The California Green Collar Jobs Council's

Green Workforce Master Plan

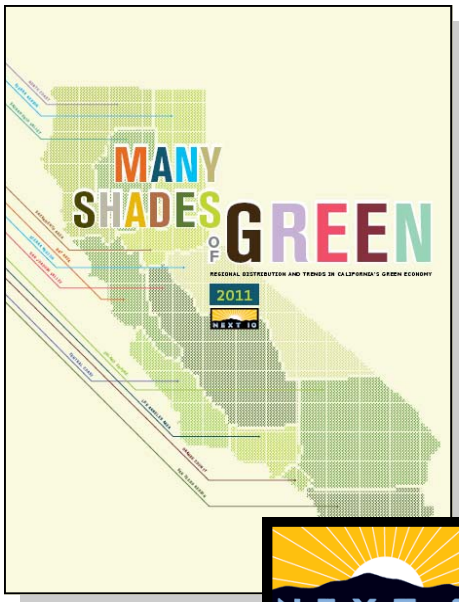
May 2011

California WORKFORCE INVESTMENT BOARD

California's Green Workforce Master Plan
Introduction

California's Green Workforce Master Plan sets forth recommendations that will guide the future work of the Green Collar Jobs Council (Council). The recommendations contained in this document have been influenced by the deliberations that have occurred at Council meetings over the preceding two years, analysis of data associated with the green economy, lessons learned through the Clean Energy Workforce Training Projects, the Regional Industry Clusters of Opportunity projects, the State Energy Sector Partnership grant, and the continuous analysis of California's climate policies and their economic and workforce implications. California's Green Workforce Master Plan is not intended to serve as a comprehensive account of the many issues facing the green economy, rather it is meant to capture the major factors influencing the green economy and the strategy that has been used by the California Workforce Investment Board (State Board) and the Council to address the needs of this growing sector. We acknowledge that California's green economy is in a constant state of change, and we know that the driving forces of this change are California's environmental and energy policies, technological innovation, and the public demand for a sustainable future.

For the purposes of this discourse we recognize the great work of Next 10 and their "Many Shades of Green" report. This report has been a guiding resource for the Council as it deliberated on the investments and policies that impact workforce development.



The individual members of the Green Collar Jobs Council, comprised of the workforce, education and energy agencies, as well as private businesses and labor have been the most critical and influential resource in the successful development and implementation of California's green workforce strategy. As experts in their respective fields the diverse members of the Council have each provided unique insight and recommendations as the needs of the segments of the green economy were examined.

California's Green Workforce Master Plan
The Driving Factors

Green economic growth is currently being driven by three factors; state and federal policy, technological advancements, and market demand. California's expanding green economy is attracting business investment, creating jobs and producing a more sustainable and energy-independent future for the Golden State. Driving this new wave of innovation are the most ambitious environmental policies in the nation, business decisions that recognize sustainability as a way to improve the bottom line and generate return on investment, and the strong desire voiced by Californians that their state lead the way reducing greenhouse gas emissions.

As a global leader in these three areas California is uniquely poised to capitalize on green innovation. It has a portfolio of cutting edge policies (e.g., regulations and incentives), a long tradition of innovation in the private sector, and growing market demand from its citizens and businesses for products and services that are designed to reduce greenhouse gas emissions and provide energy independence.

Venture Capital

- 60% invested in North America came to California
- About 2,700 direct jobs in clean tech are create for every $100 million in venture investment, or about $37,000 per job on average
- Since the enactment of AB 32 four years ago, clean tech companies in California have attracted hundreds of millions of dollars in venture financing
- Energy efficiency firms raised $1 billion in 2009 and are set to become the second largest segment of venture capital investment in 2010
- In 2007 nearly $1.8 billion were invested in California clean tech companies—almost a 50 percent increase over the year before
- While 2009 was a year of depressed investment, California still let the nation with $2.1 billion in clean tech venture capital investments

California's Green Workforce Master Plan
California's Green Economic Outlook

With the downturn in the United States economy and a slow recovery projected by many, the continued growth of many sectors of the green economy holds even more promise. As a result the need for green workforce training programs that are relevant to business and that lead workers into high paying jobs, has become even greater.

