



INSTITUTE FOR
Sustainable
Communities

CLIMATE LEADERSHIP ACADEMY

Promising Practices in Green Job Creation

A Resource Guide for Local Leaders

Version 1.0

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The Council for Adult & Experiential Learning

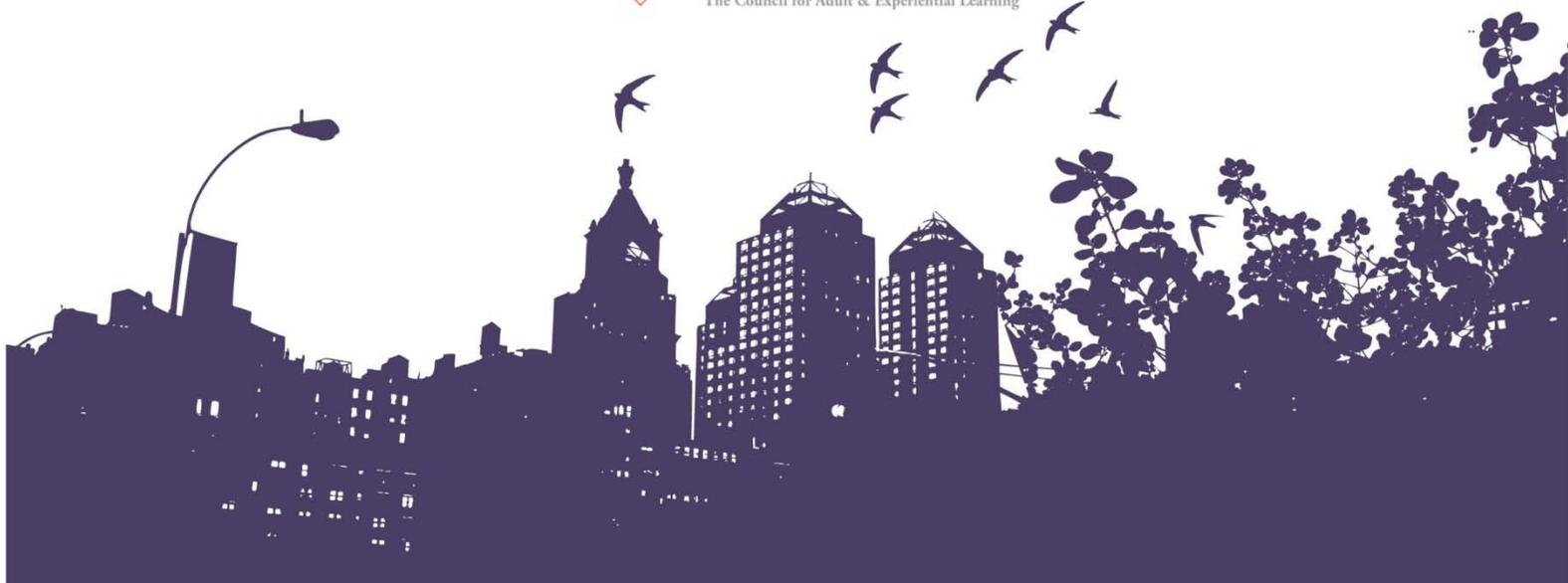




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Introduction & Overview

“The United States is clearly heading toward a new era in terms of its energy policy, energy infrastructure, and energy-based economy. Elected officials at all levels of government and private markets are gearing up for massive investments in both new alternative fuel technologies and increased energy efficiency. There are many green jobs in our economy already, but that figure stands to grow tremendously over the coming years due to market forces, legislation, and local initiatives, or some combination thereof. The vast majority of green jobs are not location dependent, so future green jobs will be located in cities and metropolitan areas that are currently the most attractive for investment, or areas that actively increase their attractiveness relative to competing areas. The good news is that traditional industries continue to be replaced by new opportunities, and we have only just begun to tap into many of them.”

—“Current and Potential Green Jobs in the U.S. Economy,” a report to the United States Conference of Mayors by Global Insight, October 2008.

From Rhetoric to Results

There is a loud and burgeoning buzz these days about the “new green economy” and its potential to deliver everything from high-quality “green jobs” to reduced carbon emissions to enhanced energy security. Campaign slogans. Commission reports. Conferences. Cover stories. But how can cities and metropolitan regions work with their key partners, from the private sector to community colleges, to their state and federal government counterparts, to turn the rhetoric into on-the-ground results? That is the bailiwick of this Resource Guide.

Even before Paul Hawken, Amory Lovins, and Hunter Lovins penned the seminal book *Natural Capitalism* in 1999, a lot of people were thinking, talking and getting excited about “the next Industrial Revolution,” which is the notion that as we transition to a more ecologically respectful

Employment Impacts of Alternative Energy Sources				
Job creation per \$1 million in output				
Energy source	Direct job creation per \$1 million in output (# of jobs)	Indirect job creation per \$1 million in output (# of jobs)	Direct and indirect job creation per \$1 million in output (# of jobs)	Direct and indirect job creation relative to oil (% difference)
Fossil fuels				
Oil and natural gas	0.8	2.9	3.7	–
Coal	1.9	3.0	4.9	+32.4%
Energy efficiency				
Building retrofits	7.0	4.9	11.9	+221.6%
Mass transit/freight rail (90% MT, 10% FR)	11.0	4.9	15.9	+329.7%
Smart grid	4.3	4.6	8.9	+140.5%
Renewables				
Wind	4.6	4.9	9.5	+156.8%
Solar	5.4	4.4	9.8	+164.9%
Biomass	7.4	5.0	12.4	+235.1%

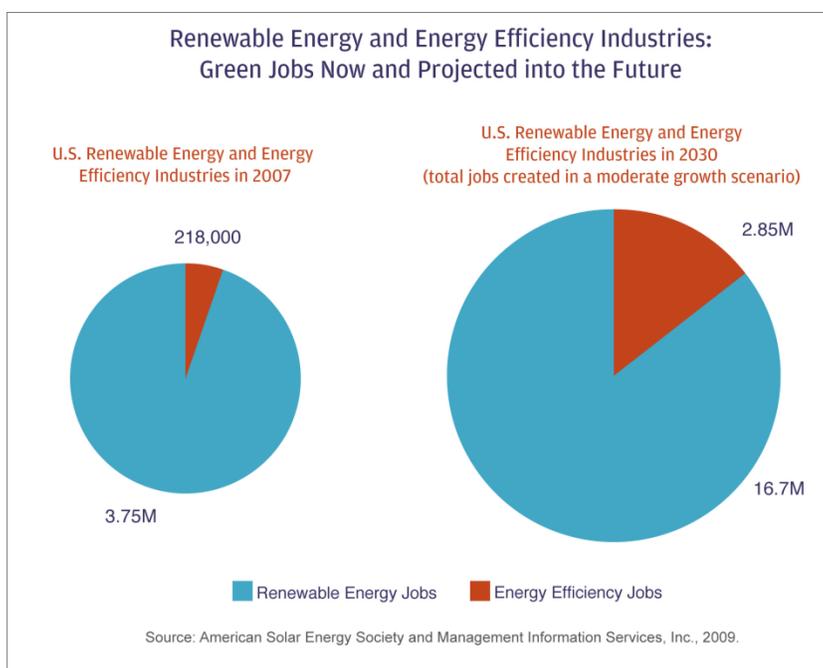
Source: Political Economy Research Institute University of Massachusetts, Amherst and Center for American Progress



and lower-carbon economy, one that is significantly more energy-efficient and relies much more on cleaner, renewable sources of energy, we will create whole new industries and myriad employment opportunities.

Van Jones, the environmental and civil rights leader who founded the nonprofit organization Green for All, was one of the first to inject social equity and poverty alleviation goals into the conversation. “We can connect the people who most need work to the work that most needs to be done,” Jones wrote in *Green Collar Economy* (2008). “We can fight pollution and poverty at the same time.”

The interest in, and excitement about, green jobs has skyrocketed further still in the last few years. Clean energy-related economic development and job creation were major themes in the 2008 U.S. presidential campaign, and they have emerged as key priorities for both the Executive and Legislative branches of the Federal Government. For example, the American Recovery and Reinvestment Act is infusing more than \$50 billion into the energy efficiency and renewable energy sectors. This federal assistance, much of which is flowing directly to cities, metropolitan areas and states in the forms of grants, tax incentives, and loan guarantees, is “the biggest financial impetus to the clean energy industry in U.S. history.”¹ And another \$1 billion is being directed toward green jobs training efforts, including \$500 million for energy efficiency and renewable energy-related training through the Green Jobs Act of 2007. As researchers from the Heldrich Center for Workforce Development at Rutgers University put it, “No one can be sure if the stimulus package will create the promised 500,000 green jobs by the end of 2010, but it is certain that there will be enormous opportunities for workers with a wide range of education and skills.”



Projections of future green job growth vary widely, due in part to differing definitions. For example, the Peter G. Peterson Institute for International Economics and the World Resources Institute estimated that a billion dollar investment in clean energy-related economic recovery would create about 30,000 jobs². And the Center for American Progress estimated that a \$100 billion “green recovery program” featuring investments in several energy efficiency and renewable energy strategies—retrofitting buildings, expanding mass transit, constructing “smart grid” systems, and

¹ *Preparing the Workforce for a ‘Green Jobs’ Economy*, Jennifer Cleary and Allison Kopicki, Heldrich Center for Workforce Development at Rutgers University, February 2009.

² *A Green Global Recovery? Assessing U.S. Economic Stimulus and the Prospects for International Coordination*, Trevor Houser, Shashank Mohan and Robert Heilmayr, World Resources Institute, February 2009.



producing wind and solar power and next-generation biofuels—would translate into two million new jobs within two years.¹

Few disagree that the potential for green jobs exists. However, there are significant differences of perspective and opinion about the magnitude of that potential—and how best to “make it so.”

What Do We Mean by “Green Jobs”?

There is no single, standard definition of a “green job” or a “green collar job.” The Sightline Institute, a Seattle-based nonprofit organization, offers this working definition:

The term “green collar job” describes the growing number of jobs focused on sustainable products or services: electricians installing energy-efficient lights, technicians and manufacturers making wind turbines, construction crews with caulk guns. Though they can be found in all income brackets and industries, including public and community organizations, the majority are blue-collar jobs with a sustainable edge.

Green collar jobs are those held by employees who devote a substantial share of their work hours to activities that boost energy efficiency, increase the supply of renewable energy, or prevent, reduce or clean up pollution.

The U.S. Department of Labor recently released a draft definition that could be used to establish a baseline against which to track progress over time:

Broadly defined, green jobs are jobs involved in economic activities that help protect and restore the environment and conserve natural resources. These economic activities generally fall into the following categories:

- *Renewable energy*
- *Energy efficiency*
- *Greenhouse gas reduction*
- *Pollution reduction and cleanup*
- *Recycling and waste reduction*
- *Agricultural and natural resources conservation*
- *Education, compliance, public awareness and training*

This green jobs module of our Climate Leadership Academy (CLA)—and therefore this Resource Guide—are more narrowly focused, mostly on the top three categories in the list above. The CLA’s purpose is to help practitioners in cities and metropolitan areas work effectively with key partners and stakeholders to improve, expand and accelerate local solutions to global climate disruption, such as more energy-efficient building stocks and transportation systems, and increased use of renewable energy sources, such as wind and solar power and next-generation biofuels. Therefore, this Resource Guide focuses on the job creation opportunities associated with those activities.

¹ *Green Recovery: A Program to Create Good Jobs and Start Building a Low-Carbon Economy*, Robert Pollin, Heidi Garrett-Peltier, James Heintz and Helen Scharber, Center for American Progress and Political Economy Research Institute at University of Massachusetts Amherst, September 2008.



Jobs That Will Build the Green U. S. Economy and Fight Global Warming

Strategies for Green Economy Investments	Representative Jobs
Building Retrofitting	Electricians, Heating/Air Conditioning Installers, Carpenters, Construction Equipment Operators, Roofers, Insulation Workers, Carpenter Helpers, Industrial Truck Drivers, Construction Managers, Building Inspectors
Mass Transit	Civil Engineers, Rail Track Layers, Electricians, Welders, Metal Fabricators, Engine Assemblers, Production Helpers, Bus Drivers, First-Line Transportation Supervisors, Dispatchers
Energy-Efficient Automobiles	Computer Software Engineers, Electrical Engineers, Engineering Technicians, Welders, Transportation Equipment Painters, Metal Fabricators, Computer-Controlled Machine Operators, Engine Assemblers, Production Helpers, Operations Managers
Wind Power	Environmental Engineers, Iron and Steel Workers, Millwrights, Sheet Metal Workers, Machinists, Electrical Equipment Assemblers, Construction Equipment Operators, Industrial Truck Drivers, Industrial Production Managers, First-Line Production Supervisors
Solar Power	Electrical Engineers, Electricians, Industrial Machinery Mechanics, Welders, Metal Fabricators, Electrical Equipment Assemblers, Construction Equipment Operators, Installation Helpers, Laborers, Construction Managers
Cellulosic Biofuels	Chemical Engineers, Chemists, Chemical Equipment Operators, Chemical Technicians, Mixing and Blending Machine Operators, Agricultural Workers, Industrial Truck Drivers, Farm Product Purchasers, Agricultural and Forestry Supervisors, Agricultural Inspectors

Source: Political Economy Research Institute University of Massachusetts, Amherst

Delivering on the Promise: What Practitioners are Saying about the Key Challenges

Spurred in part by the surge of federal legislation and investments mentioned above, there is a great deal of green job creation innovation and experimentation underway in cities across the U.S. More than 20 of these promising practices are showcased in this Resource Guide.

From Austin’s efforts to incubate a regional “smart grid” industry to Detroit’s efforts to re-tool its car plants to produce wind turbines instead, cities are using a range of tools—policies, incentives, employer engagement strategies, and purchasing and infrastructure investments, for example—to green their economies and create green jobs and careers.

Many cities have pioneering efforts underway to channel workforce training and job opportunities to lower-income and other less-advantaged segments of their populations. Examples include Portland, Oregon’s groundbreaking Community Workforce Agreement, Cleveland’s Evergreen Cooperatives, Chicago’s Green Jobs Corps, and Santa Fe’s YouthWorks initiative.



Some cities and metropolitan regions, such as San Antonio, San Jose, and the East Bay Corridor in California are taking relatively comprehensive approaches to establishing an overarching “green economy” vision, assessing the market, and systematically identifying and addressing gaps on both the demand and supply sides of the green job equation.

In short, many American cities and metropolitan areas are on the path toward a comprehensive, integrated and sustainable approach to green economic development systems that create green jobs and career pathways, reduce carbon emissions, and improve quality of life.

But there are a number of hurdles on that path. To better understand the challenges practitioners are facing on-the-ground right now—and to guide the scope and content of this Resource Guide—we consulted with more than 50 leaders from cities and metropolitan regions across the country, as well as experts from leading government and non-profit organizations. These eight themes emerged from those consultations, and together constitute the scope of this Resource Guide:

1. **What is the “best” role for cities vis-à-vis green job creation?** Green economic development and green job creation involve a wide and complex range of players. So much is largely outside of the direct control of local governments, including everything from federal climate and energy policy to national and international market forces. So what is the “best” role for cities? What are cities’ key leverage points? How do cities exercise leadership in such a complicated realm?
2. **How can we achieve the kind of comprehensive and coherent approach to green economic development and green job creation that we understand is necessary for success?** For example, how can we better integrate our work across sectors, agencies, and levels of government? Historically, our climate, energy, economic development, and social welfare goals have been the responsibility of different agencies, even within a single local government. How do we overcome those kinds of institutional barriers? How do we merge our climate action plans and sustainability agendas with our economic development and poverty alleviation strategies? How do we better-align local, state and federal policies, programs and investments related to green job creation?
3. **How can we collaborate more effectively with key partners and stakeholders,** including the private sector (utilities, individual companies and business associations, financial institutions, etc.) and workforce development entities such as community colleges and labor unions? In particular, how can we engage more effectively with current or prospective “green” employers—that is, the small, medium-sized and large businesses that are providing, or could provide, high-quality green jobs and careers for our residents?
4. **How do we bolster both the demand for, and the supply of, skilled “green” labor?** For example, how do local governments work collaboratively and effectively with their private-sector employers to increase both the quality and the quantity of “green jobs”? What are the best tools and approaches available to cities in this regard? Similarly, how can cities work with a variety of partners—community colleges, labor unions and other workforce training and development organizations—to develop a coherent green workforce development system that delivers the skilled labor to meet demand, when and where it occurs?
5. **How can we achieve the desired synchronicity between the demand for, and supply of “green” jobs and skills?** It’s especially important, and challenging, to get the timing right, i.e. to ensure that we don’t train workers for green jobs that don’t exist, and vice versa. As one practitioner told us, “One of the worst things we can do is train people for jobs that don’t exist.”



6. **How do we help entrepreneurs and small businesses, in particular?** Small businesses constitute the majority of the employer base in most U.S. cities, and together with entrepreneurs are key players in the green job creation equation. However, existing economic development and workforce development strategies and programs don't necessarily provide these entities with the necessary support.
7. **How do we ensure that we are creating opportunities for lower-income people and other less-advantaged segments of our population?** For example, how do we ensure that lower-income residents have equal access to "green" skills training and job opportunities?
8. **How do we create sustainable green job creation and green workforce development systems**—that is, systems that do not depend on a single "green" industry sector (such as building energy efficiency retrofitting) or a one-time infusion of funding (such as American Recovery and Reinvestment Act grants)?

About this Resource Guide

This Resource Guide is a synthesis of the best available information we were able to find on the ways in which experts and practitioners across the country are working to meet the challenges outlined above. It is intended to help practitioners in cities and metropolitan regions meet those challenges, by showcasing "promising practices" in green job creation, and by providing efficient, user-friendly access to some of the very best information and resources that are available.

This Resource Guide is not an exhaustive compilation of available information—a near-impossible task given the large and growing volume of studies, reports, websites, books and blogs on the topic of green jobs. However, the Guide is the result of an intensive effort by the ISC team, including dozens of phone consultations with leading experts and practitioners and a great deal of web-based research, to identify, compile, vet and synthesize useful information on innovative policies, programs and practices being deployed throughout the country.

The four chapters of the Resource Guide organize and address the eight challenges above by topic area:

I. INTEGRATED APPROACHES TO GREEN JOB CREATION

This chapter discusses how we can achieve the kind of comprehensive and coherent approach to green economic development and green job creation that we understand is necessary for success; how we can collaborate more effectively with key partners and stakeholders; and how we create sustainable green job creation and green workforce development systems (challenges 2, 3, and 8 above).

II. ENGAGING BUSINESS IN GREEN JOB CREATION

This chapter discusses how we can collaborate more effectively with key partners and stakeholders; how we bolster both the demand for, and the supply of, skilled "green" labor; how we can achieve the desired synchronicity between the demand for, and supply of "green" jobs and skills; and how we help entrepreneurs and small businesses, in particular (challenges 3, 4, 5, and 6 above).



III. OPPORTUNITIES FOR ALL: POLICIES, PROGRAMS, AND PARTNERSHIPS TO HELP DISADVANTAGED WORKERS

This chapter discusses how we can collaborate more effectively with key partners and stakeholders; how we can achieve the desired synchronicity between the demand for, and supply of “green” jobs and skills; and how we ensure that we are creating opportunities for lower-income people and other less-advantaged segments of our population (challenges 3, 5, and 7 above).

IV. LEADERSHIP: THE ROLE OF CITIES IN GREEN JOB CREATION

This chapter discusses roles for cities vis-à-vis green job creation, and how we create sustainable green job creation and green workforce development systems (challenges 1 and 8 above).

Also based on feedback from practitioners, each of these sections of the Resource Guide consists mostly of two types of information:

- *Snapshots and Case Studies* (more than 20 of them) that summarize many of the most promising practices in green job creation by topic area that we came across, with a strong focus on the “how” versus the “what”—that is, the underlying leadership strategies and success factors. The brief introduction to each chapter synthesizes common themes across the stories in the chapter. Many of the stories speak to more than one topic area; the syntheses indicate where stories in other chapters are relevant.
- *Tiered lists of resources* that direct practitioners toward the topic-specific sources of information—studies, reports, articles, websites, organizations, etc.—that we believe are most likely to help them improve, expand and accelerate their green job creation efforts.

Finally, this Resource Guide is a work in progress, and always will be. While we produced it initially for those practitioners attending our first Climate Leadership Academy on Green Jobs (in Washington, D.C. on May 24-26, 2010), we intend to update and expand it on a regular basis, and make it available to local practitioners everywhere.

References

- “A Green Global Recovery? Assessing U.S. Economic Stimulus and the Prospects for International Coordination” by Trevor Houser, Shashank Mohan and Robert Heilmayr. **World Resources Institute**, February 2009.
- “Current and Potential Green Jobs in the U.S. Economy.” **Global Insight**, United State Conference of Mayors, October 2008.
- “The Economic Benefits of Investing in Clean Energy” by Robert Pollin, James Heintz and Heidi Garrett-Peltier. **Center for American Progress and Political Economy Research Institute at University of Massachusetts Amherst**, June 2009.
- The Green Collar Economy: How One Solution Can Fix Our Two Biggest Problems* by Van Jones. Harper Collins, 2008.
- “Green Collar Jobs: Realizing the Promise” by Alan Durning and Jennifer Langston. **Sightline Institute**, October 2009.
- “Green Prosperity: How Clean Energy Policies Can Fight Poverty and Raise Living Standards in the United States” by Robert Pollin, Jeannette Wicks-Lim and Heidi Garrett-Peltier. **Political Economy Research Institute at University of Massachusetts Amherst, Natural Resources Defense Council, and Green for All**, June 2009.



“Green Recovery: A Program to Create Good Jobs and Start Building a Low-Carbon Economy” by Robert Pollin, Heidi Garrett-Peltier, James Heintz and Helen Scharber. **Center for American Progress and Political Economy Research Institute at University of Massachusetts Amherst**, September 2008

“Job Opportunities for the Green Economy: A State-by-State Picture of Occupations That Gain from Green Investments” by Robert Pollin and Jeannette Wicks-Lim. **Political Economy Research Institute at University of Massachusetts Amherst**, June 2008.

“Preparing the Workforce for a Green Jobs Economy” by Jennifer Cleary and Allison Kopicki, Heldrich. **Center for Workforce Development at Rutgers University**, February 2009.

“U.S. Department of Labor wrestles with defining ‘green jobs’” by Erica Bouris. *San Diego News Network*, April 13, 2010.

“Winning the Race: How America Can Lead the Global Clean Energy Economy” by Matthew Mayrl and Phil Mattera. **Apollo Alliance**, March 2010.

PERSPECTIVES FROM THE FIELD: GREEN JOBS PATHFINDER

Interview with Majora Carter

Majora Carter simultaneously addresses public health, poverty alleviation, and climate change as one of the nation’s pioneers in successful urban green-collar job training and placement systems. She founded Sustainable South Bronx in 2001 to achieve environmental justice through economically sustainable projects informed by community needs. Her work has earned numerous awards including a MacArthur “Genius” Fellowship, one of Essence Magazine’s 25 Most Influential African-Americans, and one of the NY Post’s Most Influential NYC Women. She is a board member of the Wilderness Society, SJF,



Image credit: theroot.com

and CERES; and hosts a special national public radio series called “The Promised Land” (thepromisedland.org). Her work now includes advising cities, foundations, universities, businesses, and communities around the world on unlocking their green-collar economic potential to benefit everyone as President of the Majora Carter Group, LLC.

ISC: The Institute for Sustainable Communities’ Green Jobs Climate Leadership Academy will bring together fifteen city-led teams. Each team will include representatives of city agencies (primarily climate, economic development and workforce practitioners) plus representatives of local employers, nonprofit partners, and unions. If you were in the room what would be the most important points you’d want to share about cities and green jobs?

MC: There is a myth that “going green” is somehow more costly than we can afford. It would be easier to make that point if there were some others in the room not mentioned here. Storm water



management is one of the biggest bills on City/County budgets. They are a drag on local bond ratings—and that means taxpayer money going to banking interests in the form of fees, instead of going into the people who can make projects a reality.

The climate is changing with more extreme conditions and overall increasing high temperature days. Creating urban greenways and green roofs is one of the most cost effective ways of managing urban heat island effects, air quality, storm water, and the myriad social benefits of aesthetically pleasing environs for people.

Citizens returning to society from prison, often suffer from social isolation. So do a large percentage of people in generational poverty. It is very similar to feelings expressed by a growing number of veterans returning from wars in the Middle East.

All three groups have high percentages of prescription / illegal drug and alcohol abuse, domestic violence, inability to hold jobs, depression. These all create reciprocal cost for other social service agencies. It turns out that Horticultural Engineering activities are a proven, cost effective method of treating people for social isolation related conditions—including a growing number of elderly Americans.

Low Impact Designs (as outlined in the 2007 EPA cost benefit analysis) employ many ways to manage storm water more cheaply, improve property values everywhere, and put people to work doing activities that provide therapeutic benefits for them, and their families.

Green jobs like these and others can be leveraged in ways that won't employ the largest numbers of people, but will turn around our most expensive citizens from tax burdens to tax payers. That means less money wasted, and more coming in. Wherever you are in America, there are people coming out of prison and back from Iraq/Afghanistan all the time. They need our help, and we need theirs.

ISC: What are some of the common problems you see that are holding city governments back from growing economic sectors and spurring green job creation?

MC: Many engineering outfits with very conventional design histories are leading long-range plans of all sorts. Cities need to support leadership that takes the reins of those processes—especially to be aware of the social cost vectors inherent in non-green design/practices.

I am always so encouraged when I see talented social/political leaders at all levels who are taking a ten and twenty year long look at their decisions. But lack of support for that vision holds back city governments from really growing the green economic sector.

In the meantime, we are planning and building systems that are unable to adapt and benefit from innovation over their decades of operation, and they are NOT cheap.

ISC: What are the most effective ways to ensure that new jobs in an increasingly green economy are equitably distributed so that low-income communities of color benefit?

MC: RFPs need to be designed with social cost vectors in mind as well. If we know that small businesses are the most productive in a local economy, then we could, for instance, design regulations so that storm water facilities can be built and maintained by an average contractor with a truck and small crew. Those are good jobs and represent part of a flexible, diversified economy.



If we only design systems that need big cranes and mega insurance to build & maintain, then we limit how often those dollars can flow through the local economy. By getting more dollars circulating within those low-income communities, we can increase their participation in a healthy, green economy.

Building climate adaptation measures starting with areas that have suffered environmentally degraded quality of life for decades (low income communities of all colors), is another strong position to start from. Making local (really local) hiring rules in conjunction with regional job training assets is another great way to include your areas best resources with the projects that will benefit the most people.

ISC: In the South Bronx you saw the creation of green jobs as part of the solution to the environmental—and social—problems you were trying to solve. What will it take for other places around the country to begin to think as you did in New York?

MC: The really great thing about America, and one of the reasons I smile so much, is the tremendous ingenuity and potential I see in the cities I visit on speaking tours. Talent and leadership are out there, and part of my job is to bring them to the surface in ways that allow everyone to move forward—I love my job!

ISC: Are there opportunities for individual entrepreneurs in places like the South Bronx to make a living while improving environmental conditions? If so, what can cities do to support these business people?

MC: Yes, but there is potential for so much more. NYC has pledged to start spending the nearly \$45M in South Bronx Greenway funds for several years, but so far has not broken ground. When it does come, it will provide jobs in the form of bike shops, juice vendors, cafés, etc. These business activities can improve a very important aspect of the urban environment: safety. More eyes on the streets reduces crime, so build those green ways!

Some graduates from Sustainable South Bronx's BEST program are green roof maintenance specialists. We helped pass a \$4.50/square ft green roof property tax abatement, but the rules have been delayed in the bureaucracy. It doesn't have to be that hard. Cities can accelerate the good policies, instead of slowing down everything. Chicago did a great job of fast tracking green building plans through the permitting process—saving money for everyone.

Cities can write verifiable local hiring standards that can ensure certain projects employ the people who will live nearby.

ISC: Many cities have sustainability plans but most aren't making the connection between sustainability planning and green jobs. Why do you think that is and how can that dynamic be changed?

MC: I can't encourage strongly enough, the need to trace the paths of dollars though your local economy. The more we can keep them circulating close by, the more jobs we can create. Cities often chase after sweetheart deals with very big corporations that take the profits elsewhere, while leaving us with lots of low-wage, part-time jobs, and high social service costs to deal with that imbalance.

These almost always end up costing more than they contribute to an economy. Sustainability plans have to include projects that produce greater numbers of middle class jobs. Shifting that cost balance and seeing the lateral benefits for all city agencies and departments takes creative leadership.

I have had the privileged of being in the room with people who exhibit that creative leadership when they are given the chance.



Resource List

RECOMMENDED RESOURCES

1. Bureau of Labor Statistics: Measuring Green Jobs

This webpage provides information on the status of the development of the Bureau of Labor Statistics' green jobs definition and data. BLS began work with other DOL agencies and key organizations in FY2010 to define and produce data on green jobs. These activities are conducted through the Quarterly Census of Employment and Wages and Occupational Employment Statistics programs.

By **Bureau of Labor Statistics**, 2010

Website ▶ <http://www.bls.gov/green>

2. Efficiency Cities Network Past Calls

This web-based archive of webinars on energy efficient cities and job creation provides information on many topics useful to city practitioners seeking to drive demand for green jobs and train green collar workers, for example: what scale energy efficiency program is necessary to achieve equity; pre-retrofit repairs; working with CAP agencies; using municipal bonds to support energy efficiency projects; aggregating properties to achieve scale; overcoming the split incentive and reaching renters; determining metrics for success; pathways to apprenticeship; project labor agreements, community benefit agreements, and career pathways.

By **Efficiency Cities Network**, 2009-present

Website ▶ <http://www.efficiencycities.org/past-calls>

OTHER USEFUL INFORMATION

3. Creating Quality Jobs: Transforming the Economic Development Landscape

This report assesses the issue of quality job creation from the economic developer's viewpoint, and finds through several US case studies that emerging practice in economic development for quality job creation is inclusive, strategic, adaptive and system-driven. Case studies covered are Ponca City OK, San Jose CA, Newton IA, Albuquerque NM, Tupeloo MS, Pittsburgh PA, and Akron OH.

By **International Economic Development Council**, 2010 Mar

Download ▶ http://www.iedconline.org/Downloads/IEDC_Quality_Jobs.pdf

4. Green for All's People & Programs

This webpage links to profiles of several promising green collar jobs programs around the country.

By **Green for All**

Website ▶ <http://www.greenforall.org/resources/people-programs>

5. Apollo Alliance Signature Stories

This webpage links to profiles of several promising green collar jobs programs around the country.

By **Apollo Alliance**, 2010

Website ▶ <http://apolloalliance.org/category/green-collar-jobs/signature-stories-green-collar-jobs>



6. **Research brief: Preparing the Workforce for a “Green Jobs” Economy**

This article identifies the types of jobs and skills with the most potential in the new energy economy. It presents strategies for building competitive, flexible policies and workforce systems that can respond to emerging employer needs and highlights national best practices.

By Jennifer Cleary and Allison Kopicki, **John J. Heldrich Center for Workforce Development at Rutgers University**, 2009 Feb

Download ► http://www.heldrich.rutgers.edu/uploadedFiles/Publications/Heldrich%20Center_Green%20Jobs%20Brief.pdf





I. Integrated Approaches to Green Job Creation

Cities seeking to foster green job creation have a spectrum of approaches available to them, from programs that green existing skills and occupations, to growing particular green sectors, to rethinking the entire economy. This range is analogous, and sometimes corresponds, to the variety of players that can catalyze a green jobs initiative: the mayor's office, public or nonprofit economic development agencies, business alliances or leading employers, community foundations, workforce development entities, and unions. The most promising approaches we've reviewed all point to one factor for success in creating a significant number of well-paying jobs: development of an integrated, locally grounded approach to green job creation.

