



U.S. Department of Labor
Employment and Training Administration
Region 2 - Philadelphia

Discretionary Grantee Conference

The Green Jobs Movement

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Making Your Project Yield Good Jobs for Everyone



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A Green Jobs Context

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Identifying “Green” Jobs

- Consensus on definition – no.
 - Final, comprehensive set of occupational codes – no.
 - Technical answers for all technical challenges – no.
- *Does not knowing really matter? – no.*

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Green Industry is Nascent

- Advocacy Era is waning, Implementation Era is coming, Experimentation Era is now
- Experimentation Era is entrepreneurial, exploratory, raw
- From this will come long-term answers; viable ideas, sectors, strategies, technology

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Follow the Money

- Weather is a force of Mother Nature – wise to respect and foolish to ignore.
- Economics is a force of Human Nature – equally wise to respect and foolish to ignore.
 - *Money, esp. private sector, sends a message about what is needed and viable*

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Defining Green Jobs

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Working Definitions

- The Clean Energy Economy (PEW Trust)
 - A Clean energy company generates jobs, businesses and investments while expanding clean energy production, increasing energy efficiency, reducing greenhouse gas emissions, waste and pollution, and conserving water and other natural resources.

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Working Definitions, continued

- Green Jobs (US Conference of Mayors):
 - Any activity that generates electricity using renewable or nuclear fuels, agriculture jobs supplying corn or soy for transportation fuel, manufacturing jobs producing goods used in renewable power generation, equipment dealers and wholesalers specializing in renewable energy or energy-efficiency products, construction and installation of energy and pollution management systems, government administration of environmental programs, and supporting jobs in the engineering, legal, research and consulting fields.”

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Working Definitions, continued

- Green Collar Job (Van Jones)
 - ... is a family supporting, career track job that directly contributes to preserving or enhancing environmental quality.



Working Definitions, continued

- Green Jobs (Green Jobs Act of 2007*)
- Energy-efficient building, construction, & retrofits industries → Weatherization
- Renewable electric power industry → Wind & Solar
- Deconstruction & materials use industry → Disassembling Buildings
- Energy efficiency assessment industry → Energy Auditors

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Working Definitions, continued

- Green Jobs (Green Jobs Act of 2007*)
- Biofuel industry → Ethanol
- Energy efficient & advance drive train vehicle industry → Auto Repair
- Land Restoration → Brownfield recovery, land utilization
- Water Conservation → Treating wastewater & drinking water
- Energy Transmission → Installation of Smart Meters

*Section 171(e)(1)(B) of the Workforce Investment Act

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Green vs. Greening

- Is “Green” too generic a term to apply across the board?
- The “Greening” of jobs may better reflect the nuances of how the workforce is impacted.



Greening of the World of Work

- *The green economy encompasses the economic activity related to reducing the use of fossil fuels, decreasing pollution and greenhouse gas emissions, increasing the efficiency of energy usage, recycling materials, and developing and adopting renewable sources of energy.*
 - Green Increased Demand Jobs
 - Green Enhanced Skills Jobs
 - Green New & Emerging (N&E) Jobs

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What will the “green worker of the future” look like?

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Green Economy Worker Profiled



~OR~



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Green Increased Demand Jobs

- Green economy activities and technologies result in increased demand for an existing occupation.
 - This impact does not entail significant changes in the work and worker requirements of the occupation.
 - The work context may change, but the tasks themselves do not.

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Green Increased Demand Jobs

Traditional job



*Same
credential*

Green Job



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Green Enhanced Skills Jobs

- The essential purposes of the occupation remain the same, but tasks, skills, knowledge, and external elements, such as credentials, have been altered.

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Green Enhanced Skills Jobs

Traditional job



*Stackable
credential*

Green Job



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Green New & Emerging (N&E) Jobs

- The impact of green economy activities and technologies is sufficient to create the need for unique work and worker requirements.... This new occupation could be entirely novel or “born” from an existing occupation.

