

Going Green

A Sample of Jobs in New York's Green Economy

Click

Links below to explore various Green careers.

Solar Power

Wind Power

Energy Efficiency

Biofuels

Transportation

Smart Grid



Going Green

A Sample of Jobs in New York's Green Economy

Solar Power

[Construction Equipment Operators](#)
[Electrical Equipment Assemblers](#)
[Electricians](#)
[Laborers](#)
[Welders](#)



Wind Power

[Wind Energy Careers](#)
[Computer-controlled machine tool operators](#)
[Customer Service Representatives](#)
[Environmental Engineers](#)
[Industrial Truck Drivers](#)
[Maintenance and repair workers](#)
[Structural Iron & steel workers](#)



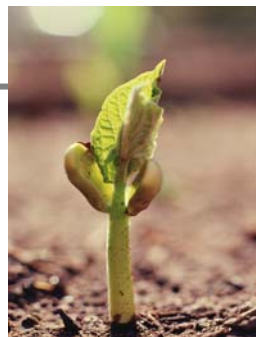
Energy Efficiency

[Building Inspectors](#)
[Boilermakers](#)
[Carpenters](#)
[Energy Auditors](#)
[Heating, air conditioning & refrigeration mechanics & installers](#)
[Plumbers](#)



Biofuels

[Agricultural inspectors](#)
[Chemical engineers](#)
[Chemical technicians](#)
[Chemists](#)
[Farm product purchasers](#)



Transportation

[Civil Engineers](#)

[Dispatchers](#)

[Electricians](#)

[Engine assemblers](#)

[Metal fabricators](#)

[Welders](#)



Smart Grid

[Technology Goes Green](#)

[Computer software engineers](#)

[Electrical engineers](#)

[Electrical power line installers](#)

[Machinists](#)

[Operating engineers](#)

[Team assemblers](#)



careerZONE

www.nycareerzone.org

www.labor.ny.gov



Welding Goes Green

WELDER



A Welder uses hand-welding or flame-cutting equipment to sever, weld or join metal components or to fill holes, indentations, or seams of fabricated metal products.

Welders require skills in mathematics, critical thinking, time management, equipment selection, active listening, and reading comprehension.

Welders should have mechanical, design, mathematics, engineering & technology, building & construction and the English language.

Welders typically have a high school diploma and additional on-the-job training or vocational/technical training. Education requirements can met through college, trade school and/or apprenticeships.

Employment of welders is expected to grow about 5% over the next seven years. Welders earn on average \$12-\$22 per hour.

Employers are looking for skilled welders. Skilled welders are not as affected by automation as other manufacturing related trades people because their skills are easily transferable from one industry to another.

Welders are participating in the green economy in a number of ways.

Fume Extraction Filtration System—controls exhaust fumes from welding released into the environment..

Waste Management and Recycling—recycling empty welding wire spools.

Energy Efficient Equipment—MIG welding tips for robotic or semi-automated welding application.

Welding Techniques for Green Products—laser beam welding for fuel cells.

Environmental Procedures Management—ISO 14001 Accreditation— benchmark for quality assurance.

INDUSTRY CERTIFICATIONS



American Welding Society Certification
New York State Department of Transportation
Welding Certification

A.A.S Welding
Certified Welding Fabricator
Certified Robotic Arc Welding

RECOMMENDED COURSEWORK



Welding
Machine Shop
Math & Drafting
Physics, Chemistry & Engineering

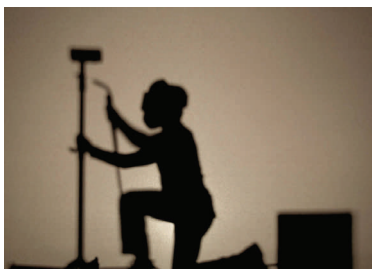


THE GREEN WELDER



For additional information on welding go to
www.nycareerzone.org or Job Zone off the New York State
Department of Labor's website.

WELDING



GREEN WELDING



Welders help support the production and growth of other green industries like bio fuels and wind power.



Welding Training Institutions

Below is a partial list of welding training institutions in New York State. For detailed information for a training provider located near you, visit your local One-Stop Center.

Institution	Location	Training	Website
Onondaga Cortland Madison Board of Cooperative Educational Services	4500 Crown Road Liverpool, NY	Welding I, II, III & AWS Certification	www.ocmboces.org
Modern Welding School	1842 State Street Schenectady, NY	American Welding Society Certification	www.modernwelding.com
Capital District Educational Opportunity Center	145 Congress Street Troy, NY	AWS and NYS-DOT Certification	www.hvcc.edu
Apex Technical School	635 Avenue of the Americas New York, NY	Combination Welding Technology	www.apextechnical.com
SUNY College of Technology at Alfred	10 Upper College Drive Alfred, NY	A.A.S. Welding	www.alfredstate.edu





Auditing Goes Green

A Profile of an Energy Auditor

What is an Energy Auditor?

