



**Austin**  
Chamber of Commerce

## **Green Job Task Force Initiative Report**

**June 2009**

Austin Chamber of Commerce

Workforce Solutions - Capital Area  
Workforce Board

Austin Community College

Skillpoint Alliance

UT Clean Energy Incubator

American Youthworks

Austin Energy

Capital IDEA

Heliovolt

Ray Marshall Center

IBEW Apprenticeship Program

SEMATECH

Texas Foundation for  
Innovative Communities (TFIC) -  
Good Company & Associates

## Executive Summary

In the fall of 2007 the Austin Chamber of Commerce unveiled its five year economic development plan, Opportunity Austin 2.0, for the Austin-Round Rock five- county region. The plan, "Taking it to the Next Level," prepared by Market Street Services, identified as a core economic development cluster "green industries." Specifically, the plan highlighted the attraction and retention of businesses included in the development and manufacturing of products such as solar panels, fuel cells, wind turbines and electric cars as well as clean energy and green products in general – all broad targets which encompass a wide variety of energy efficient and renewable energy businesses.

As was the case in past successful Central Texas economic development efforts, including software and semiconductors, the availability of a skilled and highly productive workforce is critical to the success of this economic development effort, but more significantly to enable well-paying jobs and career opportunities for Central Texans and a sustainable, broadly shared prosperity for our region. To that end, in February 2009 the Austin Chamber began efforts to coordinate a community wide approach to green job education and training. The Chamber's Business Retention & Expansion team, under the direction of Jack McDonald, the Chamber's 2009 Vice Chair for Technology and Chairman of the AusTech Alliance, coordinated a "Green Job" Task Force to coordinate regional workforce training issues for the Austin-Round Rock MSA around the numerous opportunities in the renewable and energy efficiency sectors.

The goal of this task force was to coordinate regional efforts to train and/or retrain up to 25,000 Central Texas residents for "green jobs" to complement the economic development attraction targets and existing industry base in the region and assist with re-employment of the approximately 51,500 Central Texas workers currently unemployed as of April 2009.

The Austin region has undertaken several key initiatives which enhance the region's opportunities in relation to the clean energy sector. In February 2007 the City of Austin passed a Climate Protection Plan with the goal of making Austin the leading city in the nation in the fight against global warming. The region is also home to Austin Energy, the municipally owned utility whose green efforts have long been recognized in municipal power generation. The Pecan Street Project, launched in 2008, has the goal to design the energy system of the future, using the City of Austin as a clean energy laboratory. The University of Texas at Austin is also engaged in several strategic technology efforts, including The Center for Commercialization of Electric Technologies and the Clean Energy Incubator as a division of the Austin Technology Incubator. Lastly the Texas Foundation for Innovative Communities, a nonprofit organization created in conjunction with a Texas Clean Energy Park, also plays a key role in attracting and developing green jobs for our region.

This report is a Community Roadmap that identifies, defines and sizes green collar job opportunities specifically for our region, as well as identifies the training providers and funding opportunities. The definition of a green job is broad, but is typically related to two key areas – Energy Efficiency and Renewable Energy. While new jobs will definitely be created in relation to these areas, many existing jobs - for example those in the construction industry – will require new skill sets. Both these new and existing jobs range from those requiring an apprenticeship, professional certificate or one to two years of training to jobs which require an advanced degree. Training, under the leadership of Workforce Solutions - Capital Area Workforce Board, can be provided by a variety of existing regional institutions or organizations including, but not limited to, Austin Community College, Texas State Technical College, Alamo Colleges, and The University of Texas – Austin. There are also many other regional training providers which are imperative to this initiative including Skillpoint Alliance, American YouthWorks, Austin Area Urban League, Austin Electrical JATC , Sheet Metal Workers Local 67, Digital Workplace Academy, and Texas HERO.

Funding opportunities for this initiative are highlighted by additional federal dollars provided through the American Recovery and Reinvestment Act (ARRA) which passed Congress in February of this year. This federal stimulus bill dedicated about \$1 billion toward green jobs training efforts, including \$500 million in funding for training the RE and EE sectors as defined in the Green Jobs Act of 2007. Some of these dollars will flow through typical state formulas and some will be made available for competitive bids. While each regional organization will move forward independently

in their request for funds, the institutions and agencies can cite a community wide roadmap to enhance the viability of their requests. This shared vision, collaboration and leveraging of funds will enhance opportunities for the entire region.

The Task Force concluded with two key recommendations. The first recommendation is a regional and national public relations strategy in relation to green job opportunities that will be coordinated by the Austin Chamber's Clean Energy Council. For the second recommendation Texas Foundation for Innovative Communities would utilize their regional business council as a permanent steering committee for these green job opportunities and information. With regional workforce oversight, the Workforce Solutions – Capital Area Workforce Board, will function in a collaborative role providing coordination to this group on activities and initiatives.

It is the Chamber's desire that the regional effort which led to this report, and the execution of the plan contemplated within, will accelerate the development of the green industries cluster in our region and, most importantly, provide meaningful, long-term and secure career opportunities for Central Texans.

### *Why Green Jobs Are Important to Central Texas*

In the Opportunity Austin 2.0 five- year economic development strategy for the greater Austin region clean energy is noted as a key industry target. The plan, "Taking it to the Next Level," prepared by Market Street Services, indentified as a core economic development cluster "green industries." Specifically, the plan highlighted the attraction and retention of businesses included in the development and manufacturing of products such as solar panels, fuel cells, wind turbines and electric cars as well as clean energy and green products in general – all broad targets which encompass a wide variety of energy efficient and renewable energy businesses.

As with previous Central Texas economic development strategies a *ready and skilled workforce* is the key to success for both recruitment as well as the retention of regional businesses. Recognizing this fact, in conjunction with an increasing level of cluster activity in Central Texas and a national climate greatly supportive of "green" products, services and initiatives, it is apparent that green job training will be a critical component in economic development activities throughout the next five years.

Basically green jobs have both a broad and local appeal in the potential they provide. According to Workforce Solutions - Capital Area Workforce Board, green jobs are attractive for a number of reasons which have a broad appeal:

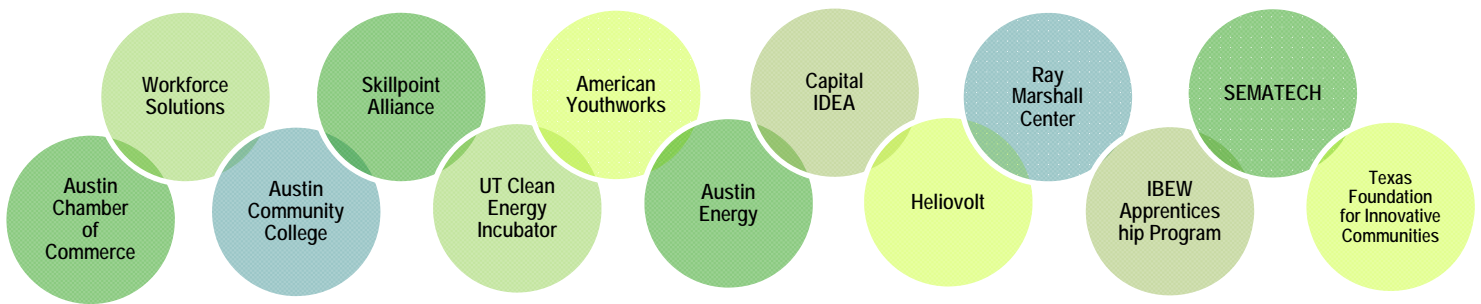
- They are good jobs offering good wages. Like blue-collar jobs they offer an opportunity to rebuild and strengthen the nation's middle class.
- Many green jobs require some level of post-secondary education and/or training, but many also require less than a bachelor's degree. They provide career pathways that can help lead low-income individuals out of poverty and into self-sufficiency as well as move our economy forward through convergence with our regional high tech industry sector to produce opportunities for those with advanced education.
- Green jobs are local jobs. They tend to be jobs that cannot be off-shored which has happened to much of the country's manufacturing sector
- Green jobs contribute to preserving and protecting the environment and enhancing the quality of life in general.

