GREEN VALLEY INITIATIVE

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## GVI ACCOMPLISHMENTS

As a project initially launched by the Green Institute for Village Empowerment, the Green Valley Initiative is making great strides. The mission: to create jobs, greater opportunities and a higher quality of life for the region.

**Support**
More than 500 key leaders from throughout Riverside and San Bernardino counties are involved in the initiative, representing county and city government, water and utility agencies, business organizations, colleges, universities and school districts, environmental groups and the community-at-large.

Key leaders in California have praised GVI, identified in late 2007 by the Washington Post as one of the key green movements in the nation. Governor Arnold Schwarzenegger, State Resources Secretary Mike Chrisman, Department of Conservation Director Bridget Luther and Business, Housing and Transportation Secretary Dale Bonner have supported the initiative.

Both counties and a majority of the region's cities and public organizations have adopted resolutions in support of GVI and its mission, including:

- County of Riverside
- County of San Bernardino
- Western Riverside COG
- SANBAG
- CVAG
- South Coast AQMD
- City of Adelanto
- City of Apple Valley
- City of Banning
- City of Beaumont
- City of Barstow
- City of Big Bear Lake
- City of Calimesa
- City of Canyon Lake
- City of Cathedral City
- City of Chino
- City of Chino Hills
- City of Coachella
- City of Corona
- City of Desert Hot Springs
- City of Fontana
- City of Grand Terrace
- City of Indian Wells
- City of La Quinta
- City of Loma Linda
- City of Montclair
- City of Norco
- City of Ontario
- City of Perris
- City of Rancho Cucamonga
- City of Redlands
- City of Rialto
- City of Riverside
- City of San Bernardino
- City of San Jacinto
- City of Upland
- City of Wildomar
- City of Yucaipa
- City of Yucca Valley
- Cucamonga Valley WD
- Eastern Muni WD
- Western Muni WD
- March AFB JPA
- Frontier Project
- Cherry Valley WD
- Community Action Partnership of SB County

Other cities and organizations are in the process of preparing resolutions for a vote soon.

GREEN VALLEY INITIATIVE

The Green Valley Initiative, (GVI), has received direct financial sponsorship from:

- The Bank of America Foundation
- California Department of Conservation
- Riverside County Economic Development Agency
- City of Riverside
- City of Rancho Cucamonga
- Morgan Family Foundation
- Sempra/Gas Company
- Southern California Edison
- South Coast AQMD
- HMC Architects
- SE Corporation
- Other public and private entities

GVI has also received in-kind contributions totaling thousands of dollars from companies, individuals, agencies and associations that have provided information, assistance and meeting locations for events. Partnerships have been formed with the Economic Development agencies of both counties and area cities as well as Inland Empire Economic Partnership, area chambers of commerce and businesses.

**Grants and studies**

*State grants:* GVI has developed grant applications for more than $1.25 million, including two from the state of California for workforce development and recycling.

*Curriculum:* It has partnered with educational institutions in a survey of environmental and sustainability related programs at 27 universities and colleges in the region, and is coordinating with CREEC to provide educational leaders with information about environmental curriculum changes.

*Comprehensive Economic Development Strategy:* A yearlong study, commissioned by GVI through the University of Southern California Center for Economic Development, was approved Oct. 8, 2008 by the U.S. Department of Commerce Economic Development Administration, qualifying the region for federal funding for projects that promote jobs in clean and green technologies.

Updated: 02.19.09

SBK-Brooks Investment Corp.

**Municipal Finance** **July 14, 2009**

## State of California Contract Assessment Loan Program

Local governments are viewing Contract Assessment financing as an innovative tool to help meet greenhouse gas reduction. Since building operations accounts for 40% of total U.S. energy use, the efficiency and offset potential in existing buildings is enormous. Contract Assessment financing makes improvements more attractive to the property owner by eliminating the high down payment, and the quantified results will help local governments meet their climate action goals.

