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Opportunities of the Green Economy

An Analysis of the American Labor Force

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Abstract

Unemployment and fiscal recovery in the United States since the recession of the late 2000's has been a quavering and tedious process. Underlining structural deficiencies in the American labor force were exposed through the periodic events of the recession. Politicians have highlighted green investments as one solution to foster economic growth and recovery to full employment. This study measures the occupations that will gain from green investments and the solutions the green economy provides to failures in the employment structure. Labor statistics show that green investments may cause widespread continental job creation and higher income within individual sectors, but there is danger of regional inequalities and that green employment opportunities may place additional favoritism on certain demographic groups.

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Foreword

The idea for this thesis stemmed from a series of *New York Times* articles published throughout 2010 and 2011 concerning the aftermath of the recession. My attention focused on an interactive feature that mapped the state level unemployment from 2008 ("The Nation's Unemployment Landscape," September 2011). The differences, even sometimes between bordering states, was alarming. I explored this problem and other labor force trends in a final term paper while on Erasmus Exchange (Course: Labor Economics, Athens University of Economics and Business, Athens, Greece, Fall 2011). This assignment serves as the basis for my thesis, and I expand the topic to include how the green sector may create solutions to some of the issues raised by the term paper.

The thesis data has several limitations. Almost all of the assumptions concerning the green sector occupations are the work of Robert Pollin and Jeannette Wicks-Lim in their report for the Political Economy Research Institute (PERI) at the University of Massachusetts, Amherst (entitled, "Job Opportunities for the Green Economy", June 2008). The PERI study utilized Minnesota IMPLAN software (input-output model) to compile a list of occupations most affected by investments in the green sector. In my thesis, when I discuss the socioeconomic characteristics of green sector employees, it is solely in reference to the occupations presented in the PERI list. My research would have been more fulfilling it I was able to do my own IMPLAN calculations, but the cost of the software package unfortunately exceeded my allowances.

The second significant limitation concerns the scope of the occupational specific data extracted from the Bureau of Labor Statistics databases. I wrote this thesis between January and April 2012, but the datasets included range from 2002 to May 2010. Information for May 2011 was not available until the late spring, and I would have not been able to complete my calculations in time for academic deadlines. It may be an obvious limitation that two years in terms of economic recovery is a long time, however, in my opinion this is not an issue. The foundations for the high unemployment experienced now (2012) was set long before the recession hit (2008), and the recovery trends established in 2009 remain continuous, if not entirely stagnant.

1. Introduction

Economic opportunities presented by the green sector may not improve unemployment and inequality in the United States, according to labor statistics. The economic crisis of the late 2000s exposed vulnerability in the structure of the American workforce. High unemployment and sluggish economic growth continued three years after the peak of the recession. The purpose of this study is to determine if the current inequalities within the labor force structure are amended by opportunities presented by the green economy. To do this, two demographic employment groups are defined: those neglected within the workforce and those incorporated into the green economy. Overlaps between the two groups suggest potential structural solutions from the growth of the green economy.

1.1 The United States Economy in a Recessional Era

In 2011, the United States had a gross domestic product (GDP) over $15 trillion and supported the fourth largest labor force in the world (153.4 million). The majority of economic activity is concentrated in the services industry, whereas 22% of GDP is based in manufacturing. Primary sector activities are negligible and account for 1% of GDP. Industries within the United States are highly diversified and based on competitive innovations in technology. The private sector controls decisions within the market-oriented economy, and firms have a large degree of flexibility. This financial environment allows American firms to be highly competitive and at the forefront of technological development (The World Factbook, 2012).

Approximately 80% of the American labor force is employed in the service sector, whereas one fifth is employed in manufacturing. Less than 1% of the labor force is employed in agriculture. This distribution is similar to the sector composition of GDP. The American labor force is the most ethnically, racially, and religiously diverse in the world. Although English is the official language, over one fifth of Americans speak another language at home. One third of the population belongs to minority groups and there are over 1,000 recognized religions. America remains a melting pot of culture, race and religion. This diversity is most apparent in the major cities, such as New York (population: 19.3 million), Los Angeles (population: 12.7 million) and Chicago (population: 9.1 million). Over 350 languages are spoken within the New York metropolitan area alone (The World Factbook,

2012). The American labor force is likewise equally as diverse, however social biases and stagnant policy often make the labor market a racially structured institution.

In 2010, 15% of Americans lived below the poverty line, whereas the wealthiest 10% of the population earned over 30% of all earned income (The National Data Book, 2012). This income disparity suggests a high level of inequality, and the United States consistently has one of the higher Gini indexes among nations with a very high human development index (World Development Indicators, 2012). This class system is in part due to the rapid development of an innovation-based economy rooted in technology. As a result, a two-tier labor market has developed with those on the bottom lacking the education and professional development to become high-income earners. As the American economy strengthens, those at the top continue to receive high salary and increased benefits. Inequality is therefore the result of stagnation of the lower income bracket paired with increased overall wealth of the nation (The World Factbook, 2012).

The United States plunged into a deep recession in mid-2008, the worst economic downturn since the Great Depression. In 2009, the GDP contracted 3.5% and unemployment rates exceeded 10%. Although initiated by the sub-prime mortgage crisis and instability within the financial sector, the downturn was prolonged by a global recession combined with a series of domestic aftershocks. By 2010, the GDP experienced a 1.5% growth but the recession is coined in the media to have a “jobless recovery” (The World Factbook, 2012). As of January 2012, the labor market is still experiencing high levels of unemployment with limited growth in real income.

1.2 The Potential of the Green Economy

Congress has passed several programs to aid in recovery. Most notable was the $787 billion stimulus package signed into effect by President Obama in January 2009. Although intended to promote consumer spending, the stimulus was largely unsuccessful in creating employment. Further government aid has been muted by the increasingly large government deficits, which equate to over 9% of GDP (The World Factbook, 2012). In addition to these immediate domestic concerns, the government recognizes a long-term goal of reducing dependency on foreign oil, which is viewed as both a threat to national security and to be environmentally irresponsible. The Obama-Biden comprehensive New Energy for America plan was strategized as method to decrease unemployment while exploring alternative

energy options. The plan intends to create five million jobs through investing $150 billion in the green economy, while fulfilling climate initiatives designed by the international community (The Obama-Biden Plan, 2012).

Policymakers are optimistic about the opportunities presented by the green economy, which may serve as a means of further economic development during times of fiscal hardship. Economic development, in respect to public policy measures, is the process of creating wealth and improving general standards of living (Carley, 2011). The green economy fulfills this goal in two ways. First, as fledging industries, the green sectors are inefficient and therefore more labor intensive than established sectors (Lesser, 2010). This scenario is inviting to a nation with high unemployment and a declining manufacturing sector. Second, the economic burden of both mitigation and acclimation to climate changes poses as an imminent threat to the collective well being of the nation. The means of utilizing the green economy in this manner is called energy-based economic development (Carley, 2011).

The government can promote employment growth in the green sectors through either directly subsidizing green firms or encouraging investment from the private sector. Either method creates jobs in three ways: by direct, indirect and induced effects. Direct effects are the immediate employment increase within the green sectors as the result of the investment (i.e., more manufacturing jobs to build components of wind turbines). Indirect effects create a secondary wave of employment in support industries, such as in the steel industry in response to the increase demand for goods to manufacture wind turbines. When workers employed through direct and indirect effects spend their income, this creates additional employment in industries unrelated to the green sector, such as retail. This is called induced effects, and only represents a small percentage of the total job creation (Pollin, September 2008). Indirect effects are often greater than direct effects. A study on electricity production in China showed that while an industry transfer away from traditional sources caused a net loss in direct jobs, the jobs created by indirect effects was substantial. A 1% increase in solar photovoltaic production caused a .68% increase in jobs. Employment gains could even be greater if policy aimed to match trained personal with prospective employers, and to introduce green knowledge training within the public education system (Cai, 2011).

Education is a vital component of the green economy. It is important to note that green jobs are not ‘new jobs’ but rather traditional occupations in industries reinventing

themselves. A green-collar worker is already filling an established role in the workplace, but has been trained in green knowledge skills. For example, an engineer who previously built gas-guzzling utility vehicles may now design energy-efficient engines. This is a unique opportunity in that green workers can be educated in occupationally contextualized training programs, outside of the often unaffordable realm of higher education. A study by the Center on Wisconsin-Strategy at the University of Wisconsin-Madison showed that those mostly likely to benefit from the green economy have more than a high school diploma but less than a four-year degree. These middle-skill workers are concentrated in manufacturing and construction industries, and are the largest labor force group in the United States. The economic downturn has likewise caused high rates of unemployment and underemployment within this group (White, 2008). Advancements in the green economy have the potential to improve the well being of middle skill workers by empowering them with green knowledge skills, which are acquired within the workplace.

Furthermore green jobs tend to be good jobs, in that they provide a living wage, benefits such as healthcare, and an established career ladder that can lead to a middle class lifestyle (White, 2008). On average, green workers earned a median wage 13% higher than that of the average worker (The Clean Energy Economy, 2009). Those employed at the entry-level in the green sectors can progress in career levels through hands-on skill development. This will allow many to avoid poverty traps, such as which come with low-paying jobs in the service sector (White, 2008). This is especially true in metropolitan areas. Today, the green economy is present in all major metropolitan areas but with different manifestations. Specializations, such as photovoltaic research in Los Angeles and wind turbine manufacturing in Chicago, have emerged. Firms belonging to a green industry cluster experienced 1.4% faster growth than dispersed firms (The Clean Energy Economy, 2009). This suggests that urban centers will emerge as the energy of the green economy while providing opportunities around the country. As Steven Greenhouse of the *New York Times* stated, “labor unions view green jobs as replacements for positions lost to overseas manufacturing and outsourcing, [and] urban groups see it as a path out of poverty” (Greenhouse, 2008).

1.3 Opposition to Green Economic Theories

Support towards green economic development is not unanimous, and many economists oppose significant investment into these industries as a solution to high unemployment. The European experience with energy-based economic development suggests that the green economy may not be such alleviation to every economic woe. Green programs in Spain destroyed jobs without the employment gains from indirect effects. In Italy, the capital needed for the creation of one green job could have created five jobs in the general economy. The establishment of wind and solar power in Germany raised energy prices by 7.5% (Green, 2011). Indeed, nearly all available studies on green-collar job creation focus on employment gains without adequately addressing economic loses (Pearce, 2008).

These losses come in several forms. When consumers are forced to buy high-cost electricity from subsidized renewable energy producers there is not a wealth gain but a transfer of wealth from consumer surplus to producer surplus. The result is that not only is the total value of the market reduced because efficient producers are driven out by subsidized ones, but consumers available wealth to spend within the economy is reduced because of higher energy prices (Lesser, 2010). This creates a net employment loss through indirect and induced effects. Firms with high power and resource usage are most affected by high energy prices, and forced price changes will promote layoffs. Also, those sustained within the current energy supply chain, particularly within coal mining and electricity generation, become vulnerable. These employment losses have yet to be estimated (Pearce, 2008). Furthermore, there are few operational and maintenance personnel required for wind and solar energy, so these sources will only create employment if there is domestic production and construction of parts. Without adequate policy, these employment gains can, and will most likely be lost to overseas producers (Lesser, 2010).

1.4 Applied Energy-Based Economic Development

It cannot be said that investment in the green economy will create a plethora of jobs, but it can at least be assumed that investment will increase salaries and job security for those already belonging to the green industries. But who are these workers? This thesis identifies the key demographic groups belonging to the current green industries. Although the green

economy has national presence and supports the middle class, it fails to address many of those resolutions it is promised to do and other main issues within the American economy. Those employed within the green economy have more skills than those affected by recessional unemployment. This suggests that unemployed workers do not have the skill sets necessary to fill green jobs. Additionally, the green economy in its present state encourages the precedence of gender and racial barriers in the workplace. Lastly, sector growth is concentrated in regional and metropolitan clusters, and not necessarily in the areas of the United States with the highest unemployment.

2. Methods

The goal of this thesis is to define current weaknesses in the American labor force, and to suggest how these can be eliminated through an emphasis on the green economy. To do this, both the demographics and geographic distribution of the labor force and the green economy are defined. This study does not attempt to project either the rate of economic recovery or the growth of the green economy. The goal is much more humble: to see if there is overlap between the green economy and recessional weaknesses through a demographic analysis. The groups to be defined will be based on income, educational attainment, gender, race, energy usage, and geographic distribution.

2.1 Project Scope

The jobs created by the green economy will have income security and provide higher-quality employment opportunities (decent wage, career ladders, training, and security). It is important to clarify then the demographics that currently have these types of jobs, and the demographics that need these types of jobs. Although many of the employment issues became were exposed through the late 2000's recession, it is recognized that the structural evolution of the labor force before the recession made many of these problems pre-eminent. Therefore the scope of the data is generally between 2000 and 2012 to identify trends from before the recession to recovery.

2.2 Definition of Green Occupations

Since green jobs are already occupations established within the workplace, the term 'green job' remains an ambiguous statement. A machinist could very well be working on a drill head instead of a wind turbine. For the purpose of this study, the green economy is characterized by definitions outlined Robert Pollin and Jeannette Wicks-Lim in their 2008 paper for the Political Economy Research Institute at the University of Massachusetts Amherst. The PERI study used Bureau of Economy Analysis (BEA) annual input-output accounts from 2005 to determine the employment response in a specific industry to a $1 million increase in green investments. First, the BEA tables at the 65-industry level were used to determine an increase in output and then the BEA Gross-Domestic-Product-by-Industry Accounts data was used to derive employment multipliers (the factor by which

employment would change given a change in output). This information identified the industries that would be most affected: building retrofitting, mass transit, energy-efficient automobiles, wind power, solar power and cellulosic biofuels (Pollin and Wicks-Lim, 2008).

To narrow down the occupations needed to meet employment demand from increased investment, the PERI study used the Minnesota IMPLAN model, an economic assessment package that uses data ranging from the national level to local zip code regions. The matrix is organized on an industry basis using similar occupational and employment characterizations as government data. Each main data file has six main components: employment, value added factors, output, final (institutional demand), inter-institutional transfers, and national structural matrices. The PERI study utilized IMPLAN's occupation-by-industry matrix to determine the most affected occupation profiles for each industry. These profiles were then matched to occupational definitions, or codes, used by the Bureau of Labor Statistics. In this thesis, whenever the 'green economy' or 'green sectors' are mentioned, it is in reference to the six industries and matching occupations defined by the PERI study. Although the results of the PERI study are by no means generally accepted within the discipline, they do provide a mathematical basis for the definition of a green job. For the purpose of this thesis, this therefore gives a clear definition of the green sector, and removes any ambiguity of the developing industry (Pollin and Wicks-Lim, 2008).

2.3 Explanation of Data Sets

This thesis utilized three main databases. All income and employment estimates provided in the tables and figures are extracted from the data reported in the May 2010 Occupational Employment and Wage Estimates tables of the Occupational Employment Statistics (OES) of the Bureau of Labor Statistics (BLS) (accessed at http://www.bls.gov/oes/oes_data.htm). Any historical employment estimates were taken from archived datasets, with May as the reference month. Years 2002 to 2004 also have information for November, but this was not used. No data before 2002 was extracted from the OES, as the occupational classifications were organized under a different classification code system. This database divides the states into four distinct regions (Northeast, Midwest, South, and West) and also nine divisions (see Figure 1) The Bureau of Labor Statistics is a division of the United States Department of Labor and is the principal agency for collecting and disseminating information on the American labor force. In 2010, BLS received funding

to measure green jobs using OES data, and to create a corresponding category in the recognized industry list (SIC). However, at the release of this study, this database had yet to be completed (Overview of the BLS Green Jobs Initiative, 2012).

Any additional information concerning demographic trends or employment was from the Income, Expenditures, Poverty, & Wealth section of the 2012 Statistical Abstract of the National Data Book of the United States Census Bureau (accessed at http://www.census.gov/compendia/statab/cats/income_expenditures_poverty_wealth.html). Historical data from the Census Bureau was also taken indirectly from the June 2008 Population Bulletin (Vol. 63, No. 2), as published by the Population Reference Bureau (Lee and Mather, 2008). The Census Bureau operates under the United States Department of Commerce and is responsible for collecting information on the American economy and demographics, including the labor force.

Figure 1: Census Bureau Designated Areas

Region 1: Northeast Division 1: New England - Connecticut - Maine - Massachusetts - New Hampshire - Rhode Island - Vermont Division 2: Mid-Atlantic - New Jersey - New York - Pennsylvania	**Region 2: Midwest** Division 3: East North Central - Illinois - Indiana - Michigan - Ohio - Wisconsin Division 4: West North Central - Iowa - Kansas - Minnesota - Missouri - Nebraska - North Dakota - South Dakota
Region 3: South Division 5: South Atlantic - Delaware - Florida - Georgia - Maryland - North Carolina - South Carolina - Virginia - West Virginia Division 6: East South Central - Alabama - Kentucky - Mississippi - Tennessee Division 7: West South Central - Arkansas - Louisiana - Oklahoma - Texas	**Region 4: West** Division 8: Mountain - Arizona - Colorado - Idaho - Montana - Nevada - New Mexico - Utah - Wyoming Division 9: - Alaska - California - Hawaii - Oregon - Washington

Figure 1: The regions in the United States are defined by law and in some cases, regulations by the federal government.

Source: http://en.wikipedia.org/wiki/List_of_regions_of_the_United_States

The last source of data was the State Energy Data System (SEDS) of the United States Energy Information Administration (EIA), which provided all information on energy production and consumption (accessed at http://205.254.135.7/state/seds/). Although the EIA works within the United States Department of Energy, it acts as an independent agency to collect and provide impartial data to both the private and public sectors. Its comprehensive program allows it to map the energy production, flows and end-uses, as well as using this information to make energy projections.

Collectively, these three datasets provided a picture of the United States labor force and the green economy. A clear demographic description of each can provide foresight on how potential growth of the green sectors will affect the American labor force, and future economy. The labor force of the traditional energy sector is often frequently discussed to suggest what losses in employment may occur with the transition to alternative energies. The ten occupations listed in this study for the oil and gas industry were not concluded using the IMPLAN model. They were determined through the BLS national industry specific datasets and are the top ten occupations represented in oil and gas extraction (NAICS 211100) (Occupational Employment and Wage Estimates, 2010). Together with the data on green employment, this information can provide an extensive picture of the potential changes in the labor force with the transition to alternative energies.

3. Status of the United States Labor Force

Public interest in green sector investments stems from a two-fold problem in the American economy. First, the immediate and obvious is the stunt in economic growth accompanied by high unemployment as the result of the Great Recession. The second problem is the more gradual economic transition from a manufacturing industrial machine to an economy based in the tertiary sector. Although this development in itself cannot be considered a problem, the lackluster transformation of the American workforce into an innovative force of the service economy, is both problematic and an enigma. Service economies not only promote lower annual economic growth than their manufacturing counterparts, but generally support a smaller labor force, with employment opportunities available on the basis of education level and ingenuity. The American workforce has yet to adapt, despite the national decline in the manufacturing sector since the 1980's (Lee and Mather, 2008). Here is where the green sector plays a role. Not only does it have the potential to produce a tradable output and produce economic growth, but the type of employees required by the sector seem to be the right fit. Green solutions demand innovation in both business and engineering. Green sector growth therefore restores vitality to the manufacturing sector while further developing the service sector. Both ease the transition to advanced stages of economic development, or at least postpone it. Either is acceptable to Capitol Hill. Money plus green sector innovation equals employment and economic growth.

However, if we look closer at the problems of the American economy, the equation may fall apart. Although the present high unemployment levels have been exposed by the Great Recession, they were not necessarily caused by it. And unemployment is certainly not the only labor force issue. Income inequality. Workplace discrimination. Labor concentration. These are all problems that existed before, and still remain after the recession. Growth of the green sector may make some of these problems worse while solving others. To answer this question, the deficiencies existing in the American labor force must be clearing defined.

3.1 Racial Differentials in Unemployment, Participation, and Income

Historically the American labor market has been a racially structured institution. Although formal boundaries are removed, trends in the labor force suggest that discriminatory attitudes remain in the workplace. The causes are both societal (racism or xenophobia) and a side effect of the socioeconomic structure in America. Between 1990 and 2008, the per capita income for Caucasian-Americans increased from $24,285 to $28,034, or almost 20%. During the same years, the per capita income for African-Americans and only 10% for Hispanics. However, in 2008 the per capita income was still only a fraction of that of Caucasians ($18,135 for African-Americans and $15,063 for Hispanics). Asian Americans experienced a 30% increase in per capita income and had an average income of $30,653 (see Figure 2). These groups also experienced different reactions to the economic crisis in 2008. Caucasians and African-Americans experienced a 2% decrease in average salary, while the average Hispanic income decreased by 5%. Asian Americans instead experienced an increase of 2% (The National Data Book, 2012).

Unemployment and labor force participation rates also differ between the demographic groups (see Figure 3). In 2010, the unemployment rate for Caucasians was 8.3% and double for African-Americans (16.8%). Asian Americans similarly had a larger unemployment rate (11.5%) and Hispanics had the smallest (7.8%) (The National Data Book, 2012). This suggests employment preferences for certain racial groups. A study conducted by the Population Reference Bureau in 2008, showed that labor force participation rates tend to differ between ethnic groups (see Figure 4). Hispanic men have the highest participation rate, however this could be misleading as many of these workers immigrate to the United States with the intention to work. This is a similar scenario for Asian men, whom also have high participation rates. Foreign-born women tend to drop out of the labor force once they have children, which explained the low participation rates of Asian and Hispanic women, the two largest immigrant groups. African-American women have the highest participation rate of all women and this is attributed to general socioeconomic pressures historically faced by this demographic group. The relatively low participation rate of Africa-American men is a result of the low employment rate for this group, which has been created by the decrease in demand for low-skilled workers since the 1980's (Lee and Mather, 2008).

Figure 2: Per Capital Money Income in Constant (2009) Dollars by Race

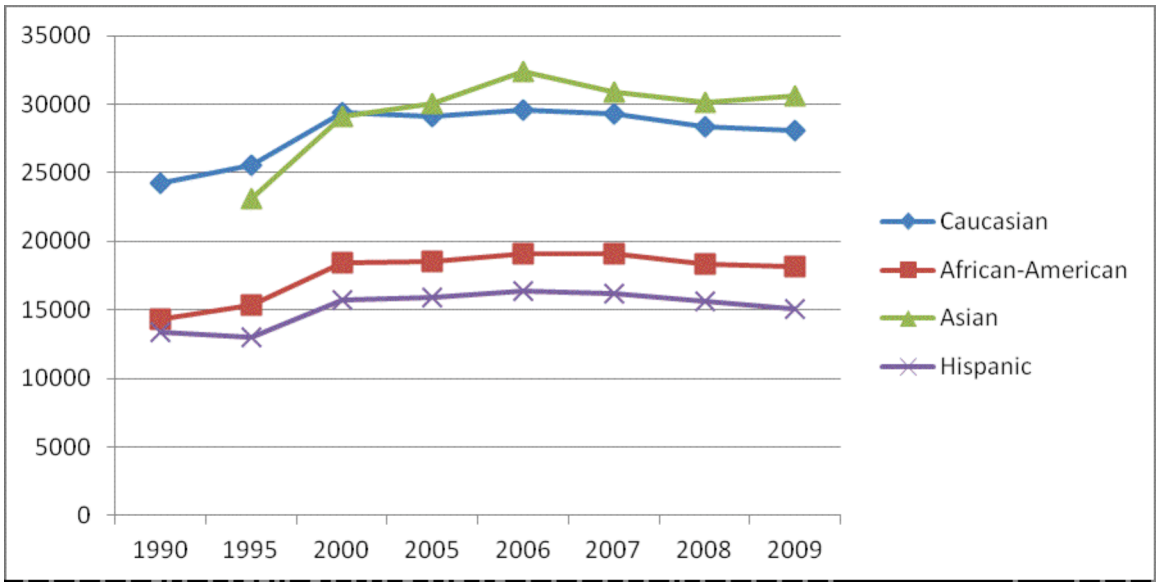

Figure 2: All races experienced relative stagnation in real income between 2000 and 2009. Caucasian and Asian employees on average earned around $30,000 annualy, while African-American and Hispanic employees consistently earned less than $20,000.

Source: "The National Data Book." *The 2012 Statistical Abstract: Income, Expenditures, Poverty, & Wealth*. US Census Bureau, Jan. 2012. Web. 23 Apr. 2012. <http://www.census.gov/compendia/statab/cats/income_expenditures_poverty_wealth.html>.

Figure 3: Unemployment Rates by Race and Gender, 2010

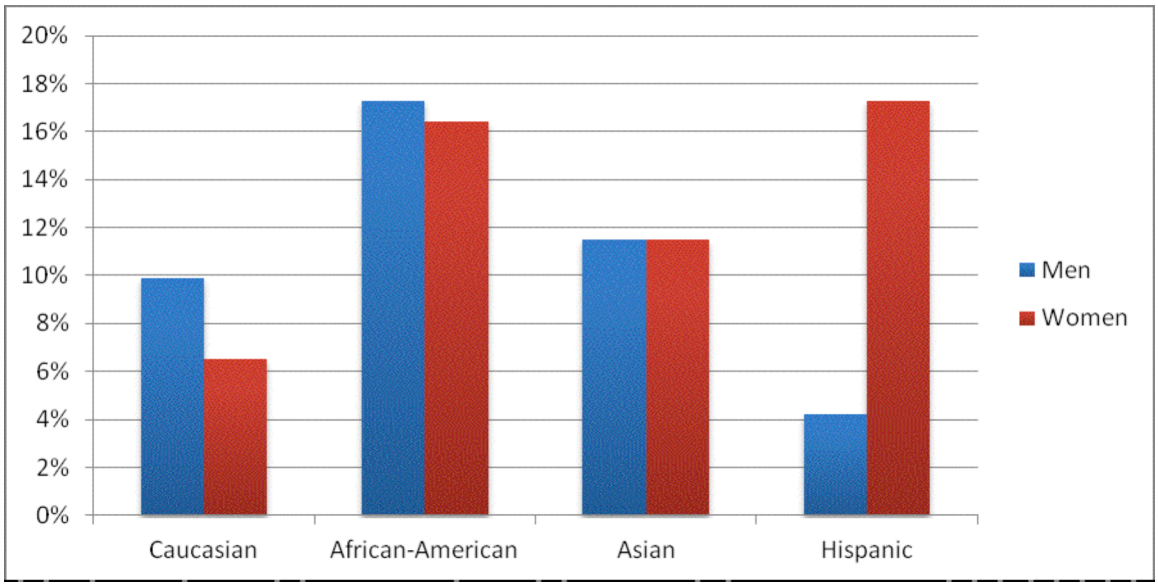

Figure 3: African-Americans and Hispanic women had the highest unemployment rates (over 16%). Asians of both genders had an unemployment rate of 11%. Hispanic men and Caucasian women had the lowest unemployment rates (btween 4% and 6%).

Source: "The National Data Book." *The 2012 Statistical Abstract: Income, Expenditures, Poverty, & Wealth*. US Census Bureau, Jan. 2012. Web. 23 Apr. 2012. <http://www.census.gov/compendia/statab/cats/income_expenditures_poverty_wealth.html>.

Figure 4: Labor Force Participation Rates by Race and Gender, 2005

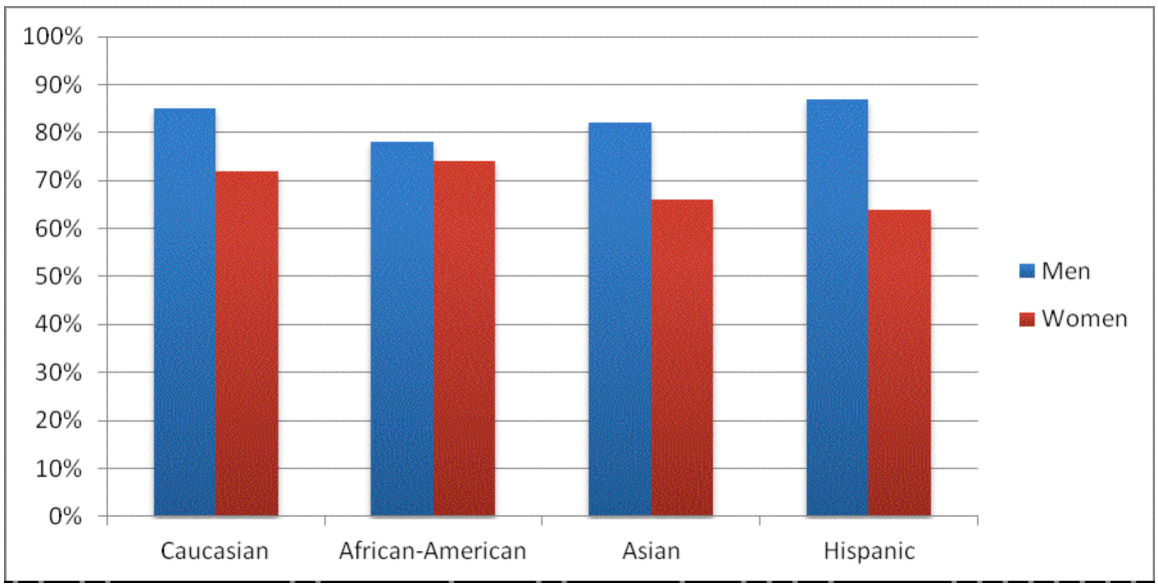

Figure 4: Men traditionally have higher participation rates than women. Hispanic men had the highest participation rates, wherease Hispanic women had the lowest.

Source: "Labor Participation Rates." *Bureau of Labor Statistics*. Department of Labor, May 2010. Web. 23 Apr. 2012. <http://www.bls.gov/lau/table14full10.pdf>.

The discriminatory trends in the labor force are self-reinforcing, and if they continue to be minimally addressed by policymakers, the institutional inequality in the United States will remain. Furthermore, these changes need to happen now as the racial distribution of the United States is predicted to dramatically change with growing Hispanic and Asian groups. In 2005, the majority of the workforce (~70%) was Caucasian. By 2050, Hispanics will grow to include over one fourth of the labor force, whereas Asians will be 8% (Lee and Mather, 2008). Sheer numbers will either break the glass ceiling or increase the exclusions faced by these demographics. The green sector, if it is to be the next industrial wave in America, needs to forbid the latter by targeting income brackets and occupations with diversity.

3.2 The Gender Gap

Despite having a very high human development index (fourth in the world), the United States ranks 47th in terms of measured gender equality (World Development Indicators, 2012). Although this rank results from a combination of effects, the income differentials between men and women cannot be ignored. On average, a woman working year-round, full-time but has no college degree will earn 70% of that earned by a man with the same qualifications (see Figure 5). This percentage decreases as the level of educational attainment becomes higher. A man with a bachelor's degree, or higher, earned an average income of $92,815 in 2009. A woman with the same degree earned only $62,198. It is more troublesome that these differences are not generational. A woman, for example, that is over 40 may earn less than a man the same age, as she entered the workforce during a time when societal attitudes worked against her, and it would not be unreasonable that this income projection continued throughout her lifetime. However, women in the labor force under the age of 30 still earn 75% of that of men with the same qualifications (The National Data Book, 2012). Green jobs therefore need to target both the occupations and the income bracelets with a high percentage of women, to give this demographic both income security and opportunity.

Figure 5: Average Earnings of Year-Round, Full-Time Workers with a College Degree (Any Level), 2009

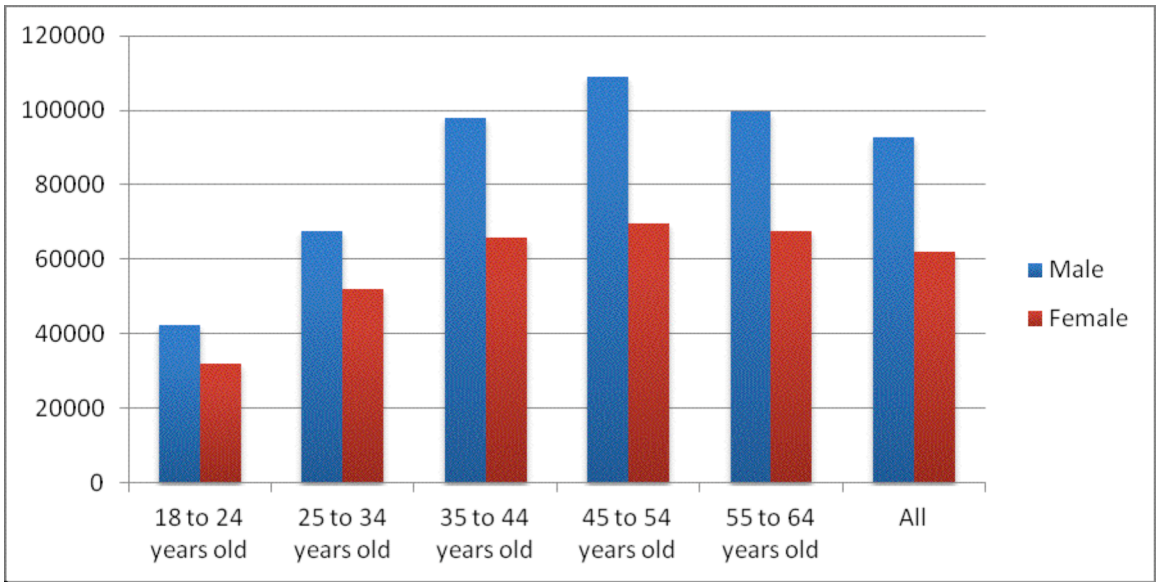

Figure 5: Men consistently earned more than women regardless of similarities in educational attainment. For both genders, incomes peaked at persons ages 45 to 54, and was the lowest at ages 18 to 24. The gap between male and female earnings was largest at ages 45 to 54.

Source: "The National Data Book." *The 2012 Statistical Abstract: Income, Expenditures, Poverty, & Wealth*. US Census Bureau, Jan. 2012. Web. 23 Apr. 2012. <http://www.census.gov/compendia/statab/cats/income_expenditures_poverty_wealth.html>.

3.3 The Income Bow Tie

In many respects, the income distribution in America is shaped like a bow tie, crooked and slightly misshapen. On one side of the knot there exists the majority of the workforce, and on the other, the majority of income. The 2009 census data showed that roughly 27.7 million men earned less than $10,000 (The National Data Book, 2012), where in the individual poverty line is $11,300 (Fisher, 2011). The statistics for women were much worse, with approximately 45.2 million, or 36% of the female labor force earning income below the poverty line (The National Data Book, 2012). This number has the potential to be much greater if a household has only one income earner, as the family poverty line is $22,100 (Fisher, 2011). For both genders, approximately 30% of the labor force fell within the income ranges for the middle class ($25,000 to $55,000), and 30% of men earned in the upper income percentiles. Only 14% of women earned more than $55,000. Overall, 63% of men and 80% of women earned below the mean salary for all occupations (The National Data Book, 2012). Hence, the one side of the bow tie, with all the people (see Figure 6).

The other polka-dotted half represents the earned income. The United States has one the highest Gini indexes among countries with a high human development index, and it was worsening long before the 2008 recession (40.8 in 2000 to 45.0 in 2007) (The World Factbook, 2012). In 2009, the top 30% earned over 70% of all income, whereas the 20% of the labor force under the individual poverty line earned only 3% of all income (The National Data Book, 2012). High inequality is problematic because often the conditions of socioeconomic statuses are self-reinforcing. Greater inequality therefore affects the generational mobility to move between income levels, the very premises of which contradict American values of autonomous success. The employment promotion of the green sector must therefore be very specific to bridge this gap, not by creating millionaires, but a middle-class majority.

Figure 6: Money Income Distribution of Employed Persons

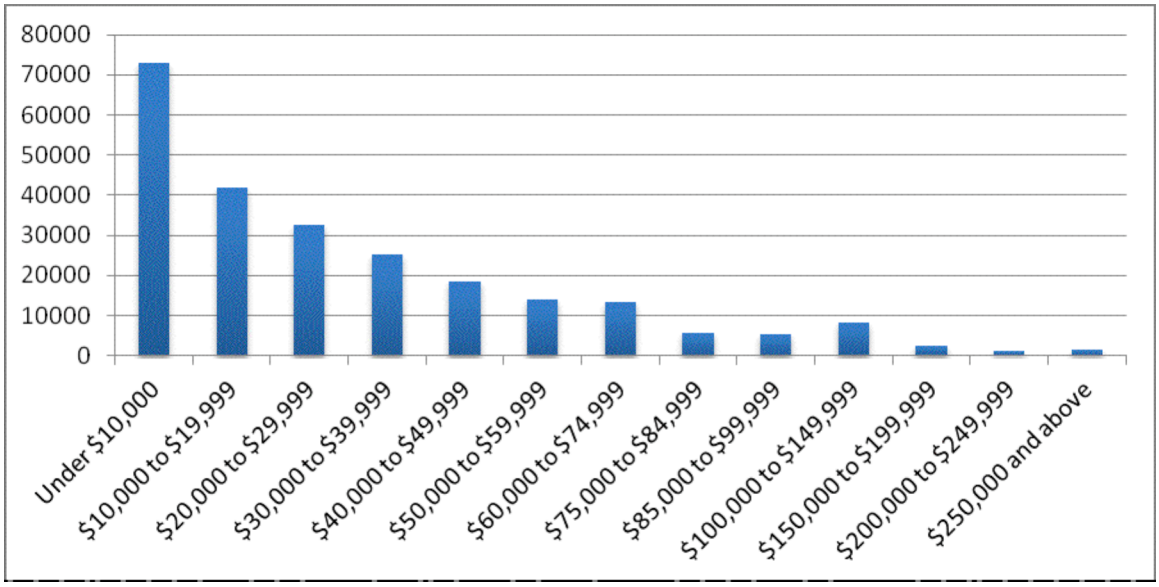

Figure 6: The majority of Americans earn less than $30,000. Over 70 million persons earned less than $10,000.

Source: "The National Data Book." *The 2012 Statistical Abstract: Income, Expenditures, Poverty, & Wealth*. US Census Bureau, Jan. 2012. Web. 23 Apr. 2012. <http://www.census.gov/compendia/statab/cats/income_expenditures_poverty_wealth.html>.

3.4 Labor Migration and Concentration

Domestic migration, like immigration, is caused by a combination of push and pull factors. Push factors are negative environments that encourage migration out of a region, such as unemployment, crime, or poor neighborhood quality. Economic growth, employment, low housing prices and retirement opportunities are pull factors, which encourage migration into a region (Lee, 1966).

The United States has absolute labor mobility, in that there are no formal barriers to become employed in a different state. The historical effects of this are that the geographic distribution of labor force remains in a reasonable equilibrium. However, economic bubbles such as that which led to the housing and mortgage crisis can alter this equilibrium and cause a population concentration in a region or state. This was experienced in years proceeding the recession within the southern and western parts of the United States (see Figure 7). Between 2002 and 2008 the labor force of these regions grew between 8-15% despite consistent participation rates (Labor Participation Rates, 2010). The labor force size in the Northeast and Mid-Atlantic states decreased. During the same time, housing and construction related employment in the South and West increased by 15%, and only by 1% in the Northeast and Mid-Atlantic (see Figure 8). When the recession hit, the areas that experienced labor force growth and an increase in construction-based employment, had the highest unemployment rate. Most notable are Florida, Idaho, and Nevada. These unemployment rates of these states remain tripled between June 2007 and January 2012 (although the highest unemployment rates were in between). Between 2002 and 2008, the labor force of these states increased by 10% and employment in the construction industry increased by 30%. The six states (Alaska, Michigan, Minnesota, North Dakota, South Dakota, and Vermont), which now have almost returned to their pre-recession unemployment rates, experienced a decrease in the size of labor force and 0% growth in construction employment.

