

## Green Collar Training and Workforce Development

### Occupations and 2006-16 Occupational Outlooks in Selected NYC Green Sectors

New York City Labor Market Information Service

July 22, 2009

#### Renewable Energy Generation: Wind, Solar, Geothermal, Hydropower, Biomass, and Hydrogen

SOC CODE	TITLE	STATUS	EDUCATION REQ	NYC OUTLOOK	WAGES			JOBS		
					Entry	Median	Experienced	2006	Openings	% New
51-8012	Power Distributors and Dispatchers	IN DEMAND	na	na	na	na	na	na	na	na
19-4041	Geological Sample Test Technicians	ENHANCED SKILLS	na	na	na	na	na	na	na	na
19-4051	Nuclear Equipment Operation Technicians	ENHANCED SKILLS	na	na	na	na	na	na	na	na
47-5013	Service Unit Operators, Oil, Gas, and Mining	ENHANCED SKILLS	na	na	na	na	na	na	na	na
47-5041	Continuous Mining Machine Operators	ENHANCED SKILLS	na	na	na	na	na	na	na	na
51-8011	Nuclear Power Reactor Operators	ENHANCED SKILLS	na	na	na	na	na	na	na	na
51-9012	Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders	ENHANCED SKILLS	na	na	na	na	na	na	na	na
49-9042	Maintenance and Repair Workers, General	ENHANCED SKILLS	LESS THAN BA	Very Favorable	\$23,600	\$36,130	\$43,230	45,310	390	71.79%
17-2051	Civil Engineers	ENHANCED SKILLS	BA+ REQUIRED	Least Favorable	\$55,690	\$77,350	\$94,700	5,130	220	36.36%
47-2211	Sheet Metal Workers	ENHANCED SKILLS	LESS THAN BA	Favorable	\$32,350	\$66,720	\$78,490	2,550	70	14.29%
17-2071	Electrical Engineers	ENHANCED SKILLS	BA NEEDED	Least Favorable	\$63,010	\$92,830	\$110,640	2,190	60	16.67%
17-2141	Mechanical Engineers	ENHANCED SKILLS	BA+ REQUIRED	Least Favorable	\$53,910	\$72,160	\$86,680	1,630	60	33.33%
11-3071	Transportation, Storage, and Distribution Managers	ENHANCED SKILLS	LESS THAN BA	Favorable	\$67,590	\$92,970	\$122,730	1,720	50	0.00%
51-4041	Machinists	ENHANCED SKILLS	LESS THAN BA	Least Favorable	\$21,260	\$34,690	\$46,400	2,010	30	0.00%
51-8013	Power Plant Operators	ENHANCED SKILLS	LESS THAN BA	Least Favorable	\$55,010	\$70,020	\$75,200	580	20	0.00%

**Transportation: Reducing Environmental Impact (various modes)**

SOC CODE	TITLE	STATUS	EDUCATION REQ	NYC OUTLOOK	WAGES			JOBS		
					Entry	Median	Experienced	2006	Openings	% New
47-4061	Rail Track Laying and Maintenance Equipment Operators	IN DEMAND	LESS THAN BA	na	na	na	na	na	na	na
53-3021	Bus Drivers, Transit and Intercity	IN DEMAND	LESS THAN BA	na	na	na	na	na	na	na
53-4031	Railroad Conductors and Yardmasters	IN DEMAND	LESS THAN BA	na	na	na	na	na	na	na
43-5032	Dispatchers, Except Police, Fire, and Ambulance	IN DEMAND	LESS THAN BA	Least Favorable	\$21,180	\$31,210	\$41,690	4,970	130	0%
53-7051	Industrial Truck and Tractor Operators	IN DEMAND	LESS THAN BA	Favorable	\$21,730	\$31,950	\$39,900	3,970	100	0%
53-4011	Locomotive Engineers	IN DEMAND	LESS THAN BA	Least Favorable	na	na	na	1,130	50	20%
17-2011	Aerospace Engineers	ENHANCED SKILLS	BA+ REQUIRED	na	na	na	na	na	na	na
53-6051	Transportation Vehicle, Equipment and Systems Inspectors, Except Aviation	ENHANCED SKILLS	na	na	na	na	na	na	na	na
43-5071	Shipping, Receiving, and Traffic Clerks	ENHANCED SKILLS	LESS THAN BA	Very Favorable	\$18,190	\$27,210	\$35,160	15,480	370	0%
53-3032	Truck Drivers, Heavy and Tractor-Trailer	ENHANCED SKILLS	LESS THAN BA	Favorable	\$29,620	\$44,380	\$52,500	13,140	230	0%
49-3023	Automotive Service Technicians and Mechanics	ENHANCED SKILLS	LESS THAN BA	Very Favorable	\$21,400	\$35,450	\$47,300	10,050	210	5%
17-2072	Electronics Engineers, Except Computer	ENHANCED SKILLS	BA NEEDED	Least Favorable	\$62,010	\$88,540	\$104,220	800	20	0%