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Green New & Emerging (N&E) Jobs



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Twelve Green Economy Sectors

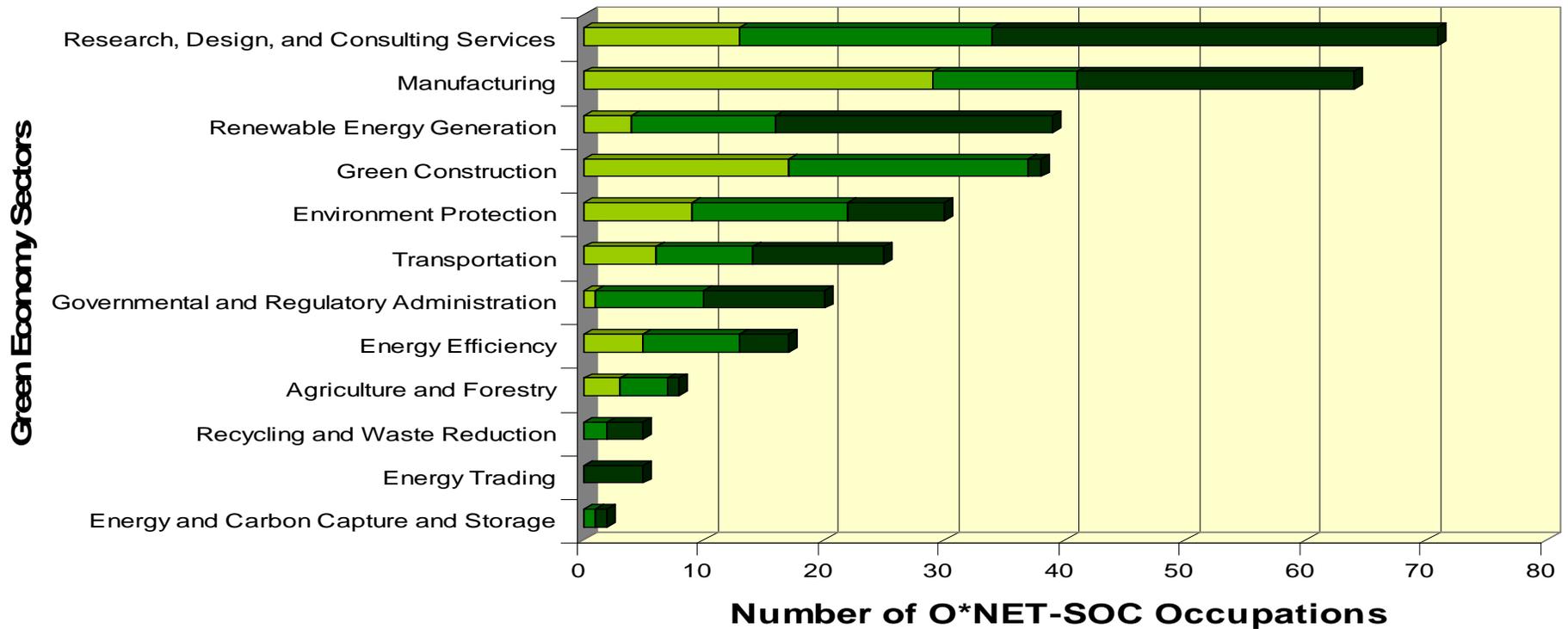
- Renewable Energy Generation
- Transportation
- Energy Efficiency
- Green Construction
- Energy Trading
- Energy & Carbon Capture & Storage
- Research, Design & Consulting Services
- Environment Protection
- Agriculture & Forestry
- Manufacturing
- Recycling & Waste Reduction
- Governmental & Regulatory Administration

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Distribution of Green O*NET-SOC Occupations Across Sectors

■ Increased Demand ■ Enhanced Skills ■ New & Emerging



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Twelve Green Economy Sectors