Figure 7: Population Index of States by Recovery Type, 2002 to 2010 (100 = Year 2002)

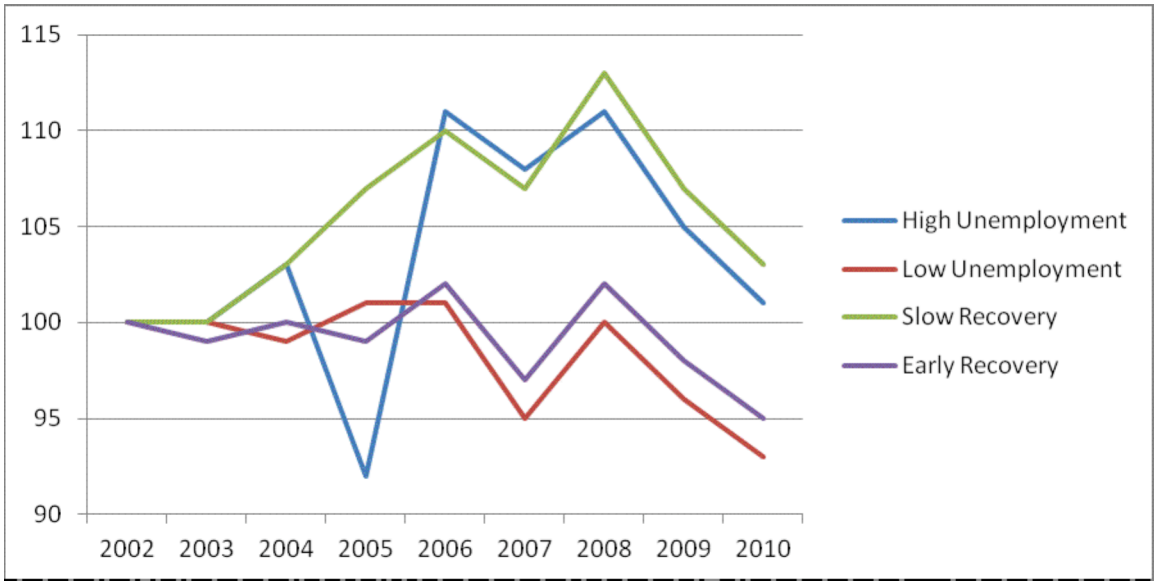

Figure 7: The labor force size of states with tripled unemployment and slow recovery since the start of the recession, increased substantially prior to 2008. States experiecing low unemployment and an early recovery had relative stagnation of the labor force size prior to the recession. The labor force size, or number of those employed, has decreased steadily since 2008 in all states with these recovery types.

Source: "Occupational Employment and Wage Estimates." *U.S. Bureau of Labor Statistics*. U.S. Bureau of Labor Statistics, May 2010. Web. 23 Apr. 2012. <http://www.bls.gov/oes/oes_data.htm>.

Figure 8: Employment Distribution by Industry, 2002 to 2010

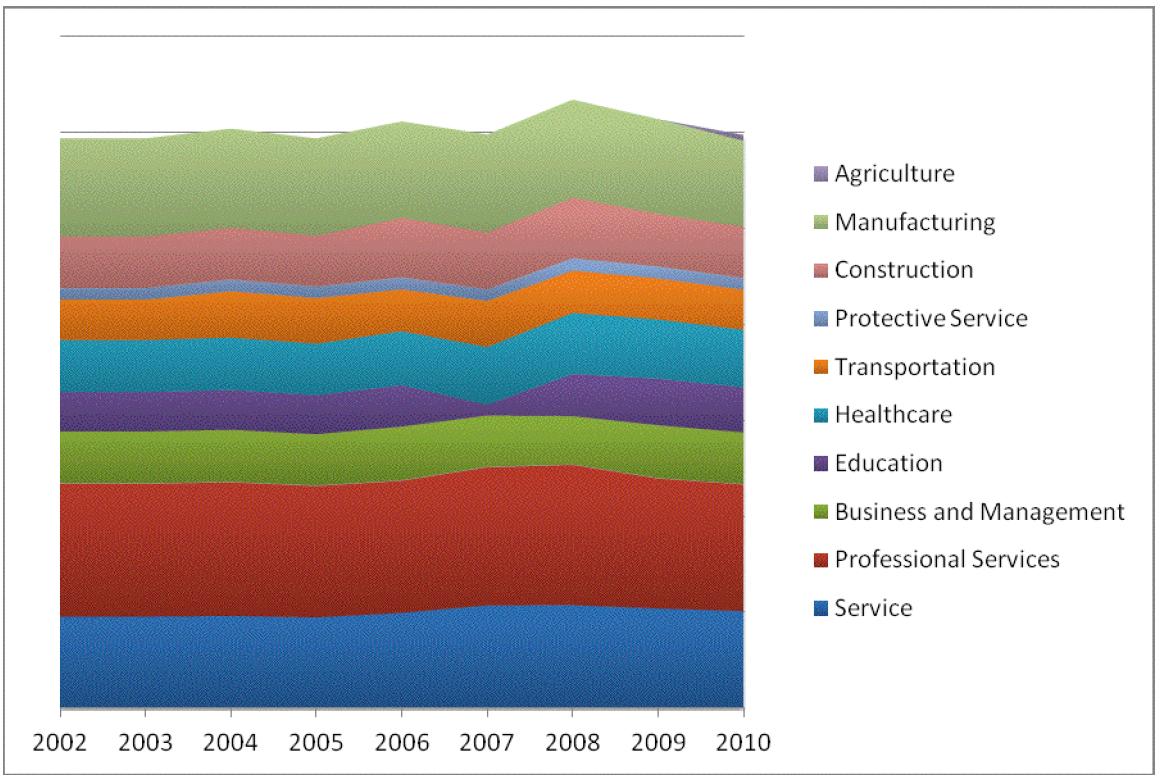

Figure 8: Professional services, service, and manufacturing are the largest industries in the United States. Both service industries increased between 2005 and 2008.

Source: "Occupational Employment and Wage Estimates." *U.S. Bureau of Labor Statistics*. U.S. Bureau of Labor Statistics, May 2010. Web. 23 Apr. 2012. <http://www.bls.gov/oes/oes_data.htm>.

This information suggests several concepts. First, disproportionate labor migration occurs during times of economic prosperity. Second, economic bubbles lead to both a concentration of employment into sectors and geographic regions. When these bubbles burst during a recession, and the economy is weakened, the ease of labor mobility decreases. As a result, high unemployment persists in geographic regions. If green technology is to sit on top the next wave of economic fervor in America, it must be a national effort. The concentration of green sector activity into several states may cause another recession with prolonged recovery.

3.5 Regional Unemployment

The recession of the late 2000's has had the longest recovery period of any recession since the Great Depression (Manyika, 2011). In June 2007, the national unemployment rate was 4.6%, and even less than 3% in Utah, Idaho and Hawaii. In January 2012, a little over three years since September 2008, the national unemployment rate was 8.3%, nearly double the prior national average (see Appendix Exhibit 3). National unemployment peaked in January 2010 at 9.7%. Employment recovery on the state level has differed drastically and recovery trends can be characterized by four main definitions: 1) high impact (unemployment in January 2012 still remains over 300% of June 2007 rate, or above 10% in January 2012); 2) low impact (unemployment in January 2012 has approximately returned to June 2007 rate); 3) slow recovery (January 2012 was the first month to show a decrease in unemployment since recessional peak); and 4) quick recovery (January 2010 was the first month to show a decrease in unemployment since recessional peak). States can be included in more than one characterization. Figure 9 outlines the states that are included in each recovery type. All high impact and slow recovery states are in the southern and western states; whereas the majority of low impact and quick recovery states are in the Midwest. High unemployment rates are mostly attributed to interim job growth caused by the upturn in the financial and housing sectors. High impact states experienced an average of 11.4% employment growth between 1998 and 2007, and slow recovery states had a growth rate of 14.2%. Low impact states had an average growth rate of 6.0% and quick recovery states had only 2.1%.

Figure 9: Recovery Characteristics of States and Regions

Recovery Characterization	Definition of Characterization	States	Region (Number of States)
High Impact	Unemployment in January 2012 still remains over 300% of June 2007 rate, or above 10% in January 2012	California, Florida, Hawaii, Idaho, Nevada, North Carolina	South (2), West (4)
Low Impact	Unemployment in January 2012 has approximately returned to June 2007 rate	Alaska, Michigan, Minnesota, North Dakota, South Dakota, Vermont	Northeast (1), Midwest (4), West (1)
Slow Recovery	January 2012 was the first month to show a decrease in unemployment since recessional peak	Idaho, Mississippi, Montana, Nevada	South (1), West (3)
Quick Recovery	January 2010 was the first month to show a decrease in unemployment since recessional peak	Indiana, Kansas, Missouri, Oregon	Midwest (3), West (1)

Figure 9: States can be clustered by the behavior of receovery. The states most affected by the recession tend to be concentrated in the South and West.

Source: see Appendix Exhibit 3.

National economic recovery can be overestimated if regional unemployment is not addressed. It is important to note, that regional unemployment reflects labor market inflexibility caused by imbalances in the industrial structure. In this case, a skilled occupational group in the construction trades exists but without the booming residential and commercial real estate to support it. In time, this group will transition to other sectors of the economy as employment creation allows it. If the green sector is to serve as an immediate instrument of job creation, it must first address the labor market surplus in construction, and thus the regional differentials in unemployment.

It is important to note that the United States has a natural rate of unemployment of about eight million people (Michaels and Murphy, 2009). Unemployment is always a transitional state. If unemployed, a person may change location and occupation according to personal preferences and the cost of job transfer. However, the economic implications of recession have hindered the dissemination of unemployed workers into other sectors. For example, the high amount of construction workers in the South have not been able to move elsewhere or utilize their skill set in another aspect of the economy. This now creates a golden opportunity for the green economy.

Figure 10: Unemployment Rate by Division, 2007 to 2012 (Appendix Exhibit 3)

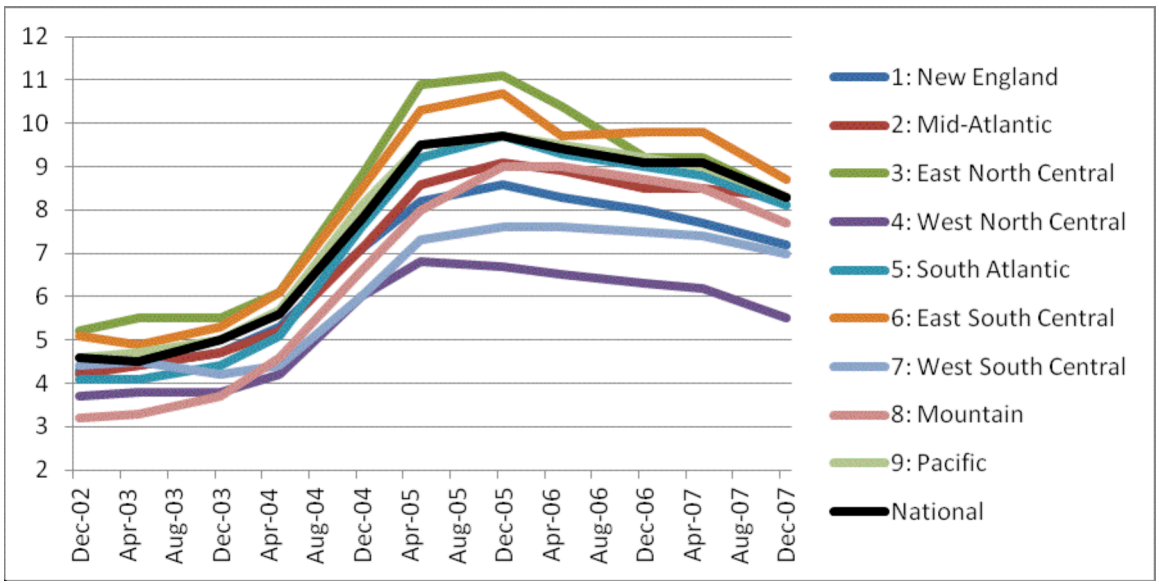

Figure 10: All regions experienced a rapid increase in unemployment between May 2008 and September 2009. Unemployment peaked between January and May 2010, with receovery trends varying between divisions. The West North Central and West South Central experienced the lowest unemployment rates, whereas the Pacific and East South Central experienced the highest.

Source: "Occupational Employment and Wage Estimates." *U.S. Bureau of Labor Statistics*. U.S. Bureau of Labor Statistics, May 2010. Web. 23 Apr. 2012. <http://www.bls.gov/oes/oes_data.htm>.

Figure 11: Unemployment Rate by Region, 2007 to 2012 (Appendix Exhibit 3)

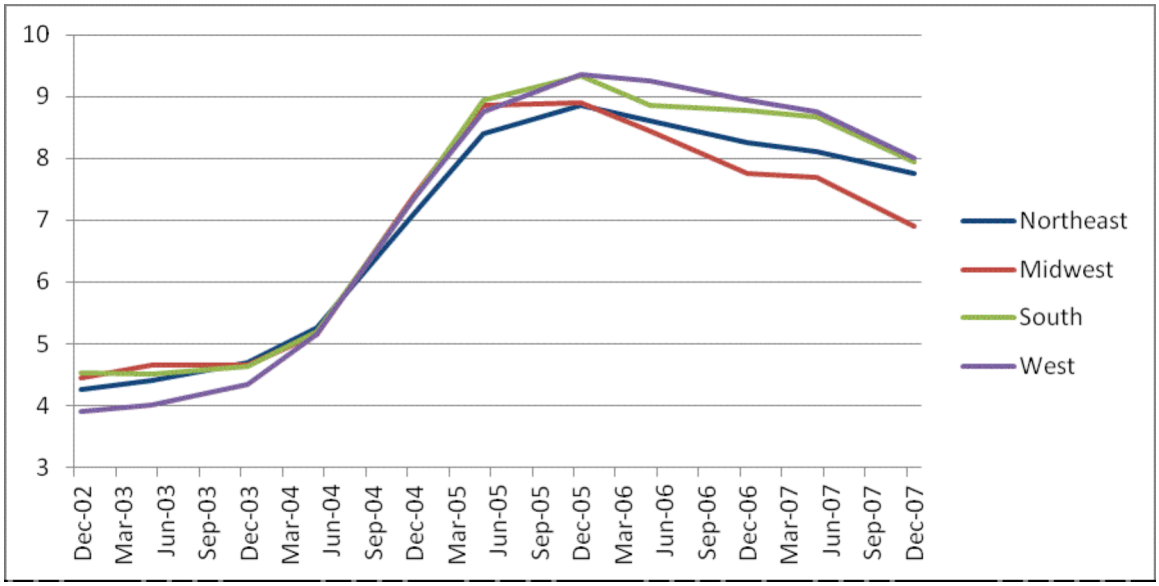

Figure 11: Unemployment peaked for all regions in January 2010. The Midwest experieced the lowest unemployment rates, while the West and South experience the highest.

Source: "Occupational Employment and Wage Estimates." *U.S. Bureau of Labor Statistics*. U.S. Bureau of Labor Statistics, May 2010. Web. 23 Apr. 2012. <http://www.bls.gov/oes/oes_data.htm>.

3.6 Educational Attainment and Type of Employment Opportunities

Between 1980 and 2000, manufacturing jobs in the United States dropped 6% and another 25% between 2000 and 2010 alone (The World Factbook, 2012). This trend is in part due to the transition to a service sector economy, which typically grows slower and requires different skill sets, than industrializing, manufacturing based economies. These changes were highlighted by the recession when sectors experienced different degrees of jobs losses. Low-skill occupations that required minimal education had the highest job losses, whereas there was a net gain in employment for many jobs the required upper-level education. Low-skilled workers that concentrated in the construction sector, once unemployed, found that the jobs, which matched their skill sets in other areas of industry, no longer existed (Manyika, 2011).

It must be accepted that these low-skilled jobs are disappearing from the American economy forever and that most employment positions available today require at minimum a two-year college degree. However, more than 50% of the workforce does not meet this basic requirement (see Figure 12). One third of workforce is high school graduates, and another 10% have some college but no degree. These workers can therefore fill occupations with low-skill requirements. A revamping of the American educational system is needed to correct this, but the green sector has the potential to help. If trades-based occupations are created, where workplace apprenticeships are the predominate requirement for earning a college degree, then the green sector has the potential to improve the skills represented within the work force. The green sector should also create jobs requiring a diverse range of skill sets, from advanced degrees to high school diplomas. This would at least ease the transition until the American educational system is reorganized.

Figure 12: Educational Attainment of the Labor Force, 2009

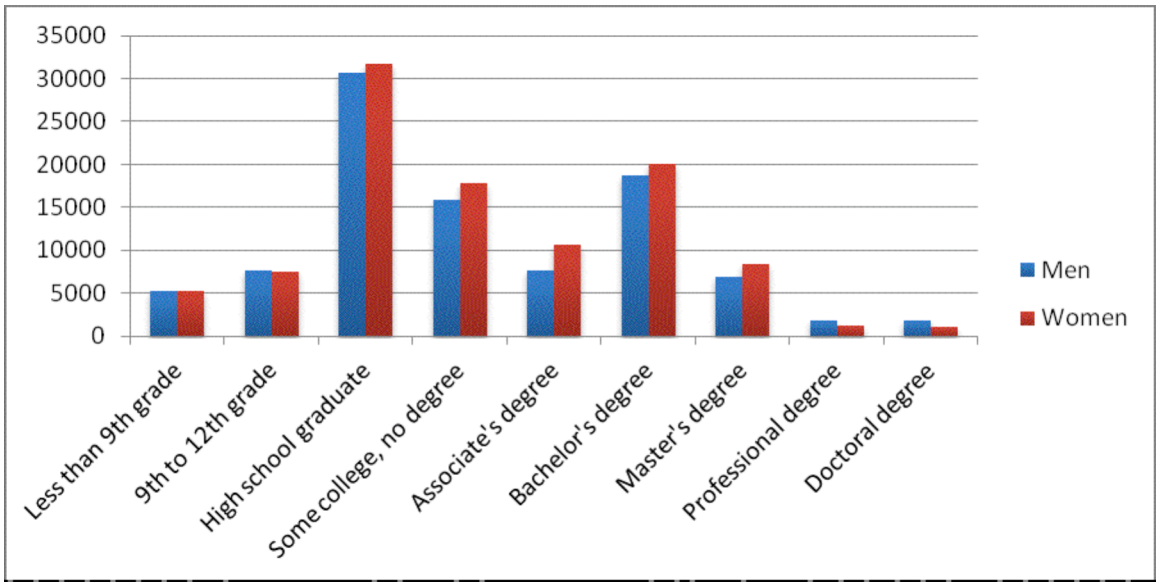

Figure 12: One third of the labor force has achieved high school graduation but with not college degree. Another third has attained college degrees at varying levels, with the majority have Bachelor's degrees. Women have more Bachelor's and Master's degrees while more men have professional and docotoral degrees.

Source: "The National Data Book." *The 2012 Statistical Abstract: Income, Expenditures, Poverty, & Wealth*. US Census Bureau, Jan. 2012. Web. 23 Apr. 2012. <http://www.census.gov/compendia/statab/cats/income_expenditures_poverty_wealth.html>.

3.7 The Big Disconnect

A business report by McKinsey Associates in 2008 similarly notes the above concerns in the labor force, but only in the introduction. The report argues that in addition to these problems, there exists a greater, even existential, dilemma for the economy. The work force and the employment market are operating as two separate engines. On one side, employers are adapting to the computer age, improving efficiency and technology within the workplace, and of course training employees as they go. The work force however is increasingly younger, and more importantly, born during the computer age. For this generation, technology is an extra appendage and efficiency a pulse. The skills and attitudes of the millennial generation are unique, if not in direct conflict with that accustomed to the prior generation. Studies showed that employees between 18 and 30 are less likely to fill jobs that require job relocation, especially to rural locations. Millennial workers prefer schedule flexibly, a virtual workplace, job diversity, and employment perks. Furthermore, this generation openly communicates about these perks and salaries, and is preferential to employers with the best employment packages. Many of these trends are still considered taboo, or even unprofessional by firms, who still consider the workplace to be a brick and mortar establishment. There are also not enough college graduates in science, technology, engineering and mathematics to meet demand. It is projected that graduates in this field will grow by less than 1%, whereas graduates in health and the humanities will be growing by more than 5% annually (Manyika, 2011). Although this immediate discrepancy can be corrected with immigration, millennial students, who view educational degrees as a form of self-expression, are intrinsically against filling this labor force void.

Firms are nonplussed at this mismatch between skill requirements and the workforce, and seem to be restructuring and eliminating many jobs to reduce the number of full-time employees. More firms have begun disaggregating jobs into tasks and hiring virtual, temporary or contract employees to complete the work. This trend is skeptical in that it does not provide the job security characteristic of the middle class office position (Manyika, 2011). Furthermore it does not address the issue of youth unemployment, or suggest that firms are attempting to accommodate the pending office evolution. In summary, the last two decades have experienced a major industrial shift, the rise of millennial attitudes, technological restructuring of the workplace and consumer needs, and not to mention the worst economic crisis since the Great Depression. The situation creates a lot of puzzle

pieces, and the Invisible Hand has not put them all into place, yet. The green sector therefore needs to encourage the virtual innovation of the younger generations, and create a stable place for these skills in the labor market.

3.8 Synopsis

The task of the green economy once seemed simple, but now that the structural deficiencies in the labor force have been identified, the economic accomplishments of the green sector must be greater, and certainly more pervasive. First, the green sector must promote occupations that are generally held by a specific demographic, racially diverse and inclusive to women. The incomes provided must strengthen the middle class to reduce inequality in America. The green economy must also simultaneous be a national effort, with a balanced geographic distribution of growth, while bringing employment to the regions and demographics most affected by the recession. Employment creation should be for all levels of educational attainment, while focusing on the trades. Lastly, the rise of the green economy must be coevolved with the millennial office mentality.

4. Opportunities of the Green Economy

4.1 Defintion of the Green Economy

As defined by the United Nations Development Programme, the green economy is a sustainable economic system based on increased living standards, social equity, and environmental responsibility. In applied terms, a green economy is based in renewable energy, sustainable building construction, clean transportation, and resource management. Specific sectors with the goal to fulfill these responsibilities need to be differentiated within the industrial structure to perform economic analysis. A study by the PERI Institute suggests that a combination of green investment strategies with give rise to the six sectors of the green economy. **Building retrofitting** will be a transitional industry to create green buildings from existing infrastructure. Construction will be based in energy and water efficiency, while using sustainable building design and materials. To reduce pollution and reliance on fossil fuels, investments in **mass transit** will improve public transportation services. **Energy-efficient automobiles** and **cellulosic biofuels** will combine biotechnology and engineering to create sustainable transportation options for the individuals. **Wind power** and **solar power** are two sectors that will forge America's transition to clean energy alternatives as a source of electrical power (Pollin and Wicks-Lim, 2008).

Although these sectors may be new to the economy, they utilize an existing labor force, with many of the associated jobs in the same areas of employment as today. For example, the growth of cellulosic biofuels will need chemists, agricultural workers and quality inspectors. In fact, many of those employed in these occupations today are already working towards green solutions, which makes defining the green economy even more elusive. To clarify, the PERI study outlines ten associated representative jobs for each green sector, and these assumptions are duplicated for the purpose of this study. Some jobs, such as electricians or industrial truck drivers, are relevant to multiple sectors.

These occupations cover a wide range of traditional occupational groups. For example the majority of occupations are in construction and extraction, and production. Only a few are in professional services such as business or administrative support. Each of 60 representative jobs matches an employment definition, or occupational code, in the Bureau

of Labor Statistics datasets. Using these definitions, the current extent of green occupations can be measured for May 2010 (see Appendix Exhibit 1).

4.2 Size of the Green Economy

In 2010, the green economy accounted for 11.6 million people, or 9.2% of the American labor force (126.5 million). The largest sectors were Energy-Efficient Automobiles (3,849,400 workers) and Solar Power (4,186,700 workers). Cellulosic Biofuels employed the smallest share of workers (907,620). Within each sector, there are occupations with greater levels of employment. For example, in Solar Power, laborers make up 50% of the sector, and chemical technicians form 60% of the Cellulosic Biofuels sector. Building Retrofitting, Mass Transit, and Wind Power are evenly distributed, with each sector have several occupations forming the majority of that specific workforce (see Figure 13). In comparison, the oil and gas sector supports a much smaller labor force, less than 10% of that supported by the green economy (see Figure 14).

The green economy supports eleven different industries in varying capacities. Over 75% of the green economy employs individuals in Transportation and Material Moving, Production, Management, and Construction and Extraction. This employment type is predominantly classified as belonging to secondary industries, or manufacturing. Less than 20% of the green labor force is employed in the service sector within industries such as Business and Financial Operations, and Office and Administrative Support. The primary sector is minimally represented by the green sectors, forming less than 1% of the green labor force (predominantly in the Cellulosic Biofuels sector) (see Figure 15). This overall distribution of industries suggests that the green economy has the potential to invigorate the tapering manufacturing and construction industries in the United States.

Figure 13: Representaive Occupations by Green Sector

Building Retrofitting		**Wind Power**	
Insulation Workers	23380	Millwrights	36670
Carpenter Helpers	46910	Environmental Engineers	49800
Building Inspectors	89270	Iron and Steel Workers	58460
Roofers	99280	Sheet Metal Workers	131600
Construction Managers	191430	Industrial Production Managers	143310
Heating/ Air Conditioning Installers	224320	Electrical Equipment Assemblers	180440
Construction Equipment Operators	334730	Construction Equipment Operators	334730
Electricians	514760	Machinists	352650
Industrial Truck Drivers	518350	Industrial Truck Drivers	518350
Carpenters	620410	First-Line Production Supervisors	555260
Mass Transit		**Solar Power**	
Rail Track Layers	15520	Metal Fabricators	79540
Engine Assemblers	33310	Installation Helpers	123220
Metal Fabricators	79540	Electrical Engineers	148770
Bus Drivers	179700	Electrical Equipment Assemblers	180440
Dispatchers	180540	Construction Managers	191430
First-Line Transportation Supervisors	196420	Industrial Machinery Mechanics	275370
Civil Engineers	249120	Welders	314260
Welders	314260	Construction Equipment Operators	334730
Production Helpers	394270	Electricians	514760
Electricians	514760	Laborers	2024180

Energy-Efficient Automobiles		**Cellulosic Biofuels**	
Engine Assemblers	33310	Agricultural Workers	7490
Transportation Equipment Painters	43300	Farm Product Purchasers	10250
Engineering Technicians	66560	Agricultural Inspectors	13560
Metal Fabricators	79540	Agricultural and Forestry Supervisors	19540
Electrical Engineers	148770	Chemical Engineers	28720
Computer-Controlled Machine Operators	183110	Chemical Equipment Operators	46250
Welders	314260	Chemical Technicians	59440
Production Helpers	394270	Chemists	80180
Computer Software Engineers	878200	Mixing and Blending Machine Operators	123840
Operations Managers	1708080	Industrial Truck Drivers	518350

Figure 13: According to the May 2010 Buruea of Labor Statisitics Data, the following are the number employed in each occupation per green sector:

Source: "Occupational Employment and Wage Estimates." *U.S. Bureau of Labor Statistics*. U.S. Bureau of Labor Statistics, May 2010. Web. 23 Apr. 2012. <http://www.bls.gov/oes/oes_data.htm>.

Figure 14: Comparison of Green Sector Labor Force Sizes (Appendix Exhibit 5)

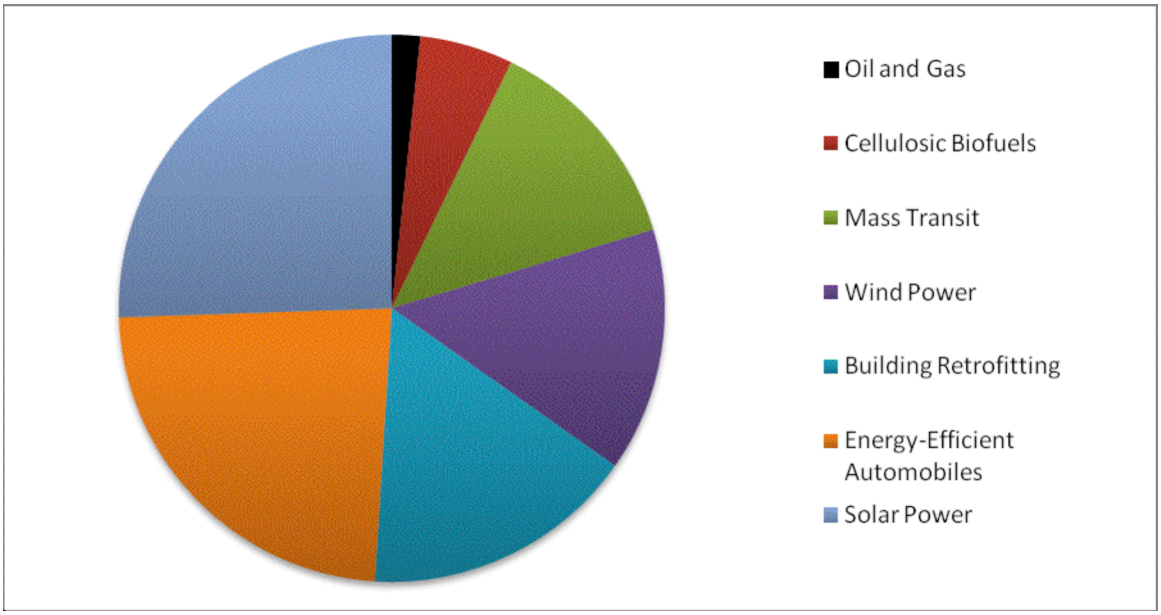

Figure 14: The majority of the green labor force belong to the Solar Power and Energy-Efficient Automobiles sectors. The size of the green sectors are significantly larger than oil and gas employment.

Source: "Occupational Employment and Wage Estimates." *U.S. Bureau of Labor Statistics*. U.S. Bureau of Labor Statistics, May 2010. Web. 23 Apr. 2012. <http://www.bls.gov/oes/oes_data.htm>.

Figure 15: Distribution of Green Occupations by Industry Type (Appendix Exhibit 1)

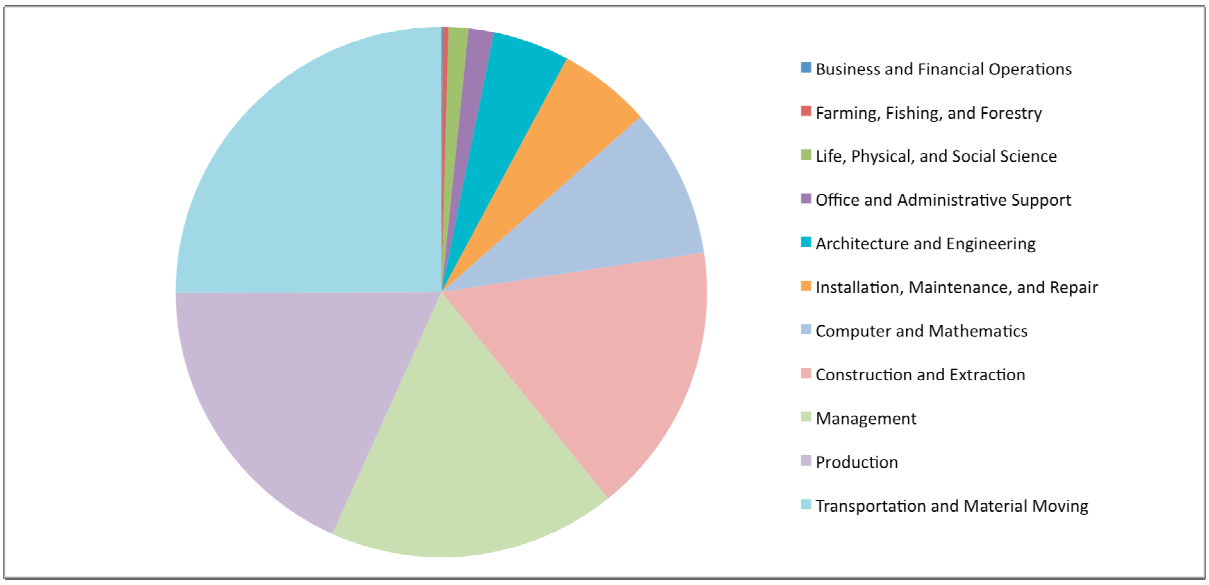

Figure 15: The majority of green sectors occupations are located in the following industries: Transportation and Material Moving, Production, Managmeht, and Construction and Extraction.

Source: "Occupational Employment and Wage Estimates." *U.S. Bureau of Labor Statistics*. U.S. Bureau of Labor Statistics, May 2010. Web. 23 Apr. 2012. <http://www.bls.gov/oes/oes_data.htm>.

Almost 40% of the green economy is concentrated in the South, however this region also has the largest labor force size (45.2 million). The Midwest has the largest percentage of green workers (3 million of out 31.2 million). The West has 2.3 million green workers and a labor force size of 25.8 million. The green economy has the smallest presence in the Northeast, where the green labor force accounts for only 2 million people and the total labor force size is 24.2 million. This is representative of the industries creating the green economy, which are mostly manufacturing and construction. The Northeast has a regional economy firmly planted in the service and financial sectors.

The green sector is present in all states, with the highest percentage of green jobs in the mid-Atlantic and east north central states. California (10.9%), Texas (8.5%) and New York (5%) have the largest percentage of green jobs (see Figure 16). This would suggest that the presence of green jobs is proportional to the size of the labor force. Over 10% of the total labor force resides in California, 8% in Texas and 6.6% in the state of New York (see Figure 17). There is a prominent difference in the number of green jobs between neighboring states, and there is often a singular state within a division that has the largest number of green jobs. For example, Massachusetts holds 50% of the green jobs in the Northeast, New York holds 50% of those in the Mid-Atlantic, and California has 70% of the Pacific region. Although this suggests that there is regional economic polarization revolving around urban centers, green employment remains proportionate to the size of the labor force on the state level.

Figure 16: Percentage of Green Labor Force by State (Appendix Exhibit 6)

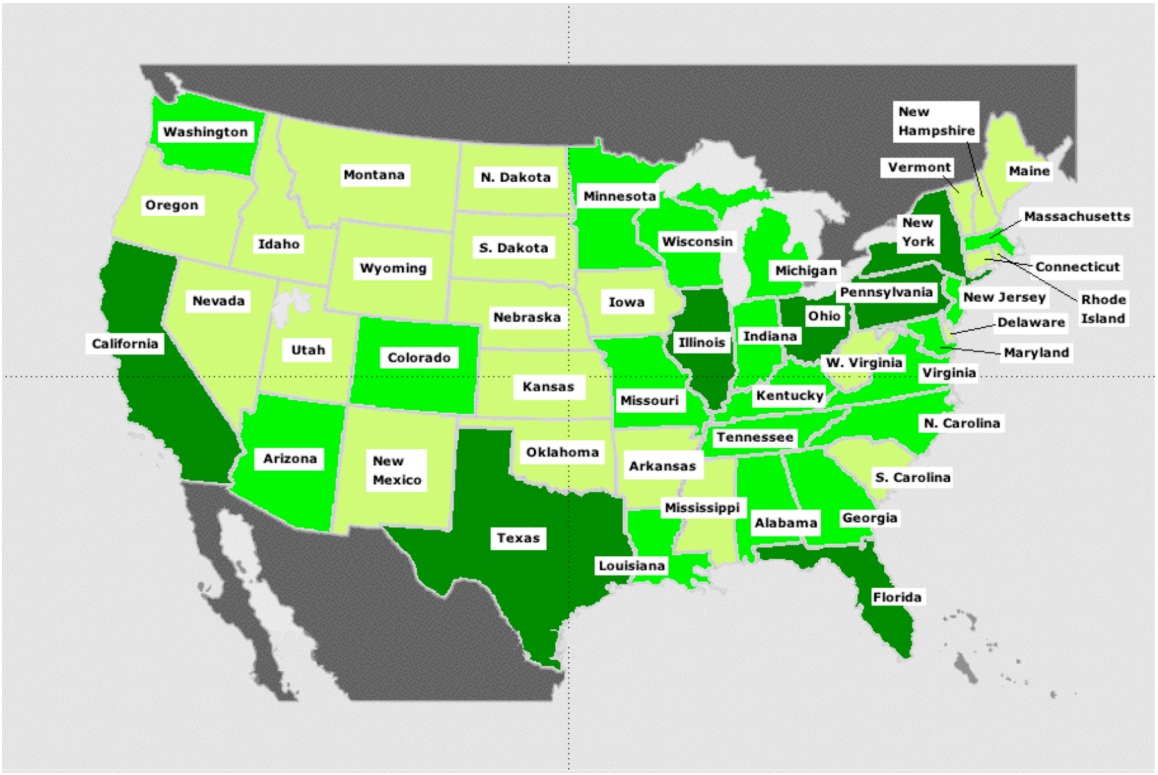

Figure 16: This map represents the percentage green sector employment out of total employment on the state level. Color Scale: Light Green (0% to 1.5%), Medium Green (1.6% to 3.0%), Dark Green (over 3%).

Source: "Occupational Employment and Wage Estimates." *U.S. Bureau of Labor Statistics*. U.S. Bureau of Labor Statistics, May 2010. Web. 23 Apr. 2012. <http://www.bls.gov/oes/oes_data.htm>.

Figure 17: Percentage of Total Labor by State (Appendix Exhibit 6)

Figure 17: This map represents the percentage the national total labor force for all occupations within a state. Color Scale: Light Grey (0% to 1.5%), Medium Grey (1.6% to 3.0%), Dark Grey (over 3%).

Source: "Occupational Employment and Wage Estimates." *U.S. Bureau of Labor Statistics*. U.S. Bureau of Labor Statistics, May 2010. Web. 23 Apr. 2012. <http://www.bls.gov/oes/oes_data.htm>.

Most states have a well-rounded distribution of employment in each of the six green sectors. A few states already seem to have specialized employment in certain green sectors, such as with Massachusetts, Florida and Michigan. Other states have a disproportionately small amount of employment in a certain green sector, such as Illinois or wind power in New York. Although this does not suggest that the underrepresented sectors will have less growth or output in these states, it does suggest that labor migration might occur if there is further development within individual green sectors.

While it is important to understand the pervasiveness of the green sector, the employment market for traditional energy sources must also be analyzed to determine what loses may occur once the green economy dominates. The oil and gas industry now supports a relatively small and specialized component of the workforce. Employment distribution is also rather localized with the majority in the west south central division of the United States and California (6.6%) (see Figure 18). Almost 40% of all oil and gas employment is based in Texas. Extraction also takes place in North Appalachia, a small pocket consisting of Ohio, Pennsylvania, and West Virginia. Florida and Louisiana host prominent seaports for oil trade. This suggests that when alternative energy sources replace fossil fuels, there may be an uneven impact on the labor force.

Figure 18: Percentage of Oil and Gas Employment by State (Appendix Exhibit 6)

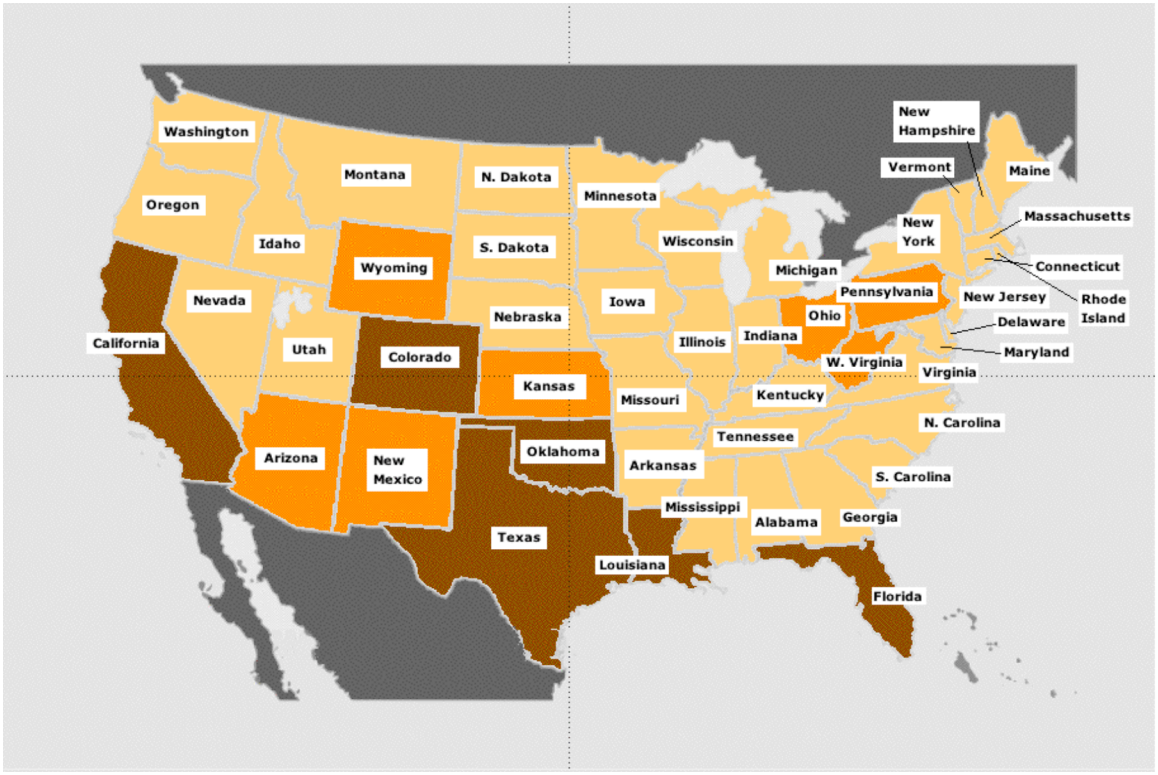

Figure 18: This map represents the percentage oil and gas employment out of total employment on the state level. Color Scale: Light Orange (0% to 1.5%), Medium Orange (1.6% to 3.0%), Dark Orange (over 3%).