**Energy Efficiency: Smart Grids & Vehicles, Appliances, and Lighting (Retrofitting Buildings in "Green Construction")**

SOC CODE	TITLE	STATUS	EDUCATION REQ	NYC OUTLOOK	WAGES			JOBS		
					Entry	Median	Experienced	2006	Openings	% New
51-8021	Stationary Engineers and Boiler Operators	IN DEMAND	LESS THAN BA	Least Favorable	\$46,690	\$67,170	\$72,470	2,270	40	0%
47-2131	Insulation Workers, Floor, Ceiling, and Wall	IN DEMAND	LESS THAN BA	Favorable	na	na	na	310	10	0%
47-2011	Electrical Powerline Installers and Repairers	IN DEMAND	na	na	na	na	na	na	na	na
47-2011	Boilermakers	IN DEMAND	na	na	na	na	na	na	na	na
11-1021	General and Operations Managers	ENHANCED SKILLS	BA+ REQUIRED	Favorable	\$72,680	\$134,720	>\$166,400	44,960	1,080	0%
13-2051	Financial Analysts	ENHANCED SKILLS	BA+ REQUIRED	Favorable	\$56,600	\$86,290	\$122,500	24,080	560	75%
49-9042	Maintenance and Repair Workers, General	ENHANCED SKILLS	LESS THAN BA	Very Favorable	\$23,600	\$36,130	\$43,230	45,310	390	72%
13-1073	Training and Development Specialists	ENHANCED SKILLS	BA NEEDED	Favorable	\$37,070	\$57,380	\$72,610	6,350	240	42%
17-2071	Electrical Engineers	ENHANCED SKILLS	BA NEEDED	Least Favorable	\$63,010	\$92,830	\$110,640	2,190	60	17%

## Green Construction: Design, Building, Upgrading, and Retrofitting of Green Buildings

SOC CODE	TITLE	STATUS	EDUCATION REQ	NYC OUTLOOK	WAGES			JOBS		
					Entry	Median	Experienced	2006	Openings	% New
47-2011	Boilermakers	IN DEMAND	na	na	na	na	na	na	na	na
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	IN DEMAND	LESS THAN BA	Favorable	\$16,840	\$22,690	\$30,400	34,190	1,090	0%
47-2111	Electricians	IN DEMAND	LESS THAN BA	na	\$41,420	\$65,650	\$84,540	19,520	710	30%
47-2031	Carpenters	IN DEMAND	LESS THAN BA	na	\$33,310	\$55,630	\$70,740	22,560	500	38%
17-3011	Architectural and Civil Drafters	IN DEMAND	LESS THAN BA	na	\$37,140	\$49,420	\$60,860	3,610	120	17%
49-9098	Helpers--Installation, Maintenance, and Repair Workers	IN DEMAND	LESS THAN BA	Favorable	\$19,810	\$37,180	\$44,230	4,150	120	17%
53-7051	Industrial Truck and Tractor Operators	IN DEMAND	LESS THAN BA	Favorable	\$21,730	\$31,950	\$39,900	3,970	100	0%
47-3012	Helpers--Carpenters	IN DEMAND	LESS THAN BA	na	\$18,150	\$25,180	\$32,900	1,940	80	38%
47-2051	Cement Masons and Concrete Finishers	IN DEMAND	LESS THAN BA	Favorable	na	na	na	1,740	70	29%
47-2073	Operating Engineers and Other Construction Equipment Operators	IN DEMAND	LESS THAN BA	na	\$55,130	\$84,310	\$92,740	2,710	60	17%
47-2221	Structural Iron and Steel Workers	IN DEMAND	LESS THAN BA	na	\$38,420	\$82,500	\$93,090	1,370	60	17%
51-4121	Welders, Cutters, Solderers, and Brazers	IN DEMAND	LESS THAN BA	na	\$21,990	\$33,660	\$45,950	2,250	50	0%
51-2041	Structural Metal Fabricators and Fitters	IN DEMAND	LESS THAN BA	na	\$19,020	\$31,050	\$45,860	1,040	20	0%
47-2131	Insulation Workers, Floor, Ceiling, and Wall	IN DEMAND	LESS THAN BA	Favorable	na	na	na	310	10	0%
17-1012	Landscape Architects	ENHANCED SKILLS	BA+ REQUIRED	na	na	na	na	na	na	na
19-3051	Urban and Regional Planners	ENHANCED SKILLS	BA+ REQUIRED	na	na	na	na	na	na	na
47-4011	Construction and Building Inspectors	ENHANCED SKILLS	na	na	na	na	na	na	na	na
47-2152	Plumbers, Pipefitters, and Steamfitters	ENHANCED SKILLS	LESS THAN BA	na	\$36,260	\$58,330	\$76,580	12,670	430	39.53%
49-9042	Maintenance and Repair Workers, General	ENHANCED SKILLS	LESS THAN BA	na	\$23,600	\$36,130	\$43,230	45,310	390	71.79%
11-9021	Construction Managers	ENHANCED SKILLS	BA NEEDED	na	\$64,640	\$106,440	\$144,870	11,460	280	36%