The case studies that follow show integrated approaches to creating green jobs, which include many, if not all, of the following components:

Coordination of key stakeholders around goals. Public, private and nonprofit agencies may each have their own goals of jobs created, number of trainees, environmental impact, revenue growth, or membership. Stakeholder groups that take the time to understand each other's goals, how they translate to their own priorities, and where there are synergies, are more likely to collaborate productively going forward (Fort Collins, Philadelphia, and Santa Fe).

Coordination of key stakeholders around tasks. Not all stakeholders may be available or appropriate for all phases of a green jobs initiative. The case studies in this guide and elsewhere show that smaller groups within the full spectrum of stakeholders can be convened for different activities. These activities can include providing guidance or ensuring ongoing alignment of activities to stakeholder needs and goals (Milwaukee and San Jose); implementing individual components of a plan (San Antonio); submitting funding proposals (Fort Collins); assembling full suites of services for historically disadvantaged populations; and coordinating regional approaches beyond city boundaries (East Bay).

Mapping of current business, institutional, training, and financing assets in the community. Asset mapping can be done in various ways. For a green jobs initiative, assets of relevance include current employers and their modes of business, training capacity, and community development funding institutions.

Although employer engagement is important at any stage, in asset mapping it is critical. The stories in this guide show that involving area businesses in green jobs initiatives contribute to the actionability of plans (San Antonio), high trainee placement (Milwaukee and Santa Fe), scaling up of economic development (Sacramento), and effective responsiveness to funding opportunities (Fort Collins). In addition, mapping businesses in a community provides a basis for assessing the potential for economic growth.

Institutional mapping can be similar to business mapping in that institutions are employers. In addition, public, educational, and medical institutions can be the source of new green service business opportunities (Cleveland), enable research-driven tech business spinoffs (Sacramento, Syracuse, and the East Bay), or be consumers of locally produced green technology (Fort Collins).



Different training agencies—community colleges, workforce investment boards, unions, and employers—have sector, jobs skills, and green skills training that can be integrated to provide training that leads to careers, not just entry-level jobs. These entities may or may not already be coordinated; an asset mapping can reveal opportunities to mesh a wider group of stakeholders (Los Angeles).

Stakeholders all have some financial resources to bring to the table, be they in community, economic, or workforce development funds. Combined with an understanding of stakeholder goals, mapping the financial resources available to a green jobs initiative can highlight new opportunities for collaboration (Cleveland).

Assessing the potential for green sector growth. Employers often conduct their own growth forecasts, as do state and regional economic development institutions; pending or new policies can also stimulate sector growth. Assessing growth potential should integrate this data and these perspectives (Philadelphia). A second aspect of assessing growth potential looks at the existing landscape of area and regional businesses to identify emerging or potential industry clusters. Cluster potential can be based on manufacturing capacity that can be retooled to a green industry (Minneapolis, St. Paul, and Detroit); the presence of a number of businesses in the same green sector (Sacramento); existing regional assets that can be pooled to start-up or attract green enterprises (the East Bay); or businesses that can be part of new green employer’s supply chain.

Identification of gaps in the training, placement, and business development system. Employers may see growth opportunity but have trouble finding quality, local candidates. Relating these needs to existing training programs highlights opportunities to increase this pool (Milwaukee and Seattle).

Creation of a plan that lays out roles, actions to address gaps, and an assessment strategy. A plan helps ensure that the initiative is systematic and integrated in approach, provides a framework for action, and serves as a reference for stakeholders (San Antonio). A plan that includes quick-win activities can help build momentum (Fort Collins).

Pursuit of strategic funding and resource allocation opportunities to realize the plan. Case studies show that grant proposals are more likely to succeed when they feature coordinated stakeholders, locally-grounded information on potential, a clear picture of gaps and needs, and strategic alignment with a broader plan and vision (Fort Collins, Sacramento, and Oakland).

References

8 Elements of a Successful Green Jobs Initiative, **Council for Adult and Experiential Learning (CAEL)**, 2009.

Building Partnerships for Economic Vitality, William H. Woodwell, Melissa Germanese and Katie Seeger, **National League of Cities**, December 2006.

“The Climate Prosperity Handbook—Getting Started Guide: Climate Prosperity Strategies in Your Community” by Shari Garmise, Phillip Singerman, and Elizabeth Thorstensen. **International Economic Development Council**, July 2009.

“Green-Collar Jobs in America’s Cities: Building Pathways Out of Poverty and Careers in the Clean Energy Economy, **Apollo Alliance and Green for All, with Center for American Progress and Center on Wisconsin Strategy**, 2008. The Climate Prosperity Handbook—Getting Started

Guide: Climate Prosperity Strategies in Your Community, Shari Garmise, Phillip Singerman, Elizabeth Thorstensen, International Economic Development Council, July 2009.
Guide to Green Jobs Development, ICLEI USA, May 2009.

SNAPSHOT: COMMUNITY FOUNDATION LEADS A COLLABORATIVE STRATEGY

Fort Collins' FortZED Initiative

FortZED is transforming an area in the city of Fort Collins—including the Colorado State University campus and the city's downtown district—into a zone that will potentially generate as much energy as it consumes. The aim is to demonstrate the use of distributed energy sources and smart grid technologies. The project results from the collaborative efforts of many stakeholders, including the City of Fort Collins, Larimer County, CSU, the Northern Colorado Clean Energy Cluster, the Governor's Energy Office, UniverCity Connections, and other local businesses and organizations.

The Community Foundation of Northern Colorado's UniverCity Connections is a "town-gown" organization focused on bringing the community together and catalyzing opportunities for positive change with a focus on three of Fort Collins' community assets: Colorado State University, Downtown, and the Poudre River. The organization bills itself as a catalyst for public participation, serving as a think tank for community vision and as a neutral convener that creates the community connections necessary for ideas to evolve into positive change.¹

Beginning in the spring of 2007, UniverCity Connections organized a large community visioning process that resulted in a sustainable energy vision. The means to realize the vision included building on Colorado State University's research, leveraging other clean tech fostering initiatives,

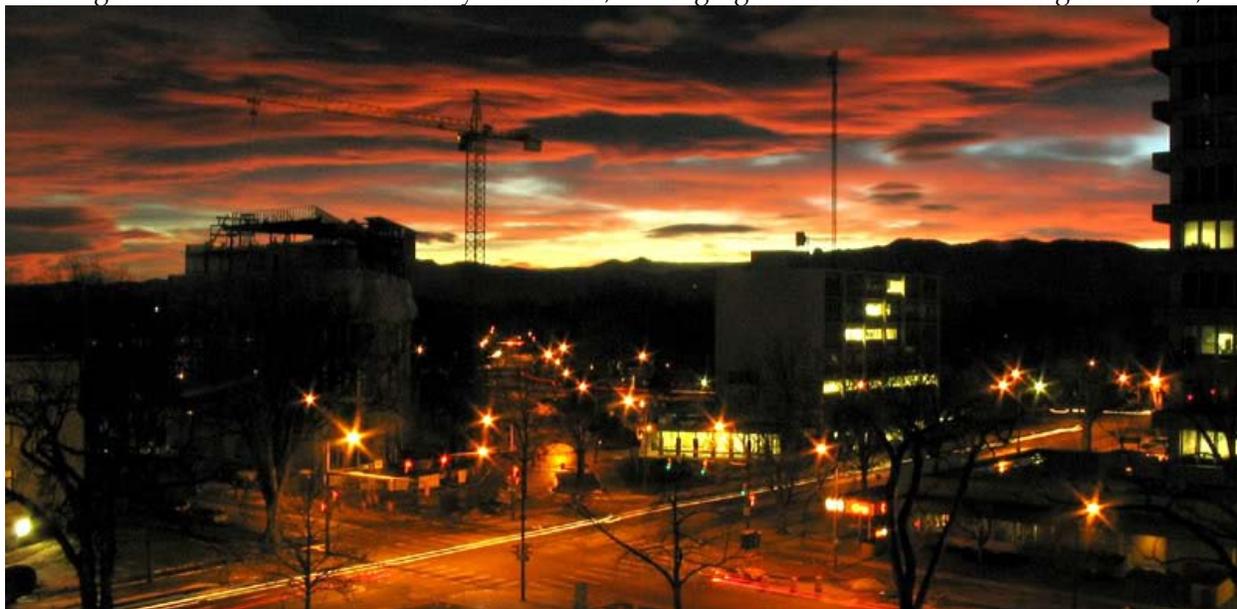


Image credit: Jesús E. Salgado

¹ <http://www.univercityconnections.org/2/Who%20is%20UniverCity%20Connections?>



and developing a strong regional brand on clean energy to spur economic development. Potential avenues of economic development included CSU business spin-offs, a clean energy commerce center, and new primary employers.

A UniverCity volunteer community task group then pulled in the Northern Colorado Clean Energy Cluster, a business incubator and economic development nonprofit organization, to convene a clean tech sector asset-mapping and needs-evaluation conversation with stakeholders. In this process they realized that a strong subset of CEC's members was in Fort Collins, and that there was an opportunity to create a region-wide smart grid starting with the CSU district as the pilot, or "jump start" area. The name and concept of FortZED, identifying an area that would produce as much energy as it used, was born.

Eventually it became clear that for the FortZED initiative to succeed, it could no longer be a volunteer, grassroots-run effort. Fort Collins Utilities and the Northern Colorado Clean Energy Cluster responded by committing staff, tools and expertise to the project.

As a result of the UniverCity-led visioning, strategizing, and partnership building process, a team was able to respond quickly to a 2007 RFP from the federal Department of Energy's Office of Electricity Delivery and Energy Reliability. The proposal team included the City of Fort Collins, the city's municipal utility, CSU, several private companies, and the county. The pre-existing relationships also enabled speedy fundraising of the required in-kind equipment match, service pledges and donations from private individuals, and financial commitments from the business and non-profit sectors. Conditional pledges also came in from UniverCity's host community foundation and the state energy office. The stakeholder-driven proposal and its focus on economic development contributed to a successful bid. FortZED also won a \$15.4 million matching funds grant to implement Smart Grid technologies.

The project has not been without its challenges. The full amount of the first DOE grant was not fully appropriated until the passage of ARRA, and the large number of diverse partners, though one of the project's strengths, also contributes to a complicated contracting process in project implementation.

References:

"City at a Glance: Clean Energy Cluster." **City Cable 14**, March 12, 2009.

"Fort Collins Utilities and the Clean Energy Cluster take on FortZED" by Andrea Coberly. **Fort Collins Now**, March 19, 2008

"FortZED gets \$6.3 million grant, moves forward with 'smart grid'" **Northern Colorado Business Report**, April 23, 2008.

"FortZED initiative demonstrates positive impact of grass-roots community teamwork." **Fort ZED press release**, October 2007.

"FortZED lags due to funding issues, tech focus" by Kristen Tatti. **Northern Colorado Business Report**, September 24, 2009.

"FortZED to take major role in city's 'smart' effort" by Bobby Magill. **Coloradoan.com**, January 1 2010.



MORE INFORMATION

<http://fortzed.com>

SNAPSHOT: BUSINESS ALLIANCE AND PRIVATE FOUNDATION-LED VISIONING

Silicon Valley Climate Prosperity Initiative

The Silicon Valley region has reframed the climate problem into an opportunity for economic development. Building on the local context—favorable state policies and leadership in the technology sector—the Silicon Valley Climate Prosperity Initiative created a strategic framework for growing its green economy, involving stakeholders from the public, private, and non-profit sectors to accomplish both environmental and economic goals.

The Silicon Valley Climate Prosperity Initiative turns the climate problem into an economic development opportunity, by coordinating local governments, venture capital, and business leaders to take advantage of state priorities and regional strengths.

The Joint Venture Silicon Valley network is a non-profit organization that provides analysis and organizes initiatives on issues affecting Silicon Valley's economy and quality of life. In 2008, the Rockefeller Brothers Fund and Global Urban Development funded a new national initiative called the Climate Prosperity Project, beginning with seven pilot regions, selecting Joint Venture to spearhead Silicon Valley's Climate Prosperity initiative. The Climate Prosperity Project promotes the view that protecting the environment need not come at the expense of economic growth or living standards. Instead the phrase "Climate Prosperity" asserts that the climate crisis is an opportunity to build new industry clusters, create new classes of jobs, and grow the economy, while at the same time enhancing quality of life and solving the pressing problem of climate change



Cover image from *Greenprint for Silicon Valley*

To ground their work, Joint Venture engaged Collaborative Economics, a consultancy, to set a plan for the initiative. The consultants interviewed many of the Valley's leaders to compile an inventory of the work already underway, and they identified new strategies to make the regional economy more sustainable.

The resulting plan, *Greenprint for Silicon Valley*, builds on the region's history of innovation and seeks to pull together its business, government, academia, labor and community leaders to encourage the growth of clean and climate-



friendly industries. The Climate Prosperity Initiative focuses on four areas based on the California Global Warming Solutions Act and the opportunity to leverage local resources: renewable energy, building efficiency, clean, convenient transportation and green infrastructure.

To achieve these goals, Joint Venture formed the Silicon Valley Climate Prosperity Working Group, chaired by San José Mayor Chuck Reed and Chris DiGiorgio, California Managing Director of Accenture. Although all but one of the Working Group's members are from the private sector, they understand the importance of working with local governments. Accordingly, they help the Bay Area Climate Change Collaborative to engage local governments in the Collaborative's efforts towards cross-sector collaboration in promoting energy efficiency, renewable energy, and other best practices at the regional, State and Federal levels. The Collaborative brings together leaders from 15 local governments, the business community, academia, and not-for-profit advocacy groups to address the challenge of climate change across the region.

This effort is currently focused on the following project areas:

- Accelerate improved energy efficiency in existing buildings
- Explore funding mechanisms to finance carbon abatement technologies
- Identify impediments to the adoption of renewable energy technologies
- Grow the energy storage industry in Silicon Valley
- Create a large scale demonstration site for the smart grid
- Grow the smart grid industry in Silicon Valley

This article is primarily excerpted from About Climate Prosperity, Joint Venture Silicon Valley Network.

Reference:

Partners, Bay Area Climate Change Collaborative

FOR MORE INFORMATION

Silicon Valley Climate Prosperity Initiative website,

http://www.jointventure.org/index.php?option=com_content&view=article&id=17&Itemid=284

“Climate Prosperity: Greenprint for Silicon Valley,”

<http://research.fhda.edu/Planning/Joint%20Venture%20Index/2009%20Greenprint%20for%20Silicon%20Valley.pdf>

SNAPSHOT: REGIONAL INTEGRATION OF STRATEGIES

East Bay Green Corridor in California

In California, the East Bay Green Corridor is a partnership of cities, universities, community colleges, and scientific research institutions, all working to pool their previously disparate green economic programs into a unified, coordinated green economic development strategy.

Founded in 2007, Corridor partners have already attracted \$76 million in federal stimulus money, and hope to innovate new green technology start-ups, develop spin-off businesses, and house

relocating green businesses to make the East Bay a national leader—the Silicon Valley of the green economy. Efforts also focus on training a skilled, local workforce that can supply emerging green economy jobs and serve as an asset to attract green businesses to the region.

Some of the East Bay Green Corridor’s other current priorities include:

- Working with partner cities to match green business space needs with available land, and develop more LEED-certified commercial and industrial space to attract green businesses
- Using policy and incentive programs to support green business development
- Applying UC Berkeley and Lawrence Berkeley Lab research at demonstration sites in the partner cities
- Expanding already successful job training programs such as the Oakland Green Job Corps and RichmondBUILD.
- Developing sectoral, supply-chain, and/or green business clusters
- Establishing an incubator for businesses emerging from institutional research

The consortium was formed at the urging of the UC Berkeley Chancellor Robert Birgeneau, who was concerned that many growing—and lucrative—businesses, which were developing from the cutting edge research on renewable energy at UC Berkeley and the Lawrence Berkeley National Laboratories, were forming and relocating outside the region. At the same time, the Joint Bio-Energy Institute in Emeryville had become one of the country’s leading biofuel research institutions, and East Bay cities were pioneering a variety of green building, financing, and job training programs, but doing so in isolation of one another.

The Chancellor suggested that combining the research and development capabilities of the labs and institutions with the cities’ desires to be leaders of the green economy would be beneficial for all parties, attracting more funding and more of the best scientific minds to the region. At the same time, a partnership would help grow the local economies and develop a green business technology cluster. In December 2007, the mayors of Berkeley, Oakland, Richmond, and Emeryville joined the Chancellor and the Director of Lawrence Berkeley Lab in announcing the formation of the Green Corridor.

The \$76 million in stimulus funding suggests the partnership is working. A \$30 million grant received by UC Berkeley and Lawrence Berkeley Lab is for research on carbon capture and underground storage. The cities of Oakland, Richmond, and Berkeley received a total of \$18 million for energy efficiency, green job training, and weatherization programs. The remaining \$28 million went to underground contaminant research at the Lawrence Berkeley Lab and equipment upgrades at the Joint Bio-Energy Institute. Corridor partners have also received over \$1 million in 2010 federal earmarks from Senators Feinstein and Boxer and Congresswoman Barbara Lee.

Despite these grant successes, the Green Corridor organizers are aiming to expand their scope. They recognize the importance of high-level technology and scientific research at partner institutions, both in terms of economic potential and national recognition, but want to ensure that the future East Bay economy also embraces the region’s workforce and serves its vulnerable populations. With that in mind, the charter members invited two community college districts (Peralta and Contra

Costa), four more cities (Albany, Alameda, El Cerrito, and San Leandro), and another university (Cal State East Bay) to be part of the consortium in the summer of 2009. Their inclusion will help the Green Corridor align its economic and workforce development goals, incorporate more skilled local workers into the green economy, and reach a greater percentage of the population in the East Bay “business-shed.”

The Corridor recently hosted its first annual Green Career Exploration Fair, attended by more than 300 students and 58 vendors (including businesses, colleges, non-profits, and workforce development programs), demonstrating its increased commitment to cultivating green jobs among local youth.

Current East Bay Green Corridor projects include developing more LEED-certified commercial and industrial space to attract green businesses to the region, and expanding already successful job training programs such as the Oakland Green Job Corps and RichmondBUILD.

For more information, visit www.ebgreencorridor.org

FOR MORE INFORMATION

East Bay Corridor website, www.ebgreencorridor.org

CASE STUDY: CITY-LED EFFORT FOR INTEGRATION

San Antonio’s Mission Verde Initiative and Mission Verde Center

Mission Verde is a combined environmental and economic policy for San Antonio. The planning process engaged many key stakeholders in the city, utilities, educational institutions, workforce development agencies and businesses (from both their economic development and employer perspectives). Mission Verde also included an in-depth assessment of the city’s employer needs and training resources to ensure that the resulting strategy for green business development and workforce development met the needs of the market. The result is a publicly supported strategy that consolidates institutions and resources into one-stop centers, aligns employer need with scalable training efforts, and puts San Antonio on a path toward sustainability.

THE BASICS

The Model. Mission Verde was presented to the San Antonio City Council in January 2010 and adopted in February 2010. More than an environmental policy, Mission Verde is an economic policy. Saving energy saves money. Renewable energy creates economic self-reliance. Fewer cars on the road mean less pollution, which carries its own economic costs. A green infrastructure, powered by green technology, creates jobs. Mission Verde addresses green infrastructure, green retrofitting, green jobs programs, and green venture

KEY CHARACTERISTICS

Industry Sectors. Construction, energy, water management

Workforce type. Entry level, blue-collar, white-collar

Financing: ARRA, utility rebates, state energy office, DOE grants

Partners. City, water and energy utilities, K-12 school district, community college, university, youth centers, workforce development

People Employed. 60 so far (about 75% placement)



capital. From San Antonio's Office of Environmental Policy:

"The plan is comprised of interlocking parts that successfully work in harmony. For example, the plan calls for the creation of a multi-tech venture fund. This is needed to help seed businesses that will drive new green and clean-tech technology and business models. A green jobs program, also recommended in the plan, is designed so that those businesses will not falter due to lack of workers. As the City leads by example, another initiative of the plan, the City's policy choices will also create and test the market for green businesses."

Mission Verde was initiated by Mayor Phil Hardberger and has continued under the leadership of Mayor Julian Castro and the Green Jobs Leadership Council. The Council is comprised of leaders in industry, education, economic and workforce development.

Mission Verde, approved by the San Antonio City Council in February 2010, includes ten specific initiatives:

- Building a 21st century urban infrastructure
- Create a Multi-Tech, double bottom-line Venture Fund
- Create a Green Jobs Program
- Use the City's Economic Development strategies to foster development of a 21st Century Sustainable Economy
- Adopt a green, high-performance building code for residential and commercial construction
- Build a Green Retrofit program for existing homes and buildings
- Create an integrated, efficient multi-modal transportation system
- Create new, sustainable real estate development that is mixed-use, mixed-income, walkable, and transit-oriented
- Create a one-stop center to coordinate sustainability efforts and to provide information for residents and businesses
- Address sustainability and resource efficiency across City facilities and departments

Of particular importance to creating green jobs are the Multi-tech Venture Fund, changes to the building code, and city economic development strategies. The Venture Fund feasibility study has been completed, fund managers have been selected, and private financing is being raised with the goal of investing in green and clean tech firms in San Antonio. The City's economic development program includes an incentive fund and tax abatement policies that support green technology, and extra incentives are available for building projects that achieve green certification. Movement towards high-performance green building standards encourages firms currently working in San Antonio to raise standards for building energy efficiency. In each case, the plan provides the infrastructure and support to address needed workforce skills related to the new incentives and requirements.

The Mission Verde Center. To prepare San Antonio residents to fill the green jobs that exist and which will be developed through Venture Fund and Economic Development efforts, the Green Jobs portion of Mission Verde included changes in the existing education and training offerings available.

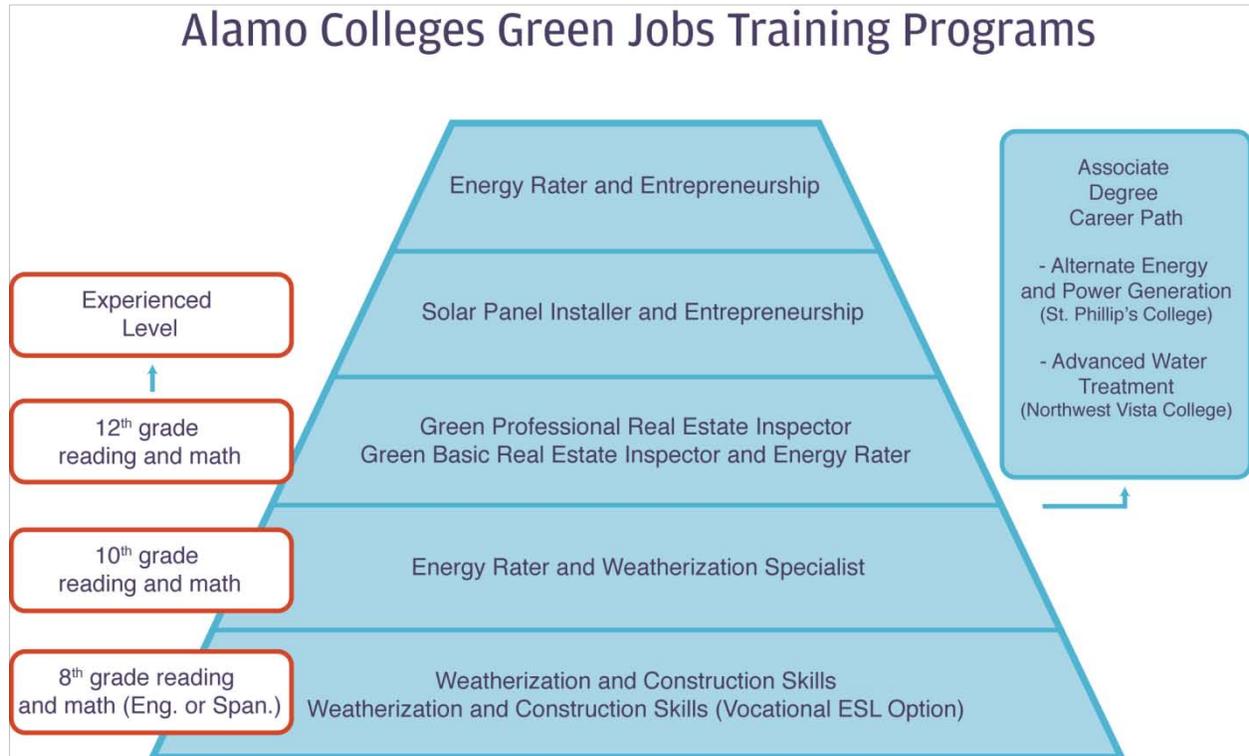


The plan also called for the development of a multi-purpose, multi-partner hub for green skills training—the Mission Verde Center (MVC) which opened in January 2010. The mission of the MVC is: To advance education, job training, and sustainable communities through innovation in renewable energy and resource conservation.

The MVC is a point of convergence for several elements of the Mission Verde initiative. Using \$1M in energy efficiency and conservation block grants, the City is undertaking energy efficiency and renewable energy retrofits at a former middle school. These improvements serve as a laboratory for engineering and design, energy auditing and skills training efforts in plumbing, equipment installation and maintenance, power systems, and green construction. Run by Alamo Colleges, the Center is home to all major education and training stakeholders in San Antonio, facilitating broad learning opportunities, high school and college credit, linkage to post-secondary education providers, as well as public utility employers and those participating in the retrofit, weatherization, and other elements of the Mission Verde initiative. An array of photovoltaics (48kw) will be added at MVC, under a grant from SECO awarded to the City. The systems will demonstrate different technologies in different mounting configurations that can be monitored remotely.

MVC also serves to draw younger students into green career pathways. Through the participation of San Antonio Youth Centers (SAYC), young people from around the city are engaged in the Center, including participation in the “Energy for the Future Exploratory Camp,” where elementary and middle school children learn about renewable energy, recycling, robotics and transportation and are exposed to the offerings at the MVC and Alamo Colleges.

Both at the Mission Verde Center and elsewhere, MVC partners are leveraging their unique roles and capacities and sharing resources. Most recently, a partnership including MVC, St. Phillips College (part of the Alamo Community College District), the University of Texas at San Antonio and the City of San Antonio received \$3M from the U.S. Department of Energy (ARRA funds) to increase solar capacity at each location, providing both energy savings and instructional capacity. In addition to the job and workforce development activities at the Center, additional green jobs training programs in several disciplines are being offered across the Alamo Community College District (see figure). Workers entering at a variety of education and skill levels are eligible to participate.



Results to Date. As of May 2010, implementation of the Mission Verde initiative remains in its early stages. The launch of the Mayor’s Green Jobs Leadership Council occurred in September 2009, and the opening of the Mission Verde Center in the spring of 2010. Some 81 people have been trained in a variety of disciplines (solar installation, green building, certified arborist, weatherization, green entrepreneurship), with 75% of those currently applying their skills in green employment. A number of training initiatives are in progress and beginning shortly in energy auditing, weatherization, lead and asbestos abatement, green real estate inspection.

Challenges. The primary challenge facing the initiative and its partners is the ability to spur job creation. Job creation has lagged expectations, and once the public investments in weatherization and solar installation are completed, it is not at all certain that a private market for green businesses, goods and services will be strong or large enough to thrive. Steps to create green business certification and otherwise promote the value of sustainability are underway, but there remain questions as to the demand for green products and services, especially if the economic recession continues.

Aspirations have exceeded ability. With no staff or budget, the Green Jobs Leadership Council has needed to focus on fewer areas than warrant attention, and has been less engaged with partners and programs that are already working reasonably well—notably the Community College and Public Workforce Systems.

As a volunteer, ad-hoc committee, the Mayor’s Green Jobs Leadership Council is operating largely on goodwill. While there is currently enough novelty, activity and momentum to maintain interest, dedication of funding and staff will enable the GJLC to operate more formally and deliberately.

Next Steps. As Mission Verde matures, job creation continues to be high priority. New initiatives will include creation of a micro-loan program for green businesses, creation of standards by which to certify that businesses are in fact green, creating an inventory of existing clean technology firms in San Antonio, and identifying green industries that can be competitive there (to inform economic development investments). As investments in weatherization and renewable energy move into the implementation stages job creation will accelerate, and Mission Verde’s jobs efforts will ramp up accordingly. As the economic development, permitting, and regulatory structures and programs more deliberately incorporate sustainability priorities, Mission Verde and the Mission Verde Center expect to act on those priorities by further enhancing green skills development programming.

The Green Jobs Leadership Council is also prioritizing engagement of more private sector members, expanding its view beyond the City to consider economic opportunities in the broader region. The Council also plans to make employer engagement a permanent activity, as opposed to its current ad hoc status. Mission Verde is also developing a virtual one-stop center as a clearing house for both information on sustainability and associated green jobs

In the near future, the city would also like to further integrate the elements of Mission Verde with one another and with the community. Because electric and water utilities in San Antonio play a strong role in sustainability, further collaboration with them on business development, education and training are needed. As the electric utilities move toward a distributed generation model, the Mission Verde Center can become a hub for an energy-driven neighborhood revitalization effort, potentially housing some micro-loan and business development resources there as well. The City and the GJLC endeavor to further connect the various aspects of the Mission Verde plan.

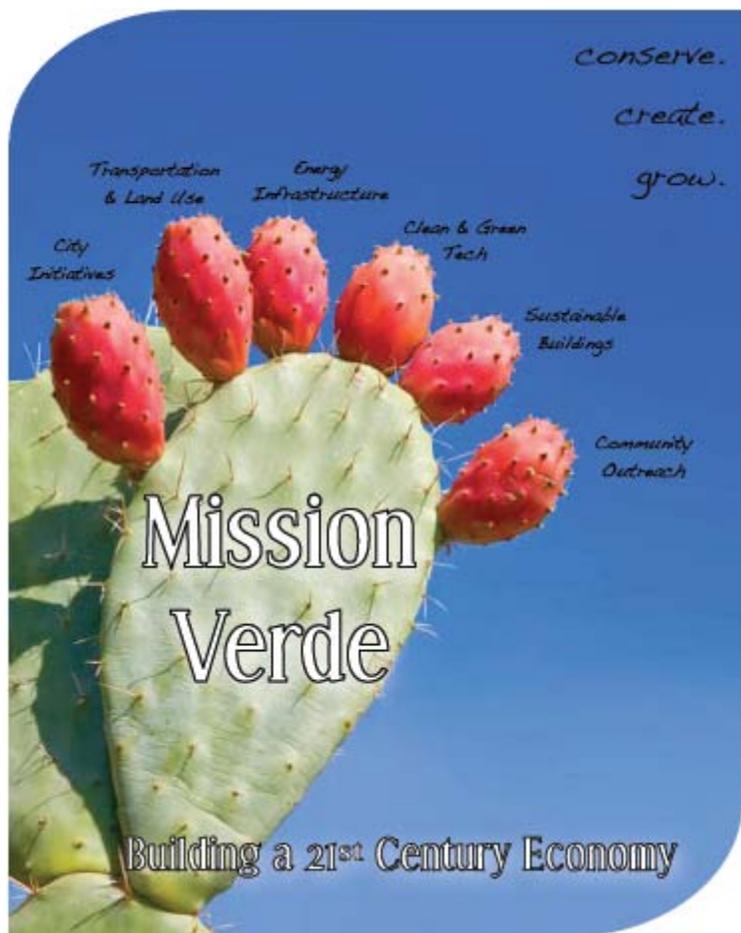


Image credit: Mission Verde

FOOD FOR THOUGHT

A Comprehensive Approach. Each of the Mission Verde initiatives in itself offers positive impacts on climate, business growth, and employment. By connecting a series of investments along a broad continuum (new job creation, regulation, public and private projects, quality of life, incentives, training, etc.) each portion of the initiative has ready-made partners, and each component impacts additional elements of the initiative.

High-level Advocacy and Messaging. The Mayor's leadership (and that of the previous mayor) has raised the level of conversation and visibility around growing green jobs and preparing workers for them. Interestingly, San Antonio does not have a Sustainability Director. Rather, much of the activity has been led through the Office of Environmental Policy. Reasons for the initiative to surviving the political transition include: 1) the former mayor's popularity and a general desire among candidates and the electorate to continue his policies; 2) leadership on sustainability issues has transitioned from Political to Civic (the former Mayor's Chief of Staff now chairing the Green Jobs Leadership Council), ensuring continuity while at the same time respecting both the political transition and the movement of the initiative from concept to action; and 3) attainment by the new Mayor's administration of substantial funding for sustainability initiatives (especially solar installations) to help translate the prior administration's planning efforts into action.