Source: "Occupational Employment and Wage Estimates." *U.S. Bureau of Labor Statistics*. U.S. Bureau of Labor Statistics, May 2010. Web. 23 Apr. 2012. <http://www.bls.gov/oes/oes_data.htm>.

Metropolitan statistics are an important measure of the green economy. Clustering of related firms stimulates industry growth and employment opportunities. The green economy is present in all of the nation's metropolitan areas, but it manifests itself in various ways. The evolution of urban centers is an important side effect of the green economy. Several cities will be at the center of the green economy. New York City, Chicago, Los Angeles, Houston, Washington, DC, Atlanta, Dallas and Phoenix consistently had the greatest number of green jobs for each sector. This again coincides with the size of the labor force. It is important to note, that while green jobs may in most cases represent 1% to 3% of the labor force for a given city, a single metropolitan area may represent over 50% of the total state population. The influence of cities can therefore not be ignored. In general, the average income for green occupations in urban areas is greater than the average for all occupations. With several cities, such as Dallas, Atlanta and Washington, D.C., this was not the case. Washington, D.C. has a higher percentage of government employees, which inflates the average wage. Some major cities are not represented in all sectors, such as Washington, D.C., which does not rate in the top ten for both wind power and cellulosic biofuels, but does for the other four sectors. California and Texas frequently had more than one city represented in a single green sector. This suggests that urban centers may development specializations based on the existing skills of the labor force. Figures 19 through 24 map the ten major cities represented for each of the green sectors (Appendix Exhibit 7).

A study by the Brookings Institute suggested that although metropolitan areas may not specialize in singular green sector, the output for all sectors would be similarly oriented into one of four categories: service, manufacturing, public sector, or balanced. For example, the majority of jobs in the Washington, DC area are rooted in the public sector whereas the service sector is the most prominent in New York City. Prior to the recession, many southern metropolitan areas, such as Atlanta had a larger degree of manufacturing jobs. This may suggest that although the green economy may be present in all major cities, it will have varied manifestations.

Figure 19: Metropolitan Areas with Largest Building Retrofitting Employment

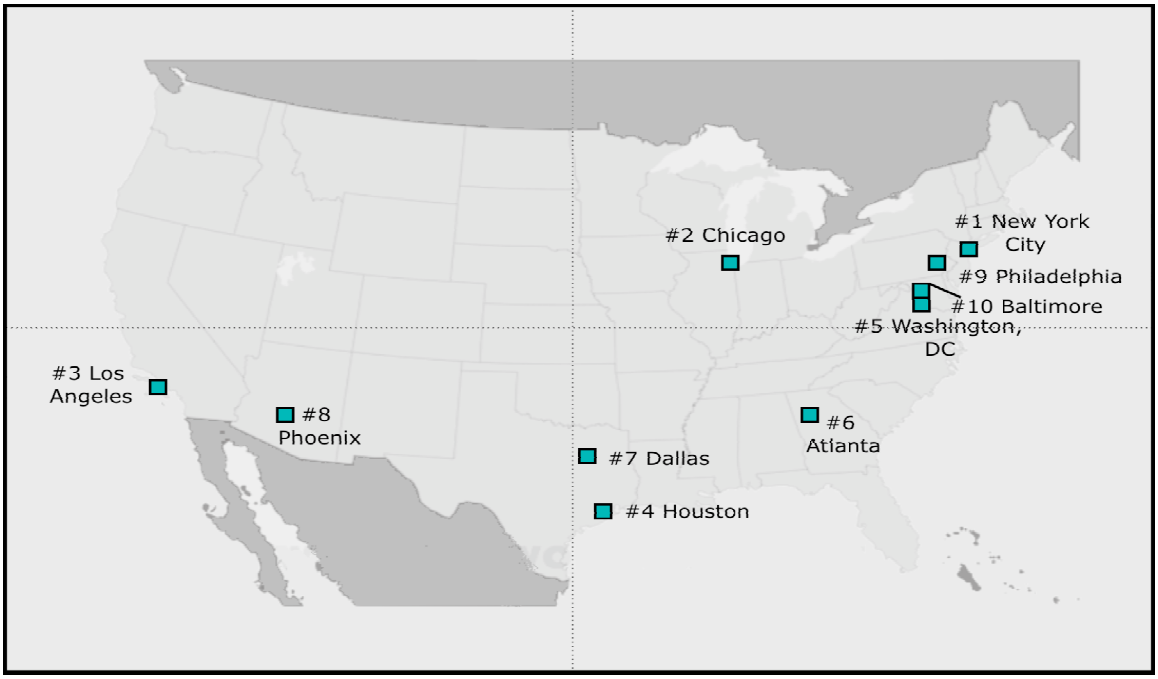

Figure 19: #1 New York City, New York; #2 Chicago, Illinois; #3 Los Angeles, California; #4 Houston, Texas; #5 Washington, D.C.; #6 Atlanta, Georgia; #7 Dallas, Texas; #8 Phoenix, Arizona; #9 Philadelphia, Pennsylvania; #10 Baltimore, Maryland.

Source: "Occupational Employment and Wage Estimates." *U.S. Bureau of Labor Statistics*. U.S. Bureau of Labor Statistics, May 2010. Web. 23 Apr. 2012. <http://www.bls.gov/oes/oes_data.htm>.

Figure 20: Metropolitan Areas with Largest Mass Transit Employment

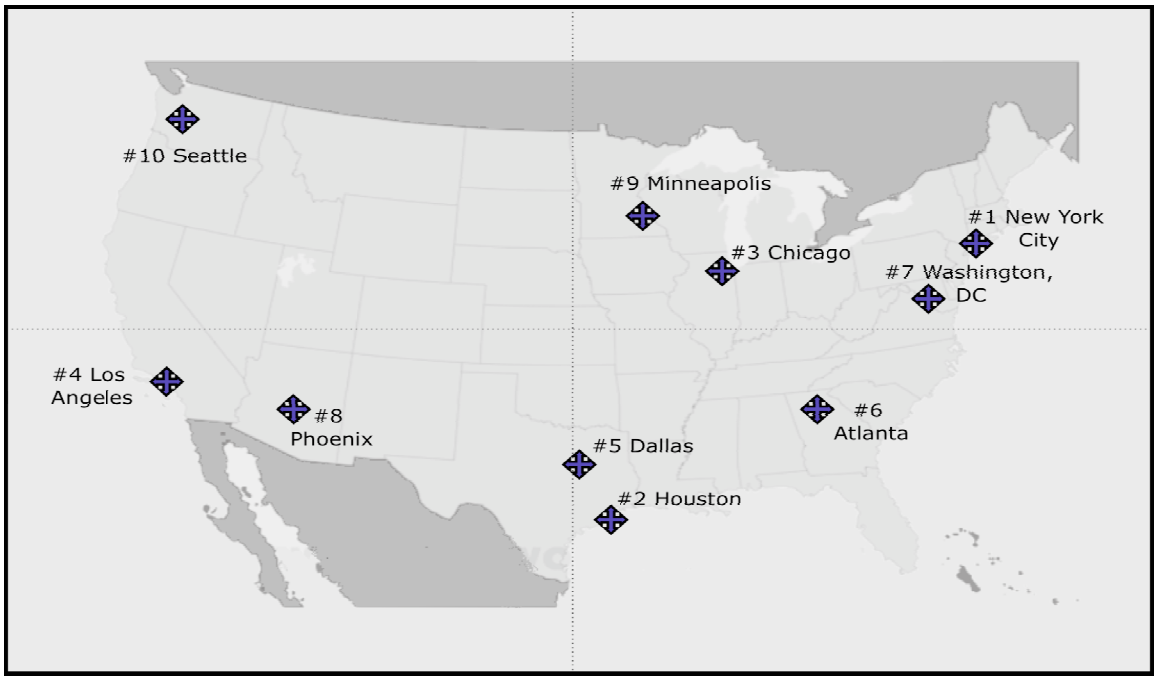

Figure 20: #1 New York City, New York; #2 Houston, Texas; #3 Chicago, Illinois; #4 Los Angeles, California; #5 Dallas, Texas; #6 Atlanta, Georgia; #7 Washington, D.C.; #8 Phoenix, Arizona; #9 Minneapolis, Minnesota; #10 Seattle, Washington.

Source: "Occupational Employment and Wage Estimates." *U.S. Bureau of Labor Statistics*. U.S. Bureau of Labor Statistics, May 2010. Web. 23 Apr. 2012. <http://www.bls.gov/oes/oes_data.htm>.

Figure 21: Metropolitan Areas with Largest Energy-Efficient Automobiles Employment

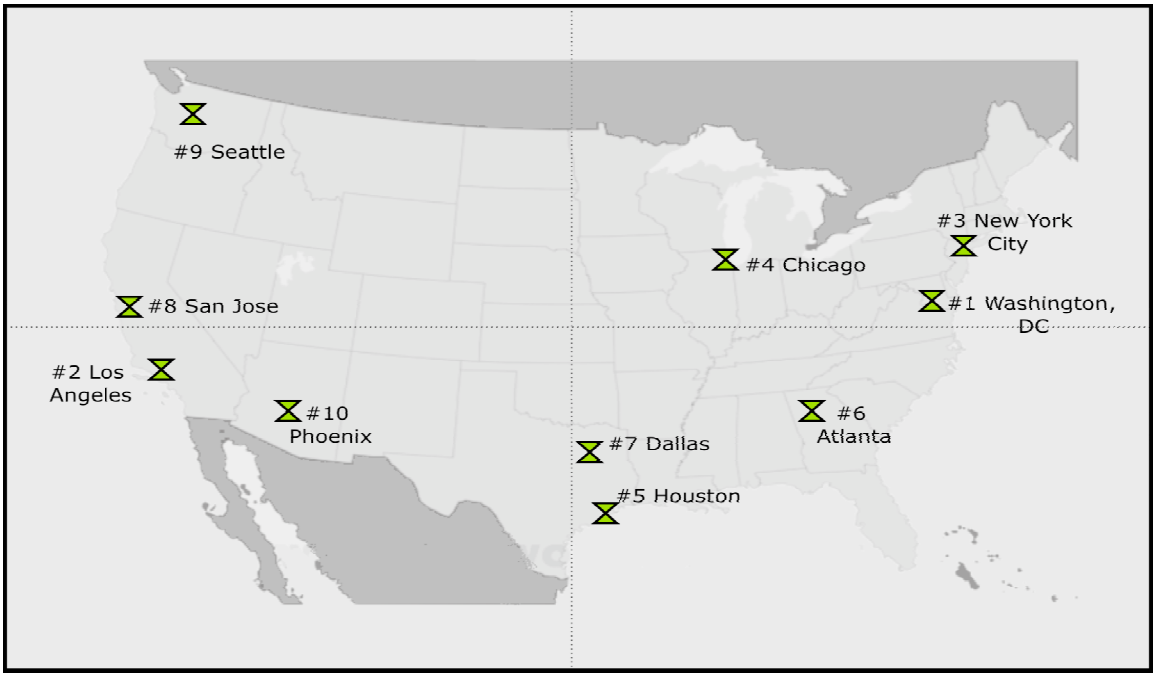

Figure 21: #1 Washtington, D.C.; #2 Los Angeles, California; #3 New York City, New York; #4 Chicago, Illinois; #5 Houston, Texas; #6 Atlanta, Georgia; #7 Dallas, Texas; #8 San Jose, California; #9 Seattle, Washington; #10 Phoenix, Arizona.

Source: "Occupational Employment and Wage Estimates." *U.S. Bureau of Labor Statistics*. U.S. Bureau of Labor Statistics, May 2010. Web. 23 Apr. 2012. <http://www.bls.gov/oes/oes_data.htm>.

Figure 22: Metropolitan Areas with Largest Wind Power Employment

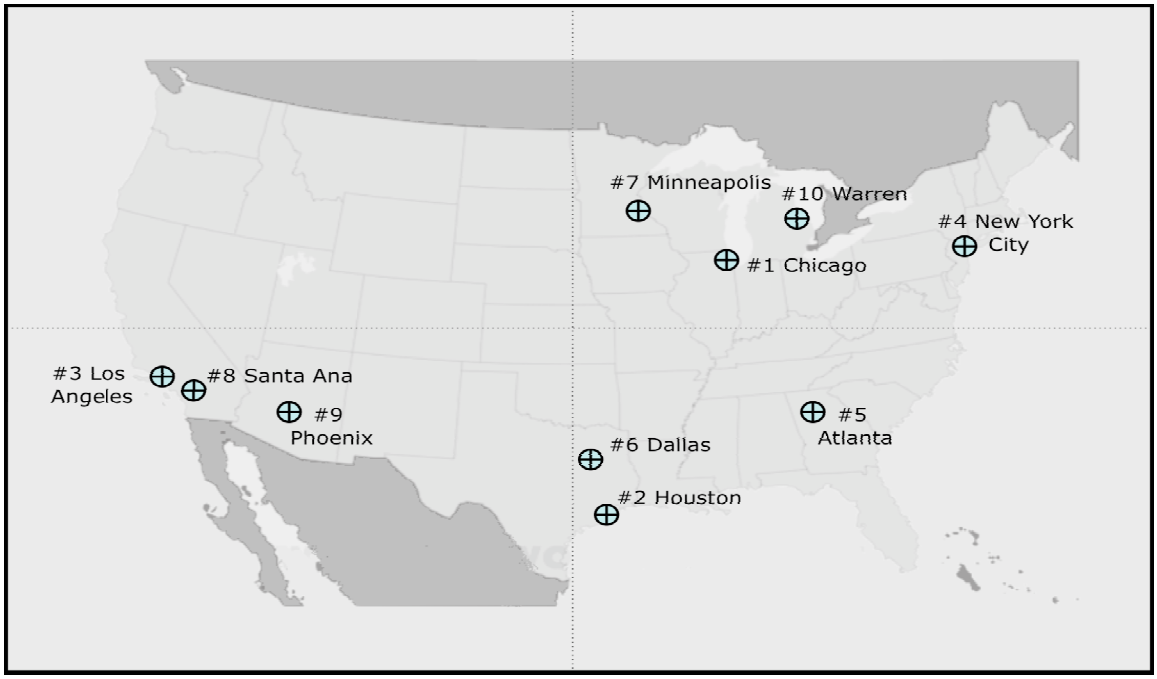

Figure 22: #1 Chicago, Illinois; #2 Houston, Texas; #3 Los Angeles, California; #4 New York City, New York; #5 Atlanta, Georgia; #6 Dallas, Texas; #7 Minneapolis, Minnesota; #8 Santa Ana, California; #9 Phoenix, Arizona; #10 Warren, Michigan.

Source: "Occupational Employment and Wage Estimates." *U.S. Bureau of Labor Statistics*. U.S. Bureau of Labor Statistics, May 2010. Web. 23 Apr. 2012. <http://www.bls.gov/oes/oes_data.htm>.

Figure 23: Metropolitan Areas with Largest Solar Power Employment

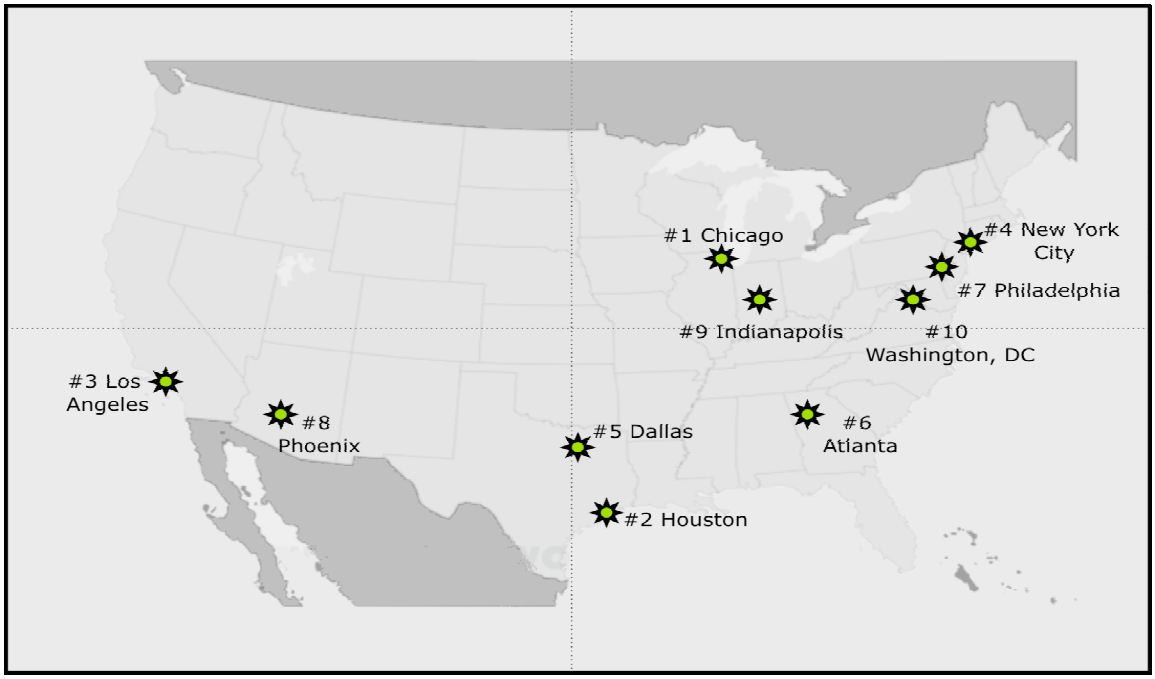

Figure 23: #1 Chicago, Illinois; #2 Houston, Texas; #3 Los Angeles, California; #4 New York City, New York; #5 Dallas, Texas; #6 Atlanta, Georgia; #7 Philadelphia, Pennsylvania; #8 Phoenix, Arizona; #9 Indianapolis, Indiana; #10 Washington, D.C.

Source: "Occupational Employment and Wage Estimates." *U.S. Bureau of Labor Statistics*. U.S. Bureau of Labor Statistics, May 2010. Web. 23 Apr. 2012. <http://www.bls.gov/oes/oes_data.htm>.

Figure 24: Metropolitan Areas with Largest Cellulosic Biofuels Employment

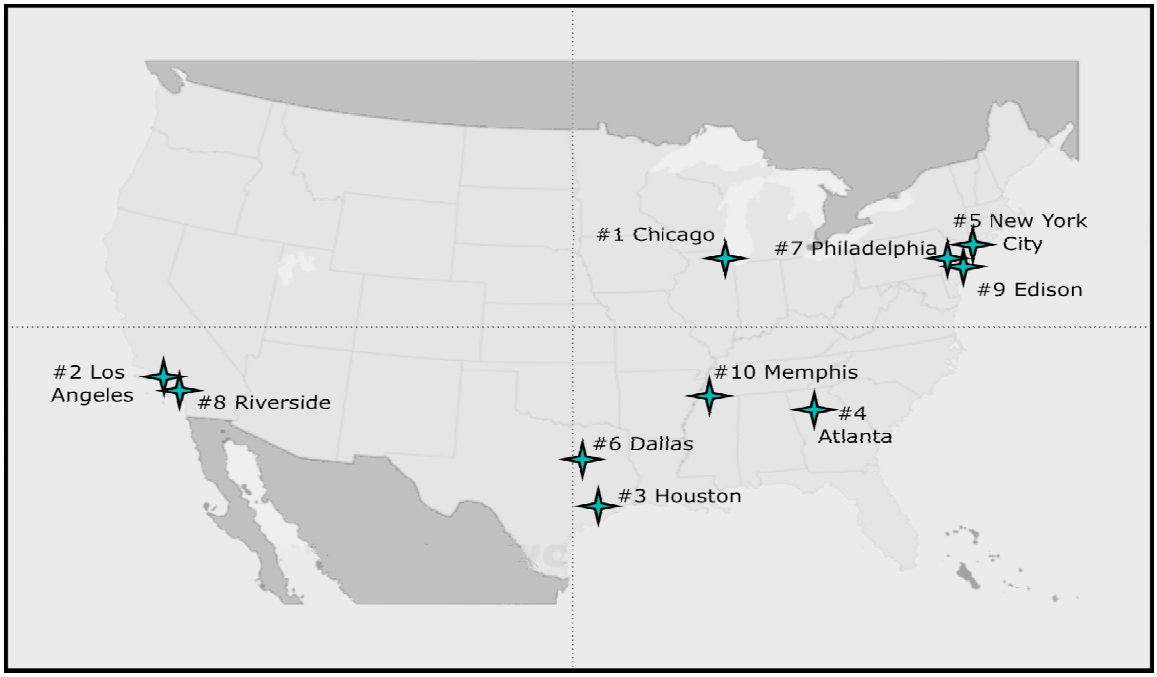

Figure 24: #1 Chicago, Illinois; #2 Los Angeles, California; #3 Houston, Texas; #4 Atlanta, Georgia; #5 New York City, New York; #6 Dallas, Texas; #7 Philadelphia, Pennsylvania; #8 Riverside, California; #9 Edison, New Jersey; #10 Memphis, Tennesee.

Source: "Occupational Employment and Wage Estimates." *U.S. Bureau of Labor Statistics*. U.S. Bureau of Labor Statistics, May 2010. Web. 23 Apr. 2012. <http://www.bls.gov/oes/oes_data.htm>.

The prominent cities for the oil and gas industry are very different from those represented by the green sectors. Although some overlap, such as Los Angeles, Houston and Dallas, the majority of the cities for the traditional energy sector are in Oklahoma, Louisiana and Texas (see Figure 25). It is important to note that while the green sectors were present in large cities (ranging from 30% to 70% of a state's total population), this is not the case with the oil and gas industry. Three of the top ten cities with the highest employment levels only represented less than 10% of the total employment for that particular state. This suggests that these cities are heavily reliant on the prosperity of oil and gas industry, and will thus be adversely affected by a transition to clean energy.

Figure 25: Metropolitan Areas with Largest Employment in the Oil and Gas Sector

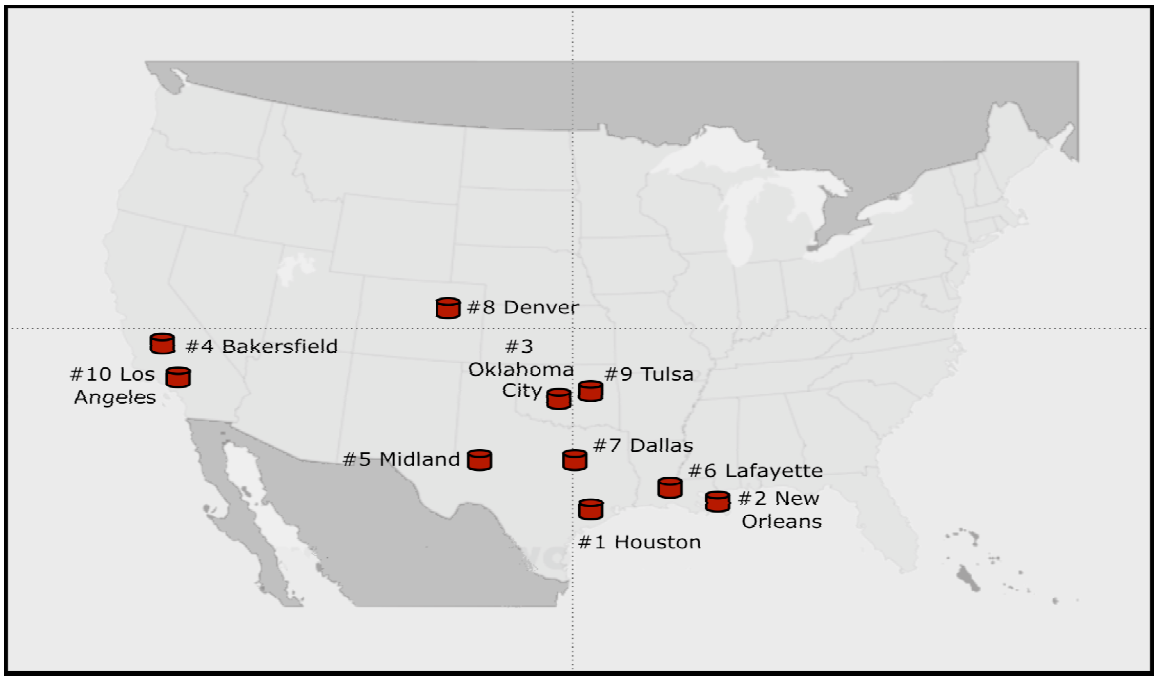

Figure 25: #1 Houston, Texas; #2 New Orleans, Lousiana; #3 Oklahoma City, Oklahoma; #4 Bakersfield, California; #5 Midland, Texas; #6 Lafayette, Lousiana, #7 Dallas, Texas; #8 Denver, Colorado; #9 Tulsa, Oklahoma; #10 Los Angeles, California.

Source: "Occupational Employment and Wage Estimates." *U.S. Bureau of Labor Statistics*. U.S. Bureau of Labor Statistics, May 2010. Web. 23 Apr. 2012. <http://www.bls.gov/oes/oes_data.htm>.

4.3 Green Jobs in the Public Sector

With the current political economy in the United States, it is evident that the government does not have the resources to fully lead the transition to the green economy. Furthermore, government employees tend to fall in specific income brackets, namely upper-middle class. It is therefore important to determine if the green economy could be a public sector movement based on the number of green occupations employed by the government. In 2010, the government on the national, federal and local levels employed 8% of employment for all occupations. The government has historically employed about one tenth of the labor force. Also in 2010, the government employed approximately 8% of all green occupations, although this differed between sectors (see Figure 26). Cellulosic biofuels and mass transit had the highest levels of government employment (between 10% and 14%), whereas energy-efficient automobiles and solar power were more reliant on the private sectors (only 5% government employment). The green economy therefore seems to rely mostly on the private sector, whereas the government will remain periphery to encourage innovation and research. Government employment for the traditional energy sector was almost zero, whereas most of the governmental employees were geologist and believed to not even be involved in the oil and gas industry. However, this is impossible to distinguish in the datasets.

Figure 26: Percent of Labor Force in the Public Sector (National, State, and Local) (Appendix Exhibit 8)

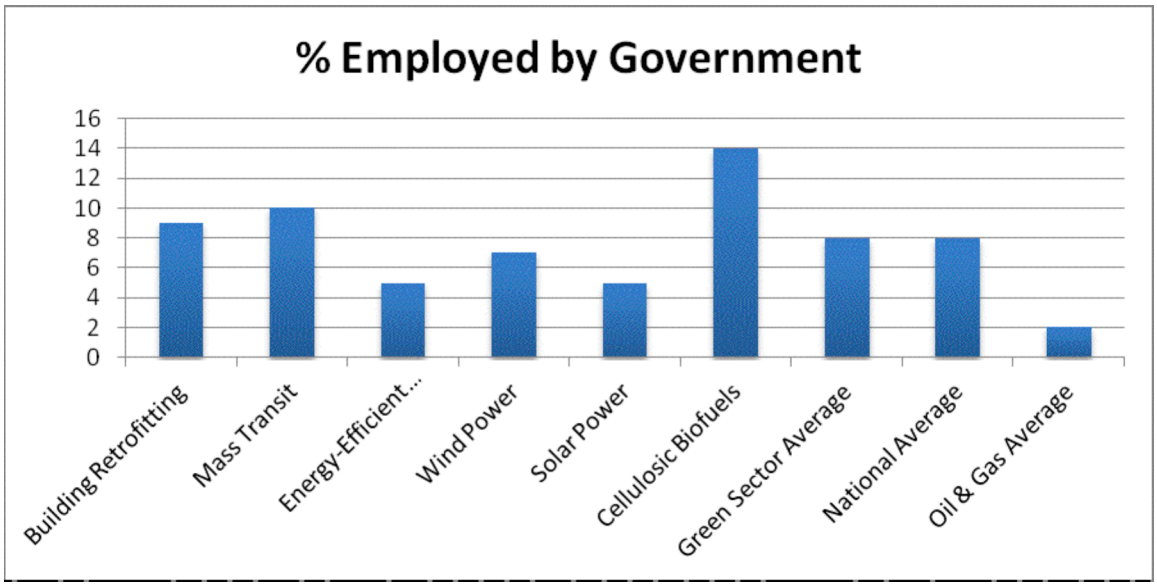

Figure 26: On average, about 8%-10% of the American labor force is employed within the public sector. The average for the green sectors was the same, but with some differences between sectors. Cellulosic biofuels had the largest amount of workers employed in the public sector and energy-efficient automobiles had the smallest. Only 2% of workers in the oil and gas industry work within the public sector.

Source: "Occupational Employment and Wage Estimates." *U.S. Bureau of Labor Statistics*. U.S. Bureau of Labor Statistics, May 2010. Web. 23 Apr. 2012. <http://www.bls.gov/oes/oes_data.htm>.

4.4 Income Distribution and the Green Workforce

The national median income for green occupations in 2010 was over $47,000 annually, while the median income for all occupations was $33,500 (see Figure 27). Green employment consistently provided higher incomes compared to that of all occupations. Energy-efficient automobiles was the highest paying sector, with a median income around $60,000. For each income percentile, energy-efficient automobiles provided an income about 30% higher than that of the remaining five green sectors. Wind power was the second highest paying green sector, although this differentiation is most apparent in the 75% and 90% income percentiles. Mass transit was the lowest paying sector with incomes ranging between $25,000 and $65,000. Provided incomes in the green sectors fall within the range of middle class to lower upper class. Green sector income for the lowest 10% approximately equates to the median income for all occupations in the United States.

Although green sectors may provide higher income compared to the labor market average, the salaries of the traditional energy market superseded those of the green sectors. The oil and gas sector had a median income of $55,000, with a range between $30,000 and $90,000. Energy-efficient automobiles was the only green sector to provide a higher average income at each percentile. This suggests that green sector incomes may increase with demand, or that employment in the green sectors may be retarded due to the competing salaries in the oil and gas industry.

The average income for all occupations in the labor force was lower ($43,000) than the average green sector income of $56,000. This trend was consistent in every region of the United States. However, like the income for all occupations, the average income for the green sectors varies between regions. The Northeast provided the highest average green incomes (over $60,000) while the Midwest and South had the lowest green incomes (around $50,000) (see Figure 28). This trend correlates with the patterns seen the regional income differentiations in the total labor market (all occupations).

Figure 27: Income Distribution by Sector

(Appendix Exhibit 9)

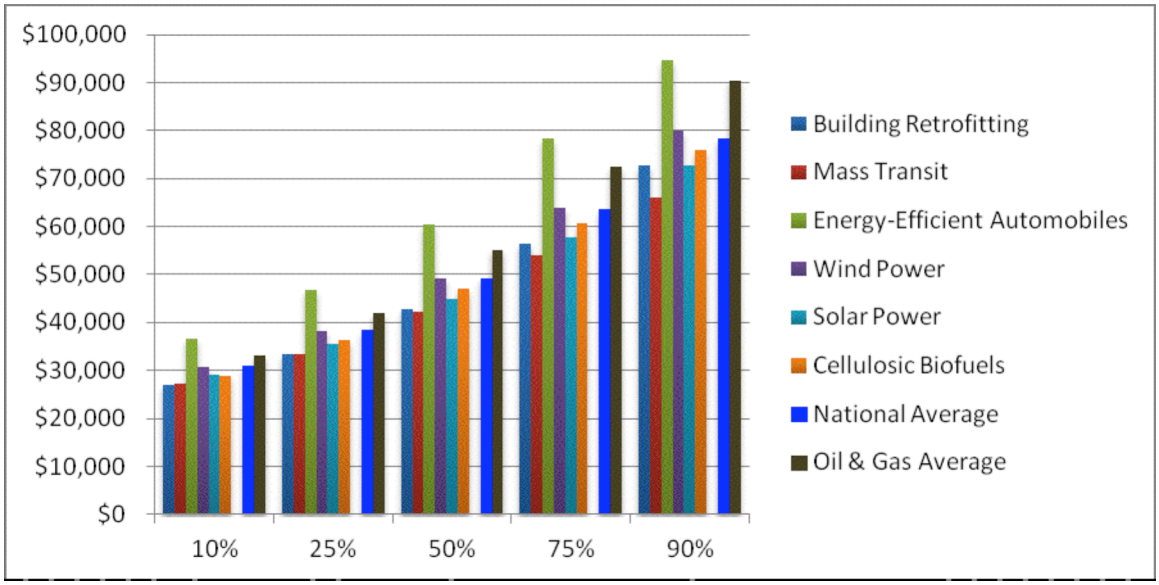

Figure 27: Workers in both the green sectors and the traditional energy industry earn, on average, more than the average worker for all occupations in every income percentile. Workers in the Energy-Efficient Automobiles sector earned the highest average salargy in each percentile.

Source: "Occupational Employment and Wage Estimates." *U.S. Bureau of Labor Statistics*. U.S. Bureau of Labor Statistics, May 2010. Web. 23 Apr. 2012. <http://www.bls.gov/oes/oes_data.htm>.

Figure 28: Average Income by Region

(Appendix Exhibit 10)

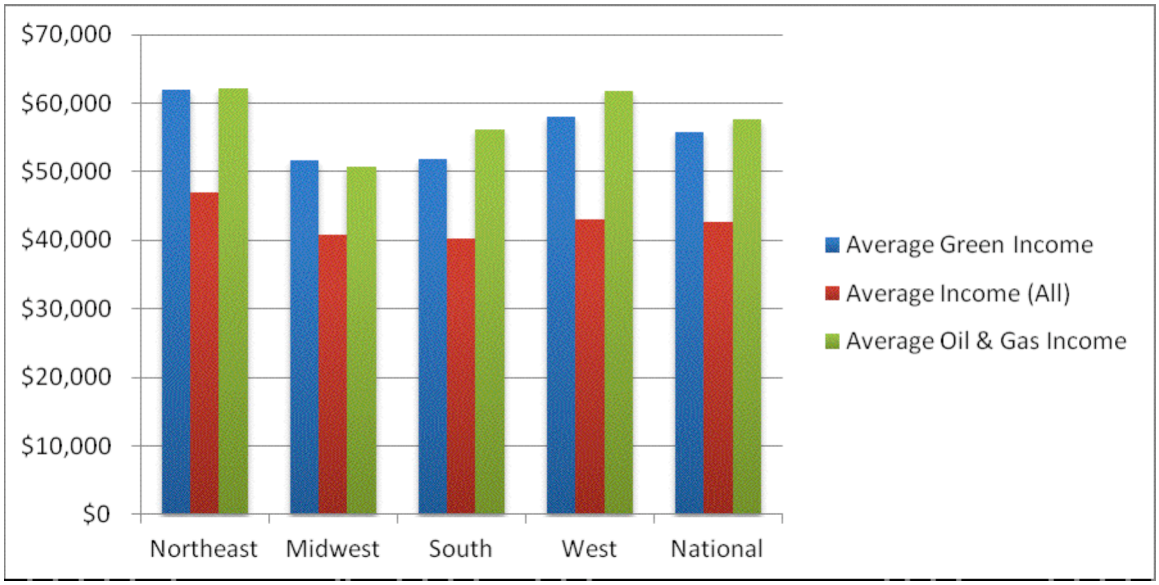

Figure 28: Workers in both the green sectors and the traditional energy industry earn, on average, more than the average worker for all occupations. This is a consistent trend among all regions. In the South and West, traditional energy workers earn more than those employed in the green sectors. In the Northeast and Midwest, the salaries are almost equiviocal but with green sectors salaries being slightly higher.

Source: "Occupational Employment and Wage Estimates." *U.S. Bureau of Labor Statistics*. U.S. Bureau of Labor Statistics, May 2010. Web. 23 Apr. 2012. <http://www.bls.gov/oes/oes_data.htm>.

Figure 29: Highest Income Type by State

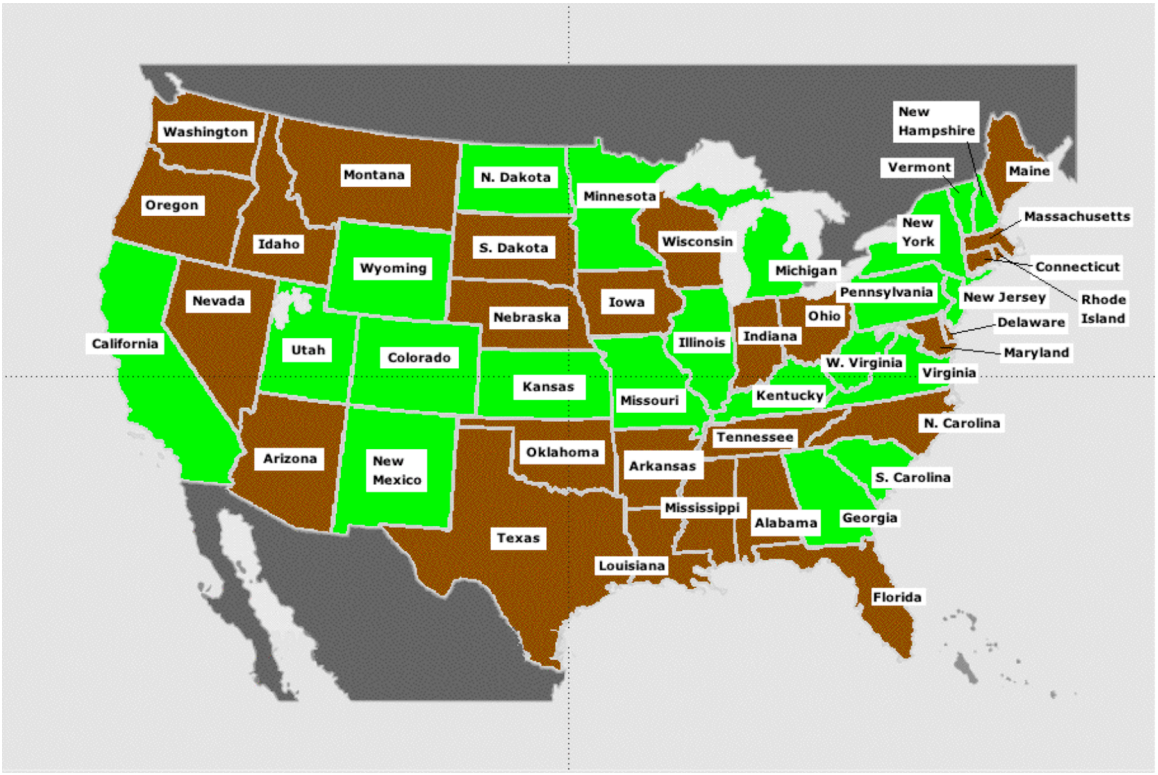

Figure 29: This map represents the highest income type on the state level, when the average income of the green sectors is compared to that of the traditional energy sources. Color Scale: Green (green sectors are highest income type), Brown (traditional energy sectors are highest income type).

Source: "Occupational Employment and Wage Estimates." *U.S. Bureau of Labor Statistics*. U.S. Bureau of Labor Statistics, May 2010. Web. 23 Apr. 2012. <http://www.bls.gov/oes/oes_data.htm>.

Average incomes in the oil and gas industry were also higher than average incomes for all occupations in every region. In the Midwest the average income of green jobs was higher than that for oil and gas, and the Northeast, the average incomes of green jobs and traditional energy were roughly equivalent. In the South and West, average incomes for oil and gas were the highest. However, on the state level, this trend was not always consistent (see Figure 29). Overall, this suggests that incomes for oil and gas are highest in the parts of the country with the most production.

While the average income for the green sectors differed across regions, there also seemed to be a concentration of the top earners in several states (those belonging to the top 10% percentile). Of this group, 29% of all top-earners lived in the mid-Atlatnic states (predominantly New York and New Jersey), while 28% lived in the state of California. The majority of states (38 out of 50) hosted none or less than 1% of the top-earning population (see Figure 30). This suggests that while the average salaries may be fairly equivical, there may be individual states with a concentration of the income extremes.