- **Renewable Energy Generation**
- Transportation
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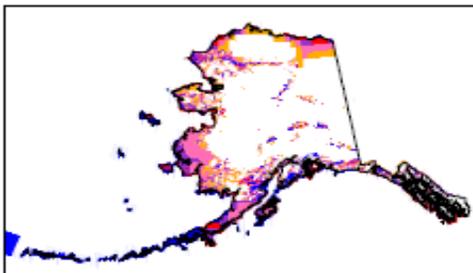
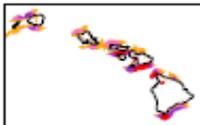
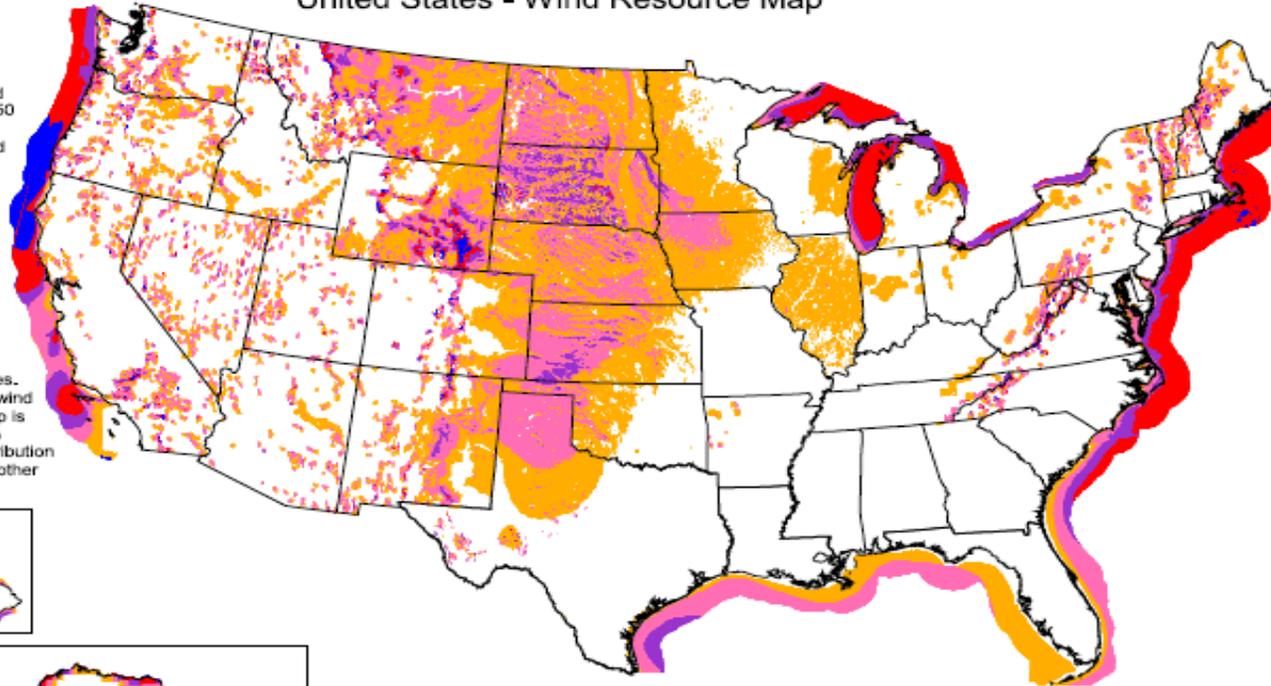
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Wind Resources

United States - Wind Resource Map

This map shows the annual average wind power estimates at 50 meters above the surface of the United States. It is a combination of high resolution and low resolution datasets produced by NREL and other organizations. The data was screened to eliminate areas unlikely to be developed onshore due to land use or environmental issues. In many states, the wind resource on this map is visually enhanced to better show the distribution on ridge crests and other features.