In looking locally the Austin-Round Rock MSA's regional unemployment rate has approximately doubled over the past year (3.5 percent to 5.8 percent from April 08 to April 09) and the manufacturing sector has lost approximately 9% of its employment, noting the decline in one of Central Texas' most coveted sectors, semiconductor manufacturing. Though the region is faring better than both the state and national picture in regards to job loss (current unemployment rates of 6.4 percent and 8.6 percent respectively – April 09) the development of new jobs in a growth

sector such as clean technology will be even more important in both re-employment as well as retraining efforts for area residents in the upcoming years.

## About the Green Job Task Force

In light of both the broad and local rationales noted above, as well as increasingly strong regional initiatives discussed in-depth in this report, the Chamber asked representatives from 12 area organizations to attend four task force meetings and provide information necessary to educate the region on energy efficiency and renewable energy opportunities in relation to job opportunities and training. The 13 task force members included representatives from the following entities:



(see attachment **A** for a list of the task force members representing the above noted organizations)

The overarching goal of this task force was to coordinate regional efforts to train and/or retrain up to 25,000 Central Texas residents for “green collar jobs” to complement the economic development attraction targets and existing industry base in the region and assist with re-employment of the approximately 51,500 Central Texas workers currently unemployed (April 09). The following methodology was used to arrive at the target goal:

1. Review of the Texas Workforce Commission occupational data for key target sectors that currently employ residents in the areas identified as green collar occupations in the upcoming decade (using two recent studies as reference; the first published by TWC, Aug 08, “Green Collar Workers and Other Mythical Creatures” as well as the Angelou Economics Study, Dec 08, “Building Austin’s Green Workforce: A Comparative Analysis of Benchmark Communities”);
2. Quantification of the number of regional residents currently employed in those identified sectors;
3. Utilization of the Texas Workforce Commission projections for employment increases from 2006 to 2016 in those sectors and identification of a number indicative of new jobs for this period that would be part of this data set;
4. Calculation of a conservative number of the identified totals (15% = 26,850);
5. Pecan Street Project estimates the creation of 260-1660 jobs per year. Taking this average (960 jobs) and projecting to 2016, this indicates the potential creation of approximately 6,700 jobs.
6. Preparation of a final target number of training/retraining jobs for the Green Collar Job Training Program; a conservative estimate of 25,000 Central Texas jobs.

(see Attachment **B** for data sets)

The Chamber’s Business Retention & Expansion staff set forth a meeting schedule of four task force working sessions in the months of March and April with a final report scheduled for release by the end of May 2009. Each of the five meetings had a specific purpose surrounding the following topics:



The final deliverable or output from the work undertaken by the task force is a community roadmap identifying the entities and opportunities for regional residents and businesses to access and develop green job skills\talent over the next ten years. The roadmap is broken into three strategic areas; the necessary skills needed for regional green jobs, training providers capable of providing the necessary education and skills development and funding opportunities for the region to access in order to provide the necessary training. By providing the community a roadmap of opportunities and resources each community stakeholder can engage in regional opportunities by understanding the coordination within a community wide approach, thereby enhancing their individual opportunities for success.

(see Attachment C for a diagram of the Green Jobs Task Force Scope of Work)

### *Key Regional Initiatives*

Numerous regional initiatives have catapulted Austin and the surrounding area into a leadership role in renewable energy and energy efficiency activities. The foremost entity involved in these activities is the City of Austin itself through its municipally owned utility, Austin Energy, whose green efforts have been long recognized in municipal power generation. Austin Energy is the 9<sup>th</sup> largest municipally-owned electric utility in the nation with more than 390,000 customers and \$1.3 Billion in annual revenue for the City of Austin. It has been named the top “green” utility in the nation for its GreenChoice program by the National Renewable Energy Lab for six consecutive years. In addition it started in 1991, and actively manages today, a green building program. Its energy conservation programs have offset at least 700 MW of power since 1982 and it provides the community with a Solar Rebate Program at \$4.50/watt of electricity. Its partnership with the Clean Energy Incubator of Austin allows regional companies a clean technology beta test program.

On February 15, 2007 the City of Austin passed landmark legislation which will take their involvement and commitment to energy efficiency and renewable technology development to new heights. The Austin Climate Protection Plan has the goal of making Austin the leading city in the nation in the fight against global warming. This plan to significantly reduce greenhouse gas emissions includes the following five key elements with specific goals and objectives for each, all of which will correspond to green job creation throughout the region:

- Municipal plans
- Utility plans
- Home and Buildings Plan (residential and commercial real estate),
- Community plan
- “Go Neutral” plan (targeted at regional residents and businesses).

Specific objectives highlighted in this plan can provide clues as to green jobs and the skill sets which will be needed by regional residents over the upcoming years. Specifically, the five key elements contain the following plans:



### Municipal Plan

- Power 100% of city facilities with renewable energy by 2012;
- Make entire city fleet carbon-neutral by 2020 through the use of electric power and non-petroleum fuels (with alternative fuel emissions offset through mitigation);
- Develop departmental climate protection plans, including policies, procedures, targets and reporting for maximum achievable reduction of greenhouse gas emissions and energy consumption in all city departments;
- Develop a City of Austin employee climate education campaign and programs and incentives to help employees reduce personal carbon footprint and engage in community outreach for climate protection



### Utility Plan

- Achieve 700 Megawatts in savings through energy efficiency and conservation by 2020;
- Meet 30% of all energy needs through renewable resources by 2020, including 100 Megawatts of solar power;
- Achieve carbon neutrality on any new generation units through lowest emission technologies, carbon sequestration and offsets;
- Establish CO2 cap and reduction plan for all utility emissions.



### Homes and Buildings Plan

- Make all new single-family homes zero net-energy capable by 2015;
- Increase energy efficiency in all other new construction by 75% by 2015;
- Require disclosure of historic energy use, facilitate and require energy efficiency improvements in existing homes and buildings at point of sale;
- Enhance incentives and requirements for Green building program; develop “carbon neutral” certification



### Community Plan

- Establish City Climate Action Team to inventory greenhouse gas emissions from activities community-wide; work with stakeholders and technical advisors; and report to Austin City Council on recommendations for short-term and long-term reduction targets and implementation strategies for the metro area. Key areas for study include, but are not limited to, transportation, land use planning, emerging technologies, waste management, natural areas and landscapes, and multigenerational education.



### “Go Neutral” Plan

- Develop online “carbon footprint calculator” for individuals and small businesses and provide individually-tailored assessments for complex organizations and entities.
- Develop a menu of local greenhouse gas reduction strategies citizens, businesses and organizations can fund through the purchase of “carbon offset” credits.
- Develop program for recognition of households, businesses and groups achieving carbon neutrality.
- Promote carbon neutrality among visitors by providing mechanisms and incentives for the purchase of offset credits by airport travelers, conventions trade shows and festivals.