Figure 30: Percentage of Top Earners by State

(Appendix Exhibit 11)

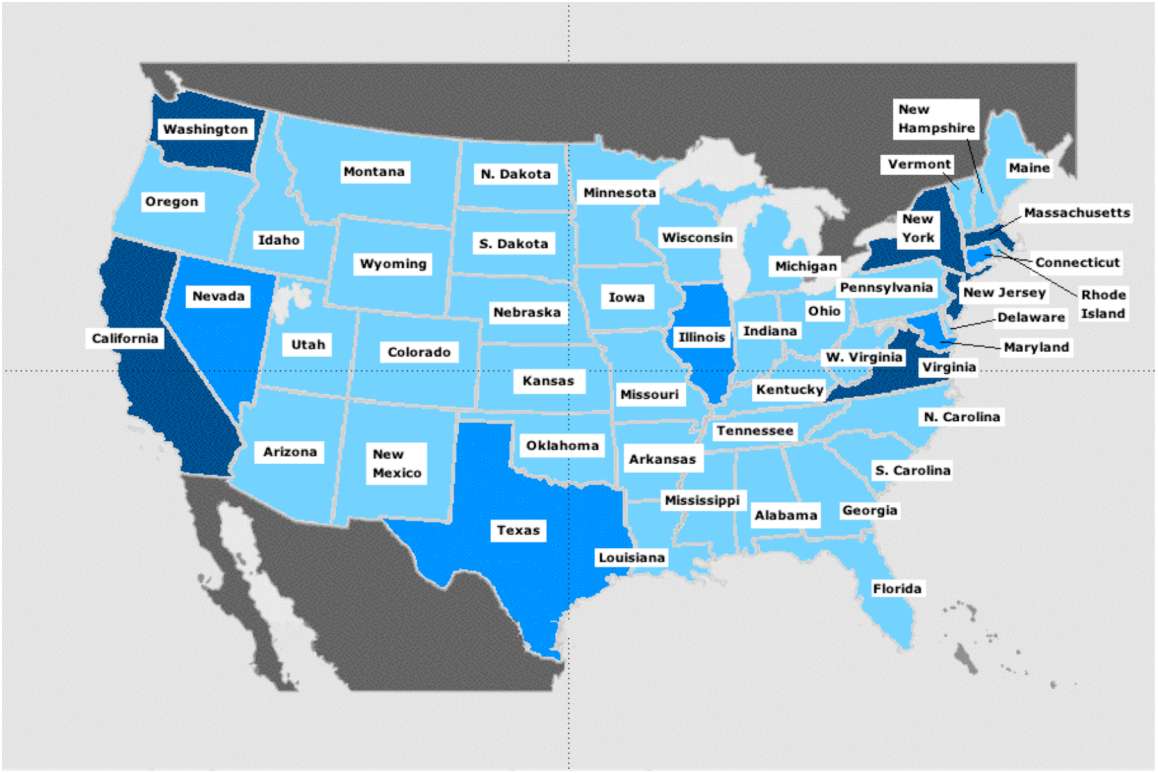

Figure 30: This map represents the percentage of top income earners within the green sector on the state level. Color Scale: Light Blue (0% to 1.5%), Medium Blue (1.6% to 3.0%), Dark Blue (over 3%).

Source: "Occupational Employment and Wage Estimates." *U.S. Bureau of Labor Statistics*. U.S. Bureau of Labor Statistics, May 2010. Web. 23 Apr. 2012. <http://www.bls.gov/oes/oes_data.htm>.

4.5 Population Demographic Trends of the Green Economy

The Bureau of Labor Statistics and United States Census do not provide detailed data on the gender and race distribution for specific occupational codes. It is there impossible to know these components when analyzing the green sector workforce. However, these databases do provide the population size and characteristics for certain income brackets, and the overlap of these distributions can provide clues as to the demographic components of green sector occupations. For example, if the majority of those employed in green sector occupations earn between $30,000 and $60,000, and 90% of demographic group 'X' earns between $10,000 and $25,000, it is logical to deduce that demographic group 'X' will have a small probability of being represented in the green sectors. Using this logic, broad estimations of the demographic representation with the green sectors can be assumed.

The majority of green jobs fall within the income ranges of $30,000 to $75,000. Traditional energy jobs fall within a similar range, though are a little broader ($35,000 to $90,000). To determine which gender is more likely to be represented in the green economy, the income distribution for each gender was mapped alongside that for the green economy. Over 75% of women earn less than $30,000, although this differs slightly between regions. The Northeast had the lowest percentage of women earning under $30,000, and the Midwest and the South had the highest. Less than 5% of women earned over $75,000. Approximately half of the male labor force earned under $30,000, and 10% over $75,000. Again, the Northeast had the smallest percentage of the labor force earning under the $30,000 threshold, and the South had the most (see Figure 31). This suggests that there is a high probability of having a greater number of men represented in the current green labor force.

Although the majority of the female workforce, regardless of age, earns less than $30,000, approximately one third earns within the income bracket of green occupations. For ages 55 to 64, only about 20% is in the green income bracket. This suggests that women employed in the green sectors are more likely to be between the ages of 25 and 54. The incomes of the male workforce are more distributed with close to half earning more than $30,000. However, there are some differences between age groups. More men in the age groups 25 to 34 and 55 to 64 earn less than $30,000 (see Figure 32). This suggests that men employed in the green sectors are more likely to be between the ages of 35 to 54.

Figure 31: Population Distribution by Income (Region, Gender, and Tenure)

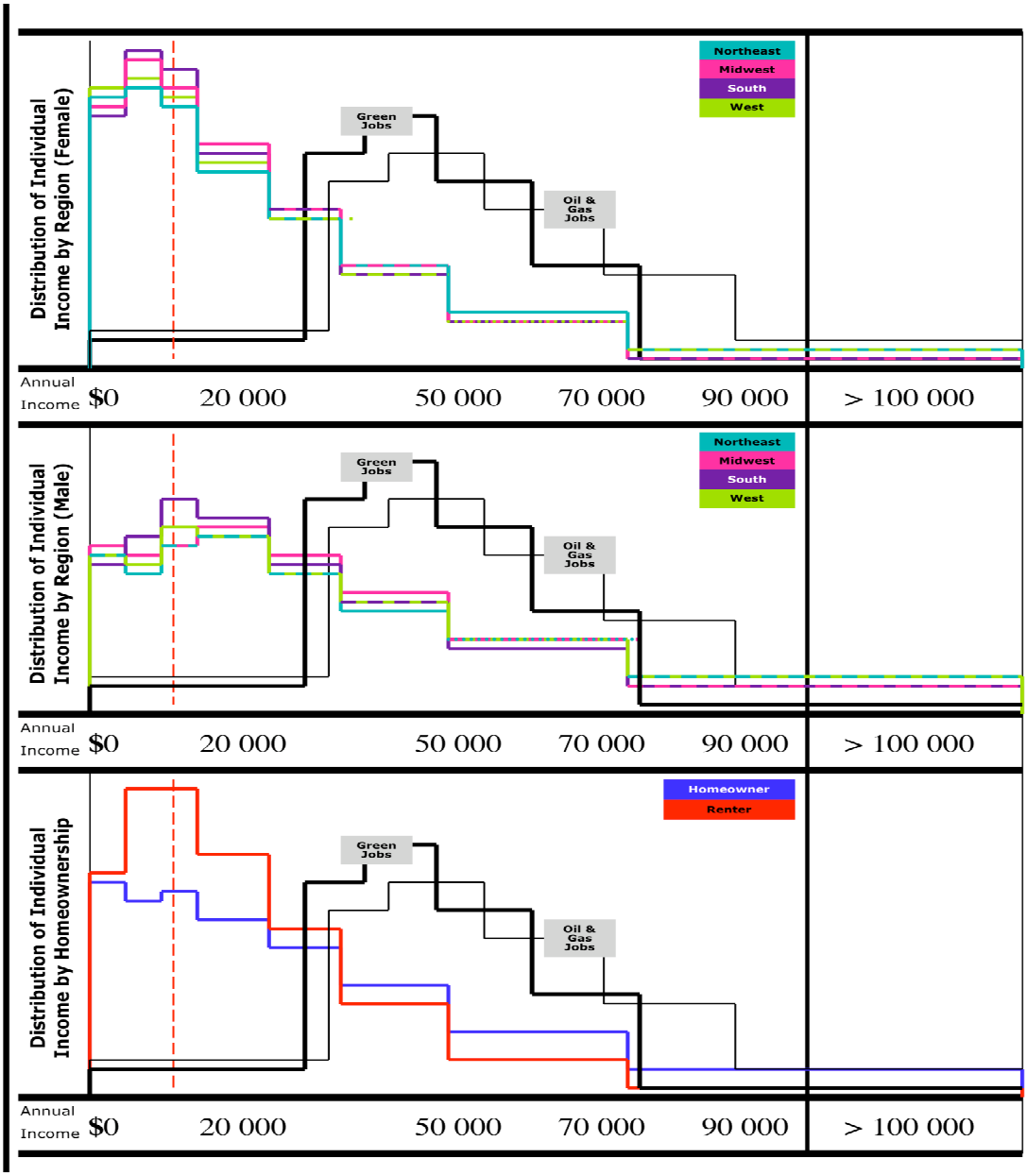

Figure 31: The majority of Americans, both male and female, earn below the green jobs income range. However, more men than women fall within this range. Workers in the Northeast and Midwest for both genders are more likely to be represented within the green jobs income range. Homeowners, as suppose to renters, are more likely to be reprseneted with the green jobs income range.

Source: "The National Data Book." *The 2012 Statistical Abstract: Income, Expenditures, Poverty, & Wealth*. US Census Bureau, Jan. 2012. Web. 23 Apr. 2012. <http://www.census.gov/compendia/statab/cats/income_expenditures_poverty_wealth.html>.

Figure 32: Population Distribution by Income (Gender, Age, and Race)

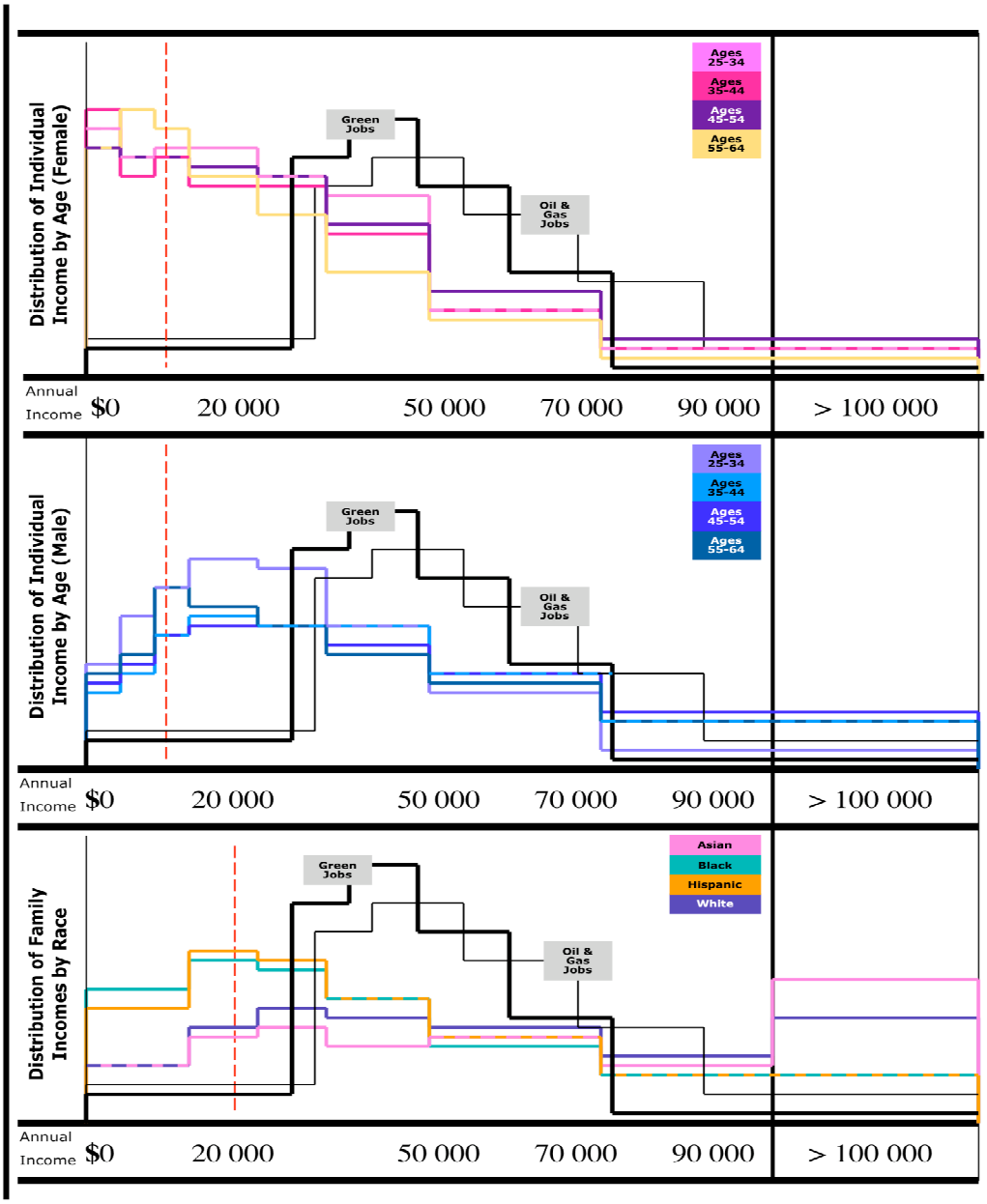

Figure 32: The majority of Americans, both male and female, earn below the green jobs income range. Men ages 35 to 54 and women ages 25 to 54 are more likely to be represented within the green jobs income range. Families of all race types are evenly presented within the green jobs income range.

Source: "The National Data Book." *The 2012 Statistical Abstract: Income, Expenditures, Poverty, & Wealth*. US Census Bureau, Jan. 2012. Web. 23 Apr. 2012. <http://www.census.gov/compendia/statab/cats/income_expenditures_poverty_wealth.html>.

Figure 33: Population Distribution by Income (Race and Gender)

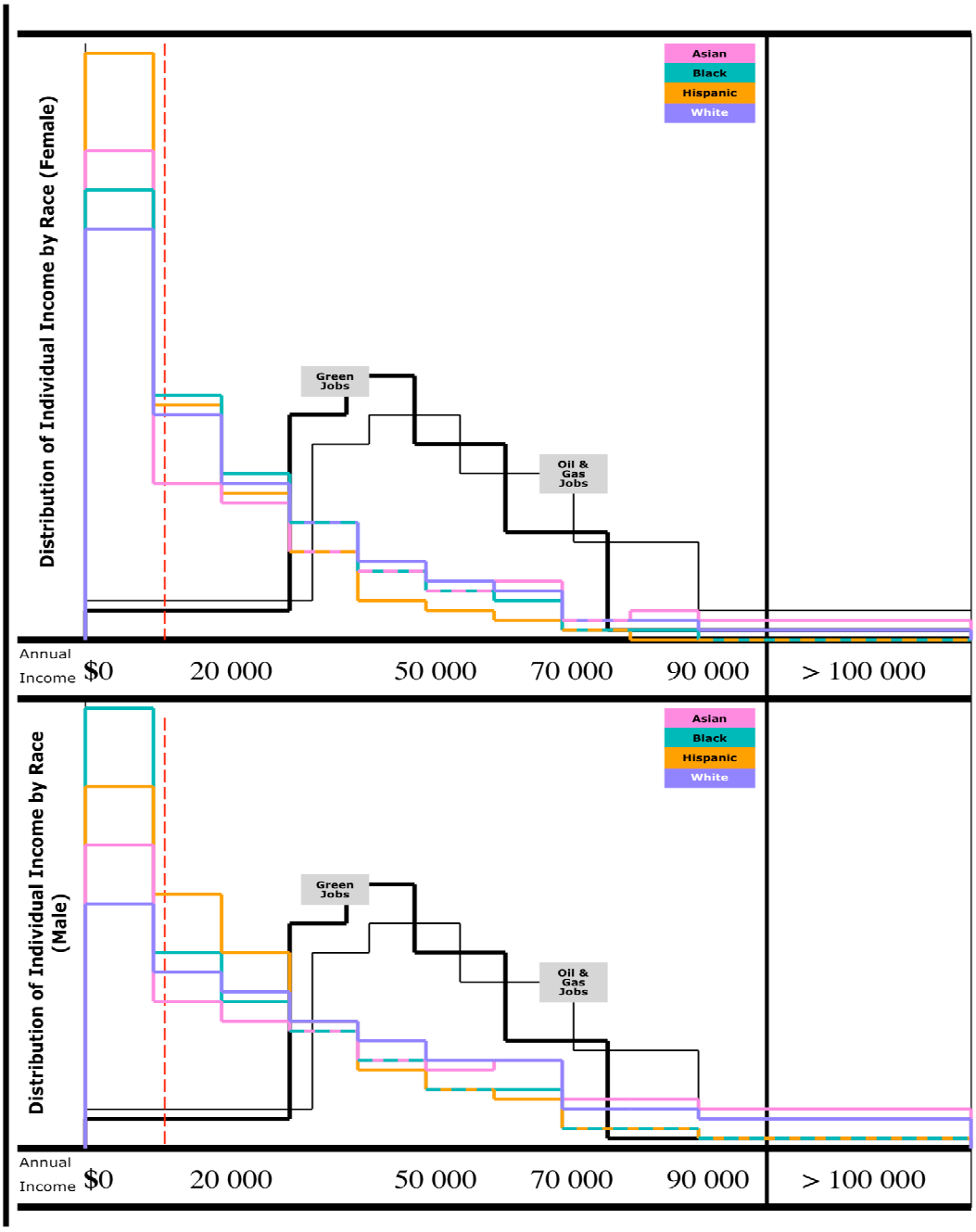

Figure 33: The majority of Americans, both male and female, earn below the green jobs income range. However, more men than women fall within this range. White and Asian are the two races most likely to be represented within the green jobs income range.

Source: "The National Data Book." *The 2012 Statistical Abstract: Income, Expenditures, Poverty, & Wealth*. US Census Bureau, Jan. 2012. Web. 23 Apr. 2012. <http://www.census.gov/compendia/statab/cats/income_expenditures_poverty_wealth.html>.

Tenure status can provide insight into the living standards provided by a certain income and employment type. Those with job security and a steady income projection are more likely to purchase a home. Over 75% of renters earned less than $30,000, while less than 50% of homeowners earned this amount (see Figure 31). This suggests that homeowners are more likely to be represented within the green occupations.

Certain races are also more likely to be represented in the green sector based on these assumptions. Again, although the majority of women fall below the income bracket for the green sector, more Hispanic and African-American women earn less than $30,000. This would suggest that it is more to likely to have Caucasian and Asian American women represented in the green sector employment. This is the same situation for men. While there is a larger share of the male workforce within the income brackets for the green economy, Caucasian and Asian males have the largest representation (see Figure 33). It is therefore likely that these groups will form the green economy, which would thus consist of less Black and Hispanic males. These trends are not consistent when analyzing family income. Although the fact that the majority of Hispanic and African American identified families earn less than $30,000 and the majority of Caucasian and Asian identified families earn more than $75,000 suggest a large income disparity based on race, all races are equally proportioned within the green income brackets (see Figure 32).

The same analysis can be done with level of educational attainment. Most of those with a high school diploma and an Associate's degree earn less than $30,000, while the majority of those with a professional or doctoral degree earn over $75,000. It is therefore more likely that the green occupations consist of employees with a Bachelor's or Master's degree (see Figure 34). Overall, based on the analysis of each demographic characteristic, middle-aged Caucasian or Asian men with a Bachelor's or Master's degree are the most likely to be represented within the green sector.

Figure 34: Population Distribution by Income

(Educational Attainment)

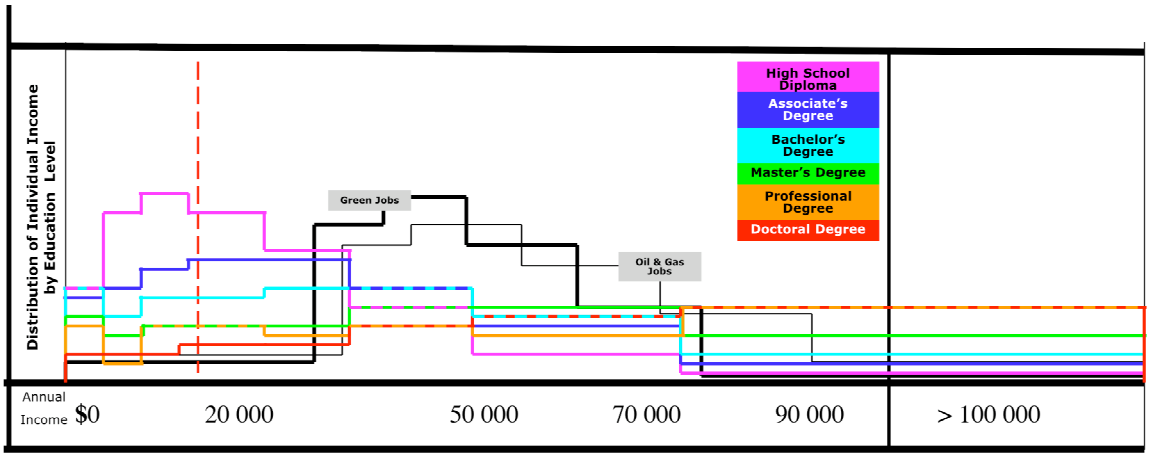

Figure 34: The majority of Americans do not have a college degree. Most workers within the green jobs income range had wither a Bachelor's or Master's degree.

Source: "The National Data Book." *The 2012 Statistical Abstract: Income, Expenditures, Poverty, & Wealth*. US Census Bureau, Jan. 2012. Web. 23 Apr. 2012. <http://www.census.gov/compendia/statab/cats/income_expenditures_poverty_wealth.html>.

5. Conclusion

The United States economy is led by the private sector and any large direct investments by the government endanger efficiency by creating labor-saturated green sectors. Government policy should therefore not focus on foraging green sector growth. This will be driven by the private sector in response to energy pricing and consumer demand. Instead, the government should create incentives and favorable policy for green firms to hire those currently unemployed, or discriminated against in the current workforce.

5.1 Economic Solutions and Shortcomings

To determine accurate policy, the economic solutions and shortcomings of the green sector most first be defined. According to the analysis of this dissertation, the green economy is concentrated in the South and the West, while maintaining a significant presence in all states and major cities. The manifestations of the green economy differ between cities, states, and regions with some areas employed more in the service sector, and others in manufacturing. This suggests that green economic growth has the potential to revitalize the areas most affected by recessional unemployment (the South and West), while simultaneously promoting national development of green industries. In the long run, this prevents regional inequalities while aiding the cyclical recovery after the recession. Furthermore, the majority of the green occupations are in either the manufacturing or construction industries. Growth in these industries will bring demand, higher wages, and job security to these occupations while increasing national manufacturing output, and potentially exports. The secondary industries are associated with increased GDP growth and economic surpluses. The green economy therefore presents an opportunity for the United States to bridge future economic growth out of the current downturn.

It has also been shown that the green sectors are not dependent on government employment. This suggests that the green economy has potential to prosper within the auspices of the private sector, despite fiscal instability. Based on the occupational incomes represented within the green sectors, it can be stated the green economy will be a middle-class movement supported by the blue-collar worker. This group forms the backbone of the country, yet has been steadily penalized by taxation, policy and industrial transitions. Stimulating economic stability within this population group could significantly support

economic recovery. The green economy also supports low-income salaries and those in the upper 10%. However, the majority of top-earners are concentrated in a few states, such as New York State and California. This again affirms the concentration of wealth in the United States.

Despite these benefits introduced by the green economy, there are some significant shortcomings, mainly the demographics of the green labor force. According to labor statistics, more men than women are to be employed in the green sectors. Additionally, the green sector seems to hire more Caucasian and Asian Americans, and those with a Bachelor's or Master's degree. This suggests that current labor market discriminations are to persist with the growth of the green economy, unless there is government intervention. Furthermore, the green sectors tend to require higher education degree, which eliminates the majority of the population and majority of those unemployed. However, there is still potential to create employment opportunities for those without a college degree as many of the green occupations are trades or construction based. These occupations may allow apprenticeships in place of degrees, and this is a prospect that should be thoroughly exploited by educational policy with the long-term goal of unemployment reduction. Overall, the impact of the green economy will be favorable but unless government policy guides the choices made by the private sector, there is a threat that growth will not employ those neglected by the current employment structure.

5.2 The Role of the Traditional Sector

The role of the traditional energy sector cannot be ignored. Oil and gas production serves as a price regulator for the green economy, with alternative energy production only becoming competitive once energy prices have reached a certain level. Therefore, fledging green industries will not prosper unless gas prices continue to increase. Ultimately, if the green sectors were to overcome traditional energy in terms of production levels, there would be a loss of jobs in the oil and gas industry. The locations of these jobs are predominantly in the southern part of the United States, such as Oklahoma and Texas. The green economy is pervasive to the whole nation, but not specifically as concentrated in the areas. If there is a decline in traditional energy employment, there will be a net job loss in these states and resulting depression on regional economic activity. However, for the immediate future, this transition is not eminent.

5.3 Potential of Green Intiaitves

The future of the green economy will be dependent on the actions of the private sector, which is governed by pricing. Government programs should not be used to siphon workers from higher-valued occupations to lower-valued ones. This essentially creates a net loss in total output because there is no increase in total net spending, and is ultimately worse for the economy. The dominance of the green economy and the resulting employment effects will be a slow transition. The government should however guide the choices of the private sector, so that the structural employment problems within the United States can be amended.

6. Appendix

6.1 Exhibit 1: Overview of Green Sector Occupations

Exhibit 1 is an explanation of the representative occupations for each sector and shows the corresponding BLS Occupation Codes for reference. The Bureau of Labor of Statistics defines the major occupational groups in accordance to the Standard Occupational Classification (SOC) system (established 2002). The lines in Exhibit 1 are color-coded by these definitions (i.e., yellow is Construction and Extraction).

Source: http://www.bls.gov/oco/ocos004.htm

Green Sector	Representative Occupations	BLS Occupation Code	BLS Major Occupational Groups
Building Retrofitting	Building Inspectors	47-4011	Construction and Extraction
	Carpenter Helpers	47-3012	Construction and Extraction
	Carpenters	47-2031	Construction and Extraction
	Construction Equipment Operators	47-2073	Construction and Extraction
	Construction Managers	11-9021	Management
	Electricians	47-2111	Construction and Extraction
	Heating/Air Conditioning Installers	49-9021	Installation, Maintenance, and Repair
	Industrial Truck Drivers	53-7051	Transportation and Material Moving
	Insulation Workers	47-2131	Construction and Extraction
	Roofers	47-2181	Construction and Extraction
Mass Transit	Bus Drivers	53-3021	Transportation and Material Moving
	Civil Engineers	17-2051	Architecture and Engineering
	Dispatchers	43-5032	Office and Administrative Support
	Electricians	47-2111	Construction and Extraction
	Engine Assemblers	51-2031	Production
	First-Line Transportation Supervisors	53-1031	Transportation and Material Moving
	Metal Fabricators	51-2041	Production

	Production Helpers	51-9198	Production
	Rail Track Layers	47-4061	Construction and Extraction
	Welders	51-4121	Production
Energy-Efficient Automobiles	Computer Software Engineers	15-1132	Computer and Mathematical
	Computer Software Engineers	15-1133	Computer and Mathematical
	Computer-Controlled Machine Operators	15-1799	Computer and Mathematical
	Electrical Engineers	17-2071	Architecture and Engineering
	Engine Assemblers	51-2031	Production
	Engineering Technicians	17-3029	Architecture and Engineering
	Metal Fabricators	51-2041	Production
	Operations Managers	11-1021	Management
	Production Helpers	51-9198	Production
	Transportation Equipment Painters	51-9122	Production
	Welders	51-4121	Production
Wind Power	Construction Equipment Operators	47-2073	Construction and Extraction
	Electrical Equipment Assemblers	51-2022	Production
	Environmental Engineers	17-2081	Architecture and Engineering
	First-Line Production Supervisors	51-1011	Production
	Industrial Production Managers	11-3051	Management
	Industrial Truck Drivers	53-7051	Transportation and Material Moving
	Iron and Steel Workers	47-2221	Construction and Extraction
	Machinists	51-4041	Production
	Millwrights	49-9044	Installation, Maintenance, and Repair
	Sheet Metal Workers	47-2211	Construction and Extraction
Solar Power	Construction Equipment Operators	47-2073	Construction and Extraction
	Construction Managers	11-9021	Management
	Electrical Engineers	17-2071	Architecture and Engineering

	Electrical Equipment Assemblers	51-2022	Production
	Electricians	47-2111	Construction and Extraction
	Industrial Machinery Mechanics	49-9041	Installation, Maintenance, and Repair
	Installation Helpers	49-9098	Installation, Maintenance, and Repair
	Laborers	53-7062	Transportation and Material Moving
	Metal Fabricators	51-2041	Production
	Welders	51-4121	Production
Cellulosic Biofuels	Agricultural and Forestry Supervisors	45-1011	Farming, Fishing, and Forestry
	Agricultural Inspectors	45-2011	Farming, Fishing, and Forestry
	Agricultural Workers	45-2099	Farming, Fishing, and Forestry
	Chemical Engineers	17-2041	Architecture and Engineering
	Chemical Equipment Operators	51-9011	Production
	Chemical Technicians	19-4031	Life, Physical, and Social Science
	Chemists	19-2031	Life, Physical, and Social Science
	Farm Product Purchasers	13-1021	Business and Financial Operations
	Industrial Truck Drivers	53-7051	Transportation and Material Moving
	Mixing and Blending Machine Operators	51-9023	Production
Oil and Gas	**Derrick Operators**	**47-5011**	**Construction and Extraction**
	Geologists	**19-2042**	**Life, Physical, and Social Science**
	Helpers--Extraction Workers	**47-5081**	**Construction and Extraction**
	Petroleum Engineers	**17-2171**	**Architecture and Engineering**
	Petroleum Technicians	**19-4041**	**Life, Physical, and Social Science**
	Refinery Operators	**51-8093**	**Production**

	Rotary Drill Operators	**47-5012**	**Construction and Extraction**
	Roustabouts	**47-5071**	**Construction and Extraction**
	Service Unit Operators	**47-5013**	**Construction and Extraction**
	Wellhead Pumpers	**53-7073**	**Transportation and Material Moving**

6.2 Exhibit 2: Income Distribution by State

Exhibit 2 defines the average income percentiles for All Occupations (defined SOC group) on the state-level, and was extracted from the May 2010 State Cross-Industry Employment and Wage Estimates in the BLS Occupational Employment Statistics database. This information is only available in the XLS downloadable Zipped files and is not otherwise shown on the BLS website. The 50% percentile represents the median income. Regional Information is the average for the included divisions in each region.

Source: http://www.bls.gov/oes/oes_arch.htm

Region	Division	State	Income Percentile				
			10%	*25%*	*50%*	*75%*	*90%*
Region 1: Northeast	Division 1: New England	Connecticut	**$ 19 290**	**$ 26 240**	**$ 40 670**	**$ 64 260**	**$ 93 450**
		Maine	**$ 17 920**	**$ 22 410**	**$ 31 780**	**$ 47 060**	**$ 67 480**
		Massachusetts	**$ 19 960**	**$ 27 160**	**$ 41 880**	**$ 67 000**	**$ 100 860**
		New Hampshire	**$ 18 210**	**$ 23 800**	**$ 34 740**	**$ 53 690**	**$ 80 420**
		Rhode Island	**$ 18 090**	**$ 23 660**	**$ 36 170**	**$ 57 470**	**$ 84 010**
		Vermont	**$ 19 290**	**$ 23 800**	**$ 33 220**	**$ 49 530**	**$ 73 120**
	Division 2: Mid-Atlantic	New Jersey	**$ 18 330**	**$ 24 460**	**$ 39 020**	**$ 64 150**	**$ 96 020**
		New York	**$ 18 260**	**$ 24 560**	**$ 38 880**	**$ 63 620**	**$ 97 680**
		Pennsylvania	**$ 17 660**	**$ 22 640**	**$ 33 840**	**$ 52 340**	**$ 77 310**
	Regional Information		**$ 18 580**	**$ 24 300**	**$ 36 690**	**$ 57 680**	**$ 85 590**
Region 2: Midwest	Division 3: East North Central	Illinois	**$ 18 440**	**$ 22 070**	**$ 35 080**	**$ 58 080**	**$ 87 540**
		Indiana	**$ 17 020**	**$ 21 060**	**$ 30 880**	**$ 47 170**	**$ 69 150**
		Michigan	**$ 17 500**	**$ 22 210**	**$ 33 830**	**$ 54 100**	**$ 78 750**
		Ohio	**$ 17 080**	**$ 21 150**	**$ 32 150**	**$ 50 580**	**$ 73 510**
		Wisconsin	**$ 17 340**	**$ 22 010**	**$ 32 810**	**$ 49 910**	**$ 72 340**
	Division 4: West North Central	Colorado	**$ 18 060**	**$ 24 020**	**$ 36 770**	**$ 57 860**	**$ 87 330**
		Iowa	**$ 17 130**	**$ 21 200**	**$ 30 380**	**$ 45 250**	**$ 65 080**
		Kansas	**$ 17 000**	**$ 20 920**	**$ 30 590**	**$ 47 600**	**$ 70 270**
		Minnesota	**$ 18 180**	**$ 23 970**	**$ 35 990**	**$ 55 840**	**$ 82 950**

		Missouri	**$ 16 900**	**$ 20 660**	**$ 30 740**	**$ 48 300**	**$ 72 400**
		Nebraska	**$ 16 960**	**$ 21 000**	**$ 30 320**	**$ 46 180**	**$ 67 920**
		North Dakota	**$ 17 050**	**$ 21 130**	**$ 30 170**	**$ 44 810**	**$ 63 670**
		South Dakota	**$ 17 100**	**$ 20 720**	**$ 27 900**	**$ 39 710**	**$ 58 050**
	Regional Information		**$ 17 370**	**$ 21 700**	**$ 32 120**	**$ 49 650**	**$ 73 000**
Region 3: South	Division 5: South Atlantic	Delaware	**$ 17 990**	**$ 23 470**	**$ 35 900**	**$ 57 980**	**$ 87 260**
		Florida	**$ 17 100**	**$ 21 000**	**$ 30 600**	**$ 47 730**	**$ 73 360**
		Georgia	**$ 16 840**	**$ 20 720**	**$ 31 610**	**$ 51 370**	**$ 78 280**
		Maryland	**$ 18 110**	**$ 24 840**	**$ 39 740**	**$ 64 080**	**$ 98 270**
		North Carolina	**$ 17 010**	**$ 21 080**	**$ 31 090**	**$ 47 770**	**$ 73 170**
		South Carolina	**$ 16 680**	**$ 20 170**	**$ 29 800**	**$ 45 610**	**$ 67 500**
		Virginia	**$ 17 520**	**$ 22 760**	**$ 35 740**	**$ 58 970**	**$ 95 470**
		West Virginia	**$ 16 220**	**$ 18 790**	**$ 27 420**	**$ 43 640**	**$ 62 420**
	Division 6: East South Central	Alabama	**$ 16 470**	**$ 19 630**	**$ 29 570**	**$ 46 940**	**$ 69 670**
		Kentucky	**$ 16 740**	**$ 20 370**	**$ 30 090**	**$ 45 980**	**$ 66 080**
		Mississippi	**$ 16 310**	**$ 18 920**	**$ 26 680**	**$ 40 370**	**$ 59 140**
		Tennessee	**$ 16 830**	**$ 20 500**	**$ 29 920**	**$ 45 470**	**$ 67 350**
	Division 7: West South Central	Arkansas	**$ 16 470**	**$ 19 450**	**$ 27 860**	**$ 41 900**	**$ 61 420**
		Louisiana	**$ 16 490**	**$ 19 680**	**$ 30 170**	**$ 46 710**	**$ 67 030**
		Oklahoma	**$ 16 440**	**$ 19 610**	**$ 28 890**	**$ 44 160**	**$ 65 240**
		Texas	**$ 16 620**	**$ 20 150**	**$ 31 490**	**$ 51 550**	**$ 78 680**
	Regional Information		**$ 16 870**	**$ 20 700**	**$ 31 040**	**$ 48 770**	**$ 73 150**
Region 4: West	Division 8: Mountain	Arizona	**$ 17 390**	**$ 22 110**	**$ 33 040**	**$ 50 960**	**$ 78 000**
		Idaho	**$ 17 000**	**$ 20 750**	**$ 30 240**	**$ 46 760**	**$ 69 230**
		Montana	**$ 16 870**	**$ 20 260**	**$ 29 030**	**$ 44 090**	**$ 62 710**
		Nevada	**$ 17 390**	**$ 22 340**	**$ 32 180**	**$ 50 250**	**$ 74 770**
		New Mexico	**$ 16 950**	**$ 19 940**	**$ 30 060**	**$ 49 400**	**$ 75 170**
		Utah	**$ 17 510**	**$ 21 920**	**$ 31 290**	**$ 48 490**	**$ 72 070**
		Wyoming	**$ 17 910**	**$ 23 620**	**$ 35 020**	**$ 52 330**	**$ 71 510**
	Division 9: Pacific	Alaska	**$ 20 720**	**$ 28 200**	**$ 41 640**	**$ 64 030**	**$ 89 060**
		California	**$ 18 750**	**$ 23 550**	**$ 37 870**	**$ 63 980**	**$ 98 420**
		Hawaii	**$ 18 180**	**$ 24 100**	**$ 35 480**	**$ 54 030**	**$ 78 980**

		Oregon	**$ 19 140**	**$ 23 470**	**$ 34 480**	**$ 52 610**	**$ 78 430**
		Washington	**$ 19 980**	**$ 26 160**	**$ 39 030**	**$ 61 530**	**$ 89 820**
	Regional Information		**$ 18 150**	**$ 23 040**	**$ 34 110**	**$ 53 210**	**$ 78 180**

6.3 Exhibit 3: Unemployment Rates 2007-2012

Exhibit 3 shows state and divisional seasonally adjusted unemployment rates from January 2007 to January 2012, and was extracted from the Local Area Unemployment Statistics (LAUS) interactive map feature through the BLS LAUS program. The column '% Change' shows the percent increase in unemployment between January 2007 and January 2012.