Wind Power Classification				
Wind Power Class	Resource Potential	Wind Power Density at 50 m W/m ²	Wind Speed ^a at 50 m m/s	Wind Speed ^a at 50 m mph
3	Fair	300 - 400	6.4 - 7.0	14.3 - 15.7
4	Good	400 - 500	7.0 - 7.5	15.7 - 16.8
5	Excellent	500 - 600	7.5 - 8.0	16.8 - 17.9
6	Outstanding	600 - 800	8.0 - 8.8	17.9 - 19.7
7	Superb	800 - 1600	8.8 - 11.1	19.7 - 24.8

^a Wind speeds are based on a Weibull k value of 2.0

U.S. Department of Energy
National Renewable Energy Laboratory

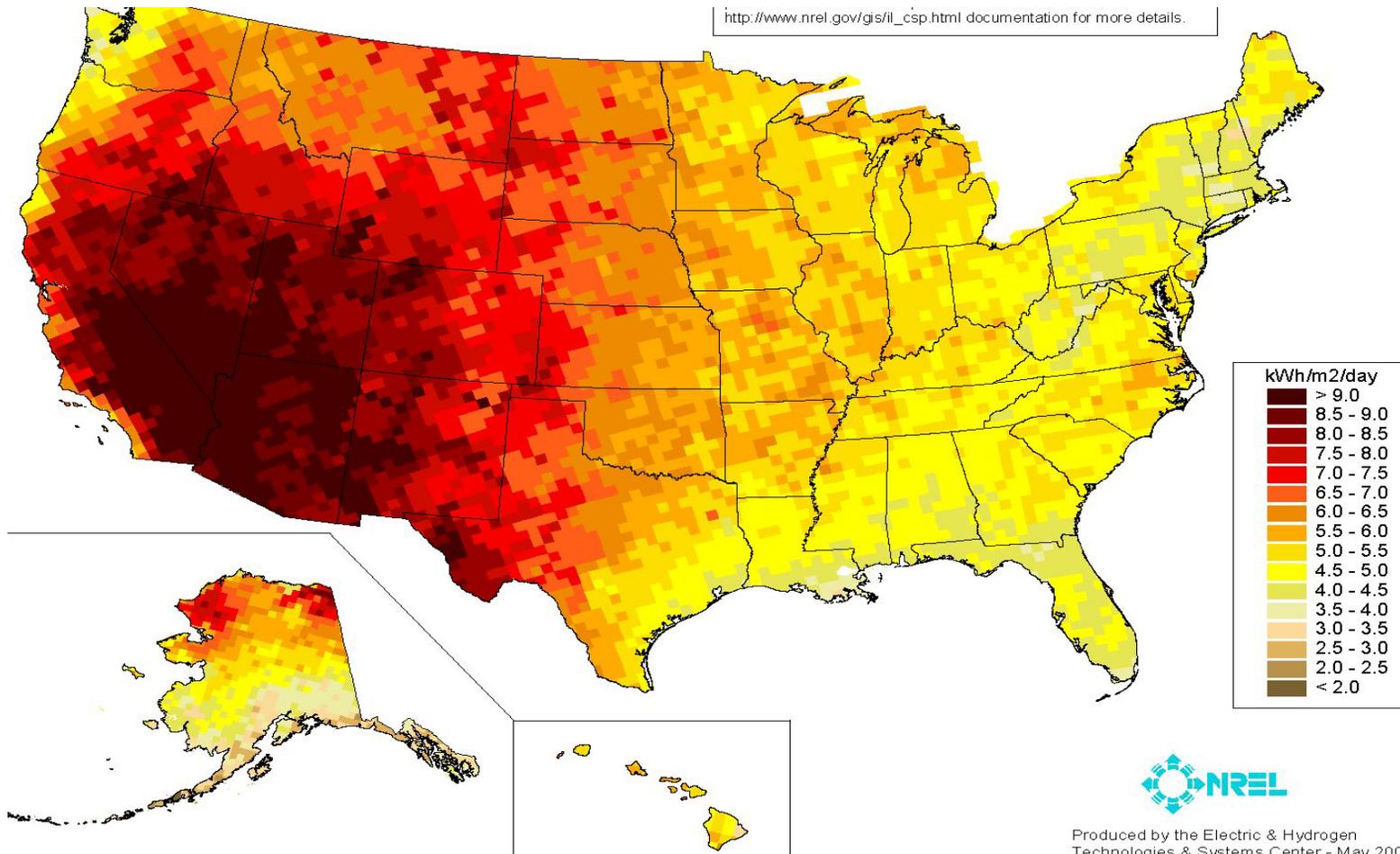


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Solar Resources

http://www.nrel.gov/gis/il_csp.html documentation for more details.



