

The background of the cover features a perspective view of two long rows of solar panels on a grassy field, receding towards a bright sun in a clear blue sky. The solar panels are dark blue with a grid pattern. The grass is a vibrant green. The sun is positioned in the center of the horizon, creating a lens flare effect. The overall color palette is dominated by greens and blues.

# Green Jobs Survey Report

*State of Florida*



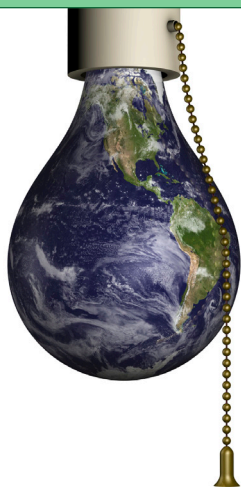
# Green Jobs Survey Report

## State of Florida

The Green Jobs Survey for Florida was conducted in 2010 by the Florida Agency for Workforce Innovation in partnership with Workforce Florida, Inc. and was funded by the U.S. Department of Labor. The statewide data is designed to inform local workforce, education, and economic development partners of the dynamics of the green economy. The survey aims to help providers tailor training needs to green occupations most in demand.

- The Florida Green Jobs Survey estimated 42,422 green jobs statewide in 2010. This represented 0.6 percent of total industry employment. There were 9,119 green establishments in Florida in 2010, representing 1.5 percent of all businesses.
- Employers expected to add 3,385 green jobs between 2010 and 2011, amounting to 45,807 green jobs in 2011 at a growth rate of 8.0 percent.
- If this count includes employers who did not have green jobs currently but planned to add new green jobs and/or to convert non-green to green jobs within the next year, green jobs were expected to grow by 30.3 percent (12,841 jobs) from 2010 to 2011 for a total of 55,263 green jobs in 2011.
- Workforce Central Florida (Orange, Osceola, Seminole, Lake, and Sumter counties) had the most green jobs of any workforce region (9,912 jobs), followed by WorkSource (Baker, Clay, Duval, Nassau, Putnam, and St. Johns counties) with 3,947 green jobs, and Tampa Bay Workforce Alliance, Inc. (Hillsborough County) with 3,139 green jobs in 2010.
- South Florida Workforce (Miami-Dade and Monroe counties) had the lowest percentage of green jobs relative to total employment and also had the lowest share of green businesses of all 24 regional workforce boards.

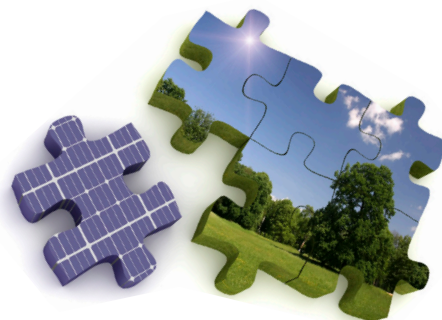
## Green Industry Activities



### Green Jobs by Activity Group

Statewide	Produce Renewable Energy	Increase Energy Efficiency	Conserve Natural Resources	Prevent, Reduce, Clean Up Pollution	Produce Clean Transportation and Fuels
Current Green Jobs (2010)	3,971	17,445	12,429	21,933	2,744
Green Jobs in 2011	4,618	19,426	13,214	22,765	3,138
Growth Rate 2010-2011	16%	11%	6%	4%	14%


- Prevent, reduce, clean up pollution** was the largest green activity in Florida in 2010, concentrated mainly in recycling efforts.
- The second largest green activity was **increase energy efficiency**, followed by **conserve natural resources**.
- Green activities with the highest growth rates include **produce renewable energy** (16 percent); **produce clean transportation and fuels** (14 percent); and **increase energy efficiency** (11 percent).





# Green Jobs by Industry Sector

## Current and Projected Jobs by Industry Sector

<b>Industry Sector Statewide</b>	<b>Green Jobs 2010</b>	<b>Green Jobs 2011</b>	<b>Growth Rate (%)</b>
Construction	10,438	12,032	15%
Administrative/Support and Waste Management/ Remediation Services	5,243	5,553	6%
Professional, Scientific, and Technical Services	4,878	5,390	10%
Manufacturing	3,202	3,327	4%
Wholesale Trade	3,029	3,197	6%
Retail Trade	2,463	2,643	7%
Public Administration	2,338	2,454	5%
Arts, Entertainment, and Recreation	2,100	2,152	2%
Transportation and Warehousing	1,456	1,527	5%
Health Care and Social Assistance	1,432	1,486	4%
Accommodation and Food Services	1,187	1,245	5%
Real Estate and Rental and Leasing	873	885	1%
Utilities	857	884	3%
Educational Services	620	627	1%
Other services (except Public administration)	587	638	9%
Information	529	558	5%
Management of Companies and Enterprises	526	530	1%
Finance and Insurance	346	352	2%
Agriculture, Forestry, Fishing and Hunting	241	247	2%
Mining, Quarrying, and Oil and Gas Extraction	75	81	8%
Grand Total	42,422	45,807	8%

 The top five green industry sectors in Florida in 2010 were construction (10,438 jobs); administrative and support and waste remediation and support services (5,243 jobs); professional, scientific, and technical services (4,878 jobs); manufacturing (3,202 jobs); and wholesale trade (3,209 jobs).

