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## Vermont Legislative Research Shop

### **Green Jobs**

Green jobs or 'green collar' jobs are jobs that have been created to combat the declining job market as well as to battle the changing climate. There is no one fixed definition for a green job, but generally they are jobs that look to improve sustainability and living conditions. Green jobs include: creating wind turbines, designing fuel efficient cars, and installing solar panels for homes.<sup>1</sup> Many green jobs already exist. Some construction jobs may already be green in nature, but are only recently being classified as so. For example, weatherizing businesses and homes is considered a green job. Weatherizing improves energy efficiency, saving the average U.S. home \$350 per year in heating and cooling costs and reducing overall consumption of fossil fuels.<sup>2</sup>

The U.S. Conference of Mayors estimated the number of green jobs currently available in the United States based on the following criteria:

"To construct a count of green jobs in the United States we have identified to the finest precision possible the number of workers employed in green construction, industry and pollution management systems, government administration of environmental programs, and supporting jobs in the engineering and consulting fields" (U.S. Conference of Mayors, 2008, p. 8).

The total number of these jobs as concluded by the U.S. Conference of Mayors is 751,051. Twenty four states as well as the District of Columbia have mandated that a certain percentage of their electricity usage will come from renewable sources by a certain date, a decision that will create many green jobs. This is known as Renewable Portfolio Standards, or RPS.<sup>3</sup> According to research conducted by Management Information Services, Inc. and the

Solar Energy Society more than one billion dollars in revenue and nine million jobs came out of the green job fields in 2007.<sup>4</sup>

Table 1: US Conference of Mayors Green Jobs List

<b><u>Green Jobs by Field</u></b>	
<p><b><u>Renewable Power Generation</u></b> Hydroelectric Nuclear Other</p> <p><b><u>Agriculture and Forestry</u></b> Corn Farming Soybean Farming Forestry and Reforestation services Forest management services Forest management plans, preparation of Timber cruising, estimating, and valuation services</p> <p><b><u>Engineering, Legal, Research &amp; Consulting</u></b> Environmental law Environmental protection organization Pollution control engineering Building construction consultant Heating and ventilation engineering Electrical or electronic engineering Energy conservation engineering Agricultural and Biological research Biotechnical research, commercial Natural resource research Energy research Environmental research Materials mgmt. consultant Productivity improvement consultant Environmental remediation Energy conservation consultant Environmental consultant Earth science services Geological and Geophysical consultant Recycling, waste materials Environmental cleanup services Natural resource preservation service</p> <p><b><u>Government Administration</u></b> Environmental health program administration Environmental agencies Air pollution control agency Environmental protection agency Environmental quality and control agency</p>	<p><b><u>Manufacturing</u></b> Wet corn milling Corn milling by-products Renewable Gluten feed and meal Soybean and Vegetable oil mills Lecithin, soybean Soybean flour, grits, oil, cake, meal, or powder Soybean protein concentrates and isolates Hydrogen Ethyl alcohol, ethanol Solar heaters and collectors Turbines and turbine generator set units, complete Gas turbine generator set units, complete Hydraulic turbine generator set units, complete Steam turbine generator set units, complete Turbines and turbine generator sets and parts Gas turbines, mechanical drive Hydraulic turbines Steam engines and turbines Turbo-generators Wheels, water Windmills for pumping water, agricultural Windmills, electric generating Light emitting diodes Solar Cells and Photovoltaic devices, solid state Fuel cells, solid state Hydrogen ion equipment, colorimetric Environmental controls and testing equipment Solarimeters</p> <p><b><u>Construction &amp; Systems Installation</u></b> Solar energy contractor Energy management controls Environmental system control installation Pollution control equipment installation</p> <p><b><u>Equipment Dealers &amp; Wholesalers</u></b> Heating equipment and panels, solar Air pollution control equipment and supplies Pollution control equipment, air (environmental) Pollution control equipment, water (environmental) Solar heating equipment</p>
<p>Source: Global Insight, prepared for the US Conference of Mayors, "U.S. Metro Economies: Current and Potential Green Jobs in the U.S. Economy," p. 22, Oct. 2008. Retrieved on 24 February 2009 from <a href="http://www.usmayors.org/pressreleases/uploads/GreenJobsReport.pdf">http://www.usmayors.org/pressreleases/uploads/GreenJobsReport.pdf</a></p>	

Green jobs consist of more than simply installing green materials into homes and businesses. Building solar panels requires factory workers, truck drivers, installation experts and designers just to name a few. The need for new and improved industries, such as creating fuel efficient

<sup>4</sup> Neal Lurie and Roger Bezdek, "ASES Green Collar Jobs report forecasts 37 million jobs from renewable energy and energy efficiency in U.S. by 2030" American Solar Energy Society, 15 Jan 2009. Retrieved on 18 February 2009. [http://www.ases.org/index.php?option=com\\_content&view=article&id=463&Itemid=58](http://www.ases.org/index.php?option=com_content&view=article&id=463&Itemid=58)

cars, will create jobs for designers, welders and other factory workers. The demand for these products will increase both the number of jobs and wages.<sup>5</sup>