Several pioneering jurisdictions are leading the way. The cities of Berkeley and Palm Desert and the Counties of Sonoma and Boulder have successfully launched and implemented financing districts, and are drawing interest nationwide and accolades on a local level. . The State of Illinois just recently passed their own Contract Assessment finance law and SBK Brooks served as a technical advisor in writing the legislation.

Under this model, the high, and often prohibitive, upfront costs to install renewable energy systems or make energy efficiency improvements are eliminated. The municipality issues bonds to fund these improvements, provides low cost financing that is to be repaid by the homeowner or commercial property owner through a special assessment on his or her property.

Another benefit of tying the costs to the property is that it alleviates the concern of some people that might not invest in a project because they might not be living in the same location and therefore will not capture the full benefits of the investment. Municipal financing will provide benefits immediately and ongoing to whomever is occupying the property.

### FINANCING MODEL

SBK has developed a financial model that allows governmental entities to fund a contract assessment loan program by leveraging Energy Efficiency Block Grants. By utilizing the Block Grant as a one year debt service reserve fund you are able to leverage the Grant up to approximately 12x.

Example - $7,500,000 State of California Energy Efficiency Block Grant from Department of Energy. This portion of the grant is eligible to be applied to a loan program for residential and commercial property owners for energy efficiency/alternative energy retrofits.

- $7,500,000 of Grant Proceeds for Contract Assessment Loan Program
- Structure Grant as one year debt service reserve fund for Contract Assessment Bond Issue.
- Issue up to $101,000,000 of bonds to fund program leveraging the grant through the debt service reserve fund.
- Deposit up to approximately $99,000,000 into Contract Assessment Loan Fund depending on actual transaction costs and program participation

## STATE WIDE MODEL

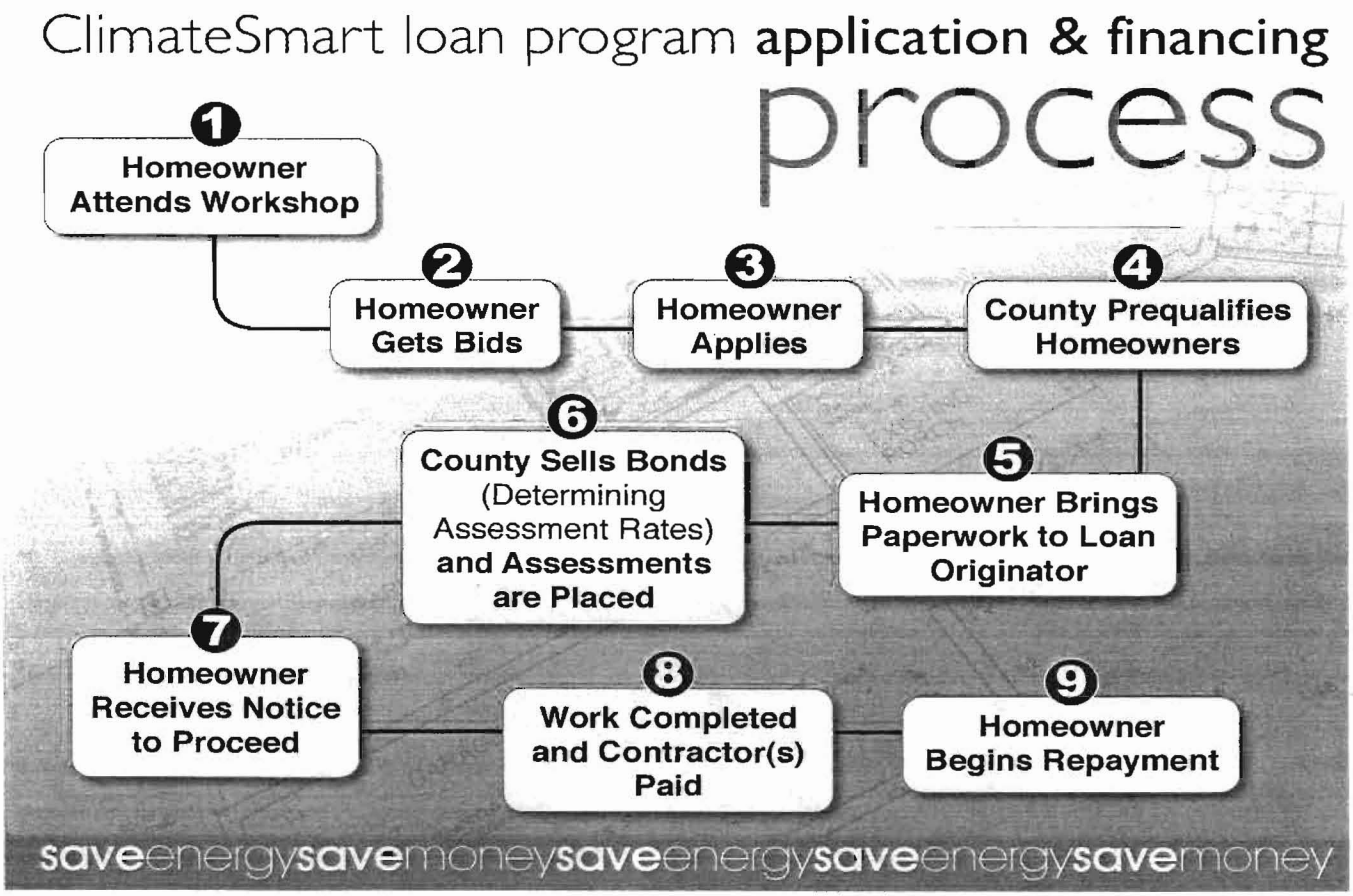
The State can offer pooled financings for contract assessment loan programs in the smaller and rural counties/cities in California. The key credit components are:

- The creation of the one-year max annual debt service reserve fund. We recommend this reserve be funded by the Energy Efficiency Block Grant. Either the State's portion of the Grant can be utilized, or a community can contribute up to 20% of their direct Grant proceeds to participate in the State pool.

- The local communities will be responsible for enforcing the default provisions of each contract assessment agreement. As a result each participating County/City must agree to replenish the Debt Service Reserve Fund if drawn down due to a default by a commercial or residential property owner in their County/City.

- The State will issue these bonds through a designated Authority and they will carry a moral obligation of the State of California.
- 
- The commercial property owner pool must have a diverse pool of borrowers to avoid concentration. Companies that carry a credit rating with S&P, Moody's or Fitch may be eligible for a financing based on their credit rating.

We highly recommend the Boulder County model for administering the program. Their loan process is outlined below.



## STATE OF CALIFORNIA CONTRACT ASSESSMENT LOAN PROGRAM

Issuer: California Alternative Energy and Advanced Transportation Financing Authority.

Program Administrator: California Energy Commission

Loan Originators: Local banks in participating communities.

Participating Counties/Cities: Program participation guidelines to be determined by Energy Commission.

Bond Security – Contract Assessment Agreements with real property owners of participating communities.

State Loan Funds Available: Up to $100 million for a statewide program assuming an allocation of $7.5 million from the Energy Commission to fund the debt service reserve fund.

Marketing Plan – SBK recommends a multi tier approach to market the loan program to residential and commercial property owners. Utilizing local governmental entities, non-profits, and local commercial banks the State can quickly reach potential borrowers within participating communities. The local banks can play a key role in the rollout of the loan program by internal marketing to their existing customers. If for example each county had two banks as loan originators and these two banks held 20% or more of the county household deposits, then the program would have direct marketing access to a significant target audience through the bank branches. SBK has other ideas on marketing the program effectively to ensure success.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# The Energy Efficiency and Conservation Block Grant Program

The Energy Efficiency and Conservation Block Grant Program (EECBG) provides grants to U.S. local governments, states, territories, and Indian tribes, to fund projects that reduce energy use and fossil fuel emissions, and that improve energy efficiency. The EECBG Program is new in 2009; it was funded for the first time by the American Recovery and Reinvestment Act of 2009.