Energy auditors inspect energy efficiency levels. During the inspection, the auditor determines energy consumption, charts heating and cooling costs, and tests HVAC systems to determine if they are operating at peak proficiency. Following an audit, an energy auditor offers suggestions to improve energy efficiency.

Qualifications

Energy auditors need to have an array of qualifications, and the requirements vary among companies. A background and skills in construction, engineering, and HVAC training aid an energy auditor. Green building training and knowledge of energy efficiency are a must. Even a business background often comes in handy and in sometime required.

Activities and Skills of Junior Level Energy Auditors

Primary Activities:

- Accurately collect information on building systems and equipment, including schematics of piping and air handling systems.
- Interview building site staff for background information and to fill in missing data.
- Draw schematics of piping and air handling systems.
- Read and interpret construction drawings.
- Perform costing and savings calculations for energy efficiency and conservation opportunities.
- Produce concise, accurate, and grammatically correct written reports.
- Continuously contribute to software system internal bug reports. Suggest system improvements.



Primary Skills:

- Excellent written and oral English.
- Work effectively with incomplete information.
- Time conscious.
- Familiarity with building codes and standards.
- Strong computer skills.
- Able to complete projects on budget and on time.



Auditing Goes Green

A Profile of an Energy Auditor

Energy Auditor Certifications

AEE Certified Auditors

To become a Certified Energy Auditor (CEA), offered by the Association of Energy Engineers, a candidate must meet eligibility requirements. To qualify, a candidate must meet one of these criteria:

- ☑ A four-year degree from an accredited university or college in engineering or architecture or be a registered Professional Engineer or Registered Architect;
- ☑ A four-year non-engineering degree with four years experience in an energy management position;
- ☑ A two-year technical degree with five years experience in energy management;
- ☑ Ten years experience in energy management; or
- ☑ Being a current Certified Energy Manager

Candidates are required to pass an examination.

Building Performance Institute Certification

BPI analysts pass a 100-question exam and score at least 70 percent. BPI does not require formal training but does recommend classroom coursework. BPI auditors must recertify every three years.

RESNET Auditors Certification

To be a RESNET auditor an examination is required. Auditors conduct two supervised ratings and take continuing education.

Provisional Certification

In some circumstances, auditors without required educational background may be able to apply for a provisional certificate. After completing work experience and passing an examination the candidate can be certified.

Average Annual Earnings

Energy auditors earn an average of \$60,000 to \$77,000 per year depending on their position, experience and employer.

For more information go to:

www.nycareerzone.org or www.labor.ny.gov





A Sample Wind Career Pathway

Occupations	Duties	Necessary Skills
Wind Technician 1	Repair and maintain wind turbines.	Must be able to work outdoors in inclement weather, climb ladders without assistance, and work at heights greater than 100 feet from the ground surface.
Wind Technician 2	Repair and maintain wind turbines.	Must be able to work outdoors in inclement weather, climb ladders without assistance, and work at heights greater than 100 feet from the ground surface.
Wind Technician 3	Repair and maintain wind turbines.	Must be able to work outdoors in inclement weather, climb ladders without assistance, and work at heights greater than 100 feet from the ground surface.
Lead Wind Technician	Troubleshoots mechanical/technical problems, oversees activities, supervises staff.	Positions often require at least one year of experience as a Wind Technician 2.
Inventory Manager	Inventory management, parts order & replenishment & parts shipment.	BA in engineering or three to five years related experience. Honesty, integrity, effective communication skills, database computer skills, physical ability to lift 50 lbs., math & reasoning skills.
Assistant Manager	Assists site manager with coordinator of projects. Responsible for safety and environmental concerns.	Experience in wind industry. Associate or bachelor's degree usually required. Some employers prefer engineering degrees.
Manager	Supervision and coordination of work center projects. Overall supervision and coordination of site.	Wind energy systems experience, project management skills, IT knowledge, good written and oral communication skills, leadership/management skills and cost/contract experience.