Leveraging and Integrating Educational Assets. Prior to Mission Verde, the stakeholders in the education and training community had not aligned thinking on green jobs and green skills. Mission Verde and the Mission Verde Center provide a common ground for partners who exist along a broad educational continuum. Youth programming, community colleges, and four-year universities now share a common physical space and have accordingly increased collaboration on developing learning initiatives, leveraging grant funding, and promoting careers in renewable energy.

Learning and Demonstration Sites. No investment or portion of the initiative is confined to training or market activity. Rather each effort, program and grant is framed as an opportunity to not only achieve the narrow objectives (training), but also to promote the broader value of renewable energy and energy efficiency. For example, the photovoltaic array provides a green energy benefit to the center but also provides a training site for students.

Walking the Talk. The City of San Antonio is asking its businesses, utilities, residents and neighborhoods to make significant changes. It is important that the City itself is also prioritizing those changes and embodying the principles itself. In this way, the effort is truly inclusive and inherently more credible.

A Balanced Conversation. Mission Verde includes elements designed to address both the environment and the economy, but the tenor of the public conversation has been far more practical than conceptual. The City has worked hard to strike the right tone in its messaging, its purpose and its investments.

Carrots and Sticks. Mission Verde utilizes a diverse mix of tools to encourage movement towards sustainability and maximize employment impacts. The initiative uses regulation (modified building codes), enticements (economic development incentives), and enhancements (skills training) to motivate participation and mitigate costs.

Alignment with the Market. The MVC and Alamo training offerings are relatively new and the volume of training activity is modest, but is aligned with the current levels of demand. As the job creation has lagged, it has been important to also moderate the level of training activity. With the MVC and partner infrastructure in place, it will be relatively unproblematic to scale up instruction as the impacts of the various state and federal investments in renewable energy and weatherization ramp up.

This case study was authored by Joel Simon, Associate Vice President for Government Services at the Council for Adult and Experiential Learning (CAEL). San Antonio contracted CAEL to assist the city in developing and writing the Mission Verde Sustainability Plan.

FOR MORE INFORMATION

San Antonio Office of Environmental Policy, <http://webs.sanantonio.gov/oep/sustainabilityplan.asp>

Mission Verde Resolution presentation,
<http://webs.sanantonio.gov/oep/SustainabilityPlan/Presentation%20Mission%20Verde%20Resolution.pdf>

Mission Verde Center, <http://webs.sanantonio.gov/oep/center.asp>

Alamo Colleges, <http://www.alamo.edu/greenjobs/>

CAEL Green Jobs Report,
<http://webs.sanantonio.gov/oep/pdf/CAEL%20Jobs%20initiative%20Report%20Final.pdf>

Build San Antonio Green, <http://www.buildsagreen.org>

Casa Verde, http://www.cpsenergy.com/Services/Casa_Verde_SA/

AC Labor Market Demand Report, <http://www.alamo.edu/greenjobs/pdf/Labor-Market-Demand-Analysis.pdf>



Resource List

RECOMMENDED RESOURCES

1. **The Climate Prosperity Handbook—Getting Started Guide: Climate Prosperity Strategies in Your Community**

This guide provides a step-by-step approach for regional stakeholders to create climate prosperity, i.e. integrating economic development and climate action or sustainability planning. Tools include several sets of assessment questions, options for vision/plan creation, and a short guide to scenario planning.

By Shari Garmise, Phillip Singerman, Elizabeth Thorstensen, **International Economic Development Council**, 2009 Jul

Download ▶ http://www.iedconline.org/Downloads/ClimateProsperity/ClimateProsperity_GettingStarted.pdf

2. **Illuminate. Asset Mapping Roadmap: A Guide to Assessing Regional Development Resources**

This guide lays out a step-by-step process to implement an asset mapping effort in a community. It is designed to help regional leaders support innovation-based growth focused on helping regions build strategies that align education, workforce development and economic development programs.

By **Council on Competitiveness and U.S. Department of Labor's Employment and Training Administration**, 2007

Download ▶ http://www.careeronestop.org/RED/Illuminate_regional_Aug2007.pdf

OTHER USEFUL INFORMATION

3. **Green-Collar Jobs in America's Cities: Building Pathways Out of Poverty and Careers in the Clean Energy Economy**

This report provides a strategic framework to local policymakers for green-collar job creation. It pairs concise, to-the-point strategies with brief descriptions of cities that have employed them.

By **Apollo Alliance and Green for All, with Center for American Progress and Center on Wisconsin Strategy**, 2008

Download ▶ www.apolloalliance.org/downloads/greencollarjobs.pdf

4. **Workforce Strategy Center Toolkit**

This webpage serves as a career pathways reference portal for policymakers and practitioners to examples, lessons learned, and useful tools collected from around the country. The tools provide resources for those engaged in each step of WSC's five-step career pathways process, such as team self-assessment, gap analysis, regional assessment, partner agreements, employer engagement tools, using data to design, manage and improve career pathways, and more.

By **Workforce Strategy Center**, 2008

Website ▶ <http://www.workforcestrategy.org/toolkit.html>





II. Engaging Business in Green Job Creation

The green economy is materializing far outside the political spotlight that first gave it national exposure. The unglamorous work of weatherization, building retrofitting, and job training is happening in ordinary communities from New York to Los Angeles, and from Miami to Seattle.

Cities are applying traditional economic development techniques—technical assistance, land-use and zoning—to grow green businesses, whose activities accord with local sustainability and climate strategies. The first interview in this section with an entrepreneur, who is working to build a biodigester at a large public airport, provides valuable insights into how these efforts can succeed.

The stories in this chapter and in others show that in the absence of new national energy policy and with the country in a recession, city governments and their partners among labor unions, universities, non-profit organizations, and the private-sector are taking promising approaches to green local economies and generate jobs:

Policies that grow a new profession (Frisco), significantly scale up an existing sector (New York), or use a sustainability or climate action planning as an economic development tool (Chicago, San Antonio, and Oakland).

Employer engagement to align demand for and supply of workers (Seattle), or grow a sector, using existing assets, whether it is through retooling languishing manufacturing capacity (Detroit), expanding a strong sector (San Jose), or nurturing a nascent one (Sacramento).

Regional collaboration to account for economic activity beyond city limits (East Bay, CA).

Anchoring strategies to the local context in order to avoid the ‘race to the bottom’ type of economic development. Instead, promising models build on local opportunities to generate more value (such as using the food waste stream for a biodigester project; stormwater management in Philadelphia; research institutions in Austin and Sacramento; and procurement practices of large institutions in Cleveland).

Broad groups of stakeholders working together across sectors can create responsive, long-term, and local asset-based strategies to foster green businesses and jobs. It’s also clear that leadership can come from any of the key stakeholders, depending on local circumstances: the city (Austin), a regional agency (Seattle and Syracuse), the state (Detroit), nonprofit business alliances (Sacramento and Philadelphia), or foundations (Cleveland).

Stimulating job creation while greening the economy presents a tantalizing challenge to US cities. The economic and environmental benefits of creating place-based green jobs, which, often by their nature, cannot be relocated abroad, are motivating cities and their partners to develop new approaches that are connecting sustainability with economic development, as never before. The link between these two disciplines is now benefiting the private sector, with cities developing policies and workforce development programs in ways that support green firms in finding a market for their services and the workers to deliver them.



Siting a Biodigester on Government Land

ISC conducted this interview with an organization that wished to remain anonymous because its project is still undergoing public review. The project seeks to build a biodigester on a busy airport in a large metropolitan area. The project would turn food scraps generated by the airport into electricity and compost. The organization's experience with the public agency that operates the airport provides insights to other agencies seeking to work with entrepreneurs to build green projects and create jobs.

ISC: What did the agency do during the process of project development that was helpful to you?

A: We are a small organization that has limited resources in people and money and so to get into the cage with an elephant and dance is difficult. One thing that the agency did which helped us tremendously was to assign us a navigator to get us through the maze of bureaucracy. They realized that it's difficult for people to deal with their bureaucracy. More than a liaison, the navigator/mentor served as our ears and eyes within the organization; they helped us get to the right people, made sure we moved forward, and helped us avoid quicksand.



A child empties food waste into a specially labeled food scraps bin containing a biodegradable bag at an eating area on the departure concourse at Portland International Airport (not associated with this story). The airport is ramping up a three-year-old program to install food-only trashcans. The food waste is collected in biodegradable bags and given to the city to use as compost. Image credit: Greg Wahl-Stephens

Another thing they did right up front was to tell us that they were unique and had a specific way of working with tenants and contractors. They told us that it would be helpful if we worked with people that had previously worked with them. So we hired contractors that had built and electrified projects for them before. This smoothed the way because mid-level people were comfortable with and had confidence in our team. As a result they are not requiring any performance bonds of us. Hiring a credible, local team that has worked with the agency can be extremely important.

ISC: Based on your experience with this agency, what could it have done to facilitate the process further?

A: One thing agencies could do to be helpful is provide a customized roadmap at the beginning of the process, to inform people like us: "Here's the way you should address us to make sure that all the right people are included; get buy-in at the right levels and departments so we don't end up causing a delay for you because you're surprised by some requirement."

It's been a two-year process for us so far with them, a long time. For a big agency, maybe this can't really be shortened. Also, part of the difficulty was that they didn't believe we were going to succeed. As a bureaucracy, they try to protect staff by not putting everyone through every potential project. The problem is that the first one of anything is hardest because no one really believes that

it's going to work. Four to five years ago, people thought biodigesters were crazy; now they are finally becoming more accepted.

ISC: What is the green job potential of your biodigester project?

A: We will need 50 full time people to operate the facility, and we're committed to union jobs and local hiring by zip code. We'll also need two years worth of 600 construction jobs, whereas there are very few construction jobs in this city. Based on this we estimate about 100 indirect jobs.

What surprised us was that we are treated like any other project at the airport. Because we aren't receiving any federal, state, or city money, we have to be assessed by our ability to contribute a revenue stream to the airport. We tried to argue that they we would be creating local green jobs, that there were environmental and social benefits to our project, but the finance people at the agency didn't care, and these arguments didn't help us negotiate our lease with them. Everyone talks about green jobs but that fell on deaf ears here.

ISC: What are the green benefits to the agency?

A: We'll probably save 20% of their electricity bill. But when we were using that in our negotiations with the real estate guys, they said, that's not our department, go talk to electricity purchasing department. We thought that meant that the deal was sunk because that couldn't be a leverage point for the project, but then they called us back and said they were interested in the electricity.

ISC: What do you think the message about projects like yours then is to local government agencies?

A: Cities have to realize that these projects are all very risky. Investors are leery of projects requiring long permit times and technologies that are unproven, at least locally. If cities want green projects to happen, they'll have to give a bit. One way they can help is in lease or rent abatement. For example, we don't have to pay rent on the property while we're holding it until we start receiving commissions, which is three years.

They can help us make investors comfortable about stable revenue, by providing waste contracts and take-off contracts, where the airport gives us their food waste and agrees to buy some of our byproducts of electricity and compost. For example, the City of Palo Alto put out a request for proposals¹ for a project like ours, where they would enter into a power purchasing agreement with the winner. There are many cities elsewhere that are doing this—Ontario has buy-in tariffs for biogas electricity.

Also, given the co-benefits of projects like ours, we would hope that agencies could work more in partnership with those that have environmental and social goals, rather than as if we were any other private tenant.

ISC: Streamlining permitting is often a complaint, or wish, of developers. What was your permitting process like?

¹ <http://www.cityofpaloalto.org/civica/filebank/blobdload.asp?BlobD=17279>



A: Biodigesters face a lot of regulations. We need air permits, building permits, department of sanitation permits. Most of the key, that is long-lead time, permits are actually from the state, not the local government. Our organization wants to build a number of biodigesters. So what we did was, rather than work through our regional office as is typical, we went straight to the central state office and asked them to set up a team that will understand what we do, that we will educate and work with us so they can fast-track our biodigesters around the state. Because we were able to interest them in the concept and goals of what we were doing, the central office agreed and now we have a team there that we work with on the state-issued permits.



A model food scrap biodigester developed by UC Davis and Onsite Power Systems.

ISC: We've heard that local governments can play an important role by helping businesses identify land. Was this true in your case?

A: Cities can facilitate identification of sites to help pave the way because either they own sites or can help influence community leaders. We needed 11 acres and without proximate neighbors because of the NIMBY issue with food waste. In our city, this was very hard to do—we looked for a site for two years. The agency that runs the airport has a

great site for us: it's 1.5 miles away from the nearest neighbor, and we have freeway access right into the facility, so we're not driving trucks through any neighborhoods. Although we're way below odor units required by the state, we still wanted to be as far away as possible from neighbors. Our site is also great because on any given day all you're going to smell is jet fuel!

Location is so important. Environmental justice is in our blood—we didn't want to site it in neighborhoods that always get the factories. We wanted, and needed help from the local government, to site the facility where it would be acceptable to the community. We actually didn't get any help from the city. We approached them about a number of sites, but they told us we couldn't have any of them because they wanted to retain control of property they owned, in case they needed it in the future.

ISC: What would you have done differently in hindsight that could be instructive to other entrepreneurs trying to get through to their own agencies?

We did a good job of selling the advantages at the senior level, and got tremendous support from them; we even had support from a local congressman. What we didn't do was use the same effort to get buy-in from other people all down and across the bureaucracy, which ended up causing a delay at the last minute that could have been avoided.

You need buy-in from middle-level people because they will help you connect you to infrastructure. For example, we needed to connect to certain conduits to get electricity service. We had this high level meeting with their chief electrical engineer so that we could get access to their diagrams. We had Homeland Security paperwork that authorized us to get the diagrams, but at the end of the meeting, this mid-level guy was not comfortable with handing them over, and we were stuck over



that for quite a while. The point is that there are lots of politics—it doesn't pay to go all macho on them.

Also, large agencies are inflexible and slow. Try to get that large agency to be a bit more flexible. Timetables can get them to be less slow if everyone agrees to work with them. We found that based on our letters of intent with timetables in them, people in the agency worked hard to try to meet them. In large agencies, things can really drift.

SNAPSHOT: BUSINESS INCUBATOR HELPS MANUFACTURERS RETOOL

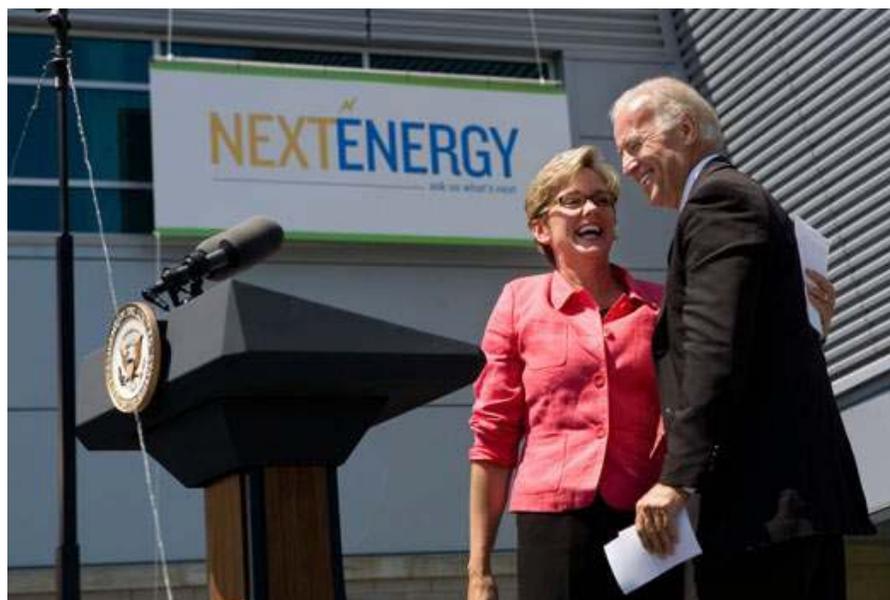
Detroit's NextEnergy

Michigan's automotive supply chain provides the necessary skill and infrastructure to also manufacture clean energy components, specifically for wind turbines. Utilizing a local supply chain could save U.S. wind companies millions of dollars in shipping costs, while revitalizing the depressed manufacturing economy. A non-profit business incubator, NextEnergy, is helping the Detroit area manufacturers retool its automotive manufacturing their capacity to green energy technologies, connect with multi-national wind producers, win contracts, and preserve manufacturing and create jobs, and foster new green businesses.

NextEnergy is a non-profit organization founded in 2002 as a research catalyst and business accelerator for alternative and renewable energy. Located in Detroit, the company fosters synergies between the area's dozen research universities and manufacturing industries to attract venture capital that can support new enterprises, and help existing companies retool around clean energy.

The organization's services to entrepreneurs include research, venture and technology development, supplier diversification, strategic brokering, and providing information on funding and incentives.

NextEnergy also provides investor services, which largely complement its business services, such as providing market and product analysis, access to emerging technologies, and program related and mission-based investment opportunities.



Vice President Joe Biden with Michigan Governor Jennifer Granholm at an American Recovery and Reinvestment Act event at NextEnergy in Detroit, Michigan on August 5, 2009. Official White House photo by David Lienemann



In 2006, the Michigan Economic Development Corporation (MEDC) asked NextEnergy to lead a strategic consortium of suppliers, government agencies and nonprofit groups to promote the growth of alternative energy component manufacturing in Michigan, with wind power as the early focus. Key partners in the wind industry effort included the Michigan Manufacturing Technology Center, Western Michigan University, the MEDC and the Michigan Department of Energy, Labor and Economic Growth.

As a result of this initiative, some 750 companies quoted on more than \$2.5 billion worth of new contracts in the past 3 years, and 159 of them received new business worth \$675 million. These companies also invested \$117.8 million of their own capital into upgrading facilities or purchasing new equipment, and hired or retained 1496 jobs.

The backbone of Michigan's automotive supply chain comprises thousands of companies—large and small—that cast components, manufacture gears and bearings, build transmissions, assemble engines, stamp metal, and more.

These same capabilities are required by the rapidly expanding wind energy industry. Building a wind turbine requires the same expertise and many of the same highly engineered parts as an engine or a drive train. Based on NAICS manufacturing codes, more than 1500 of Michigan's auto suppliers could provide the component parts necessary.

Equally as significant, these companies are already all in proximity to each other: the transportation networks are laid out and the infrastructure is in place to coordinate the industry's expansion plans to the Great Plains of the American and Canadian Midwest.

Each turbine takes more than two years to deliver from the date of order, and costs hundreds of thousands of dollars in shipping costs alone when it has to be delivered from overseas manufacturing centers. So locating the manufacturing in the United States offers an opportunity to suppliers to shift or expand their focus into a growth industry for the 21st Century.

NextEnergy recently launched a new web community called NextEnergy News to help efficiently connect members to relevant industry information and opportunities.

Next Energy runs consulting and training programs to help Michigan suppliers understand the alternative energy industry, their niche within it, and what they need to do to win contracts. Matchmaking events bring in wind energy OEMs and Tier 1 suppliers to outline their needs, and interviews are set up with suppliers based on NAICS codes to meet those needs.

With the passage of legislation to establish a Renewable Energy Portfolio Standard (RPS) for Michigan, the state is fostering a market for renewable energy generation and sending a message that Michigan is "open for business" in the wind energy sector.

This article provided by NextEnergy.



Sacramento's Green Capital Alliance

The Sacramento area has undertaken a suite of strategies to grow its clean-tech sector, including asset mapping, business engagement, capitalizing on its research institutions, and branding. These strategies are based on direct input gathered from area employers, a process that has brought together multiple stakeholders around a common vision for the future of Sacramento's clean energy economy.

The Green Capital Alliance, a forum for clean-tech employers, emerged from an effort to coordinate economic development among two local organizations, the Sacramento Regional Chamber of Commerce and Sacramento Area Commerce and Trade Organization (SACTO). These two groups, working with the local airport operator and the Sacramento Area Regional Technology Alliance (SARTA), sought to align economic development around a common vision for the region. The effort led to a

turning point away from traditional—and flagging—economic development focuses on government, health care and housing. By 2006, the Sacramento area's housing boom was already slowing, and these groups recognized the need to diversify their economic activity.

Valley Vision, an economic development organization that focuses on collaboration across the three domains of sustainability: economy, ecology, and social equity, acted as the convener of this effort. Valley Vision specializes in convening varied stakeholders to achieve consensus in dealing with key community challenges. For this initiative, the organization assembled a team of businesses, elected officials, and community leaders to identify and act on advancing clean energy business development in the region. The process involved an asset mapping of the area's clean energy sector. They found that Sacramento had all the components in place to become a regional leader if its stakeholders could coordinate their efforts among policymakers, energy firms, educational institutions, and venture capitalists.

Valley Vision then held a series of CEO roundtables and queried these executives about their needs and about how the effort could be responsive to them. The newly christened Green Capital Alliance, which includes the City of Sacramento, the Sacramento Municipal Utility District, and the Sacramento Employment and Training Agency, subsequently worked to respond to these needs while building on the region's existing strengths:



- Strong regional branding and outreach to attract new businesses and grow the sector; messaging on regional advantages included the presence of a clean tech incubator, local “green” utilities, world class academic research centers, and unique access to state policy makers and funding sources;
- Market formation, e.g. when Solar Power Inc. showed interest in expanding panel manufacturing in Sacramento rather than China, the Alliance helped obtain enough support for a utility scale installation that led the company to open up a shop in town for 120 workers;
- Guiding policy development, including Property Assessed Clean Energy (PACE)¹, and bringing a regional delegation to meet with federal leaders; and
- A training program at area community colleges funded by DOL to expand training for green jobs.

The time that the partners invested in organizing themselves paid off. Now that the Alliance has key relationships and a common understanding of strategy in place, it can act quickly in response to opportunity, in particular large federal grants. The Alliance has, for example, won \$125 million for smart grid efforts, \$19 million for residential retrofits and \$16 million for PACE financing. In addition, the methods of their ongoing coordination, in and of themselves, cultivate the Sacramento clean-tech sector. The CEO and employer roundtables are the centerpiece of these efforts, through which they the various players build relationships, market their efforts, track data and have a network through which they can circulate information.

Thanks to Kristine Mazzei, Managing Partner at Valley Vision

FOR MORE INFORMATION

Green Capital Alliance: <http://www.greencapitalalliance.org/>

Clean Tech 2010 update: www.sarta.org/tasks/sites/sarta/assets/File/cleanStartPR10_8.5x11.pdf

SNAPSHOT: RESEARCH INSTITUTION FOSTERING A NEW GREEN SECTOR

Syracuse’s Indoor Environmental Quality Sector

Syracuse has used a Center of Excellence model, which utilizes both research and business incubation to foster a new sector around creating materials and products that promote indoor environmental quality. Utilizing its reputation as a world-class research institution, and a variety of grants and funding sources, the Center—along with its regional partners—has helped in not only developing small start-up businesses, but also attracting larger companies to the region.

Mayor Matthew Driscoll wants Syracuse to be the “green capital of the world.” Creating a green economy may be a way to help the city stem the loss of manufacturing jobs and reduce the metropolitan area’s 16 percent poverty rate. Working to its advantage are a strong economic base in

¹ For more information, see <http://pacenow.org>



higher education and a number of companies that could be suppliers to green building and retrofitting industries. The goal is to help these old-line companies transform themselves into an integrated 21st-century industry focused on “indoor environmental quality.”

In 1996, the Metropolitan Development Association (MDA) of Syracuse and Central New York identified indoor environmental quality as one of seven sectors on which to focus its efforts. Average annual earnings in this sector locally are about \$54,000 and usually include benefits, making these relatively well-paying jobs. To get started, the MDA tapped into state government programs to stimulate growth in lagging upstate regions. The first was a \$15.9 million grant from the state’s Strategically Targeted Academic Research (STAR) program for purchasing equipment or renovations of laboratories conducting research on indoor environmental quality. In 2002, the MDA received funds from the Centers of Excellence, a statewide network of centers created to stimulate economic development in declining upstate regions by supporting research centers in emerging technologies. The centers are charged with facilitating joint industry-university research, technology transfer, and commercialization of products in defined sectors.

With an additional \$22 million from the federal Environmental Protection Agency, the STAR Center became the Center of Excellence in Environmental Systems. And in 2004, the focus of the Center was expanded to include energy systems and became the Center of Excellence in Environmental and Energy Systems (Syracuse CoE). MDA Director Rob Simpson notes that CoE is the top lab facility in the country for research on indoor environmental quality and only behind one in Denmark in the world.

The Syracuse CoE describes itself as a federation with more than 140 institutional and business members. Several large companies anchor the federation, such as Carrier Corporation, a leader in heating, air-conditioning, and ventilation systems. Although Carrier moved its two Syracuse manufacturing facilities, which employed 1,200 people, to Asia in 2003, it still employs 1,600 in research and development.

In 2006, Carrier started a research center, the Indoor Air Quality Key Competency Group, in Syracuse and also contributed \$1.5 million to the Syracuse CoE to build and operate a Total Indoor Environmental Quality Laboratory. Even with high levels of state support and key businesses on board, the MDA is fighting an uphill battle. A 2007 study by consulting firm Battelle revealed that the region is still losing jobs in the targeted sectors, including environmental services. So, in addition to stemming employment loss, the CoE has to focus on catalyzing new start-up companies and attracting companies into the region.



CoE grants to several start-up companies in the region for product research and development have paid off. HAPcontrol (Syracuse) produces “bio-furniture” that does not release harmful gases, PhytoFilter Technologies (Saratoga Springs) is testing a

plant-based system for removing volatile organic compounds from indoor air, and Isolation Systems (Tonawanda) is developing air purification and room air management systems. NuClimate Air Quality Systems in East Syracuse received a Syracuse CoE grant to test and build a prototype for its “Q” Air Terminal, a highly efficient heating, cooling, and ventilation unit for large public buildings such as schools and hospitals.

Several of these and other businesses funded by the CoE have or are seeking certification as eligible products under the LEED rating system, which offers points for commercial interiors that use products and furniture that have no or low emission of volatile organic compounds (VOCs). Other green product start-ups were developed through research at Cornell University, such as e2e Materials, which has an exclusive license to patent materials created with its natural fiber glue, made with a soy resin. The company just developed a particleboard that has the same strength as the traditional product, but only one-third the weight. It is inherently flame-retardant, meaning that it doesn’t require the addition of chemicals that release VOCs. Given that more states and cities will follow the lead of California and New York City in banning formaldehyde resin, the product should be in demand once it finds its way into more building materials.

A second Cornell-initiated start-up, Novomer, received \$6.6 million in venture-capital funding in 2007 for scaling up production of biodegradable plastic made with carbon dioxide that breaks down naturally in as little as six months and is price-competitive with traditional plastic. While these start-ups offer encouragement that the strategy can work, it’s a long-term process—it took Patrick Govang and a Cornell University professor 15 years to develop e2e’s natural fiber glue.

And there is stiff competition. Two other companies, Metabolix, in Cambridge, Massachusetts, and Minnesota-based NatureWorks, already produce biodegradable plastic, but Novomer hopes that by using a feedstock that is cheaper than the corn-based feedstocks these companies use, it will win market share.

To build a cluster, Syracuse will have to attract a few big players, and to that end the MDA identified 340 U.S. and international companies with potential interest in locating in the area. The MDA and Syracuse CoE have assigned 90 partners (including every economic development agency in the county) to a “green team” that is contacting the companies on the prospect list. A recent catch is BITZER Scroll, a German manufacturer of energy-efficient air compressors for state-of-the-art air-conditioning systems that located near Syracuse in February 2008.

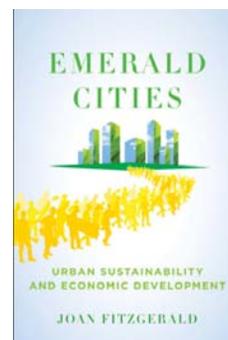
Several state and local economic development organizations worked together to attract the company, which was considering sites throughout the world. A skilled workforce and the region’s strength in indoor environmental quality research were key factors in the location decision, as were business incentives including \$1.4 million from Empire State Development and a \$100,000 grant from the Syracuse CoE for a research and development project that will be conducted by faculty and students at Syracuse University. For its part, the company pledged to invest \$30 million in its operation and to create 289 jobs over five years at an average annual salary of \$60,000.

The MDA and CoE are increasing Syracuse’s visibility in green sectors by hosting and attending national and international trade shows and conventions for various clean tech industries. But Syracuse is behind other cities in instituting climate change policies that could support the MDA’s economic development efforts. The city didn’t pass a green building ordinance until September 2007. And it is weak in that it only requires LEED silver certification, and only for major renovations or new construction of public buildings. On the plus side, the ordinance does include public schools,



and Syracuse is just starting on a \$927 million, ten-year renovation plan for 35 of the 42 buildings in the Syracuse City School District that will follow the requirements of LEED for Schools.

This case study is excerpted from Joan Fitzgerald's Emerald Cities: Urban Sustainability and Economic Development, shown at right. The book profiles many cities around the world that have pursued sustainability and economic development in tandem, via the energy efficiency, waste management, and transportation sectors. Reprinted with permission from the author.



SNAPSHOT: POLICY TO SPUR A NEW GREEN PROFESSION

Frisco's Home Energy Rating Systems Ordinance

Frisco, Texas passed the first mandatory Energy Star code in the country in 2001. The code has helped spur the creation of a small regional green industry in home energy rating companies, and the work of raters has also led to an overall greening of the construction trades.

In 1999, DOE contracted the Texas Building Institute to promote building energy codes in Texas. Improving air quality and the quality of the housing stock proved to be strong motivators. In 2000, the North Central Texas Council of Governments adopted strong energy standards and the state of Texas followed soon thereafter.



Image credit: www.friscorealestatesearch.com

Against this backdrop, Frisco, a suburb of Dallas, was facing fast growth and wanted a way to address some of the environmental and health issues that came with all the construction. City officials consulted with a committee of homebuilders and asked them how they thought the city might help shield homeowners from rising energy costs. The builders asserted that they were already creating energy efficient homes, and so the city asked to test some of the newly built structures. None of them passed, surprising the builders and convincing them that a new program was a good idea. The committee rejected the idea of a voluntary program, preferring instead the level playing field strategy of a mandatory program. Committee members were also interested in a performance-based approach rather than a prescriptive program.

With this input in hand, city officials crafted the Green Building Program that included a mandatory above-code rating which was modeled after Energy Star but included other indoor air quality-related standards, as well as some prescriptive elements to guide the learning industry. It also included and a compliance option via performance certification, which created an opportunity for growing businesses that rated home energy use. Initially, established firms from elsewhere came to Frisco to do the work, but small rater businesses soon developed locally.



Between the mandatory Frisco program, county-level leadership on the issue, and the new statewide standards, enough home energy rater companies were created that in 2004 they formed a trade association, the Home Energy Rating Organization, or HERO. It currently has 40 members, 20 of whom are home energy raters. HERO's member companies employ a total of about 50 people.

An additional benefit to these above-code building energy standards has been the opportunity to educate building supervisors and trades people about building more efficiently and to a higher standard of quality. The opportunity occurs as plans are analyzed (a process that generally did not occur before these regulations), during the development of purchasing requirements, and in providing guidance on the proper installation of materials for energy efficiency.

Thanks to Tom Fitzpatrick, Chief Operating Officer, Texas Home Energy Rating Organization and Ryan J. Middleton, Planner, City of Frisco Comprehensive & Environmental Division Development Services

MORE INFORMATION AND SOURCES

Policy language and summary,

http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=TX16R&re=1&ee=1

Frisco Green Living, <http://www.friscogreenliving.com/green-building-energy/green-building-program-puts-frisco-on-the-cutting-edge/>

SNAPSHOT: COMPREHENSIVE POLICIES TO DRIVE DEMAND AND PROVIDE TRAINING FOR GREEN JOBS

New York's Greener Greater Buildings Plan

A suite of policies that address a broad range of building types constitute a comprehensive policy approach to scaling up building energy efficiency and associated job creation in energy retrofitting.