Produced by the Electric & Hydrogen
Technologies & Systems Center - May 2004

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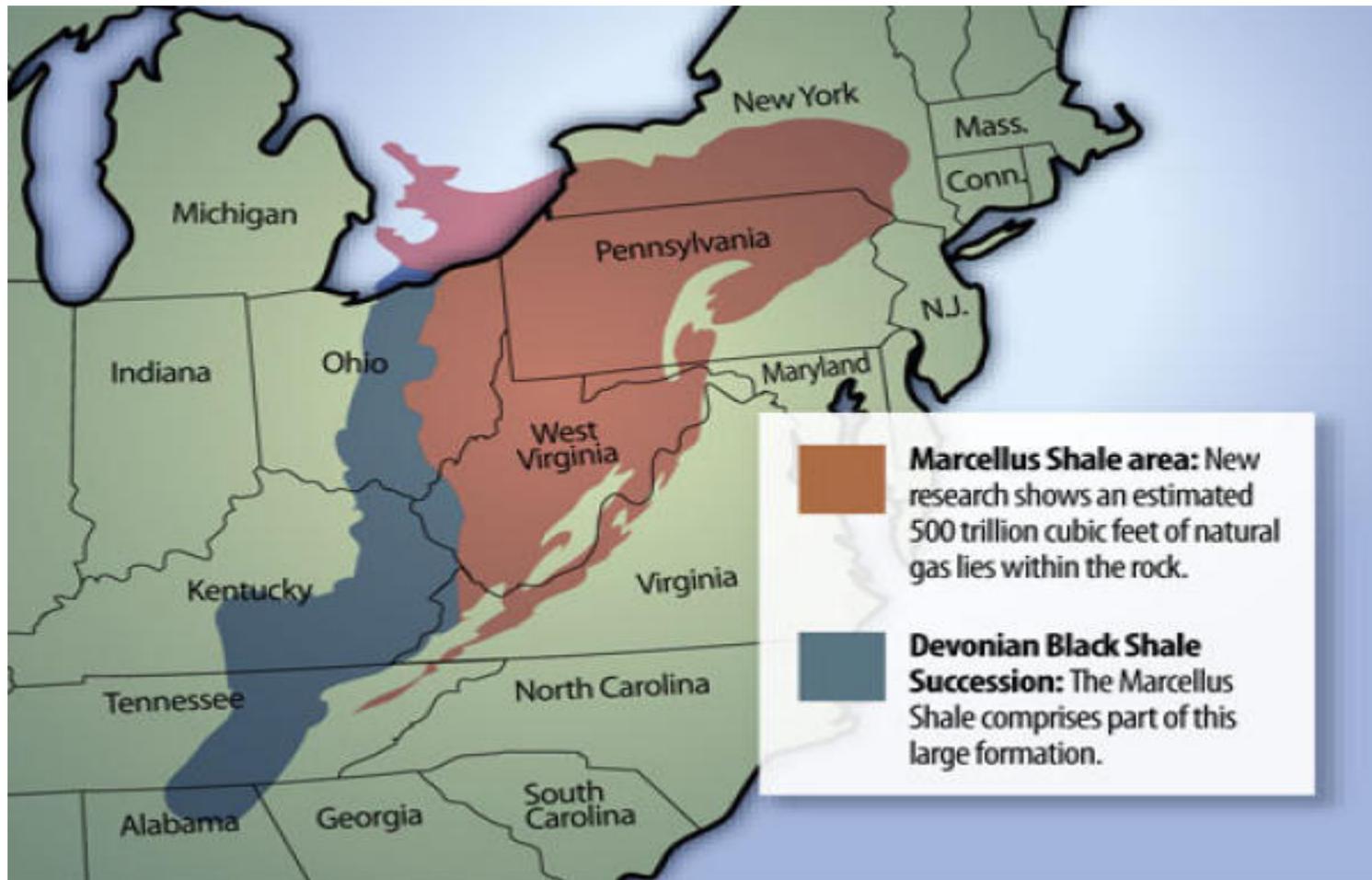
Traditional Resources

