Clean Energy Labor Market Intelligence
For New York State

Findings From the NYSDOL Business Survey

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Managing Economist, New York State Department of Labor

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Recent NYS Clean Energy Economy Studies

- Brookings-Battelle ‘Sizing the Clean Economy’ – 2011
  - Jobs that directly produce goods or services with environmental benefits
  - Includes 661 NAICS codes in 5 broad categories
  - Used industrial directories and web-based research
  - Identified 185,000 CE jobs in NYS

- USDOL BLS ‘Green Goods and Services’ Survey – 2012
  - Jobs that produce goods or provide services that benefit the environment or conserve natural resources
  - Includes 333 NAICS codes in 5 broad categories
  - 120,000 businesses in US surveyed (20% of overall economy)
  - Identified 248,500 green jobs in NYS (#2 in US)
State LMI Improvement Grant – $1.1 Million

- Quantify/Qualify Jobs in NYS’s Clean Energy Industry:
  - Focus on energy efficiency and renewable energy.
  - Identify emerging skills and training capacity.
  - Assess labor supply/demand and identify skill gaps.
  - Develop a green jobs portal for jobseekers, businesses and education/training organizations.
State LMI Improvement Grant – $1.1 Million

- Partners:
  - New York State Department of Labor
  - SUNY System Office of Business and Industry Relations.
  - SUNY Albany College of Nanoscale Science and Engineering, Energy and Environmental Technology Applications Center (E2TAC).
  - Advanced Energy Center (AEC) at Stony Brook University.
  - NYC LMI Service at the CUNY Graduate Center.
Some 20,000 businesses were surveyed in 7 industry clusters.

- On-line survey with paper option.
- All businesses with 25 or more workers were surveyed and one-quarter of smaller firms
- Approximately 70 NAICS in two categories (RE/EE)
- Focus on 4 industry clusters:
  - Construction trades.
  - Component manufacturers.
  - Professional services (Ex-Legal Services).
  - Building services.
Definition of a ‘Green’ Job

- A job whose duties primarily involve producing goods or delivering services that increase energy efficiency or generate renewable energy.
- Examples:
  - Manufacturing components for wind turbines or solar panels;
  - Energy retrofitting existing homes;
  - Scientific research and development that promotes RE or EE;
  - HVAC and performance monitoring/optimization on residential buildings.
### Number of Firms with Green Jobs

#### Estimated Number of Firms in New York State with One or More Employees in a Green Job

<table>
<thead>
<tr>
<th>Component</th>
<th>Manufacturing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Firms</td>
<td>7,370</td>
</tr>
<tr>
<td>Professional Services</td>
<td>4,110</td>
</tr>
<tr>
<td>Building Services</td>
<td>2,840</td>
</tr>
<tr>
<td>Construction Trades</td>
<td>260</td>
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#### Statewide

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<td>Number with Green Jobs</td>
<td>260</td>
<td>2,840</td>
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<td>7,370</td>
</tr>
<tr>
<td>Number in Cluster</td>
<td>1,660</td>
<td>10,300</td>
<td>25,540</td>
<td>26,980</td>
</tr>
<tr>
<td>Percent with Green Employees</td>
<td>15%</td>
<td>28%</td>
<td>16%</td>
<td>27%</td>
</tr>
</tbody>
</table>
Number of Green Jobs in New York State

Number of Workers in Green Jobs

<table>
<thead>
<tr>
<th></th>
<th>Statewide</th>
<th>Construction Trades</th>
<th>Professional Services</th>
<th>Building Services</th>
<th>Component Manufacturing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green Employment</td>
<td>76,600</td>
<td>65,770</td>
<td>31,490</td>
<td>5,360</td>
<td></td>
</tr>
<tr>
<td>Cluster Employment</td>
<td>226,020</td>
<td>211,460</td>
<td>138,600</td>
<td>80,450</td>
<td></td>
</tr>
</tbody>
</table>

Statewide Employment

- **Construction Trades**: 34%
- **Professional Services**: 31%
- **Building Services**: 23%
- **Component Manufacturing**: 7%
Common Green Occupations
Construction Trades

- Heating/Air Conditioning Mechanics & Installers: 10,060
- Carpenters: 8,720
- Plumbers, Pipefitters & Steamfitters: 7,900
- Electricians: 7,780
- First Line Supervisors of Construction Workers: 5,710
- Construction Managers & Project Managers: 5,400
- Construction Laborers: 4,050
- Insulation Workers; Floor, Ceiling & Wall: 2,460
- Sales Representatives, Services, All Other: 1,940
- Secretaries & Administrative Assistants: 1,860
- Insulation Workers; Mechanical: 1,850
- Carpenter Helpers: 1,780
- Plumber & Pipefitter Helpers: 1,780
- Cost Estimators: 1,750
- Electrician Helpers: 1,620
- Solar Photovoltaic Installers: 1,400
- Cement Masons & Concrete Finishers: 1,380
- Sheet Metal Workers: 1,260
- Roofers: 1,250
- Other Occupations: 6,650