A second key City of Austin initiative, the Pecan Street Project, was unveiled December 3, 2008 by representatives from the City of Austin, Austin Energy, The University of Texas Austin Technology Incubator, the Greater Austin Chamber of Commerce and the Environmental Defense Fund. The overarching mission of this “Pecan Street Project” is

to design the energy system of the future, a multifaceted project which has extreme significance as a national model. Basically the project mission is to make the City of Austin into America’s clean energy laboratory – a place where researchers and entrepreneurs can develop, test and implement the urban power system of the future. Four strategic initiatives are being undertaken in response to this mission. Each, as with the Austin Climate Protection Plan, will have a strong impact on the amount and type of green jobs created in Central Texas. The initiatives include the following:

- Austin will develop a clean energy public/private research and development consortium. Its mission will be to research and develop clean energy technologies and distributed generation systems on Austin’s grid.**
- Austin Energy will open its grid to entrepreneurs and researchers to test prototype technologies in the real world. Basically, the City of Austin grid will be a lab unto itself.**
- The consortium will create an economically sustainable distributed generation system. The new distributed system will integrate clean energy in an economically sustainable business model and Pecan Street will provide the consortium with access to Austin’s grid to test and develop the new system.**
- The system will be implemented locally and, overall, will develop the locally produced clean energy equivalent of a new power plant using this new system.**

The City of Austin has described the characteristics of this new, energy system of the future and, again, review of these characteristics can provide a glimpse into the type of workforce needed. The following descriptions apply:

- Delivers plentiful, reliable and affordable power to our growing citizenry;
- Responsible with our most precious natural resources, like air and water;
- Eliminates our need for more polluting power plants;
- Produces a power-plant’s worth of energy, generated with the city limits via renewable resources;
- Intends to be a replicable system for cities across America and throughout the world.

Basically, they are creating a true system – backed by a firm business model and a reliable energy delivery system which can deliver one power plant’s worth of clean energy over the country’s first smart electric grid. Through a collaboration of over 15 to 20 public and private organizations this smart grid initiative will be a key catalyst to attract clean technology companies and/or divisions of existing companies which develop and/or provide clean technologies to the region with Austin Energy taking a leadership role in these efforts.

The University of Texas at Austin (UT-Austin), one of the nation’s foremost research institutions takes in over \$500 million per year in research monies. UT-Austin is also engaged with these community wide efforts through two key areas. First, the Center for Commercialization of Electric Technologies, made up of electric utilities and high tech industries, has the primary mission of accelerating the adoption of the next generation “smart grid ” through its efforts in research and development of clean technologies. The organization includes among its members, Austin Energy, AEP, Bluebonnet Electric Cooperative, CenterPoint, Direct Energy, LCRA, Oncor, Reliant, TXU Energy, IBM, National Instruments, Itron, Freescale Semiconductor, Gridpoint and a coalition of five major Texas universities. As a collaborative partner with Austin Energy much of the research and development activities in relation to regional smart grid technologies will be developed through clean technology research and development with UT-Austin researchers. As technologies are developed and commercialized the “smart grid” applications can then be tested and distributed through the Pecan Street and UT-Austin networks. Business modeling, public relations, commercialization and

incubation opportunities as well as regional higher education talent can be garnered through the University's partnership with Austin Energy on this critical initiative.

In addition the Clean Energy Incubator, a division of the IC2 Institute of UT-Austin, is credited with making Austin the top city in the country for clean technology company incubation. The incubator offers an environment dedicated to helping clean energy companies succeed. It assists start-ups with attracting funding, beta testing technologies, assembling management teams and executing business plans. Again, the incubator's activities in relation to the Pecan Street Project allow a seamless stream of research and development to company formation and successful commercialization which will allow the goals of the Pecan Street Project to be reached.

Finally, the Texas Foundation for Innovative Communities, a nonprofit organization created in Austin to facilitate two parallel initiatives plays an important role in attracting and developing green jobs for our region. First, they are developing a center for the integration of advanced technologies into our built environment – the Texas Clean Energy Park. The Foundation, working with the state General Land Office and developer Trammel Crowe, has 40 acres of property in south Austin with the capacity and City of Austin support to construct this clean technology park. This park will allow companies to establish operations and grow their businesses in close proximity thus facilitating the sharing of ideas, resources and workforce – all elements which provide great opportunity for developing new industry clusters. In addition the Foundation is spearheading efforts to provide an opportunity for the National Renewable Energy Lab to establish a regional application and commercialization center at the Clean Energy Park, an initiative which could catapult all of the region's efforts into the national spotlight.

The Foundation has also received a grant from the Texas Workforce Commission to support a clean energy workforce training plan. The entity has organized a Clean Energy Business Council which includes area utilities, builders and building trade associations, unions and contractors, home area raters, high tech companies and renewable energy manufacturers and service companies. This group is driving strategic planning by organizing information about the availability of jobs, needed skill sets and competencies, licensing and certification and the capacity of local institutions to provide the needed training. With their mission critical objective of green job identification and training they will play an integral role in the community's efforts to train a green collar workforce, especially as it relates to industry participation.

### *Green Job Skill Sets – Understanding the Needs*

In order to understand the skill sets needed to train regional residents for green collar jobs it is imperative to understand several key issues. First, what truly constitutes a green job, what are the greatest opportunities for the creation of green jobs in our Central Texas region and what will encompass the main drivers for the creation of these jobs.

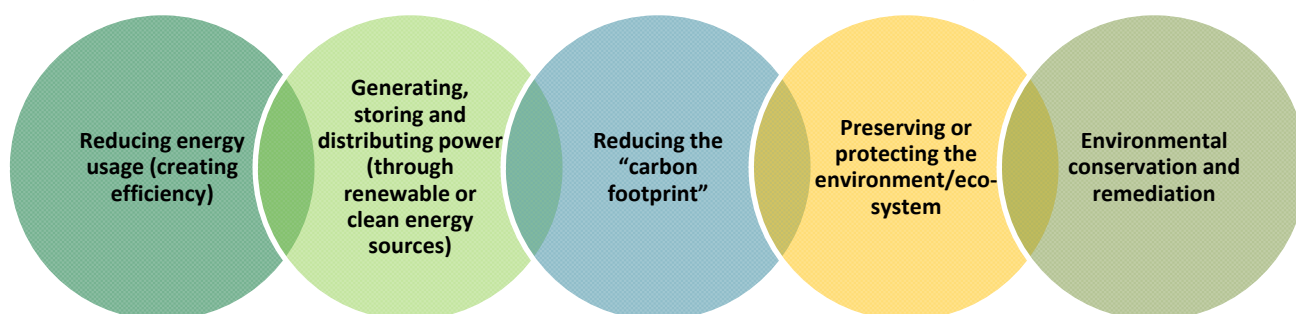
The definition of a green job can be complex as there is no single definition. In a broad sense they can be characterized as jobs that involve protecting wildlife or ecosystems, reducing pollution or waste, or reducing energy usage and lowering carbon emissions (John J. Heldrich Center for Workforce Development). They are also identified in terms of their location as green jobs are domestic, therefore, cannot be off-shored as much of our manufacturing sector has seen. Overall, green jobs in America's energy economy are concentrated in two key areas: Energy Efficiency (EE ) and Renewable Energy (RE).

This categorization of green jobs can be validated locally through a recent study undertaken by Angelou Economics for the Workforce Solutions - Capital Area Workforce Board. Angelou Economics also defines green jobs in terms of EE and RE and defines the renewable energy and energy efficiency industry broadly as the technologies and services that reduce or eliminate the environmental impact of primary energy production, energy consumption and electricity generation.

