Green Energy Technologies Create Green Jobs

The U.S. Department of Energy (DOE) is developing advanced energy technologies that can help address climate change and reduce U.S. dependence on oil. As these new technologies are launched into commercial use, they create new jobs for American workers.

> "The nation that leads the world in 21st century clean energy will be the nation that leads in the 21st century global economy. America can and must be that nation."
>
> — President Barack Obama

The economic and employment benefits of these technologies are particularly welcome as America's workers look to the future. Leadership in clean energy technologies will provide U.S. businesses with a competitive edge in emerging global markets and keep more jobs on American soil.

Jobs in Renewable Energy

DOE's Office of Energy Efficiency and Renewable Energy (EERE) develops, demonstrates, and deploys the advanced technologies needed to produce energy from renewable, domestic resources. Our sunshine, wind, water, geothermal energy, and biomass can provide clean electric power, while fuels made from biomass can help break our dependence on oil. Building our nation's capacity to produce clean energy will require a skilled workforce to sustainably manufacture, transport, install, operate, and maintain these technologies and related equipment.

Courtesy of www.greenforall.org

Technologies that improve energy efficiency or enable greater use of renewable energy help to reduce greenhouse gas emissions. Employment opportunities connected to the development and deployment of these technologies fit under the "green jobs" umbrella.

Jobs in Energy Efficiency

EERE also develops, demonstrates, and deploys technologies that enable our building, transportation, industrial, and federal sectors to use energy more efficiently. Boosting our nation's energy productivity is the most cost-effective way to enhance U.S. energy resources. Energy savings also help to lower production costs, further improving our competitiveness.

Training: Key to Opportunity

While estimates vary widely, millions of clean energy jobs are expected to open up for qualified American workers over the coming decade. Exact numbers will be influenced by a variety of factors, including legislation, policies, and tax incentives at federal and state levels.

Training and education are essential in preparing American workers to take full advantage of these opportunities. EERE is working closely with diverse partners to ensure that effective training and educational opportunities are made available to America's workforce.

Green Jobs

Interested in building energy-efficient homes, installing solar technologies, or working as a wind turbine engineer?

Check out our energy education and workforce development web page and follow the links to related sites: *www.eere.energy.gov/education*

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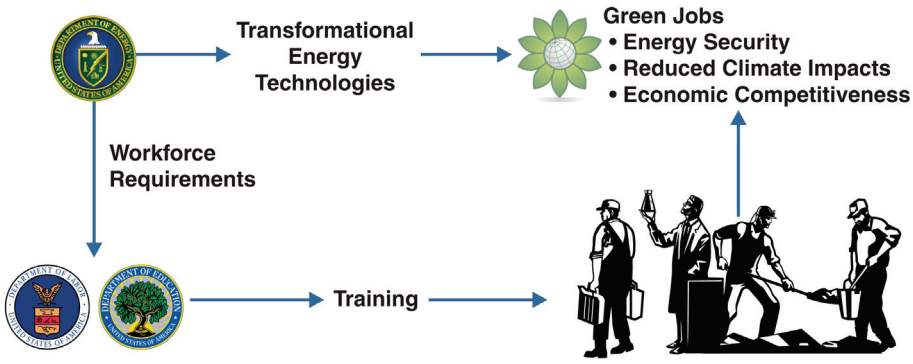

The clean energy sector offers a range of jobs for high school graduates as well as those holding a college degree or doctorate. Workers may begin in one job and advance into more specialized areas as they receive on-the-job training or more formal education. Jobs may require generic experience (e.g., project management), specialized training (e.g., solar panel installation), or advanced study (e.g., geothermal engineering).

Inter-Agency Coordination

DOE is working with other federal agencies that are heavily invested in training and education. Specifically, DOE collaborates with the Departments of Labor and Education and the National Science Foundation to fill existing gaps and ensure that federally sponsored training activities and educational programs are appropriately targeted and complementary.

Opportunities Today

The United States now leads the world in installed wind capacity. Wind accounted for more than 40 percent of all new U.S. power capacity in 2008, boosting domestic production of wind turbines and other components. Significant growth will continue, as more than half the states have now adopted incentives for new production or mandates requiring minimum levels of renewable energy.

The solar sector is also creating a range of new jobs, from roofers and electricians to manufacturing line workers and sales agents. Solar capacity in the United States grew by 17 percent in 2008, and recent legislation is expected to foster continued growth.

Skilled workers are similarly needed today to improve the energy efficiency of buildings by various means, including installation and maintenance of energy control systems. State and local agencies are using federal and other funds to hire workers who can conduct energy audits, weatherize homes, and otherwise reduce energy loss in commercial and residential buildings.

Growth in U.S. wind capacity is creating an immediate need for skilled workers.

Emerging Worker Needs

As DOE readies more clean energy technologies for commercial use, personnel will be needed to build, operate, and maintain facilities and systems that can increase the U.S. supply of renewable energy (geothermal, wind, water, biomass, and solar). The nation will continue to need skilled scientists and engineers who can develop the next generation of clean energy technologies.

Sample Career Opportunities

Buildings
Building Control Technician
Energy and Indoor Air Quality Auditor
Project Manager, Home Energy Rater
Building Retrofit Professional
Heating/Air Conditioning Installer
Construction Equipment Operator
Insulation Worker

Solar
System Installer, Designer
Solar Power Electrical Engineer
Environmental and Field Engineer
Industrial Production Manager
Electrical Equipment Assembler

Wind
Windsmith, Electrician
Small Turbine Installer
Plant Operator
Manufacturing Manager
Wind Energy Mechanic/Technician
Wind Power Environmental Engineer
Industrial Machinery Mechanic

Geothermal
Power Plant Operator
Power Plant Construction Worker
Power Plant Manufacturer
Geothermal Heat Pump Installer

Biomass
Biofuels Plant Operator, Technician
Chemical Engineer
Laboratory Technician
Chemical Equipment Operator

Hydropower
Hydropower Technician, Operator
Environmental Scientist
Civil Engineer

Vehicle and Battery Jobs
Factory Worker, Machine Operator
Automotive, Electrical Engineer
Process Engineer

U.S. DEPARTMENT OF
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Energy Efficiency & Renewable Energy

EERE Information Center
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