In order to fully capitalize on the opportunities of the diverse and growing green economy, the transformation that is occurring within California's greater economy must first be understood. Globally, environmental sustainability has become the driving force for innovation and economic growth. This influence is now being reflected in governmental initiatives and policies around the world. A host of federal, state, and local programs that are providing opportunities for businesses and consumers to transition to environmentally sustainable practices are becoming common place. Incentives for whole building retrofits, solar installation and manufacturing, water efficiency, alternative fuel vehicles, and renewable generation. The California Energy Commission, the California Public Utilities Commission, and the Environmental Protection Agency have released millions of dollars in incentives for such green programs. *Energy Upgrade California* is a $33 million program that will incentivize participating property owners to achieve an average of 20% reduction in energy consumption in their homes. The Solar Hot Water and Efficiency Act of 2007, provides $250 million in incentives for solar hot water heaters, with the goal of installing 200,000 such systems in California by 2017. These are just a few examples of the state level investment being made in this industry, and there are many more, the State Board has begun to compile information on these programs in its "Business Services Resources Catalog".

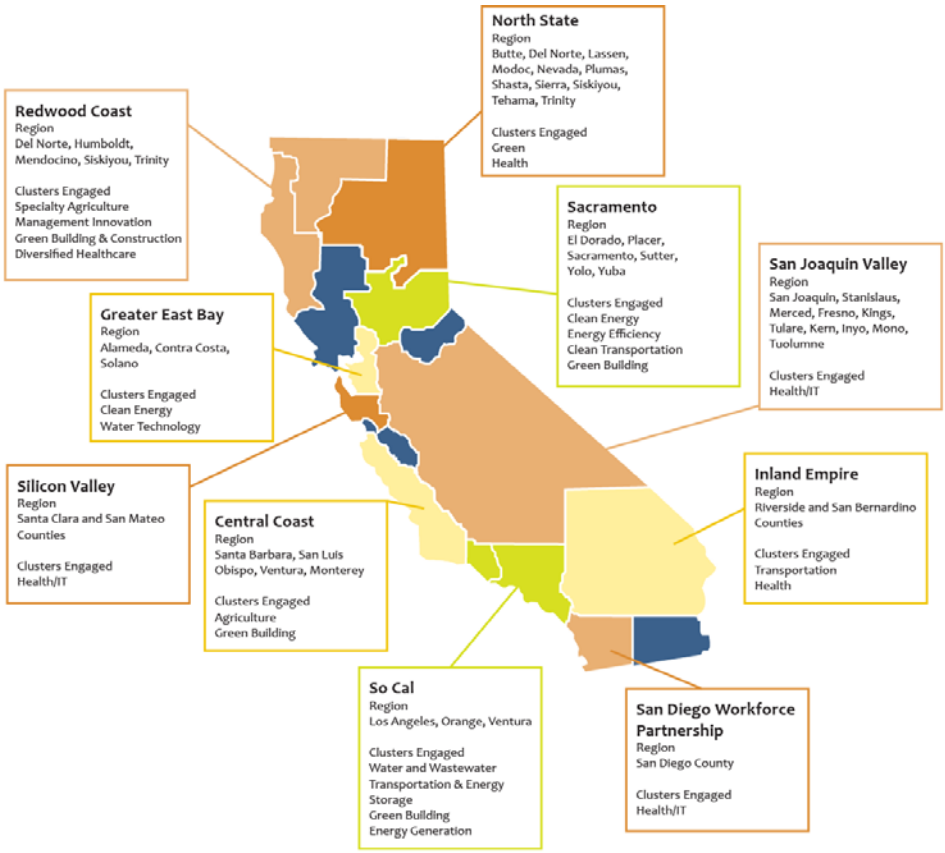
Unlike some recent innovation-led economic surges, the green economy is distributed relatively evenly throughout the state. While all areas of the state have some green activity and investment the technologies and types of investment are as varied as the topography found within our borders. It is not about a handful of new industries struggling in underdeveloped markets. Instead, it is about the potential of new technologies combined with innovative public policy and strategic investment to stimulate the growth of new markets for environmentally sound products and services while also reinvigorating slowing markets through the widening application of new technologies across the entire economy.