For further clarification, a specific job in the EE sector generally involves retrofitting homes and businesses to use less energy, as well as developing and manufacturing products that save energy. This grouping includes companies who design, manufacture, install and operate vehicle systems such as hydrogen cars, fuel cells and energy storage devices like battery technologies. Smart grid technologies, compressed air storage or flywheels are also part of this group. The renewable and clean energy sectors, in contrast, focus on creating, installing and maintaining technologies that generate energy from resources that are naturally replenished and generally do not emit the green house gases that contribute to global warming. This includes wind, solar, geothermal, biofuels and hydropower (John J. Heidrich Center for Workforce Development).

In addition to these two classifications or segmentations for green jobs, it is important to highlight that green job workers will also include construction workers, cost estimators, financial analysts, computer technicians, accountants, manufacturing workers, truck drivers, salespersons, scientists, engineers – basically any occupation engaged in some activity relating to energy conservation or increasing the supply of renewable or clean energy sources. Therefore, it is likely that the majority of green jobs in the nation’s energy sector may not be new occupations, especially in the immediate future. The traditional occupations will likely become first adopters via new skills training to existing jobs and professions. The lists of occupational categories and employment numbers used to calculate the regional training goals (see Attachment B) are perfect examples of the existing jobs which will be impacted through this green revolution.

Taking into account the expertise and guidance of our local workforce experts, Workforce Solutions - Capital Area Workforce Board, they have defined a *green job as one* that directly involves the following activities:



An important point to remember, according to the John J. Heidrich Center for Workforce Development, is the largest number of green jobs will be in occupations that require an apprenticeship, professional certificate or one to two years of postsecondary education. However, as mentioned above in regards to UT-Austin activities, there will be concentrations and research focuses in higher education opportunities. This type of occupational development from all scales and depth of training and education will provide great flexibility to regions in providing an array of jobs which can be strategically undertaken by those with varying degrees of education and skill sets, thereby allowing a community to provide opportunities on a broad basis to their constituencies.

According to Workforce Solutions - Capital Area Workforce Board, green jobs will vary from region to region and Austin, as mentioned above, will develop their job base under the influence of several overarching strategic initiatives. Taking into account these initiatives as well as national trends and regional company input it appears the Austin/Central Texas region, has the greatest opportunities for the creation of *green jobs* in the following sectors and we will, therefore, focus more time and attention on these strategic positions:

- Retro-fitting and/or weatherization of homes and buildings
- Power generation and distribution (solar)
- Installation and maintenance of energy efficiency products (i.e. solar panels, HVAC systems, etc.)
- Manufacturing (solar panels and possibly batteries)

## Green Job Skill Sets – What Should Workers Know

Extensive information on skill sets needed in current green collar jobs can be garnered from Austin Energy, already a regional employer and expert in their knowledge of these existing and future occupations. This public entity has already categorized general knowledge, skills and abilities for ideal candidates in the areas of energy efficiency and conservation jobs, including extensive analysis on the breakdown of skill sets important for entry level, mid-level as well as senior level positions. (see Attachment **D** for this overview). They have provided the same analysis in the area of green building jobs, again highlighting those skills needed for entry level, mid-level and senior level positions (see Attachment **E** for this overview). They are working with entities like Austin Community College and other training providers including various trade unions such as electricians, plumbers and sheet metal workers with the development of curriculum, certification and standards and compensation schedules in relation to energy efficiency and conservation jobs as well as green building.

In moving forward there are two important elements we must remember. First, we should view our regional skills development efforts as the building of a *pyramid of skills* over time, especially as this sector matures and grows. Many of these industry development efforts are in their infancy stages and training efforts must be developed from both short and long term perspectives. A critical piece of information on all skill needs will include feedback from regional employers as to needs they have to grow successful businesses. It will be imperative to engage regional employers in dialogue on what skill sets and jobs industry really needs as this clean technology sector grows and mature. Currently Austin is home to approximately 40 clean technology companies and representatives from these companies, as well as companies nationwide, should be constantly tapped for input and advice as efforts move forward. (see Attachment **F** for a list of the regional companies).

## Quantification of Regional Jobs – How Many Do We Need and When

In looking at these factors and understanding the infancy of this sector it will be prudent to begin training efforts on a smaller scale, one dictated by actual regional opportunities or jobs. Scaling up of efforts can be undertaken as opportunities become solidified and afforded the area through business attraction/retention/development efforts. As we mentioned earlier in this report an analysis was undertaken on a larger, encompassing scale to discern how many regional residents to target for training and/or retraining in the upcoming ten years. A goal of 25,000 residents over 10 years was discerned by the methodology below:

1. Review of the Texas Workforce Commission occupational data for key target sectors that currently employ residents in the areas identified as green collar occupations in the upcoming decade (using two recent studies as reference; the first published by TWC, Aug 08, “Green Collar Workers and Other Mythical Creatures” as well as the Angelou Economics Study, Dec 08, “Building Austin’s Green Workforce: A Comparative Analysis of Benchmark Communities”);
2. Quantification of the number of regional residents currently employed in those identified sectors;
3. Utilization of the Texas Workforce Commission projections for employment increases from 2006 to 2016 in those sectors and identification of a number indicative of new jobs for this period that would be part of this data set;
4. Calculation of a conservative number of the identified totals (15% = 26,850);
5. Pecan Street Project estimates the creation of 260-1660 jobs per year. Taking this average (960 jobs) and projecting to 2016, this indicates the potential creation of approximately 6,700 jobs.
6. Preparation of a final target number of training/retraining jobs for the Green Collar Job Training Program; a conservative estimate of 25,000 Central Texas jobs.

(see Attachment **B** for data sets)

To quantify what value these 25,000 jobs would have for the region, if an average weekly wage of \$1158 is projected for 2016 (2008 weekly wage is \$914 a year, and assuming a 3% per year increase) These 25,000 jobs would constitute a yearly payroll of \$1.5B for the region.

Several key drivers can become clues in discerning when energy efficiency and renewable energy adoption will turn into demand for greater numbers of skilled workers thus providing the opportunity for more definitive calculations. These include the following, many of which have been discussed in light of Austin's current efforts:

- Technology. Current energy efficiency and renewable energy technologies are more expensive than traditional fuel technologies. As technologies advance, costs are likely to decline.
- Economic Conditions. The rise and fall of fossil fuel prices affect demand of alternative energy sources. The availability of credit (or lack thereof) has slowed investment and growth.
- Public Policy. The availability of tax credits and/or rebates for solar panels or fuel efficiency vehicles will help make such items more affordable to a broader number of consumers. Changes in building codes (aimed at efficiency) and energy audits will drive increased demand for retro-fitting and/or weatherization of homes and buildings. Economic development incentives would better position the state and local communities to compete for manufacturing facilities and other businesses.

Through careful monitoring and analysis of these key indicators communities can ascertain a trigger point for their individual regions when adoption of clean technology moves a community toward greater demand for new jobs in this sector. In Austin's case its key energy policies and drivers will likely move toward this goal more rapidly as City of Austin policies are intent on driving these clean energy and technology advances. For service industries and those companies with primary national and international markets skill enhancements may become paramount more quickly if markets are demanding these products and services turn into green opportunities more rapidly. Local workforce boards and interested training providers and educators will need to pay careful attention as this sector progresses in the accelerated pattern that is expected and incentivized on a national scale.

In regards to green job creation in the Austin region, a unique modeling exercise developed through the efforts of the Pecan Street Project Workforce Development Team warrants highlighting. This quantification methodology was developed by team members representing Austin Energy, Austin Community College, the Texas Foundation for Innovative Communities, ECE, The University of Texas at Austin, SEMATECH, AngelousEconomics and Workforce Solutions - Capital Area Workforce Board. Basically the group set out to devise a formula to calculate the upcoming demand for green jobs in specific areas which will be enhanced through efforts by the Pecan Street Project, namely, solar generation as well as weatherization and energy auditing.

