



# Green Collar Training & Workforce Development

*July 22, 2009*

*9:00 am – 11:00 am*

*Borough of Manhattan Community College*



# Green Sectors

1. Agriculture and Forestry
2. Energy and Carbon Capture and Storage
3. Energy Efficiency
4. Energy Trading
5. Environmental Protection
6. Government and Regulatory Administration
7. Green Construction
8. Manufacturing
9. Renewable Energy Generation
10. Research, Design, and Consulting Services
11. Transportation
12. Recycling and Waste Reduction

**SOURCE** | Dierdorff, E., J. Norton, et al. February 2009. *Greening of the World of Work: Implications for O\*NET SOC and New and Emerging Occupations*, prepared for the U.S. Department of Labor, Employment and Training Administration.

# Promising **Green Sectors** in New York City

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# Energy Efficiency:

## *In-Demand and Enhanced Skills Occupations*

TITLE	STATUS	EDUCATION REQ	NYC OUTLOOK	WAGES			JOBS		
				Entry	Median	Experienced	2006	Openings	% New
Boilermakers	IN DEMAND	BA+ REQUIRED	<i>na</i>	<i>na</i>	<i>na</i>	<i>na</i>	<i>na</i>	<i>na</i>	<i>na</i>
Stationary Engineers and Boiler Operators	IN DEMAND	LESS THAN BA	LEAST FAVORABLE	\$ 46,690	\$ 67,170	\$ 72,470	2,270	40	0%
Insulation Workers, Floor, Ceiling, and Wall	IN DEMAND	LESS THAN BA	FAVORABLE	<i>na</i>	<i>na</i>	<i>na</i>	310	10	0%
Maintenance and Repair Workers, General	ENHANCED SKILLS	LESS THAN BA	VERY FAVORABLE	\$ 23,600	\$ 36,130	\$ 43,230	45,310	390	72%
General and Operations Managers	ENHANCED SKILLS	BA+ REQUIRED	FAVORABLE	\$ 72,680	\$ 134,720	>166400	44,960	1080	0%
Financial Analysts	ENHANCED SKILLS	BA+ REQUIRED	FAVORABLE	\$ 56,600	\$ 86,290	\$ 122,500	24,080	560	75%
Training and Development Specialists	ENHANCED SKILLS	BA PREFERRED NOT REQUIRED	FAVORABLE	\$ 37,070	\$ 57,380	\$ 72,610	6,350	240	42%
Electrical Engineers	ENHANCED SKILLS	BA PREFERRED NOT REQUIRED	LEAST FAVORABLE	\$ 63,010	\$ 92,830	\$ 110,640	2,190	60	17%

SOURCE | O\*NET, 2009. Greening of the World of Work: Implications for O\*NET SOC and New and Emerging Occupations, Prepared for the U.S. Department of Labor Employment and Training Administration, Office of Workforce Investment. 2006-2016 Occupational Outlooks and Staffing Patterns from the New York State Department of Labor.

# Green Construction

## *In-Demand Occupations*

TITLE	STATUS	EDUCATION REQ	NYC OUTLOOK	WAGES			JOBS		
				Entry	Median	Experienced	2006	Openings	% New
Boilermakers	IN DEMAND	BA+ REQUIRED	na	na	na	na	na	na	na
Laborers and Freight, Stock, and Material Movers, Hand	IN DEMAND	LESS THAN BA	FAVORABLE	\$ 16,840	\$ 22,690	\$ 30,400	34,190	1090	0%
Carpenters	IN DEMAND	LESS THAN BA	VERY FAVORABLE	\$ 33,310	\$ 55,630	\$ 70,740	22,560	500	38%
Electricians	IN DEMAND	LESS THAN BA	VERY FAVORABLE	\$ 41,420	\$ 65,650	\$ 84,540	19,520	710	30%
Helpers--Installation, Maintenance, and Repair Workers	IN DEMAND	LESS THAN BA	FAVORABLE	\$ 19,810	\$ 37,180	\$ 44,230	4,150	120	17%
Industrial Truck and Tractor Operators	IN DEMAND	LESS THAN BA	FAVORABLE	\$ 21,730	\$ 31,950	\$ 39,900	3,970	100	0%
Architectural and Civil Drafters	IN DEMAND	LESS THAN BA	LEAST FAVORABLE	\$ 37,140	\$ 49,420	\$ 60,860	3,610	120	17%
Operating Engineers and Other Construction Equipment Operators	IN DEMAND	LESS THAN BA	VERY FAVORABLE	\$ 55,130	\$ 84,310	\$ 92,740	2,710	60	17%
Welders, Cutters, Solderers, and Brazers	IN DEMAND	LESS THAN BA	LEAST FAVORABLE	\$ 21,990	\$ 33,660	\$ 45,950	2,250	50	0%
Helpers--Carpenters	IN DEMAND	LESS THAN BA	VERY FAVORABLE	\$ 18,150	\$ 25,180	\$ 32,900	1,940	80	38%
Cement Masons and Concrete Finishers	IN DEMAND	LESS THAN BA	FAVORABLE	na	na	na	1,740	70	29%
Structural Iron and Steel Workers	IN DEMAND	LESS THAN BA	VERY FAVORABLE	\$ 38,420	\$ 82,500	\$ 93,090	1,370	60	17%
Structural Metal Fabricators and Fitters	IN DEMAND	LESS THAN BA	LEAST FAVORABLE	\$ 19,020	\$ 31,050	\$ 45,860	1,040	20	0%
Insulation Workers, Floor, Ceiling, and Wall	IN DEMAND	LESS THAN BA	FAVORABLE	na	na	na	310	10	0%