Source: http://data.bls.gov/map/MapToolServlet?survey=la

3.1: State Level Unemployment Rate

States	Jan 2007	June 2007	Jan 2008	June 2008	Jan 2009	June 2009	Jan 2010	June 2010	Jan 2011	June 2011	Jan 2012	% Change
Alabama	3.3	3.3	3.8	4.7	8.0	10.2	10.5	**9.1**	9.3	9.3	**7.8**	*136.4 %*
Alaska	6.1	6.0	6.2	6.4	7.0	7.8	8.2	7.8	7.8	**7.6**	**7.2**	*18.0 %*
Arizona	3.8	3.5	4.2	5.7	8.3	10.0	10.8	**10.6**	**9.9**	**9.6**	**8.7**	*128.9 %*
Arkansas	5.2	5.4	**5.0**	5.2	6.8	7.6	7.9	**7.8**	8.1	8.1	**7.6**	*46.2 %*
California	4.9	5.3	5.9	7.0	9.7	11.5	12.3	12.3	**12.1**	**11.9**	**10.9**	*122.4 %*
Colorado	3.7	3.7	4.1	4.7	6.6	8.5	8.8	8.9	**8.8**	**8.4**	**7.8**	*110.8 %*
Connecticut	4.4	4.5	5.0	5.5	7.0	8.3	9.1	9.3	9.3	**8.9**	**8.0**	*81.8 %*
Delaware	3.4	3.5	3.8	4.6	6.9	8.0	8.5	**7.9**	**7.5**	**7.4**	**7.0**	*105.9 %*
Florida	3.5	3.9	4.8	6.0	8.7	10.5	11.4	**11.2**	**10.9**	**10.7**	**9.6**	*174.3 %*
Georgia	4.5	4.5	5.2	6.0	8.5	10.0	10.5	**10.0**	10.1	**9.9**	**9.2**	*104.4 %*
Hawaii	2.4	2.6	3.0	3.9	6.1	7.1	**7.0**	**6.8**	**6.7**	6.7	**6.5**	*170.8 %*
Idaho	2.7	2.9	3.5	4.6	6.2	7.4	8.5	8.7	8.8	8.8	**8.1**	*200.0 %*
Illinois	4.5	5.1	5.5	6.3	8.0	10.2	11.4	**10.5**	**9.4**	9.9	**9.4**	*108.9 %*
Indiana	4.6	4.5	4.7	5.5	8.9	10.8	**10.6**	**10.2**	**9.0**	9.1	**8.7**	*89.1 %*
Iowa	3.7	3.8	3.8	4.1	6.1	6.2	6.3	**6.2**	**6.1**	**6.0**	**5.4**	*45.9 %*
Kansas	4.1	4.1	**4.0**	4.4	6.3	7.5	**7.3**	**7.1**	**6.9**	**6.8**	**6.1**	*48.8 %*
Kentucky	5.8	**5.5**	5.6	6.4	8.9	10.6	10.7	**10.0**	**9.9**	**9.6**	**8.8**	*51.7 %*
Louisiana	3.9	3.9	**3.8**	4.1	5.7	6.9	6.9	7.5	7.7	**7.3**	**6.9**	*76.9 %*
Maine	4.6	4.7	4.7	5.2	7.3	8.3	8.4	**8.1**	**8.0**	**7.6**	**7.0**	*52.2 %*
Maryland	3.6	**3.4**	**3.3**	4.1	6.3	7.5	8.0	**7.8**	**7.3**	**7.2**	**6.5**	*80.6 %*

Massachusetts	4.6	**4.5**	4.5	5.1	7.0	8.3	8.7	**8.3**	**7.8**	**7.4**	**6.9**	*50.0 %*
Michigan	6.9	7.1	7.1	7.9	11.3	13.9	**13.8**	**12.8**	**10.9**	**10.6**	**9.0**	*30.4 %*
Minnesota	4.5	4.6	4.8	5.4	7.4	8.3	**7.7**	**7.3**	**6.8**	**6.7**	**5.6**	*24.4 %*
Mississippi	6.6	**6.2**	**6.1**	6.9	8.0	9.3	10.9	**10.3**	10.5	10.8	**9.9**	*50.0 %*
Missouri	4.7	5.0	5.3	5.8	8.6	9.6	**9.5**	**9.3**	**9.0**	**8.7**	**7.5**	*59.6 %*
Montana	3.2	3.4	3.8	4.4	5.3	6.0	6.7	6.9	6.9	6.9	**6.5**	*103.1 %*
Nebraska	2.8	3.0	**2.9**	3.3	4.0	4.8	4.9	**4.7**	**4.5**	4.5	**4.0**	*42.9 %*
Nevada	4.2	4.6	5.4	6.8	9.6	11.7	13.4	13.7	13.8	13.8	**12.7**	*202.4 %*
New Hampshire	3.7	**3.6**	**3.5**	3.8	5.2	6.3	6.7	**6.1**	**5.6**	**5.5**	**5.2**	*40.5 %*
New Jersey	4.2	4.2	4.6	5.2	7.4	9.2	9.7	**9.6**	**9.4**	9.4	**9.0**	*114.3 %*
New Mexico	3.5	**3.4**	3.6	4.4	5.7	6.8	7.9	8.0	**7.7**	**7.5**	**7.0**	*100.0 %*
New York	4.3	4.6	4.7	5.2	7.1	8.5	8.9	**8.6**	**8.2**	8.2	8.3	*93.0 %*
North Carolina	4.7	4.7	5.1	6.0	9.0	10.6	11.4	**10.8**	**10.5**	10.6	**10.2**	*117.0 %*
North Dakota	3.1	3.1	**2.9**	3.2	3.9	4.1	**4.0**	**3.8**	3.6	3.6	**3.2**	*3.2 %*
Ohio	5.4	5.7	5.7	6.4	8.6	10.5	10.6	**10.0**	**9.0**	**8.9**	**7.7**	*42.6 %*
Oklahoma	4.1	4.3	**3.4**	**3.6**	5.2	7.0	7.2	**6.9**	**6.2**	**6.1**	6.1	*48.8 %*
Oregon	5.1	5.1	5.2	6.0	9.9	11.6	**11.0**	**10.7**	**9.9**	**9.6**	**8.8**	*72.5 %*
Pennsylvania	4.2	4.3	4.7	5.2	6.8	8.0	8.6	**8.5**	**8.0**	8.0	**7.6**	*81.0 %*
Rhode Island	4.8	5.1	6.2	7.6	9.7	10.9	11.9	**11.6**	**11.4**	11.4	**10.9**	*127.1 %*
South Carolina	5.9	**5.5**	5.5	6.3	10.0	11.8	11.9	**11.1**	**10.6**	10.5	**9.3**	*57.6 %*
South Dakota	3.0	**2.9**	**2.7**	3.0	4.8	5.2	5.3	**4.9**	5.0	**4.7**	**4.2**	*40.0 %*
Tennessee	4.6	**4.5**	5.5	6.5	9.1	11.0	10.5	**9.5**	9.5	**9.4**	**8.2**	*78.3 %*
Texas	4.5	**4.3**	4.4	4.7	6.3	7.6	8.2	**8.1**	8.1	8.1	**7.3**	*62.2 %*
Utah	2.4	2.6	2.9	3.2	6.9	7.6	8.3	**8.0**	**7.5**	**6.9**	**5.7**	*137.5 %*
Vermont	3.9	3.9	4.1	4.4	6.2	7.2	**6.8**	**6.4**	**6.0**	**5.6**	**5.0**	*28.2 %*
Virginia	2.9	3.0	3.3	3.8	5.8	7.1	7.3	**6.9**	**6.4**	**6.3**	**5.8**	*100.0 %*
Washington	4.6	**4.5**	4.6	5.2	7.7	9.6	10.2	**9.8**	**9.6**	**9.3**	**8.3**	*80.4 %*
West Virginia	4.3	**4.2**	**4.0**	4.1	5.7	8.0	8.5	**8.4**	**8.3**	**8.0**	**7.4**	*72.1 %*
Wisconsin	4.8	4.9	**4.4**	4.5	7.2	9.2	9.2	**8.4**	**7.7**	**7.6**	**6.9**	*43.8 %*
Wyoming	2.8	2.9	**2.6**	3.0	4.2	6.4	7.5	**7.0**	**6.3**	**6.0**	**5.5**	*96.4 %*
National	**4.6**	**4.5**	**5.0**	**5.6**	**7.8**	**9.5**	**9.7**	**9.4**	**9.1**	**9.1**	**8.3**	***80.4 %***

3.2: Divisional Unemployment Rate

Divisions	Jan 2007	June 2007	Jan 2008	June 2008	Jan 2009	June 2009	Jan 2010	June 2010	Jan 2011	June 2011	Jan 2012	% Change
1: New England	4.3	4.4	4.7	5.3	7.1	8.2	8.6	8.3	**8.0**	**7.7**	**7.2**	*67.4 %*
2: Mid-Atlantic	4.2	4.4	4.7	5.2	7.1	**8.6**	9.1	8.9	**8.5**	8.5	**8.3**	*97.6 %*
3: East North Central	5.2	5.5	5.5	6.1	8.8	10.9	11.1	10.4	9.2	**9.2**	**8.3**	*59.6 %*
4: West North Central	3.7	3.8	3.8	4.2	6.0	6.8	**6.7**	**6.5**	**6.3**	**6.2**	**5.5**	*48.6 %*
5: South Atlantic	4.1	4.1	4.4	5.1	7.6	9.2	9.7	**9.3**	**9.0**	**8.8**	**8.1**	*97.6 %*
6: East South Central	5.1	4.9	5.3	6.1	8.5	10.3	10.7	**9.7**	9.8	9.8	**8.7**	*70.6 %*
7: West South Central	4.4	4.5	**4.2**	4.4	6.0	7.3	7.6	**7.6**	**7.5**	**7.4**	**7.0**	*59.1 %*
8: Mountain	3.2	3.3	3.7	4.6	6.6	8.0	9.0	**9.0**	**8.7**	**8.5**	**7.7**	*140.6 %*
9: Pacific	4.6	4.7	5.0	5.7	8.1	9.5	9.7	**9.5**	**9.2**	**9.0**	**8.3**	*80.4 %*

6.4 Exhibit 4: Green Secotr Employment Relative to Total Employment

Exhibit 4 is percentage of green occupations in the total labor force on the state and regional level. The percentage was calculated by dividing green employment by all employment. Green employment is the sum of all occupations in the eight green sectors. All employment is synonymous with all occupations (designated SOC group). Data extracted from the May 2010 State Cross-Industry Employment and Wage Estimates in the BLS Occupational Employment Statistics database.

Source: http://www.bls.gov/oes/oes_arch.htm

Region	Division	State	Green Employment	All Employment	Green Employment (%)
Region 1: Northeast	Division 1: New England	Connecticut	138 980	1 598 640	8.7 %
		Maine	52 710	577 410	9.1 %
		Massachusetts	266 450	3 119 100	8.5 %
		New Hampshire	47 620	603 420	7.9 %
		Rhode Island	32 870	448 150	7.3 %
		Vermont	21 520	286 990	7.5 %
	Division 2: Mid-Atlantic	New Jersey	343 900	3 770 550	9.1 %
		New York	585 630	8 344 020	7.0 %
		Pennsylvania	511 290	5 483 220	9.3 %
	Regional Information		**2 000 970**	**24 231 500**	**8.3 %**
Region 2: Midwest	Division 3: East North Central	Illinois	544 630	5 528 420	9.9 %
		Indiana	303 080	2 724 850	11.1 %
		Michigan	346 860	3 755 890	9.2 %
		Ohio	485 190	4 921 690	9.9 %
		Wisconsin	265 560	2 608 740	10.2 %
	Division 4: West North Central	Colorado	207 170	2 157 690	9.6 %
		Iowa	132 720	1 438 510	9.2 %
		Kansas	120 490	1 304 780	9.2 %
		Minnesota	224 510	2 562 450	8.8 %

		Missouri	229 960	2 588 450	8.9 %
		Nebraska	80 440	901 690	8.9 %
		North Dakota	32 210	355 710	9.1 %
		South Dakota	33 020	387 590	8.5 %
	Regional Information		**3 005 840**	**31 236 460**	**9.6 %**
Region 3: South	Division 5: South Atlantic	Delaware	34 060	397 730	8.6 %
		Florida	469 940	7 130 950	6.6 %
		Georgia	368 030	3 744 740	9.8 %
		Maryland	246 000	2 462 470	10.0 %
		North Carolina	353 380	3 772 780	9.4 %
		South Carolina	167 770	1 746 820	9.6 %
		Virginia	343 700	3 527 350	9.7 %
		West Virginia	69 900	688 170	10.2 %
	Division 6: East South Central	Alabama	213 210	1 807 480	11.8 %
		Kentucky	187 130	1 716 060	10.9 %
		Mississippi	111 330	1 070 820	10.4 %
		Tennessee	268 290	2 569 420	10.4 %
	Division 7: West South Central	Arkansas	119 530	1 135 560	10.5 %
		Louisiana	197 580	1 832 830	10.8 %
		Oklahoma	145 260	1 483 760	9.8 %
		Texas	984 380	10 089 870	9.8 %
	Regional Information		**4 279 490**	**45 176 810**	**9.5 %**
Region 4: West	Division 8: Mountain	Arizona	197 820	2 367 120	8.4 %
		Idaho	54 330	594 750	9.1 %
		Montana	33 730	424 300	7.9 %
		Nevada	87 330	1 113 530	7.8 %
		New Mexico	63 370	777 560	8.1 %
		Utah	117 650	1 148 520	10.2 %
		Wyoming	33 110	269 910	12.3 %
	Division 9: Pacific	Alaska	32 420	308 050	10.5 %
		California	1 272 990	14 001 730	9.1 %
		Hawaii	45 100	571 630	7.9 %

		Oregon	142 740	1 569 700	9.1 %
		Washington	267 890	2 693 220	9.9 %
	Regional Information		**2 348 480**	**25 840 020**	**9.1 %**
National Information			**11 634 780**	**126 484 790**	**9.2 %**

6.5 Exhibit 5: Overview of Total Employment by Region

Exhibit 5 shows the number employed for the green and traditional energy sectors on the state, divisional and national levels. Data was extracted from the May 2010 State Cross-Industry Employment and Wage Estimates in the BLS Occupational Employment Statistics database. Percent of regional calculates the sum of one green sector for a particular state divided by the sum of all states within that division. Percent of national calculates the sum of one green sector for a particular state divided by the national total for that sector

Source: http://www.bls.gov/oes/oes_arch.htm

5.1: Green Sector Employment for Region 1 (Northeast), Division 1 (New England)

Green Sector	Representative Jobs	Connecticut	Maine	Massachusetts	New Hampshire	Rhode Island	Vermont
Building Retrofitting	Building Inspectors	690	470	2 010	300	200	140
	Carpenter Helpers	450	290	1 020	190	240	310
	Carpenters	5 750	4 310	13 410	2 680	2 660	2 490
	Construction Equipment Operators	2 560	1 960	4 130	1 000	560	1 170
	Construction Managers	2 240	1 070	3 410	730	340	460
	Electricians	6 040	2 570	10 790	2 060	1 520	970
	Heating/Air Conditioning Installers	3 520	1 650	6 660	1 410	790	750
	Industrial Truck Drivers	3 130	2 990	7 000	1 070	620	750
	Insulation Workers	240	150	410	60	0	50
	Roofers	670	380	1 860	250	340	260
	Total	**25 290**	**15 840**	**50 700**	**9 750**	**7 270**	**7350**
	Percent of Regional	**21.8 %**	**13.6 %**	**43.6 %**	**8.4 %**	**6.3 %**	**6.3 %**
	Percent of National	**0.9 %**	**0.6 %**	**1.8 %**	**0.4 %**	**0.3 %**	**0.3 %**
Mass Transit	Bus Drivers	1 930	320	3 440	400	320	500
	Civil Engineers	2 920	780	7 250	900	590	430
	Dispatchers	2 130	970	3 980	770	510	370
	Electricians	6 040	2 570	10 790	2 060	1 520	970

	Engine Assemblers	330	0	220	150	50	0
	First-Line Transportation Supervisors	1 950	740	3 920	660	510	480
	Metal Fabricators	1 740	670	1 170	280	560	70
	Production Helpers	3 190	1 820	5 380	1 150	1 840	430
	Rail Track Layers	0	**	160	0	0	40
	Welders	2 380	1 720	2 420	830	990	260
	Total	**22 610**	**9 590**	**38 730**	**7 200**	**6 890**	**3 550**
	Percent of Regional	**25.5 %**	**10.8 %**	**43.7 %**	**8.1 %**	**7.8 %**	**4.0 %**
	Percent of National	**1.1 %**	**0.4 %**	**1.8 %**	**0.3 %**	**0.3 %**	**0.2 %**
Energy-Efficient Automobiles	Computer Software Engineers	6 560	1 110	22 750	4 660	890	910
	Computer Software Engineers	3 590	500	27 100	2 210	1 320	780
	Computer-Controlled Machine Operators	1 350	380	4 260	970	830	150
	Electrical Engineers	1 710	370	7 700	1 180	470	330
	Engine Assemblers	330	0	220	150	50	0
	Engineering Technicians	580	670	850	670	300	0
	Metal Fabricators	1 740	670	1 170	280	560	70
	Operations Managers	29 080	9 960	44 800	6 720	4 600	2 840
	Production Helpers	3 190	1 820	5 380	1 150	1 840	430
	Transportation Equipment Painters	440	260	480	100	350	0
	Welders	2 380	1 720	2 420	830	990	260
	Total	**50 950**	**17 460**	**117 130**	**18 920**	**12 200**	**5 770**
	Percent of Regional	**22.9 %**	**7.8 %**	**52.7 %**	**8.5 %**	**5.5 %**	**2.6 %**
	Percent of National	**1.4 %**	**0.5 %**	**3.2 %**	**0.5 %**	**0.3 %**	**0.2 %**
Wind Power	Construction Equipment Operators	2 560	1 960	4 130	1 000	560	1 170
	Electrical Equipment Assemblers	3 370	300	6 200	2 120	770	0
	Environmental Engineers	700	220	2 660	270	250	290
	First-Line Production Supervisors	8 020	3 180	11 260	3 010	2 020	1 460
	Industrial Production Managers	3 010	570	3 470	720	410	360

	Industrial Truck Drivers	3 130	2 990	7 000	1 070	620	750
	Iron and Steel Workers	370	50	1 070	190	**	80
	Machinists	7 900	1 470	8 570	2 360	1 130	660
	Millwrights	170	350	300	50	0	30
	Sheet Metal Workers	1 840	850	1 770	500	560	300
	Total	**31 070**	**11 940**	**46 430**	**11 290**	**6 320**	**5 100**
	Percent of Regional	**27.7 %**	**10.6 %**	**41.4 %**	**10.1 %**	**5.6 %**	**4.5 %**
	Percent of National	**1.3 %**	**0.5 %**	**2.0 %**	**0.5 %**	**0.3 %**	**0.2 %**
Solar Power	Construction Equipment Operators	2 560	1 960	4 130	1 000	560	1 170
	Construction Managers	2 240	1 070	3 410	730	340	460
	Electrical Engineers	1 710	370	7 700	1 180	470	330
	Electrical Equipment Assemblers	3 370	300	6 200	2 120	770	0
	Electricians	6 040	2 570	10 790	2 060	1 520	970
	Industrial Machinery Mechanics	1 910	1 050	3 790	1 180	550	420
	Installation Helpers	1 100	420	1 440	350	**	250
	Laborers	21 760	6 480	28 570	4 720	5 360	2 060
	Metal Fabricators	1 740	670	1 170	280	560	70
	Welders	2 380	1 720	2 420	830	990	260
	Total	**44 810**	**16 610**	**69 620**	**14 450**	**11 120**	**5 990**
	Percent of Regional	**27.6 %**	**10.2 %**	**42.8 %**	**8.9 %**	**6.8 %**	**3.7 %**
	Percent of National	**1.1 %**	**0.4 %**	**1.7 %**	**0.3 %**	**0.3 %**	**0.1 %**
Cellulosic Biofuels	Agricultural and Forestry Supervisors	90	250	260	40	0	0
	Agricultural Inspectors	30	**	0	0	0	0
	Agricultural Workers	0	0	0	50	0	0
	Chemical Engineers	180	150	1 270	70	0	0
	Chemical Equipment Operators	280	150	1 000	50	110	0
	Chemical Technicians	590	300	2 450	110	140	100
	Chemists	1 360	250	3 560	140	170	110
	Farm Product Purchasers	50	180	490	0	0	50

	Industrial Truck Drivers	3 130	2 990	7 000	1 070	620	750
	Mixing and Blending Machine Operators	1 080	380	1 740	290	**	410
	Total	**6 790**	**4 650**	**17 770**	**1 820**	**1 040**	**1420**
	Percent of Regional	**20.3 %**	**13.9 %**	**53.1 %**	**5.4 %**	**3.1 %**	**4.2 %**
	Percent of National	**0.8 %**	**0.5 %**	**2.0 %**	**0.2 %**	**0.1 %**	**0.2 %**
National Data	**Total**	**138 980**	**52 710**	**266 450**	**47 620**	**32 870**	**21 520**
	Percent of Regional	**24.8 %**	**9.4 %**	**47.6 %**	**8.5 %**	**5.9 %**	**3.8 %**
	Percent of National	**1.2 %**	**0.5 %**	**2.3 %**	**0.4 %**	**0.3 %**	**0.2 %**

5.2: Traditional Energy Sector Employment for Region 1 (Northeast), Division 1 (New England)

Traditional Energy Sector	Representative Jobs	Connecticut	Maine	Massachusetts	New Hampshire	Rhode Island	Vermont
Oil and Gas	Derrick Operators	0	0	0	0	0	0
	Geologists	40	110	310	80	90	40
	Helpers--Extraction Workers	0	0	110	60	0	40
	Petroleum Engineers	0	0	40	0	0	0
	Petroleum Technicians	0	0	**	0	0	0
	Refinery Operators	0	0	160	0	0	0
	Rotary Drill Operators	0	0	0	0	0	0
	Roustabouts	0	0	0	0	0	0
	Service Unit Operators	0	0	0	0	0	0
	Wellhead Pumpers	0	0	0	0	0	0
	Total	**40**	**110**	**620**	**140**	**90**	**80**
	Percent of Regional	**3.7 %**	**10.2 %**	**57.4 %**	**13.0 %**	**8.3 %**	**7.4 %**
	Percent of National	**0.0 %**	**0.0 %**	**0.2 %**	**0.0 %**	**0.0 %**	**0.0 %**

5.3: Green Sector Employment for Region 1 (Northeast), Division 2 (Mid-Atlantic)

Green Sector	Representative Jobs	New Jersey	New York	Pennsylvania
Building Retrofitting	Building Inspectors	4 020	6 670	5 130
	Carpenter Helpers	1 120	4 670	1 520
	Carpenters	16 640	50 180	34 150
	Construction Equipment Operators	4 850	13 920	20 340
	Construction Managers	4 870	13 610	4 480
	Electricians	11 470	33 490	20 770
	Heating/Air Conditioning Installers	8 460	14 580	13 190
	Industrial Truck Drivers	13 620	15 180	26 250
	Insulation Workers	350	990	440
	Roofers	1 380	4 870	4 160
	Total	**66 780**	**158 160**	**130 430**
	Percent of Regional	**18.8 %**	**44.5 %**	**36.7 %**
	Percent of National	**2.4 %**	**5.7 %**	**4.7 %**
Mass Transit	Bus Drivers	8 760	19 330	7 180
	Civil Engineers	6 270	13 390	12 230
	Dispatchers	5 270	13 500	6 350
	Electricians	11 470	33 490	20 770
	Engine Assemblers	430	1 060	950
	First-Line Transportation Supervisors	7 440	12 240	7 550
	Metal Fabricators	770	2 150	4 460
	Production Helpers	9 770	12 490	26 450
	Rail Track Layers	**	0	490
	Welders	3 640	8 060	13 630
	Total	**53 820**	**115 710**	**100 060**
	Percent of Regional	**20.0 %**	**42.9 %**	**37.1 %**
	Percent of National	**2.5 %**	**5.4 %**	**4.7 %**
Energy-Efficient Automobiles	Computer Software Engineers	27 700	27 600	14 400
	Computer Software Engineers	11 360	17 220	12 790

	Computer-Controlled Machine Operators	9 470	3 510	5 330
	Electrical Engineers	3 190	8 750	4 800
	Engine Assemblers	430	1 060	950
	Engineering Technicians	1 090	2 210	1 380
	Metal Fabricators	770	2 150	4 460
	Operations Managers	38 960	97 640	50 230
	Production Helpers	9 770	12 490	26 450
	Transportation Equipment Painters	880	1 190	1 840
	Welders	3 640	8 060	13 630
	Total	**107 260**	**181 880**	**136 260**
	Percent of Regional	**25.2 %**	**42.8 %**	**32.0 %**
	Percent of National	**2.9 %**	**4.9 %**	**3.7 %**
Wind Power	Construction Equipment Operators	4 850	13 920	20 340
	Electrical Equipment Assemblers	4 890	12 920	9 700
	Environmental Engineers	1 830	3 070	2 500
	First-Line Production Supervisors	15 040	22 410	26 280
	Industrial Production Managers	5 440	4 860	6 460
	Industrial Truck Drivers	13 620	15 180	26 250
	Iron and Steel Workers	1 620	4 510	1 770
	Machinists	5 790	12 850	16 370
	Millwrights	590	1 020	1 360
	Sheet Metal Workers	3 140	5 180	3 990
	Total	**56 810**	**95 920**	**115 020**
	Percent of Regional	**21.2 %**	**35.8 %**	**43.0 %**
	Percent of National	**2.4 %**	**4.0 %**	**4.8 %**
Solar Power	Construction Equipment Operators	4 850	13 920	20 340
	Construction Managers	4 870	13 610	4 480
	Electrical Engineers	3 190	8 750	4 800
	Electrical Equipment Assemblers	4 890	12 920	9 700
	Electricians	11 470	33 490	20 770
	Industrial Machinery Mechanics	7 220	9 830	16 850
	Installation Helpers	3 510	6 630	6 140

	Laborers	73 840	83 260	100 280
	Metal Fabricators	770	2 150	4 460
	Welders	3 640	8 060	13 630
	Total	**118 250**	**192 620**	**201 450**
	Percent of Regional	**23.1 %**	**37.6 %**	**39.3 %**
	Percent of National	**2.8 %**	**4.6 %**	**4.8 %**
Cellulosic Biofuels	Agricultural and Forestry Supervisors	140	320	480
	Agricultural Inspectors	130	370	380
	Agricultural Workers	0	110	140
	Chemical Engineers	1 360	1 110	1 250
	Chemical Equipment Operators	3 400	1 280	3 160
	Chemical Technicians	3 380	3 520	3 070
	Chemists	5 640	3 980	4 250
	Farm Product Purchasers	180	340	470
	Industrial Truck Drivers	13 620	15 180	26 250
	Mixing and Blending Machine Operators	4 980	9 560	5 900
	Total	**32 830**	**35 770**	**45 350**
	Percent of Regional	**28.8 %**	**31.4 %**	**39.8 %**
	Percent of National	**3.6 %**	**4.0 %**	**5.0 %**
National Data	**Total**	**343 900**	**585 630**	**511 290**
	Percent of Regional	**23.9 %**	**40.6 %**	**35.5 %**
	Percent of National	**3.0 %**	**5.0 %**	**4.4 %**

5.4: Traditional Energy Sector Employment for Region 1 (Northeast), Division 2 (Mid-Atlantic)

Traditional Energy Sector	Representative Jobs	New Jersey	New York	Pennsylvania
Oil and Gas	Derrick Operators	0	0	180
	Geologists	360	810	910
	Helpers--Extraction Workers	240	260	1 060
	Petroleum Engineers	250	**	200
	Petroleum Technicians	270	420	220

	Refinery Operators	1 110	120	1 590
	Rotary Drill Operators	0	90	880
	Roustabouts	0	0	980
	Service Unit Operators	0	130	840
	Wellhead Pumpers	0	0	880
	Total	**230**	**1 830**	**7 740**
	Percent of Regional	**18.9 %**	**15.5 %**	**65.6 %**
	Percent of National	**0.8 %**	**0.6 %**	**2.7 %**

5.5: Green Sector Employment for Region 2 (Midwest), Division 3 (East North Central)

Green Sector	Representative Jobs	Illinois	Indiana	Michigan	Ohio	Wisconsin
Building Retrofitting	Building Inspectors	3 110	1 370	2 270	2 840	1 150
	Carpenter Helpers	1 090	1 010	300	780	750
	Carpenters	28 930	13 470	12 230	19 790	14 540
	Construction Equipment Operators	11 300	8 870	7 400	11 300	6 540
	Construction Managers	5 400	3 940	4 190	6 450	2 980
	Electricians	22 940	12 040	15 930	20 270	9 610
	Heating/Air Conditioning Installers	5 410	4 870	5 800	8 820	4 740
	Industrial Truck Drivers	28 630	20 860	14 990	23 640	13 850
	Insulation Workers	28 630	20 860	14 990	23 640	13 850
	Roofers	3 820	2 700	2 030	3 650	2 090
	Total	**139 260**	**89 990**	**80 130**	**121 180**	**70 100**
	Percent of Regional	**27.8 %**	**18.0 %**	**16.0 %**	**24.2 %**	**14.0 %**
	Percent of National	**5.0 %**	**3.2 %**	**2.9 %**	**4.4 %**	**2.5 %**
Mass Transit	Bus Drivers	12 130	1 830	4 320	5 040	3 280
	Civil Engineers	6 630	3 060	5 740	5 940	4 090
	Dispatchers	7 440	4 780	4 240	6 100	3 290
	Electricians	22 940	12 040	15 930	20 270	9 610
	Engine Assemblers	650	**	2 470	4 940	3 010
	First-Line Transportation Supervisors	6 690	5 050	4 600	8 110	4 140

	Metal Fabricators	1 950	2 580	2 590	3 290	2 270
	Production Helpers	19 720	14 490	14 720	20 340	11 490
	Rail Track Layers	1 140	270	50	550	**
	Welders	13 600	8 810	9 520	12 140	10 670
	Total	**92 890**	**52 910**	**64 180**	**86 720**	**51 850**
	Percent of Regional	**26.7 %**	**15.2 %**	**18.4 %**	**24.9 %**	**14.9 %**
	Percent of National	**4.3 %**	**2.5 %**	**3.0 %**	**4.1 %**	**2.4 %**
Energy-Efficient Automobiles	Computer Software Engineers	14 760	5 870	9 880	19 440	9 780
	Computer Software Engineers	14 760	3 860	6 440	8 050	2 680
	Computer-Controlled Machine Operators	10 650	2 280	6 690	7 420	1 050
	Electrical Engineers	4 590	2 830	4 430	5 110	3 460
	Engine Assemblers	650	**	2 470	4 940	3 010
	Engineering Technicians	2 720	1 110	3 570	3 590	820
	Metal Fabricators	1 950	2 580	2 590	3 290	2 270
	Operations Managers	67 340	22 480	36 840	32 950	25 700
	Production Helpers	19 720	14 490	14 720	20 340	11 490
	Transportation Equipment Painters	2 210	1 580	1 370	1 290	840
	Welders	13 600	8 810	9 520	12 140	10 670
	Total	**152 950**	**65 890**	**98 520**	**118 560**	**71 770**
	Percent of Regional	**30.1 %**	**13.0 %**	**19.4 %**	**23.4 %**	**14.1 %**
	Percent of National	**4.1 %**	**1.8 %**	**2.7 %**	**3.2 %**	**1.9 %**
Wind Power	Construction Equipment Operators	11 300	8 870	7 400	11 300	6 540
	Electrical Equipment Assemblers	8 330	4 320	3 910	5 670	6 170
	Environmental Engineers	1 380	560	1 360	1 000	760
	First-Line Production Supervisors	26 000	20 790	21 960	29 510	17 670
	Industrial Production Managers	5 370	6 070	8 270	9 650	5 180
	Industrial Truck Drivers	28 630	20 860	14 990	23 640	13 850
	Iron and Steel Workers	2 030	1 730	1 120	2 150	720
	Machinists	25 290	13 550	21 440	27 540	13 100
	Millwrights	1 180	2 310	2 960	2 230	1 390
	Sheet Metal Workers	5 360	2 550	2 750	4 130	4 230
	Total	**114 870**	**81 610**	**86 160**	**116 820**	**69 610**

	Percent of Regional	**24.5 %**	**17.4 %**	**18.4 %**	**24.9 %**	**14.8 %**
	Percent of National	**4.8 %**	**3.4 %**	**3.6 %**	**4.9 %**	**2.9 %**
Solar Power	Construction Equipment Operators	11 300	8 870	7 400	11 300	6 540
	Construction Managers	5 400	3 940	4 190	6 450	2 980
	Electrical Engineers	4 590	2 830	4 430	5 110	3 460
	Electrical Equipment Assemblers	8 330	4 320	3 910	5 670	6 170
	Electricians	22 940	12 040	15 930	20 270	9 610
	Industrial Machinery Mechanics	9 250	10 050	10 560	13 030	6 940
	Installation Helpers	3 190	1 700	2 520	2 820	1 540
	Laborers	114 190	58 790	61 000	100 990	42 750
	Metal Fabricators	1 950	2 580	2 590	3 290	2 270
	Welders	13 600	8 810	9 520	12 140	10 670
	Total	**194 740**	**113 930**	**122 050**	**181 070**	**92 930**
	Percent of Regional	**27.6 %**	**16.2 %**	**17.3 %**	**25.7 %**	**13.2 %**
	Percent of National	**4.7 %**	**2.7 %**	**2.9 %**	**4.3 %**	**2.2 %**
Cellulosic Biofuels	Agricultural and Forestry Supervisors	380	170	300	250	400
	Agricultural Inspectors	410	220	160	350	350
	Agricultural Workers	240	0	170	40	180
	Chemical Engineers	1 290	630	1 170	1 700	420
	Chemical Equipment Operators	2 610	890	700	3 250	760
	Chemical Technicians	2 870	1 300	1 950	3 190	1 100
	Chemists	2 500	2 470	2 650	3 360	1 290
	Farm Product Purchasers	480	310	250	230	320
	Industrial Truck Drivers	28 630	20 860	14 990	23 640	13 850
	Mixing and Blending Machine Operators	6 040	3 800	4 060	8 620	3 620
	Total	**45 450**	**30 650**	**26 400**	**44 630**	**22 290**
	Percent of Regional	**26.8 %**	**18.1 %**	**15.6 %**	**26.3 %**	**13.2 %**
	Percent of National	**5.0 %**	**3.4 %**	**2.9 %**	**5.0 %**	**2.5 %**
National Data	**Total**	**544 630**	**303 080**	**346 860**	**485 190**	**265 560**
	Percent of Regional	**28.0 %**	**15.6 %**	**17.8 %**	**24.9 %**	**13.7 %**
	Percent of National	**4.7 %**	**2.6 %**	**3.0 %**	**4.2 %**	**2.3 %**

5.6: Traditional Energy Sector Employment for Region 2 (Midwest), Division 3 (East North Central)

Traditional Energy Sector	Representative Jobs	Illinois	Indiana	Michigan	Ohio	Wisconsin
Oil and Gas	Derrick Operators	190	0	**	180	0
	Geologists	320	350	330	610	170
	Helpers--Extraction Workers	390	260	100	310	0
	Petroleum Engineers	70	0	40	580	0
	Petroleum Technicians	0	0	170	270	0
	Refinery Operators	720	590	230	980	190
	Rotary Drill Operators	380	0	180	350	0
	Roustabouts	600	**	260	290	0
	Service Unit Operators	120	50	210	510	0
	Wellhead Pumpers	170	70	150	300	0
	Total	**2 960**	**1 320**	**1 670**	**4 830**	**360**
	Percent of Regional	**27.7 %**	**12.3 %**	**15.6 %**	**41.0 %**	**3.4 %**
	Percent of National	**1.1 %**	**0.5 %**	**0.6 %**	**1.7 %**	**0.1 %**

5.7: Green Sector Employment for Region 2 (Midwest), Division 4 (West North Central)

Green Sector	Representative Jobs	Colorado	Iowa	Kansas	Minnesota	Missouri	Nebraska	North Dakota	South Dakota
Building Retrofitting	Building Inspectors	1 970	680	760	1 650	1 920	440	120	190
	Carpenter Helpers	310	700	280	760	270	420	380	530
	Carpenters	12 520	7 180	5 590	12 200	14 360	5 280	2 820	4 030
	Construction Equipment Operators	7 020	4 780	6 190	7 720	6 570	2 500	2 210	1 590
	Construction Managers	3 300	1 900	1 860	2 050	2 930	1 470	530	220
	Electricians	11 720	6 810	5 360	9 270	9 940	4 450	2 020	1 550
	Heating/Air Conditioning Installers	3 700	3 400	2 340	2 030	4 100	1 460	400	810

	Industrial Truck Drivers	5 620	8 650	5 240	9 420	13 170	2 570	1 070	1 090
	Insulation Workers	600	180	170	190	670	430	70	0
	Roofers	2 770	1 150	1 110	1 460	2 330	870	370	350
	Total	**49 530**	**35 430**	**28 900**	**46 750**	**56 260**	**19 890**	**9 990**	**10 360**
	Percent of Regional	**19.3 %**	**13.8 %**	**11.2 %**	**18.2 %**	**21.9 %**	**7.7 %**	**3.9 %**	**4.0 %**
	Percent of National	**1.8 %**	**1.3 %**	**1.0 %**	**1.7 %**	**2.0 %**	**0.7 %**	**0.4 %**	**0.4 %**
Mass Transit	Bus Drivers	3 520	1 560	490	3 250	2 660	600	180	450
	Civil Engineers	7 330	1 550	1 740	2 890	4 620	1 450	910	820
	Dispatchers	2 690	1 790	1 620	3 230	4 420	2 040	790	420
	Electricians	11 720	6 810	5 360	9 270	9 940	4 450	2 020	1 550
	Engine Assemblers	590	520	**	280	0	130	0	410
	First-Line Transportation Supervisors	2 720	2 480	2 220	3 950	3 540	1 310	880	430
	Metal Fabricators	820	1 450	1 920	670	1 480	590	170	250
	Production Helpers	3 820	4 950	3 380	7 990	7 390	1 300	670	40
	Rail Track Layers	150	180	270	620	320	310	110	50
	Welders	3 230	6 120	4 600	7 430	7 450	3 520	2 030	2 170
	Total	**36 590**	**27 410**	**21 600**	**39 580**	**41 820**	**15 700**	**7 760**	**6 590**
	Percent of Regional	**18.6 %**	**13.9 %**	**11.0 %**	**20.1 %**	**21.2 %**	**8.0 %**	**3.9 %**	**3.3 %**
	Percent of National	**1.7 %**	**1.3 %**	**1.0 %**	**1.9 %**	**2.0 %**	**0.7 %**	**0.4 %**	**0.3 %**
Energy-Efficient Automobiles	Computer Software Engineers	19 960	4 200	2 840	14 690	11 970	3 330	750	620
	Computer Software Engineers	13 810	2 090	3 080	7 680	4 450	2 690	**	200
	Computer-Controlled Machine Operators	6 360	1 110	810	7 750	3 950	570	200	160
	Electrical Engineers	**	1 220	1 500	4 270	3 520	560	260	170

	Engine Assemblers	590	520	**	280	0	130	0	410
	Engineering Technicians	1 080	300	380	1 170	340	170	**	**
	Metal Fabricators	820	1 450	1 920	670	1 480	590	170	250
	Operations Managers	39 790	12 340	17 380	30 150	38 720	7 700	4 320	3 140
	Production Helpers	3 820	4 950	3 380	7 990	7 390	1 300	670	40
	Transportation Equipment Painters	800	320	520	870	1 250	360	100	110
	Welders	3 230	6 120	4 600	7 430	7 450	3 520	2 030	2 170
	Total	**90 260**	**34 620**	**36 410**	**82 950**	**80 520**	**20 920**	**8 500**	**7 270**
	Percent of Regional	**25.0 %**	**9.6 %**	**10.1 %**	**22.9 %**	**22.3 %**	**5.8 %**	**2.4 %**	**2.0 %**
	Percent of National	**2.4 %**	**0.9 %**	**1.0 %**	**2.2 %**	**2.2 %**	**0.6 %**	**0.2 %**	**0.2 %**
Wind Power	Construction Equipment Operators	7 020	4 780	6 190	7 720	6 570	2 500	2 210	1 590
	Electrical Equipment Assemblers	2 960	1 950	1 910	5 070	2 740	1 170	**	1 140
	Environmental Engineers	1 250	170	380	430	790	300	80	170
	First-Line Production Supervisors	5 480	8 460	7 830	12 460	11 210	4 460	1 330	1 290
	Industrial Production Managers	1 010	2 160	1 470	4 470	2 480	960	240	310
	Industrial Truck Drivers	5 620	8 650	5 240	9 420	13 170	2 570	1 070	1 090
	Iron and Steel Workers	1 140	850	760	750	1 340	730	270	360
	Machinists	3 970	4 900	4 100	8 970	5 580	2 480	610	680
	Millwrights	420	840	470	1 110	670	230	130	70
	Sheet Metal Workers	2 320	1 260	3 520	2 530	2 980	910	710	520
	Total	**31 190**	**34 020**	**31 870**	**52 930**	**47 530**	**16 310**	**6 650**	**7 220**
	Percent of Regional	**13.7 %**	**14.9 %**	**14.0 %**	**23.2 %**	**20.9 %**	**7.2 %**	**2.9 %**	**3.2 %**
	Percent of National	**1.3 %**	**1.4 %**	**1.3 %**	**2.2 %**	**2.0 %**	**0.7 %**	**0.3 %**	**0.3 %**

Solar Power	Construction Equipment Operators	7 020	4 780	6 190	7 720	6 570	2 500	2 210	1 590
	Construction Managers	3 300	1 900	1 860	2 050	2 930	1 470	530	220
	Electrical Engineers	**	1 220	1 500	4 270	3 520	560	260	170
	Electrical Equipment Assemblers	2 960	1 950	1 910	5 070	2 740	1 170	**	1 140
	Electricians	11 720	6 810	5 360	9 270	9 940	4 450	2 020	1 550
	Industrial Machinery Mechanics	3 890	4 430	3 260	6 230	5 000	1 930	850	720
	Installation Helpers	900	630	1 230	2 570	1 570	420	570	30
	Laborers	22 810	22 660	19 710	30 120	35 550	16 260	4 910	6 880
	Metal Fabricators	820	1 450	1 920	670	1 480	590	170	250
	Welders	3 230	6 120	4 600	7 430	7 450	3 520	2 030	2 170
	Total	**56 650**	**51 950**	**47 540**	**75 400**	**76 750**	**32 870**	**13 550**	**14 720**
	Percent of Regional	**15.3 %**	**14.1 %**	**12.9 %**	**20.4 %**	**20.8 %**	**8.9 %**	**3.7 %**	**4.0 %**
	Percent of National	**1.4 %**	**1.2 %**	**1.1 %**	**1.8 %**	**1.8 %**	**0.8 %**	**0.3 %**	**0.4 %**
Cellulosic Biofuels	Agricultural and Forestry Supervisors	130	330	130	230	190	220	90	30
	Agricultural Inspectors	190	470	290	300	300	350	90	0
	Agricultural Workers	70	620	0	560	80	0	120	0
	Chemical Engineers	550	190	200	320	360	120	**	0
	Chemical Equipment Operators	340	1 090	460	410	740	250	0	250
	Chemical Technicians	1 050	450	540	460	900	160	280	90
	Chemists	1 560	500	720	1 430	1 970	270	70	90
	Farm Product Purchasers	110	440	210	460	180	410	360	370
	Industrial Truck Drivers	5 620	8 650	5 240	9 420	13 170	2 570	1 070	1 090
	Mixing and Blending Machine Operators	820	2 710	1 650	1 990	2 990	2 290	140	220