The EECBG Program represents a Presidential priority to deploy the cheapest, cleanest, and fastest energy sources. EECBG was authorized in Title V, Subtitle E of the Energy Independence and Security Act (EISA), signed into law on December 19, 2007. It is modeled after the Community Development Block Grant Program administered by the Department of Housing and Urban Development (HUD).

## Program Specifics

### Purpose

Section 542 of Title V, Subtitle E of EISA (PL 110-140) describes the Program purpose as the following:

(b) PURPOSE - The purpose of the program shall be to assist eligible entities in implementing strategies –

1. to reduce fossil fuel emissions created as a result of activities within the jurisdictions of eligible entities in a manner that is environmentally sustainable; and to the maximum extent practicable, maximizes benefits for local and regional communities; to reduce the total energy use of the eligible entities; and
2. to improve energy efficiency in the transportation sector; the building sector; and other appropriate sectors.

### Available Funds

Congress appropriated $3.2 billion for the EECBG Program, most of which (over $2.7 billion) will be distributed through formula grants. The balance includes nearly $455 million for competitive grants, which will be awarded through a separate Funding Opportunity Announcement (FOA) coming soon.

Allocations to entities eligible for direct formula grants from the DOE are based on the following funding amounts:

- $1,863,880,000 for eligible cities and counties
- $767,480,000 for states, U.S. territories, and the District of Columbia
- $54,820,000 for eligible Indian tribes

In addition, each state must pass not less than 60% of its allocation on to cities and counties within the state that are ineligible for direct formula grants from the DOE. Each state decides how to award these sub-grants.

*The views expressed in this report accurately reflect our personal views and no compensation of any kind has been received by us that is directly or indirectly related to the specific recommendations or views contained in this report. Eric Small*

## Allocation Information

### Grant Formula

The population data used in Program formulas are from the 2007 U.S. Census Population. For more detailed information on the formula, see the EECBG Formula Methodology as published in the Federal Register April 15, 2009.

### State Formula

The formula for determining allocations to states includes three factors that are considered with equal weight: (1) the total population of the state; (2) the population of the state after subtracting the populations of all cities and counties eligible for direct formula grants from DOE in that state; and (3) the total energy consumption in the state, less consumption in the industrial sector.

### City/County Formula

The formula for determining allocations to cities and counties is based on two weighted factors: resident and daytime (commuter) population. The resident population factor receives a weight of approximately 70%, and the daytime population factor receives a weight of approximately 30%. This accounts for the energy use of these populations.

### Tribal Formula

The formula for Tribal governments is based on two weighted factors: tribal population and the climatic conditions in each tribe's state, derived from heating and cooling degree days. The tribal population factor receives a weight of 75% and the tribal climate factor receives a weight 25%.

**Disbursement Amount by State (including entities located within State boundaries)**

| State | Funding | State | Funding | State | Funding |
|---|---|---|---|---|---|
| Alabama | $32 million | Kentucky | $25 million | North Dakota | $13 million |
| Alaska | $14 million | Louisiana | $34 million | Ohio | $84 million |
| Arizona | $64 million | Maine | $11 million | Oklahoma | $27 million |
| Arkansas | $20 million | Maryland | $52 million | Oregon | $34 million |
| California | $352 million | Massachusetts | $42 million | Pennsylvania | $103 million |
| Colorado | $43 million | Michigan | $77 million | Rhode Island | $34 million |
| Connecticut | $25 million | Minnesota | $37 million | South Carolina | $15 million |
| Delaware | $16 million | Mississippi | $17 million | South Dakota | $31 million |
| District of Columbia | $10 million | Missouri | $44 million | Tennessee | $13 million |
| Florida | $169 million | Montana | $14 million | Texas | $42 million |
| Georgia | $67 million | Nebraska | $19 million | Utah | $209 million |
| Hawaii | $15 million | Nevada | $32 million | Vermont | $28 million |
| Idaho | $17 million | New Hampshire | $13 million | Virginia | $10 million |
| Illinois | $112 million | New Jersey | $75 million | Washington | $61 million |
| Indiana | $42 million | New Mexico | $21 million | West Virginia | $56 million |
| Iowa | $21 million | New York | $175 million | Wisconsin | $14 million |
| Kansas | $24 million | North Carolina | $58 million | Wyoming | $37 million |