The methodology utilized encompassed, first, the identification of twelve categories of job positions also noted as "fields of education." These twelve positions included the following:

- Grid Design and Modeling
- Network and Communication Engineers
- Professional Engineers – Large Scale industrial PV
- Design and Layout Technicians
- Solar Technicians
- Solar Installers
- Electric Grid Technicians
- Mechanics and Technicians
- Journeyman Trades Skills
- Accredited Trainers
- Certified Energy Auditors and Inspectors
- Sustainability Managers
- Solar Manufacturing
- Sales and Distribution

For each of these categories the team outlined functions and roles associated with these categories and organized them in regards to the solar and weatherization initiatives. Finally using a formula based on the projected number of jobs created per megawatt of solar power generated (32 jobs is estimated to be created per megawatt of solar power produced based on the average of several studies done in California, Japan and Europe) an overall new job need per year was calculated. For example, for solar generation to meet the 300 megawatts identified as a goal for the Pecan Street Project the Austin region will need to create 4352 new installation and manufacturing jobs by 2028 with the skill needs outlined through the Austin Energy position descriptions.

This exercise was also undertaken for weatherization and energy auditing with a similar analysis. In essence any community can scale this model to their regional situations by reviewing their goals and strategies in regards to clean energy adoption, discern the skills to be utilized in meeting those regional goals and undertake the same type calculations using multipliers specific to each energy area. This model can help target specific needs in a more exacting and precise manner.

See Attachment G for Pecan Street Project charts.

## Potential Growth Occupations

Taking into account the comprehensive occupation lists highlighted in the Texas Workforce Commission and Angelou Economics studies (mentioned above) one can potentially determine a list of possible growth occupations in Central Texas over the next ten years which represent opportunities in energy efficiency and renewable energy. According to Workforce Solutions - Capital Area Workforce Board the following occupations appear to represent the greatest potential for growth in green collar jobs over the next ten years:

- Electricians
- Plumbers
- Carpenters
- HVAC Technicians/Installers
- Weatherization Technicians
- Building Inspectors/Energy Auditors
- Roofers
- Construction Managers
- Project Managers\*
- Energy Analysts\*
- PV Solar Installers/Technicians
- Welders
- Engineers (civil, electrical, and mechanical)\*
- Engineering Technicians
- Instrumentation/Control Technicians
- Grid Design & Modeling Engineers\*
- Power Plan Operators
- Electric Grid Technicians
- Power-Line Installers & Repairers
- Manufacturing Technicians
- Maintenance & Repair Workers

\*Indicates a job that requires a Bachelor's degree or higher.

As mentioned earlier not all jobs will be new occupations. Many jobs considered "green jobs" will actually be the result of skill enhancements or new training for existing jobs. For example, a current Electrician or HVAC Technician who adds a *green* specific skill or certification to be able to perform a new function would be considered a green job.

Other jobs may be transitional – someone building upon a core set of existing skills to transition into a new industry sector. Examples familiar to Austin’s industry base could include semiconductor manufacturing processors who take additional classes to work as a manufacturing technician or engineering technician within a different technology sector.

### *The Regional Training System – What Should It Look Like?*

According to Workforce Solutions - Capital Area Workforce Board, the future workforce development/training efforts for the greater Austin region will need to be built upon three tiers: Basic Academic Skills/Workplace Readiness Skills; Traditional Job Specific Skills, Knowledge and Credentials and Green Job Specific Skills, Knowledge and Credentials.

See Attachment **H** from Heldrich Center for Workforce Development

Training will likely be based on a layered or modular basis – establishing a core set of necessary skills and knowledge (one could think of current jobs and job descriptions as outlined in the occupations noted on the TWC lists) then adding on specific skill sets and certifications specific to green technologies through continuing education or specific certifications. This type of regional system, conducive to all levels of education and job skills, will create an individual capable of performing multiple tasks/jobs which could include newer green skills by allowing further training or study – all in relation to the regional job demands or needs as they are expressed by industry. Approaching the development of a regional green job workforce plan in this manner makes great sense in regards to efficiency, cost and impact. It also allows the greatest opportunity and flexibility for all regional employers and employees in accessing these opportunities.

For example, a mechanical or systems engineer, previously educated with a bachelor or masters degree who is functioning in the traditional energy industries could, with enhanced research and development studies or additional engineering skills, transition to photovoltaic research and development as this sector replaces some of the traditional energy jobs. In contrast, an example cited by the Heldrich Center for Workforce Development regarding manufacturing workers, could indicate a more “on the job training” skill set that already encompasses their current knowledge. Manufacturing workers in a solar panel facility, for example, may not require anything more than the basic skills required of others working in advanced manufacturing environments (these programs are already plentiful). In the world of weatherization and installation and maintenance of RE and EE technologies, standards for certification and training are highly variable, especially at the entry level. Some workers may need little more than basic construction laborer or installation skills such as an air sealer who caulks gaps in windows. Therefore, programs can be implemented when demand is noted and existing programs enhanced to accommodate the newer skills needed for green jobs. Incumbent worker training and cross training of skills in likely occupations can become another cornerstone of the regional workforce training toolbox.

If we approach a regional workforce plan with this concept in mind we quickly see that Austin is well positioned to put forward a comprehensive regional training plan which could expect great success. Key elements such as strong K-12 educational systems, one of the largest community college systems in the country, numerous regional apprenticeship programs and targeted skill training programs and, finally, one of the largest public research institutions in the country are outstanding resources upon which to build. Strong oversight from the Workforce Solutions - Capital Area Workforce Board will provide the opportunity for great regional collaboration through partnering with other regional boards and the educational entities that provide the necessary training services aligning and coordinating job training efficiently and expeditiously. Ultimately this will be one of the major keys to success. z

### *Who are the Providers?*

As mentioned above training will be provided by numerous regional educational institutions and providers throughout Central Texas, and these are highlighted below. It is important to highlight as we begin this inventory that, according

to the Heldrich Center report, workers who obtain nationally recognized credentials associated with common standards for jobs in the RE and EE sectors may have a better chance of obtaining a job even if the job does not require it. In that instance it is imperative that we first highlight the national certifications available to those undertaking green job opportunities.

According to the Heldrich Center certifications in the renewable energy and energy efficiency industries are associated with standards established by nationally recognized credentialing bodies. Organizations that provide certifications commonly preferred or required by employers in this sector include the following:

- The Association of Energy Engineers – provides energy efficiency-related certifications for facilities managers, HVAC installers and other positions including geothermal.
- The North American Board of Energy Practitioners – attributes certifications for photovoltaic (PV) and solar thermal installers, as well as a more general, entry-level certificate in PV technology that can enhance a wide range of existing curricula from construction and trades to engineering.
- The Building Performance Institute (BPI) – offers certifications for building analysts, heating and air conditioning professionals, and others that incorporate significant knowledge about whole-systems design, energy efficiency, and renewable energy. BPI certification is required for Energy star contractors and is a preferred certification among employers in the building trades.
- Energy Star – provides online training to contractors on energy efficient building design.
- Solar Energy International – private training provider in Colorado that offers online and in-person courses in renewable energy sectors that are highly regarded by some employers.
- The Green Building Certification Institute – runs the Leadership in Environmental and Energy Design (LEED) Accredited Professionals program, a leading certification in the green building and facilities management fields.

The following is a list of identified training providers and educational institutions in the Austin/Central Texas region who **currently** offer programs directly related or semi-related to *green jobs*. Highlighted with additional detail is Austin Community College, The University of Texas at Austin and the International Brotherhood of Electrical Workers (IBEW), three key entities who are intimately involved in green job education and training, all in collaboration with Austin Energy.