The Greener, Greater Buildings Plan is New York City's comprehensive legislative strategy to require ongoing efficiency improvements in existing large buildings, which consume nearly half of the city's energy. On December 9, 2009 the City Council passed the legislative components of the following six-part plan to help drive demand for energy retrofitting and related jobs:

- **New York City energy code:** The new energy code legislation eliminates a New York State energy code loophole that allows inefficient equipment to be replaced with similarly inefficient equipment.
- **Lighting upgrades and sub-metering:** A fifth of all NYC's energy is used in lighting; the second legislative component requires that all large non-residential buildings upgrade their lighting over the next 15 years. Large non-residential tenant spaces are required to be submetered by 2025, enabling tenants to see their own energy use.
- **Benchmarking:** Benchmarking is required via EPA's free online tool.





- **Audits and retrofits:** Audits are required for the central systems of large buildings once every ten years, and to undertake energy-efficient maintenance practices via retro-commissioning; buildings with simple systems can comply by undertaking pre-approved energy efficiency measures in lieu of an audit.
- **Green workforce development training:** The Office of Long Term Sustainability estimates that the improvements above will create or maintain 17,800 construction-related jobs. The city is working with real estate, labor unions, the New York State Energy Research and Development Authority, and the US Green Building Council to design and fund the training required for New Yorkers to make them eligible for such jobs.
- **Green building financing:** New York's ARRA money seeded a pilot revolving loan fund to provide financing. Energy savings data will be collected to encourage private sector lending in the long term.

The legislation stems from New York City's PlaNYC, which sets a goal of achieving a 30 percent reduction in New York City's annual greenhouse gas emissions below 2005 levels by 2030. Nearly 80 percent of citywide emissions result from the energy used in buildings. The city convened a Green Codes Task Force to develop recommendations for the elimination of barriers to green construction and to identify low-cost energy saving requirements. The city also advocates that the New York State Public Service Commission approve a full package of energy efficiency programs targeted at multi-family apartment buildings, rental properties, and large commercial buildings.

This article was excerpted from

http://www.nyc.gov/html/planyc2030/downloads/pdf/greener_greater_buildings_final.pdf

FOR MORE INFORMATION

Program summary and legislative language:

http://www.nyc.gov/html/planyc2030/html/plan/buildings_plan.shtml

Summary of key features:

http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=NY16R&re=1&ee=1



Austin's Pecan Street Project

The Pecan Street Project is an ambitious plan to redesign Austin's energy infrastructure and delivery system through better efficiency and the use of smart grid and other new technologies. The Project aims to help residents and businesses produce clean energy at the point of use, and allow them to manage the flow of energy to and from the grid, as well as its cost, in real time. If successful, it will not only keep energy dollars within the region, but also help create and develop the new businesses and technologies—and associated green jobs—that can be the start of a regional business cluster around clean energy.

THE MODEL

Overview. Austin is in a unique position to transform its energy system. Texas has its own energy grid, and can, therefore, make changes to it without needing federal authorization. In addition, Austin Energy, the city's major power provider, is not only a publicly owned utility but also a city department. Its Board of Directors is the Austin City Council. Austin Energy is able to more quickly apply changes to the system's infrastructure and to be flexible in applying the lessons it learns during implementation. The City's jurisdiction over the power grid means it can test various new clean energy technologies in pursuing alignment of economic and sustainability objectives.

High-level partnerships. The primary partners in the Pecan Street Project reflect the program's nexus of energy, environmental, and economic goals. In addition to the City of Austin and Austin Energy, partners include the Greater Austin Chamber of Commerce, representing regional business interests; the Austin Technology Incubator at the University of Texas (ATI), which will be the recruiter and developer of many of the new businesses and technologies; and the Environmental Defense Fund (EDF), which was recruited to lend an experienced and respected environmental perspective to the Pecan Street Project's efforts, and which managed the Project's initial research and visioning phase, completed earlier this year.

KEY CHARACTERISTICS OF THIS PROCESS

Industry Sectors. Clean energy technology, clean energy installation, smart grid

Workforce type. White-collar, blue-collar

Financing: Partners. ARRA smart grid grant

Demonstration of technology. The second phase of the Pecan Street Project is the testing and implementation of these new technologies at various demonstration sites. Rather than testing out new products and systems ad hoc, these demonstration sites will incorporate fully integrated systems of new technologies working together. The first demonstration project is set to launch in early 2011. The demonstration will take place in the Mueller community, a public-private enterprise by the City of Austin and a developer, which sits on the 711-acre site of the former municipal airport. The Mueller community includes a mix of commercial and residential buildings, and is just two miles from the University and within three miles of the State Capitol. Customer participation within the community is voluntary, but the response from residents to date has been positive.

The demonstration will include the assessment of smart electrical, water, and data gathering systems, so that the costs and benefits of an integrated system can be quantified over time. In addition, major public outreach and education will take place within the community to help customers better understand the new services available to them and how they can be utilized. The





Image credit: Pecan Street Project

Pecan Street Project received a \$10.4 million grant from the Department of Energy's stimulus program for smart grid development in November 2009 to help implement the Mueller demonstration.

FOOD FOR THOUGHT

Economic development motive and city leadership. While other cities are also working toward a smart grid energy system, the Pecan Street Project is unusual in that it stemmed from economic development, rather than environmental goals. Building the Project around EDF has ensured that the environmental benefits of transitioning to a new energy system have become an equally important priority, but the concept came about initially from a desire to provide Austin with long-term economic stability, a new industry cluster, and a large number and variety of new jobs.

Austin's economy boomed in the 1980s as the City joined with the business and academic communities to make Austin a global hub of the semiconductor industry. In recent years, City leaders have been looking for the next economic revolution. In 2008, then City Councilman and current Pecan Street Project Executive Director Brewster McCracken organized regular meetings with the directors of Austin Technology Institute and its associated Clean Energy Incubator to discuss how the City and the University could better align their economic development goals.

After much discussion, they identified clean energy as a prime sector, and began recruiting other partners, including Austin Energy and the Chamber of Commerce, to what would soon become known as the Pecan Street Project. They now envision Austin taking a similar lead in stimulating a new energy economy that it did for the semiconductor industry, and the Project is imagined as a way to accelerate that leadership. "The fact that ATI and the Chamber are both lead partners speaks to their belief that the Pecan Street Project is a business maker," says Colin Rowan, who has consulted on the project from its earliest stages.

Isaac Barchas, director of ATI and a founding partner of the Project, agreed with Rowan's assessment in a report issued by the Project in March 2010, saying "The environmental benefits of leading in clean energy are enormous. But to be honest, what got everyone so excited about this project early on was that it could be an even bigger economic payoff for Austin. At a time when



Austin's technology industries were clearly suffering, charting a path toward new economic opportunity was our primary driver."¹

Building on and fostering local strengths. In addition to implementing demonstration products that it hopes to take to scale, the Pecan Street Project also recommends that the city and utility adopt local procurement policies, ensuring that project activities are utilizing the capacity of local and regional businesses, including those developed at ATI, to develop a cluster around clean energy. They hope to reinforce this cluster through the creation of an "energy consortium" of government, academic, and business entities, which would focus on research, policy, and intellectual property associated with these new industries. In addition, Project partners hope to guide a coordinated approach to green job curriculum development, certification, and job training that will prepare workers directly for installation, maintenance, and design of Austin's new energy grid.

Incubating green businesses. The Austin Technology Incubator will be the key player in the Pecan Street Project's early efforts to grow new, green businesses. Typically, ATI's clients have a prototype of a new technology, but little capital or strategic direction. ATI leverages its business, academic, and government resources to help these start-up businesses become profitable. The incubator was formed 20 years ago under the research arm of the University of Texas. A non-profit organization funded by the City of Austin and the University, among others, it comprises four separate sub-incubators, three of which have a connection to the Pecan Street Project and Mueller community demonstration: clean energy (which was the first clean energy incubator in the country), IT, wireless technologies, and bioscience.

Recruiting new businesses. ATI shares an office with the Pecan Street Project, and its role is crucial: find and recruit businesses whose products are developed enough now that they can benefit the integrated system at Mueller. "There will be a huge variety of products being tested, but they all fall into the mix of what can be demonstrated right now," says Mitch Jacobson, Director of the Clean Technology Incubator at ATI. "We're trying to identify the companies that can benefit most from that demonstration." Businesses and technologies that prove to be successful at Mueller will then receive further support from ATI to help develop a sustainable business model, and partners hope that new jobs are not far behind.

"The bulk of research on the clean energy economy shows that job creation comes from innovative companies," says Doug Lewin of Good Company Associates, a business development consulting firm in Austin specializing in energy efficiency, renewables, and smart grid applications. Dozens of innovative products, and the systems that connect them, will be tested in the community, solar systems, smart irrigation, home area networks, micro wind generation, data collection and delivery systems, smart meters, and communication controls, just to name a few. A sampling of the companies testing their products includes:

- A maker of lightweight, efficient solar array system invertors, which typically weigh hundreds of pounds;
- A producer of low-heat, low-cost LED lights for both commercial and residential use; and
- A company that makes small sensors for all major appliances, which connect wirelessly to a plug-in box that displays energy use from each (and their combined use) in real time.

¹ *The Pecan Street Project: Working Group Recommendations*, March 2010

This model presents a win-win scenario for Pecan Street Project partners and the businesses. The Project stays on the cutting edge of the clean energy sector, helps advance its vision of an integrated system, and learns which products can be taken to scale city- and region-wide. The businesses, meanwhile, receive a ready-made market for their products and two or more years of data demonstrating their effectiveness.

Collecting data, engaging customers. “Data collection is important for the businesses, but also for the Pecan Street Project partners,” says Jacobson. “It moves these technologies from being a good idea in theory to being quantifiable, which lets us know what will be most successful.” With two or more years worth of data, ATI and others can examine the earning potential of the various products, and to recruit new entrepreneurs working in the same arenas. Austin Energy and the City, meanwhile, can begin to adopt the more promising products on a larger scale.

The key to this new data is that it is being collected not in a vacuum, but based on the behavior of real customers. “Smart grid implementation on the customer side is relatively hypothetical right now,” says Rowan. “The real determinant whether these technologies are going to make a real contribution to emissions reduction is whether they are adopted by customers.” Because the Mueller demonstration forces this interface between customers, businesses, new technology, and data, the entrepreneurs whose technologies are successful can present real demand for their products as they try to grow their businesses and hire new workers.

One of the guiding principles of the partnership is replicability, and this user-based data will ensure that the most effective clean energy solutions are taken to scale. For the Pecan Street Project and its partners the results are immediately applicable to future projects, providing targeted information about which technologies work well together and which are most likely to be adopted by their customers, as well as helping Austin Energy maintain a profitable business model based on how customers actually use energy.

FOR MORE INFORMATION

Pecan Street Project website: <http://pecanstreetprojectaustin.org>

Project contact: Colin Rowan, Rowan Communication, Inc., crowan@rowcom.com

Austin Technology Incubator homepage: <http://www.ati.utexas.edu>

Austin Energy website: <http://austinenergy.com>

CASE STUDY: INDUSTRY PARTNERSHIPS TO FOSTER AN EMERGING GREEN SECTOR

Philadelphia’s Stormwater Industry Partnership

In Philadelphia, the Workforce Investment Board and the Sustainable Business Network, a non-profit organization, are making new use of an existing model for engaging private sector employers to grow the green economy and stimulate job creation. The Industry Partnership model is used in Pennsylvania to build relationships among firms that produce related products and services, unions, and government, with the goal of addressing common needs, including workforce development. A new Industry Partnership is now being created in an emerging green sector—stormwater management.



THE MODEL

The City of Philadelphia is creating green job opportunity out of necessity, as it seeks to reduce water pollution, fully comply with federal water quality standards and deal with aging stormwater infrastructure. Using the Industry Partnership model, the Sustainable Business Network of Greater Philadelphia, a non-profit organization, is engaging employers around the Philadelphia Water Department's plan to convert one-third of the city's so-called impervious cover—4,000 square acres covered by roads, buildings, parking lots and turf grass—to green stormwater infrastructure. More than half of that area is privately owned, which means that meeting the goal will require both public and private spending. The Department, which formulated the Green City, Clean Waters plan, estimates that the cost of implementation would amount to \$1.6B over twenty years. The Department plans to spur private spending by billing commercial, industrial and educational property owners for stormwater runoff and by tightening regulations.

The plan is said to hold "enormous potential for the creation of 'green-collar jobs.'"¹ Green infrastructure encompasses projects such as the installation of permeable surfaces, the building of basins, the planting of grasses and trees, and the construction of green roofs, all of which are intended to slow the flow of water to treatment plants and to allow the ground to filter pollutants before the runoff reaches large bodies of water. The variety of strategies means that jobs would come in construction, but also in associated manufacturing sectors of building supplies, urban agriculture, and plant nurseries.

Before these jobs materialize, Philadelphia will have to meet challenges that have to do both with the financing of green infrastructure projects and with the private sector's capacity to provide the products and services needed to build these projects. Proposals to meet the financing challenge include on-bill financing and the creation of Green Stormwater Infrastructure Service Companies, based on the Energy Services Company model.

The Sustainable Business Network is implementing the Industry Partnership model, on behalf of the Workforce Investment Board, to help existing firms associated with stormwater management acquire the requisite management and labor skills and address issues associated with insurance and quality assurance. The Industry Partnership model also establishes a dialogue among these firms, organized labor and the Philadelphia Water Department. This interaction can inform policy decisions and shape workforce development, so that job-training programs meet the needs of employers. The Sustainable Business Network acts as a convener and intermediary in this process. Pennsylvania's industry partnerships are a proven and valuable workforce and economic development tool that brings together businesses and workers in similar industries for the common purpose of improving the economic security of workers and the competitiveness of businesses in certain industries," said Sandi Vito, Pennsylvania's Secretary of Labor & Industry.

The Commonwealth of Pennsylvania provides grants ranging from \$5,000—\$150,000 to fund industry partnerships in order to meet a set of stated goals that make for an integrated approach to growing new and existing economic sectors:

- Identify the training needs of businesses, including skill gaps critical to competitiveness and innovation;

¹ Gray to Green: Jumpstarting Private Investment in Green stormwater Infrastructure," p. 37



- Facilitate companies to come together to aggregate training and education needs and achieve economies of scale;
- Help educational and training institutions align curriculum and programs to industry demand, particularly for higher skill occupations;
- Inform and collaborate with youth councils, business-education partnerships, parents and career counselors and facilitate bringing employers together to address the challenges of connecting youth to careers;
- Help companies identify and work together to address common organizational and human resource challenges—recruiting new workers, retaining incumbent workers, implementing high-performance work organization, adopting new technologies and fostering experiential on-the-job learning;
- Develop new career ladders within and across companies, enabling entry-level workers to improve skills to advance into higher skill, higher wage jobs;
- Develop new industry credentials that give companies confidence in the skills of new hires and give workers more mobility and earning potential across firms; and
- Promote communication networks between firms, managers, and workers to promote innovation, potential economies of scale in purchasing and other economic activities, and dissemination of best practices. In some cases, these activities result in the development of new learning collaboratives, Centers of Excellence, or joint economic development activity.¹

The Sustainable Business Network’s efforts to engage the firms in the emerging economic sector of green stormwater management are in their final phase. Drawing on a state grant of \$50, 000, the Network is working to inform firms of the new plan and to create networking opportunities among employers. The

Network launched the Industry partnership in late April by organizing a breakfast gathering for entrepreneurs only, which featured a presentation by Howard Neukrug, Director of Watersheds for the Philadelphia Water Department. Of the forty or so companies that attended, more than 85% committed to participating in the Industry Partnership. The Network also used



Cover image of Philadelphia’s Green City, Clean Waters plan.

¹ http://www.nfwsolutions.org/sites/default/files/industry_partnership.pdf

the meeting to gather important market data. The Network is planning to conduct a thorough needs assessment among these employers, using focus groups, online surveys, and phone interviews.

FOOD FOR THOUGHT

Environmental policy can stimulate green job creation. The Green City, Clean Waters plan represents a powerful way for cities to grow green economic sectors and stimulate green job creation. Philadelphia recognizes that public policy can drive both government and private investment in ways that improve the environment and create jobs.

Economic benefits strengthen environmental initiatives. Philadelphia has sought to build support for its initiative by underscoring both the economic and environmental benefits of improved stormwater management. The Philadelphia Water Department has reportedly “calculated that every dollar spent on green stormwater infrastructure will reap an additional dollar in benefits to the city,” according to a recent report by the Sustainable Business Network of Greater Philadelphia.¹ The City is also approaching stormwater management as a core sustainability strategy, which intersects with issues of equity and economic development. “If not controlled, runoff in urban centers causes flooding, erosion, areas of stagnant water and sewer backups that spill into basements,” states GreenWorks Philadelphia, the City’s sustainability plan². The City is also linking green stormwater infrastructure with its efforts to promote Smart Growth, “creating denser urban cores that limit sprawl and the use of impervious surfaces, while simultaneously protecting green spaces.”³

Employer engagement is necessary in designing job training programs. The Industry Partnership model can provide an efficient way in which to understand the job skills that employers value most. With that information, the public workforce development system can better prepare job training participants, increasing their chances of getting hired and helping firms become more competitive. State funding for such efforts is important.

Access to policy decision-making may bolster employer engagement. The Sustainable Business Network is strengthening ties with firms in the emerging green stormwater infrastructure sector by offering them a voice in the Philadelphia Water Department’s process to revise stormwater management regulations and to implement the Green City, Clean Waters plan.

Firms in new green sectors need capacity building support. Growing a new green economic sector takes more than regulation. Firms may need new management skills and structures, and they will require an appropriately trained workforce. Green stormwater infrastructure projects also raise new issues having to do with insurance and quality assurance. Networking is also important as firms try to identify their place in the supply chain.

¹ Gray to Green p. 17

² www.phila.gov/green/greenworks/index.html

³ Gray to Green p. 15



FOR MORE INFORMATION

Gray to Green: Jumpstarting Private Investment in Green Stormwater Infrastructure, Francis, Sarah E. Sustainable Business Network of Greater Philadelphia and Green Economy Taskforce, February 2010.

GreenWorks Philadelphia, <http://www.phila.gov/green/greenworks/PDFs/GreenworksPlan002.pdf>

Industry Partnerships Guidelines: Building a Skilled Workforce. Department of Labor and Industry, Pennsylvania Workforce Investment Board, Commonwealth of Pennsylvania.

Sustainable Business Network website, www.sbnphiladelphia.org

CASE STUDY: COOPERATIVES TO BREAK THE CYCLE OF POVERTY

Cleveland's Cooperatives

The Evergreen Cooperatives represent promising examples of how rigorous business planning, relationships, and collaborative action can create business models that help a historically marginalized community create wealth and green jobs. This case study describes the efforts of a community foundation to create businesses and jobs rather than train residents into non-existing jobs, and the integral support of local government and anchor institutions.

THE MODEL

The Evergreen Cooperatives are envisioned as an assemblage of thriving, worker-owned, environmentally sensitive businesses in Cleveland. The goal of the cooperatives is to employ and eventually be owned by a locally developed workforce from the historically marginalized neighborhoods surrounding the privileged “University Circle” of Cleveland’s educational and medical institutions. The cooperatives provide quality, competitively green services geared to the procurement needs of these institutions. The Evergreen Cooperative Laundry is the first of these businesses; it employs seven people, but its business plan projects hiring 50 workers. It was launched in a remodeled LEED-certified building in October of 2009, and it is on track to turn a profit within 18 months. The Ohio Cooperative Solar, another such venture with 14 employees, leases, installs, and maintains photovoltaic arrays on institutional, government, and commercial buildings. OCS also provides weatherization services for residential and commercial buildings. The next green business set to launch is the Green City Growers Cooperative, a greenhouse that will supply produce to local institutions.

KEY CHARACTERISTICS

Industry Sectors: Service, Renewable energy, Food production

Workforce type: ‘hard to employ’

Financing: Philanthropic, public, bank loans

Partners: City (Dept. of Economic Development, Mayor’s office, Sustainability Department), Philanthropic orgs, Non-profit orgs, University centers, Consultants, expert advisors, entrepreneurs, anchor institutions, CDCs, others

People Employed: 21 as of early 2010; projected 500 direct, more in secondary businesses



Getting Started. The primary goal of the Evergreen Cooperatives is economic inclusion. The Cleveland Foundation, which for years ran multi-million dollar job training programs, realized that status quo approaches were not working, and hired the Democracy Collaborative to organize a roundtable in December 2006 to bring together people in University Circle who were separately working on wealth-building in the so-called 'Greater University Circle area': the Mayor's office, the Chamber of Commerce, community development corporations, the anchor educational and medical institutions, and the Ohio Employee Ownership Center at Kent State University. The idea of cooperatives was discussed as a mechanism that could promote asset accumulation and other neighborhood-stabilizing enterprises, and would be more likely to remain in the area for the long-term.

Following the roundtable, the Democracy Collaborative interviewed 120 people in all levels of the participating organizations, with the goal of identifying mutually beneficial strategies for moving forward. The result of the analysis was a 'three-legged stool' strategy: gearing new businesses to the local purchasing needs of the anchor institutions; developing local residents into employee-owners; and taking advantage of business opportunities emerging in the green economy space.

To help finance cooperatives through startup, some of the partners created the Evergreen Cooperative Development Fund. Managed by ShoreBank Enterprise Cleveland, the fund was initially capitalized by the Cleveland Foundation and a matching award from Department of Treasury's Community Development Financial Institution Fund for Financial and Technical Assistance. ShoreBank sought and received certification as a CDFI in part so that it would qualify for this grant money to put toward the Evergreen Cooperative Development Fund.

DEVELOPING THE BUSINESS MODELS

Evergreen Cooperative Laundry. The idea for a laundry came from the Executive Director of the newly built Cleveland Veterans Administration Medical Center, who noted that the Center would need a laundry service provider. This sparked a feasibility study of other potential customers for a green, water efficient, cooperative laundry. The expert team that performed the study found that there was strong demand for such vendor-provided services, because of the costs of in-house laundry services. With the business plan finalized by May of 2008, the next hurdle was capitalization. Because the banks that they approached would not fund startups, the partners had to come up with an unconventional financing strategy. The city's Economic Development Department was central to this effort. It not only identified and provided the Laundry access to federal funds, but was also instrumental in working through how to comeingle HUD money with new market tax credit dollars, an innovative capital structure that was key to fully capitalizing the business. The strong finance background of staff, involvement as a city department,



Laundry Maintenance Technician Keith Parkham from the Evergreen Cooperative Laundry. Image credit: Janet Century



and the time they invested in extensive deliberations with attorneys were all indispensable to the successful capitalization effort.

Ohio Cooperative Solar. The Cleveland Clinic, a nonprofit organization, was the first to plant the idea for a solar installer co-op. As a nonprofit, the Clinic could not take advantage of all the public incentives available for solar installations, nor could it raise capital from other sources. Clinic administrators, however, were very interested in having solar on their roofs, which led to OCS's business model, in which OCS owns and installs solar arrays. The Cleveland Clinic was the co-ops first customer; University Hospitals, Case Western Reserve University, the City of Cleveland, and the Cleveland Housing Network soon followed suit. OCS is now adding surrounding municipalities and colleges to its list of customers.

FUNDING SOURCES FOR OHIO COOPERATIVE SOLAR'S FIRST 30 INSTALLATIONS OVER 5 YEARS

- Federal energy tax credit grant (first year to OCS, subsequently to LLC tax investor): \$4.5 million
- State grant for qualified installs of 100kw: \$4 million
- Evergreen Cooperative Development Fund for Initial construction financing
- Bank for subsequent financing (in negotiation)—OCS qualifies for a low-cost loan program from an Ohio job stimulus bill

OCS has Power Purchasing Agreements (PPA) with its customers, where OCS funds the design, installation, and maintenance of photovoltaic arrays on the roofs of client institutions, and then sells the generated power to those clients. OCS sells the power at a fixed rate over 15 years; the first round of installations has contracts for 12 cents/kwh. This cost is little higher than what the purchasers are currently paying for power, but it is anticipated to be lower than what they would otherwise pay, on average, over the 15 years of the contract. This arrangement offers cost stability and savings to the purchaser, uses none of the purchaser's capital, and helps them meet their social missions and environmental commitments.

For OCS, the credit of the revenue stream from a PPA helps them obtain loans from banks, necessary to help close the gap left once federal, state, and philanthropic sources are applied (see box at right). The current business plan includes 30 installations of 100 kW each over 5 years. At \$500,000 per installation, a \$15 million investment is required.

Ohio Cooperative Solar's current three-megawatt business plan considers institutional customers only, because of the infeasibility of small residential installations. However, Ohio recently passed legislation enabling Property Assessed Clean Energy finance districts, a mechanism for financing renewable energy and energy efficiency retrofits in the residential sector. So OCS, with its ready workforce, anticipates being able to expand into the residential market, as the cooperative will not have to raise the capital for those smaller installations.

OCS is also expanding to provide weatherization services as a way of employing its worker-owners year-round; it serves as weatherization contractor to utilities and the federal government.

Green City Growers Cooperative started with entrepreneurs who "thought that the time was right to bring the greenhouse industry back to Northern Ohio." The idea was to localize fresh produce production, in line with the Cooperatives' interest in sustainability and carbon reduction. This Cooperative, which is still in the works, has interviewed a number of potential customers, including



food retailers, wholesalers, and food service companies. The organization also hopes eventually to enhance neighborhood access to fresh produce.

In developing the business plan, Mary Denel, a horticulturalist who left her job at a private equity firm to join the team, came to the conclusion that lettuce would have profitability as a primary crop. Lettuce, for instance, compared favorably to locally grown tomatoes, which would not be able to compete with Toronto's plentiful greenhouse tomatoes.

The scale of planned production is surprisingly impressive for a downtown site; the plan is to have five acres of a 12-acre site under glass to grow 5 million heads of lettuce per year. Green City Growers has worked with the city to assemble this 12-acre parcel out of the city-owned land bank, and is on track to have all acreage under the Growers management by fall 2010. Greenhouse construction is anticipated by 2011.

Capitalization of the Cooperative is still underway. Some funding to prepare the site itself has been obtained; a small portion of the parcel is a brownfield where a book printing operation was previously located. Because the greenhouses will be growing lettuce hydroponically the soil quality of the parcel is not an issue, but the site did qualify for and received a \$2 million brownfield cleanup grant.

Working towards Employment. There are ten cooperative businesses in some stage of scoping. The plan is that each one should be able to employ at least 50 staff, and that all workers be hired locally. In addition to these projected 500 direct hires, each business should also have the potential to attract associated businesses to the area, which would employ even more community members.

Though modest, reaching this direct employment goal in these neighborhoods will be an achievement. The unemployment rate in the seven wards of the City of Cleveland that the Evergreen Cooperatives are working to stabilize stands around 35%. Most of the unemployed fall in the "hard to employ" category, because of criminal history, or other factors that arise from being chronically unemployed. This workforce requires a complex range of training, including basic work skills (e.g. punctuality, how to get to work), how to manage life responsibilities outside of work such that they don't disrupt work responsibilities, cost reduction and cost containment, environmental sustainability, and employee ownership.

In March 2010, the Evergreen Cooperative Laundry and Ohio Cooperative Solar held a celebration for eleven employees of their current twenty-one. This event marked the six-month period after which employees are invited to become investors via 50 cent/hr payroll deductions. At this rate, employee-owners could earn a potential equity stake of \$65,000 after nine years. The prospect of building significant equity and having pride of ownership is a positive incentive for new employees, but it does not avert the need for workforce training and development. Attendance problems (stemming from spousal issues, childcare, and parole issues), fighting, accused thefts, or simply the lack of a driver's license have all been challenges that cooperative managers have been working through with the new employees. Their approach to these management and workforce development issues is consistent with their community-based mission, as expressed by Ohio Cooperative Solar CEO Stephen Kiel: "Part of the job of the CEO is to get to know the people really, really well. You can't outsource that by letting an external agency deal with the lifestyle issues. The person running the business has got to know something about the problem set or you can't manage it; and then it's frustrating for both parties." One goal of the cooperatives is to achieve a different employment relationship. "They've likely had no voice in previous employment situations, were



disrespected, and did not trust their previous employers. We're trying from day one to establish honesty and truth and respect for leadership and among each other," says Kiel.

FOOD FOR THOUGHT

Leveraging Procurement of Anchor Institutions. Cleveland's University Circle institutions procure hundreds of thousands of dollars worth of services every year. They are also highly unlikely to relocate. One of the catalyzing insights for the stakeholder roundtable was that business plans for new local ventures should be anchored to the procurement needs of these institutions: doing so would give them long-term viability. Developing such grounded business plans required taking time to understand the needs and situations of these anchor institutions. In the case of the Laundry, an in-depth interview brought up the need for laundry services. Although this particular procurement was (and is still) not out for bid, this suggestion enabled partners to explore the ideas with other University Circle institutions, most importantly via educational marketing visits where administrators could be presented with the true costs of in-house laundry services. In addition, the Laundry's current customers will provide them a track record that will benefit their bid for the larger VA Hospital contract.

Sound Financials. It is worth reiterating how the Greater University Circle initiative frames its goals: wealth accumulation, neighborhood stabilization, economic inclusion. To accomplish these goals, the stakeholders know that the Evergreen Cooperatives cannot be another charity program, but must be profitable businesses with long-term viability. They ensure that business opportunities are put through rigorous financial feasibility assessment and planning process before they commit capital. In addition, they recruit quality managers, monitor results, and provide technical assistance.

Stephen Kiel, who wrote the first two business plans, also has some related self-criticism in hindsight: the two-year lag between having 'the good idea' and the first hires could have been shortened had the Laundry brought in people with more experience in capitalizing the business. They were surprised when the banks informed them that they didn't fund startups; the team could have geared their financing strategy towards unconventional mixes from the outset had they known this in advance.

Using Green Economic Development to Alleviate Poverty. Cleveland realized that wealth could not be created for people being trained for jobs that didn't exist. So partners are now working with the strategy of creating viable businesses in the Evergreen Cooperatives first, and then training the local workforce to operate them. In addition, these businesses are tuned into the current marketplace advantage in employing green standards and practices. One of the collaborators, Cleveland Sustainability Director Andrew Watterson, assists the development of new Evergreen Cooperative opportunities by identifying particular roles they might play in Cleveland's emerging green economy.

The Cooperative Model as a Means for Achieving Social and Financial Equity. No narrative relating the Evergreen Cooperatives story would be complete without mentioning their inspiration—the Mondragon Cooperatives in the Basque region of Spain. These co-ops began small, like the Evergreen Cooperatives, but after 50 years of self-development by a historically marginalized ethnic minority, the current Mondragon Cooperative Corporation now includes 100 industrial, financial, and retail co-ops with a combined 100,000 investor-employees. In addition, the Ohio Employee Ownership Center has found that cooperative jobs are less likely to be outsourced. These stories



exemplify how co-ops can fairly organize and capitalize entrepreneurial pursuits that create good jobs and wealth for disadvantaged communities.



The Cleveland Foundation study trip group at Mondragon University at the memorial to Fr. Jose Maria Arizmendiarieta, the founder of the Mondragon cooperatives. From left to right, Lillian Kuri, Cleveland Foundation; Margaret Hewitt, University Hospitals; Andrew Watterson, City of Cleveland, Christina Ayers, Cleveland Clinic, Bob Eckardt, Cleveland Foundation; Ted Howard, Democracy Collaborative and Cleveland Foundation; Steve Kiel, Hudson Consulting Group (now CEO of Ohio Cooperative Solar); Mary Ann Stopkay, ShoreBank; Jim Anderson, Ohio Employee Ownership Center at Kent State University (and now CEO of Evergreen Cooperative Laundry); Margaret Careny, Case Western Reserve University; Margaret Bau, US Department of Agriculture; and Mikel Lezamiz, Mondragon Cooperative Corporation. Image credit: Ohio Employee Ownership Center.