In San Diego County and Imperial counties new applied research is transforming the region into one of the premier hubs of biofuels research and commercialization. In the Mojave Desert construction on utility scale solar projects capable of delivering 4,000 megawatts of power

will soon break ground, creating thousands of construction jobs. In the Bay Area and Los Angeles advanced transportation technologies are creating manufacturing jobs and in some cases putting laid-off autoworkers back on the production line. In the Central Valley solar electric installations are flourishing, helping California to rank as the national leader of solar capacity in 2009, with four times as much as the next leading state.

New discoveries and importantly new demand for green technologies are fueling the expansion of business activities across the entire economy. As green products and practices permeate the economy, the discussion is no longer about the emergence of a new industry; instead it is about the transformation of regional economies and the economy as a whole. From an economic and workforce development standpoint, this bears significant meaning. New technologies require new skills in the workforce, the economy-wide application of these technologies translates into job growth. At the same time, new technologies in traditional industries require existing workers to upgrade their skills. From a global competitiveness standpoint, many other countries have more developed green markets and have benefited from robust public investment in research and development. As California continues to move forward in meeting its energy and environmental goals and as local demand for greener products grows, policymakers and business representatives working together can help ensure that California companies benefit from this huge economic opportunity.

Regional Industry Clusters of Opportunity Grant Map



The Green Collar Jobs Council's workforce and economic development strategy is rooted in the tenets of sector strategies.

- ***Targets a specific industry or industry cluster****; develops data driven, finely tuned expertise of the interdependence between business competitiveness and the workforce needs of the targeted industries.*

- ***Builds regionally based partnerships*** *of employers, training providers, community organizations, organized labor, and other key stakeholders around specific industries.*

- ***Addresses the workforce needs of employers*** *and the training and employment needs to move workers into high road career paths.*

- ***Bolsters regional economic competitiveness*** *by aligning education, economic, and workforce development planning and leveraging of resources.*

- ***Promotes systematic change*** *that supports innovation and achieves ongoing benefits for industries, workers, and communities.*

These principles were applied under the Council's *California Green Workforce Initiative*, which utilizes multiple funding streams, is targeted regionally, and that focuses on connecting with businesses to design and implement industry relevant training that will move low wage workers into high paying jobs. It was through this process that the Council arrived at several key conclusions and formed their recommendations for the coming years.

Technological advancements are a key driver to the green economy. These advancements are directly connected to policies and market demands, for this reason a regional data driven approach is required to ensure training programs are designed and maintained that support emerging industry clusters, environmental policy objectives, and position regional collaborations to train workers for "high-road" jobs.

Public policy and investment is a key driver to the green economy. In a recent study conducted by the UC Berkeley, Center for Labor Research and Education Institute of Industrial Relations, it was found that in response to recent government funding there are many entry-level energy efficiency training programs; however, very few in the area of intermediate and incumbent worker training. Historically, these type of training programs result from the successful engagement of industry and labor unions. In response a data driven analytical framework; such as in the Regional Industry Clusters of Opportunity, is required to identify regional industry cluster growth trends and then engage those cluster employers and unions in support of California's policies to reduce its carbon footprint.

The green economy holds an additional value proposition in the business and employment benefits it may produce for Californians. For this value proposition to materialize it is incumbent that the education, workforce, and economic development systems transform themselves, in much the same way business will need to transform to remain competitive by leveraging and coordinating its programs and services in a strategic manner

Clean Energy Workforce Training Program

This collaborative effort combined funds from the Recovery Act from the State Energy Program, WIA Governor's Discretionary 15%, Assembly Bill 118 Alternative and Renewable Fuel and Vehicle Technology Program plus public-private partnership matching funds amounting to a total of $71 million.

