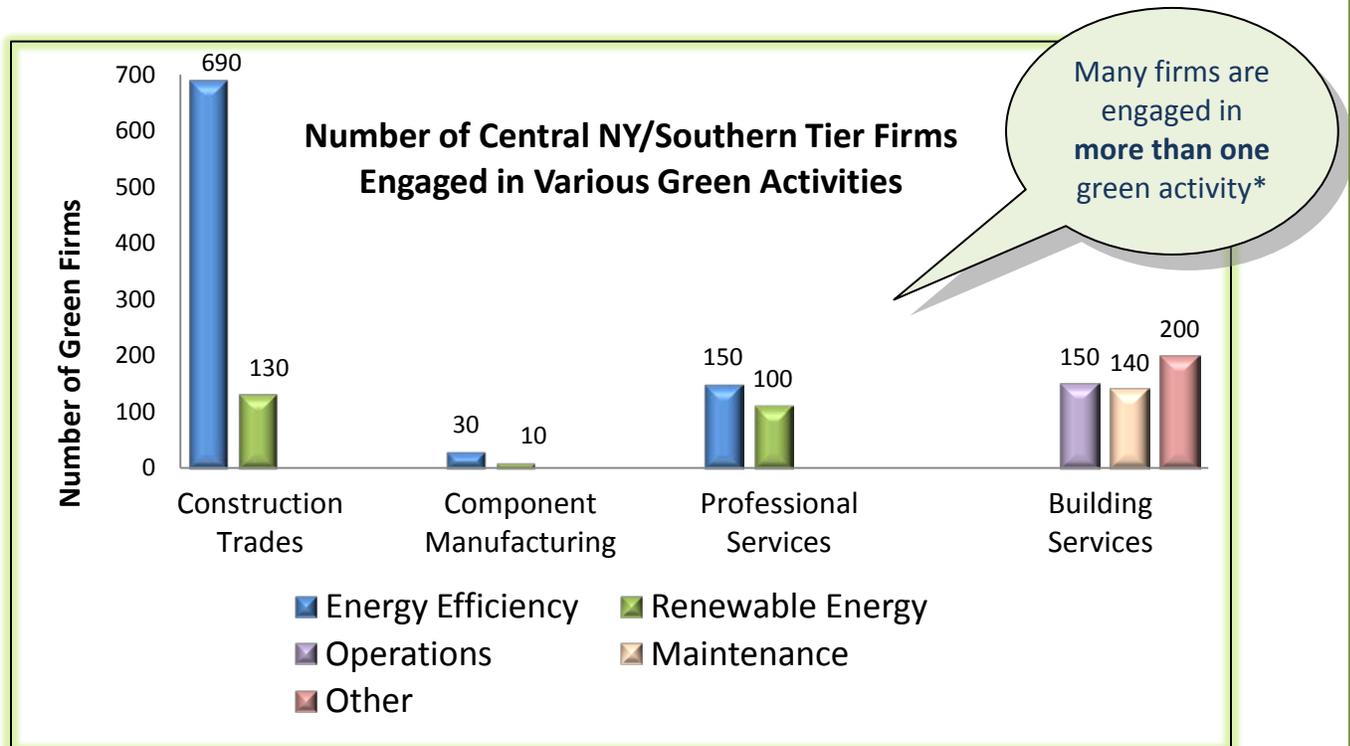
**Professional Services**

In the Central New York and Southern Tier region; 93% (160) 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, advanced degree programs, or on-the-job training programs.



**New York State Green Jobs Survey Finding  
In the Central New York/Southern Tier 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 710 Construction Trades firms in Central New York and Southern Tier with green jobs (see page 4), the overwhelming majority are engaged in either efficiency (690)



\*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.

### 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.