

Defining Green Jobs for Illinois

The Department of Commerce and Economic Opportunity, the Department of Employment Security, the Illinois Community College Board and other state agency partners are developing a definition of green jobs to support state economic development and workforce development initiatives. Like other states, Illinois needs to tailor national definitions of green jobs to reflect economic development priorities that build on our competitive strengths and environmental needs and priorities.

There is no commonly shared national definition of green jobs. But, in general, they refer to jobs that are involved in improving and maintaining environmental quality. Most green jobs do not represent new industries or occupations but rather existing ones that require a new layer of green-related knowledge, skills, and in some cases certifications.

Some definitions restrict green jobs to those that pay family-sustaining wages. Others further restrict it to jobs that provide access to economic opportunity for disadvantaged populations.

Most state efforts start with federal government definitions focusing on energy efficiency (EE) and renewable energy (RE), such as the Green Jobs Act of 2007, and identify additional industries and occupations tailored to state green initiatives and other economic development priorities.

We explored the definition of green jobs from four major perspectives:

1. Leveraging Federal and State Green Initiatives--what are the major sectors and industries (e.g., EE and RE) that will benefit from federal and state investments and regulatory policies that have the potential to create jobs in Illinois?
2. Building from State and Regional Economic Development--what are the major sectors and industries critical to future economic development that can be supported by leveraging green initiatives?
3. Good Jobs--what are the primary well-paid jobs in these sectors and industries that require substantial training to provide the green layer of skills and certifications?
4. Access--which well-paid jobs requiring a green layer of training are accessible to disadvantaged populations?

This effort first focused on defining green clusters and industries and then identified the critical occupations that carry out primary economic activities within these clusters and industries. This will then provide the basis for identifying related education and training programs.

Below is the list of the industry clusters and the rationale for focusing on these clusters.

Green Clusters

Agriculture and Natural Resources - (NAICS 1100, 5416, 9240)

- Biomass (agricultural and agricultural waste products) is a critical component of biofuel production.
- Water management is becoming more critical as demand for the resource increases. It is already a limited resource in many western U.S. states.
- Continued improvements in agricultural production are necessary to meet the food demands of the population and yet still maintain sustainable food production.

Architecture and Construction - (NAICS 2360, 2370, 2380, 5413)

- Weatherization of existing business and residential buildings can reduce the average amount of energy used by one-quarter to one-third.
- Construction using green methods will allow for optimal energy usage and the integration of other green components.
- Infrastructure improvements including smart grid, high-speed broadband, and high-speed rail will allow for more efficient energy consumption and provide a foundation for an optimal green economic growth track.

Energy & Utilities and Waste Management & Remediation - (NAICS 2100, 2210, 5620)

- Clean coal technologies could reduce carbon emissions by 90% from coal power plants and still provide a large proportional share of the region's electricity.
- Recycling all recyclable materials including electronics, plastics and paper products conserves natural resources and minimizes environmental damage from landfills.
- Alternative energy production (wind, solar, geothermal, nuclear) reduces total carbon emissions and utilizes sustainable resources.

Finance & Insurance - (NAICS 5230)

- Trading in carbon credit markets will require knowledge of the carbon cap and trade system. Trading of weather derivatives can reduce the risk of poor weather conditions for wind power generation.
- Planning and budgeting of construction projects will require knowledge of available green components. Entrepreneurs and investors will require knowledge of green industries in order to develop businesses in this sector.
- Financing of brownfield redevelopment projects requires working with the public sector and community-based organizations as well as making environmental risk assessments.

Information Technology - (NAICS 5100)

- Centralizing data systems and digitizing paper records will increase energy efficiency and reduce demand on natural resources.

- Fiber optic cable is faster and more energy efficient than old copper cable. It also enables the transfer of real-time information which will be a requirement of the smart grid and other smart systems.
- Carbon emissions can be reduced by allowing employees to teleconference or telecommute.

Manufacturing - (NAICS 3210, 3220, 3240, 3250, 3260, 3270, 3310, 3320, 3330, 3340, 3350, 3370)

- Energy efficient appliances will allow consumers to reduce their energy demand.
- Production of components used for alternative energy generation will lead to sustainable energy production.
- Utilization of recycled materials in manufacturing processes will reduce demand on natural resources.

Scientific Research and Engineering - (NAICS 5413, 5417)

- Chemical manufacturing research is required to optimize biofuel production processes.
- Research is being done on bacteria that can transform toxic material into non-toxic material in an effort to neutralize the threat of nuclear waste.
- Carbon capture and sequestration research could lead to large reductions in carbon emissions around the globe.

Transportation, Distribution and Logistics - (NAICS 4820, 4840, 4850)

- High-speed rail will reduce carbon emissions and reduce the need for construction of new roads and airports.
- Integration of new high-tech power sources for vehicles on a mass scale is critical to green future. Flex-fuel engines, fuel cells that run on hydrogen, and hybrid engines will utilize fuels more economically and reduce carbon emissions.
- Mass transit improvements allow for fewer vehicles on the road and overall fuel consumption will be reduced as will carbon emissions.