## Use of Funds

### General Use of Funds

These funds are to assist State, local, territorial and Tribal governments in implementing strategies to reduce fossil fuel emissions, total energy use, and improve energy efficiency in all sectors.

**Specific Eligible Activities for Use of Funds**

Funds can be used community wide, not only for government owned facilities and infrastructure. A list of eligible activities for use of program funds is provided in Section 544, Title V, *Subtitle E of the Energy Independence and Security Act (EISA)*. Additional details on eligible activities are in the *Funding Opportunity Announcement*. The following activities are eligible:

- Development of an Energy Efficiency and Conservation Strategy and Technical Consultant Services to assist in the development of such a strategy.
- Residential and Commercial Building Energy Audits.
- Financial Incentive Programs and Mechanisms for energy efficiency improvements such as energy savings performance contracting, on-bill financing, and revolving loan funds.
- Grants to nonprofit organizations and governmental agencies for the purpose of performing Energy Efficiency Retrofits.
- Energy Efficiency and Conservation Programs for Buildings and Facilities.
- Development and Implementation of Transportation Programs to conserve energy.
- Building Codes and Inspections to promote building energy efficiency.
- Energy Distribution Technologies that significantly increase energy efficiency, including distributed resources, combined heat and power, and district heating and cooling systems.
- Material Conservation Programs including source reduction, recycling, and recycled content procurement programs that lead to increases in energy efficiency.
- Reduction and Capture of Methane and Greenhouse Gases generated by landfills or similar waste-related sources.
- Energy efficient Traffic Signals and Street Lighting.
- Renewable Energy Technologies on Government Buildings.
- Any Other Appropriate Activity that meets the purposes of the program and is approved by DOE.

**Prioritization of Activities: Planning for the Use of Funds**

Energy efficiency, conservation, and renewable energy programs and projects are building blocks for increased economic vitality, energy security, and environmental quality. EECBG program funds will have maximum impact if invested in ways that create and/or retain jobs and stimulate the economy in the short term while laying the foundation for a long-term and sustainable clean energy economy. DOE encourages grantees to prioritize programs and projects that:

- Leverage other public and private resources.
- Enhance workforce development.
- Persist beyond the funding period.
- Promote energy market transformation such as revolving loans, low-cost loans, energy savings performance contracting, advanced building codes, building and home retrofit incentives and policies, and transportation programs and policies.

## SBK-Brooks Investment Corp's Energy Efficiency Block Grant Leverage Model

### Energy Efficiency Block Grant Leverage Model
### Example City/County/State, USA

**Assumptions :**

| | | |
|---|---|---|
| 1. | Bond Proceeds are spent on energy efficiency retrofits on municipal buildings and/or solar power installations on municipality's property. | |
| 2. | For every dollar spent, these projects generate revenue and/or energy savings of | 8.00% |
| 3. | Number of Years for Construction/Implementation of chosen projects: | 2 |
| 4. | Length of Bond Issue in Years | 20 |
| 5. | Assumed Interest Rate (Assumes 'AA' rating of Higher) | 4.00% |