Key Relationships. The Evergreen Cooperatives are the result of the work of many entities: anchor institutions, locally oriented philanthropic funders, city government officials, community groups, and mission-driven experts. What allows the Evergreen Cooperatives to yield fruit for the Greater University Circle area is not any formal organization of this assemblage, but the spirit of collaboration under which they work. The glue that holds together the effort absent a formal structure is the strong leadership of a few among this group: Case Western University, University Hospitals, the Mayor of Cleveland, and the Cleveland Foundation. Staff members at all levels understand the value of the model and pitch in when needed—whether to create a training program, find money, or identify land.

Relationships are important in other ways too. Two of the individuals at the Cleveland Foundation who have been thought leaders in this effort have previously been staff at city hall, and so not only understand Cleveland’s bureaucracy, but can draw on relationships to advance the effort.

The Evergreen Cooperatives story is also about the value of fostering relationships, not just taking advantage of existing ones. Mentioned above is the importance of such work within each cooperative business between employee-owners and management. Fostering relationships was also instrumental to the genesis of the effort. In October of 2008, many of the individuals convened for the original roundtable in 2006 went on a study tour together to Mondragon. The relationship building and co-learning that this trip enabled has continued to pay dividends over time.

Thanks to Stephen Kiel, CEO, Ohio Cooperative Solar

References:

http://www.thenation.com/doc/20100301/alperowitz_et_al

http://www.community-wealth.org/_pdfs/news/recent-articles/07-09/article-yates09.pdf



Greater University Circle Initiative presentation:
www.c2be.org/documents/Cleveland_Greater_University_Circle.ppt
<http://milehighbiz.org/node/756>

FOR MORE INFORMATION

Ohio Employee Ownership Center site on the cooperatives:
<http://www.oeockent.org/index.php/for-business-owners/cooperatives>

Evergreen Cooperatives website: <http://www.evergreencoop.com>

CASE STUDY: EMPLOYER ENGAGEMENT TO GUIDE WORKER TRAINING

Seattle Workforce Investment Board's Employer Engagement Process

The City of Seattle and the Workforce Development Council of Seattle/King County (WDC) are turning to local employers for help in aligning their workforce development efforts with the market. First, the WDC convened an industry panel to explore market dynamics and employer needs in the area of green design and construction. Then the WDC partnered with the City of Seattle and other organizations to launch a new industry-led project to understand and meet employer needs in the residential and commercial building energy efficiency sectors. This case study focuses on the lessons stemming from these deliberate efforts to engage employers.

For cities across the United States, trying to determine when and where green jobs are going to materialize, and what kind of workers will be needed for them, is both a challenge and a necessity. Grants from the U.S. Department of Labor have given cities and their regional partners substantial resources to ramp up training for green jobs, especially in energy efficiency. But cities are uncertain about hiring trends, and about the skills and competencies that workers will need.

THE PROGRAMS

The Green Design and Construction Skills Panel.

The Workforce Development Council of Seattle/King County has long used industry panels to understand employer needs in emerging sectors. The WDC recognized early that the building design and construction sector was likely to undergo significant "greening," and that consulting employers would be necessary to prepare the workforce system for that trend.

The WDC found an industry leader for that process in David Allen, Executive Vice President of McKinstry, a Seattle-based national firm that has an established energy services business retrofitting buildings to reduce energy use. WDC worked with Allen to convene leaders from construction and

KEY CHARACTERISTICS OF THIS PROCESS

Industry Sectors. Energy efficiency

Workforce type. All

Funding: City of Seattle, Living Cities, state workforce funds, Small Business Administration grant

Partners. Workforce/business intermediary, businesses, training institutions, economic development agencies



design firms of all different sizes, as well as labor, educational and training institutions, community based organizations and economic development agencies. The 25-person panel met for 18 months, working with WDC staff to understand where the market in green design and construction services was headed and how employers' hiring needs would evolve as a result.

The panel maintained a broad focus, looking at new jobs, as well as existing ones that were likely to require new green knowledge and skills. It gathered data through existing empirical studies, a countywide employer survey, and the anecdotal input of employers during meetings. The information helped the panel identify specific action steps to pursue with help from WDC staff.

"The panel created the very first conversation in the region about employers' workforce needs for green jobs," said Matt Houghton, Workforce Development Manager for Seattle's Office of Economic Development. "One key conclusion was that employers were having trouble finding workers adequately prepared for energy efficiency work. For example, they talked about not being able to find people who can do energy analysis, people who have an integrated understanding of how buildings work as a system."

ACTIONS TAKEN BY WDC'S SKILLS PANEL

- Survey of King County employers
- Green jobs career exploration video
- New introductory course on sustainability concepts for apprenticeship programs state-wide
- Curriculum for building managers in sustainability concepts and practices
- Web portal for job seekers

Since the industry panel, the WDC has convened a multi-sector Green Workforce Leadership Council to oversee continuing workforce initiatives in energy efficiency and other industries in the growing, regional green economy. The organization has also been awarded or been a partner on successful grant applications to train as many as 2,000 people in King County and the Puget Sound region for jobs in residential and commercial energy efficiency and other greening sectors. "Each layer, each project builds on the next one," said Laurie Black, the WDC's Director of Sector Initiatives.

"The Industry Panel gave us employer-driven

findings about which jobs would be in highest demand, and which skills were most needed in the green building sector. This formed the foundation for additional grants and projects."

The Northwest Energy Efficiency Opportunities Project, aka "New Op." The next step was to develop a more focused initiative to address employer needs in the energy efficiency sector. Several recent studies had persuaded leaders in the area that the market for energy efficiency retrofits would soon grow. And although WDC's panel had concluded that there were not many newly created jobs in the green building sector yet, the job training system needed to prepare workers for the anticipated growth.

Skill-Up Washington, a funders' collaborative which aims to increase the strategic use of workforce programs in helping the state's low income workers, began that work with a grant from Living Cities, a foundation. Skill Up



A student learns air sealing techniques during a new employer-vetted weatherization course at South



hired the WDC and the Seattle Jobs Initiative, a non-profit organization, to develop what Houghton refers to as an “industry powered understanding” of how to meet employer’ workforce needs in the energy efficiency sector.

A multi-stakeholder intermediary was formed to carry out the work, comprising leading private employers, trade associations (e.g. Home Performance Washington, the Washington Weatherizers’ Association, and the Northwest Energy Efficiency Council), educational institutions, government agencies, labor, utilities and contractors. The group divided into residential and commercial subgroups.

Developing a Training System for the Residential Sector. The residential subgroup conducted a systematic process that began with analysis of employers’ future hiring needs and ended with near unanimous agreement on a set of employer-driven training standards for weatherization courses. All of the area’s training providers, including community colleges and the Laborers Union, agreed to use those standards. “For the most part, the process was extremely collegial,” said Dave Trovato of SJI, who led the group.

The group sought to document the job skills required by the participating local residential energy efficiency companies. Trovato also asked local trade associations to distribute a survey to their member employers. The information about the qualifications and skills employers needed to have in their employees formed the basis for developing training standards for all training programs in the area. “We wanted to get everyone in the region who is training weatherization workers on the same page,” Trovato said.

Agreement was easy to reach on standards for energy auditors and crew leads; nationally recognized standards from the Building Performance Institute already existed and were easily embraced. But there was no national certification for the entry-level position of weatherization installer. So the group agreed to use a checklist of weatherization competencies developed by the Department of Energy’s Weatherization Assistance Program (WAP).



An employer leads a class during a new weatherization course at South Seattle Community College.

Once they had reached agreement, the group asked all training providers in the region—union and non-union—to align their own training curricula with the new standards.

“The bottom line is that these training programs want to get their graduates jobs,” explained Trovato, “They have a real incentive to make sure the competencies they are training for are the ones that employers have set themselves.” Once the various training programs had revised their curricula, New Op employers reviewed them and provided feedback to the training institutions.

The group also leveraged funding from the City of Seattle to partner with South Seattle Community College on the launch of a new weatherization course. Living Cities and South Seattle Community College funded three cohorts of unemployed workers, who had been selected based on their potential for being hired after completing the course. Of the first cohort of 18 students, over half have found jobs.

Identifying Training Needs in the Commercial Sector. The commercial sector subgroup took a different approach, seeking first to understand the business model of energy efficiency firms and skills-related barriers to expansion.

The subgroup concluded that a key to driving future demand was to increase the number of people being trained in energy analysis and auditing. Another important finding was that training in energy analysis needed to be expanded so that trained workers acquired a broad understanding of how building energy systems worked. Existing training programs lacked that broad approach because they reflected the way unions were organized around particular trades. The subgroup found, too, that people trained in energy analysis and advocacy were needed to pitch efficiency investments to building owners and operators, and that there were few training courses available in these skills. The New Op project is developing a curriculum for commercial energy auditors, and the WDC now has a Department of Labor grant to deploy the curriculum and train workers.

FOOD FOR THOUGHT

Engaging Employers Yields Large Dividends for All Parties, Including Employers. The multi-stakeholder approach used by WDC's Skills Panel and by New Op brought benefits to all parties involved, and underscores the value of having employers, community groups, educational institutions, agencies and labor work together.



A student practices insulating a mock crawl space during South Seattle Community College's new employer-vetted weatherization course.

“The advantage of an employer-led panel is that it creates a level playing field, a bipartisan forum if you will,” said Marléna Sessions, CEO of the WDC. “Folks that are competitive in their fields come to the table and share insights they usually consider proprietary. They figure out where they can comfortably talk about their respective needs, such as the qualifications they’d like to see in their hirees, and they talk openly and honestly.”

Dan Wildenhaus, who chaired the residential New Op subgroup, explained that employers were pleased with what New Op was able to achieve. “It was exceedingly successful in defining goals and training standards for training provided by local community colleges and LIUNA [Laborers’ International Union of North America],” he says.¹ His organization is now looking to adopt some of the new training standards for its own industry members.

¹ Find out more about LIUNA’s weatherization courses at :<http://www.liunabuildsamerica.org/weatherization>

Wildenhaus also pointed out that employers, too, learned from the process. Educators in the group helped employers understand the importance of providing prospective workers with hands-on training that simulated the actual work they would perform. As a result, the group asked South Seattle Community College to develop a lab where trainees could practice skills, for example by insulating a mock crawl space.

Trovato reported that the training institutions, especially the community colleges, also felt they benefited from New Op. They have pledged to continue consulting with employers on the content of their training courses.

Employers Will Engage in a Well-Designed Process. Those who managed the WDC’s Industry Panel and the subsequent New Op process pointed out that sustaining employer engagement is critical to project success. Getting employers involved initially is straightforward. “Employers are watching what’s happening on the demand side, and want to help evaluate whether the workforce system will be ready when demand kicks in,” explained Black. They also know such efforts often lead to grant funding to meet training needs. The hard part is keeping employers engaged over time, not just in big picture discussion about market trends, but in the detailed work of evaluating existing training curricula.

“One of our most important lessons is that [the process] must really be industry-led.” If educational providers and government members outnumber the employers, then “the industry voice can get lost,” said Black¹. Organizers also have to be prepared to adjust the whole purpose of an industry-led panel based on employer input, according to Sessions: “Don’t have preconceived notions going in.”

According to Wildenhaus, the New Op residential group needed more employer participants, especially small business owners, and a clearly articulated goal for the meetings. The process improved when key staff members began having one-on-one “coffee” conversations with the different participants, and used that as fodder to develop a tightly focused purpose statement that could guide the group’s work.

“Government bureaucracies and community colleges are used to process,” says Houghton. “Employers aren’t. If they don’t see progress, they won’t continue to come.”² Organizers also need to work with employers who are really interested in participating and who understand that they will benefit from the process.



¹ Many of those interviewed for this case agreed with this viewpoint, but cautioned other cities not to neglect active participation by labor unions. Houghton: “not including, and meeting the needs of, the trades could really reduce the value of this kind of endeavor.”

² Houghton recommends agencies develop and use objective ways of assessing the effectiveness of employer-led panels, for example through surveys.

Thinking about how other cities can get started on engaging their employers to design a green workforce system, Sessions pointed out that a full-blown industry panel isn't always needed. "Areas can do a quick and targeted scan of employers, utilities, etc. in their region, and then look for a local champion and convene a meeting. It's not hard to do, and it has impact." The WDC plans to keep future panels smaller, shorter, and task-focused,

Engaging Employers is a Continuous Effort. In-person dialogue with employers happens at a moment in time, and its findings reflect that moment. Given the newness of green sectors, the likelihood that market demand will shift, and the complexity introduced by larger business cycles, what employers offer in March may be outdated by August.

A way to deal with this challenge, according to Black, is to make use of a range of ways of collecting input from employers. Organizing an in-person dialogue with employers and other stakeholders makes sense when you want to "bring people together to zero in on a critical need, address it, and move on to the next thing." She cited WDC's green design and construction panel and New Ops as good examples of purpose-driven dialogues. But working with one or two organizations may produce better results when employer input is needed on a specific training course. WDC is also considering using internet tools like blogs to give employers other ways to weigh in on the latest trends affecting their businesses.

Work products too, such as studies of market trends, or employer surveys, may need to be revised soon after they are completed. Sessions recommended that green jobs surveys be updated very regularly, as much as twice a year at the regional and local levels.

Even when partners have already worked closely together to engage employers in scoping markets or mapping employer needs, differences about how long to continue any given process can emerge. The WDC and the City of Seattle are discussing how to carry on the kind of work that New Op did, after the grant funding work runs out in the fall of 2010. According to Houghton, "The City is asking whether New Ops should continue to serve as a forum where businesses in energy efficiency can get together to talk about where demand is, and how to drive it, for example through utility rate incentives, policy and financing." The WDC is asking whether those conversations are better had under the umbrella of their new Green Leadership Council, and through an existing trade association like the Northwest Energy Efficiency Council. The discussion underscores that there is no one right way to structure long-term employer engagement.

Thanks to Dave Trovato, Senior Project Manager at Seattle Jobs Initiative, Matthew Houghton, Workforce Development Manager at Seattle Office of Economic Development, Laurie Black, Director of Sector Initiatives for Workforce Development Council of Seattle-King County, Marléna Sessions, CEO of Workforce Development Council of Seattle-King County and Dan Wildenhaus, Technical Manager at Fluid Market Strategies.

FOR MORE INFORMATION

Energy Efficiency Services Sector: Workforce Education and Training Needs, U.S Department of Energy Office of Energy Efficiency and Renewable Energy. <http://eetd.lbl.gov/EA/EMP/reports/lbnl-3163e.pdf>



Reports analyzing job creation potential and trends in the energy efficiency industry and other greening sectors in Washington, the Northwest, and the United States:
<http://www.centralia.edu/coe/retec.html>

Seattle Jobs Initiative, <http://www.seattlejobsinitiative.com>

Summary of the New Op Initiative,
<http://www.skillupwa.org/wp-content/uploads/NEW%20OP%20Initiatives.pdf>

Workforce Development Council of Seattle/King County, <http://www.seakingwdc.org/>



Resource List

RECOMMENDED RESOURCES

1. Economic Development and Sustainability: A City Practice Brief

This brief presents nine profiles of city programs working towards combining sustainability and economic development goals. Cities profiled are Barnstable MA, Camden AZ, Cleveland OH, Detroit MI, Elizabeth NJ, Forth Worth TX, North Carolina cities, Toledo OH, and Webster TX.

By National **League of Cities**, 2008

Download ▶ <http://www.nlc.org/ASSETS/49007F0BE3EB4E018FA119E02BA84B44/CPB%20-%20Econ%20Dev%20and%20Sustainability%201008.pdf>

2. Engage: A Practitioner's Guide for Effective Engagement of Business Leaders in Regional Development

This guide is designed to support the creation of cross-sector collaborations to address economic opportunities and challenges. It provides a series of recommendations aimed at helping regions to recruit, develop and sustain the involvement of business leaders. Not specific to the green economy but the principles are transferable.

By Randall Kempner, **Council on Competitiveness and U.S. Department of Labor's Employment and Training Administration**, 2008

Download ▶

http://www.compete.org/images/uploads/File/PDF%20Files/Engage_102008_Final.pdf

3. Making Sense of Clusters: Regional Competitiveness and Economic Development

This report provides an overview of cluster strategies: it explains what clusters are, why they matter for regional economic development policy, and how to use cluster analysis as a guide to policy and practice.

By Joseph Cortright, **Brookings Institution**, 2006

Download ▶ http://www.brookings.edu/~media/Files/rc/reports/2006/03cities_cortright/20060313_Clusters.pdf

4. Building Effective Employer Relations

This report offers tried-and-true insights to those inside and outside the workforce development field who are interested in developing an employer partnership, based on data gathered from 10 mature sector partnerships. Among the important issues described in depth in the publication are: how to select an employer partner, how to structure the relationship and which characteristics employers value most in a program partner. Not specific to the green job sector but the principles are transferable.

By Linda Dworak-Muñoz, **The Aspen Institute's Workforce Strategy Initiative**, 2004

Download ▶ <http://www.aspenwsi.org/publications/04-062.pdf>

OTHER USEFUL INFORMATION

5. Brownfields Economic Development Initiative

This website describes HUD's competitive grant program for redeveloping brownfields with an eye towards economic development and increasing economic opportunity for low- and moderate-income people.

By HUD



Website ▶ <http://www.nls.gov/offices/cpd/economicdevelopment/programs/bedi/index.cfm>

6. RE-Powering America's Land: Siting Renewable Energy on Potentially Contaminated Land and Mine Sites

EPA is encouraging renewable energy development on current and formerly contaminated land and mining sites. This initiative identifies the renewable energy potential of these sites and provides other useful resources for communities, developers, industry, state and local governments interested in reusing these sites for renewable energy development. This site includes an interactive mapping tool, data, success stories, and information on incentives,

By EPA, 2010 Feb updated

Website ▶ <http://www.epa.gov/oswercpa/index.htm>

7. Building on Your City's Economic Strengths

This brief guide provides an at-a-glance overview of strategies, actions, and examples of how a city can play to its strengths for economic development.

By William H. Woodwell, Melissa Germanese, Katie Seeger, **National League of Cities**, 2006

Download ▶ <http://www.nlc.org/ASSETS/97BE84A119B84103932C89BEC22B69B3/EVBuildEconStrength.pdf>

8. Good Practices in Business Services: Helping Small Business Grow and Create Jobs

This report describes good practice in small business services, using the Wisconsin Regional Training Partnership as a case study, in terms of how its strategy evolved, its program design, ways it delivers such services, program performance assessments, and lessons learned from the field.

By ShoreBank Advisory Services, **The Ford Foundation and the John D. and Catherine T. MacArthur Foundation**, 2002

Download ▶ <http://www.wrtp.org/pdf-files/WRTP-shorebank-2002.pdf>

9. Crisis on Main Street: Recommendations for Small Business Recovery

This report provides a brief overview of the importance of small businesses in the national economy, analyzes the impact of the recession's credit crunch on small business, and provides recommendations for a recovery of the small business capital market.

By **Seedco** 2009 May

Download ▶

http://www.seedco.org/documents/publications/Seedco_Small_Business_Recovery.pdf

10. Manufacturing Climate Solutions research series

This series of original research reports profile the value chains of specific climate-friendly technologies based on their opportunity to provide U.S. manufacturing jobs. The description of materials and components, existing companies, and examples of associated jobs can be useful to regions looking to highlight or retool their existing assets to strategically grow their manufacturing sectors. Technologies covered include LED lighting, high-performance windows, auxiliary power units, concentrating solar power, super soil systems, heat pump water heaters, recycling industrial waste energy, carbon capture and storage, hybrid drivetrains for trucks, residential re-insulation, wind power, and public transit buses.

By **Center on Globalization, Governance & Competitiveness at Duke University**, 2008-2009

Website ▶ <http://www.cggc.duke.edu/environment/climatesolutions/index.php>





III. Opportunities for All: Policies, Programs and Partnerships to Help Disadvantaged Workers

The gradual but steady shift away from traditional carbon intensive industry and the move toward reducing emissions of greenhouse gases in the United States will create growth and jobs across sectors and industries. As demand for and investment in clean energy, greener industry, and more energy efficient and livable communities grows, employers will need an able and well prepared workforce at all skill levels to respond to new opportunities. Low and medium-skill workers will fill important jobs and perform essential tasks particularly in the building and manufacturing sectors, but they must be equipped with the necessary training, knowledge and skills to do so. Effectively preparing workers to succeed and contribute to growing the green economy means giving them skills that can not only help them get available jobs now, but which also allow them to develop their careers over time. In the recession, providing job opportunity also requires training workers in skills that they can apply to jobs in other sectors, making them more eligible for green jobs when a greater number of them materialize. Cities and other stakeholders that develop policies and robust workforce development strategies to meet future employer and industry needs will be better positioned to remain competitive in this new economy.

Historically disadvantaged individuals, particularly those in low income and communities of color, have long been locked out of traditional economic growth and development strategies, and have been further negatively impacted by globalization of the economy. A transition to low carbon manufacturing and production and increased reliance on domestic and clean energy could bring significant new investment in, and opportunities for, U.S.-based businesses and industries. Many of the anticipated new jobs will be local jobs in manufacturing, transportation, and construction and building trades that will help existing homes, businesses, buildings, and whole communities become more climate-friendly. Many of these jobs will be located in urban centers and while they will not necessarily require high levels of formal education or skills, they have the potential to pay decent wages and lead to new career pathways for employees, making them ideal opportunities for historically disadvantaged workers. Developing targeted policies and workforce training and placement opportunities will help cities and their private sector partners capitalize on new opportunities, reinvest in struggling neighborhoods, and ensure the equitable distribution of jobs so that disadvantaged communities and residents can both contribute to and benefit from the greening of the economy.

POLICIES TO ENSURE GREEN JOB OPPORTUNITIES FOR ALL

Cities can play an important role in connecting disadvantaged workers with green jobs through local policies, labor standards and workforce development programs. Labor standards, local hiring policies and public benefit agreements are among the tools available to make sure new jobs go to targeted populations or communities. Job training, placement and workforce development programs help to ensure that there is a well-trained, well-prepared supply of workers ready to step in to available jobs.

There are different types of local policies, standards and agreements that have been used by cities, unions and community groups to secure good jobs for disadvantaged workers. Typically these approaches come into play to ensure public benefits when public funds are used to support large-



scale new development projects (i.e., building of a new sports stadium). There are now some efforts underway to use these tools to assure that new green jobs go to community members most in need. Because there are a variety of mechanisms to target jobs or other public benefits to certain communities or categories of workers, cities should consider carefully which might be appropriate for their particular circumstances. These include project labor agreements,¹ first source/local hire programs,² and best value contracting.³ The Portland story discusses a community workforce agreement model that combines features from all of these types of tools.

PROGRAMS AND PARTNERSHIPS TO PREPARE DISADVANTAGED POPULATIONS FOR GREEN JOBS

Policies and agreements can help to ensure the availability of jobs for targeted populations, but such policies do not guarantee that those populations are prepared to take those jobs. Helping historically disadvantaged people—including low-income, minority, unemployed and hard-to-employ groups—compete for jobs requires an understanding of both the needs of employers (Seattle and Milwaukee) and the unique needs and barriers of this potential workforce.

Addressing Barriers to Training. Other wrap-around services are also important; most of these people also need an array of social supports to help ease their transition into long-term employment. Childcare, transportation assistance, life skills training, drug and alcohol counseling are among some of the types of support necessary to help disadvantaged populations successfully participate in available training programs (Milwaukee and Cleveland).

On-Ramps to Employment. Stories in this resource guide discuss how various green workforce programs are helping people overcome barriers to employment, such as the lack of foundational academic competencies (Los Angeles), job readiness (Santa Fe and Milwaukee), the lack of drivers' licenses (Cleveland), unstable employment history and even felony convictions (Chicago). Job placement assistance is also critical to help trainees as well as their future employers with the hiring and retention process (Santa Fe and Milwaukee).

Career Pathways. Entry-level jobs can create career opportunities, but more often workforce development agencies need to build career pathways and matrices into their training programs to ensure that individuals that they train move beyond entry-level positions (Los Angeles).

¹ Community workforce agreements and project labor agreements are project-specific agreements negotiated by stakeholders such as unions, community organizations, contractors and cities prior to the start of a project and hiring process. Agreements vary but can be used to set wages and target hiring, training and outreach programs to low-income or underrepresented workers.

² First source/local hire programs policies require builders or developers who are working on city financed projects to give priority to local residents or participants in local job training and vocational programs when hiring skilled and unskilled labor.

³ Best value contracting is where bidders compete for projects not only on price, but on overall value in terms of both cost and technical qualifications such as training, safety history, apprenticeships, prevailing wage and health care provisions. Best value contracting can help promote worker safety, skill training, diversity in hiring practices and other priorities that lead to higher quality jobs and work.

BUILDING ON EXISTING EXPERIENCE TO DEVELOP THE GREEN WORKFORCE

Many existing workforce and training programs can be adapted to focus on training low-skill or disadvantaged workers for opportunities in the green economy. Job training programs can provide specific skills training to new or displaced workers (Milwaukee), or job placement assistance, which matches eligible workers with potential employers (Santa Fe). Other comprehensive workforce development programs provide basic education, skills training, career counseling, work experience and placement assistance along with support services (Chicago).

Working closely with the private sector, community partners and other stakeholders including workforce development organizations and agencies, community colleges, unions, and other community-based organizations can help cities understand the range of existing programs and services available, the specific skills needed by sector, and the opportunities to retool or invest in workforce training programs that meet the needs and demands of employers and bring new opportunities to historically disadvantaged community members.

SNAPSHOT: A MODEL OF WORKFORCE DEVELOPMENT

Los Angeles Trade-Technical College

Los Angeles Trade-Technical College is a model of systematic workforce development for underserved populations. Administrators there have created a system that utilizes careful research to inventory employment opportunities and future demand, and identifies the gaps between existing training programs and required skill sets. They then map industry credentials, promising career entry points, and career pathways, and develop training programs that not only train to these access points, but also build skills that cut across careers. Finally, they provide wrap-around support services and engage with employers in every step of the process, ensuring that their programs match employer requirements, and that their graduates will have the greatest chance of landing a high-quality job.

OVERVIEW

Los Angeles Trade-Technical College, or Trade-Tech, is the oldest institution in the Los Angeles Community College District. Under the leadership of Marcy Drummond, Vice President of Workforce Education and Development, Trade-Tech has become a national leader in creating job training programs and career pathways for low-income and otherwise underserved populations. She has developed the most comprehensive approach to workforce development of any educational institution in the city, incorporating research, career mapping, and employer engagement.

In 2007, the City-led Los Angeles Workforce Systems Collaborative—a broad effort to prepare workers for a set of economic sectors—selected Trade-Tech’s Regional Economic Development Institute (REDI) to serve as the intermediary for stakeholders in the Energy/Utility Sector. The selection made sense because Drummond was already engaging the utilities and because Los Angeles had just passed a bond measure for upgrading educational facilities, including community colleges.

As the intermediary, Trade-Tech formed the Los Angeles Infrastructure and Sustainable Jobs Collaborative (LAISJC). Much like the umbrella Workforce Systems Collaborative, LAISJC

convenes community, business, labor, training, and government partners. In leading the LAISJC, Trade-Tech emphasizes the need to provide livable wage jobs and career paths in the energy/utility sector to low-income, disadvantaged populations.

Trade-Tech conducts research on behalf of the LAISJC, supports program development, and organizes training programs. Trade-Tech also helps to develop and coordinate support services, such as counseling, case management, literacy, childcare and transportation assistance, to the people trained in related workforce development programs. California does not provide state funding for this intermediary role. So Trade-Tech has had to raise money from Workforce Investment Boards in the county, and it also received a seed grant from Bank of America.

TRADE-TECH'S WORKFORCE DEVELOPMENT MODEL

Inventory of opportunity, gap analysis. The first and most important step in developing a workforce system for the energy/utility sector is to understand the short- and long-term demand for labor, so that workers would be trained accordingly. “If it’s not already in place, a Sector Intermediary has to do primary research and facilitate the entire workforce system,” says Drummond. Trade-Tech utilizes several approaches for market analysis, including computer modeling¹, and employer surveys about planned hiring, job eligibility requirements, and barriers to hiring new workers. Trade-Tech also draws on data from sources such as the U.S. Department of Labor and American Community Survey. With this information in hand, Trade-Tech is able to analyze where current demand and training programs match, forecast future labor demand, as well as identify the new skills workers in this sector need.

Mapping credentials, career pathways, and training programs. Trade-Tech works with the LAISJC partners, particularly the utilities, to determine the requisite job credentials that are most important for a career in the energy/utility sector. That process then informs curriculum development. “We first ask whether there is a national or industry-recognized standard, but often that either doesn’t exist, or there are multiple credentials that measure different things,” says Drummond. “So core skills are key. We look at the skills being tested for in each certification, look for the common denominators, and begin training to these common skills. That way we can create stackable, short-term certificates that cut across careers, and make sure that our students have both the hard and soft skills that can be the building blocks for several different careers.” Only after these building blocks are established do the credentials begin to become more specialized (see the diagram on page 72 for LATTC’s building block competency framework and sample competencies for the utility sector). Taking the time to determine which skills are essential to a variety of careers provides trainees alternate career paths if demand for a specific job grows more slowly than expected.

Once the necessary skills and credentials are determined, Trade-Tech and the LAISJC’s other training partners are able to construct educational and career ladders, which include entry points to employment, advancement opportunities, and training programs to match. Like the credentialing assessments, career mapping is done in partnership with relevant employers to ensure that it matches their needs.

The training programs are first piloted at Trade-Tech or other local educational institutions, and can then be taken to scale at community colleges across the region. Trade-Tech conducts outreach and recruiting within disadvantaged communities, and focuses specifically on training for skills that are

¹ Economic Modeling Specialists, Inc. (EMSI) and IMPLAN are two of the programs used by Trade-Tech.

most needed by low-income populations. The partnerships with WorkSource Centers and other stakeholders, in turn, provide the wrap-around services and remedial education that the students need to complete the training programs.

Employer engagement. Through the collaborative partnerships among educational institutions, student support service providers, labor representatives, and employers, students have access to a variety of pre-apprenticeship, apprenticeship, and on-the-job training options. Employers are involved throughout the process to validate research findings, to identifying relevant skills and to inform the curriculum. Engaging employers from the earliest stages ensures that the training programs are suited to employer needs, and makes job placement easier upon graduation.

Trade-Tech and its partners have spent a great deal of effort on job placement, especially during the current recession. In this final step, employer engagement goes beyond the LAISJC partnerships. “Every employer is completely different, and we’ve had to engage with many of them individually to find out exactly where they need new workers and new skills, find out their area of work,” says Drummond. “Convening them initially can be a largely symbolic gesture, and we lost a few after the first meetings. But now that we’ve taken the time to engage them directly, we’re able to reconvene a much more practical consortium.”

Early successes. Though still in its early phases, Trade-Tech and LAISJC have created four separate green-related degree and certificate programs, including a Utilities and Construction Prep Program, Solar Installer/Designer Certification program, and, since early 2009, the Weatherization and Energy Efficiency (WE2P) education program. WE2P stemmed directly from LAISJC utility partners’ need for training programs that would incorporate the knowledge and skills necessary to implement the multiple weatherization programs that are growing rapidly in the region. The program works in collaboration with several community-based organizations that are outside the original collaborative structure, and which provide a wide variety of wrap-around services.

LAISJC has also begun the process of co-locating training programs with nonprofits and WorkSource centers, to help provide easier access to a range of services. There is also a Summer Youth Green Jobs Program, which provides instruction to approximately 120 young people a year, and places them in paid internship programs.