	Total	**10 440**	**15 450**	**9 440**	**15 580**	**20 880**	**6 640**	**2 220**	**2 140**
	Percent of Regional	**12.6 %**	**18.7 %**	**11.4 %**	**18.8 %**	**25.2 %**	**8.0 %**	**2.7 %**	**2.6 %**
	Percent of National	**1.2 %**	**1.7 %**	**1.0 %**	**1.7 %**	**2.3 %**	**0.7 %**	**0.2 %**	**0.2 %**
National Data	**Total**	**207 170**	**132 720**	**120 490**	**224 510**	**229 960**	**80 440**	**32 210**	**33 020**
	Percent of Regional	**19.5 %**	**12.5 %**	**11.4 %**	**21.2 %**	**21.7 %**	**7.6 %**	**3.0 %**	**3.1 %**
	Percent of National	**1.8 %**	**1.1 %**	**1.0 %**	**1.9 %**	**2.0 %**	**0.7 %**	**0.3 %**	**0.3 %**

5.8: Traditional Energy Sector Employment for Region 2 (Midwest), Division 4 (West North Central)

Traditional Energy Sector	Representative Jobs	Colorado	Iowa	Kansas	Minnesota	Missouri	Nebraska	North Dakota	South Dakota
Oil and Gas	Derrick Operators	270	0	260	0	0	0	0	0
	Geologists	1 830	50	230	110	180	70	0	60
	Helpers--Extraction Workers	1 000	0	310	120	180	0	220	60
	Petroleum Engineers	1 020	0	120	0	0	0	**	0
	Petroleum Technicians	660	0	100	0	0	0	0	0
	Refinery Operators	520	120	1 090	**	240	40	0	40
	Rotary Drill Operators	1 330	0	270	0	0	0	0	0
	Roustabouts	3 190	0	1 540	0	0	**	0	0
	Service Unit Operators	1 050	0	1 290	0	0	100	0	0
	Wellhead Pumpers	270	0	470	0	0	**	500	0
	Total	**11 140**	**170**	**5 680**	**230**	**600**	**210**	**720**	**160**
	Percent of Regional	**58.9 %**	**0.9 %**	**30.0 %**	**1.2 %**	**3.2 %**	**1.1 %**	**3.8 %**	**0.8 %**
	Percent of National	**4.0 %**	**0.1 %**	**2.0 %**	**0.1 %**	**0.2 %**	**0.1 %**	**0.3 %**	**0.1 %**

5.9: Green Sector Employment for Region 3 (South), Division 5 (South Atlantic)

Green Sector	Representative Jobs	Delaware	Florida	Georgia	Maryland	North Carolina	South Carolina	Virginia	West Virginia
Building Retrofitting	Building Inspectors	390	5 790	2 360	2 480	2 770	1 070	3 020	240
	Carpenter Helpers	160	1 830	970	1 510	2 120	1 090	2 700	520
	Carpenters	1 800	30 330	12 520	12 400	15 210	7 400	18 390	4 220
	Construction Equipment Operators	1 150	13 570	10 970	6 020	8 720	4 650	9 490	7 360
	Construction Managers	600	13 770	5 810	6 100	6 660	3 040	5 970	390
	Electricians	1 580	27 810	13 470	13 700	13 980	6 210	17 940	5 020
	Heating/Air Conditioning Installers	980	17 890	6 480	5 230	8 080	3 790	8 280	1 290
	Industrial Truck Drivers	980	20 010	24 710	7 100	17 330	8 650	11 540	1 920
	Insulation Workers	**	1 520	990	370	610	390	570	90
	Roofers	200	0	2 140	1 750	2 590	1 220	2 200	530
	Total	**7 840**	**132 520**	**80 420**	**56 660**	**78 070**	**37 510**	**80 100**	**21 580**
	Percent of Regional	**1.6 %**	**26.8 %**	**16.3 %**	**11.5 %**	**15.8 %**	**7.6 %**	**16.2 %**	**4.4 %**
	Percent of National	**0.3 %**	**4.8 %**	**2.9 %**	**2.0 %**	**2.8 %**	**1.4 %**	**2.9 %**	**0.8 %**
Mass Transit	Bus Drivers	160	8 990	3 570	3 750	3 070	1 130	5 150	830
	Civil Engineers	980	14 190	5 540	6 500	5 290	4 190	9 460	1 260
	Dispatchers	890	9 500	5 740	3 190	4 260	1 940	4 190	660
	Electricians	1 580	27 810	13 470	13 700	13 980	6 210	17 940	5 020
	Engine Assemblers	0	710	560	140	580	1 030	640	0
	First-Line Transportation Supervisors	540	9 920	6 740	3 550	8 140	2 580	5 500	1 620
	Metal Fabricators	200	3 150	1 930	1 010	1 830	1 640	1 660	470
	Production Helpers	790	9 780	13 870	4 800	15 330	8 980	8 230	1 970
	Rail Track Layers	70	340	130	0	100	180	270	0
	Welders	480	10 950	7 710	2 580	6 890	4 820	1 830	2 420
	Total	**5 690**	**95 340**	**59 260**	**39 220**	**59 470**	**32 700**	**54 870**	**14 250**
	Percent of Regional	**1.6 %**	**26.4 %**	**16.4 %**	**10.9 %**	**16.5 %**	**9.1 %**	**15.2 %**	**3.9 %**

	Percent of National	**0.3 %**	**4.5 %**	**2.8 %**	**1.8 %**	**2.8 %**	**1.5 %**	**2.6 %**	**0.7 %**
Energy-Efficient Automobiles	Computer Software Engineers	1 840	20 340	10 820	12 170	14 780	2 770	4 890	640
	Computer Software Engineers	1 240	13 480	9 230	12 820	10 380	1 400	28 110	420
	Computer-Controlled Machine Operators	170	4 720	3 570	12 380	3 350	1 290	9 330	1 390
	Electrical Engineers	840	7 170	2 970	3 590	2 230	2 210	7 170	320
	Engine Assemblers	0	710	560	140	580	1 030	640	0
	Engineering Technicians	**	2 130	1 030	2 940	990	410	3 030	310
	Metal Fabricators	200	3 150	1 930	1 010	1 830	1 640	1 660	470
	Operations Managers	4 140	61 830	73 380	51 990	49 630	20 680	51 920	8 680
	Production Helpers	790	9 780	13 870	4 800	15 330	8 980	8 230	1 970
	Transportation Equipment Painters	130	0	1 260	800	1 100	700	1 370	100
	Welders	480	10 950	7 710	2 580	6 890	4 820	1 830	2 420
	Total	**9 830**	**134 260**	**126 330**	**105 220**	**107 090**	**45 930**	**118 180**	**16 720**
	Percent of Regional	**1.5 %**	**20.2 %**	**19.0 %**	**15.9 %**	**16.1 %**	**6.9 %**	**17.8 %**	**2.5 %**
	Percent of National	**0.3 %**	**3.6 %**	**3.4 %**	**2.8 %**	**2.9 %**	**1.2 %**	**3.2 %**	**0.4 %**
Wind Power	Construction Equipment Operators	1 150	13 570	10 970	6 020	8 720	4 650	9 490	7 360
	Electrical Equipment Assemblers	**	9 070	2 580	3 050	5 410	2 130	3 350	570
	Environmental Engineers	130	3 100	1 410	1 130	1 040	970	1 930	190
	First-Line Production Supervisors	1 400	18 930	17 710	6 710	21 110	10 080	12 800	2 820
	Industrial Production Managers	370	2 850	3 310	1 430	4 650	2 730	2 320	450
	Industrial Truck Drivers	980	20 010	24 710	7 100	17 330	8 650	11 540	1 920
	Iron and Steel Workers	230	2 460	2 130	760	1 010	670	29 740	350
	Machinists	450	8 070	6 980	2 860	10 920	6 210	7 340	2 050
	Millwrights	120	1 010	1 280	270	1 000	1 010	880	270
	Sheet Metal Workers	540	5 560	5 870	3 070	5 180	2 060	**	640
	Total	**5 370**	**84 630**	**76 950**	**32 400**	**76 370**	**39 160**	**79 390**	**16 620**

	Percent of Regional	**1.3 %**	**20.6 %**	**18.7 %**	**7.9 %**	**18.6 %**	**9.5 %**	**19.3 %**	**4.0 %**
	Percent of National	**0.2 %**	**3.6 %**	**3.2 %**	**1.4 %**	**3.2 %**	**1.6 %**	**3.3 %**	**0.7 %**
Solar Power	Construction Equipment Operators	1 150	13 570	10 970	6 020	8 720	4 650	9 490	7 360
	Construction Managers	600	13 770	5 810	6 100	6 660	3 040	5 970	390
	Electrical Engineers	840	7 170	2 970	3 590	2 230	2 210	7 170	320
	Electrical Equipment Assemblers	**	9 070	2 580	3 050	5 410	2 130	3 350	570
	Electricians	1 580	27 810	13 470	13 700	13 980	6 210	17 940	5 020
	Industrial Machinery Mechanics	680	10 980	7 860	3 190	7 560	5 910	7 370	2 190
	Installation Helpers	370	6 950	4 680	4 210	5 260	2 880	4 080	630
	Laborers	5 450	78 220	76 040	33 410	70 080	31 990	43 270	14 120
	Metal Fabricators	200	3 150	1 930	1 010	1 830	1 640	1 660	470
	Welders	480	10 950	7 710	2 580	6 890	4 820	1 830	2 420
	Total	**11 350**	**181 640**	**134 020**	**76 860**	**128 620**	**65 480**	**102 130**	**33 490**
	Percent of Regional	**1.5 %**	**24.8 %**	**18.3 %**	**10.5 %**	**17.5 %**	**8.9 %**	**13.9 %**	**4.6 %**
	Percent of National	**0.3 %**	**4.4 %**	**3.2 %**	**1.8 %**	**3.1 %**	**1.6 %**	**2.4 %**	**0.8 %**
Cellulosic Biofuels	Agricultural and Forestry Supervisors	80	980	560	190	700	310	520	50
	Agricultural Inspectors	0	670	530	160	480	230	300	0
	Agricultural Workers	0	**	510	0	**	0	160	0
	Chemical Engineers	710	520	360	620	630	920	630	200
	Chemical Equipment Operators	510	1 350	610	480	1 860	1 310	1 560	1 100
	Chemical Technicians	620	2 250	1 280	730	1 460	1 280	930	590
	Chemists	1 910	2 110	1 440	3 550	3 360	820	1 550	420
	Farm Product Purchasers	0	330	160	370	130	**	70	0
	Industrial Truck Drivers	980	20 010	24 710	7 100	17 330	8 650	11 540	1 920
	Mixing and Blending Machine Operators	180	4 810	4 260	940	5 520	2 800	2 050	590
	Total	**4 990**	**33 030**	**34 420**	**14 140**	**31 470**	**16 320**	**19 310**	**4 870**
	Percent of Regional	**3.1 %**	**20.8 %**	**21.7 %**	**8.9 %**	**19.8 %**	**10.3 %**	**12.2 %**	**3.1 %**

	Percent of National	**0.6 %**	**3.7 %**	**3.8 %**	**1.6 %**	**3.5 %**	**1.8 %**	**2.1 %**	**0.5 %**
National Data	**Total**	**34 060**	**469 940**	**368 030**	**246 000**	**353 380**	**167 770**	**343 700**	**69 900**
	Percent of Regional	**1.7 %**	**22.9 %**	**17.9 %**	**12.0 %**	**17.2 %**	**8.2 %**	**16.7 %**	**3.4 %**
	Percent of National	**0.3 %**	**4.0 %**	**3.2 %**	**2.1 %**	**3.0 %**	**1.4 %**	**3.0 %**	**0.6 %**

5.10: Traditional Energy Sector Employment for Region 3 (South), Division 5 (South Atlantic)

Traditional Energy Sector	Representative Jobs	Delaware	Florida	Georgia	Maryland	North Carolina	South Carolina	Virginia	West Virginia
Oil and Gas	Derrick Operators	0	0	0	0	0	0	0	150
	Geologists	40	900	290	510	590	610	580	200
	Helpers--Extraction Workers	0	200	190	**	100	70	320	1 960
	Petroleum Engineers	0	2 880	0	0	0	40	130	130
	Petroleum Technicians	0	40	40	0	0	30	70	**
	Refinery Operators	0	150	220	90	130	90	190	80
	Rotary Drill Operators	0	9 910	0	**	0	0		500
	Roustabouts	0	40	0	0	0	0	0	710
	Service Unit Operators	0	40	40	0	0	0	110	570
	Wellhead Pumpers	0	0	0	0	0	0	1 370	1 010
	Total	**40**	**14 160**	**780**	**600**	**820**	**840**	**2 770**	**5 310**
	Percent of Regional	**0.2 %**	**55.9 %**	**3.1 %**	**2.4 %**	**3.2 %**	**3.3 %**	**10.9 %**	**21.0 %**
	Percent of National	**0.0 %**	**5.0 %**	**0.3 %**	**0.2 %**	**0.3 %**	**0.3 %**	**1.0 %**	**1.9 %**

5.11: Green Sector Employment for Region 3 (South), Division 6 (East South Central)

Green Sector	Representative Jobs	Alabama	Kentucky	Mississippi	Tennessee
Building Retrofitting	Building Inspectors	1 660	830	530	1 260
	Carpenter Helpers	1 250	850	660	530
	Carpenters	8 310	8 260	4 780	8 630
	Construction Equipment Operators	6 460	7 020	3 780	5 520
	Construction Managers	2 010	2 890	1 350	3 850
	Electricians	8 070	8 050	5 080	10 800
	Heating/Air Conditioning Installers	3 790	3 100	1 540	3 960
	Industrial Truck Drivers	9 910	12 380	5 990	16 390
	Insulation Workers	390	380	370	230
	Roofers	9 910	12 380	5 990	16 390
	Total	**51 760**	**56 140**	**30 070**	**67 560**
	Percent of Regional	**25.2 %**	**27.3 %**	**14.6 %**	**32.9 %**
	Percent of National	**1.9 %**	**2.0 %**	**1.1 %**	**2.4 %**
Mass Transit	Bus Drivers	1 770	1 740	860	2 380
	Civil Engineers	3 730	2 380	1 960	2 970
	Dispatchers	2 350	1 890	1 470	3 800
	Electricians	8 070	8 050	5 080	10 800
	Engine Assemblers	1 570	330	**	280
	First-Line Transportation Supervisors	3 300	3 530	2 250	4 370
	Metal Fabricators	2 300	490	1 330	1 530
	Production Helpers	12 570	8 130	6 130	13 720
	Rail Track Layers	150	180	180	100
	Welders	7 780	5 800	6 170	6 810
	Total	**43 590**	**32 520**	**25 430**	**46 760**
	Percent of Regional	**29.4 %**	**21.9 %**	**17.1 %**	**31.5 %**
	Percent of National	**2.0 %**	**1.5 %**	**1.2 %**	**2.2 %**
Energy-Efficient Automobiles	Computer Software Engineers	3 480	4 020	550	3 430
	Computer Software Engineers	4 110	2 800	240	2 560

	Computer-Controlled Machine Operators	1 920	1 180	500	2 040
	Electrical Engineers	4 000	1 170	690	2 220
	Engine Assemblers	1 570	330	**	280
	Engineering Technicians	1 230	590	0	550
	Metal Fabricators	2 300	490	1 330	1 530
	Operations Managers	30 870	22 820	15 460	36 190
	Production Helpers	12 570	8 130	6 130	13 720
	Transportation Equipment Painters	950	730	880	590
	Welders	7 780	5 800	6 170	6 810
	Total	**70 780**	**48 060**	**31 950**	**69 920**
	Percent of Regional	**32.1 %**	**21.8 %**	**14.5 %**	**31.7 %**
	Percent of National	**1.9 %**	**1.3 %**	**0.9 %**	**1.9 %**
Wind Power	Construction Equipment Operators	6 460	7 020	3 780	5 520
	Electrical Equipment Assemblers	1 730	1 290	1 440	1 610
	Environmental Engineers	1 000	420	470	1 070
	First-Line Production Supervisors	11 690	10 780	6 290	15 040
	Industrial Production Managers	2 180	3 180	1 340	2 940
	Industrial Truck Drivers	9 910	12 380	5 990	16 390
	Iron and Steel Workers	1 310	940	960	1 130
	Machinists	5 910	6 250	1 620	7 650
	Millwrights	1 120	550	630	1 440
	Sheet Metal Workers	2 610	760	1 310	2 960
	Total	**43 920**	**43 570**	**23 830**	**55 750**
	Percent of Regional	**26.3 %**	**26.1 %**	**14.3 %**	**33.4 %**
	Percent of National	**1.8 %**	**1.8 %**	**1.0 %**	**2.3 %**
Solar Power	Construction Equipment Operators	6 460	7 020	3 780	5 520
	Construction Managers	2 010	2 890	1 350	3 850
	Electrical Engineers	4 000	1 170	690	2 220
	Electrical Equipment Assemblers	1 730	1 290	1 440	1 610
	Electricians	8 070	8 050	5 080	10 800
	Industrial Machinery Mechanics	8 520	7 310	2 710	6 520
	Installation Helpers	3 970	1 250	1 300	2 280

	Laborers	33 600	34 860	21 480	65 370
	Metal Fabricators	2 300	490	1 330	1 530
	Welders	7 780	5 800	6 170	6 810
	Total	**78 440**	**70 130**	**45 330**	**106 510**
	Percent of Regional	**26.1 %**	**23.3 %**	**15.1 %**	**35.5 %**
	Percent of National	**1.9 %**	**1.7 %**	**1.1 %**	**2.6 %**
Cellulosic Biofuels	Agricultural and Forestry Supervisors	410	400	270	170
	Agricultural Inspectors	**	0	320	0
	Agricultural Workers	310	60	150	190
	Chemical Engineers	340	400	120	600
	Chemical Equipment Operators	1 030	1 490	220	1 130
	Chemical Technicians	1 210	490	310	1 420
	Chemists	570	710	280	1 120
	Farm Product Purchasers	130	160	50	100
	Industrial Truck Drivers	9 910	12 380	5 990	16 390
	Mixing and Blending Machine Operators	1 730	1 910	1 320	4 450
	Total	**15 640**	**18 000**	**9 030**	**25 570**
	Percent of Regional	**22.9 %**	**26.4 %**	**13.2 %**	**37.5 %**
	Percent of National	**1.7 %**	**2.0 %**	**1.0 %**	**2.8 %**
National Data	**Total**	**213 210**	**187 130**	**111 330**	**268 290**
	Percent of Regional	**27.3 %**	**24.0 %**	**14.3 %**	**34.4 %**
	Percent of National	**1.8 %**	**1.6 %**	**1.0 %**	**2.3 %**

5.12: Traditional Energy Sector Employment for Region 3 (South), Division 6 (East South Central)

Traditional Energy Sector	Representative Jobs	Alabama	Kentucky	Mississippi	Tennessee
Oil and Gas	Derrick Operators	30	0	340	0
	Geologists	200	280	490	250
	Helpers--Extraction Workers	370	1 260	360	80
	Petroleum Engineers	**	130	220	40
	Petroleum Technicians	100	0	100	70

	Refinery Operators	490	**	890	150
	Rotary Drill Operators	390	380	370	230
	Roustabouts	40	160	800	**
	Service Unit Operators	80	180	290	40
	Wellhead Pumpers	0	160	0	0
	Total	**1 700**	**2 550**	**3 860**	**860**
	Percent of Regional	**19.0 %**	**28.4 %**	**43.0 %**	**9.6 %**
	Percent of National	**0.6 %**	**0.9 %**	**1.4 %**	**0.3 %**

5.13: Green Sector Employment for Region 3 (South), Division 7 (West South Central)

Green Sector	Representative Jobs	Arkansas	Louisiana	Oklahoma	Texas
Building Retrofitting	Building Inspectors	720	900	870	6 430
	Carpenter Helpers	660	1 910	640	3 230
	Carpenters	3 740	11 750	6 490	30 820
	Construction Equipment Operators	4 350	8 960	4 480	32 960
	Construction Managers	1 440	2 970	1 970	25 430
	Electricians	4 450	10 100	6 660	43 340
	Heating/Air Conditioning Installers	2 360	3 410	2 750	18 920
	Industrial Truck Drivers	7 840	6 400	4 770	41 120
	Insulation Workers	320	**	380	2 100
	Roofers	630	690	1 170	**
	Total	**26 510**	**47 090**	**30 180**	**204 350**
	Percent of Regional	**8.6 %**	**15.3 %**	**9.8 %**	**66.3 %**
	Percent of National	**1.0 %**	**1.7 %**	**1.1 %**	**7.4 %**
Mass Transit	Bus Drivers	350	1 350	1 070	12 200
	Civil Engineers	1 520	3 890	2 010	21 880
	Dispatchers	1 830	4 640	1 710	18 920
	Electricians	4 450	10 100	6 660	43 340
	Engine Assemblers	480	100	260	2 780
	First-Line Transportation Supervisors	2 050	2 860	3 000	15 510

	Metal Fabricators	940	2 270	1 470	10 640
	Production Helpers	12 160	6 630	5 650	30 810
	Rail Track Layers	190	290	500	0
	Welders	4 670	13 600	9 870	44 380
	Total	**28 640**	**45 730**	**32 200**	**200 460**
	Percent of Regional	**9.3 %**	**14.9 %**	**10.5 %**	**65.3 %**
	Percent of National	**1.3 %**	**2.1 %**	**1.5 %**	**9.4 %**
Energy-Efficient Automobiles	Computer Software Engineers	1 360	830	2 470	34 810
	Computer Software Engineers	1 060	850	1 340	33 630
	Computer-Controlled Machine Operators	660	1 420	1 200	9 000
	Electrical Engineers	680	1 100	1 460	10 750
	Engine Assemblers	480	100	260	2 780
	Engineering Technicians	280	1 620	880	6 460
	Metal Fabricators	940	2 270	1 470	10 640
	Operations Managers	14 690	31 610	26 840	155 180
	Production Helpers	12 160	6 630	5 650	30 810
	Transportation Equipment Painters	600	690	700	3 730
	Welders	4 670	13 600	9 870	44 380
	Total	**37 580**	**60 720**	**52 140**	**342 170**
	Percent of Regional	**7.6 %**	**12.3 %**	**10.6 %**	**69.5 %**
	Percent of National	**1.0 %**	**1.6 %**	**1.4 %**	**9.2 %**
Wind Power	Construction Equipment Operators	4 350	8 960	4 480	32 960
	Electrical Equipment Assemblers	760	310	1 280	17 690
	Environmental Engineers	160	510	330	2 940
	First-Line Production Supervisors	6 500	8 940	6 890	45 030
	Industrial Production Managers	1 520	1 750	1 970	11 240
	Industrial Truck Drivers	7 840	6 400	4 770	41 120
	Iron and Steel Workers	630	1 890	700	6 360
	Machinists	3 720	5 510	5 440	28 660
	Millwrights	760	600	110	2 300
	Sheet Metal Workers	1 360	1 660	3 540	11 190
	Total	**27 600**	**36 530**	**29 510**	**199 490**

	Percent of Regional	**9.4 %**	**12.5 %**	**10.1 %**	**68.1 %**
	Percent of National	**1.2 %**	**1.5 %**	**1.2 %**	**8.4 %**
Solar Power	Construction Equipment Operators	4 350	8 960	4 480	32 960
	Construction Managers	1 440	2 970	1 970	25 430
	Electrical Engineers	680	1 100	1 460	10 750
	Electrical Equipment Assemblers	760	310	1 280	17 690
	Electricians	4 450	10 100	6 660	43 340
	Industrial Machinery Mechanics	4 880	6 610	4 520	30 220
	Installation Helpers	2 110	4 080	2 620	12 220
	Laborers	23 830	38 780	23 910	168 680
	Metal Fabricators	940	2 270	1 470	10 640
	Welders	4 670	13 600	9 870	44 380
	Total	**48 110**	**88 780**	**58 240**	**396 310**
	Percent of Regional	**8.1 %**	**15.0 %**	**9.8 %**	**67.0 %**
	Percent of National	**1.2 %**	**2.1 %**	**1.4 %**	**9.5 %**
Cellulosic Biofuels	Agricultural and Forestry Supervisors	320	330	360	940
	Agricultural Inspectors	430	0	130	910
	Agricultural Workers	260	150	**	270
	Chemical Engineers	130	1 100	250	5 030
	Chemical Equipment Operators	350	1 250	330	6 190
	Chemical Technicians	180	1 400	430	5 280
	Chemists	340	950	470	5 080
	Farm Product Purchasers	90	100	140	330
	Industrial Truck Drivers	7 840	6 400	4 770	41 120
	Mixing and Blending Machine Operators	1 170	820	1 230	8 790
	Total	**11 110**	**12 500**	**8 110**	**73 940**
	Percent of Regional	**10.5 %**	**11.8 %**	**7.7 &**	**70.0 %**
	Percent of National	**1.2 %**	**1.4 %**	**0.9 %**	**8.2 %**
National Data	**Total**	**119 530**	**197 580**	**145 260**	**984 380**
	Percent of Regional	**8.3 %**	**13.7 %**	**10.0 %**	**68.0 %**
	Percent of National	**1.0 %**	**1.7 %**	**1.2 %**	**8.5 %**

5.14: Traditional Energy Sector Employment for Region 3 (South), Division 7 (West South Central)

Traditional Energy Sector	Representative Jobs	Arkansas	Louisiana	Oklahoma	Texas
Oil and Gas	Derrick Operators	860	1 310	950	6 830
	Geologists	90	640	1 180	8 780
	Helpers--Extraction Workers	290	510	950	7 760
	Petroleum Engineers	50	2 490	2 840	15 510
	Petroleum Technicians	40	1 550	840	5 520
	Refinery Operators	350	6 610	1 830	13 260
	Rotary Drill Operators	730	1 100	2 080	7 360
	Roustabouts	830	4 010	4 670	18 670
	Service Unit Operators	560	4 000	2 990	16 880
	Wellhead Pumpers	110	1 320	1 380	3 810
	Total	**3 910**	**23 540**	**19 710**	**104 380**
	Percent of Regional	**2.6 %**	**15.5 %**	**13.0 %**	**68.9 %**
	Percent of National	**1.4 %**	**8.4 %**	**7.0 %**	**37.1 %**

5.15: Green Sector Employment for Region 4 (West), Division 8 (Mountain)

Green Sector	Representative Jobs	Arizona	Idaho	Montana	Nevada	New Mexico	Utah	Wyoming
Building Retrofitting	Building Inspectors	2 520	420	220	1 130	400	630	340
	Carpenter Helpers	1 130	110	470	420	850	700	500
	Carpenters	13 660	4 790	4 100	9 140	4 290	7 420	2 630
	Construction Equipment Operators	7 600	1 900	2 530	2 690	3 900	5 210	4 430
	Construction Managers	3 390	1 070	580	2 290	1 540	1 550	410
	Electricians	8 460	2 950	1 950	4 500	2 860	5 230	2 810
	Heating/Air Conditioning Installers	4 560	1 170	620	1 150	500	1 590	410
	Industrial Truck Drivers	5 070	2 400	1 470	2 880	1 020	4 910	740
	Insulation Workers	420	220	320	120	160	650	90
	Roofers	120	70	440	970	1 350	1 060	340
	Total	**46 930**	**15 100**	**12 700**	**25 290**	**16 870**	**28 950**	**12 700**
	Percent of Regional	**29.6 %**	**9.5 %**	**8.0 %**	**16.0 %**	**10.6 %**	**18.3 %**	**8.0 %**
	Percent of National	**1.7 %**	**0.5 %**	**0.5 %**	**0.9 %**	**0.6 %**	**1.0 %**	**0.5 %**
Mass Transit	Bus Drivers	3 700	720	320	2 430	620	790	260
	Civil Engineers	3 740	990	1 230	2 870	1 530	2 460	830
	Dispatchers	3 500	640	570	2 080	710	1 650	270
	Electricians	8 460	2 950	1 950	4 500	2 860	5 230	2 810
	Engine Assemblers	0	40	0	50	100	**	0
	First-Line Transportation Supervisors	2 650	1 060	820	1 350	930	1 270	760
	Metal Fabricators	1 160	280	180	490	190	1 390	220
	Production Helpers	4 270	1 240	450	2 100	1 130	3 970	440
	Rail Track Layers	120	0	**	0	60	100	190
	Welders	3 300	2 010	960	1 480	2 020	3 380	2 250
	Total	**30 900**	**9 930**	**6 480**	**17 350**	**10 150**	**20 240**	**8 030**
	Percent of Regional	**30.0 %**	**9.6 %**	**6.3 %**	**16.8 %**	**9.8 %**	**19.6 %**	**7.8 %**

	Percent of National	**1.4 %**	**0.5 %**	**0.3 %**	**0.8 %**	**0.5 %**	**0.9 %**	**0.4 %**
Energy-Efficient Automobiles	Computer Software Engineers	6 580	1 470	490	1 510	1 150	4 100	180
	Computer Software Engineers	8 660	**	290	1 280	1 860	3 110	60
	Computer-Controlled Machine Operators							
	Electrical Engineers	4 530	1 440	420	470	990	1 180	250
	Engine Assemblers	0	40	0	50	100	**	0
	Engineering Technicians	1 300	0	280	340	890	460	170
	Metal Fabricators	1 160	280	180	490	190	1 390	220
	Operations Managers	41 910	11 890	5 070	15 340	13 720	23 010	5 170
	Production Helpers	4 270	1 240	450	2 100	1 130	3 970	440
	Transportation Equipment Painters	0	240	160	250	230	290	80
	Welders	3 300	2 010	960	1 480	2 020	3 380	2 250
	Total	**71 710**	**18 610**	**8 300**	**23 310**	**22 280**	**40 890**	**8 820**
	Percent of Regional	**37.0 %**	**9.6 %**	**4.3 %**	**12.0 %**	**11.5 %**	**21.1 %**	**4.5 %**
	Percent of National	**1.9 %**	**0.5 %**	**0.2 %**	**0.6 %**	**0.6 %**	**1.1 %**	**0.2 %**
Wind Power	Construction Equipment Operators	7 600	1 900	2 530	2 690	3 900	5 210	4 430
	Electrical Equipment Assemblers	3 640	730	250	550	1 750	2 740	30
	Environmental Engineers	750	330	210	250	790	600	330
	First-Line Production Supervisors	7 880	2 750	940	2 200	2 160	5 210	1 340
	Industrial Production Managers	1 630	630	110	620	320	880	180
	Industrial Truck Drivers	5 070	2 400	1 470	2 880	1 020	4 910	740
	Iron and Steel Workers	1 220	310	120	910	280	540	400
	Machinists	5 850	1 130	740	830	1 450	4 380	560
	Millwrights	250	360	170	190	30	190	190
	Sheet Metal Workers	2 560	570	710	1 280	590	1 560	320
	Total	**36 450**	**11 110**	**7 250**	**12 400**	**12 290**	**26 220**	**8 520**

	Percent of Regional	**31.9 %**	**9.7 %**	**6.3 %**	**10.9 %**	**10.8 %**	**23.0 %**	**7.5 %**
	Percent of National	**1.5 %**	**0.5 %**	**0.3 %**	**0.5 %**	**0.5 %**	**1.1 %**	**0.4 %**
Solar Power	Construction Equipment Operators	7 600	1 900	2 530	2 690	3 900	5 210	4 430
	Construction Managers	3 390	1 070	580	2 290	1 540	1 550	410
	Electrical Engineers	4 530	1 440	420	470	990	1 180	250
	Electrical Equipment Assemblers	3 640	730	250	550	1 750	2 740	30
	Electricians	8 460	2 950	1 950	4 500	2 860	5 230	2 810
	Industrial Machinery Mechanics	2 860	1 150	850	1 390	730	2 720	1 900
	Installation Helpers	2 310	760	310	880	800	1 280	320
	Laborers	32 870	7 030	4 270	18 790	10 090	17 680	3 070
	Metal Fabricators	1 160	280	180	490	190	1 390	220
	Welders	3 300	2 010	960	1 480	2 020	3 380	2 250
	Total	**70 120**	**19 320**	**12 300**	**33 530**	**24 870**	**42 360**	**15 690**
	Percent of Regional	**32.1 %**	**8.9 %**	**5.6 %**	**15.4 %**	**11.4 %**	**19.4 %**	**7.2 %**
	Percent of National	**1.7 %**	**0.5 %**	**0.3 %**	**0.8 %**	**0.6 %**	**1.0 %**	**0.4 %**
Cellulosic Biofuels	Agricultural and Forestry Supervisors	360	280	140	130	150	30	0
	Agricultural Inspectors	160	280	60	100	0	220	0
	Agricultural Workers	30	70	90	70	**	0	0
	Chemical Engineers	250	120	130	50	120	130	110
	Chemical Equipment Operators	180	**	190	110	120	410	40
	Chemical Technicians	900	180	80	960	250	680	260
	Chemists	1 010	250	200	270	390	960	100
	Farm Product Purchasers							
	Industrial Truck Drivers	5 070	2 400	1 470	2 880	1 020	4 910	740
	Mixing and Blending Machine Operators	760	280	220	420	350	1 330	130
	Total	**8 720**	**3 860**	**2 580**	**4 990**	**2 400**	**8 670**	**1 380**
	Percent of Regional	**26.7 %**	**11.8 %**	**7.9 %**	**15.3 %**	**7.4 %**	**26.6 %**	**4.2 %**

	Percent of National	**1.0 %**	**0.4 %**	**0.3 %**	**0.6 %**	**0.3 %**	**1.0 %**	**0.2 %**
National Data	**Total**	**197 820**	**54 330**	**33 730**	**87 330**	**63 370**	**117 650**	**33 110**
	Percent of Regional	**33.7 %**	**9.3 %**	**5.7 %**	**14.9 %**	**10.8 %**	**20.0 %**	**5.6 %**
	Percent of National	**1.7 %**	**0.5 %**	**0.3 %**	**0.8 %**	**0.5 %**	**1.0 %**	**0.3 %**

5.16: Traditional Energy Sector Employment for Region 4 (West), Division 8 (Mountain)

Traditional Energy Sector	Representative Jobs	Arizona	Idaho	Montana	Nevada	New Mexico	Utah	Wyoming
Oil and Gas	Derrick Operators	0	0	170	0	770	300	890
	Geologists	400	230	150	700	220	340	220
	Helpers--Extraction Workers	120	140	110	520	390	500	**
	Petroleum Engineers	840	0	**	0	270	80	530
	Petroleum Technicians	50	0	210	100	170	130	170
	Refinery Operators	40	50	240	80	690	570	680
	Rotary Drill Operators	3 030	580	140	0	530	420	1 360
	Roustabouts	**	0	110	**	2 870	1 090	2 400
	Service Unit Operators	0	0	60	60	1 600	300	1 360
	Wellhead Pumpers	0	0	500	0	710	110	390
	Total	**4 380**	**1 000**	**1 690**	**1 460**	**8 220**	**3 840**	**8 000**
	Percent of Regional	**16.2 %**	**3.2 %**	**5.9 %**	**3.5 %**	**29.1 %**	**12.4 %**	**29.7 %**
	Percent of National	**1.5 %**	**0.3 %**	**0.6 %**	**0.3 %**	**2.8 %**	**1.2 %**	**2.8 %**

5.17: Green Sector Employment for Region 4 (West), Division 9 (Pacific)

Green Sector	Representative Jobs	Alaska	California	Hawaii	Oregon	Washington
Building Retrofitting	Building Inspectors	290	8 930	620	1 330	2 340
	Carpenter Helpers	120	3 000	260	210	1 020
	Carpenters	3 020	63 610	5 030	9 840	21 610
	Construction Equipment Operators	2 280	21 610	1 560	3 450	7 380
	Construction Managers	790	19 270	920	2 270	3 980
	Electricians	2 100	44 130	2 490	5 580	12 620
	Heating/Air Conditioning Installers	540	15 870	720	2 360	3 790
	Industrial Truck Drivers	760	60 680	990	9 190	11 680
	Insulation Workers	90	1 300	0	240	880
	Roofers	210	12 510	420	1 930	3 690
	Total	**10 200**	**250 910**	**13 010**	**36 400**	**68 990**
	Percent of Regional	**2.7 %**	**66.1 %**	**3.4 %**	**9.6 %**	**18.2 %**
	Percent of National	**0.4 %**	**9.0 %**	**0.5 %**	**1.3 %**	**2.5 %**
Mass Transit	Bus Drivers	430	26 540	2 560	2 340	8 920
	Civil Engineers	1 510	36 120	1 870	3 820	12 000
	Dispatchers	590	19 710	810	2 290	3 740
	Electricians	2 100	44 130	2 490	5 580	12 620
	Engine Assemblers	0	1 480	0	280	810
	First-Line Transportation Supervisors	460	20 390	910	2 640	5 560
	Metal Fabricators	0	6 990	190	1 570	1 840
	Production Helpers	310	38 670	740	3 100	5 410
	Rail Track Layers	0	410	0	100	0
	Welders	720	21 180	460	4 020	5 360
	Total	**6 120**	**215 620**	**10 030**	**25 740**	**56 260**
	Percent of Regional	**2.0 %**	**68.7 %**	**3.2 %**	**8.2 %**	**17.9 %**
	Percent of National	**0.3 %**	**10.1 %**	**0.5 %**	**1.2 %**	**2.6 %**
Energy-Efficient Automobiles	Computer Software Engineers	720	78 150	760	7 470	27 130
	Computer Software Engineers	250	69 040	390	2 310	15 560
	Computer-Controlled Machine Operators					

	Electrical Engineers	810	18 320	620	1 920	4 230
	Engine Assemblers	0	1 480	0	280	810
	Engineering Technicians	490	9 580	570	1 130	3 300
	Metal Fabricators	0	6 990	190	1 570	1 840
	Operations Managers	7 540	226 480	9 750	19 560	22 150
	Production Helpers	310	38 670	740	3 100	5 410
	Transportation Equipment Painters	50	4 380	190	770	1 380
	Welders	720	21 180	460	4 020	5 360
	Total	**10 890**	**474 270**	**13 670**	**42 130**	**87 170**
	Percent of Regional	**1.7 %**	**75.5 %**	**2.2 %**	**6.7 %**	**13.9 %**
	Percent of National	**0.3 %**	**12.8 %**	**0.4 %**	**1.1 %**	**2.3 %**
Wind Power	Construction Equipment Operators	2 280	21 610	1 560	3 450	7 380
	Electrical Equipment Assemblers	0	21 500	0	6 020	3 590
	Environmental Engineers	370	6 080	220	510	1 690
	First-Line Production Supervisors	710	49 880	1 260	6 610	10 060
	Industrial Production Managers	90	16 750	160	2 220	2 490
	Industrial Truck Drivers	760	60 680	990	9 190	11 680
	Iron and Steel Workers	30	5 520	260	420	1 420
	Machinists	230	30 080	250	3 000	5 000
	Millwrights	150	1 950	0	620	1 300
	Sheet Metal Workers	360	12 600	570	2 180	2 840
	Total	**4 980**	**226 650**	**5 270**	**34 220**	**47 450**
	Percent of Regional	**1.6 %**	**71.1 %**	**1.7 %**	**10.7 %**	**14.9 %**
	Percent of National	**0.2 %**	**9.5 %**	**0.2 %**	**1.4 %**	**2.0 %**
Solar Power	Construction Equipment Operators	2 280	21 610	1 560	3 450	7 380
	Construction Managers	790	19 270	920	2 270	3 980
	Electrical Engineers	810	18 320	620	1 920	4 230
	Electrical Equipment Assemblers	0	21 500	0	6 020	3 590
	Electricians	2 100	44 130	2 490	5 580	12 620
	Industrial Machinery Mechanics	480	17 060	660	4 070	5 370
	Installation Helpers	560	11 830	650	1 660	2 900
	Laborers	5 030	228 010	7 930	22 780	38 320

	Metal Fabricators	0	6 990	190	1 570	1 840
	Welders	720	21 180	460	4 020	5 360
	Total	**12 770**	**409 900**	**15 480**	**53 340**	**85 590**
	Percent of Regional	**2.2 %**	**71.0 %**	**2.7 %**	**9.2 %**	**14.8 %**
	Percent of National	**0.3 %**	**9.8 %**	**0.4 %**	**1.3 %**	**2.1 %**
Cellulosic Biofuels	Agricultural and Forestry Supervisors	0	5 840	60	620	800
	Agricultural Inspectors	0	1 640	0	210	600
	Agricultural Workers	0	1 600	0	110	390
	Chemical Engineers	70	1 970	0	240	400
	Chemical Equipment Operators	0	2 490	**	200	300
	Chemical Technicians	100	6 730	30	310	1 040
	Chemists	160	10 870	140	560	1 910
	Farm Product Purchasers					
	Industrial Truck Drivers	760	60 680	990	9 190	11 680
	Mixing and Blending Machine Operators	**	12 240	80	680	1 090
	Total	**1 090**	**104 060**	**1 300**	**12 120**	**18 210**
	Percent of Regional	**0.8 %**	**76.1 %**	**1.0 %**	**8.9 %**	**13.3 %**
	Percent of National	**0.1 %**	**11.5 %**	**0.1 %**	**1.3 %**	**2.0 %**
National Data	**Total**	**32 420**	**1 272 990**	**45 100**	**142 740**	**267 890**
	Percent of Regional	**1.8 %**	**72.3 %**	**2.6 %**	**8.1 %**	**15.2 %**
	Percent of National	**0.3 %**	**10.9 %**	**0.4 %**	**1.2 %**	**2.3 %**

5.18: Traditional Energy Sector Employment for Region 4 (West), Division 9 (Pacific)

Traditional Energy Sector	Representative Jobs	Alaska	California	Hawaii	Oregon	Washington
Oil and Gas	Derrick Operators	170	2 080	0	0	0
	Geologists	410	3 930	220	300	900
	Helpers--Extraction Workers	380	1 020	0	60	90
	Petroleum Engineers	1 040	1 060	0	0	330
	Petroleum Technicians	200	1 280	40	0	80
	Refinery Operators	880	5 270	180	**	650
	Rotary Drill Operators	160	1 060	0	0	0
	Roustabouts	1 080	3 000	0	0	0
	Service Unit Operators	630	1 030	0	0	0
	Wellhead Pumpers	0	**	0	0	0
	Total	**4 950**	**19 730**	**440**	**360**	**2 050**
	Percent of Regional	**17.6 %**	**72.0 %**	**1.7 %**	**1.2 %**	**7.5 %**
	Percent of National	**1.6 %**	**6.6 %**	**0.2 %**	**0.1 %**	**0.7 %**

6.6 Percent of Total Sample (Green Sector and All Employment)

Exhibit 6 summarizes the divisional and national data outline in Exhibit 5 (Type: Green). It adds information concerning all occupations (Type: All). For example, 1.3% of the national labor force or 24.1% of the total workforce in Division 1 is employed in Connecticut. Data was extracted from the May 2010 State Cross-Industry Employment and Wage Estimates in the BLS Occupational Employment Statistics database.