**Energy Efficiency Block Grant leverage model**

| | | |
|---|---|---|
| Grant Funds | $ | 13,000,000 |
| Leverage factor | | 3.00 |
| Bond Issue Par Size | $ | 35,000,000 |
| Savings Per Year | $ | 2,800,000 |
| Annual Debt Service | | $2,575,361 |
| Debt Service Reserve | $ | 13,000,000 |
| Energy Block Grant Proceeds provides debt service for: | | ~ 5 years |

**Energy efficiency leverage provides budget savings.**

| Period | | Period Activity | |
|---|---|---|---|
| Year 1 | through Year 2 | Construction Period* | No Savings |
| Year 3 | through Year 5 | Annual Energy Savings of | $2,800,000 |
| | | Total General Fund Savings in current period* | $8,400,000 |
| Year 6 | through Year 20 | Net Annual Energy Savings after Debt Service | $224,639 |
| | | Total General Fund Savings in current period | $3,369,581 |
| **Total Approximate Energy Savings** | | **$8,400,000 + $3,369,581 = $ 11,769,581** | |

* Debt Service is paid from Grant Money during these periods.

### Additional Resources

| Resource | Location on the World Wide Web |
|---|---|
| State and Local Government Grant Allocations | http://www.eecbg.energy.gov/grantalloc.html |
| Tribal Grant Allocations | http://www.eecbg.energy.gov/TribeAlloc.html |
| EECBG Formula Methodology | http://www.eecbg.energy.gov/Downloads/EECBG%20Federal%20Register%20Notice%2004.15.09.pdf |
| Subtitle E of the Energy Independence and Security Act EISA) | http://www.eecbg.energy.gov/Downloads/Public%20Law%20110-140.pdf |
| Funding Opportunity Announcement | http://www.eecbg.energy.gov/Downloads/DE-FOA-0000013%20Amendment%20000001.pdf |


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GREEN VALLEY INITIATIVE

July 15, 2009

Dear Members of the California Energy Commission:

It is with great enthusiasm that we submit to you this proposal for your support of the Inland Empire's Integrated Regional Resource Conservation Program, (IRRCP), a regional and collaborative effort to create jobs in clean and green industries through the promotion of resource efficiency audits in Riverside and San Bernardino Counties.

The Green Valley Initiative is coordinating this effort in partnership with its constituent member organizations and agencies, including Riverside County, San Bernardino County, Southern California Edison, area councils of government and more than 40 cities and public agencies that have formally endorsed the job-creation efforts of the Green Valley Initiative.

IRRCP is the result of months of research and regional collaboration stemming from the Green Valley Initiative's Comprehensive Economic Development Plan, (CEDS), which outlines the Inland Empire's development assets, demographic needs and identifies strategies for fostering regional job growth and business development in the green technology sector.

Key goals of the project include: the generation of green jobs through the promotion of resource efficiency audits, retrofit projects, solar panel installations and other associated tasks, in addition to providing leveraged funding assistance through AB811 authorized loan programs and other resources. As you know, our region suffers from some of the highest unemployment and foreclosure rates in the nation. This program provides a much-needed boost to one of the most promising, but economically impacted regions in California.

The IRRCP will enhance quality of life by promoting regional energy efficiency within the Inland Empire, reducing the need to commute outside of the region for employment, curbing greenhouse gas emissions, and providing the funding resources necessary to jump-start this job and industry growth.

We believe the IRRCP can serve as a model for regional collaboration and a tool for implementing sustainable economic development in other parts of the state. We look forward to partnering with you in this effort.

Thank you for your consideration,

Ali Sahabi
Founding Chairman,
Green Valley Initiative

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GREEN VALLEY INITIATIVE

# EXECUTIVE SUMMARY

## INTEGRATED REGIONAL RESOURCE CONSERVATION PROGRAM

### *Program Summary.*

Green Valley Initiative (GVI) proposes to apply jointly with the State of California, and the various GVI member jurisdictions of the Inland Empire, for Energy Efficiency and Conservation Block Grant (EECBG) funds in order to stimulate the regional economy through job creation, energy independence and sustainable resource management.