**Green Construction, Continued**

SOC CODE	TITLE	STATUS	EDUCATION REQ	NYC OUTLOOK	WAGES			JOBS		
					Entry	Median	Experienced	2006	Openings	% New
47-2061	Construction Laborers	ENHANCED SKILLS	LESS THAN BA	na	\$26,070	\$53,790	\$63,010	16,930	280	54%
17-1011	Architects, Except Landscape and Naval	ENHANCED SKILLS	BA+ REQUIRED	Favorable	\$49,700	\$72,110	\$94,880	7,040	260	50%
13-1073	Training and Development Specialists	ENHANCED SKILLS	BA NEEDED	Favorable	\$37,070	\$57,380	\$72,610	6,350	240	42%
17-2051	Civil Engineers	ENHANCED SKILLS	BA+ REQUIRED	na	\$55,690	\$77,350	\$94,700	5,130	220	36%
13-1051	Cost Estimators	ENHANCED SKILLS	LESS THAN BA	na	\$52,260	\$74,400	\$90,030	3,700	150	47%
47-2181	Roofers	ENHANCED SKILLS	LESS THAN BA	Favorable	\$26,510	\$37,850	\$60,230	1,750	70	43%
47-2211	Sheet Metal Workers	ENHANCED SKILLS	LESS THAN BA	Favorable	\$32,350	\$66,720	\$78,490	2,550	70	14%
17-2071	Electrical Engineers	ENHANCED SKILLS	BA NEEDED	na	\$63,010	\$92,830	\$110,640	2,190	60	17%
17-2141	Mechanical Engineers	ENHANCED SKILLS	BA+ REQUIRED	na	\$53,910	\$72,160	\$86,680	1,630	60	33%
47-4041	Hazardous Materials Removal Workers	ENHANCED SKILLS	LESS THAN BA	na	na	na	na	1,660	60	33%
51-8013	Power Plant Operators	ENHANCED SKILLS	LESS THAN BA	na	\$55,010	\$70,020	\$75,200	580	20	0%

**Recycling and Waste Reduction: Recycling and Solid Waste and Wastewater Management, Treatment, and Reduction**

SOC CODE	TITLE	STATUS	EDUCATION REQ	NYC OUTLOOK	WAGES			JOBS		
					Entry	Median	Experienced	2006	Openings	% New
47-4041	Hazardous Materials Removal Workers	ENHANCED SKILLS	LESS THAN BA	Least Favorable	na	na	na	1,660	60	33.33%
53-7081	Refuse and Recyclable Material Collectors	ENHANCED SKILLS	LESS THAN BA	na	na	na	na		na	na