#### *Austin Community College*

Austin Community College, one of the country's largest community college systems, has over 33,000 regional students enrolled and is taking a leadership role in the education and training of students via initiatives to develop and provide strategic curriculums and programs for green collar industries. On March 30<sup>th</sup> Austin Community College hosted a Green Economy Forum which resulted in the development of an MOU in which regional higher educational institutions agree to share existing curricula and faculty development resources. In addition they are undertaking discussions with the Texas Foundation for Innovative Communities, asking them to play a key role in facilitating this sharing of curriculum through their Texas Clean Energy Park, a Texas Workforce Commission funded technical resource for educators and trainers. Specific courses they have developed (in collaboration with Austin Energy and other regional experts) include the following:

- Photovoltaic Solar Installation
- Building Construction Technology
- Carpentry
- Automotive Technology (Hybrid)
- Electronics (Electrical Technician)
- Engineering Technology (Engineering Technician)
- Manufacturing Technology
- HVAC Technology
- Construction Management

Other community colleges, while not physically located in the five county Austin-Round Rock MSA still provide opportunities for regional residents. Both Alamo College and Texas State Technical College have courses which prepare students for green job opportunities. These include the following:

*Texas State Technical College (Waco)*

- Fuel Cells
- Wind Energy
- Environmental Health, Safety and Science
- Chemical-Environmental Technology
- Electrical Systems
- Automotive Alternative Fuels

*Alamo Colleges (San Antonio)*

- Weatherization
- Green Entrepreneurial Skills
- All-Electric Vehicle Conversion
- Green Building Basics
- Certified Energy Rater
- PV Solar Installer
- Wind Energy
- Electronics
- National Sustainability Building Advisor Program

Regional apprenticeship programs are active and also provide direct training to regional residents interested in green jobs. Workforce Solutions - Capital Area Workforce Board has categorized the following regional apprenticeship programs currently in existence:

- Austin Electrical JATC – Electricians, Solar Energy Technician
- CenTex IEC – Electrician
- Titus Electrical Contracting – Electrician
- Sheet Metal Workers Local 67 – Sheet Metal Technology
- Austin Carpenters & Millwrights JATC – Carpenters

The International Brotherhood of Electrical Workers (IBEW) and the National Electrical Contractors Association (NECA), through their jointly administered training program, the National Joint Apprenticeship and Training Committee (NJATC), have a long and proven track record of training a skilled workforce with the expertise needed to turn America green. The curriculum in relation to the electrical industry include the following areas for green jobs: Building Automation, Programmable Logic Controller (PLC), Photovoltaics (PV), Wind Turbines, Fuel Cells, Lighting Controls, Energy Efficiency and Demand Lighting.

*University of Texas*

As mentioned earlier the University of Texas at Austin is collaborating with Austin Energy on the development of the “smart grid” in relation to the Pecan Street Project. Through its Center for the Commercialization of Electric Technologies there are numerous opportunities for those seeking higher education degrees to find focus in the green job setting. Existing UT courses are included in the chemical, mechanical and electrical engineering as well as materials science. UT-Austin is proposing to create additional courses that are multidisciplinary and open to all IGERT fellows in the following areas:

- Sustainable Design (Architecture);

- Energy Finance (Business School);
- Renewable Energy Law (Law and Business Schools);
- Renewable Energy Lab (Mechanical Engineering); and
- Smart Grid of the Future (Electrical Engineering).

These courses will all seek to weave some aspects of smart grid technology into their curriculum, including distributed renewable energy sources; building – integrated photovoltaic sources; smart meters; smart appliances; passive energy designs; novel markets; law; energy policy; and systems integration. The pertinent courses and tools will be developed quickly, since a broad base of related courses and resources already exists at UT-Austin due to the strong base of research in all facets of energy technology.

To provide opportunities for interdisciplinary graduate education, UT will develop seminar courses for students in the Cockrell School of Engineering, the Jackson School of Geosciences, School of Law and the LBJ School of Public Affairs at the University of Texas. To provide on-going educational opportunities for continuing education of professionals working in the energy sector, the University will develop an advanced degree program, with classes and other requirements scheduled to accommodate working professionals in the rapidly developing clean energy sector. To strengthen the skills of K-12 science teachers, the University of Texas will expand its offerings of summer institutes for teachers, and will create fellowships for students and teachers to participate in energy related research programs.

To provide opportunities for the general University population to become more aware of multi-faceted energy issues, the Cockrell School of Engineering and the Jackson School of Geosciences at the University of Texas will jointly offer a series of courses on Energy and the Environment that would be open to all University students and that would satisfy the University's general education science requirements. These courses may also be suitable for continuing education of employees working in the clean energy sector.

In addition to the University of Texas at Austin, Texas State University in San Marcos, Texas is also educating engineers who can move into energy efficiency and renewable energy sectors. Peripheral research areas in nanotechnology and materials science research can also parlay students into the new green arena.

Other regional providers involved in training programs of value to this initiative include the following:

- Skill Point Alliance – Basic Construction Skills
- American YouthWorks – Green Construction Skills, Environmental Service
- Sheet Metal Workers Local 67 – Energy Rater Training
- Digital Workplace Academy – Energy Rater Training
- Texas HERO – Energy Rater Training

Although the number of training providers and training programs relating to *green jobs* is growing, there are still some readily identifiable gaps in the local workforce training system. Areas of potential need include the following and should be targeted for program development among all the regional educational and training providers to ensure a ready and skilled workforce is prepared to complement the economic development activities:

- Engineering
- Engineering Technician
- Weatherization Technician
- Energy Analysts
- Power Line Installers and Repairers
- Power Plant Operators
- Electric Grid Technician
- Electricians
- Plumbers
- Carpenters

- HVAC Technicians

In addition to postsecondary training, there is also the need to create an educational pipeline for green tech workers that begins in middle and high school to excite public school students about career opportunities in green tech industries. This effort requires strong partnerships between industry and regional public education institutions that result in hands-on initiatives to engage students in math and science courses and educate them about the full range of postsecondary education options and credentials that will lead to success in the green tech economy. These types of initiatives would have a significant impact on the region's pipeline of talent, supporting the continued growth of this industry sector.

## Funding Opportunities

At the onset of the task force activities an estimate was prepared in regards to training, retraining or enhancing skill sets for 25,000 regional residents in regards to green collar skills over the next 10 years. Taking an average training cost per person of \$1250 (per Workforce Solutions - Capital Area Workforce Board ) it was estimated that a total cost would be \$32 million over 10 years or \$3.2 million/year. However, taking into account that many of these jobs would be “enhanced” skill sets to existing workers this estimate is extremely preliminary and will likely require more/less funding as the sector evolves.

At the onset of the Chamber’s efforts in relation to green job training a monumental piece of federal legislation was passed, the American Recovery and Reinvestment Act (ARRA). Signed into law by President Obama in early February 2009 this legislation will deliver an influx of at least \$50 billion to the energy efficiency and renewable energy sectors. This federal aid, the biggest financial impetus to the clean energy industry in U.S. history, comes in the form of tax incentives, loan guarantees, and grants to reduce energy consumption in the public and private sectors, encourages development of alternative energy technologies like wind and solar, and makes the electric grid more efficient. About \$1 billion will directed toward green jobs training efforts, including \$500 million in funding for training in the RE and EE sectors as defined in the Green Jobs Act of 2007 which was passed by Congress within the Energy Security and Independence Act of 2007, but never funded.