Regional Industry Clusters of Opportunity

Ten Grants were funded by nearly $3 million of combined funds from the Recovery Act from the WIA Governor's Discretionary 15% and AB 118 Alternative and Renewable Fuel and Vehicle Technology Program. These grants support 10 regional initiatives that cover 26 counties and have engaged 450 businesses.

The State Energy Sector Partnership

The Council received a $6 million grant from the U.S. Department of Labor to fund training for green jobs to be administered by 6 regional State Energy Sector Partnerships. The Council approach is leverage existing regional efforts seeded by the CEWTP and incorporating the RICO methodology.

California's Green Workforce Master Plan Recommendations

The Green Collar Jobs Council's charge requires that it build upon its initial promising successes and provide leadership to ensure that California optimizes its economic and workforce development resources.

In order to fulfill this charge the Council recommends the following:

1. Industry Sector Strategy

Continue to use sector strategies as the framework for a statewide workforce development plan. Assembly Bill 3018, the Green Collar Jobs Act, was passed and signed into law by Governor Schwarzenegger in September of 2008. In doing so, the Governor and the legislature established the Green Collar Jobs Council and mandated the use of sector strategies as the ongoing approach to developing a highly skilled and well-trained workforce in support of California's green businesses and economy. The Council will continue this work and should expand on the existing state level partnership by reaching out to new agencies at the federal level, in order to develop a more comprehensive sector strategy. The Council will continue to serve as the forum for interagency collaboration in the green economy.

2. Utilize Existing or Form New Regionally Focused Green Core Sector Networks

Sustain linkages to regional collaborations (e.g., Regional Industry Clusters of Opportunity and State Energy Sector Partnership regional teams) that are focusing on the core green economy. These linkages can serve as a network of multi-sector representatives that can be utilized to inform and support policy development, investment strategies, environmental policy implementation, and outreach strategies. Moreover, these networks may be utilized to gather regional information on the changes in the green economy and implement state level strategies. The Council should also look to develop network linkages on a national level.

3. Incentivize Regional Economic Development Strategies

The State Board's Regional Industry Cluster of Opportunity, which was launched through the Council's *California Green Workforce Initiative*, as well as Business Transportation and Housing Regional Economic Recovery Plans, Governor's Office of Economic Development's I-Hub designa-

tion, and Strategic Investment Growth Council funding priorities, presents the opportunity to shift the state's approach to an economic development strategy that reflects California's diverse regional economies. The Council should link these regional planning efforts through incentives and technical assistance.

4. Expand Economic Development Activities

The Council should market California's diverse economy and raise awareness of its many business incentives and resources. The Council should collaborate with the Governor's Office of Economic Development to identify the needs of the regional industry cluster employers and to then inform the necessary policy makers to ensure the state is responsive to the current needs of businesses. This may lead to identifying funding and program gaps that could assist businesses to accelerate the process of "development to deployment." It is especially challenging for smaller businesses to get financing under the current economic conditions.