Wind Training Examples

Wind Courses	Description	Background
Clinton County Community College	A.A.S Wind Energy & Turbine Technology	The Wind Energy & Turbine Technology program is designed to prepare students for employment in the Wind Turbine industry. Students who complete this two-year program earn the Associate in Applied Science (AAS) degree.
SUNY Ulster	Introduction to Small Wind Systems and Small Wind Installation workshop.	This week long class targeted to interested homeowners, businesses, and contractors offers an opportunity to learn first hand how to properly site, specify, permit, and install a residential scale wind energy system. Day one will be an overview of wind turbines for those who simply want more information. This course is approved for The Training of Veterans and requires a basic understanding of electricity.

New York State has more than 600 wind turbines.



It is projected that two technicians will be needed for every 10 turbines.



Did You Know?

The wind industry added 35,000 jobs in 2008. Today, there are over 85,000 people employed in the wind industry nationally. This is an increase of 50,000 people in one year.

There are employment opportunities in the wind industry.

Construction
Operations & Management
Small Component Manufacturing
Raw Component Suppliers
Contracting & Engineering Services
Transportation
Logistics
Land developers
Wind Resource Assessors
Accountants
Electrical Engineers

For information on the skills and education required for specific jobs go to:

www.nycareerzone.org

or the New York State Department of Labor.

www.labor.ny.gov

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Technology Goes **Green**



Career Examples of Green IT

- **Data Center Design & Management**
IBM's Academic Initiative is offering a new two year data center management degree in Nebraska and is working with Syracuse University to house & study data centers.
- **Telepresence & Virtual Meetings**
Cisco and HP are developing new products to reduce business travel and promote remote employment through telepresence and virtual meetings.
- **Reducing E-Waste**
The EPA is asking business to consider environmental impact when developing new products and services and to recycle or donate older electronic equipment.
- **Carbon Management**
Software systems are being developed to assist businesses with tracking, reporting, managing and monetizing corporate carbon emissions.

INFORMATION TECHNOLOGY CAREERS IN A **GREEN** WORLD

Green IT or “clean-tech” is a field that explores the connections between two growing trends - the spread of environmental concern across New York State, and the use of digital tools and techniques for manipulating information. Information technology is transformational—it affects many different industries ranging from communication to energy production. Green IT examines the role of information technology in supporting human responses to the world's current challenges.

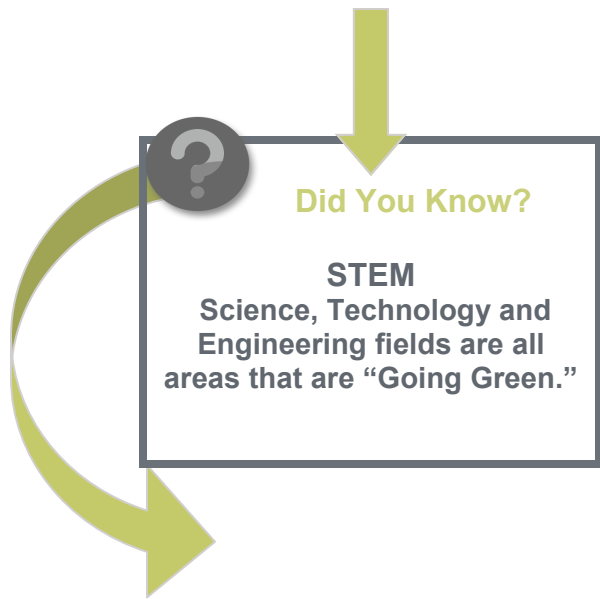
The Information technology industry is responding to the call to green their field. By reducing e-waste, designing and managing green data centers and helping to reduce our carbon footprint through Green IT 2.0, the technology field can impact our environment and help New York State become a national leader in the further use of Green IT.

For information on the skills and education required for specific IT jobs go to:
www.nycareerzone.org or the New York State Department of Labor.

WWW.LABOR.NY.GOV



Technology Goes Green



Education

- Long Island University—
CW Post Campus
- CUNY Brooklyn College
- SUNY College of Technology
at Alfred
- New York Institute of
Technology

These are just four of countless
education and training programs
offered in New York State.

Computer & Information Systems Managers Labor Market Information

Job Description

Plan, direct or coordinate activities in electronic data processing, information systems, systems analysis, and computer programming.

Knowledge Required

Critical thinking, judgment and decision making, systems analysis, management of personnel resources, reading comprehension, speaking & active listening.

Education

Most occupations require at least a four year's bachelor degree. However, some do not. Considerable work related experience is usually needed.

Wages & Outlook

Average annual wages range from \$69,000-\$161,000 per year. This is an in-demand occupation with an expected 21,400 employed by 2016.

For information on the skills and education required for specific IT jobs go to:
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WWW.LABOR.NY.GOV