# Green Construction:

## *Enhanced Skills Occupations*

TITLE	STATUS	EDUCATION REQ	NYC OUTLOOK	WAGES			JOBS		
				Entry	Median	Experienced	2006	Openings	% New
Landscape Architects	ENHANCED SKILLS	BA+ REQUIRED	na	na	na	na	na	na	na
Urban and Regional Planners	ENHANCED SKILLS	BA+ REQUIRED	na	na	na	na	na	na	na
Construction and Building Inspectors	ENHANCED SKILLS	BA+ REQUIRED	na	na	na	na	na	na	na
Maintenance and Repair Workers, General	ENHANCED SKILLS	LESS THAN BA	VERY FAVORABLE	\$ 23,600	\$ 36,130	\$ 43,230	45,310	390	72%
Construction Laborers	ENHANCED SKILLS	LESS THAN BA	VERY FAVORABLE	\$ 26,070	\$ 53,790	\$ 63,010	16,930	280	54%
Plumbers, Pipefitters, and Steamfitters	ENHANCED SKILLS	LESS THAN BA	VERY FAVORABLE	\$ 36,260	\$ 58,330	\$ 76,580	12,670	430	40%
Construction Managers	ENHANCED SKILLS	BA PREFERRED NOT REQUIRED	VERY FAVORABLE	\$ 64,640	\$ 106,440	\$ 144,870	11,460	280	36%
Architects, Except Landscape and Naval	ENHANCED SKILLS	BA+ REQUIRED	FAVORABLE	\$ 49,700	\$ 72,110	\$ 94,880	7,040	260	50%
Training and Development Specialists	ENHANCED SKILLS	BA PREFERRED NOT REQUIRED	FAVORABLE	\$ 37,070	\$ 57,380	\$ 72,610	6,350	240	42%
Civil Engineers	ENHANCED SKILLS	BA+ REQUIRED	LEAST FAVORABLE	\$ 55,690	\$ 77,350	\$ 94,700	5,130	220	36%
Cost Estimators	ENHANCED SKILLS	LESS THAN BA	VERY FAVORABLE	\$ 52,260	\$ 74,400	\$ 90,030	3,700	150	47%
Sheet Metal Workers	ENHANCED SKILLS	LESS THAN BA	FAVORABLE	\$ 32,350	\$ 66,720	\$ 78,490	2,550	70	14%
Electrical Engineers	ENHANCED SKILLS	BA PREFERRED NOT REQUIRED	LEAST FAVORABLE	\$ 63,010	\$ 92,830	\$ 110,640	2,190	60	17%
Roofers	ENHANCED SKILLS	LESS THAN BA	FAVORABLE	\$ 26,510	\$ 37,850	\$ 60,230	1,750	70	43%
Hazardous Materials Removal Workers	ENHANCED SKILLS	LESS THAN BA	LEAST FAVORABLE	na	na	na	1,660	60	33%
Mechanical Engineers	ENHANCED SKILLS	BA+ REQUIRED	LEAST FAVORABLE	\$ 53,910	\$ 72,160	\$ 86,680	1,630	60	33%
Power Plant Operators	ENHANCED SKILLS	LESS THAN BA	LEAST FAVORABLE	\$ 55,010	\$ 70,020	\$ 75,200	580	20	0%

# New and Emerging Occupations

## Energy Efficiency

- ❖ Energy Auditors
- ❖ Energy Engineers
- ❖ Testing, Adjusting & Balancing (TAB) Technicians
- ❖ Weatherization Installers and Technicians

## Green Construction

- ❖ Energy Engineers

# Observations

- ❖ There will probably be **more enhanced skill** occupations (requiring re-skilling of incumbent or dislocated workers) **than in-demand** occupations (employing new workers).
- ❖ Most green occupations are expected to have **fewer than 1,000 annual openings** between 2006-16.
- ❖ Green **job-wage patterns** similar to the larger labor market (low-skilled occupations-more jobs-less pay).
- ❖ **Apprenticeship, licensing, and/or certification** important or needed for many of the more promising occupations.
- ❖ Many **new and emerging jobs** are for college graduates.

# Useful **Green Jobs** Resources on the Internet

- ❖ O\*NET, 2009. *Greening of the World of Work: Implications for O\*NET SOC and New and Emerging Occupations.*
- ❖ New York State Department of Labor, 2009. *New York State's Clean Energy Industry: Labor Market and Workforce Intelligence.*
- ❖ Heldrich Center for Workforce Development, 2009. *Preparing the Workforce for a "Green Jobs" Economy.*
- ❖ Center on Wisconsin Strategy, 2008. *Greener Pathways: Jobs and Workforce Development in the Clean Energy Economy.*
- ❖ CA Employment Development Department
  - Green Job Titles Matched to the Nearest SOC-NET, by the CA Department of Labor, 2008.
  - Definition of Green Industries, 2008.
- ❖ WA Employment Security Department
  - Green Economy Jobs, 2009.
  - Washington Green Economy Industry List.

# For more information, contact:

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