 Construction green jobs accounted for a quarter of all green jobs in the state. The construction industry also ranked highest in expected growth rate with 15 percent compared to all industries over the year.

 Total green jobs in Florida in 2010 were 42,422, which is approximately 0.6 percent of total employment in the state.

# Green Jobs Percent of Total Employment by Industry Sector

<i><b>Industry Sector Statewide</b></i>	<i><b>Green Jobs 2010</b></i>	<i><b>Total Industry Employment</b></i>	<i><b>Percent of Total Employment</b></i>
Utilities	857	29,634	2.9%
Construction	10,438	398,729	2.6%
Mining, quarrying, & oil & gas extraction	75	3,720	2.0%
Professional, scientific and technical services	4,878	435,007	1.1%
Arts, entertainment, and recreation	2,100	191,129	1.1%
Manufacturing	3,202	323,810	1.0%
Administrative/support and waste management/ remediation services	5,243	530,763	1.0%
Wholesale trade	3,029	318,160	1.0%
Management of companies and enterprises	526	80,004	0.7%
Transportation and warehousing	1,456	246,018	0.6%
Real estate and rental and leasing	873	156,690	0.6%
Public administration	2,338	465,449	0.5%
Information	529	144,045	0.4%
Agriculture, forestry, fishing and hunting	241	90,003	0.3%
Retail trade	2,463	927,388	0.3%
Other services (except public administration)	587	232,951	0.3%
Accommodation and food services	1,187	733,880	0.2%
Health care and social assistance	1,432	988,203	0.1%
Educational services	620	556,225	0.1%
Finance and insurance	346	324,846	0.1%
<b>TOTAL</b>	<b>42,422</b>	<b>7,176,801</b>	<b>0.6%</b>

♻️ Green employment was reported in each of the 20 industry sectors.

♻️ The industry with the greatest share of green jobs in Florida was utilities with 2.9 percent of total employment.

♻️ Construction had the largest number of green jobs in Florida in 2010 and ranked second with 2.6 percent of total employment.

## Businesses Ranked by Green Activities

<i><b>Green Activity Statewide</b></i>	<i><b>Number of Establishments</b></i>
Prevent, Reduce, and Clean Up Pollution	4,272
Increase Energy Efficiency	4,141
Conserve Natural Resources	2,905
Produce Renewable Energy	1,129
Produce Clean Transportation and Fuels	654

# Green Jobs by Occupation

## Top 25 Green Occupations by Number of Jobs

<b>Occupation Titles Statewide</b>	<b>Total Green Jobs 2010</b>	<b>Total Green Jobs 2011</b>	<b>Average Wage</b>
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	3,676	4,045	\$20.36
Environmental Scientists and Specialists, Including Health	1,650	1,654	\$35.27
First-Line Supervisors/Managers of Construction Trades and Extraction Workers	1,519	1,810	NA
Production Workers, All Other	1,297	1,306	\$11.76
Electricians	1,215	1,470	\$18.54
Truck Drivers, Heavy and Tractor-Trailer	1,065	1,115	\$12.42
Solar Photovoltaic Installers	1,059	1,518	NA
Janitors and Cleaners, except Maids and Housekeeping Cleaners	1,041	1,164	NA
Packers and Packagers, Hand	1,033	1,033	\$13.39
Hazardous Materials Removal Workers	1,018	1,050	\$14.28
Construction Laborers	818	824	\$15.03
Maids and Housekeeping Cleaners	799	806	\$10.50
Maintenance and Repair Workers, General	769	788	NA
Sales Representatives, Wholesale and Manufacturing, except Technical and Scientists	769	786	\$38.35
Plumbers, Pipefitters, and Steamfitters	742	767	\$15.79
Automotive Service Technicians and Mechanics	678	780	\$19.60
Construction Managers	651	698	\$34.27
Architects, except Landscape and Naval	635	635	NA
General and Operations Managers	595	672	\$86.63
Environmental Engineers	585	609	\$38.66
Water and Liquid Waste Treatment Plant and System Operators	549	560	\$22.05
Roofers	537	715	\$16.30
Packaging and Filling Machine Operators and Tenders	469	469	\$13.62
Nonfarm Animal Caretakers	464	479	\$16.70
Retail Salespersons	462	498	\$13.72
<b>TOTAL, ALL GREEN OCCUPATIONS</b>	<b>42,422</b>	<b>45,807</b>	<b>NA</b>


♻️ The top green occupation in Florida measured by number of jobs was heating, air conditioning, and refrigeration mechanics and installers with 3,676 jobs in 2010, followed by environmental scientists and specialists (1,650 jobs) and first-line supervisors of construction trades and extraction workers (1,519 jobs).