Number of New York State Green Workers in Each Occupation
### Short-Term (1 year) Green Job Projection

<table>
<thead>
<tr>
<th>One Year Change</th>
<th>Building Services</th>
<th>Construction Trades</th>
<th>Component Manufacturing</th>
<th>Professional Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grow Larger</td>
<td>26%</td>
<td>30%</td>
<td>42%</td>
<td>38%</td>
</tr>
<tr>
<td>Unchanged</td>
<td>50%</td>
<td>42%</td>
<td>39%</td>
<td>45%</td>
</tr>
<tr>
<td>Become Smaller</td>
<td>1%</td>
<td>4%</td>
<td>3%</td>
<td>3%</td>
</tr>
<tr>
<td>Don't Know</td>
<td>23%</td>
<td>24%</td>
<td>16%</td>
<td>14%</td>
</tr>
</tbody>
</table>

**Number of Firms**

- 4,110
- 7,370
- 260
- 2,840

**For firms without green jobs, do they expect to have green employment?**

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
<th>Don’t Know</th>
<th>Number of Firms</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4%</td>
<td>71%</td>
<td>25%</td>
<td>21,430</td>
</tr>
<tr>
<td>Green employment</td>
<td>7%</td>
<td>57%</td>
<td>36%</td>
<td>19,600</td>
</tr>
<tr>
<td>Professional Services</td>
<td>3%</td>
<td>70%</td>
<td>27%</td>
<td>1,400</td>
</tr>
<tr>
<td>Employment</td>
<td>4%</td>
<td>74%</td>
<td>22%</td>
<td>7,460</td>
</tr>
</tbody>
</table>
Green Credentials Preferred by Business

Top Green Credentials Preferred by Businesses in New York State

- **Professional Services**
  - LEED: 57%
  - AEE: 8%
  - IEEE: 7%

- **Building Services**
  - LEED: 16%
  - BPI: 8%
  - BEAC: 5%

- **Component Manufacturing**
  - LEED: 13%
  - AEE: 8%

- **Construction Trades**
  - LEED: 21%
  - BPI: 14%
  - NAHB: 9%
Recruitment Challenges for Green Jobs

- **Construction Trades**
  - 7,370 Jobs
  - 83% No Difficulty Recruiting
  - 10% Difficulty Recruiting For Multiple Green Occupations
  - 7% Difficulty Recruiting For One Green Occupation

- **Professional Services**
  - 2,840 Jobs
  - 83% No Difficulty Recruiting
  - 11% Difficulty Recruiting For Multiple Green Occupations
  - 6% Difficulty Recruiting For One Green Occupation

- **Building Services**
  - 4,410 Jobs
  - 88% No Difficulty Recruiting
  - 6% Difficulty Recruiting For Multiple Green Occupations
  - 6% Difficulty Recruiting For One Green Occupation

- **Component Manufacturing**
  - 260 Jobs
  - 66% No Difficulty Recruiting
  - 19% Difficulty Recruiting For Multiple Green Occupations
  - 15% Difficulty Recruiting For One Green Occupation
Green Occupations in High Demand Construction Trades

Currently in High Demand in Construction Trades

Plumber & Pipefitter Helpers: 32%
Heating/Air Conditioning Mechanics & Installers: 30%
Plumbers, Pipefitters & Steamfitters: 27%
Sheet Metal Workers: 26%
Construction Laborers: 21%
Insulation Workers; Floor, Ceiling & Wall: 21%
Sales Representatives; Services, All Other: 15%
Insulation Workers; Mechanical: 15%
Electrician Helpers: 15%
First Line Supervisors of Construction Workers: 14%
Carpenter Helpers: 13%
Electricians: 12%
Construction Managers & Project Managers: 11%
Carpenters: 11%
Secretaries & Administrative Assistants: 10%
Cost Estimators: 9%
Roofers: 8%
Solar Photovoltaic Installers: 8%
Approximately 77% (5,660) of green businesses in Construction Trades require employees to have enhanced skills in order to produce green products or services.

<table>
<thead>
<tr>
<th>Sources of Enhanced Skills for Green Jobs in Construction Trades</th>
</tr>
</thead>
<tbody>
<tr>
<td>On-the-Job Training</td>
</tr>
<tr>
<td>Professional Trade Assoc.</td>
</tr>
<tr>
<td>In-House</td>
</tr>
<tr>
<td>Supplier</td>
</tr>
<tr>
<td>Labor Union</td>
</tr>
<tr>
<td>Community Based Org.</td>
</tr>
<tr>
<td>Proprietary Trade/Tech.</td>
</tr>
<tr>
<td>BOCES/Voc. Ed.</td>
</tr>
<tr>
<td>Community College</td>
</tr>
<tr>
<td>4-Year College</td>
</tr>
</tbody>
</table>
Many firms are engaged in more than one green activity.
State and Regional Findings from the Green Job Study

Green Business Directory by Region, Industry, Category

Green Job Boards and Career Exploration Tools

Training Programs and Eligible Training Providers

Homeowner Information

www.greencareersny.com