- Coal
- Nuclear
- Oil
- Natural Gas

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Natural Gas



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Twelve Green Economy Sectors

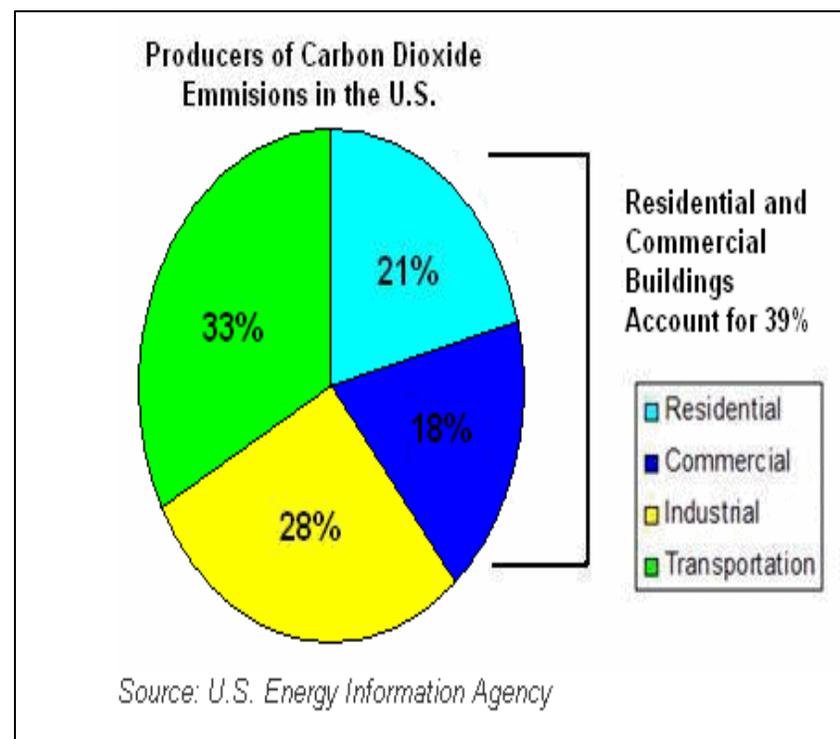
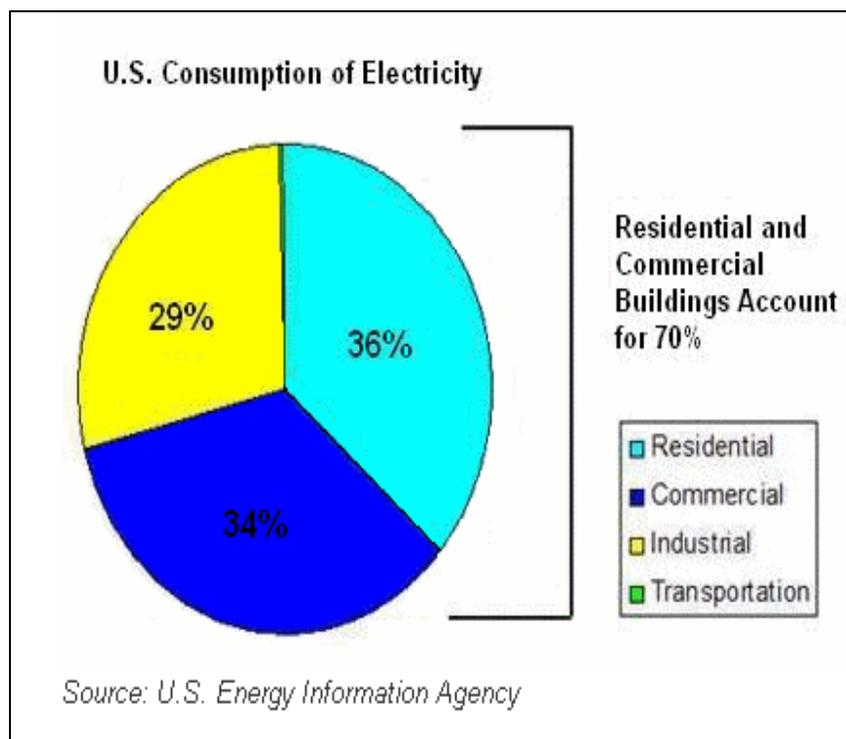
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Weatherization

Energy use from US residential buildings accounts for 36% of electricity consumed and 21% of carbon emissions.