Source: http://www.bls.gov/oes/oes_arch.htm

6.1: Green Sectors (Building Retrofitting, Mass Transit, Energy-Efficient Automobiles, and Wind Power)

Region	Division	State	Scope	Type	Building Retrofitting	Mass Transit	Energy-Efficient Automobiles	Wind Power
Region 1: Northeast	Division 1: New England	Connecticut	Divisional	Green	21.8 %	25.5 %	22.9 %	27.7 %
				All	24.1 %	24.1 %	24.1 %	24.1 %
			National	Green	0.9 %	1.1 %	1.4 %	1.3 %
				All	1.3 %	1.3 %	1.3 %	1.3 %
		Maine	Divisional	Green	13.6 %	10.8 %	7.8 %	10.6 %
				All	8.7 %	8.7 %	8.7 %	8.7 %
			National	Green	0.6 %	0.4 %	0.5 %	0.5 %
				All	0.5 %	0.5 %	0.5 %	0.5 %
		Massachusetts	Divisional	Green	43.6 %	43.7 %	52.7 %	41.4 %
				All	47.0 %	47.0 %	47.0 %	47.0 %
			National	Green	1.8 %	1.8 %	3.2 %	2.0 %
				All	2.5 %	2.5 %	2.5 %	2.5 %
		New Hampshire	Divisional	Green	8.4 %	8.1 %	8.5 %	10.1 %
				All	9.1 %	9.1 %	9.1 %	9.1 %
			National	Green	0.4 %	0.3 %	0.5 %	0.5 %
				All	0.5 %	0.5 %	0.5 %	0.5 %
		Rhode Island	Divisional	Green	6.3 %	7.8 %	5.5 %	5.6 %
				All	6.8 %	6.8 %	6.8 %	6.8 %

			National	Green	0.3 %	0.3 %	0.3 %	0.3 %
				All	0.4 %	0.4 %	0.4 %	0.4 %
		Vermont	Divisional	Green	6.3 %	4.0 %	5.6 %	4.5 %
				All	4.3 %	4.3 %	4.3 %	4.3 %
			National	Green	0.3 %	0.2 %	0.2 %	0.2 %
				All	0.2 %	0.2 %	0.2 %	0.2 %
	Division 2: Mid-Atlantic	New Jersey	Divisional	Green	18.8 %	20.0 %	25.2 %	21.2 %
				All	21.4 %	21.4 %	21.4 %	21.4 %
			National	Green	2.4 %	2.5 %	2.9 %	2.4 %
				All	3.0 %	3.0 %	3.0 %	3.0 %
		New York	Divisional	Green	44.5 %	42.9 %	42.8 %	35.8 %
				All	47.4 %	47.4 %	47.4 %	47.4 %
			National	Green	5.7 %	5.4 %	4.9 %	4.0 %
				All	6.6 %	6.6 %	6.6 %	6.6 %
		Pennsylvania	Divisional	Green	36.7 %	37.1 %	32.0 %	43.0 %
				All	31.2 %	31.2 %	31.2 %	31.2 %
			National	Green	4.7 %	4.7 %	3.7 %	4.8 %
				All	4.3 %	4.3 %	4.3 %	4.3 %
Region 2: Midwest	Division 3: East North Central	Illinois	Divisional	Green	27.8 %	26.7 %	30.1 %	24.5 %
				All	28.3 %	28.3 %	28.3 %	28.3 %
			National	Green	5.0 %	4.3 %	4.1 %	4.8 %
				All	4.4 %	4.4 %	4.4 %	4.4 %
		Indiana	Divisional	Green	18.0 %	15.2 %	13.0 %	17.4 %
				All	13.9 %	13.9 %	13.9 %	13.9 %
			National	Green	3.2 %	2.5 %	1.8 %	3.4 %
				All	2.2 %	2.2 %	2.2 %	2.2 %
		Michigan	Divisional	Green	16.0 %	18.4 %	19.4 %	18.4 %
				All	19.2 %	19.2 %	19.2 %	19.2 %
			National	Green	2.9 %	3.0 %	2.7 %	3.6 %
				All	3.0 %	3.0 %	3.0 %	3.0 %
		Ohio	Divisional	Green	24.2 %	24.9 %	23.4 %	24.9 %
				All	25.2 %	25.2 %	25.2 %	25.2 %

			National	Green	4.4 %	4.1 %	3.2 %	4.9 %
				All	3.9 %	3.9 %	3.9 %	3.9 %
		Wisconsin	Divisional	Green	14.0 %	14.9 %	14.1 %	14.8 %
				All	13.4 %	13.4 %	13.4 %	13.4 %
			National	Green	2.5 %	2.4 %	1.9 %	2.9 %
				All	2.1 %	2.1 %	2.1 %	2.1 %
	Division 4: West North Central	Colorado	Divisional	Green	19.3 %	18.6 %	25.0 %	13.7 %
				All	18.4 %	18.4 %	18.4 %	18.4 %
			National	Green	1.8 %	1.7 %	2.4 %	1.3 %
				All	1.7 %	1.7 %	1.7 %	1.7 %
		Iowa	Divisional	Green	13.8 %	13.9 %	9.6 %	14.9 %
				All	12.3 %	12.3 %	12.3 %	12.3 %
			National	Green	1.3 %	1.3 %	0.9 %	1.4 %
				All	1.1 %	1.1 %	1.1 %	1.1 %
		Kansas	Divisional	Green	11.2 %	11.0 %	10.1 %	14.0 %
				All	11.2 %	11.2 %	11.2 %	11.2 %
			National	Green	1.0 %	1.0 %	1.0 %	1.3 %
				All	1.0 %	1.0 %	1.0 %	1.0 %
		Minnesota	Divisional	Green	18.2 %	20.1 %	22.9 %	23.2 %
				All	21.9 %	21.9 %	21.9 %	21.9 %
			National	Green	1.7 %	1.9 %	2.2 %	2.2 %
				All	2.0 %	2.0 %	2.0 %	2.0 %
		Missouri	Divisional	Green	21.9 %	21.2 %	22.3 %	20.9 %
				All	22.1 %	22.1 %	22.1 %	22.1 %
			National	Green	2.0 %	2.0 %	2.2 %	2.0 %
				All	2.0 %	2.0 %	2.0 %	2.0 %
		Nebraska	Divisional	Green	7.7 %	8.0 %	5.8 %	7.2 %
				All	7.7 %	7.7 %	7.7 %	7.7 %
			National	Green	0.7 %	0.7 %	0.6 %	0.7 %
				All	0.7 %	0.7 %	0.7 %	0.7 %
		North Dakota	Divisional	Green	3.9 %	3.9 %	2.4 %	2.9 %
				All	3.0 %	3.0 %	3.0 %	3.0 %

			National	Green	0.4 %	0.4 %	0.2 %	0.3 %
				All	0.3 %	0.3 %	0.3 %	0.3 %
		South Dakota	Divisional	Green	4.0 %	3.3 %	2.0 %	3.2 %
				All	3.3 %	3.3 %	3.3 %	3.3 %
			National	Green	0.4 %	0.3 %	0.2 %	0.3 %
				All	0.3 %	0.3 %	0.3 %	0.3 %
Region 3: South	Division 5: South Atlantic	Delaware	Divisional	Green	1.6 %	1.6 %	1.5 %	1.3 %
				All	1.7 %	1.7 %	1.7 %	1.7 %
			National	Green	0.3 %	0.3 %	0.3 %	0.2 %
				All	0.3 %	0.3 %	0.3 %	0.3 %
		Florida	Divisional	Green	26.8 %	26.4 %	20.2 %	20.6 %
				All	30.4 %	30.4 %	30.4 %	30.4 %
			National	Green	4.8 %	4.5 %	3.6 %	3.6 %
				All	5.6 %	5.6 %	5.6 %	5.6 %
		Georgia	Divisional	Green	16.3 %	16.4 %	19.0 %	18.7 %
				All	16.0 %	16.0 %	16.0 %	16.0 %
			National	Green	2.9 %	2.8 %	3.4 %	3.2 %
				All	3.0 %	3.0 %	3.0 %	3.0 %
		Maryland	Divisional	Green	11.5 %	10.9 %	15.9 %	7.9 %
				All	10.5 %	10.5 %	10.5 %	10.5 %
			National	Green	2.0 %	1.8 %	2.8 %	1.4 %
				All	1.9 %	1.9 %	1.9 %	1.9 %
		North Carolina	Divisional	Green	15.8 %	16.5 %	16.1 %	18.6 %
				All	16.1 %	16.1 %	16.1 %	16.1 %
			National	Green	2.8 %	2.8 %	2.9 %	3.2 %
				All	3.0 %	3.0 %	3.0 %	3.0 %
		South Carolina	Divisional	Green	7.6 %	9.1 %	6.9 %	9.5 %
				All	7.4 %	7.4 %	7.4 %	7.4 %
			National	Green	1.4 %	1.5 %	1.2 %	1.6 %
				All	1.4 %	1.4 %	1.4 %	1.4 %
		Virginia	Divisional	Green	16.2 %	15.2 %	17.8 %	19.3 %
				All	15.0 %	15.0 %	15.0 %	15.0 %

			National	Green	2.9 %	2.6 %	3.2 %	3.3 %
				All	2.8 %	2.8 %	2.8 %	2.8 %
		West Virginia	Divisional	Green	4.4 %	3.9 %	2.5 %	4.0 %
				All	2.9 %	2.9 %	2.9 %	2.9 %
			National	Green	0.8 %	0.7 %	0.4 %	0.7 %
				All	0.5 %	0.5 %	0.5 %	0.5 %
	Division 6: East South Central	Alabama	Divisional	Green	25.2 %	29.4 %	32.1 %	26.3 %
				All	25.2 %	25.2 %	25.2 %	25.2 %
			National	Green	1.9 %	2.0 %	1.9 %	1.8 %
				All	1.4 %	1.4 %	1.4 %	1.4 %
		Kentucky	Divisional	Green	27.3 %	21.9 %	21.8 %	26.1 %
				All	24.0 %	24.0 %	24.0 %	24.0 %
			National	Green	2.0 %	1.5 %	1.3 %	1.8 %
				All	1.4 %	1.4 %	1.4 %	1.4 %
		Mississippi	Divisional	Green	14.6 %	17.1 %	14.5 %	14.3 %
				All	14.9 %	14.9 %	14.9 %	14.9 %
			National	Green	1.1 %	1.2 %	0.9 %	1.0 %
				All	0.8 %	0.8 %	0.8 %	0.8 %
		Tennessee	Divisional	Green	32.9 %	31.5 %	31.7 %	33.4 %
				All	35.9 %	35.9 %	35.9 %	35.9 %
			National	Green	2.4 %	2.2 %	1.9 %	2.3 %
				All	2.0 %	2.0 %	2.0 %	2.0 %
	Division 7: West South Central	Arkansas	Divisional	Green	8.6 %	9.3 %	7.6 %	9.4 %
				All	7.8 %	7.8 %	7.8 %	7.8 %
			National	Green	1.0 %	1.3 %	1.0 %	1.2 %
				All	0.9 %	0.9 %	0.9 %	0.9 %
		Louisiana	Divisional	Green	15.3 %	14.9 %	12.3 %	12.5 %
				All	12.6 %	12.6 %	12.6 %	12.6 %
			National	Green	1.7 %	2.1 %	1.6 %	1.5 %
				All	1.4 %	1.4 %	1.4 %	1.4 %
		Oklahoma	Divisional	Green	9.8 %	10.5 %	10.6 %	10.1 %
				All	10.2 %	10.2 %	10.2 %	10.2 %

			National	Green	1.1 %	1.5 %	1.4 %	1.2 %
				All	1.2 %	1.2 %	1.2 %	1.2 %
		Texas	Divisional	Green	66.3 %	65.3 %	69.5 %	68.1 %
				All	69.4 %	69.4 %	69.4 %	69.4 %
			National	Green	7.4 %	9.4 %	9.2 %	8.4 %
				All	8.0 %	8.0 %	8.0 %	8.0 %
Region 4: West	Division 8: Mountain	Arizona	Divisional	Green	29.6 %	30.0 %	37.0 %	31.9 %
				All	35.4 %	35.4 %	35.4 %	35.4 %
			National	Green	1.7 %	1.4 %	1.9 %	1.5 %
				All	1.9 %	1.9 %	1.9 %	1.9 %
		Idaho	Divisional	Green	9.5 %	9.6 %	9.6 %	9.7 %
				All	8.9 %	8.9 %	8.9 %	8.9 %
			National	Green	0.5 %	0.5 %	0.5 %	0.5 %
				All	0.5 %	0.5 %	0.5 %	0.5 %
		Montana	Divisional	Green	8.0 %	6.3 %	4.3 %	6.3 %
				All	6.3 %	6.3 %	6.3 %	6.3 %
			National	Green	0.5 %	0.3 %	0.2 %	0.3 %
				All	0.3 %	0.3 %	0.3 %	0.3 %
		Nevada	Divisional	Green	16.0 %	16.8 %	12.0 %	10.9 %
				All	16.6 %	16.6 %	16.6 %	16.6 %
			National	Green	0.9 %	0.8 %	0.6 %	0.5 %
				All	0.9 %	0.9 %	0.9 %	0.9 %
		New Mexico	Divisional	Green	10.6 %	9.8 %	11.5 %	10.8 %
				All	11.6 %	11.6 %	11.6 %	11.6 %
			National	Green	0.6 %	0.5 %	0.6 %	0.5 %
				All	0.6 %	0.6 %	0.6 %	0.6 %
		Utah	Divisional	Green	18.3 %	19.6 %	21.1 %	23.0 %
				All	17.2 %	17.2 %	17.2 %	17.2 %
			National	Green	1.0 %	0.9 %	1.1 %	1.1 %
				All	0.9 %	0.9 %	0.9 %	0.9 %
		Wyoming	Divisional	Green	8.0 %	7.8 %	4.5 %	7.5 %
				All	4.0 %	4.0 %	4.0 %	4.0 %

			National	Green	0.5 %	0.4 %	0.2 %	0.4 %
				All	0.2 %	0.2 %	0.2 %	0.2 %
	Division 9: Pacific	Alaska	Divisional	Green	2.7 %	2.0 %	1.7 %	1.6 %
				All	1.6 %	1.6 %	1.6 %	1.6 %
			National	Green	0.4 %	0.3 %	0.3 %	0.2 %
				All	0.2 %	0.2 %	0.2 %	0.2 %
		California	Divisional	Green	66.1 %	68.7 %	75.5 %	71.1 %
				All	73.1 %	73.1 %	73.1 %	73.1 %
			National	Green	9.0 %	10.1 %	12.8 %	9.5 %
				All	11.1 %	11.1 %	11.1 %	11.1 %
		Hawaii	Divisional	Green	3.4 %	3.2 %	2.2 %	1.7 %
				All	3.0 %	3.0 %	3.0 %	3.0 %
			National	Green	0.5 %	0.5 %	0.4 %	0.2 %
				All	0.5 %	0.5 %	0.5 %	0.5 %
		Oregon	Divisional	Green	9.6 %	8.2 %	6.7 %	10.7 %
				All	8.2 %	8.2 %	8.2 %	8.2 %
			National	Green	1.3 %	1.2 %	1.1 %	1.4 %
				All	1.2 %	1.2 %	1.2 %	1.2 %
		Washington	Divisional	Green	18.2 %	17.9 %	13.9 %	14.9 %
				All	14.1 %	14.1 %	14.1 %	14.1 %
			National	Green	2.5 %	2.6 %	2.3 %	2.0 %
				All	2.1 %	2.1 %	2.1 %	2.1 %

6.2: Green Sectors (Solar Power, Cellulosic Biofuels, and All Green Employment) and Traditional Energy Sector

Region	Division	State	Scope	Type	Solar Power	Cellulosic Biofuels	All Green Employment	Oil and Gas
Region 1: Northeast	Division 1: New England	Connecticut	Divisional	Green	27.6 %	20.3 %	24.8 %	3.7 %
				All	24.1 %	24.1 %	24.1 %	24.1 %
			National	Green	1.1 %	0.8 %	1.2 %	0.0 %
				All	1.3 %	1.3 %	1.3 %	1.3 %
		Maine	Divisional	Green	10.2 %	13.9 %	9.4 %	10.2 %
				All	8.7 %	8.7 %	8.7 %	8.7 %
			National	Green	0.4 %	0.5 %	0.5 %	0.0 %
				All	0.5 %	0.5 %	0.5 %	0.5 %
		Massachusetts	Divisional	Green	42.8 %	53.1 %	47.6 %	57.4 %
				All	47.0 %	47.0 %	47.0 %	47.0 %
			National	Green	1.7 %	2.0 %	2.3 %	0.2 %
				All	2.5 %	2.5 %	2.5 %	2.5 %
		New Hampshire	Divisional	Green	8.9 %	5.4 %	8.5 %	13.0 %
				All	9.1 %	9.1 %	9.1 %	9.1 %
			National	Green	0.3 %	0.2 %	0.4 %	0.0 %
				All	0.5 %	0.5 %	0.5 %	0.5 %
		Rhode Island	Divisional	Green	6.8 %	3.1 %	5.9 %	8.3 %
				All	6.8 %	6.8 %	6.8 %	6.8 %
			National	Green	0.3 %	0.1 %	0.3 %	0.0 %
				All	0.4 %	0.4 %	0.4 %	0.4 %
		Vermont	Divisional	Green	3.7 %	4.2 %	3.8 %	7.4 %
				All	4.3 %	4.3 %	4.3 %	4.3 %
			National	Green	0.1 %	0.2 %	0.2 %	0.0 %
				All	0.2 %	0.2 %	0.2 %	0.2 %
	Division 2: Mid-Atlantic	New Jersey	Divisional	Green	23.1 %	28.8 %	23.9 %	18.9 %
				All	21.4 %	21.4 %	21.4 %	21.4 %
			National	Green	2.8 %	3.6 %	3.0 %	0.8 %
				All	3.0 %	3.0 %	3.0 %	3.0 %

		New York	Divisional	Green	37.6 %	31.4 %	40.6 %	15.5 %
				All	47.4 %	47.4 %	47.4 %	47.4 %
			National	Green	4.6 %	4.0 %	5.0 %	0.6 %
				All	6.6 %	6.6 %	6.6 %	6.6 %
		Pennsylvania	Divisional	Green	39.3 %	39.8 %	35.5 %	65.6 %
				All	31.2 %	31.2 %	31.2 %	31.2 %
			National	Green	4.8 %	5.0 %	4.4 %	2.7 %
				All	4.3 %	4.3 %	4.3 %	4.3 %
Region 2: Midwest		Illinois	Divisional	Green	27.6 %	26.8 %	28.0 %	27.7%
				All	28.3 %	28.3 %	28.3 %	28.3 %
			National	Green	4.7 %	5.0 %	4.7 %	1.1 %
				All	4.4 %	4.4 %	4.4 %	4.4 %
		Indiana	Divisional	Green	16.2 %	18.1 %	15.6 %	12.3 %
				All	13.9 %	13.9 %	13.9 %	13.9 %
			National	Green	2.7 %	3.4 %	2.6 %	0.5 %
				All	2.2 %	2.2 %	2.2 %	2.2 %
	Division 3: East North Central	Michigan	Divisional	Green	17.3 %	15.6 %	17.8 %	15.6 %
				All	19.2 %	19.2 %	19.2 %	19.2 %
			National	Green	2.9 %	2.9 %	3.0 %	0.6 %
				All	3.0 %	3.0 %	3.0 %	3.0 %
		Ohio	Divisional	Green	25.7 %	26.3 %	24.9 %	41.0 %
				All	25.2 %	25.2 %	25.2 %	25.2 %
			National	Green	4.3 %	5.0 %	4.2 %	1.7 %
				All	3.9 %	3.9 %	3.9 %	3.9 %
		Wisconsin	Divisional	Green	13.2 %	13.2 %	13.7 %	3.4 %
				All	13.4 %	13.4 %	13.4 %	13.4 %
			National	Green	2.2 %	2.5 %	2.3 %	0.1 %
				All	2.1 %	2.1 %	2.1 %	2.1 %
	Division 4: West North Central	Colorado	Divisional	Green	15.3 %	12.6 %	19.5 %	58.9 %
				All	18.4 %	18.4 %	18.4 %	18.4 %
			National	Green	1.4 %	1.2 %	1.8 %	4.0 %
				All	1.7 %	1.7 %	1.7 %	1.7 %

		Iowa	Divisional	Green	14.1 %	18.7 %	12.5 %	0.9 %
				All	12.3 %	12.3 %	12.3 %	12.3 %
			National	Green	1.2 %	1.7 %	1.1 %	0.1 %
				All	1.1 %	1.1 %	1.1 %	1.1 %
		Kansas	Divisional	Green	12.9 %	11.4 %	11.4 %	30.0 %
				All	11.2 %	11.2 %	11.2 %	11.2 %
			National	Green	1.1 %	1.0 %	1.0 %	2.0 %
				All	1.0 %	1.0 %	1.0 %	1.0 %
		Minnesota	Divisional	Green	20.4 %	18.8 %	21.2 %	1.2 %
				All	21.9 %	21.9 %	21.9 %	21.9 %
			National	Green	1.8 %	1.7 %	1.9 %	0.1 %
				All	2.0 %	2.0 %	2.0 %	2.0 %
		Missouri	Divisional	Green	20.8 %	25.2 %	21.7 %	3.2 %
				All	22.1 %	22.1 %	22.1 %	22.1 %
			National	Green	1.8 %	2.3 %	2.0 %	0.2 %
				All	2.0 %	2.0 %	2.0 %	2.0 %
		Nebraska	Divisional	Green	8.9 %	8.0 %	7.6 %	1.1 %
				All	7.7 %	7.7 %	7.7 %	7.7 %
			National	Green	0.8 %	0.7 %	0.7 %	0.1 %
				All	0.7 %	0.7 %	0.7 %	0.7 %
		North Dakota	Divisional	Green	3.7 %	2.7 %	3.0 %	3.8 %
				All	3.0 %	3.0 %	3.0 %	3.0 %
			National	Green	0.3 %	0.2 %	0.3 %	0.3 %
				All	0.3 %	0.3 %	0.3 %	0.3 %
		South Dakota	Divisional	Green	4.0 %	2.6 %	3.1 %	0.8 %
				All	3.3 %	3.3 %	3.3 %	3.3 %
			National	Green	0.4 %	0.2 %	0.3 %	0.1 %
				All	0.3 %	0.3 %	0.3 %	0.3 %
Region 3: South	Division 5: South Atlantic	Delaware	Divisional	Green	1.5 %	3.1 %	1.7 %	0.2 %
				All	1.7 %	1.7 %	1.7 %	1.7 %
			National	Green	0.3 %	0.6 %	0.3 %	0.0 %
				All	0.3 %	0.3 %	0.3 %	0.3 %

		Florida	Divisional	Green	24.8 %	20.8 %	22.9 %	55.9 %
				All	30.4 %	30.4 %	30.4 %	30.4 %
			National	Green	4.4 %	3.7 %	4.0 %	5.0 %
				All	5.6 %	5.6 %	5.6 %	5.6 %
		Georgia	Divisional	Green	18.3 %	21.7 %	17.9 %	3.1 %
				All	16.0 %	16.0 %	16.0 %	16.0 %
			National	Green	3.2 %	3.8 %	3.2 %	0.3 %
				All	3.0 %	3.0 %	3.0 %	3.0 %
		Maryland	Divisional	Green	10.5 %	8.9 %	12.0 %	2.4 %
				All	10.5 %	10.5 %	10.5 %	10.5 %
			National	Green	1.8 %	1.6 %	2.1 %	0.2 %
				All	1.9 %	1.9 %	1.9 %	1.9 %
		North Carolina	Divisional	Green	17.5 %	19.8 %	17.2 %	3.2 %
				All	16.1 %	16.1 %	16.1 %	16.1 %
			National	Green	3.1 %	3.5 %	3.0 %	0.3 %
				All	3.0 %	3.0 %	3.0 %	3.0 %
		South Carolina	Divisional	Green	8.9 %	10.3 %	8.2 %	3.3 %
				All	7.4 %	7.4 %	7.4 %	7.4 %
			National	Green	1.6 %	1.8 %	1.4 %	0.3 %
				All	1.4 %	1.4 %	1.4 %	1.4 %
		Virginia	Divisional	Green	13.9 %	12.2 %	16.7 %	10.9 %
				All	15.0 %	15.0 %	15.0 %	15.0 %
			National	Green	2.4 %	2.1 %	3.0 %	1.0 %
				All	2.8 %	2.8 %	2.8 %	2.8 %
		West Virginia	Divisional	Green	4.6 %	3.1 %	3.4 %	21.0 %
				All	2.9 %	2.9 %	2.9 %	2.9 %
			National	Green	0.8 %	0.5 %	0.6 %	1.9 %
				All	0.5 %	0.5 %	0.5 %	0.5 %
	Division 6: East South Central	Alabama	Divisional	Green	26.1 %	22.9 %	27.3 %	19.0 %
				All	25.2 %	25.2 %	25.2 %	25.2 %
			National	Green	1.9 %	1.7 %	1.8 %	0.6 %
				All	1.4 %	1.4 %	1.4 %	1.4 %

		Kentucky	Divisional	Green	23.3 %	26.4 %	24.0 %	28.4 %
				All	24.0 %	24.0 %	24.0 %	24.0 %
			National	Green	1.7 %	2.0 %	1.6 %	0.9 %
				All	1.4 %	1.4 %	1.4 %	1.4 %
		Mississippi	Divisional	Green	15.1 %	13.2 %	14.3 %	43.0 %
				All	14.9 %	14.9 %	14.9 %	14.9 %
			National	Green	1.1 %	1.0 %	1.0 %	1.4 %
				All	0.8 %	0.8 %	0.8 %	0.8 %
		Tennessee	Divisional	Green	35.5 %	37.5 %	34.4 %	9.6 %
				All	35.9 %	35.9 %	35.9 %	35.9 %
			National	Green	2.6 %	2.8 %	2.3 %	0.3 %
				All	2.0 %	2.0 %	2.0 %	2.0 %
	Division 7: West South Central	Arkansas	Divisional	Green	8.1 %	10.5 %	8.3 %	2.6 %
				All	7.8 %	7.8 %	7.8 %	7.8 %
			National	Green	1.2 %	1.2 %	1.0 %	1.4 %
				All	0.9 %	0.9 %	0.9 %	0.9 %
		Louisiana	Divisional	Green	15.0 %	11.8 %	13.7 %	15.5 %
				All	12.6 %	12.6 %	12.6 %	12.6 %
			National	Green	2.1 %	1.4 %	1.7 %	8.4 %
				All	1.4 %	1.4 %	1.4 %	1.4 %
		Oklahoma	Divisional	Green	9.8 %	7.7 %	10.0 %	13.0 %
				All	10.2 %	10.2 %	10.2 %	10.2 %
			National	Green	1.4 %	0.9 %	1.2 %	7.0 %
				All	1.2 %	1.2 %	1.2 %	1.2 %
		Texas	Divisional	Green	67.0 %	70.0 %	68.0 %	68.9 %
				All	69.4 %	69.4 %	69.4 %	69.4 %
			National	Green	9.5 %	8.2 %	8.5 %	37.1 %
				All	8.0 %	8.0 %	8.0 %	8.0 %
Region 4: West	Division 8: Mountain	Arizona	Divisional	Green	32.1 %	26.7 %	33.7 %	16.2 %
				All	35.4 %	35.4 %	35.4 %	35.4 %
			National	Green	1.7 %	1.0 %	1.7 %	1.5 %
				All	1.9 %	1.9 %	1.9 %	1.9 %

		Idaho	Divisional	Green	8.9 %	11.8 %	9.3 %	3.2 %
				All	8.9 %	8.9 %	8.9 %	8.9 %
			National	Green	0.5 %	0.4 %	0.5 %	0.3 %
				All	0.5 %	0.5 %	0.5 %	0.5 %
		Montana	Divisional	Green	5.6 %	7.9 %	5.7 %	5.9 %
				All	6.3 %	6.3 %	6.3 %	6.3 %
			National	Green	0.3 %	0.3 %	0.3 %	0.6 %
				All	0.3 %	0.3 %	0.3 %	0.3 %
		Nevada	Divisional	Green	15.4 %	15.3 %	14.9 %	3.5 %
				All	16.6 %	16.6 %	16.6 %	16.6 %
			National	Green	0.8 %	0.6 %	0.8 %	0.3 %
				All	0.9 %	0.9 %	0.9 %	0.9 %
		New Mexico	Divisional	Green	11.4 %	7.4 %	10.8 %	29.1 %
				All	11.6 %	11.6 %	11.6 %	11.6 %
			National	Green	0.8 %	0.3 %	0.5 %	2.8 %
				All	0.6 %	0.6 %	0.6 %	0.6 %
		Utah	Divisional	Green	19.4 %	26.6 %	20.0 %	12.4 %
				All	17.2 %	17.2 %	17.2 %	17.2 %
			National	Green	1.0 %	1.0 %	1.0 %	1.2 %
				All	0.9 %	0.9 %	0.9 %	0.9 %
		Wyoming	Divisional	Green	7.2 %	4.2 %	5.6 %	29.7 %
				All	4.0 %	4.0 %	4.0 %	4.0 %
			National	Green	0.4 %	0.2 %	0.3 %	2.8 %
				All	0.2 %	0.2 %	0.2 %	0.2 %
	Division 9: Pacific	Alaska	Divisional	Green	2.2 %	0.8 %	1.8 %	17.6 %
				All	1.6 %	1.6 %	1.6 %	1.6 %
			National	Green	0.3 %	0.1 %	0.3 %	1.6 %
				All	0.2 %	0.2 %	0.2 %	0.2 %
		California	Divisional	Green	71.0 %	76.1 %	72.3 %	72.0 %
				All	73.1 %	73.1 %	73.1 %	73.1 %
			National	Green	9.8 %	11.5 %	10.9 %	6.6 %
				All	11.1 %	11.1 %	11.1 %	11.1 %

		Hawaii	Divisional	Green	2.7 %	1.0 %	2.6 %	1.7 %
				All	3.0 %	3.0 %	3.0 %	3.0 %
			National	Green	0.4 %	0.1 %	0.4 %	0.2 %
				All	0.5 %	0.5 %	0.5 %	0.5 %
		Oregon	Divisional	Green	9.2 %	8.9 %	8.1 %	1.2 %
				All	8.2 %	8.2 %	8.2 %	8.2 %
			National	Green	1.3 %	1.3 %	1.2 %	0.1 %
				All	1.2 %	1.2 %	1.2 %	1.2 %
		Washington	Divisional	Green	14.8 %	13.3 %	15.2 %	7.5 %
				All	14.1 %	14.1 %	14.1 %	14.1 %
			National	Green	2.1 %	2.0 %	2.3 %	0.7 %
				All	2.1 %	2.1 %	2.1 %	2.1 %

6.7 Metropolitan Employment Overview by Sector

Exhibit 7 ranks the cities with the largest green employment in a specific sector. 'Green % City Employment' takes Green Employment and divides by Total Employment. 'City % State Employment' is Total Employment divided by the total labor force in states containing the metropolitan area. Data was extracted from the May 2010 Metropolitan and Nonmetropolitan Area Cross-Industry Employment and Wage Estimates in the BLS Occupational Employment Statistics (OES) database. All metropolitan areas are defined by the OES survey.

Source: http://www.bls.gov/oes/oes_arch.htm

7.1: Green Sector: Building Retrofitting

Rank	Metropolitan Area	State	Green Employment	Total Employment	Green Income	Average Income	Green % City Employment	City % State Employment
1	New York City	NY-NJ-PA	144 540	8 101 890	$ 65 770	$ 55 080	1.8 %	46.0 %
2	Chicago	IL-IN-WI	82 100	4 169 840	$ 55 910	$ 48 490	2.0 %	38.4 %
3	Los Angeles	CA	73 950	5 191 880	$ 55 740	$ 50 120	1.4 %	37.1 %
4	Houston	TX	59 590	2 497 880	$ 43 960	$ 46 290	2.4 %	24.8 %
5	Washington, DC	VA-MD-WV	49 850	2 840 740	$ 55 100	$ 61 530	1.8 %	42.5 %
6	Atlanta	GA	44 220	2 200 660	$ 42 030	$ 46 440	2.0 %	58.8 %
7	Dallas	TX	35 100	2 001 860	$ 43 380	$ 46 860	1.8 %	19.8 %
8	Phoenix	AZ	34 760	1 683 500	$ 45 400	$ 43 450	2.1 %	71.1 %
9	Philadelphia	PA-NJ-DE-MD	34 700	1 804 600	$ 54 770	$ 49 280	1.9 %	14.9 %
10	Baltimore	MD	28 790	1 238 860	$ 48 310	$ 49 910	2.3 %	50.3 %

7.2: Green Sector: Mass Transit

Rank	Metropolitan Area	State	Green Employment	Total Employment	Green Income	Average Income	Green % City Employment	City % State Employment
1	New York City	NY-NJ-PA	71 830	8 101 890	$ 58 820	$ 55 080	0.9 %	46.0 %
2	Houston	TX	61 720	2 497 880	$ 49 300	$ 46 290	2.5 %	24.8 %
3	Chicago	IL-IN-WI	56 920	4 169 840	$ 49 130	$ 48 490	1.4 %	38.4 %
4	Los Angeles	CA	55 720	5 191 880	$ 47 240	$ 50 120	1.1 %	37.1 %
5	Dallas	TX	34 160	2 001 860	$ 39 120	$ 46 860	1.7 %	19.8 %
6	Atlanta	GA	32 510	2 200 660	$ 41 560	$ 46 440	1.5 %	58.8 %
7	Washington, DC	VA-MD-WV	29 790	2 840 740	$ 56 350	$ 61 530	1.0 %	42.5 %
8	Phoenix	AZ	22 920	1 683 500	$ 41 160	$ 43 450	1.4 %	71.1 %
9	Minneapolis	MN-WI	21 620	1 678 090	$ 46 660	$ 49 140	1.3 %	32.5 %
10	Seattle	WA	21 000	1 346 300	$ 61 780	$ 54 610	1.6 %	50.0 %

7.3: Green Sector: Energy-Efficient Automobiles

Rank	Metropolitan Area	State	Green Employment	Total Employment	Green Income	Average Income	Green % City Employment	City % State Employment
1	Washington, DC	VA-MD-WV	136 790	2 840 740	$ 113 620	$ 61 530	4.8 %	42.5 %
2	Los Angeles	CA	123 650	5 191 880	$ 101 570	$ 50 120	2.4 %	37.1 %
3	New York City	NY-NJ-PA	115 110	8 101 890	$ 125 400	$ 55 080	1.4 %	46.0 %
4	Chicago	IL-IN-WI	99 860	4 169 840	$ 89 540	$ 48 490	2.4 %	38.4 %
5	Houston	TX	93 070	2 497 880	$ 86 920	$ 46 290	3.7 %	24.8 %
6	Atlanta	GA	83 040	2 200 660	$ 93 030	$ 46 440	3.8 %	58.8 %
7	Dallas	TX	78 130	2 001 860	$ 97 450	$ 46 860	3.9 %	19.8 %
8	San Jose	CA	74 200	857 160	$ 120 200	$ 67 850	8.7 %	6.1 %
9	Seattle	WA	66 240	1 346 300	$ 100 010	$ 54 610	4.9 %	50.0 %
10	Phoenix	AZ	52 290	1 683 500	$ 92 020	$ 43 450	3.1 %	71.1 %

7.4: Green Sector: Wind Power

Rank	Metropolitan Area	State	Green Employment	Total Employment	Green Income	Average Income	Green % City Employment	City % State Employment
1	Chicago	IL-IN-WI	67 710	4 169 840	$ 48 670	$ 48 490	1.6 %	38.4 %
2	Houston	TX	60 700	2 497 880	$ 48 890	$ 46 290	2.4 %	24.8 %
3	Los Angeles	CA	59 360	5 191 880	$ 51 030	$ 50 120	1.1 %	37.1 %
4	New York City	NY-NJ-PA	38 610	8 101 890	$ 62 510	$ 55 080	0.5 %	46.0 %
5	Atlanta	GA	37 180	2 200 660	$ 41 070	$ 46 440	1.7 %	58.8 %
6	Dallas	TX	35 840	2 001 860	$ 45 050	$ 46 860	1.8 %	19.8 %
7	Minneapolis	MN-WI	28 790	1 678 090	$ 52 680	$ 49 140	1.7 %	32.5 %
8	Santa Ana	CA	23 850	1 374 310	$ 51 710	$ 49 780	1.7 %	9.8 %
9	Phoenix	AZ	23 610	1 683 500	$ 46 990	$ 43 450	1.4 %	71.1 %
10	Warren	MI	23 460	1 017 660	$ 56 780	$ 46 790	2.3 %	27.1 %

7.5: Green Sector: Solar Power

Rank	Metropolitan Area	State	Green Employment	Total Employment	Green Income	Average Income	Green % City Employment	City % State Employment
1	Chicago	IL-IN-WI	119 430	4 169 840	$ 39 580	$ 48 490	2.9 %	38.4 %
2	Houston	TX	115 230	2 497 880	$ 39 500	$ 46 290	4.6 %	24.8 %
3	Los Angeles	CA	110 640	5 191 880	$ 37 890	$ 50 120	2.1 %	37.1 %
4	New York City	NY-NJ-PA	103 830	8 101 890	$ 51 870	$ 55 080	1.3 %	46.0 %
5	Dallas	TX	79 040	2 001 860	$ 35 890	$ 46 860	3.9 %	19.8 %
6	Atlanta	GA	72 730	2 200 660	$ 35 660	$ 46 440	3.3 %	58.8 %
7	Philadelphia	PA-NJ-DE-MD	51 000	1 804 600	$ 42 260	$ 49 280	2.8 %	14.9 %
8	Phoenix	AZ	49 120	1 683 500	$ 39 130	$ 43 450	2.9 %	71.1 %
9	Indianapolis	IN	48 940	852 240	$ 48 970	$ 42 710	5.7 %	31.3 %
10	Washington, DC	VA-MD-WV	39 020	2 840 740	$ 35 410	$ 61 530	1.4 %	42.5 %

