

Building a Green-Collar Workforce

FACT: The solar industry generated \$970 billion in revenue and provided 8.5 million jobs in the U.S. economy in 2006.¹

THE PROBLEM

The battle against climate change will require an army. Those on the ground will need sophisticated skills to implement the technological innovations developed to reverse this disaster in the making. Yet the infrastructure – the classes, certificate programs and standards – to train a new green labor force has yet to be built, a fact that could cause dramatic delays in worldwide progress.

Both mitigation – addressing causes of climate change – and adaptation – dealing with its impacts – create jobs that will need to be filled quickly. These low-, medium- and high-skilled positions will span agriculture, manufacturing, construction and other service-related industries yet to be built. Researchers have identified 22 sectors offering green employment opportunities,² yet not one is sufficiently prepared. Industries like the solar industry already cite the lack of a trained workforce as one barrier to expansion.³

While the need for training green labor is immediate, doing so has a multi-year timeline. Community colleges, technical schools, non-profits and other institutions must build programs that meet local demands, enroll large amounts of students and graduate a prepared labor force. This process involves significant up-front costs and some risk, as the exact nature of the future economy is uncertain.

THE OPPORTUNITY

Philanthropists have an important role to play.

- **Help build demand for green labor.** Philanthropists can support nonprofits working to encourage the public and private sectors to make commitments to create green jobs. From local mandates to green municipal buildings to federal efficiency standards, laws help generate demand. Industry promises to employ green-collar workers are also important.
- **Support the creation of a green-labor force.** By funding training programs, philanthropists can partner with the education system and other nonprofits to develop quality programs linked to real opportunities.
- **Scale up local efforts.** Urban communities like the San Francisco Bay Area and Chicago have developed comprehensive green-jobs programs. Philanthropists can help cull lessons and fund similar projects in their communities or support work that translates successes into a national strategy.

1. Apollo Alliance and Green for All with Center for American Progress and Center on Wisconsin Strategy, "Green Collar Jobs in America's Cities," March 2008, http://www.americanprogress.org/issues/2008/03/pdf/green_collar_jobs.pdf, 2.
 2. Rachel Pinderhughes, "Green Collar Jobs," <http://www.urbanhabitat.org/node/528>.
 3. R. Margolis and J. Zuboy, "Nontechnical Barriers to Solar Energy Use: Review of Recent Literature," National Renewable Energy Laboratory, September 2006, <http://www.nrel.gov/docs/fy07osti/40116.pdf>, 6.
 4. European Commission, "The Kyoto Protocol - A Brief Summary," <http://ec.europa.eu/environment/climat/kyoto.htm>.

WHY NOW?

By 2012, developed countries must reduce carbon emissions to five percent lower than those of 1990 as an initial step to combat climate change, according to the Kyoto Protocol, the last international agreement that set emissions goals.⁴

Building a green workforce can be a part of a philanthropic portfolio not focused on the environment:

- **Economic development:** Green jobs offer a range of low- to high-skilled careers and promote economic stability as many are local and cannot be outsourced overseas.
- **Social justice:** In this relatively new and growing industry, philanthropists have the opportunity to ensure those with barriers to employment can compete for attractive jobs. By funding training for specific communities, such as unskilled labor, formerly incarcerated people, youth or those who have been out of the workforce, philanthropists can promote equality.
- **Education:** Supporting community colleges offers an opportunity to reach an underserved population and meet a pressing need. Funding green industry-related centers or courses of study align these two important issues.

Jobs in Renewable Energy per Megawatt (MW) of Electricity

Power source	Manufacturing* (jobs/MW)	Construction & Installation (jobs/MW)	Operations & Maintenance (jobs/MW)	Total Jobs/MW
Solar PV	15.2	7.1	0.1	22.4
Wind	3.5	2.6	0.3	6.4
Solar Thermal	N/A	5.7	0.2	> 5.9
Geothermal	4.8	4.0	1.7	10.5
Natural Gas**	N/A	1.0	0.1	> 1.1

*Includes component manufacturing.

**Natural Gas is not considered a renewable energy. It is included here for comparison.

Source: Apollo Alliance, "Community Jobs in the Green Economy," http://www.apolloalliance.org/downloads/resources_Community_Jobs_in_the_Green_Economy.pdf, 7.

Additional Resources

- To learn more about domestic green-collar efforts, see: **Greenjobsforall.org**.
- Internationally, see the **Green Jobs Initiative**, a project of the UN Environment Programme, International Labor Organization and International Trade Union Confederation at: http://www.unep.org/labour_environment/features/greenjobs.asp.