



THE COLOR OF MONEY: GREEN JOBS IN THE NEW ECONOMY

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The city names, Pittsburgh, Cleveland, Cincinnati and a host of others conjure up memories and images of the good old days when manufacturing was the dominant industry. Subsequently, those dynamic images gave way to bleak depictions of abandoned factories, shuttered plants and long lines at the unemployment office. However, the stereotypes of the Rust Belt and other economically challenged regions belie the truth; many cities are implementing and succeeding in transforming their economies, creating jobs in new sectors and utilizing highly-educated professionals. The “green jobs” initiative is widely considered, right or wrong, to be the key for helping cities revitalize and compete in the 21st century. Government and business leaders want to see long-term goals are realized in order to create lasting jobs, and maintain America’s economic hegemony. This article will address how “green jobs” are being promoted in various states around the country as a way of fostering sustainable growth.

ONE INDUSTRY GIVES WAY TO ANOTHER

The manufacturing industry has shrunk every year since 1998. Since then, it has declined 21 percent, an average of 2.6 percent annually, according to the US Bureau of Labor Statistics. As this recession hit, the decline worsened. There are now fewer than 14 million manufacturing jobs in the United States. States now have to find ways to create jobs, generate tax revenue, grow a taxable base and create lasting industries.

States are dealing with the issues of climate change by addressing challenges posed by fewer traditional energy sources, foreign oil and pollution. The National Governors Association declared that “While our economic engine has for years been powered by

“It ain’t easy being green”

--Kermit the Frog

relatively inexpensive energy, there is evidence that this era is coming to a close. Meanwhile, we are increasingly aware of the serious impacts of global climate change – and how America’s consumption of fossil fuels is contributing to a warming Earth.” States have

formed regional initiatives aimed at reducing carbon dioxide emissions from power plants and increasing clean energy generation. In addition, thirty states have adopted renewable portfolio standards requiring utilities to generate a certain percentage of their power from renewable energy sources by a target date, according to the Pew Center on Global Change.

Green jobs are attractive to public- and private-sector officials who believe that jobs and investment can achieve a double bottom line that is good for the economy and the environment. The federal government’s stimulus bill is channeling \$85 billion in direct spending and tax credits for energy-related programs, according to the Pew Center on Global Climate Change. Even before the stimulus bill, states like Tennessee, Texas, Colorado, Michigan and Ohio were advancing the idea of capitalizing on the economy’s double bottom line of growth and environmental sustainability.

GREEN JOBS: THE CLEAN ENERGY ECONOMY

The Pew Charitable Trusts has developed the following definition:

“A clean energy economy 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.”

Pew comprises the clean energy economy in five categories (with examples of jobs):

- 1) *Clean Energy*: These jobs produce, transmit, store clean and renewable power that come from solar, wind, hydro energy sources. (Electricians, electrical engineers, plumbers, mechanics, researchers)
- 2) *Energy Efficiency*: These jobs reduce energy use at a manufacturing plant, or how to better heat or cool an office or home. Improved efficiency helps lessen dependence on fossil fuels. (Engineers develop efficient light bulbs, meters and software programs and electricians install them)
- 3) *Environmentally Friendly Production*: Mitigating harmful impacts of existing products and develop ways to emit fewer greenhouse gases for the following six areas; transportation, manufacturing, construction, agriculture, energy production and materials. (Hybrid diesel buses, liquid biofuels, chemists produce sound packaging, construction workers install green building material, technicians install irrigation systems and engineers develop biodegradable products)
- 4) *Conservation and Pollution Migration*: Managing water and other resources more effectively. Mitigating emissions of harmful greenhouse gases. Recycling materials saves energy. (Scientists develop products to treat noxious greenhouse gases, machinists treat water and waste, consultants help improve monitoring, conservation and recycling)
- 5) *Training and Support*: Businesses that deliver services for the other four categories. (Financial analysts, consultants, lawyers)

Today, the clean energy economy consists of more than 750,000 jobs created by 68,203 businesses. Those numbers represent only half a percent of all of the nation's jobs. Biotechnology employs fewer than 200,000 workers while utilities, coal, oil and gas industries employ 1.27 million workers. However, while manufacturing has declined over the past decade, the clean energy economy grew by 9 percent as the overall economy grew jobs by 3.7 percent. The recession has been less severe for the clean energy economy than it has been for other industries, according to Clean Energy Trends 2009. Incomes in the clean energy economy for plumbers, machinists, scientists and engineers can run from \$21,000 to \$111,000.

Where are these clean energy economy jobs and how did they grow the last 10 years?

Conservation and Pollution Mitigation: 65.1% (3% growth)

Clean Energy: 11.6% (23% growth)

Energy Efficiency: 9.5% (18% growth)

Environmentally Friendly Production: 7.0% (67% growth)

Training and Support: 6.8% (-0.3%) (source: Pew Center)

HOW MANY JOBS IN WHICH STATES

According to the Pew Charitable Trusts, clean energy economies in the various states can be grouped as:

- 1) *Large and Fast Growing*: Three states are in this category, Colorado, Oregon and Tennessee. They exceeded the national average for number of clean energy jobs and average annual growth rate. Tennessee has had success with water management, Colorado has taken advantage of natural resources and Oregon led the way with energy efficiency.
- 2) *Large and Growing*: California, Florida, Georgia, Indiana, Massachusetts, Michigan, Minnesota, North Carolina, Ohio, Texas, Virginia and Washington have grown at a moderate but steady rate. Their clean energy jobs exceed the national average but grow by 1 percent annually.
- 3) *Large and Losing*: Illinois, New Jersey, New York and Pennsylvania have large clean economies but are shedding jobs. However, they are still in the top 10 for total clean energy jobs.
- 4) *Small and Fast Growing*: District of Columbia, Idaho, South Dakota, Arizona, Hawaii, Iowa, Kansas, Louisiana, Maine, Mississippi, Nebraska, Nevada, New Mexico, North Dakota, South Carolina and Wyoming. Notably, Idaho and South Dakota had fewer than 5,000 energy jobs but their growth rates were 10.1 percent and 7.9 percent, respectively.
- 5) *Small and Growing*: Alabama, Alaska, Arkansas, Connecticut, Delaware, Kentucky, Missouri, Montana, New Hampshire, Oklahoma, Rhode Island and Vermont.
- 6) *Small and Losing*: Maryland, Utah, West Virginia and Wisconsin. These are states that had fewer than average jobs in the clean energy economy and experienced net losses in these jobs over the

last 10 years. However, Maryland passed a law requiring a reduction in greenhouse gases by 2020.

For 38 states and the District of Columbia, job creation in the clean energy economy outperformed total job growth between 1998 and 2007. In fact, job creation exceeded 2 percent in excess for all jobs in 11 states; Hawaii, Idaho, Iowa, Kansas, Mississippi, New Mexico, North Dakota, Oregon, South Carolina, South Dakota and Wyoming.

SNAPSHOTS OF THE STATES AND CITIES

The state of Oregon has the most advanced and developed clean energy economy in the country. Its green jobs economy expanded by 4.8 percent, while overall jobs grew less than 1 percent.

Pittsburgh PA is a "bold example" of a green economy. At the center of Pittsburgh's effort to spur jobs is its educational base; Carnegie Mellon University and the University of Pittsburgh. Education, innovation and research provide an educated work force and abundant resources.

Andy Hannah, chief executive of Plextronics, which manufactures organic solar cells, told Reuters that Pittsburgh "offers the right mix of corporate and university talent."

Pennsylvania Governor Ed Rendell said, "many of the great steel factories that went for blocks and blocks, they're gone. But they've been replaced by a clean green renaissance, a combination of green jobs, life sciences jobs, robotics, high-technology manufacturing, recreation and entertainment." Over the last six years, the state has funneled \$1 billion into green economy projects. Pennsylvania has been aggressive in courting business, by posting representatives in 31 countries.

The Texas Foundation for Innovative Communities has taken the lead in Austin by creating a green workforce development plan. Good Company Associates has been hired by the foundation to study the city's green jobs needs. Bob King, president of Good Company Associates told Portfolio.com that "the real challenge is that we all have to make some decisions together as a community about where we're going and then we have to create a process in which we can together identify what that's going to take."

They have discovered that the new green jobs aren't for new industries but take the place of existing ones;

Roofers, plumbers, HVAC repairmen, electricians and others will have to learn new skills and get educational certification. Jose Beceiro, director of clean energy at the Greater Austin Chamber of Commerce, said workforce training programs is a great asset the city uses to attract new businesses.

The University of Wisconsin has launched a graduate certificate program in sustainability at both its business school and institute for environmental studies. Johnson Controls, in northern Wisconsin, that focuses on building efficiency would be a good recruiter for these types of students. Thomas Eggert, of the university, said "there are many opportunities that businesses need to take advantage of."

Iowa's governor, Chet Culver, signed a law that created the Iowa Green Jobs Task Force. Roy Stanley will serve as chair of the task force, which will create jobs and train workers in the renewable energy industry as well as focus state efforts to secure grants through the federal stimulus bill. The Iowa Power Fund is a \$100 million research and development fund that aims to discover the next generation of renewable energy.

DETRACTORS

There are detractors. Lester Lave, a director of the Green Design Institute at Carnegie Mellon said "neither oil nor coal will be replaced any time soon" and warned of over-promising politicians. He continued, "You are not going to be overwhelmed with green jobs in energy but those energy jobs are going to be in the retrofit area and those can be good jobs."

Other critics point out how solar and wind power accounted for just 0.6 percent of the U.S. energy consumption in 2008, according to the US Energy Information Administration. John Bucher, senior executive at Solar Power Industries said, "I hear a lot of thunder, but I see no rain." Solar power has not yet hit "grid parity" which is when solar costs equal the cost of electricity from the power grid.

A consortium of 12 Midwestern utilities are concerned that the bill to regulate greenhouse gases, recently passed in the US House of Representatives, would be too punitive. They declared the law would expose "the Midwest to a disproportionate economic harm not shared by other regions of the country."

ABOUT THE AUTHOR:

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CONCLUSION

The green jobs economy push enjoys rare bipartisan support. Despite arguments about climate change, everyone in the private and public sector wants to be part of efforts to make the economy greener. The jobs are there and the political will is there to promote the jobs. The question is whether the technology is available and if it is, is it cost effective enough to merit promotion and subsidization. While the clean energy economy is still in its growing stages it has already become a vital part of the American economy. Supply and demand are both driving the need for green jobs. States are competing with each other to formulate the best policy for attracting the right kinds of clean energy businesses and are offering attractive economic incentives. The federal government's stimulus bill will, in conjunction with private entrepreneurship, drive the future of the green jobs wave.

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