A green economy would provide a number of benefits to the US economy. According to the US Conference of Mayors these benefits include technological investment, increased productivity in the work force, and improved energy efficiency across the United States. Green jobs are difficult to outsource, and can help reduce the unemployment rate.<sup>6</sup> For example, building large wind towers within the US instead of importing them and improved

when they are received.<sup>9</sup>

**Massachusetts:** The "Green Job Act" is Chapter 307 of the Acts of 2008; it was signed into law on August 12, 2008. The act provides funding to develop a green technology sector in the Massachusetts economy. It dedicates \$68 million over five years to: "seed grants to companies, universities, and nonprofits; workforce development grants to state higher education, vocational schools, and nonprofits; and low income job training (Pathways Out of Poverty); plus \$100,000 for a study of the clean energy sector."<sup>10</sup>

**Indiana:** Representative Dvorak (D South Bend) introduced HB 1437 at the beginning of the 2009 session that aims to improve renewable energy in Indiana. The bill passed the House in February and is currently being debated by the Senate. While it has no specific provisions relating to the creation of green jobs, it has been portrayed as a "green jobs bill" because it encourages use of and investment in renewable energy technologies. A bill to increase the use of renewable energy would bring green jobs associated with the production of that energy to Indiana.<sup>11</sup>

**Minnesota:** In November of 2008, Governor Pawlenty announced a "Green Jobs Investment Initiative" to be implemented during the 2009-2010 session. The initiative involves mostly tax credits for job growth and small business investment, as well as other tax incentives

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despite its similarity of goals to AB 2855. It would have allocated \$3 billion to fund green job training at high schools and community colleges across the state.<sup>15</sup>...

On March 16<sup>th</sup> 2009, Governor Schwarzenegger introduced the California Green Corps, a large scale initiative to train youth aged 16-24 in green technologies. The program has \$20 million of initial funding, \$10 million of which is funding from the American Recovery and Reinvestment Act of 2009.<sup>16</sup>

Democrats in the California Senate also introduced a "Jobs of Tomorrow" bill package on March 5<sup>th</sup> 2009. The bills included in the package are as follows:

- SB 675 (Steinberg) – Clean Technology and Renewable Energy Job Training, Career Technical Education (CTE) and Dropout Prevention Act of 2010: establishes a Green Jobs Fund to invest in facilities, equipment, and teachers for CTE pathway programs starting in middle school, connecting to high school, apprenticeships, community and four year colleges, that lead to jobs in growing clean tech and renewable energy sectors.
- SB 471 (Romero and Steinberg) – Calls for stem cell biology education to expose and prepare high school students for career paths in the growing field of regenerative medicine.
- SB 747 (Romero) – Creates pilot program for CTE curriculum in aerospace machining technology and maintenance with strong science and math components for high school students. Instruction would occur at community colleges and position pupils to pursue higher education in related math or science fields, or go directly into apprenticeship programs with an aerospace employer.
- SB 515 (Hancock) – Requires schools and community colleges to demonstrate that at least half of CTE courses are directly linked to career areas identified as high priority workforce needs.
- SB 43 (Alquist) – Helps focus investment in medical professional pathways by improving data collection and availability to guide policy development for the new economy.<sup>17</sup>

**Virginia:** Governor Kaine has proposed a yearlong Renew Virginia initiative, and as part of this work has introduced several pieces of legislation about green jobs and renewable energy.

These include: ~~the CTE~~

**New Mexico:** Governor Richardson created a Green Jobs Cabinet in January 2009 through Executive Order 2009 002. The Cabinet will provide the Governor with recommendations for improving New Mexico's green economy. The Cabinet positions are not paid but are filled by existing government secretaries or their designees.<sup>19</sup>

**Michigan:** The "No Worker Left Behind" program, a job training initiative in Michigan that began in August 2007, provides up to \$10,000 for unemployed or low wage workers to train for high skill jobs. Through July 2008, 31,000 people had entered training programs. In its second year, the program has shifted its focus to specifically training workers for green jobs in three specific sectors: Alternative Energy Production and Efficiency, Green Building Construction and Retrofitting, and Agriculture and Natural Resource Conservation.<sup>20</sup> U.S. Senator

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energy field across the United States by 2010 through this plan. Over the years, this number is expected to rise to 1.7 million. About 30% of these jobs would be construction jobs. The Act also includes tax incentives totaling \$20 billion for constructive use of energy efficiency and renewable energy.<sup>24</sup> Of the \$80 billion for renewable energy, \$6 billion will be used to weatherize homes, \$16 billion will be used to retrofit public housing with energy efficient devices and \$32 billion is set aside specifically for renewable energy and to create a better and smarter power grid.<sup>25</sup> The major fields that will be looked at are: reliable, efficient electricity grid, renewable energy loan guarantees, GSA federal buildings, local government energy efficiency block grants, energy efficiency housing retrofits, energy efficiency and renewable energy research, advanced battery loans and grants, energy efficiency grants and loans for institutions, home weatherization, smart appliances, GSA federal fleet, electric transportation, cleaning fossil energy, Department of Defense research, alternative buses and trucks, industrial