7.6: Green Sector: Cellulosic Biofuels

Rank	Metropolitan Area	State	Green Employment	Total Employment	Green Income	Average Income	Green % City Employment	City % State Employment
1	Chicago	IL-IN-WI	26 510	4 169 840	$ 37 470	$ 48 490	0.6 %	38.4 %
2	Los Angeles	CA	24 990	5 191 880	$ 42 200	$ 50 120	0.5 %	37.1 %
3	Houston	TX	21 860	2 497 880	$ 50 080	$ 46 290	0.9 %	24.8 %
4	Atlanta	GA	16 420	2 200 660	$ 33 290	$ 46 440	0.7 %	58.8 %
5	New York City	NY-NJ-PA	14 930	8 101 890	$ 46 180	$ 55 080	0.2 %	46.0 %
6	Dallas	TX	14 310	2 001 860	$ 36 210	$ 46 860	0.7 %	19.8 %
7	Philadelphia	PA-NJ-DE-MD	13 730	1 804 600	$ 46 630	$ 49 280	0.8 %	14.9 %

					630			
8	Riverside	CA	11 830	1 140 830	$ 34 700	$ 42 930	1.0 %	8.1 %
9	Edison	NJ	11 270	962 750	$ 45 370	$ 51 100	1.2 %	25.5 %
10	Memphis	TN-MS-AR	8 540	586 140	$ 31 730	$ 40 180	1.5 %	12.3 %

7.7: Traditional Energy Sector: Oil and Gas

Rank	Metropolitan Area	State	Sector Employment	Total Employment	Sector Income	Average Income	Green % City Employment	City % State Employment
1	Houston	TX	32 560	2 497 880	$ 92 750	$ 46 290	1.3 %	24.8 %
2	New Orleans	LA	6 050	504 210	$ 68 890	$ 41 010	1.2 %	27.5 %
3	Oklahoma City	OK	5 990	551 240	$ 55 090	$ 39 170	1.1 %	37.2 %
4	Bakersfield	CA	4 900	250 190	$ 56 120	$ 44 520	2.0 %	1.8 %
5	Midland	TX	4 720	64 210	$ 67 030	$ 43 180	7.4 %	0.6 %
6	Lafayette	LA	4 410	141 780	$ 49 220	$ 37 170	3.1 %	7.7 %
7	Dallas	TX	4 310	2 001 860	$ 83 320	$ 46 860	0.2 %	19.8 %
8	Denver	CO	3 370	1 183 990	$ 94 470	$ 49 440	0.3 %	54.9 %
9	Tulsa	OK	3 290	407 030	$ 66 630	$ 38 800	0.8 %	27.4 %
10	Los Angeles	CA	3 010	5 191 880	$ 73 430	$ 50 120	0.1 %	37.1 %

6.8 Government Employment in the Green Sectors

Exhibit 8 measures the percent employed by the government in the green and traditional energy sector. Data was extracted from the May 2010 State Cross-Industry Employment and Wage Estimates in the BLS Occupational Employment Statistics (OES) database. All metropolitan areas are defined by the OES survey. Federal, State, and Local Government employment can be extrapolated using OES Designation Sector 99 (North American Industry Classification System - NAICS 999000)

Source: http://www.bls.gov/oes/oes_arch.htm

8.1: Green Sector Occupations

Green Sector	Representative Jobs	Percent Employed by Government
Building Retrofitting	Building Inspectors	57 %
	Carpenter Helpers	0 %
	Carpenters	2 %
	Construction Equipment Operators	21 %
	Construction Managers	4 %
	Electricians	4 %
	Heating/Air Conditioning Installers	3 %
	Industrial Truck Drivers	1 %
	Insulation Workers	1 %
	Roofers	0 %
Average		**9 %**
Mass Transit	Bus Drivers	53 %
	Civil Engineers	29 %
	Dispatchers	8 %
	Electricians	4 %
	Engine Assemblers	0 %
	First-Line Transportation Supervisors	9 %
	Metal Fabricators	0 %

	Production Helpers	0 %
	Rail Track Layers	0 %
	Welders	1 %
Average		**10 %**
Energy-Efficient Automobiles	Computer Software Engineers	3 %
	Computer Software Engineers	1 %
	Computer-Controlled Machine Operators	4 %
	Electrical Engineers	5 %
	Engine Assemblers	0 %
	Engineering Technicians	35 %
	Metal Fabricators	0 %
	Operations Managers	6 %
	Production Helpers	0 %
	Transportation Equipment Painters	1 %
	Welders	1 %
Average		**5 %**
Wind Power	Construction Equipment Operators	21 %
	Electrical Equipment Assemblers	0 %
	Environmental Engineers	30 %
	First-Line Production Supervisors	4 %
	Industrial Production Managers	%
	Industrial Truck Drivers	1 %
	Iron and Steel Workers	1 %
	Machinists	1 %
	Millwrights	1 %
	Sheet Metal Workers	5 %
Average		**7 %**
Solar Power	Construction Equipment Operators	21 %
	Construction Managers	4 %
	Electrical Engineers	5 %
	Electrical Equipment Assemblers	0 %
	Electricians	4 %

	Industrial Machinery Mechanics	5 %
	Installation Helpers	9 %
	Laborers	3 %
	Metal Fabricators	0 %
	Welders	1 %
Average		**5 %**
Cellulosic Biofuels	Agricultural and Forestry Supervisors	13 %
	Agricultural Inspectors	75 %
	Agricultural Workers	27 %
	Chemical Engineers	4 %
	Chemical Equipment Operators	0 %
	Chemical Technicians	3 %
	Chemists	13 %
	Farm Product Purchasers	1 %
	Industrial Truck Drivers	1 %
	Mixing and Blending Machine Operators	1 %
Average		**14 %**
Green Average		**8 %**

8.2: Traditional Energy Occupations

Traditional Energy Sector	Representative Jobs	Percent Employed by Government
Oil and Gas	Derrick Operators	0 %
	Geologists	18 %
	Helpers--Extraction Workers	0 %
	Petroleum Engineers	2 %
	Petroleum Technicians	1 %
	Refinery Operators	2 %
	Rotary Drill Operators	0 %
	Roustabouts	0 %
	Service Unit Operators	0 %
	Wellhead Pumpers	0 %
Average		**2 %**
All Occupations		**8 %**

6.9 Income Distribution by Sector

Exhibit 9 defines the average income percentiles for green and traditional energy sector occupations on the state-level, and was extracted from the May 2010 State Cross-Industry Employment and Wage Estimates in the BLS Occupational Employment Statistics database. The 50% percentile represents the median income. Regional Information is the average for the included divisions in each region.

Source: http://www.bls.gov/oes/oes_arch.htm

9.1: Green Sector Occupations

Green Sector	Representative Jobs	Income Percentile				
		10%	*25%*	*50%*	*75%*	*90%*
Building Retrofitting	Building Inspectors	$ 31970	$ 40650	$ 52360	$ 66060	$ 81050
	Carpenter Helpers	$ 17610	$ 20810	$ 25760	$ 31780	$ 37370
	Carpenters	$ 24650	$ 30710	$ 39530	$ 53880	$ 71660
	Construction Equipment Operators	$ 26460	$ 31760	$ 40400	$ 54890	$ 71130
	Construction Managers	$ 50240	$ 64070	$ 83860	$ 112630	$ 150250
	Electricians	$ 29400	$ 36630	$ 48250	$ 63880	$ 80890
	Heating/Air Conditioning Installers	$ 26490	$ 33230	$ 42530	$ 55100	$ 66930
	Industrial Truck Drivers	$ 20420	$ 24390	$ 29780	$ 36890	$ 45490
	Insulation Workers	$ 20360	$ 25310	$ 31830	$ 41870	$ 60990
	Roofers	$ 22030	$ 26940	$ 34220	$ 46190	$ 60610
Average		$ 26963	$ 33450	$ 42852	$ 56317	$ 72637
Mass Transit	Bus Drivers	$ 21020	$ 26460	$ 35520	$ 47770	$ 56500
	Civil Engineers	$ 50560	$ 61590	$ 77560	$ 97990	$ 119320
	Dispatchers	$ 21030	$ 26690	$ 34560	$ 45430	$ 58610
	Electricians	$ 29400	$ 36630	$ 48250	$ 63880	$ 80890
	Engine Assemblers	$ 23560	$ 28240	$ 36310	$ 48290	$ 60130
	First-Line Transportation Supervisors	$ 32110	$ 40730	$ 52720	$ 66840	$ 81140

	Metal Fabricators	$ 23360	$ 28090	$ 34530	$ 42000	$ 50930
	Production Helpers	$ 16810	$ 18650	$ 22450	$ 28340	$ 35320
	Rail Track Layers	$ 30160	$ 37110	$ 45970	$ 55520	$ 62920
	Welders	$ 23940	$ 28840	$ 35450	$ 43700	$ 53690
Average		$ 27195	$ 33303	$ 42332	$ 53976	$ 65945
Energy-Efficient Automobiles	Computer Software Engineers	$ 54360	$ 69090	$ 87790	$ 109210	$ 133110
	Computer Software Engineers	$ 61040	$ 75720	$ 94180	$ 117670	$ 143330
	Computer-Controlled Machine Operators	$ 41710	$ 59350	$ 79240	$ 99630	$ 117700
	Electrical Engineers	$ 54030	$ 66880	$ 84540	$ 105860	$ 128610
	Engine Assemblers	$ 23560	$ 28240	$ 36310	$ 48290	$ 60130
	Engineering Technicians	$ 31260	$ 43040	$ 58020	$ 73220	$ 88350
	Metal Fabricators	$ 23360	$ 28090	$ 34530	$ 42000	$ 50930
	Operations Managers	$ 47280	$ 65290	$ 94400	$ 142030	$ 166400
	Production Helpers	$ 16810	$ 18650	$ 22450	$ 28340	$ 35320
	Transportation Equipment Painters	$ 24710	$ 31010	$ 39040	$ 51830	$ 64110
	Welders	$ 23940	$ 28840	$ 35450	$ 43700	$ 53690
Average		$ 36551	$ 46745	$ 60541	$ 78344	$ 94698
Wind Power	Construction Equipment Operators	$ 26460	$ 31760	$ 40400	$ 54890	$ 71130
	Electrical Equipment Assemblers	$ 19620	$ 23210	$ 29100	$ 36810	$ 46420
	Environmental Engineers	$ 48980	$ 61500	$ 78740	$ 99180	$ 119060
	First-Line Production Supervisors	$ 32300	$ 40860	$ 53090	$ 68480	$ 85640
	Industrial Production Managers	$ 52640	$ 67250	$ 87160	$ 114530	$ 148020
	Industrial Truck Drivers	$ 20420	$ 24390	$ 29780	$ 36890	$ 45490
	Iron and Steel Workers	$ 26330	$ 33040	$ 44540	$ 61380	$ 80030
	Machinists	$ 24100	$ 30630	$ 38520	$ 47620	$ 58060
	Millwrights	$ 31110	$ 38060	$ 48360	$ 61310	$ 72500
	Sheet Metal Workers	$ 24990	$ 31360	$ 41710	$ 57000	$ 73980
Average		$ 30695	$ 38206	$ 49140	$ 63809	$ 80033
Solar Power	Construction Equipment Operators	$ 26460	$ 31760	$ 40400	$ 54890	$ 71130
	Construction Managers	$ 50240	$ 64070	$ 83860	$ 112630	$ 150250
	Electrical Engineers	$ 54030	$ 66880	$ 84540	$ 105860	$ 128610
	Electrical Equipment Assemblers	$ 19620	$ 23210	$ 29100	$ 36810	$ 46420

	Electricians	$ 29400	$ 36630	$ 48250	$ 63880	$ 80890
	Industrial Machinery Mechanics	$ 29880	$ 36530	$ 45420	$ 56400	$ 68130
	Installation Helpers	$ 16900	$ 19460	$ 24260	$ 31360	$ 40060
	Laborers	$ 16850	$ 18990	$ 23460	$ 30090	$ 38180
	Metal Fabricators	$ 23360	$ 28090	$ 34530	$ 42000	$ 50930
	Welders	$ 23940	$ 28840	$ 35450	$ 43700	$ 53690
Average		$ 29068	$ 35446	$ 44927	$ 57762	$ 72829
Cellulosic Biofuels	Agricultural and Forestry Supervisors	$ 23760	$ 31070	$ 41800	$ 56140	$ 70420
	Agricultural Inspectors	$ 24050	$ 31730	$ 41670	$ 50430	$ 60990
	Agricultural Workers	$ 17030	$ 19540	$ 24230	$ 33690	$ 43990
	Chemical Engineers	$ 56520	$ 70940	$ 90300	$ 112630	$ 139670
	Chemical Equipment Operators	$ 28760	$ 35530	$ 45150	$ 55950	$ 65350
	Chemical Technicians	$ 26030	$ 32490	$ 42040	$ 54100	$ 66710
	Chemists	$ 39250	$ 50100	$ 68320	$ 92360	$ 116130
	Farm Product Purchasers	$ 30830	$ 41300	$ 54220	$ 73960	$ 101080
	Industrial Truck Drivers	$ 20420	$ 24390	$ 29780	$ 36890	$ 45490
	Mixing and Blending Machine Operators	$ 20880	$ 25770	$ 32870	$ 41470	$ 50040
Average		$ 28753	$ 36286	$ 47038	$ 60762	$ 75987
Green Average		$ 29871	$ 37239	$ 47805	$ 61828	$ 77022

9.2: Traditional Energy Occupations

Traditional Energy Sector	Representative Jobs	Income Percentile				
		10%	*25%*	*50%*	*75%*	*90%*
Oil and Gas	Derrick Operators	$ 29850	$ 35470	$ 43470	$ 51910	$ 63000
	Geologists	$ 43820	$ 57820	$ 82500	$ 115460	$ 160910
	Helpers--Extraction Workers	$ 22110	$ 26640	$ 34170	$ 45410	$ 57010
	Petroleum Engineers	$ 63480	$ 85930	$ 114080	$ 158580	$ 166400
	Petroleum Technicians	$ 29950	$ 38990	$ 54020	$ 73910	$ 99860
	Refinery Operators	$ 37580	$ 48300	$ 60040	$ 70490	$ 81360
	Rotary Drill Operators	$ 31260	$ 37730	$ 51980	$ 66950	$ 98410
	Roustabouts	$ 21550	$ 25690	$ 31770	$ 40020	$ 51090
	Service Unit Operators	$ 26680	$ 31590	$ 38920	$ 49920	$ 64930
	Wellhead Pumpers	$ 24610	$ 30860	$ 40640	$ 51430	$ 61720
Average		$ 33089	$ 41902	$ 55159	$ 72408	$ 90469

6.10 Income Overview

Exhibit 10 compares green sector (or traditional energy) income to the annual income of all occupations. Annual income of the green sector is a weighted average the incomes for all occupations listed in the eight sector groups. Annual income of all occupations is a data point listed in the OES files. All data was extracted from the May 2010 State Cross-Industry Employment and Wage Estimates in the BLS Occupational Employment Statistics database.

Source: http://www.bls.gov/oes/oes_arch.htm

10.1: Green Sector

Region	Division	State	Annual Income (Green)	Annual Income (All Occupations)
			Weighted Average	
Region 1: Northeast	Division 1: New England	Connecticut	$ 70 600	$ 51 920
		Maine	$ 50 450	$ 39 470
		Massachusetts	$ 73 470	$ 53 700
		New Hampshire	$ 62 300	$ 44 450
		Rhode Island	$ 60 230	$ 45 920
		Vermont	$ 53 540	$ 42 030
	Division 2: Mid-Atlantic	New Jersey	$ 66 950	$ 50 730
		New York	$ 68 710	$ 51 700
		Pennsylvania	$ 50 980	$ 43 050
	Regional Information		$ 61 910	$ 47 000
Region 2: Midwest	Division 3: East North Central	Illinois	$ 55 680	$ 46 450
		Indiana	$ 47 440	$ 39 020
		Michigan	$ 53 630	$ 43 280
		Ohio	$ 48 990	$ 40 890
		Wisconsin	$ 50 900	$ 40 980
	Division 4: West North Central	Colorado	$ 67 140	$ 46 770
		Iowa	$ 46 380	$ 37 730
		Kansas	$ 49 870	$ 39 290

		Minnesota	$ 59 080	$ 45 470
		Missouri	$ 53 920	$ 39 780
		Nebraska	$ 47 770	$ 38 300
		North Dakota	$ 48 850	$ 37 040
		South Dakota	$ 41 890	$ 34 390
	Regional Information		$ **51 660**	**$ 40 720**
Region 3: South	Division 5: South Atlantic	Delaware	$ 64 170	$ 46 870
		Florida	$ 51 620	$ 40 270
		Georgia	$ 53 440	$ 42 270
		Maryland	$ 70 660	$ 50 880
		North Carolina	$ 53 300	$ 40 500
		South Carolina	$ 48 030	$ 37 920
		Virginia	$ 66 450	$ 47 840
		West Virginia	$ 43 980	$ 35 370
	Division 6: East South Central	Alabama	$ 49 660	$ 38 590
		Kentucky	$ 46 290	$ 37 970
		Mississippi	$ 42 640	$ 33 930
		Tennessee	$ 45 190	$ 38 330
	Division 7: West South Central	Arkansas	$ 41 100	$ 35 460
		Louisiana	$ 50 190	$ 37 980
		Oklahoma	$ 46 890	$ 36 940
		Texas	$ 55 990	$ 42 220
	Regional Information		$ **51 850**	**$ 40 210**
Region 4: West	Division 8: Mountain	Arizona	$ 58 540	$ 42 390
		Idaho	$ 49 610	$ 38 600
		Montana	$ 46 990	$ 36 060
		Nevada	$ 58 690	$ 41 220
		New Mexico	$ 56 220	$ 40 050
		Utah	$ 52 100	$ 40 120
		Wyoming	$ 54 590	$ 41 510
	Division 9: Pacific	Alaska	$ 65 850	$ 50 350
		California	$ 69 220	$ 50 730

		Hawaii	$ 63 940	$ 43 740
		Oregon	$ 55 990	$ 43 550
		Washington	$ 65 010	$ 48 940
	Regional Information		$ **58 070**	**$ 43 110**
National Information			$ **55 870**	**$ 42 760**

10.2: Traditional Energy Sector

Region	***Division***	**State**	**Annual Income (Oil and Gas)**	**Annual Income (All Occupations)**
			Weighted Average	
Region 1: Northeast	Division 1: New England	Connecticut	$ 75 240	$ 51 920
		Maine	$ 61 260	$ 39 470
		Massachusetts	$ 79 060	$ 53 700
		New Hampshire	$ 53 970	$ 44 450
		Rhode Island	$ 67 280	$ 45 920
		Vermont	$ 47 750	$ 42 030
	Division 2: Mid-Atlantic	New Jersey	$ 66 070	$ 50 730
		New York	$ 61 810	$ 51 700
		Pennsylvania	$ 46 290	$ 43 050
	Regional Information		**$ 62 080**	**$ 47 000**
Region 2: Midwest	Division 3: East North Central	Illinois	$ 44 160	$ 46 450
		Indiana	$ 56 870	$ 39 020
		Michigan	$ 47 040	$ 43 280
		Ohio	$ 54 020	$ 40 890
		Wisconsin	$ 68 200	$ 40 980
	Division 4: West North Central	Colorado	$ 61 470	$ 46 770
		Iowa	$ 47 170	$ 37 730
		Kansas	$ 43 440	$ 39 290
		Minnesota	$ 49 030	$ 45 470
		Missouri	$ 49 930	$ 39 780
		Nebraska	$ 52 500	$ 38 300

		North Dakota	$ 41 720	$ 37 040
		South Dakota	$ 44 490	$ 34 390
	Regional Information		$ **50 770**	**$ 40 720**
Region 3: South	Division 5: South Atlantic	Delaware	$ 79 030	$ 46 870
		Florida	$ 59 270	$ 40 270
		Georgia	$ 48 050	$ 42 270
		Maryland	$ 77 900	$ 50 880
		North Carolina	$ 57 980	$ 40 500
		South Carolina	$ 39 600	$ 37 920
		Virginia	$ 65 340	$ 47 840
		West Virginia	$ 41 990	$ 35 370
	Division 6: East South Central	Alabama	$ 51 610	$ 38 590
		Kentucky	$ 43 350	$ 37 970
		Mississippi	$ 53 910	$ 33 930
		Tennessee	$ 54 750	$ 38 330
	Division 7: West South Central	Arkansas	$ 42 900	$ 35 460
		Louisiana	$ 55 870	$ 37 980
		Oklahoma	$ 60 780	$ 36 940
		Texas	$ 65 600	$ 42 220
	Regional Information		$ **56 120**	**$ 40 210**
Region 4: West	Division 8: Mountain	Arizona	$ 60 330	$ 42 390
		Idaho	$ 53 580	$ 38 600
		Montana	$ 50 780	$ 36 060
		Nevada	$ 64 780	$ 41 220
		New Mexico	$ 45 730	$ 40 050
		Utah	$ 51 440	$ 40 120
		Wyoming	$ 51 230	$ 41 510
	Division 9: Pacific	Alaska	$ 84 870	$ 50 350
		California	$ 66 350	$ 50 730
		Hawaii	$ 70 090	$ 43 740
		Oregon	$ 66 300	$ 43 550
		Washington	$ 75 150	$ 48 940

	Regional Information	**$ 61 720**	**$ 43 110**
National Information		**$ 57 670**	**$ 42 760**

6.11 Distribution of Persons in Top Salary Percentile

Exhibit 11 analyzes the top 10% income percentile for all occupations in the green sectors. It then shows the percentage employed in each state to demonstrate regional inequality between the highest-salaried employees. Data was extracted from the May 2010 State Cross-Industry Employment and Wage Estimates in the BLS Occupational Employment Statistics database.

Source: http://www.bls.gov/oes/oes_arch.htm

Region	Division	State	Persons Employed in Top Salary Percentile	Percentage
Region 1: Northeast	Division 1: New England	Connecticut	41 470	3.2 %
		Maine	1 420	< 1 %
		Massachusetts	101 640	7.7 %
		New Hampshire	3 600	< 1 %
		Rhode Island	7 010	< 1 %
		Vermont	290	< 1 %
	Division 2: Mid-Atlantic	New Jersey	143 890	10.9 %
		New York	222 820	16.9 %
		Pennsylvania	380	< 1 %
	Regional Information		**522 520**	**39.7 %**
Region 2: Midwest	Division 3: East North Central	Illinois	41 760	3.2 %
		Indiana	890	< 1 %
		Michigan	5 890	< 1 %
		Ohio	10 020	< 1 %
		Wisconsin	420	< 1 %
	Division 4: West North Central	Colorado	800	< 1 %
		Iowa	510	< 1 %
		Kansas	380	< 1 %
		Minnesota	1 460	< 1 %
		Missouri	0	0 %

		Nebraska	2 040	< 1 %
		North Dakota	1 070	< 1 %
		South Dakota	0	0 %
	Regional Information		**65 240**	**5.0 %**
Region 3: South	Division 5: South Atlantic	Delaware	9 680	< 1 %
		Florida	2 580	< 1 %
		Georgia	2 580	< 1 %
		Maryland	27 360	2.1 %
		North Carolina	580	< 1 %
		South Carolina	2 800	< 1 %
		Virginia	82 600	6.3 %
		West Virginia	2 060	< 1 %
	Division 6: East South Central	Alabama	1 000	< 1 %
		Kentucky	0	0 %
		Mississippi	0	0 %
		Tennessee	0	0 %
	Division 7: West South Central	Arkansas	0	0 %
		Louisiana	8 120	< 1 %
		Oklahoma	0	0 %
		Texas	33 120	2.5 %
	Regional Information		**172 480**	**13.1 %**
Region 4: West	Division 8: Mountain	Arizona	0	0 %
		Idaho	0	0 %
		Montana	130	< 1 %
		Nevada	34 430	2.6 %
		New Mexico	3 490	< 1 %
		Utah	700	< 1 %
		Wyoming	5 910	< 1 %
	Division 9: Pacific	Alaska	21 850	1.7 %
		California	367 040	27.9 %
		Hawaii	24 140	1.8 %
		Oregon	3 720	< 1 %

		Washington	93 150	7.1 %
	Regional Information		**554 560**	**42.2 %**

6.12 Energy Production in Physical Unit

Exhibit 12 shows state level production of oil, natural gas, and ethanol in physical units from 2000 to 2009. Data was extracted from the 1960-2009 Production Estimates in the State Energy Data System (SEDS), which is sponsored by the U.S. Energy Information Administration (EIA).

Source: http://205.254.135.7/state/seds/seds-data-complete.cfm#data3

12.1: Oil (Thousand Barrels)

Region	Division	State	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Region 1: Northeast	Division 1: New England	Connecticut	0	0	0	0	0	0	0	0	0	0
		Maine	0	0	0	0	0	0	0	0	0	0
		Massachusetts	0	0	0	0	0	0	0	0	0	0
		New Hampshire	0	0	0	0	0	0	0	0	0	0
		Rhode Island	0	0	0	0	0	0	0	0	0	0
		Vermont	0	0	0	0	0	0	0	0	0	0
	Division 2: Mid-Atlantic	New Jersey	0	0	0	0	0	0	0	0	0	0
		New York	210	166	165	144	170	197	319	380	386	339
		Pennsylvania	1 500	1 620	2 233	2 425	2 538	3 947	3 626	3 653	3 611	3 541
	Regional Information		1 710	1 786	2 398	2 569	2 708	4 144	3 945	4 033	3 996	3 880
Region 2: Midwest	Division 3: East North Central	Illinois	12 206	10 092	12 051	11 696	10 984	10 207	10 323	9 609	9 423	9 099
		Indiana	2 098	2 022	1 962	1 865	1 755	1 727	1 731	1 727	1 858	1 804
		Michigan	7 907	7 375	7 219	6 524	6 409	5 549	5 093	5 201	6 223	5 900
		Ohio	6 575	6 051	6 004	5 647	5 785	5 652	5 422	5 455	5 715	5 834
		Wisconsin	0	0	0	0	0	0	0	0	0	0
	Division 4: West North Central	Colorado	18 481	16 520	17 734	21 109	22 097	22 823	23 390	23 237	24 054	28 324
		Iowa	0	0	0	0	0	0	0	0	0	0
		Kansas	34 463	33 942	32 721	33 944	33 858	33 823	35 651	36 490	39 582	39 464

		Minnesota	0	0	0	0	0	0	0	0	0	0
		Missouri	94	91	95	82	88	85	87	80	99	94
		Nebraska	2 957	2 922	2 779	2 755	2 507	2 413	2 313	2 334	2 394	2 239
		North Dakota	32 719	31 691	30 993	29 406	31 154	35 660	39 911	45 058	62 776	79 736
		South Dakota	1 170	1 255	1 214	1 237	1 357	1 469	1 394	1 665	1 697	1 658
	Regional Information		118 670	111 961	112 772	114 265	115 994	119 408	125 315	130 856	153 821	174 152
Region 3: South	Division 5: South Atlantic	Delaware	0	0	0	0	0	0	0	0	0	0
		Florida	4 626	4 426	3 656	3 262	2 875	2 585	2 360	2 078	1 956	696
		Georgia	0	0	0	0	0	0	0	0	0	0
		Maryland	0	0	0	0	0	0	0	0	0	0
		North Carolina	0	0	0	0	0	0	0	0	0	0
		South Carolina	0	0	0	0	0	0	0	0	0	0
		Virginia	9	11	22	5	19	8	7	18	7	14
		West Virginia	1 400	1 226	1 382	1 334	1 339	1 563	1 749	1 574	1 593	1 864
	Division 6: East South Central	Alabama	10 457	9 334	8 633	7 911	7 463	7 863	7 531	7 188	7 586	7 248
		Kentucky	3 465	2 969	2 679	2 538	2 548	2 535	2 340	2 666	2 645	2 609
		Mississippi	19 844	19 528	18 015	16 593	17 153	17 695	17 356	20 396	22 102	23 232
		Tennessee	346	351	275	311	361	324	192	284	344	268
	Division 7: West South Central	Arkansas	7 154	7 592	7 344	7 226	6 732	6 344	6 104	6 031	6 079	5 781
		Louisiana	559 929	580 503	572 892	574 165	528 798	453 926	470 524	483 174	445 606	585 378
		Oklahoma	69 976	68 531	66 642	65 356	62 502	62 142	62 841	60 952	64 065	67 018
		Texas	512 143	508 889	500 378	490 844	479 360	477 011	474 572	456 467	447 076	456 364
	Regional Information		1 189 349	1 203 360	1 181 918	1 169 545	1 109 150	1 031 996	1 045 576	1 040 828	999 059	1 150 472
Region 4: West	Division 8: Mountain	Arizona	7 154	7 592	7 344	7 226	6 732	6 344	6 104	6 031	6 079	5 781
		Idaho	0	0	0	0	0	0	0	0	0	0
		Montana	15 428	15 920	16 855	19 320	24 724	32 855	36 262	34 829	31 545	27 692

		Nevada	621	572	553	493	463	447	426	408	436	455
		New Mexico	67 198	68 001	67 041	66 130	64 236	60 660	59 818	58 831	59 403	61 146
		Utah	15 636	15 252	13 676	13 096	14 629	16 651	17 910	19 520	21 998	22 927
		Wyoming	60 726	57 433	54 717	52 407	51 619	51 626	52 904	54 130	52 943	51 333
	Division 9: Pacific	Alaska	355 199	351 411	359 335	355 582	332 465	315 420	270 486	263 595	249 874	235 500
		California	306 124	291 766	287 793	280 000	267 260	256 848	249 562	241 378	238 691	228 994
		Hawaii	0	0	0	0	0	0	0	0	0	0
		Oregon	0	0	0	0	0	0	0	0	0	0
		Washington	0	0	0	0	0	0	0	0	0	0
	Regional Information		828 086	807 947	807 314	794 254	762 128	740 851	693 472	678 722	660 969	633 828
United States Total			2 130 720	2 117 521	2 097 121	2 073 454	1 983 300	1 890 105	1 862 259	1 848 452	1 811 819	1 956 597

12.2: Gas (Million Cubic Feet)

Region	Division	State	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Region 1: Northeast	Division 1: New England	Connecticut	0	0	0	0	0	0	0	0	0	0
		Maine	0	0	0	0	0	0	0	0	0	0
		Massachusetts	0	0	0	0	0	0	0	0	0	0
		New Hampshire	0	0	0	0	0	0	0	0	0	0
		Rhode Island	0	0	0	0	0	0	0	0	0	0
		Vermont	0	0	0	0	0	0	0	0	0	0
	Division 2: Mid-Atlantic	New Jersey	0	0	0	0	0	0	0	0	0	0
		New York	17 757	27 787	36 816	36 137	46 050	55 180	55 980	54 942	50 320	44 849
		Pennsylvania	150 000	130 853	157 800	159 827	197 217	168 501	175 950	182 277	198 295	273 869
	Regional Information		167 757	158 640	194 616	195 964	243 267	223 681	231 910	237 219	248 615	318 718
Region 2: Midwest	Division 3: East North Central	Illinois	189	185	180	174	170	166	170	1 394	1 193	1 443
		Indiana	899	1 064	1 309	1 464	3 401	3 135	2 921	3 606	4 701	4 927

		Michigan	296 556	275 036	274 476	236 987	259 681	261 112	263 009	264 907	153 130	153 736
		Ohio	105 125	100 107	103 158	93 641	90 476	83 523	86 315	88 095	84 858	88 824
		Wisconsin	0	0	0	0	0	0	0	0	0	0
	Division 4: West North Central	Colorado	752 985	817 206	937 245	1 011 285	1 079 235	1 133 086	1 202 821	1 242 571	1 389 399	1 499 070
		Iowa	0	0	0	0	0	0	0	0	0	0
		Kansas	525 729	480 145	454 901	418 893	397 121	377 229	371 044	365 877	374 310	354 440
		Minnesota	0	0	0	0	0	0	0	0	0	0
		Missouri	0	0	0	0	0	0	0	0	0	0
		Nebraska	1 218	1 208	1 188	1 454	1 476	1 172	1 200	1 555	3 082	2 908
		North Dakota	52 426	54 732	57 048	55 693	55 009	52 557	55 273	60 255	52 444	59 369
		South Dakota	1 652	1 100	1 025	1 103	1 093	992	963	995	1 644	2 129
	Regional Information		1 736 779	1 730 783	1 830 530	1 820 694	1 887 662	1 912 972	1 983 716	2 029 255	2 064 761	2 166 846
Region 3: South	Division 5: South Atlantic	Delaware	0	0	0	0	0	0	0	0	0	0
		Florida	6 491	5 710	3 353	3 087	3 123	2 616	2 540	1 778	2 436	257
		Georgia	0	0	0	0	0	0	0	0	0	0
		Maryland	34	32	22	48	34	46	48	35	28	43
		North Carolina	0	0	0	0	0	0	0	0	0	0
		South Carolina	0	0	0	0	0	0	0	0	0	0
		Virginia	71 545	71 543	76 915	143 644	85 508	88 610	103 027	112 057	128 454	140 738
		West Virginia	264 139	191 889	190 249	187 723	197 217	221 108	225 530	231 184	244 880	264 436
	Division 6: East South Central	Alabama	523 675	520 377	504 429	487 456	437 578	390 255	375 893	361 622	396 172	415 049
		Kentucky	81 545	81 723	88 259	87 608	94 259	92 795	95 320	95 437	114 116	113 300
		Mississippi	88 558	107 541	112 980	133 901	63 353	52 923	60 531	73 460	96 641	88 157
		Tennessee	1 150	2 000	2 050	1 803	2 100	2 200	2 663	3 942	4 700	5 478
	Division 7: West South Central	Arkansas	171 642	166 804	161 871	169 599	187 069	190 533	270 293	269 886	446 457	679 952

	Central	Louisiana	5 093 131	5 216 374	4 727 021	4 555 625	4 110 403	3 421 955	3 395 078	3 434 277	3 073 916	3 332 956
		Oklahoma	1 612 890	1 615 384	1 581 606	1 558 155	1 655 769	1 639 310	1 688 985	1 783 682	1 886 710	1 857 777
		Texas	6 418 166	6 432 490	6 139 379	6 303 479	6 158 054	6 188 857	6 326 359	6 761 739	7 440 800	7 284 520
	Regional Information		14 332 966	14 411 867	13 588 134	13 632 128	12 994 467	12 291 208	12 546 267	13 129 099	13 835 310	14 182 663
Region 4: West	Division 8: Mountain	Arizona	368	307	301	443	331	233	611	655	523	712
		Idaho	0	0	0	0	0	0	0	0	0	0
		Montana	69 936	81 397	86 075	86 027	96 762	107 918	112 845	116 848	112 529	98 245
		Nevada	7	7	6	6	5	5	5	5	4	4
		New Mexico	16 95 295	1 689 125	1 632 080	1 604 015	1 632 539	1 645 166	1 609 223	1 517 922	14 46 204	1 383 004
		Utah	269 285	283 913	274 739	268 058	277 969	301 223	348 320	376 409	433 566	444 162
		Wyoming	1 088 328	1 363 879	1 453 957	1 539 318	1 592 203	1 639 317	1 816 201	2 047 882	2 274 850	2 335 328
	Division 9: Pacific	Alaska	458 995	471 440	463 301	489 757	471 899	487 282	444 724	433 485	398 442	397 077
		California	376 580	377 824	360 205	337 216	319 919	317 637	315 209	307 160	296 469	276 575
		Hawaii	0	0	0	0	0	0	0	0	0	0
		Oregon	1 214	1 110	837	731	467	454	621	409	778	821
		Washington	0	0	0	0	0	0	0	0	0	0
	Regional Information		3 960 008	4 269 002	4 271 501	4 325 571	4 392 094	4 499 235	4 647 759	4 800 775	4 963 365	49 35 928
United States Total			20 197 511	20 570 294	19 884 781	19 974 360	19 517 491	18 927 095	19 409 674	20 196 346	21 112 051	21 604 155

12.3: Ethanol (Thousand Barrels)

Region	Division	State	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Region 1: Northeast	Division 1: New England	Connecticut	0	0	0	0	0	0	0	0	0	0
		Maine	0	0	0	0	0	0	0	0	0	0
		Massachusetts	0	0	0	0	0	0	0	0	0	0

		New Hampshire	0	0	0	0	0	0	0	0	0	0
		Rhode Island	0	0	0	0	0	0	0	0	0	0
		Vermont	0	0	0	0	0	0	0	0	0	0
	Division 2: Mid-Atlantic	New Jersey	0	0	0	0	0	0	0	0	0	0
		New York	0	0	0	0	0	0	0	100	2 064	1 189
		Pennsylvania	0	0	0	0	0	0	0	0	0	0
	Regional Information		0	0	0	0	0	0	0	100	2 064	1 189
Region 2: Midwest	Division 3: East North Central	Illinois	10 399	11 385	15 547	18 697	17 698	17 059	17 569	21 566	23 988	30 498
		Indiana	1 491	1 628	2 210	2 593	2 357	2 266	2 286	6 337	13 847	16 723
		Michigan	0	0	0	1 030	1 155	1 111	1 867	4 420	5 416	5 114
		Ohio	0	0	0	0	0	39	67	42	7 941	6 256
		Wisconsin	95	95	496	1 832	2 545	4 090	5 009	6 759	10 652	11 000
	Division 4: West North Central	Colorado	23	25	33	39	35	111	1 506	2 196	2 932	2 974
		Iowa	10 476	10 476	10 476	14 238	20 452	26 190	35 714	46 548	56 123	74 000
		Kansas	636	686	1 475	2 328	2 646	3 143	4 164	5 530	10 573	9 781
		Minnesota	5 238	6 000	7 143	8 548	9 524	10 000	13 095	14 119	17 133	22 651
		Missouri	231	581	778	1 288	1 386	2 277	2 801	3 845	5 320	6 209
		Nebraska	7 647	8 377	8 395	9 107	12 263	12 929	14 381	19 905	28 081	28 038
		North Dakota	471	519	712	844	774	744	751	3 255	3 666	6 197
		South Dakota	390	590	1 438	3 593	7 338	9 987	13 143	14 163	18 995	22 218
	Regional Information		37 097	40 362	48 703	64 137	78 173	89 946	112 353	148 685	204 667	241 659
Region 3: South	Division 5: South Atlantic	Delaware	0	0	0	0	0	0	0	0	0	0
		Florida	0	0	0	0	0	0	0	0	0	0
		Georgia	0	0	0	0	0	3	9	10	596	2 388
		Maryland	0	0	0	0	0	0	0	0	0	0
		North Carolina	0	0	0	0	0	0	0	0	0	0

		South Carolina	0	0	0	0	0	0	0	0	0	0
		Virginia	31	25	22	13	0	0	0	0	0	0
		West Virginia	0	0	0	0	0	0	0	0	0	0
	Division 6: East South Central	Alabama	0	0	0	0	0	0	0	0	0	0
		Kentucky	0	0	0	0	587	570	709	848	830	842
		Mississippi	0	0	0	0	0	0	0	0	106	1 285
		Tennessee	911	1 015	1 403	1 675	1 548	1 488	1 501	1 605	1 962	40 72
	Division 7: West South Central	Arkansas	0	0	0	0	0	0	0	0	0	0
		Louisiana	0	0	0	0	0	0	0	0	23	36
		Oklahoma	0	0	0	0	0	0	0	0	0	0
		Texas	0	0	0	0	0	0	0	0	4 495	3 985
	Regional Information		942	1 040	1 425	1 688	2 135	2 061	2 219	2 463	8 012	12 608
Region 4: West	Division 8: Mountain	Arizona	0	0	0	0	0	0	0	659	1 290	1 308
		Idaho	118	128	171	198	87	0	0	40	876	293
		Montana	13	11	10	6	0	0	0	0	0	0
		Nevada	0	0	0	0	0	0	0	0	0	0
		New Mexico	232	249	334	387	347	472	672	719	528	654
		Utah	0	0	0	0	0	0	0	0	0	0
		Wyoming	65	73	102	124	116	111	112	120	150	155
	Division 9: Pacific	Alaska	0	0	0	0	0	0	0	0	0	0
		California	115	126	172	202	185	363	936	2 128	2 270	1 178
		Hawaii	0	0	0	0	0	0	0	0	0	0
		Oregon	0	0	0	0	0	0	0	349	1 782	1 380
		Washington	44	39	40	32	16	10	0	0	0	0
	Regional Information		587	626	829	949	751	956	1 720	4 015	6 896	4 968
United States Total			38 627	42 028	50 956	66 772	81 058	92 961	116 294	155 263	221 637	260 424

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