Provisions of the Green Jobs Act directs funding to be used for training and support services, with priority going to veterans, displaced workers and at-risk youth. Funding under the Act will include competitive grants that will be awarded to energy sector collaborative partnerships that connect industry employers with labor organizations, community organizations, educators and representatives of the workforce system. Beyond the \$500 million associated with the Green Jobs Act of 2007 an additional \$500 million in training will be made available through a number of programs focused on developing various aspects of the nations’ new energy system – again, a hint of jobs for the future.

Overall, the stimulus bill dedicates about \$36.5 billion in energy efficiency and almost \$8 billion in renewable energy to promote job creation *via the following significant provisions that increase demand for services which ultimately will increase new jobs:*

- \$5 billion to weatherize homes of one million low-income families
- \$6.3 billion for energy-related grants to states
- \$4.5 billion to retrofit federal buildings, and
- \$11 billion for modernization of the nation’s electric grid.

All of these earmarks will ultimately stimulate job creation. Overall, the goal is that the stimulus package will create 500,000 green jobs in the US by the end of 2010. While no one can be certain if this goal is attainable there will no doubt be increased opportunities through green jobs which encompass a wide range of education and skills. It is certain that the ways in which the U.S. Department of Energy and states spend the stimulus money will affect the number of jobs that are created as will the pace of the private sector’s uptake of key energy efficiency and renewable energy incentives (Heldrich Workforce Center).

Again, with the City of Austin taking an aggressive stand in regards to EE and RE activities (Climate Protection Plan and Pecan Street Project) we should be well positioned to see increased activities locally, thus allowing access to these workforce dollars.

## *Funding for Central Texas*

Under the leadership of its 2009 Volunteer Technology Chair, Jack McDonald, President and CEO of Perficient, Inc., the Austin Chamber coordinated a meeting in Washington, D.C. to analyze the numerous initiatives and goals outlined in this paper in light of the passage of The American Recovery and Reinvestment Act (ARRA). On March 4<sup>th</sup> participants from UT Austin, Austin Energy, SEMATECH and the Austin Chamber met with Washington government relations representatives for Austin Energy and The University of Texas System. Collectively the group heard presentations from each of the representative organizations concerning their clean energy initiatives then discussed strategies on accessing federal monies for funding.

Numerous regional entities from Austin Energy to Workforce Solutions - Capital Area Workforce Board to Austin Community College are individually and collectively monitoring the development of criteria to access stimulus monies but the majority of green job training dollars which could be accessed immediately appear to be contained within two key, federal agencies, both of which have earmarked a specific dollar amount for this purpose:

### **Department of Labor**

The Department of Labor has \$750 million available for a program to provide competitive grants for worker training and placement in high growth and emerging industries. Of this amount \$500 million is directed for careers in energy efficiency and renewable energy.

### **Department of Energy**

The stimulus bill provides \$16.8 billion for energy efficiency and renewable energy projects, including \$2.5 billion to support applied research, development, demonstration and deployment of advanced energy technologies.

Some of these dollars will flow through typical state formulas and some will be made available for competitive bids. All rules are currently being determined. We do know that at least some of the monies will be open for competitive bids and the region should be prepared to file grant applications as quickly as possible. In the meantime the Workforce Solutions - Capital Area Workforce Board reports that it has already received an additional \$4.3 Million dollars in Workforce Investment Act (WIA) funding via the stimulus act. While these funds will be utilized in multiple ways, there is an emphasis on green industries and training. In addition they have received approximately \$906,000 in Employment Service funds. Stipulations for these monies include the following:

- Adult Services - \$893,000
- Dislocated Worker - \$1.2 million
- WIA Youth - \$2.2 million

Since these monies flowed through the Texas Workforce Commission via formula funding the directive is that 80% of the Adult and Dislocated Worker funds must be expended by June 30, 2010 and 100% expended by December 31, 2010. At least 67% of the funds must be spent on training, support services and needs related payments. Finally, under the WIA Adult program, priority must be given to the lowest income, public assistance recipients and dropouts. As we monitor the status of federal funds it will be imperative to note these type “prescriptive” targets and ensure we use the dollars in the best possible manner for the overall economic health of the region.

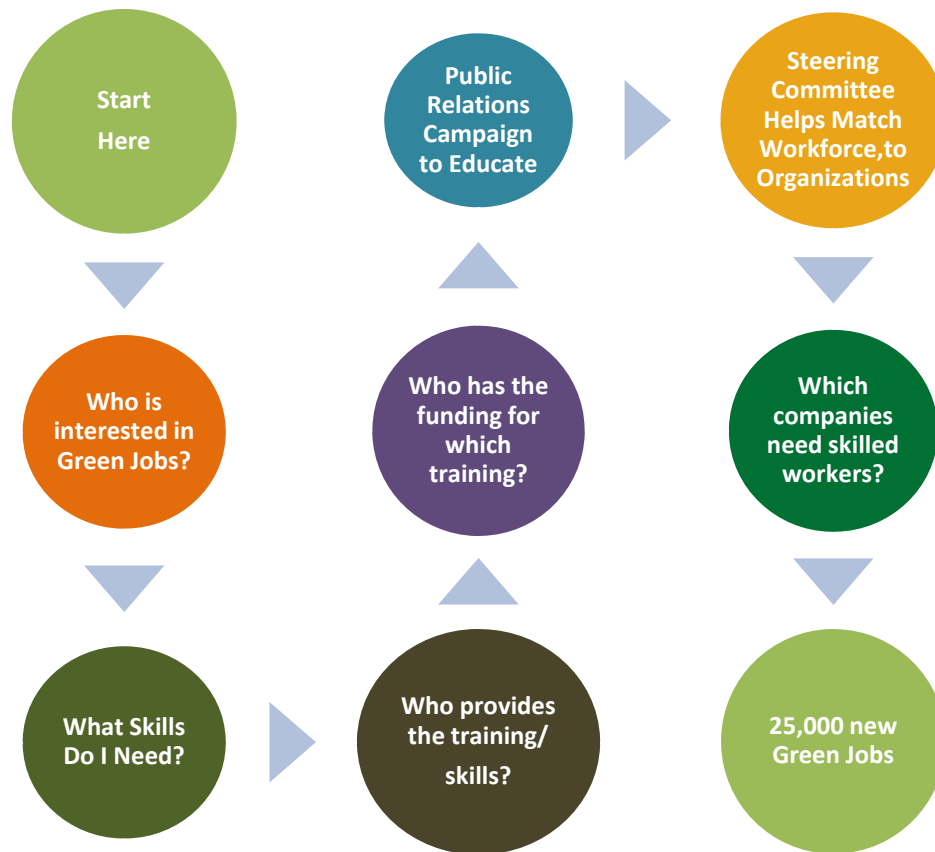
## *Who Will Make the Ask?*

After in-depth discussion and analysis it was decided that the 12 entities currently represented on the task force had goals too diverse to combine into a single grant request. With the wide array of providers and training opportunities it was decided that each entity would move forward with applying for local, state and federal grants independently but would cite the community roadmap when applications were submitted in order to enhance the viability of all the requests. Knowing the importance of leveraging funds and collaborating with other regional entities the strength of each application should be enhanced through this exercise.

It will, however, be incumbent upon the collaborative task force members to update the representative entities with local, state and federal grant opportunities when announced. Via other stimulus monies and state funding opportunities Austin Community College has developed a funding roadmap which illustrates all the State of Texas agencies which have received or will be eligible to receive stimulus funding dollars per formula expenditures. (See Attachment I). This funding diagram should be updated and distributed continuously to ensure that all regional programs and needs can identify the available funding sources for training and the target groups to which they will serve. From these gaps a strategy for collaborative, competitive funding requests put forward by the training entities and regional providers can be prepared and submitted.