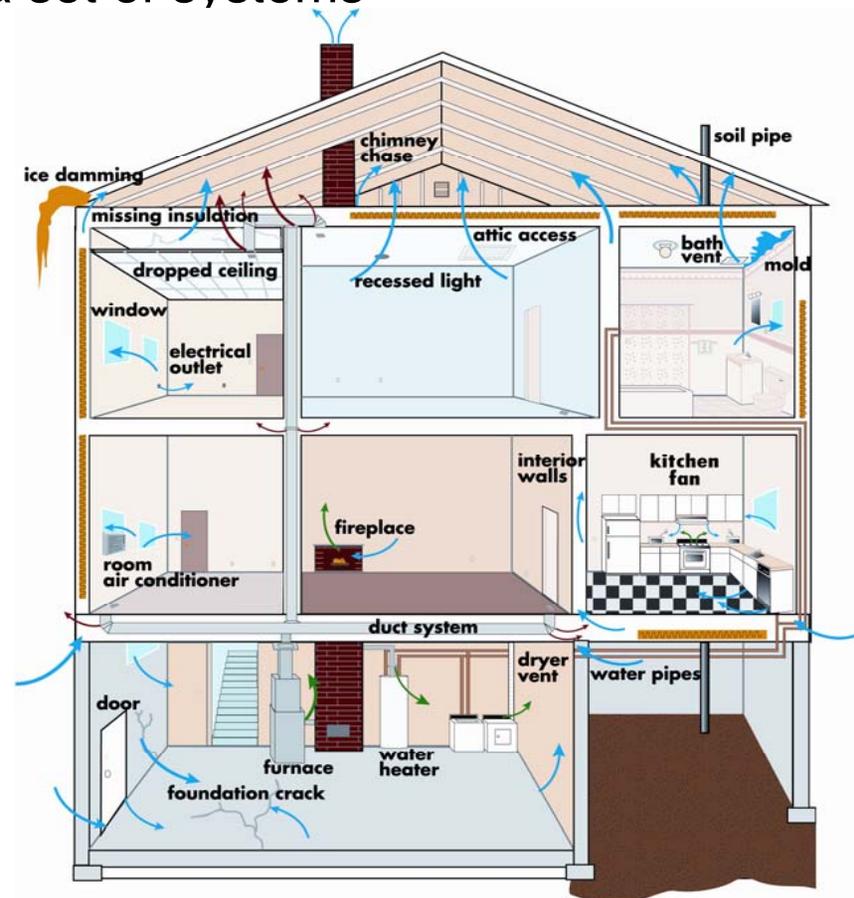
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Weatherization

Homes contain a set of systems

- Drainage system
- Foundation system
- Flooring system
- Wall system
- Ceiling system
- Roof system
- Heating system
- Air conditioning system
- Ventilation & IAQ systems
- Moisture control systems
- Distribution system
- Exhaust systems
- Plumbing systems in/out
- Electric, Appliance & Lighting systems
- Energy management system



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Green Enhanced Skills Jobs

Traditional
Construction job



*Stackable
credential*

*Green
Weatherization
Job*



Certified Building
Analyst
Certified Envelope
Professional
Certified Air
Sealing/Insulation
Installer



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What to do next

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GREEN JOBS

BUILDING PATHWAYS FOR A GREEN WORKFORCE



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Understanding the "Green" Economy

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Book Discussion on Green Jobs (PIT CREW)

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Workforce Information Council (WIC)

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