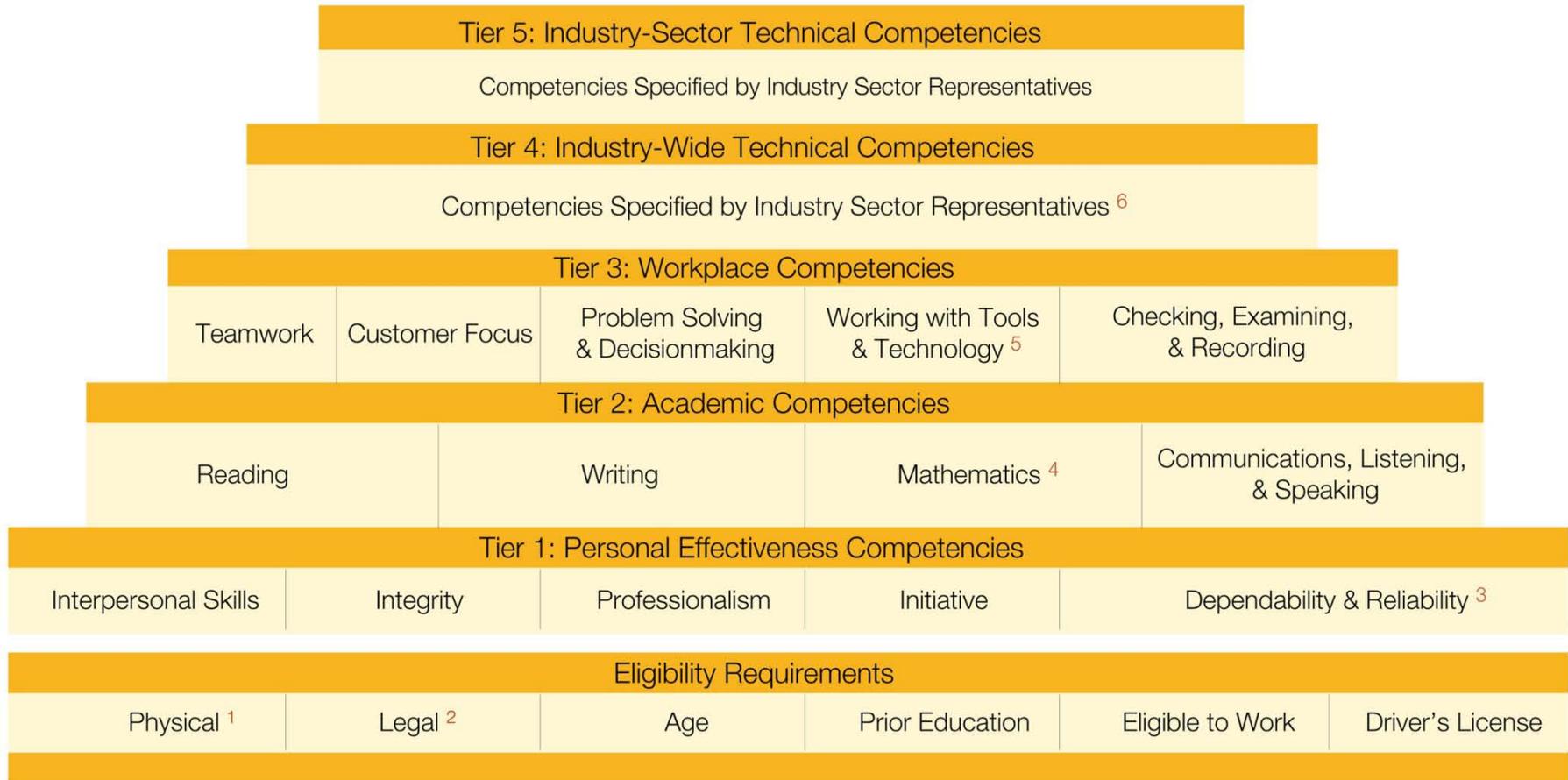
FOR MORE INFORMATION

Los Angeles Trade –Tech College Green Workforce Education Initiative website:

<http://college.lattc.edu/green>



Los Angeles Trade-Technical College Competency Framework



This diagram shows Los Angeles Trade-Technical College's competency framework in terms of tiered building blocks. Refer to footnotes on the following page for examples of skills relevant to a utility career.

Examples of skills for utility careers by selected competencies

¹ Physical

- **Lifting capacity:** Has physical capacity to lift 50 lbs above head
- **Stooping, crawling, squatting:** Has physical capacity to stoop, crawl, squat, and maneuver on hands and knees
- **Working in small/confined spaces:** Has capacity to work and maneuver in small and confined spaces
- **Walking and standing:** Has physical capacity to walk 5 to 7 miles per day and stand for extended periods of time
- **Agility:** Able to climb ladders (no fear of heights)

² Legal

- **Pass Background Check** (Theft & Battery Felonies)

³ Mathematics

- **Calculation:** Calculate minimum ventilation rates

⁴ Working with Tools and Technology

- **Selecting tools:** Basic understanding and use of hand/portable power tools; selects and applies appropriate tools to frequently encountered problems; carefully considers which tools are appropriate for a given job and consistently chooses the best tool for the problem at hand; understanding of the clockwise and counter-clockwise principles (e.g., righty-tighty, lefty-loosy)
- **Materials Selection:** Proper materials selection based on location of leakage areas during weatherization

⁵ Competencies Specified by Industry Sector Representatives

- **Air Sealing:** Use the blower door to locate leakage sites within the building; seal attic and floor bypass at penetrations for plumbing, electrical wiring, flue vents, ducts, dropped soffits, and balloon-framed walls; seal typical bypasses in knee walls and finished attic spaces; seal basement band joists; properly apply caulk and spray foam insulation; identify, select, and install weather-stripping on doors, windows, and attic latches; cut glass, replace broken window panes; and apply glazing compound; repair plaster and sheetrock (drywall); and modify or install mechanical ventilation to ensure acceptable indoor air quality for post-air-sealing conditions.

⁶ Dependability and Reliability

- **Fulfilling obligations:** Behaves consistently and predictably; is reliable, responsible and dependable in fulfilling obligations; diligently follows through on commitments and consistently meets deadlines
- **Productivity and accountability:** Demonstrates sense of accountability for producing products/services to required standards and beyond
- **Showing up on time:** Demonstrates regular and punctual attendance; rarely is late for work, meetings, or appointments
- **Complying with policies:** Follows written and verbal directions; complies with organizational rules, policies and procedures, ability to take and follow directions

Wisconsin Regional Training Partnership and Milwaukee Area Workforce Funding Alliance

Tensions traditionally exist between unions (traditionally white) and community-based training organizations that seek to create more job opportunity for minorities. Such issues cannot be easily or quickly resolved. The Wisconsin Regional Training Partnership has made progress in one aspect: placing historically disadvantaged people into union apprenticeships. WRTP's high rate of placement of thousands of Milwaukee-area—often low-income—workers into union apprenticeships is due to such practices as savvy skills assessment, employer-driven training, worker mentoring, and labor partnering.

The Wisconsin Regional Training Partnership (WRTP)/Building Industry Group Skilled Trades Employment Program (BIG STEP) is one of the nation's preeminent labor-led sector partnerships.

Working with unions, businesses, community groups and the public workforce system, WRTP/BIG STEP has helped thousands of Milwaukee-area workers—often low-income or unemployed women and people of color—develop their skills and find good jobs, while also helping dozens of local employers connect to a skilled workforce. As a workforce development intermediary, WRTP works with the public sector to develop



Image credit: The Daily Reporter

resources, services, processes and programs that benefit member companies. WRTP expands employment and advancement opportunities by upgrading the skills of current employees. It also recruits, trains and places community residents in family supporting jobs.

WRTP/BIG STEP's Center of Excellence offers workers a wide range of support during their preparation for construction and manufacturing careers, including academic assessments and individualized tutoring for apprenticeship exams; pre-employment skills training and certification; and connections to community organizations that can assist with daycare, transportation, GED preparation, job readiness and other services.

WRTP has rolled out a growing number of training certificate programs for trades, such as carpentry, machining, welding, heavy highway construction, underground construction, and utility

line construction, and has worked closely with the Joint Apprenticeship Committees in the area to prepare candidates for their respective exams.

In addition to helping candidates enter its apprenticeship-prep program, WRTP/BIG STEP helps participants find jobs—and succeed in them. The Center of Excellence maintains a database of apprenticeship-ready workers, and can certify them for construction projects with residential hiring requirements. Once WRTP/BIG STEP participants are placed, the Center of Excellence continues to provide individualized support and evaluation to help apprentices advance in their careers.

KEY CHARACTERISTICS

Industry Sectors: Construction and weatherization, manufacturing

Workforce type: All area workers eligible, but program often serves low-income, unemployed women, people of color

Funding: Construction industry, philanthropy (national, corporate, community, and family foundations)

Partners: Unions, business, workforce system, community-based organizations

People Placed in Apprenticeships: Thousands since inception

This model industry partnership offers a promising paradigm for green-collar job training. WRTP/BIG STEP is now working to address the weatherization challenge posed by the recent infusion of funds from the American Recovery and Reinvestment Act: how to ensure both the quality of jobs and the quality of work in the traditionally low-end labor market for residential construction.

Working with Community Action Programs and the Laborers Union, WRTP/Big Step is now working to bring its experience and skill to the growing market for energy efficiency retrofitting in Southeastern Wisconsin and, eventually, statewide.

CONSTRUCTION PROGRAM

WRTP's Entry Level Construction Skills (ELCS) program focuses on skills and skills standards that apply to construction, retrofit and home rehabilitation efforts, tiered according to skill levels in the industry as follows:

- *ELCS 1* is an exposure course that targets those who are unfamiliar with the construction industry, but who want to enter the sector. This non-credentialed exploratory module provides participants an introduction to the trades and the world of work.
- *ELCS 2* is for those participants who meet minimum requirements for training, which include, for example, appropriate reading and math levels (that vary by trade), reliable transportation, and the ability to pass a drug test. The primary goal of *ELCS 2* is to supplement transitional jobs and job training and qualify participants for an apprenticeship program.
- *ELCS 3* is for qualified apprenticeship candidates who have not yet been hired by an employer in order to begin an apprenticeship. WRTP/BIG STEP is currently working with the building trades to develop a process for participants to receive knowledge validation to receive advance standing and credit towards the Apprenticeship Program and/or Technical College.
- *ELCS 4* is the most advanced ELCS module and targets current journey workers or apprentices. *ELCS 4* helps upgrade these experienced workers' skills, particularly as they relate to the new skills in the "green" economy.



FOOD FOR THOUGHT

Initial Assessment and Community Partners. One key to success, according to Associate Director Rhandi Berth, is savvy skills assessment and strong partnerships: “We are able to quickly assess the needs of the people that come through our door—whether they require essential, basic, or technical industry skills. We work with hundreds of local community organizations that refer those that are work-ready to us and provide support for workers we identify as needing help becoming job-ready.”

Employer-Driven Training. WRTP/BIG STEP partners with employers and training providers to offer appropriate curriculum for their students. Their experience in the residential construction sector includes preparing workers for lead abatement and asbestos removal, and for building projects of the Wisconsin Housing and Economic Development Authority (WHEDA). By building on that history and coordinating with appropriate agencies and organizations, WRTP will expand its industry-recognized Entry Level Construction Skills (ELCS) credential to include a weatherization component. The ELCS-Weatherization Certificate will assure contractors that graduates have the skills they need to satisfy the high standards of the program.

A Focused Intermediary. WRTP staff focuses on construction and manufacturing, and has become an intermediary trusted by employers and unions in those sectors. Other intermediaries, community and public agencies who necessarily split focus among a larger number of sectors may not be able to develop the level of rapport and trust it takes to introduce applicants with barriers to employment.

Aligned to Union Standards. WRTP and the ELCS model are built upon skills standards that are aligned with those of labor/management organizations. ELCS content and learning objectives have been developed by the local area joint apprenticeship committee’s and have been recognized by the State Department of Workforce Development, allowing trainees who complete ELCS 1 and 2 a pathway into apprenticeship programs. Those who complete ELCS 3 gain advanced standing on the apprenticeship list.

A Structured Pathway. The ELCS model provides structure and standards necessary for participants to understand the pathway toward higher-skilled work that addresses sustainability concerns, while articulating a pathway from lower skills to journeyman-level skills. The WRTP program provides the bridge between the community and the trades.

Leveraged Resources. WRTP/BIG STEP navigates a thicket of public and private funding systems to leverage training dollars from state, federal and industry sources. WRTP, for example, is an eligible provider for Workforce Investment Act programs; workers can use their Individual Training Account (ITA) vouchers for ELCS training.

Worker Support. Tutoring & Mentoring: WRTP/BIG STEP has developed a model mentorship program to support workers entering the construction industry. It is well known that new workers do better on the job when they have the support of an experienced worker to guide and advise them, but few organizations run successful mentoring programs. WRTP/BIG STEP matches every new worker with a supportive senior worker who serves as a mentor. Mentors can spot early signs of trouble so that WRTP/BIG STEP can find the appropriate resources to help the new worker succeed.

The WRTP/BIG STEP commitment to helping workers enter into lasting careers led to the development of a successful tutoring program for passing apprenticeship tests. The Center of

SNAPSHOT OF A FUNDER: MILWAUKEE AREA WORKFORCE FUNDING ALLIANCE

The Milwaukee Area Workforce Funding Alliance (WFA) began its work in September 2008 and is one of 21 regional workforce funding alliances sponsored by the National Fund for Workforce Solutions. The WFA brought together the philanthropic community, public sector, community block grant office, workforce developers and businesses to align funding priorities, share work, and maximize their collective impact on career advancement of low-income and low skilled people. The WFA leadership council, comprised of representatives of each funding alliance member, includes City of Milwaukee staff: Mayor Tom Barrett's Workforce Development Liaison Myra Edwards, Executive Director of the Housing Authority Tony Perez, and Chief Court Administrator of Municipal Courts Kristine Hinrichs.

An early result of convening these actors was a shared understanding of how much money was going into workforce development at the time; philanthropic investors often do not use the title of "workforce development" and therefore an accurate picture was not previously possible. In addition, public and private funders alike are beginning to align funding decisions based on shared information on organizations and programs being supported.

The WFA conducted a jobs sector analysis for the region to guide their funding priorities. One sector of interest is green jobs, broadly defined. As one result, the Workforce Funding Alliance is a member of the Milwaukee Builds Partnership, a demonstration project that will provide on-the-job training for at least 80 unemployed individuals in Milwaukee to help prepare them for permanent jobs in the building trades while improving city property in inner city neighborhoods. The Milwaukee Builds Partnership also includes WRTP/Big Step among other training organizations.

Thanks to Tony Perez, Executive Director, Housing Authority of the City of Milwaukee and Secretary of the Milwaukee Area Workforce Funding Alliance, and Erick Sharmbarger at the Mayor's Office of Environmental Sustainability



Excellence helps workers gain math, science, and any other skills they need to enter the Building and Construction Trades. Hundreds of graduates have been placed in apprenticeship programs thanks to flexible tutoring schedules and individually tailored curricula.

Labor Partners WRTP/BIG STEP has a longstanding relationship with the Laborers Union, Local 113, which has a residential construction package rate of about \$20 per hour and includes pension and health care benefits. By working with contractors affiliated with the Laborers in residential weatherization, WRTP can offer access to quality training and support for workers.

Working with the City and State. WRTP and the City of Milwaukee both recognize the need to engage employers whose jobs offer higher levels of pay and benefits. WRTP has been able to assist the City about how to more effectively work with both employers and the building construction trades to prioritize those higher-quality opportunities. WRTP has also worked with the City to create learning opportunities despite a municipal hiring freeze. WRTP was able to negotiate with the City and AFSCME for students to accompany urban forestry workers under a union training agreement and to facilitate a stronger pathway towards those jobs once the freeze is ended.

Thanks to Rhandi Berth, Assistant Director Wisconsin Regional Training Partnership.



This feature draws a case study written by the Council on Adult and Experiential Learning and an Apollo Alliance Signature Story, “Wisconsin Models Workforce Development Partnerships”, authored by the Center on Wisconsin Strategy, published online January 27, 2010. Apollo Alliance’s Signature Stories are an ongoing project to catalogue Clean Energy jobs stories from around the country. Read more at <http://apolloalliance.org/programs/apollo-14/signature-stories>.

FOR MORE INFORMATION

Wisconsin Regional Training Partnership website, <http://www.wrtp.org/index.php>

National Fund for Workforce Solutions Regional Collaboratives site,
<http://nfwfsolutions.org/locations/regional-collaboratives/milwaukee-area-workforce-funding-alliance>

Milwaukee Area Workforce Funding Alliance members: <http://milwaukeeewa.org/members.aspx>

Implementing the National Fund for Workforce Solutions: The Baseline Evaluation Report
December 2009.

How the Wisconsin Regional Training Partnership Facilitates Labor-Management Cooperation for High-Performance Work Organization, Center on Wisconsin Strategy, 2004

Good Practices in Business Services: Helping Small Business Grow and Create Jobs: Case Study
WRTP, ShoreBank Advisory Services, 2002

Press release on Milwaukee Builds,
http://www.wisgov.state.wi.us/journal_media_detail.asp?locid=19&prid=5034

CASE STUDY: POLICIES TO ENSURE JOB OPPORTUNITIES FOR LOW-INCOME WORKERS

Portland’s Community Workforce Agreement

The landmark Community Workforce Agreement (CWA) is designed to ensure that Clean Energy Works Portland, an energy efficiency retrofit pilot program, provides access to high-quality employment for the community members who need it most. The 29 signatories to the agreement represent community groups, labor unions, business, contractors, and environmental justice and faith-based organizations, as well as the City of Portland and the Oregon Energy Trust. In just five months, they reached agreement on a set of contracting, subcontracting, training and employment policies and standards designed to guide implementation of the workforce aspects of the city’s retrofit pilot program and ensure that it delivers both social equity and environmental sustainability. The result is a living document that while lacking the force of a legal contract, articulates a strong community vision, puts forth specific goals and standards for realizing it, and sets the stage for social equity to be a major focus when the program goes to scale.

THE MODEL

The Community Workforce Agreement (CWA) is a foundational piece of Clean Energy Works Portland (CEWP), a comprehensive effort to retrofit 500 single-family homes by summer 2010 and create an estimated 40 jobs in the process. The program is expected to scale-up for retrofitting an estimated 100,000 homes in the next several years, creating as many as 10,000 jobs throughout the Greater Portland region.

KEY CHARACTERISTICS OF THIS PROCESS

Industry Sectors. Building energy retrofitting

Workforce type. Low-income

Funding: Public

Partners. National and regional nonprofits, City (city council, Mayor's office, planning and sustainability department, neighborhoods department)

Portland was well-suited for this experiment in deliberate green workforce development. Oregon has one of the highest unemployment rates in the country. Portland itself is experiencing high unemployment and underemployment, which disproportionately affects its small, lower income and minority populations.

The goal of the CWA is to ensure that expected new jobs are high quality, living wage jobs with connections to career pathways. It is also designed to ensure that people throughout Portland, especially those from low-income and minority communities, historically underrepresented in the workforce, can land these good jobs.

Getting Started. Early in 2009, Portland participated in a practice group organized by Green for All—a national organization working to improve lives through the green economy—on the advantages of community benefits agreements. Community benefits agreements are typically negotiated among a developer and a coalition of community stakeholders as a condition for receiving work permits. Portland invited Green for All to become the city's partner and technical expert in developing a new model agreement designed to shape every aspect of the green jobs component of Clean Energy Works Portland.

The vision from the start was to launch a collaborative process engaging a broad set of community stakeholders. In the summer of 2009, Portland's Bureau of Planning and Sustainability convened five stakeholder meetings. More than 50 people representing more than 40 groups participated in the meetings. The group first forged agreement on common goals for job quality and access, and then tackled the development of specific standards and practices for meeting those goals. In September 2009, 29 stakeholder groups signed the agreement.

Although the CWA itself is not a legally binding document, the Portland City Council passed a resolution endorsing it on September 30, 2009. The resolution formalizes the City's commitment to the agreement's provisions and directs city agencies to support its implementation. It also establishes a Stakeholder Evaluation and Implementation Committee to ensure continued community involvement in monitoring implementation and making recommendations for improvements. The ordinance also ties the provisions of the CWA to the goals outlined in Portland's draft Climate Action Plan, Regional Equity Atlas, and five-year Economic Development Strategy.



Some Agreement Highlights. One of the most innovative elements of the Community Workforce Agreement is the creation of a best value contracting method for determining which businesses will be invited to join the program's approved contractor pool. Rather than adopting the usual laser focus on price structure, the City and the Oregon Energy Trust have committed to evaluating a broad set of attributes that collectively reveal what kinds of jobs and benefits the contractors offer and how they tend to conduct hiring.

Desirable attributes, which were given different weights by participating stakeholders, include hiring at least 80% of employees from the local area, offering health insurance and other benefits, giving employees opportunities to receive credentialed training, having a successful track record in hiring and retaining historically disadvantaged or



Image credit: Energy Trust of Oregon

underrepresented people, and attempting to hire formerly incarcerated workers, to name a few. The City will select contractors to participate in the program's approved contractor pool based on the scores contractors receive, and the need to create a pool that meets the many other goals of the CWA.

Other highlights of the CWA's employment, contracting and training standards are listed below.

Overall Employment Goals for the CEWP Pilot:

- At least 80% of employees used in the pilot will be local hires;
- Employees will earn the prevailing wage, or 180% of the state minimum wage;
- Historically disadvantaged and underrepresented people will work at least 30% of the labor hours generated by the pilot;
- Businesses owned by historically disadvantaged and underrepresented people will have at least a 20% share of the project dollars spent in the pilot;
- Labor unions and training providers have a seat at the table to help define and create career-pathways and reward contractors who help employees achieve upward mobility; etc.

Individual Contractor Requirements (for participating in the pilot's contractor pool):

- Contractors will pay wages that are 180% of the Oregon minimum wage;
- Contractors must be Building Performance Institute (BPI) Certified;
- Contractors will publicly report every quarter on diversity, health care and other benefits, and subcontracting;
- 100% of new hires will come from a designated training program until 50% of the contractor's employees' monthly hours are performed by graduates of these programs; etc.

Training Program Standards. For a training program to qualify under the CWA, it must provide health & safety courses; have at least three partners with state recognized pre-apprenticeship programs or community organizations that represent and serve minority and disadvantaged populations; offer mentoring and continued support to its participants; and have a strong track record of placing disadvantaged workers in the construction trades.



Students ready to take on green jobs after completing a women-only training offered through Oregon Tradeswomen, Inc. Image credit: Oregon Tradeswomen, Inc.

FOOD FOR THOUGHT

Portland's Community Workforce Agreement (CWA) demonstrates that it is possible to build a community-wide vision—even among groups that often disagree—on a set of concrete goals and standards for ensuring that retrofitting jobs provide good pay and benefits and are accessible to all.

As the pilot program progresses and then goes to scale, the long-term success of the CWA is something to watch. Its ultimate success will hinge on how it is applied in practice. Will the City continue to enjoy the trust and support of the diverse social equity and business groups that have

participated to date? Will contractors committed to hiring lower income and minority workers really be rewarded for their commitment? Will the stakeholder committee and the City work well together to oversee implementation of the CWA?

While the agreement is just beginning to take effect, the City and its partners learned many lessons in the process of developing it that may be useful to other cities.

Provide a Strong Vision and Skilled, Facilitative Leadership. One distinct reason that the Community Workforce Agreement materialized was that Mayor Sam Adams and his sustainability team provided a clear vision and leadership from the outset. The Mayor publicly stated his commitment to ensuring that the Clean Energy Works Portland program would meet quality and equity goals for the new jobs it produces. And Derek Smith, who manages the pilot retrofit program for Portland's Bureau of Planning and Sustainability, became a strong advocate for engaging many different organizations and interests very early in the process, and for working with them to build an agreement from the ground up. His optimism and can-do spirit clearly helped people believe that agreement was possible. "I may have been naïve," reflected Smith, "but I strongly believed that [the City and the diverse community groups] could get a workforce agreement done."

Jeremy Hays believes one of the smartest decisions the City made at the outset was to sound out the participating groups about who should act as facilitator. "It wasn't an overly formal, stuffy process. We just got the groups together, invited them to work with us, and asked them who they wanted to lead the process." The group chose the City's Department of Neighborhoods, because its staff had long-standing relationships in the affected communities, and was well respected and trusted. They also had trained facilitators on staff. Hays reports, "The participants said 'we want the Department of Neighborhoods because they have our backs.' With DON staff facilitating, participants were able to feel seen and heard; they didn't fear that the City or Green for All would drive the process." The facilitators focused participants on defining their common vision and deciding quickly on the best way to get there.

As Maurice Rahming, President of the National Association of Minority Contractors of Oregon said, “there were times when we felt that we were going to lose someone and they were going to leave the process, but that was generally unacceptable to the group. The general consensus was that we were going to work it out together.” The combination of a common vision and strong facilitative leadership kept everyone working toward the ultimate goal and focused the discussion on the details of the agreement. The result, Hays said, was “one of the most pleasant and collaborative processes I’ve ever been involved in.”

Set up a Focused, Practical Discussion. Mayor Adams did more to get the CWA’s development onto the right footing than laying out a compelling vision of social equity. He also provided some clear parameters for the group’s work that helped keep everyone on track.

A key charge of the Mayor was to complete the discussions in just four months. Hays believes that setting a very aggressive deadline forced the participants to stay focused on finding solutions. Knowing that current jobs, made available through the pilot program, were put on hold as the City waited for the results of the stakeholders’ work added to the sense of urgency around the table.

KEYS TO A SUCCESSFUL PROCESS

- Develop an inclusive process with trusted facilitation.
- Present a clear timeframe.
- Ensure that the right people have a seat at the table.
- Create ownership through follow-on activities.

The City also helped keep the negotiations moving by providing some initial parameters for the content of the agreement. Green for All reviewed labor and workforce training statistics and details of national, regional, and local employment and hiring standards from other cities, and the City brought contracting, employment and hiring standards used in recent development projects in Portland. This attention to starting with “what was already there” helped the group pick a starting place for their deliberations, and move quickly to defining specific policies and standards for the CWA.

The City also made a deliberate decision to bring “practitioners” involved in real projects and programs around the negotiation table—actual contractors, instead of the local Chamber of Commerce, for example. The City worked diligently to understand what the different groups needed to make the agreement’s provisions work for them. “When something didn’t work for the contractors, we would say, ‘we want you to bring us one voice about what you most need, and then we will work hard to deliver it,’” says Smith. Hays adds that when conflicts arose, the facilitators would arrange a lot of “one on ones,” getting a labor union and contractor representative to sit down and have coffee for instance.

Create a Living Document, and then Test It. Another strategy employed by the City was to limit the term of the agreement to the duration of the pilot program, while sending out a clear signal that stakeholders would be invited to help develop a new and better version for the scaled up program envisioned for the future. Hays notes that this had the effect of taking some of the pressure off getting the CWA perfect the first time. “This gives people the space to try things out,” he says.

Smith cites a specific example of how the city’s commitment to produce a living document helped to bridge key differences about what it should say. “One of the trickiest issues was that the social equity groups wanted “hard targets”—for example, people of color will get x% of the work.” For

legal and other reasons, the City wanted to embrace targets for “underrepresented people” as a whole, including people of color. Social equity groups were concerned that such a target would not be met. “One way we gained their confidence in our commitment to these soft targets was to invite them to help us monitor how the agreement is put into practice, and to refine it over time,” says Smith.

Design Systems to Maintain Accountability and Commitment. Portland is developing specific ways for stakeholders to continue learning about how to make the CWA as effective as possible. Stakeholders are now active in the implementation phase through a Stakeholder Evaluation and Implementation Committee and its sub-committees. Members meet approximately once a month to assess how the agreement is working, to review whether the “best value contracting” approach to contractor pool selection is resulting in higher quality jobs and better job access, and to recommend improvements for the agreement’s next iteration. Beyond creating accountability, this inclusionary approach strengthens relationships between stakeholders and the City, and builds trust among the stakeholder groups themselves.

Portland is also testing data systems designed to improve contractors’ accountability for meeting the standards they agree to observe as a condition of participation in the contractor pool. One such system allows the Stakeholder Committee to review actual payroll data from participating contractors, to see who has been hired, and how they are being compensated.

Thank you to Jeremy Hays, Director of Special Projects at Green for All, Maurice Rahming, President of O’Neill Electric, and Derek Smith, Policy Adviser for the Bureau of Planning and Sustainability.

FOR MORE INFORMATION

Clean Energy Works Portland website, <http://www.cleanenergyworksportland.org>.

City of Portland’s write up on the Clean Energy Works Portland Pilot Project, September 2009, <http://www.portlandonline.com/shared/cfm/image.cfm?id=265207>.

Portland City Council Resolution, <http://www.portlandonline.com/shared/cfm/image.cfm?id=275672>.

Green for All case study, “Clean Energy Works Portland: a national model for energy-efficiency retrofits,” January 2010, <http://www.greenforall.org/resources/clean-energy-works-portland-report/download>.

City of Portland Press Release, September 30, 2009, <http://www.portlandonline.com/shared/cfm/image.cfm?id=265141>.

Greencorps Chicago

Greencorps Chicago is a 16-year-old city-run program that has grown from a small community gardening program into a comprehensive green jobs training and placement initiative that prepares disadvantaged area residents to work in a variety of environmentally related jobs. Up to 90 percent of the participants are ex-offenders, the majority of whom secure full time employment upon graduation from the program. The program succeeds through an array of public private partnerships and strong support from the Mayor and community partners.

THE MODEL

Greencorps Chicago was launched in 1994 as a program of the City of Chicago Department of Environment with initial Community Development Block Grant funding of \$250,000. The original purpose was to build and maintain community gardens throughout the city. Early on, high levels of staff turnover led program managers to consider how they could do more to empower people to take ownership of the effort and rely more on themselves to strengthen their communities. This thinking led to new private sector partnerships, which in turn brought a higher industry standard to the program and a more rigorous approach to giving individuals the skills, training and experience needed to succeed in the workforce. It also allowed an expansion of environmental training modules, which included landscaping, energy efficiency, waste reduction, brownfield remediation and ecological restoration.

Each spring, Greencorps hires 40-50 Chicagoans for approximately nine months to work on greening projects identified by city agencies and nonprofits. Participants receive minimum wage for the duration of the program, giving them a stable income while they receive practical experience, professional development, training and academic enhancement.

Trainees are referred to Greencorps by a network of 27 community partners including social service agencies, community, neighborhood and faith based organizations, parole officers and word-of-mouth from graduates. Following an intensive screening process that includes a two day “try-out” and two week unpaid orientation, this year Greencorps will hire 75 people, who will be placed into work crews of 5 people each. (Additional CDBG ARRA funds this year have allowed for the expansion of the program.) Crews rotate every few weeks so that every participant is exposed to each of the program sectors. At different points each participant also has a two-week internship, typically with a private landscaping firm. At the end of the program, job placement assistance leads to permanent jobs for the majority of the participants.

KEY CHARACTERISTICS

Industry Sectors. Landscaping and horticulture, environment health and safety, electronics recycling, home weatherization

Workforce type. Chicagoans, 18 years or older, ex-offenders and other ‘hard to employ’

Financing: Public (city), utility, in-kind, ARRA, (USCM-Wal-Mart Green Jobs Training Initiative Best Practice Grant

Partners: City (Department of Transportation, Streets and Sanitation, Chicago Park District), consulting firm as program manager, workforce development agency, nonprofits

People Employed: 340 since 1994 (75% placement rate)

Community garden groups, city agencies and nonprofit organizations identify most of the projects that Greencorps crews work on. Community garden groups go through a basic certification process and are then eligible for help from Greencorps crews with garden installation and management. Garden groups must participate in educational workshops that focus on site sustainability. Advanced trainees provide contracted services to other city agencies and nonprofit partners, including young tree care for the Chicago Park District, landscape maintenance for the Chicago Department of Transportation and rain garden construction for the Center for Neighborhood Technology. City agencies that identify projects are asked to contribute materials with Greencorps providing the labor. Guest trainers from partners such as Care of Trees, Morton Arboretum, and the Chicago Botanic Garden provide instruction.



A graduate of the Greencorps Chicago training program is congratulated by Mayor Daley. Image credit: City of Chicago

Computer refurbishing and recycling training is offered at the City of Chicago's Goose Island Household and Hazardous Waste Recycling Center. Training includes warehousing and logistics, OSHA safety, and computer skills training. A computer recycler provides specialized training, and trainees work at the Goose Island facility as part of their work experience.