5. Create a Forum for Policy Alignment

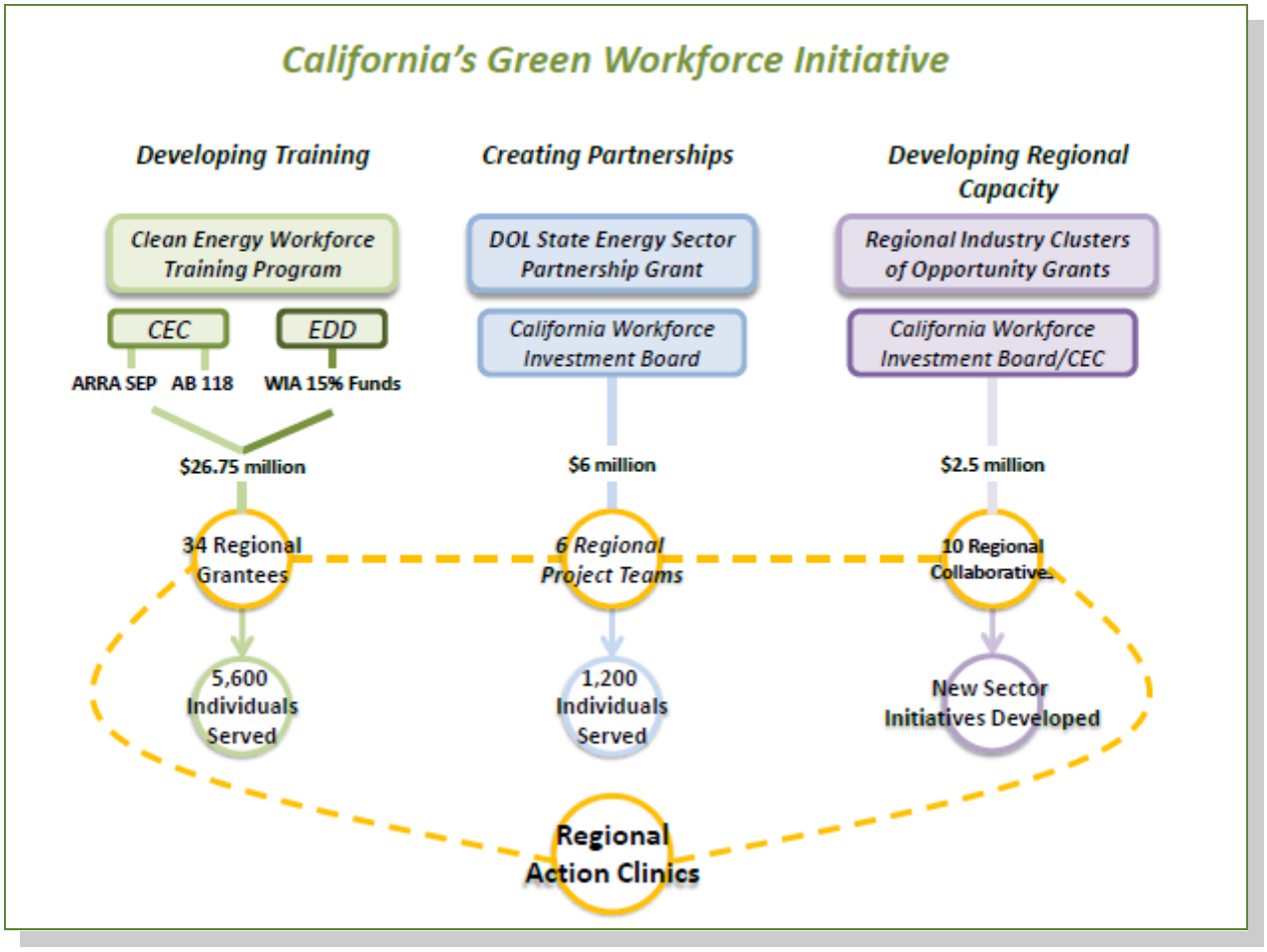
The Council should seek to align policy at the state and regional level to help California's green workers and businesses thrive. The Council should also link to the California Clean Energy Future initiative to ensure that the state's energy and environmental regulators are considering the workforce impacts of new policy. The Council should continue to consider and discuss legislation that has workforce and economic impacts on the green economy.

6. Expand Upon Successful Education and Training Programs

The Council should build upon leveraged investment strategies and bring about new state agency investment partners; such as the existing funding mechanisms utilized by the California Energy Commission, Employment Development Department, State Board, and Labor and Workforce Development Agency and new funding models that are yet to be identified. This entails identifying, tracking, and cataloging green job/career curriculum and industry standards that have been developed by successful training programs (apprenticeships training programs, labor unions, Clean Energy Workforce Training Program, Adult Education, Utility Centers, etc.). In addition, the Council should also continue to identify new sources of funding and encourage current and new partner agencies to invest in workforce development.

7. Evaluation

The Council must work with the Governor's Office to identify the resources and necessary metrics to evaluate existing workforce and economic development investments. This step is necessary to ensure successful initiatives and programs are sustained. Conversely, when efforts are not yielding the intended outcomes program course corrections should be developed.



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