♻️ Construction and waste-related occupations dominated the top 25 list. Ten of the top 25 green occupation in Florida were construction-related. These included electricians (1,215 jobs); solar photovoltaic installers (1,059 jobs); construction laborers (818 jobs); plumbers (742 jobs); architects (635 jobs); and roofers (537 jobs). Waste-related occupations included production workers, all other (at recycling centers, 1,297 jobs); truck drivers (including recycling waste disposal, 1,065 jobs); hazardous materials removal workers (1,018 jobs); and water and liquid waste treatment plant and systems operators (549 jobs).

# Shades of Green by Occupation

## Top 25 “Greenest” Occupations

<i><b>Occupation Titles Statewide</b></i>	<i><b>Green Jobs as a Percent of Total Jobs</b></i>
Solar Photovoltaic Installers	100.0%
Conservation Scientists	100.0%
Hazardous Materials Removal Workers	100.0%
Biochemists and Biophysicists	37.7%
Foresters	35.5%
Textile, Apparel, and Furnishings Workers, All Other	32.3%
Production Workers, All Other	30.0%
Plant and System Operators, All Other	26.8%
Environmental Scientists and Specialists, Including Health	25.5%
Environmental Science and Protection Technicians, Including Health	25.2%
Insulation Workers, Floor, Ceiling, and Wall	24.2%
Environmental Engineers	19.9%
Geoscientists, Except Hydrologists and Geographers	17.4%
Natural Sciences Managers	16.8%
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	16.3%
Environmental Science Teachers, Postsecondary	15.7%
Environmental Engineering Technicians	14.9%
Forest and Conservation Technicians	14.8%
Furnace, Kiln, Oven, Drier, and Kettle Operators and Tenders	13.7%
Computer-Controlled Machine Tool Operators, Metal and Plastic	12.9%
Soil and Plant Scientists	12.9%
Microbiologists	12.8%
Architects, Except Landscape and Naval	10.7%
Chemical Equipment Operators and Tenders	10.7%
Mining Machine Operators, All Other	10.4%

 Occupations were compared based on green jobs as a percent of total jobs.

 The greenest jobs in Florida in 2010 were 100 percent green including photovoltaic installers; conservation scientists; and hazardous materials removal workers.





# Education and Training Requirements for Green Jobs

## Statewide Green Training Needs and Skills Gaps

- Approximately half of estimated green jobs require specific green certification or training. The most common special requirements included Leadership in Energy and Environmental Design (LEED), solar photovoltaic certification, and North American Board of Certified Energy Practitioners (NABCEP) certification.
- Certifications in hybrid car maintenance were required of auto technicians.
- Hazardous Waste Operations and Emergency Response and Hazardous Materials training as specified by the U.S. Department of Labor's Occupational Safety and Health Administration was mentioned as a requirement for hazardous materials removal workers.
- Supervisory Control and Data Acquisition (SCADA) was required of first-line supervisors of production and operating workers.
- Many of the green government jobs identified Geographic Information Systems as a training need.
- Specialized knowledge and training in water reuse installation and ozone generator installation was identified by employers as a training need for industrial machinery mechanics.
- Training in ways to recycle and proper (green) waste disposal was needed for hotel workers.
- Specialized knowledge and training in geothermal and heat pump technology was identified as a skill needed for heating, air conditioning, and refrigeration mechanics and installers.

## Educational Requirements for Green Jobs Statewide

<i>Education Level</i>	<i>Total 2010 Estimate</i>	<i>Total 2011 Expected</i>	<i>Percent Share of Total 2010 Jobs</i>
Master's and above	838	847	2.0%
Bachelor's degree	5,644	5,890	13.3%
Associate's degree	6,212	6,930	14.6%
Post Secondary Adult Vocational certificate	15,628	17,228	36.8%
High School diploma	2,745	2,856	6.5%
Less than high school	9,015	9,194	21.2%

- Florida green jobs education requirements mirror closely education requirements in the broader economy. Green jobs tend to be found in traditional occupations that have been "greened" by some employers. The greening of an occupation may require new green knowledge, skills, or abilities while the position's basic education requirements are little changed. Only a few jobs are truly emerging occupations.
- Post Secondary Adult Vocational Certificates (PSAV's) are the most frequently required education level by employers.
- Nearly one quarter of the green jobs in Florida required either a Bachelor's degree or an Associate's degree.
- Green jobs congregate towards either very low educational requirements (less than high school) or high educational requirements (Associate's degree or above).



## Florida Agency for Workforce Innovation Labor Market Statistics Center



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[www.greenjobsflorida.net](http://www.greenjobsflorida.net)

[www.labormarketinfo.com](http://www.labormarketinfo.com)

TTY is available via the Florida Relay Service at 711



Websites of interest:

Florida Agency for Workforce Innovation - [www.floridajobs.org](http://www.floridajobs.org)

Employ Florida - [www.employflorida.com](http://www.employflorida.com)

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