Weatherization training is provided by Fuller Park Community Development Corporation. Trainees learn basic home construction techniques, blower door diagnostic testing, and measures to increase building energy efficiency. Last year, 28 trainees participated in weatherizing more than 515 homes, owned largely by seniors and low-income people.

Environmental health and safety training includes classes in hazardous waste removal, lead and asbestos abatement, and mold remediation.

Greencorps partners and staff maintain regular connections with industry partners, such as private sector landscaping companies who help identify green industry trends, employment needs, and career paths for graduates through regular roundtables, surveys, and internship follow-up. These on-going relationships have proven vital to ensuring that the program is meeting the needs of both employers and trainees.

Some 47 companies have hired Greencorps graduates who, as part of their training, learn how to search, apply for and secure employment. In the past two years, 75% of graduates have gone on to employment or advanced positions within Greencorps as trainers and crew managers.

For instance, one Greencorps grad, a high school dropout, enrolled in Greencorps several months after his parole, following nine years in prison. As a result of his dedication, and the work ethic and skills developed in the program, this person was hired by an award-winning Chicago landscape design firm. He also works part-time at a leading arborist company in the Midwest. He plans to open his own landscaping company and continues to search for additional training opportunities to advance his career.

Future directions. Program staff members are looking at several options to strengthen and expand the program. They hope to explore whether a subsidized wage structure and more centralized and

systematic approach to job placement would help to transition more trainees into full time job placements. They also plan to develop a manual that would help other interested cities and organizations to replicate or adapt the Greencorps Chicago model. They will also complete their first comprehensive review and evaluation of the program thanks to the USCM/Wal-Mart Foundation Grant. Reviewing the funding structure to ensure that the current expansion of the program is sustainable is also a priority.

FOOD FOR THOUGHT

Greencorps has graduated more than 300 people in its 16 years of operation, and has had particular success involving people leaving the prison system, and others with multiple barriers to employment. In addition to growing a more skilled green workforce and creating opportunities for disadvantaged and hard to employ residents, the project provides a labor force for the city and nonprofit organizations. Innumerable environmental benefits include new and improved green spaces throughout the city, homes weatherized, environmental remediation, countless tons of hazardous waste and electronics diverted from landfills, and reduction of greenhouse gasses through tree planting. Few cities have developed a model for training disadvantaged populations to directly support their efforts to “green” city services. Chicago has over sixteen years of experience in linking disadvantaged populations to municipal growth in this arena.

Screening leads to success and increased retention. The city is making a significant investment in each person that it enrolls in Greencorps and is careful to select only people that are highly motivated. They screen candidates carefully, and the try-out and orientation period helps to identify those who are most likely to succeed. Support of trainees with wrap-around social services during the program has led to its high retention rate (75%).



City leadership helps with program continuity. Greencorps touches on two of Mayor Daley’s stated priorities: environmental improvement and ex-offender re-entry. The steadfast support of the Mayor has helped the program to maintain steady funding from the city of \$800k/year when other programs are being cut back.

Program model helps spur collaboration. Because Greencorps is providing resources in the form of a labor force for other city departments it has helped to create opportunities to strengthen inter-agency collaboration within city government.

Partnerships improve program efficiency and effectiveness. Working with partners helps to identify and increase program efficiencies. The city doesn’t have to be able to do everything itself. Workforce development partners provide knowledge of effective professional development practices. Public and private social service partners provide the critical support necessary to help individuals successfully complete their training. The ongoing relationship with employers is a key part of Greencorp’s ability to address green industry employment needs.

Green jobs accounting is not simple. Greencorps Chicago estimates that 40 percent of the budget goes to pay for the salaries and benefits of participants. The rest goes for subcontractors, materials, and administration. While frequently asked about the program cost per person, the City argues that this kind of analysis does not account for the significant environmental benefits of the program; the number of gardens built, the waste kept from the landfill, the energy saved, not to mention the community benefits that graduates bring back to their neighborhoods in their stable transition from incarceration to employment.

Linking to larger goals helps provide context. Program staff members say it is important for cities to define what green jobs means for them and to avoid ‘green wash.’ Chicago did this by tying its Greencorps program and definition of green jobs to the goals set through Chicago’s Climate Action Plan. The CCAP is Chicago’s sustainability plan and has helped guide the environmental work of the City.

*Thanks to Aaron Durnbaugh, Deputy Commissioner, Natural Resources and Water Quality Division
Chicago Department of Environment*

FOR MORE INFORMATION

Greencorps Chicago website,
http://www.cityofchicago.org/city/en/depts/doi/provdrs/nat_res/svcs/greencorps_chicago.html

CASE STUDY: JOB-TRAINING PROGRAM FOR AT-RISK YOUTH

Santa Fe YouthWorks

YouthWorks’ innovative programs are creating green collar job opportunities for Santa Fe’s disadvantaged and minority youth, ages 14-28, who face high barriers to employment. These barriers include skills gaps, limited education, and discrimination. YouthWorks provides its participants, many of whom dropped out of high school, with education and training designed to open up new opportunities in Santa Fe’s economy.

THE MODEL

Getting Started. YouthWorks, a nonprofit founded in 2001, runs baseline programs for youth, including life skills and prevention programs, counseling, GED, and college readiness courses. Four years ago, YouthWorks began building a comprehensive approach to job training, focusing on “green jobs” long before the topic gained mainstream buzz.

Interest in providing green jobs training emerged from a conversation about the needs and the dynamics of the community as a whole. In a city often described as an ideal vacation destination, one half of high school age children are dropping out of school. Young people who cut their education short are often unable to support themselves or contribute to their communities. Anticipating future growth in green jobs in the region, YouthWorks became interested in developing green collar training programs for low-income, disadvantaged youth within their community. The first program trained conservation crews for restoration work.

Several years later, YouthWorks and the City's Economic Development Department began discussing the problems facing youth in Santa Fe, and identified a common goal: getting young people off the streets and into programs that could prepare them to join the local workforce. The City agreed to fund YouthWorks' training for green



Two crew members from the EnergyWorks residential energy efficiency program. Image credit: YouthWorks

collar jobs, creating a safer and better-educated community, and a workforce for the emerging green economy. "Our kids are the future. Sure [they'll be the] installers and plumbers of the world, but they are also future city councilors, future principals, and future PTA members," says Tobe Bott-Lyons, Deputy Director of YouthWorks.

KEY CHARACTERISTICS

Industry Sectors. Energy Efficiency

Workforce type. At-risk youth

Financing: City, Federal Community Development Block grant, Energy Efficiency and Conservation Block grant, Department of Labor funds distributed via the state, private foundations

Partners. City, non-profit, community college, housing trust, employers, Sierra Club

People Employed. 75 per year

Current Jobs Programs and Accomplishments. YouthWorks currently has three green collar job training programs:

EnergyWorks is a residential energy efficiency auditing program. Trained three-person YouthWorks crews conduct an energy audit and provide simple energy-saving installations for low- and moderate-income households at no cost to the homeowner. The program is run in partnership with the Santa Fe Housing Trust,

the Sierra Club, Santa Fe Community College and the City of Santa Fe. In the first six months of the pilot, over 150 homes were served.

The *Green Collar Jobs Pre-Apprenticeship program*, started in 2008, is a program that combines education, skills training and on-the job experience. Participants take a common community college course, and select additional courses based on their career interests. To make sure that training graduates have the skills they need, YouthWorks sends case managers to speak directly to

PROGRAM STATISTICS

- 125 youth served annually of 500-600 who seek to participate
- 60% obtain full-time employment
- 15% return to public school; and 20% enroll in college.

prospective businesses. Participants are then placed in apprenticeships with wages (subsidized to make them affordable for local businesses). In 18 months, the program has serviced 50 people and 25 businesses.

The *WIRED Green Building program* is a pilot project launched in 2009 that combines on-site green jobs training with education. Youth participants work with a local contractor to build a home for Habitat for Humanity, using green building techniques, while also attending GED

courses at Santa Fe Community College. The program was funded by the Department of Labor's Workforce Innovation for Regional Economic Development (WIRED) Program.

ADDRESSING BARRIERS TO EMPLOYMENT

Although YouthWorks' three green jobs training programs vary in objectives and partnerships, they share three core design elements:

Educating young people with more than “hard” skills.

Through their close partnership with Santa Fe Community College, YouthWorks provides its program participants with access to an integrated set of educational experiences for which they earn academic credits. Courses teach concrete skills that employers are looking for, but they also teach academic skills—from basic literacy to physical sciences—that help improve quality of life and long-term employability. In this way, the programs seek to fill what Bott-Lyons sees as an important gap in public education, where “you can graduate with a diploma and still not have the skills needed to go into entry-level college training.”

GREEN JOBS TRAINING CURRICULUM

- Designed in partnership with Santa Fe Community College
- Delivered in a variety of settings
- Addresses all skill levels
- Tailored to participants' needs
- Incorporates sustainability and job readiness, basic skills and career exploration
- Offered for academic credit

For example, YouthWorks teamed up with the community college to create a foundational course called STEM 111 (Science, Technology, Engineering and Math) tailored for youth. All their participants are required to take the course. The curriculum looks at how sustainability, climate change, technology and society interact, and how those interactions will shape the job market of the future. “We don’t want to train people into a track,” Bott-Lyons explains. “We want to train adults who will pay attention to how the 21st century is going to work.”

YouthWorks also emphasizes career and life counseling as the young people it serves move through a variety of educational and job experiences. Their goal is to create a continuum of opportunities—beginning with summer jobs and moving to apprenticeships, jobs with Santa Fe’s new green businesses, or higher degree programs. From these opportunities emerge career pathways that participants are ready to pursue.

Building cultural competency. YouthWorks carefully designs its programs to account for the cultural background of its participants, and to build an understanding of that culture among employers and educational institutions.

To get a handle on the unique needs of its young program participants, YouthWorks asks them questions like: Where do you feel safe? Where do you feel connected? This leads to an emphasis on fun activities like pizza parties that help draw young people in, keep them off the streets, and get them into a setting where they can learn the skills and trades they need to enter the workforce.

“We bring kids in by establishing ourselves as a safe, comfortable, welcoming, and open environment, where kids come first” says Bott-Lyons. For example, they make sure that all staff, regardless of their job descriptions, are always available to interact with and help their youth participants. Even the Executive Director knows and has relationships with all of them. The organization of the office—an open, airy space where doors are left open—helps to reinforce this culture.

YouthWorks also hires staff directly from among its program graduates. These graduates can mentor other program participants based on a first-hand understanding of the obstacles they are facing. Mentors can speak to the participants in a language they understand about the importance of building relationships and trust with educators and current or future employers.



A trainee in the Green Collar Pre-Apprenticeship program installs a solar panel. Image credit: YouthWorks

Another way YouthWorks addresses cultural competency is by holding training workshops to educate employers about what youth face in their everyday lives. “I’ll bring in music like ‘gangsta rap.’ First, I’ll ask, ‘what are your ideas about the content of this music’ and then we’ll listen to it and talk about what the values are and what they talking about within the music,” says Bott-Lyons. Conversations like this with YouthWorks staff help reduce employer discrimination.

YouthWorks sees employers as key partners, who do much more for young people than provide jobs. The best way to get them to see the potential for mentoring their young employees, suggests Bott-Lyons, is by having them talk with other employers who have already been part of the program.

Integrated workforce and economic development. YouthWorks’ green jobs programs seek to support the City’s economic priorities by providing a workforce for community projects and investments, and by expanding the capacity of Santa Fe’s green businesses to grow. But aligning economic and workforce development priorities can be challenging. Santa Fe recently raised the minimum wage to \$9.85 per hour. The increase has reduced employer willingness to hire young people, some of whom have criminal records, or no high school diploma or GED. Employers can instead hire an older, more experienced worker from outside the city, seeking a job in Santa Fe where the hourly wage is higher from that offered in their home communities. To address this newly created competition for jobs, YouthWorks offers wage subsidies, providing \$4.00/hour and cutting employer costs almost in half. By subsidizing wages, the program reinforces the local workforce, tying program objectives to the City’s economic development plans. Funding for the subsidies comes from the City’s Economic Development Department.

FOOD FOR THOUGHT

YouthWorks’ has build partnerships with both the City of Santa Fe and many community-based partners. Important lessons emerge from this collaborative approach:

Create a partnership with the City to scale up successful programs that address mutual goals. In 2008, Santa Fe’s Economic Development Department began talking about how to align economic development and the Sustainable Santa Fe Plan. Developing a local green workforce emerged as a priority, as did investing in youth. The City’s Economic Development Department surveyed existing community organizations and sought to identify successful initiatives that it could advance.

YouthWorks stood out as an organization that could work with the City to develop programs meeting multiple goals. Rather than forge a typical City-contractor relationship built on a “fee for

service” contract, Santa Fe provided ongoing annual funding, and YouthWorks agreed to work closely with City staff in designing training and job placement programs.

“The single biggest lesson is to listen,” says Kate Noble, Economic Development Specialist in Santa Fe’s Economic and Development Department. “Often [a City] forces organizations like YouthWorks to contort [through a contractual agreement], but you get better results if you pay attention to what they really need to be effective. Don’t put [organizations] into a contractual straight jacket. Treating each other as partners is really beneficial.”

<p>COMMUNITY ISSUES ADDRESSED THROUGH YOUTHWORKS’ PROGRAMMING:</p> <ul style="list-style-type: none">• High educational drop-out rates• High levels of poverty and unemployment• Lack of affordable housing and brain drain• Youth violence and crime• Global warming and climate change

Build a partnership that meets the needs of all parties. YouthWorks relies on other organizations to help deliver its green jobs programs, which expands its capacity, but also creates challenges. Bott-Lyons explains that one key to holding these relationships together is keeping focused on what each partner needs. For instance, the Energy Works program is a partnership among the Santa Fe Housing Trust, the City, and Santa Fe Community College. All of the partners have varying missions and different metrics for measuring their performance. The Affordable Housing Trust needs to track how many houses were

built, whereas the college cares most about enrollment and retention rates. To deal with this complexity, the organizations spent time talking about how to meet each set of organizational goals through program design, and how to choose targets and measures of success that would meet diverse organizational needs.

Working through multiple partnerships also necessitates a flexible program design. Flexibility also helps support continuous improvement. The Green Jobs Apprenticeship Program, for example, was designed to have three cohorts of young people take the STEM 111 class one at a time. But through discussions with employers, YouthWorks discovered that their planned schedule for graduating participants didn’t coincide with businesses hiring cycles. The Program revised the training schedule so that the three cohorts could overlap, and graduation dates would coincide with times when employers wanted to begin apprenticeships.



Santa Fe Mayor David Goss and YouthWorks participants. Image credit: YouthWorks

The Program changed a second time to account for problems that arose with Santa Fe Community College’s larger course schedule. The program now has standing classes on the books, but keeps start and end dates flexible according to when participants start apprenticeships. In the end, YouthWorks was able to adapt and improve its program because of strong relationships with its partners and a common understanding that attaining program success necessitates flexibility.

Seeing is believing: allow the community and its leaders to witness successful programs. YouthWorks places a premium on showing elected officials and other community leaders first-hand what their programs do in the community. Santa Fe Mayor David Coss is often invited to join crews on the job site. He has learned the names of crew members, and has even attended YouthWorks' graduation ceremonies. In turn, YouthWorks goes to the Mayor's State of the City speeches. Bott-Lyons said that there is no better way for the program to cultivate its partnership with the City than to have city officials witness participants' hard work and the positive atmosphere created on the job site.

YouthWorks' green jobs training programs have also built steadfast community support just by making their work visible to residents. Summertime crews can be seen restoring the river, in front of houses doing weatherization projects, building a house, and working for green businesses. "[People] have seen that what we are doing is effective and worth investing in," says Bott-Lyons. "We're a cost effective, high-leverage investment in terms of creating change in the community."

Thanks to Kate Noble, Economic Development Specialist for the City of Santa Fe, Tobe Bott-Lyons, Educational Coordinator for YouthWorks, and Greg Scheib, Program Manager New Mexico WIRED Program, New Mexico Department of Workforce Solutions.

FOR MORE INFORMATION

Santa Fe's Economic Development Strategy for Implementation,
<http://www.santafenm.gov/DocumentView.asp?DID=3022>

City of Santa Fe's Economic Development Department website, <http://santafebiz.org>

YouthWorks! website, <http://www.santafeyouthworks.org>

PERSPECTIVES FROM THE FIELD: SMALL BUSINESS EMPLOYING GRADUATES OF AN AT-RISK-YOUTH PROGRAM

Interview with Zoë Nelson, EcoScapes

EcoScapes Landscaping is a Santa Fe small business working with YouthWorks' Apprenticeship Program. EcoScapes designs, constructs, & maintains water efficient, personalized landscapes. Their plans integrate water harvesting and reuse principles in order to create self-sustaining ecological systems. Zoë Nelson worked for five years at an Albuquerque charter high school with "at risk" youth, where she helped develop a school orientation program, implement a mentorship program based on a model for transformative education, facilitated teambuilding activities and taught thematic units in social studies. At La Mesita Institute, she helped design and implement summer programs for youth focusing on sustainability and based in experiential learning. Recently, she has transitioned into the business sector, as a grant and proposal writer, project coordinator and operational manager.



ISC: We'd like to ask you about your impressions and experience with the YouthWorks's apprenticeship program in Santa Fe. How did you get involved?

ZN: I was reintroduced to YouthWorks in the fall of 2008 when they had just finished their pilot project for this internship program. The youth [eight young men] seemed really engaged and really grateful. At that time I met representatives from the Santa Fe Alliance, the City, YouthWorks and various businesses owners. So that was my reintroduction to this particular program. I appreciated the push for not only job training, but also for sustainability. I recognized that YouthWorks is doing a tremendous job providing not only job opportunities, but also a fuller picture for youth in terms of the context and concepts of sustainability.



Image credit: EcoScapes

My experience with YouthWorks has been good. It did take a little while to get the program fully funded by the city and to have youth who were fully ready to be placed in the job market, maybe 6 months after the pilot project ended. That was partially because of our timing too, of being a landscape company and not wanting to start in the winter.

ISC: Were you working with YouthWorks at all during the six month period from the time you were introduced to the program to when you started the training, or did you let them know you were interested first and then waited as YouthWorks trained their students?

ZN: We waited, but we received a brief introduction about the process, paperwork and about YouthWorks in general. That component could be developed a bit more. I think as a nonprofit they are probably stretched thin in terms of providing the training that most employers need: how to work with youth. And [we could benefit] from more orientation about the larger intentions of the program.

ISC: Could you describe your first experience with the apprenticeship program?

ZN: Our first person was a young woman, and it didn't work out. Her life sort of got in the way and it was another few months until we were connected to another youth. He finished the program and we hired him full-time.

ISC: How long was he with your program?

ZN: He was subsidized by the program for four months. He came in the late fall and work was sporadic for him, and everyone else, throughout the winter. But for the most part it was regular hours, 5 days a week.

As a young kid there's a big learning curve in terms of staying busy, staying off your cell phone, asking for direction if you don't know what to do. And he's picked it up!

ISC: Was it a heavily engaged process throughout his apprenticeship, offering him job readiness skills as well as landscaping skills?

ZN: I offered him some guidance throughout, although I'm not in the field. But the crew as a whole and the supervisor teach those skills and provide guidance as well. He also gets some of that through YouthWorks.

ISC: How many apprentices have you had?

ZN: Just the two, but we've just started working with YouthWorks to figure out how we can bring on more participants, though not through this subsidized program. The idea is for us to bid out jobs at a lower hourly rate and have YouthWorks provide some of those jobs. We're talking to them about designing some additional programs and providing new jobs.

ISC: What are some of the benefits you've seen within your business to hiring YouthWorks graduates?

ZN: There's a possibility of social recognition within the community to being a part of the program. It's just a matter of more press and stories, and networks of other businesses who are involved connecting and gaining momentum in that regard. And there is another element: where some of the older, more experienced workers can step back and reflect on what they were like when they were 17 and what they needed. I just think socially and within the culture of our business, having youth present provides a richer community. And I would say that that's one of the biggest benefits—the community that we're beginning to develop within our company!



Image credit: EcoScapes

ISC: How large is your company?

ZN: It's small, we only have about 15 employees, mostly 30 years old and over.

ISC: Exposure to youth is an interesting shift in your business. That Santa Fe has such a high percentage of students dropping out of school (roughly 50%) that it is greatly impacting the city. Have you been able to connect, maybe through YouthWorks, to other companies that recognize this as an issue?

ZN: Not directly. But I think that this is an important piece of the program—the network of businesses working together.

ISC: How does the social recognition you discussed earlier affect the small business community?

ZN: I think it builds relationships, and I would hope that it would facilitate buying locally and

growth in the local economy. If there were a network or an understanding among businesses that working with youth was important, then people would buy into and support local businesses more.

ISC: Is that a cornerstone of your organization/business—hiring locally?

ZN: Yes, definitely.... If business and supporting the development of youth can go hand-in-hand and be profitable and beneficial, then that is what I'm up for exploring.

ISC: What do you think the program did well in working with you?

ZN: YouthWorks was really thoughtful about placement and they found good matches for us. We interviewed a few other people and I felt like had we had the space to take the other youth they would have been really good matches also. They were really thoughtful about their youth. YouthWorks had developed that relationship with them to know where they would fit in personality-wise, so I think they do that really well. I also feel like they checked-in, even with the young woman who didn't work out; there were regular check-ins with their sponsor.

ISC: So you didn't feel like you were taking a risk?

ZN: Yeah, that's true.

ISC: Do you have any suggestions or advice for other cities looking to replicate YouthWorks' programming or start an apprenticeship program?

ZN: I would like to see a clear outline of a program from beginning to end.... I think that YouthWorks did a really great job with their pilot project. I think there was clear beginning and a clear ending, and how many students were going to be placed and how long it was going to be. I think it was communicated really well to all of the businesses in the pilot.

ISC: Do you think overall you had a good experience with them and are you happy with the hire?

ZN: Absolutely, I think we're at the beginning of a potentially interesting relationship, between a nonprofit and a business. I think the communication was good all along and that any issues I had were addressed.

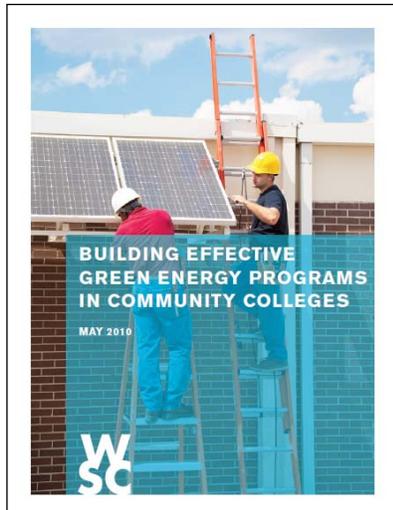
I think that YW's mission is an important one in Santa Fe, in New Mexico, everywhere, and there are a lot of youth slipping through the cracks... so I appreciate that and I appreciate that it's in the context of sustainability, of conservation and river restoration. I think they're offering an amazing service to the community.

ISC: Did you have any direct engagement with the City? If you didn't what do you think the role could be for city government in a program like this?

ZN: I think the visibility the City had was early on in the pilot project. I think the City funded this particular project and isn't as visible now. I think an ongoing discussion of and highlighting of where the funding is going and some of the successes would be really beneficial for the program to grow and be successful. In this instance, I think that there was a lot [of teamwork] to make it happen, and I think that there needs to be that type of visibility and presence in brainstorming from the city, from businesses, and from nonprofits to sustain it. There should be continued involvement.

Building Effective Green Energy Programs in Community Colleges

Prepared by Workforce Strategy Center, May 4, 2010



Community colleges across the country are engaged in large-scale federal and state initiatives to train low-income individuals for green jobs. Importantly, there is potential for this training to be part of career pathways that allow unemployed and disconnected individuals, who are often low-skilled, to move from entry-level positions into higher skilled, higher paying jobs.

But amidst all the excitement and funding, even those colleges at the forefront of green energy education have been struggling due to three factors: 1) the state of the U.S. economy, 2) the emerging nature of the green sector economy, and 3) the focus placed by the federal government on educating low-income, including low-skilled, individuals for this emerging sector in its training grants.

The problem is finding green energy jobs for individuals with entry-level skills. In fact, the projections for green growth have not yet translated into jobs at the regional level. As currently understood, there also appears to be only marginal demand in green energy sectors for lower-skilled workers. Moreover, green energy sector credentials and competencies are inconsistent and still evolving across the industry and among employer. And welcome though it's been, the large influx of training funding provided by the American Recovery and Reinvestment Act (ARRA) has also contributed to substantial confusion among training providers struggling to determine who should provide what training.

In this paper Workforce Strategy Center (WSC) examines how community colleges leading the field in green energy education are addressing these issues. It also makes the case that community colleges should be substantially involved in training low-income individuals, especially the low-skilled, if in fact the goal is to help them lead self-sustaining lives. Our aim is to help community colleges across the country navigate a path forward as they develop green energy education and training programs for low-income populations. By doing so, we believe the national and state policies incentivizing growth in the green economy will advance disadvantaged people to family-supporting employment.

Resource List

RECOMMENDED RESOURCES

1. Making Green Work: Best Practices in Green-Collar Job Training

This guide contains best practices and lessons learned from a range of successful green-collar job training programs in California. It compiles key features that define strong programs for people facing barriers to employment. Case studies are CDTEch (greater Los Angeles), East Los Angeles Skills Center, JobTrain (Menlo Park), Los Angeles-Trade-Technical College, Oakland Green Jobs Corps, Richmond BUILD & Solar Richmond, and SEE Green Careers (Oakland).

By **Ella Baker Center for Human Rights, Oakland Apollo Alliance, Full Circle Fund**, 2010
Download and website ▶ <http://www.ellabakercenter.org/makinggreenwork>

2. Community Workforce Agreements: The Pathway to Coalitions Between Labor and Community

This guide provides basic information on Community Workforce Agreements, including a discussion of common components, an overview of best practices, and examples from across the country.

By **Building and Construction Trades Department of the AFL-CIO, Partnership for Working Families**

Download ▶ http://www.communitybenefits.org/downloads/CWA_Guide.pdf

3. Community Workforce Agreement Examples

This website profiles and provides links to more information on eight community workforce agreements in Los Angeles, Cleveland, Oakland, San Francisco, and New York.

By **Partnership for Working Families**

Website ▶ <http://www.communitybenefits.org/article.php?id=1745>

4. Best Value Contracting Opens Opportunities for Union Sector

This article provides an overview of best value contracting, a method that allows contractors to take into account training and safety considerations of bids rather than just lowest cost.

By **Laborers' Health and Safety Fund of North America**, 2004

Website ▶ <http://www.lhsfna.org/index.cfm?objectID=9DDFCC96-D56F-E6FA-9D7C3D814DDBFB87>

5. Targeted Hiring and First Source Referral Systems

This webpage provides an overview of targeted hiring and first source referral systems, and links to other resources for those interested in developing such systems, including reports and examples.

By **Partnership for Working Families**

Website ▶ <http://www.communitybenefits.org/section.php?id=182>

6. A Tale of Two Systems: Linking Economic Development and Workforce Development

Initiatives aimed at linking economic development and workforce development have emerged across the country. In the coming years, initiatives are expected to multiply as part of national economic recovery and reinvestment efforts. In this report, the Seedco Policy Center analyzes such efforts in three states to detail opportunities and pitfalls encountered by linking economic and workforce development systems.

By, **Seedco**, 2009 May

Download ► http://www.seedco.org/documents/publications/Seedco_ED_WD_PolicyReport.pdf

7. **Sectoral Strategies for Low-Income Workers: Lessons from the Field**

This report describes a sector-based approach to provide opportunities for low income workers. It provides numerous examples to illustrate how programs are changing the system for economic inclusion; how to work with business; strategies for making it work for workers; and enabling public policies. Not specific to green job creation but applicable to green jobs sectors.

By Maureen Conway et al., **Aspen Institute**, 2007

Download ► www.aspenwsi.org/publications/07-014.pdf

8. **High Road or Low Road: Job quality in the new green economy**

This report discusses how to develop quality, sustainable green jobs in manufacturing, construction, waste management and freight transportation sectors. It includes positive and negative case studies, and how local and state government policies contributed to them.

By Philip Mattera, **Good Jobs First**, 2009

Download ► <http://www.goodjobsfirst.org/pdf/gjfgreenjobsrpt.pdf>

9. **Making Development Work for Local Residents: Local Hire Programs and Implementation Strategies that Serve Low-Income Communities**

This report documents the implementation of nine local hire programs, discusses success factors, and explains how to set up an implementation team.

By Kathleen Mulligan-Hansel, **Partnership for Working Families**, 2008 Jul

Download ► <http://www.communitybenefits.org/downloads/Making%20Development%20Work%20for%20Local%20Residents.pdf>

OTHER USEFUL INFORMATION

10. **Energy Efficiency Services Sector: Workforce Education and Training Needs**

This report provides a comprehensive overview of the energy efficiency services sector, workforce needs for the sector, and an assessment of current education and training practices for all levels of workers for the sector. The report also provides recommendations to those that would develop the energy efficiency workforce.

By Charles A. Goldman, Jane S. Peters, Nathaniel Albers, Elizabeth Stuart, Merrian C. Fuller, **Lawrence Berkeley National Laboratory**, 2010 Mar

Download ► <http://eetd.lbl.gov/EA/EMP/reports/lbnl-3163e.pdf>

11. **Career Advancement: From 'Work First' to 'Worker Mobility'**

This report compares several career advancement strategies in workforce development, discusses their lessons learned, and describes Seedco's EarnMore pilot program that has yielded better results for lower skill workers.

By Emma Oppenheim and Ben Seigel, **Seedco**, 2008

Download ► www.seedco.org/documents/publications/Seedco%20Career%20Advancement%20Policy%20Report.pdf

12. **Weatherization and ARRA Challenges and Opportunities in Growing a Diverse and Quality Workforce**

This report examines the current training and employment structures and processes in weatherization; identifies knowledge gaps; and makes recommendations on strategies for increasing access for low-skilled workers while also adding value to the weatherization industry.

By Sarah Griffen, **Annie E. Casey Foundation**, 2009, May

Download ► http://www.aecf.org/news/fes/jun2009/pdf/Weatherization_Analysis_AECF.pdf

13. Current Green Job Initiatives in Other Cities

This profile provide comprehensive statistics on a variety of green job training initiatives, including location, partners, activities, training and certification, assessments performed, employer engagement, funding mechanisms, and contact information.

By **Council for Adult and Experiential Learning**, 2009

Download ► <http://www.cael.org/pdf/GreenJobInitiativesinOtherCities.pdf>

14. Steps for Evaluating (and Continuously Improving) Career Pathways Programs

This guide provides a step-by-step process for evaluating and continuously improving career pathway programs. They include guidelines for collecting necessary data at each stage, and for assessing program performance to improve program operation and outcomes over time.

By **Workforce Strategy Center**

Download ► www.workforcestrategy.org/publications/Evaluate_Career_Pathways.pdf

15. Employment Training Programs: Principles, Practices and Delivery Systems that Work, based on YouthBuild's Experience

This article succinctly describes the lessons learned from the successful Youthbuild model of employment training, which could inform other programs seeking to assist other populations facing barriers to employment.

By Dorothy Stoneman, **Youthbuild**, 1999

Download ► <http://www.youthbuild.org/atf/cf/%7B22B5F680-2AF9-4ED2-B948-40C4B32E6198%7D/EMPLOYMENTTRAININGPROGRAMS.PDF>





IV. Leadership: The Role of Cities in Green Job Creation

The task of growing green jobs requires integration of strategies and actions related to economic development, training, energy planning, and climate protection. The associated political and organizational complexities demand collaboration and partnership among stakeholders in city, regional and state government, the private sector, nonprofit organizations, labor unions and community colleges.

The involvement of so many varied stakeholders places city governments in a natural position to lead and coordinate efforts. The City of Los Angeles, for example, has been leading a multi-stakeholder process around workforce development, which began by helping participants understand each other's priorities and develop common goals. City government can support and coordinate funding of green job efforts (Santa Fe, Seattle, Milwaukee, Cleveland), and it can create a setting through policy (Frisco, New York, Portland, Philadelphia), planning (Oakland, San Antonio), or economic development (Syracuse, Austin, Fort Collins) that stimulates green job creation.