### *Community Roadmap for a Sustainable Future and Skilled Workforce*

Using all the information recognized in this document the Green Collar Task Force has developed a rendering of our community roadmap for green collar job training. This roadmap will require constant monitoring and updates as industry development and training programs move forward. It is apparent there will be a need for a steering organization or committee to undertake this activity in the future and a specific recommendation regarding this activity is included in the task force recommendations below. It is recommended this roadmap be a living document updated with new training programs and grant requests to ensure that each of the areas targeted for growth are coordinated with the appropriate training programs and necessary funding. The goal is to ensure Central Texas has available the skilled and ready workforce to successfully execute its economic development strategy.



## Task Force Recommendations

According to the John C. Heldrich Center for Workforce Development in order to respond to the complex and evolving energy industry needs, stakeholders must develop a coordinated, flexible workforce development infrastructure. Such systems, which formalize communication networks, articulation agreements, and other linkages among key stakeholders, will also position states and programs to be competitive for federal and foundation grants. To be effective they recommend exploring the following type strategies:

- Use of the Federal and State Public Policies as a Roadmap
- Build Partnerships with Employers and Labor Unions
- Develop a Green Jobs Workforce Collaborative or a “Green Jobs Talent Network;”

The Chamber’s Green Job Task Force concluded with two key recommendations per a final meeting on June 3, 2009 to finalize their report and recommendations. Basically, the task force recommendations can be encompassed by two overarching programs:

- A regional and national public relations strategy in relation to green collar job opportunities, including education and training opportunities with key regional stakeholders highlighted;
- The formation of a permanent Green Job Steering Committee to undertake the coordination of regional training efforts that are inclusive of industry needs as energy efficiency and renewable technologies evolve.

While the scope of this original look is the five county Austin region, the scope is intended to grow encompassing a wider range.

## Public Relations Strategy

Communication is vital to create and develop an effective, collaborative workforce training network in relation to green jobs education and training and the use of local and national public relations effectively is a key component. Strategically it is also imperative to leverage present and future economic development opportunities to achieve results which drive demand for job creation in the first place. This unique combination makes it imperative to join or marry these functions in a unique manner. The green job task force will turn to the Chamber's Clean Energy Council to be the vehicle in moving both short and long term public relations strategies forward.

For background purposes the Chamber's Clean Energy Council was organized in 2005 with Austin Energy as a key participant. Other members include local business leaders that have an interest in the evolution of clean technologies, sector expansion and growth and, overall, the well being of the local economy.

Actions taken to date through this council include the following:

- Develop and support specific public/private partnerships to increase the potential of the greater Austin economy within the overall economic development strategic plan;
- Promote the broader information dissemination to alert the new clean energy technology related industry, nationally and internationally, of the Austin Clean Energy initiatives and other clean technology assets, as part of the Chamber's larger efforts to publicize its business climate, workforce and quality of life;
- Support the City of Austin/Austin Energy plans and investment strategy, through local Chamber and public educational forums or venues, as well as through a local educational campaign especially as it relates to the Plug-in Partners National Campaign;
- Monitor and support appropriate state-level policy initiatives intended to support research, development, demonstration and/or commercialization of new energy, information and communications technologies such as the Governor's Industry Cluster Initiative as well as the development of utility and energy, information and communications policy by the legislature;
- Similarly, work with the State Energy Conservation Office, and others to monitor and support current programs existing to promote widespread adoption of clean energy use;
- Educate the Commercial real estate development community to benefits of sustainable building design. Partner and coordinate with UT's School of Architecture, City of Austin Green Building program, USGBC, Urban Land Institute and others.

This existing council, with inherent PR capabilities via membership and Chamber resources is uniquely positioned for both short and long term PR capabilities. It is proposed that the committee will create a Green Jobs PR subcommittee whose mission will be information dissemination regarding Central Texas green jobs opportunities, training and industry capabilities for the next twelve months, then develop a long term plan to be executed in years two through ten.

As a first step in the short term plan both Workforce Solutions - Capital Area Workforce Board and ACC have partnered to create a web portal that promotes the renewable energy industry and helps connect individuals with educational programs and employment. A key element of the web portal are several clean energy videos produced by Arrowhead Films under the direction of Workforce Solutions - Capital Area Workforce Board in which several prominent Austin residents promote the clean energy sector and discuss opportunities they believe will be afforded regional residents through the development of this industry group. With the addition of other promotional videos and distribution of the same this provides an immediate opportunity for regional promotion and the ability for broad based community coordination (schools, parents, students, dislocated workers, employers, etc.) for regional stakeholders to find information for the various constituencies to access.

A press conference to release and publicize the community roadmap is currently scheduled for June 2009. During this press conference, community roadmap, which will become a living document, will be unveiled and explained and the plans for constant updates will be revealed.

For the purpose of this short term strategy goals will likely center around information/education in relation to green jobs education/training using the outreach described above. This will span four to six months with longer term goals coming into play at that time. Longer term goals will encompass the following:

- Twelve month Community Roadmap monitoring and updating information
- Coordination with both ACC, Workforce Solutions - Capital Area Workforce Board and Austin Energy on funding opportunities with dissemination of information to all steering committee stakeholders (see below)
- Application of a \$250,000 grant to DOE or the Texas Workforce Commission (recommendation and support through Clean Energy Council and Workforce Solutions - Capital Area Workforce Board) to develop a scalable and replicable model of educating a regional population on green job training and opportunities for employment; These funds are to be used for PR materials, outreach to regional constituencies and other necessary costs in relation to the initiative;
- Development of a coordination/monitoring process with the green job steering committee (noted below) on constant updates on green job training needs/opportunities so these can be publicized to industry via the subcommittee;
- A regional Chamber outreach effort using all regional Chambers as a vehicle for outreach to the various businesses encompassed by their memberships;
- Community leadership outreach via Leadership Austin channels using their alumni base as presentation spokes person for the community efforts;
- Further two to ten year mission/strategy/execution plan to be prepared prior to January 2010.

## Steering Committee

It is the recommendation of this task force that a permanent steering committee be formed to monitor and provide oversight in regards to opportunities, training and education for green jobs in Central Texas, paying specific attention to skills required by industry. After extensive discussions with regional stakeholders it was decided the Texas Foundation for Innovative Communities would utilize their regional business council as a permanent steering committee for these green job opportunities and information. With regional workforce oversight the Workforce Solutions - Capital Area Workforce Board, will function in a collaborative role providing coordination to this group on activities and initiatives. Currently the TFIC has memoranda of understanding in place with Workforce Solutions - Capital Area Workforce Board and the Austin Chamber in relation to their goals surrounding the development and ongoing collaboration with their Business Council.

With the recent addition of Board Members from the San Antonio region, The Texas Foundation for Innovative Communities has a scope larger than just the five county Austin region making it well positioned to expand this initiative.

Workforce Solutions – Capital Area Workforce Board recently commissioned an employer survey in partnership with the Texas Foundation for Innovative Communities which utilized Angelou Economics to better understand specific demand for clean energy and energy efficiency occupations. The survey was designed to analyze which occupations are most important to companies today and anticipated for the future.

This targeted online survey, undertaken by 119 total respondents that fall both within the Renewable Energy and the Energy Efficiency subsectors. The results of this effort provide information related to the following criteria which will serve as an excellent beginning to guiding regional activities in relation to education and training for green jobs. :

- The right mix of short and long-term job training/certification programs;
- More efficient use of financial and educational resources; and
- A Central Texas workforce system that is able to meet current and emerging hiring and training needs.

The goal for this steering committee is that their formation, strategy and activities will be outlined by September 2009 and findings and recommendations provided through the proscribed process above constantly to the PR subcommittee for regional dissemination.