**Manufacturing: Green Products and Energy Efficient Manufacturing Process**

SOC CODE	TITLE	STATUS	EDUCATION REQ	NYC OUTLOOK	WAGES			JOBS		
					Entry	Median	Experienced	2006	Openings	% New
17-3023	Electrical and Electronic Engineering Technicians	IN DEMAND	LESS THAN BA	Favorable	\$58,190	\$67,980	\$71,030	2,940	60	0%
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	IN DEMAND	LESS THAN BA	Favorable	\$16,840	\$22,690	\$30,400	34,190	1,090	0%
43-5061	Production, Planning, and Expediting Clerks	IN DEMAND	LESS THAN BA	Very Favorable	\$32,740	\$45,750	\$55,160	6,960	220	14%
49-1011	First-Line Supervisors/Managers of Mechanics, Installers, and Repairers	IN DEMAND	LESS THAN BA	Favorable	\$48,270	\$70,800	\$81,510	7,970	190	0%
51-2092	Team Assemblers	IN DEMAND	LESS THAN BA	Very Favorable	\$15,820	\$19,970	\$27,790	6,430	130	0%
51-1011	First-Line Supervisors/Managers of Production and Operating Workers	IN DEMAND	LESS THAN BA	Favorable	\$30,520	\$51,700	\$65,580	6,690	110	0%
47-2221	Structural Iron and Steel Workers	IN DEMAND	LESS THAN BA	Very Favorable	\$38,420	\$82,500	\$93,090	1,370	60	17%
51-4121	Welders, Cutters, Solderers, and Brazers	IN DEMAND	LESS THAN BA	Least Favorable	\$21,990	\$33,660	\$45,950	2,250	50	0%
11-3051	Industrial Production Managers	IN DEMAND	LESS THAN BA	Least Favorable	\$70,850	\$100,140	\$130,510	1,150	40	0%
19-2031	Chemists	IN DEMAND	BA+ REQUIRED	Least Favorable	\$43,840	\$59,620	\$80,770	1,200	30	0%
49-9041	Industrial Machinery Mechanics	IN DEMAND	LESS THAN BA	Favorable	\$31,450	\$44,860	\$53,510	1,710	30	0%
17-2111	Health and Safety Engineers, Except Mining Safety Engineers and Inspectors	IN DEMAND	BA NEEDED	Least Favorable	\$57,170	\$79,130	\$91,480	460	20	50%
49-2094	Electrical and Electronics Repairers, Commercial and Industrial Equipment	IN DEMAND	LESS THAN BA	Favorable	\$27,690	\$40,930	\$49,920	550	20	0%
51-2022	Electrical and Electronic Equipment Assemblers	IN DEMAND	LESS THAN BA	Least Favorable	\$17,730	\$26,990	\$36,020	910	20	0%
49-9042	Maintenance and Repair Workers, General	ENHANCED SKILLS	LESS THAN BA	Very Favorable	\$23,600	\$36,130	\$43,230	45,310	390	72%
43-5071	Shipping, Receiving, and Traffic Clerks	ENHANCED SKILLS	LESS THAN BA	Very Favorable	\$18,190	\$27,210	\$35,160	15,480	370	0%
41-4011	Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	ENHANCED SKILLS	LESS THAN BA	Favorable	\$47,870	\$83,500	\$110,400	6,060	160	19%
47-2211	Sheet Metal Workers	ENHANCED SKILLS	LESS THAN BA	Favorable	\$32,350	\$66,720	\$78,490	2,550	70	14%
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	ENHANCED SKILLS	LESS THAN BA	Favorable	\$16,830	\$27,240	\$37,540	3,070	50	0%

**Manufacturing continued**

SOC CODE	TITLE	STATUS	EDUCATION REQ	NYC OUTLOOK	WAGES			JOBS		
					Entry	Median	Experienced	2006	Openings	% New
19-2032	Material Scientists	IN DEMAND	BA+ REQUIRED	na	na	na	na	na	na	na
27-1021	Commercial and Industrial Designers	IN DEMAND	BA+ REQUIRED	na	na	na	na	na	na	na
49-9044	Millwrights	IN DEMAND	na	na	na	na	na	na	na	na
51-2031	Engine and Other Machine Assemblers	IN DEMAND	na	na	na	na	na	na	na	na
51-4032	Drilling and Boring Machine Tool Setters, Operators, and Tenders, Metal and Plastic	IN DEMAND	na	na	na	na	na	na	na	na
51-8091	Chemical Plant and System Operators	IN DEMAND	na	na	na	na	na	na	na	na
51-9011	Chemical Equipment Operators and Tenders	IN DEMAND	na	na	na	na	na	na	na	na
51-4011	Computer-Controlled Machine Tool Operators, Metal and Plastic	IN DEMAND	na	na	na	na	na	na	na	na
51-2041	Structural Metal Fabricators and Fitters	IN DEMAND	LESS THAN BA	Least Favorable	\$19,020	\$31,050	\$45,860	1,040	20	0%
51-4031	Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic	IN DEMAND	LESS THAN BA	Least Favorable	\$16,610	\$23,820	\$30,790	970	20	0%
51-9023	Mixing and Blending Machine Setters, Operators, and Tenders	IN DEMAND	LESS THAN BA	Least Favorable	\$18,810	\$27,800	\$37,040	1,270	20	0%
19-4031	Chemical Technicians	IN DEMAND	LESS THAN BA	Least Favorable	\$28,590	\$38,430	\$45,820	400	10	0%
29-9011	Occupational Health and Safety Specialists	IN DEMAND	BA+ REQUIRED	Least Favorable	\$34,290	\$59,730	\$76,070	560	10	0%
17-3024	Electro-mechanical Technicians	ENHANCED SKILLS	na	na	na	na	na	na	na	na
29-9012	Occupational Health and Safety Technicians	ENHANCED SKILLS	na	na	na	na	na	na	na	na
51-2011	Aircraft Structure, Surfaces, Rigging, and Systems Assemblers	ENHANCED SKILLS	na	na	na	na	na	na	na	na
51-9012	Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders	ENHANCED SKILLS	na	na	na	na	na	na	na	na
17-3026	Industrial Engineering Technicians	ENHANCED SKILLS	LESS THAN BA	Least Favorable	\$34,660	\$59,790	\$75,620	280	10	0%

**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.