But the twenty or so case studies and snapshots in this Resource Guide make it clear that leadership on green job creation can, and does, come from many different sources: business alliances (Philadelphia, San Jose, Sacramento), workforce developers (Seattle, Santa Fe, Milwaukee, Los Angeles), business incubators (Detroit), and community foundations (Cleveland and Fort Collins).

Indeed, our research shows that collaboration and partnerships produce results, as no stakeholder commands enough resources or represents all of the right constituents. The case of the Mayors' Initiative on Green Manufacturing in the Twin Cities shows how two cities, which have traditionally vied to attract businesses, are getting results by working together.

Economies, of course, extend outside the city limits. So leadership and effective partnerships can, and perhaps should, take regional dimensions, as is happening with the cities involved in the East Bay Green Corridor in California. Regional approaches to growing the green economy require that cities and their partners navigate issues of even greater complexity, having to do with both the movement of workers and the transfer of goods and services across jurisdictional boundaries. But with the challenge of regional collaboration also comes the opportunity to bring more resources to bear on both economic and workforce development. For smaller cities especially, a regional approach may hold the solution to limited resources (e.g. land, funding, and skilled workers).

While each of the stories told in this section reflect varied political and geographic contexts, the case studies underscore how leadership and cooperation are producing tangible results.

SNAPSHOT: INTEGRATING SUSTAINABILITY AND ECONOMIC DEVELOPMENT

Oakland Aligns Environmental and Economic Goals

The City of Oakland is working to infuse sustainability into all of its departments' operations, and is utilizing a collaborative approach, both locally and regionally, to grow the green economy. The resulting cooperative relationships across departments have helped the City align its climate and economic goals, support green workforce development, and secure several different pots of stimulus funding.



When Oakland Mayor Ron Dellums was elected in 2006, part of his mission was to make sustainability a pervasive theme that cut across departments, rather than having it siloed off from the rest of City government. The City hired Garrett Fitzgerald as Sustainability Coordinator two years later, and one of his tasks ever since has been to ensure that sustainability is an inherent part of any planning or policy process. This designed coordination has proved useful in efforts such as the development of the Energy and Climate Action Plan (ECAP), and Fitzgerald is working to establish interagency sustainability teams on issues such as Green Building, Green Business Development, and Environmentally Preferable Procurement.

The City has simultaneously either led, funded, or joined a number of local and regional collaborative efforts—the Oakland Partnership, East Bay Energy Watch, Oakland Green Job Corps, and East Bay Green Corridor, to name a few—that are working to develop the City and the region into a hub of green economic activity, while creating high-quality, local jobs. These partnerships include not only City departments, but also stakeholders from the private sector, educational institutions, nonprofits, and Workforce Investment Boards and Chambers of Commerce.

From Oakland’s economic development perspective, this integrated approach has allowed for more investment in green jobs and a newfound ability to begin attracting green businesses. “It’s now OK to talk about the economy and the environment as linked,” says Steve Lautze, Coordinator of Green Business Projects in Oakland’s Economic Development Division. “For the city to truly be sustainable we have to encompass all three Es, and understand the perspectives of different areas of government.”

Interagency and regional relationships are already showing benefits in fostering Oakland’s green job growth, and demonstrating that when resources become available, the City is ready to take immediate action. The City successfully secured all five State Energy Program stimulus grants that it applied for, either as a lead or partner, totaling more than \$40 million. These grants included funding for Property Assessed Clean Energy financing, as well as commercial, residential, municipal, and affordable housing retrofits. The grants are projected to create or retain over 4,000 jobs in the East Bay region. Fitzgerald notes that the successful proposals “demonstrate the efficiency and cost-effectiveness of a regional, multi-stakeholder approach,” and how developing strong partnerships leads to developing strong programs that are attractive to funders.

Making sustainability a cross-departmental priority has also meant a more coordinated effort to attract green business. To complement the existing transit core (which includes three downtown commuter rail stations), Oakland is working to ramp up smart growth development and LEED-certified building space, in addition to retrofitting old building stock, to make the downtown corridor more attractive to green businesses.

The City has established an industrial lands policy to preserve land for green business and economic development needs. Oakland also publishes an annual Green Oakland insert in the San Francisco Business Times highlighting green Oakland businesses and promoting Oakland as a place for green businesses to relocate, and takes an active role in promoting the Alameda County Green Business Program, which certifies and promotes local green businesses.

Coordinating across sectors in the development of the ECAP has also helped align the City's environmental and economic goals, and shaped the ECAP's immediate priorities. The plan includes not only long-term (by 2020) action steps, but also a Three Year Priority Implementation Plan, in which economic development is heavily represented. Energy retrofitting of existing City, residential and commercial properties has taken priority over some other GHG reduction strategies, for example, because of its potential to create green jobs quickly. Though the ECAP calls for both strategies to be implemented eventually, "we want to get local energy retrofits moving right away because they have the potential to create local jobs as well as cost savings for residents and businesses," says Fitzgerald.

Other potential green job and green business creating steps in the ECAP include a green building ordinance for private development; the launch of a Weatherization and Energy Retrofit Loan program, which projects to serve 75 homes and generate 108 jobs for trainees from the Oakland Green Job Corps by 2012; facilitating community solar programs and solar panel installation; creating new bikeways; and growing more local food. The Three Year Priority Plan also mandates that the City "engage with the Workforce Investment Board, East Bay Green Corridor partners, and local green jobs training providers to encourage curricula and skills development in alignment with projected demand for the new green workforce."

Lautze notes that despite all of Oakland's success in establishing collaborative relationships, there is still some progress to be made. "Having truly seamless integration of sustainability is a great goal, and we're certainly getting there, but it is still a work in progress," he says. Still, the recent funding successes, a strong Climate Plan set to go to the City Council in summer 2010, and a bright regional future for the green economy represent a positive start toward growing Oakland's economy while reducing carbon emissions.

Thanks to Garrett Fitzgerald, Oakland Sustainability Coordinator; and Steve Lautze and Aliza Gallo in the Oakland Economic Development Division.

FOR MORE INFORMATION

Oakland Energy and Climate Action Plan, <http://www2.oaklandnet.com/w/dowd007377>

Oakland Partnership, <http://oaklandpartnership.com/>

Oakland Green Job Corps, http://ellabakercenter.org/index.php?p=gcjc_green_jobs_corps

East Bay Green Corridor, www.ebgreencorridor.org

Press release on receiving stimulus grants,

<http://www2.oaklandnet.com/oakca/groups/mayor/documents/pressrelease/dowd006182.pdf>

Minneapolis-Saint Paul Mayors' Initiative on Green Manufacturing

The Mayors' Initiative on Green Manufacturing is a unique partnership to promote the growth of green jobs in the Twin Cities. The mayors of Minneapolis and Saint Paul and the Blue Green Alliance convened a dialogue among community leaders about what could be done to support and promote local green manufacturing. The group conducted a comprehensive analysis of the most promising areas for green job growth, developed a suite of policy and organizational recommendations for promoting demand in these industries, and laid the groundwork for a new campaign to establish the metro region as an optimal place for green companies to do business. The history of the Initiative reveals the dividends that result from engaging stakeholders to identify and pursue local opportunities for growing green jobs, the value of careful research on local economic conditions and assets, and the importance of streamlining collaborative process when launching into implementation.

THE MODEL

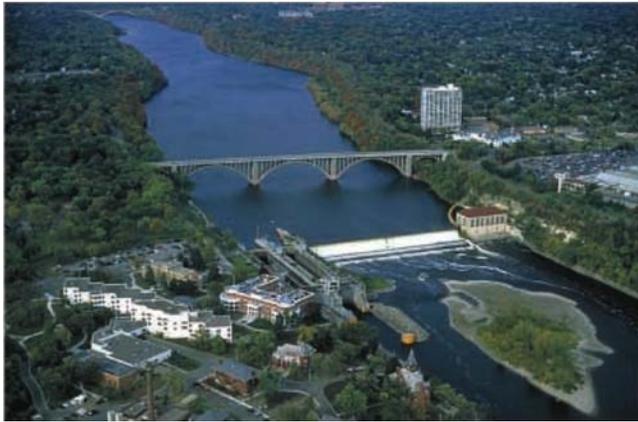
Getting started. The Mayors' Initiative on Green Manufacturing illustrates the progress cities can achieve when they decide to promote growth in local green sectors and green jobs.

In April 2006, the Ford Motor Company announced its intention to close a major auto manufacturing plant with several thousand employees in Saint Paul. Mayor Chris Coleman then began work with the Blue Green Alliance—a Minneapolis-based national partnership of labor and environmental groups—to figure out how to retool the plant for a new industry. Together they realized that this potential job loss crisis could become the catalyst for a broad-based, regional effort to create new green jobs in Minneapolis Saint Paul. Mayor R.T. Rybak in Minneapolis saw the potential too, and in November 2006, the two mayors and Dave Foster, the Executive Director of the Blue Green Alliance (BGA), announced that they were launching a new task force to make Minneapolis and Saint Paul the center for clean energy technology and products around the country.

The partners convened a group of more than 70 leaders representing green industry, labor unions, state and local legislators and agencies, and environmental and educational organizations. They formed subgroups: a development committee with industry representatives and high-level decision makers including the Mayors themselves; a steering committee to manage the day to day work; and subcommittees to delve into specific economic sectors. They also raised funds from partners and area foundations and hired a professional facilitator.

This broad-based collaboration was historic in the region. Up until then, the cities were vigorous competitors in economic development and in many other areas. And many of the key groups around the table—the chambers of commerce, labor unions and environmental groups—had never shared a room together to work towards a common goal.

The two mayors' leadership was pivotal to getting the other parties engaged. "Their strong commitment to work 'across the river' and position the whole region for growing green jobs sent out a strong signal about the seriousness of the Initiative," said John Dybvig, BGA's Director of Economic Development. "Both mayors were also willing to put in their own personal time on the phone to get community leaders engaged."



Cover image of “Making it Green in Minneapolis Saint Paul” report, symbolizing the two cities’ willingness to “work across the river.”

The inclusion of the Blue Green Alliance also proved to be essential to the success of the initiative. As a respected nonprofit organization with a mission of expanding the number and quality of jobs in the green economy, the Alliance helped assuage concerns that the regional process might become too political. Cara Letofsky, a policy aide to Mayor Rybak, reported that each of the three partners had excellent relationships with a few key players, on whom they could rely to broaden participation. Through their combined efforts, they were able to convene a highly inclusive and engaged group.

Phase One. The Mayors’ Initiative began with the premise that significant changes caused by climate change and energy policy will soon transform local economies, and those who get ready first will reap the greatest economic benefits. For the first phase, the group focused on determining the kinds of manufacturers who could produce goods that would reduce greenhouse gas emissions. The group asked what could be done to help businesses operating in Minneapolis Saint Paul develop and expand production of these goods, as well as what could be done to attract new green businesses to the area.

Before the group convened, the organizers picked three priority sectors based on their potential for addressing climate change: “Growth in renewable energy use, green building products (heating, ventilation and air conditioning (HVAC) systems,) windows, doors, insulation, and other energy efficient building products) and green transportation options (reducing fossil fuel combustion) hold the greatest promise to reduce global warming.”¹

Three subcommittees—one for each of the priority sectors—identified 29 specific “product lines” within these growing green industries. Ultimately, the chosen product lines stemmed from industries that were already strong in the area, and because demand for the products was expected to grow both locally and nationally.

Energy efficient windows, for example, were identified as a promising product line because the Minneapolis Saint Paul area has several well-established national window manufacturers. Wind turbine parts were identified because state policies are expected to drive production of renewable energy across the state.

RECOMMENDATIONS FROM PHASE 1

- Develop an “aggressive, leadership-driven” marketing plan
- Realign city economic development tools to focus on future green industries
- Grow markets for local suppliers
- Create state policies and incentives to support creation of green jobs in the Twin Cities
- Continue the Initiative with a restructured team

¹ Making It Green in Minneapolis and Saint Paul. Phase I: Initial Findings on Three Green Manufacturing Sectors and Local Economic Development Opportunities. Report to the Mayors’ Initiative on Green Manufacturing. Prepared by CDC Associates, April 2008.

The Initiative recommended that the cities of Minneapolis and Saint Paul develop policies and incentives that would support growth across all product lines. In April 2008, the facilitator—CDC Associates—released *Making It Green in Minneapolis Saint Paul*, a report summarizing the recommendations from Phase One. The recommendations were embraced by both cities; in Minneapolis, a Council resolution formalized the endorsement.

Phase Two and Beyond. The second phase of the Initiative, lasting about six months, focused on more specific actions that the cities of Minneapolis and Saint Paul could take to grow these green sectors. “The recommendations from Phase One were fairly high level,” explains Cara Letofsky. “The next step was to hone in on specific tools the cities should use to advance our economic development work.” Senior economic development staff from the cities and the Blue Green Alliance took a more active role in the process, overseeing the consulting team that had worked in the initial stage of the effort.

Staff from the cities and the Blue Green Alliance now say that the most significant accomplishment of Phase 2 was the development of a marketing plan called “Thinc.Green.” The Plan, due for release in mid-2010, describes how the two cities can work together to build on their strengths as places to do green business, and to communicate those strengths to the outside world. “It goes beyond a standard marketing,” explained Emily Stern of the Minneapolis Department of Community Planning and Economic Development (CPED). “It takes the idea of regional branding, and ties to it a specific set of concrete policy and other strategic initiatives that will bring the two cities into alignment and establish the whole region as a place where green businesses can thrive.”

The plan, for example, advised the City of Saint Paul to adopt an aggressive green procurement policy recently adopted by Minneapolis, and recommended that both cities turn their shared procurement policy into a template they can also take to other cities in the region. The plan also called on Minneapolis to consider the adoption of a new green building standard for private development. Saint Paul recently adopted a sustainable building policy that applies to private development projects receiving a threshold level of city subsidy.

With Phase 2 almost complete, Minneapolis and Saint Paul are currently negotiating an agreement for institutionalizing their collaboration.

FOOD FOR THOUGHT

Broad engagement yields big dividends, especially early on. The decision by the two cities and the Blue Green Alliance to get many community leaders around the same table has produced tangible benefits. Perhaps the most obvious benefit is that the cities, themselves, have transformed their frequent competition to retain and attract companies into a partnership held together with a common purpose: making the metro region as a whole a “friendly” place to grow and expand green business. The Blue Green Alliance is given much praise for its role in bringing the two cities together and highlighting the opportunity to take an immediate job crisis and turning it into a long-term effort to create green jobs.

Organizing an inclusive stakeholder process also created opportunities that would not have surfaced in a narrower process involving just one city’s economic development staff. “It’s interesting to observe all the ripple effects that emerged from Phase 1,” said Stern. “When you are in the midst of it, a broad based dialogue that explores many disparate perspectives can make you feel like you aren’t moving towards decisions that are concrete and actionable. But in retrospect, many of the

things we are doing now can be tied back to relationships formed in that first phase, and recommendations that the group collectively made.”

The collaborative approach, for example, educated state legislators about the need for affordable capital among new green businesses. This was an important impetus for the legislators to introduce bills to create an ‘angel tax credit’ designed specifically to free up more capital for such businesses, and direct a state agency to issue grants using federal recovery funds to assist clean tech start-ups.

Consider streamlining the process as you move toward implementation. As valuable and necessary as the initial stakeholder process was, the second phase of the Initiative needed more focused work managed by fewer parties—namely senior staff from the cities and the Alliance. They worked closely with a consultant to produce a plan outlining specific strategies that the cities could mobilize to advance the sector and product opportunities identified in Phase 1. “We needed to be nimble at that stage,” says Letofsky. “We needed to be able to take research and analysis produced by the consultants and immediately act on it.”

While work on the Thinc.Green plan proceeded, a professional facilitator convened a new group of stakeholders to complete a “gap analysis.” The group explored what new organization(s) should be formed to help spur growth in green jobs. “If this were utopia, market forces would drive this on their own,” explains Dybvig. “But they won’t, so we need to determine what we need to put in place organizationally to make it happen.” The group considered changes needed statewide, because funding for the process came from a state grant rather than local sources.

After six months of dialogue, the group put forth recommendations for a statewide partnership to promote the creation of green jobs, including the formation of a new state-level economic development authority (with regional organizations nested under it).

Use locally focused research to choose priority sectors. In Phase One of the Initiative, the group of stakeholders selected the three priority sectors based on their potential for reducing greenhouse gas emissions. The selection was made before research on local economic conditions had been conducted, and before area employers were invited to describe the trends they were seeing in their own businesses.

In Phase Two, they reviewed the list of priority sectors for gaps in light of the area’s unique economic capacities. The exercise led to the addition of three new sectors that already had strong and successful companies in Minneapolis Saint Paul—waste reclamation, water treatment and management, and green chemistry. For other cities considering a planning process to build green manufacturing and jobs, it may make sense to delay the selection of priority sectors until there is time to conduct local industry research and dialogue with employers.

Look for opportunities to institutionalize regional collaboration. Small steps towards institutionalizing regional collaboration on green jobs are helping to ensure that the cities will keep working together in the long-term, even as the individuals occupying elected office change.

As the Initiative nears completion of its second phase, Coleman’s and Rybak’s staff are working on a legal agreement—called a Joint Powers Agreement—that will institutionalize the commitment of both cities to align policies and resources in support of green business. They are even exploring if they can jointly fund a staff person to manage their collaboration day to day. “This will send a much

needed message to the business community about how much the cities of Minneapolis and Saint Paul own this new initiative,” said Letofsky.

Thanks to Cara Letofsky, Policy Aide, Office of Minneapolis Mayor R.T. Rybak, Emily Stern, Senior Project Coordinator at Minneapolis Department of Community Planning and Economic Development, and John Dybvig, Economic Development Director at Blue Green Alliance.

FOR MORE INFORMATION

Making it Green in Minneapolis Saint Paul, Phase I: Initial Findings on Three Green Manufacturing Sectors & Local Economic Development Opportunities, Report to the Mayors’ Initiative on Green Manufacturing,

http://www.ci.minneapolis.mn.us/sustainability/docs/MakingItGreenReport_2008.pdf

Reports and products produced by the Mayor’s Initiative on Green Manufacturing, including: 1) a report on best practices in economic development in other cities and states; 2) a report on national and local trends in solid waste reclamation; 3) results from focus groups with industry representatives exploring policies needed to compete in greening sectors; and 4) a directory of Twin Cities green businesses with recommendations for improving green employment opportunities, http://www.bluegreenalliance.org/press_room/publications?id=0029

CASE STUDY: COLLABORATIVE LEADERSHIP WITH COMMUNITY COLLEGES

Los Angeles Workforce Systems Collaborative

In Los Angeles, a collaborative and sector-based approach to workforce development has created a coordinated vision that links future economic opportunity—particularly around green jobs—with skilled workers from historically disadvantaged, underserved, and/or youth populations. Los Angeles’s model provides an example of strong leadership in building multi-stakeholder partnerships. The City is using a long-term strategy that addresses workforce development on a sector-by-sector basis. Part of the strategy involves the inclusion of young people and disconnected populations in workforce and economic development efforts.

Los Angeles enjoys some major advantages when it comes to developing a green workforce: A Mayor who values the city’s leadership in the green economy and progressive environmental policies that range from greenhouse gas emissions reduction targets to building energy retrofitting. The State of California, too, has historically supported clean energy and is typically on the cutting edge of transforming the energy grid.

KEY CHARACTERISTICS OF THIS PROCESS

Industry Sectors. Energy Efficiency

Workforce type. Youth, low-income

Financing: Federal Community Development Block grant, Energy Efficiency and Conservation Block grant, Department of Labor funds distributed via the state, private foundations

Partners. City, city and county Workforce Investment Boards, Chamber of Commerce, Community College District, County Economic Development Corp., union, school district, Funder Collaborative, State Education Dept., United Way

But the city also faces challenges in growing a green workforce. Since 1970, poverty rates in Los Angeles have been higher than the rest of California and national levels. City unemployment now stands well above 10%. Minorities make up half of the city's population, including a large population that speaks little or no English. Half of adults in South Los Angeles, age 25 or older, do not have a high school diploma.

Getting Started. In response to these challenges, the office of Mayor Antonio Villaraigosa began looking for ways to integrate the economic and workforce development systems in Los Angeles. City leaders recognized that successful alignment of economic and workforce goals would hinge on the ability of important stakeholders to collaborate and benefit from each other's strengths.

The Mayor's office, in partnership with the Los Angeles Area Chamber of Commerce and with instrumental leadership from Deputy Mayor Larry Frank, reached out to key stakeholders across sectors who were performing various aspects of workforce development in the Los Angeles region. The goal was to create a network of strategic partnerships that would allow already successful but disparate efforts to coordinate implementation. "We had seen pockets of success, but not coordinated on a large scale," said Alma Salazar, Vice President of Education and Workforce Development at the Los Angeles Area Chamber of Commerce. By helping these organizations coordinate with one another and leverage their individual and collective resources, the City hoped to create an integrated regional structure.

Simultaneously, the United Way of Greater Los Angeles was in the process of bringing together a public-private partnership, including a variety of funders from the philanthropic community, into its Workforce Funder Collaborative, and offered to serve as a convener and major funding partner.

The result was the convening in June, 2007 of the Los Angeles Workforce Systems Collaborative. High level staff from each partner organization have been having monthly meetings ever since.

The partners. The Collaborative features a diverse group of stakeholders (see sidebar), representing some of the region's leading government, education, workforce development, labor, community, philanthropic, and business interests. The Collaborative's ultimate goal is to create a comprehensive and fully integrated workforce and economic development system, which synchronizes recruitment, support services, education and training programs, employer engagement/job placement, funding, and government policy. In working toward this goal, the Collaborative focuses on creating pathways into high growth careers for historically underserved, youth, and low-income populations.

**LOS ANGELES WORKFORCE SYSTEMS
COLLABORATIVE PARTNERS INCLUDE:**

- City of Los Angeles
- City of Los Angeles Workforce Investment Board
- Los Angeles Area Chamber of Commerce
- Los Angeles Community College District
- Los Angeles County Economic Development Corporation
- Los Angeles County Federation of Labor, AFL-CIO
- Los Angeles County Workforce Investment Board
- Los Angeles Unified School District
- Los Angeles Workforce Funder Collaborative
- State of California Education Development Department

Scope of work. According to Deputy Mayor Larry Frank, the Workforce Systems Collaborative’s scope of work can essentially be broken down into six components. The first component is getting the high-level stakeholders in the Collaborative to align their goals and understand each other’s priorities. Doing so will ensure that they all remain engaged and continue to dedicate resources to the partnership. The partners must also identify the most promising high-demand sectors in which to develop a strong workforce, and agree upon which to pursue next. The third component is developing a greater understanding of the role of Sector Intermediaries (see below), choosing the best Intermediary for each sector, and supporting and co-investing in that organization’s initiatives. The Collaborative also works to ensure that young people in particular, and disadvantaged communities in general, have opportunities to share in future economic development. Fifth, the partners advocate for policies that will remove barriers to workforce development in the Los Angeles region. And perhaps most importantly, the Collaborative aims to integrate the various programs and services currently offered into a comprehensive system.

A sector-based approach. The Collaborative chooses a Sector Intermediary to administer and manage the workforce system development within a given sector. Just as the Workforce Systems Collaborative itself is a partnership of high-level stakeholders, each Sector Intermediary is designed to leverage and integrate resources of multiple stakeholders. The Intermediaries comprise local partnerships of employers, workers, public and private funders, and institutions that work to provide jobs and careers.

WORKFORCE SYSTEMS COLLABORATIVE SECTOR INTERMEDIARY¹	
Core Functions	Organizational Characteristics
<ul style="list-style-type: none"> • Plan <ul style="list-style-type: none"> - Map existing programs - Gather just-in-time labor market information • Convene <ul style="list-style-type: none"> - Engage local stakeholders - Share best practices - Integrate public and private funding streams • Connect <ul style="list-style-type: none"> - Services and programs - Employers and job seekers • Measure & Evaluate <ul style="list-style-type: none"> - Define indicators - Establish quality standards 	<ul style="list-style-type: none"> • Serves both employers and job seekers • Helps employers articulate labor demand • Integrates public/private sector services • Defines occupational skills • Has flexibility to redesign training approaches • Politically neutral and nonpolarizing • Entrepreneurial and results oriented • Has in place operational structure to sustain efforts • Provides organizational capacity • Has ability to learn and adapt as market conditions change

The Collaborative chooses the Sector Intermediary based on several criteria, including its ability to help employers articulate labor demand; adjust training programs based on market conditions; and on its organizational capacity and operational structures. Intermediaries have four functions: planning and mapping the workforce system within the sector; convening relevant stakeholders;

¹ Rubric created by Brenda Barry, CMR Ventures, Inc, for the Los Angeles Workforce Systems Collaborative

connecting job seekers with employers, as well as training programs with wrap-around services; and monitoring and evaluating the results.

Beginning with utilities and energy. The Collaborative chose the Utility/Energy sector in first applying its new workforce systems strategy. “The Mayor has a goal of Los Angeles leading the nation in the green economy,” said Salazar, “and there was a strong push from his office to include green jobs right away,” and this sector was a natural fit. The utility sector is primed for an influx of skilled entry-level workers in the next few years. The Department of Water and Power (LADWP), the largest municipal utility in the country, has an aging workforce that will see half of its employees eligible for retirement over the next five years. In addition, Los Angeles has in place an ambitious plan¹—adopted by the City Council in April 2009—to retrofit its entire municipal building stock. Combined with the new stimulus funding streams provided through the federal government, these factors give the energy/utility sector the potential for significant green growth.

The Collaborative selected the Regional Economic Development Institute at Los Angeles Trade-Technical College as the Sector Intermediary, a demonstrated leader in workforce development².

FOOD FOR THOUGHT

Partnerships and leadership matter. The collaborative structure at each level of the workforce development process allows partners to leverage the combined resources and to reduce the duplication of efforts. “The high-level partnerships are what make these programs sustainable,” said Deputy Mayor Frank. “The respectful, collaborative environment has been really important for us.”

Salazar notes that the benefits are financial as well. “With all these well-financed institutions around the same table, their various pots of money can be coordinated to great effect,” she said. “A lot of the organizations have won grants since the Collaborative formed, the reason being the foundation that is allowing the system’s partners to share information and work together. The Collaborative also enables regional investment, according to Deputy Mayor Frank: “This structure allows us to look toward co-investing with the City and County Workforce Investment Boards and the Funding Collaborative.”

The Mayor’s leadership has driven the collaborative. The Mayor viewed the formation of the Collaborative as a wise use of resources and political capital. Similarly, Marcy Drummond’s leadership at the Los Angeles Trade-Technical College has brought together the largest training programs and the biggest employers in Los Angeles’s energy/utility sector. As a result, a system has emerged that is providing greater and more targeted job opportunity to communities that have historically been left out.

A comprehensive strategy is important. In both the Workforce Systems Collaborative and LAISJC, partners have rejected the idea that ad hoc programming can effectively produce a truly integrated system of workforce development, and have instead worked to create a replicable structure that

¹ For more on this plan, and its associated green job benefits, please see the Applied Research Center’s report, *Greening Los Angeles: A Model Case Study of Green Retrofits of City Buildings*. http://arc.org/downloads/LA_case_study_112009_2.pdf

² The Los Angeles Workforce Systems Collaborative has since also selected Los Angeles Trade-Technical College as the Hospitality Sector Intermediary.



addresses existing employer and job seeker needs. “You have to take the time to do your homework, to do research,” said Drummond. “And from our perspective, it was important that (the Collaborative) gave us a role as Intermediary that we had the capacity to fill, and allowed us to be thoughtful and holistic in our approach. You have to have a game plan.” Dedicating time and effort toward planning a fully integrated system, with an achievable set of intermediate goals, can make the difference between successful systems and sporadic programming.

Sectoral approaches are easier to manage. In a large city like Los Angeles, the coordination of the entire workforce system across numerous sectors would have been unmanageable. The Collaborative instead recognized the need to identify the most promising sectors for future economic growth and job demand, and to create individual workforce systems that address the unique challenges these sectors present. “It is much cheaper to bring everyone together around a single sector, and more relevant to the partners,” said Deputy Mayor Frank. “Programs need to be identifying sector leadership that can get the right employers to join them.”

Drummond also pointed out that in the utility sector, “We’re talking about greening existing sectors, not necessarily creating a whole new set of green jobs.”

Serving youth, low-income, and disconnected populations. The Los Angeles approach accounts for disadvantaged populations by including providers of various support services in the collaborative partnerships. Young people have been a particular focus of the Mayor’s office and the Workforce Systems Collaborative. “One of the first things I was asked when I got this job was how many summer jobs are there in L.A. versus New York City?” said Deputy Mayor Frank. “We found out that New York had 40,000, and we only had 3 (thousand)! So that has been a major priority in the Collaborative’s work. We see summer jobs not just as work experience, but also a chance to feed kids into future opportunities.” The Collaborative makes sure that each Sector Intermediary has specific programs and strategies that target youth populations, which complement a variety of other youth engagement programs across City departments. Through the efforts of programs like the Summer Youth Green Jobs Program, Los Angeles has raised its summer employment levels to around 15,000 in just three years.

FOR MORE INFORMATION

Los Angeles Infrastructure and Sustainable Jobs Collaborative website:
<http://www.lattc.edu/dept/lattc/REDI/Utility.html>



Resource List

RECOMMENDED RESOURCES

1. Building Regional Partnerships for Economic Growth and Opportunity

This report summarizes key lessons in what regions are doing to put partnerships for economic development and innovation in place. The findings are based on experiences of regional coordination entities, workforce developers, and leading researchers and practitioners.

By Pete Carlson, Robert Holm, Ray Uhalde, **Jobs for the Future**, 2009 Dec

Download ► <http://www.jff.org/sites/default/files/Bldg-RegPartner-EconGrowthOpp.pdf>

2. Changing Systems Is Like Moving a Mountain: And Other Insights from Successful Workforce Leaders

This report offers insights and observations from successful leaders who have worked on system change, in answer to the philanthropic community's need for more discussion and analysis of the traits, talents, and tactics that make good leaders, especially in workforce development.

By Scott Hebert, **Annie E. Casey Foundation**, 2010 Apr

Download ► <http://www.aecf.org/~media/Pubs/Other/C/ChangingSystemsIsLikeMovingaMountainAndOther/Changing%20Systems%20040510.pdf>

OTHER USEFUL INFORMATION

3. The Talent Imperative for Older Industrial Areas (Chapter 3 of the book, Retooling for Growth)

This downloadable book chapter focuses on the common labor-related challenges faced by older industrial areas. The book in which it appears, Retooling for Growth, presents frameworks, analysis, and innovative policy solutions and roles for public agencies, the workforce, business organizations, and technology in revitalizing these areas. Implementation of these measures addresses challenges such as fostering entrepreneurship, reducing poverty and inequality, and maintaining and augmenting the number of skilled professionals who reside and work in a community, among others. Not specific to a green economy but the principles are transferable. The book can be purchased online through The Brookings Institution at https://www.press.jhu.edu/cgi-bin/brookingsorder_process?Approve:Add:9780815755562

By **The Brookings Institution and the Council on Competitiveness**

Download ►

http://www.compete.org/images/uploads/File/PDF%20Files/Talent%20Imperative%20Older%20Indust_Kempner.pdf



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About the Institute for Sustainable Communities

Since its founding in 1991 by former Vermont Governor Madeleine Kunin, ISC has led 75 transformative, community-driven projects in 21 countries. ISC specializes in developing and delivering highly successful training and technical assistance programs that improve the effectiveness of communities and the leaders and institutions that support them.

We welcome your feedback!

This Resource Guide is a work-in-progress. It will be converted into a web-based resource and continually updated to provide valuable resources to public, private and nonprofit sector leaders working to create green jobs. If you have comments on the guide, or ideas for how to improve it, please send them to George Sarrinikolaou at the Institute for Sustainable Communities at gsarrinikolaou@iscvt.org.