Funding is sought for a comprehensive integrated regional resources conservation and energy efficiency program (IRRCP) to provide Inland Empire property owners with conservation evaluations, resource audits, cost-benefit analyses, and assistance prioritizing energy efficiency and resource management projects.

The initial phase includes both the audits and an initial set of demonstration projects from which an assessment metric will be used to identify successes an early phase of the IRRCP Program, and to define success through cost effective implementation and multiple benefit. Future funding requests for the regional program will be based on accurate project efficiency data, a "score card" of results from the demonstration projects and a sound basis for program expansion.

The potential regional program includes more than 559 million square feet of commercial, office, retail and industrial building spaces that can be made more energy and resource efficient, provide for the reduction in the use of valuable resources, and result in the Inland Empire becoming more competitive in the global marketplace.

**The proposal calls for State, County, and City contributions of Department of Energy's Energy Efficiency and Conservation Block Grant Program (EECBG) funds to establish a regional energy and resource conservation program that will generate thousands of local employment opportunities at an efficient cost. Moreover, the program is scalable and will be a highly effective means of generating jobs and promoting energy efficiency at all funding levels. Additional funding to fully implement this high jobs-per-dollar spent program will be sought from a combination of federal stimulus funds, charitable grants, local energy and conservation incentives, and private sources.**

### *Program Objectives.*

The goals of the Program are:

- To provide for the quick and efficient application of federal stimulus funds to catalytic job creation activities;
- To develop an energy efficiency and resource management audit and effectiveness assessment "score card" tool that will provide the basis for prioritization of grant funding

and assessment of overall project effectiveness to assure grant funds are applied to projects that achieve the highest benefit and to verify goals were achieved.

- To leverage private and public resources to deliver effective contract issuance and project management services for stimulus funds on a regional level;
- To help establish the region as a center of green technology implementation, expertise, manufacturing and commerce, with vast portions of its 430 million square feet of industrial space, and a comparable portion of its commercial, office and retail buildings, representing a targeted 326 million square feet (of the total of 559 million square feet) upgraded to optimize energy and resource efficiency;
- To create sustainable green technology jobs in the Inland Empire region; and
- To assist local governments to meet their carbon emission reduction targets as required under AB 32 and SB 375.

## *Unique Characteristics of the Project.*

The Program is unique in the following areas:

- It is regional in scope, encompassing two counties, more than 40 cities and other public agencies that have formally adopted resolutions in support of Green Valley Initiative and its mission.
- It targets one of the fastest-growing regions in the United States.
- It impacts a region suffering from some of the highest unemployment and foreclosure rates in the nation.

## *A National Model.*

IRRCP is based on three principles that can be replicated in regional projects throughout the nation:

- Regionalism
- Clean and Green Technologies
- Job growth that creates six times as many jobs per dollar as estimated by the State of California.

The program provides "More Bang for the Buck"

- Job creation standards that far exceed statewide standards;
- Improves AB 32 Compliance for regional businesses;
- Creates local construction and engineering- related jobs;
- Positive impacts on other regulatory agencies such as AQMD, Water Resources Control Board, etc.
- Economic Development Effect—Regional business are more competitive in world marketplace; improves value and efficiency of Inland Empire buildings

# Recommendations for Clean Energy Municipal Projects Financed under AB811 or Mello Roos

California Home Energy Retrofit Coordinating Committee

## Introduction

This set of recommendations describes three recommended "packages" of energy efficiency and related measures that can be offered as options to homeowners to help them meet the energy efficiency elements of an AB 811 or Mello Roos Finance District program. We recommend that the homeowner be required to implement one of the first two packages – the basic or the advanced package - to be eligible for financing, and prior to approving financing for renewable technologies, e.g. solar photovoltaics. Our reasons are explained further in the document.

The first two packages, or options, are an advanced and a basic package. The differences are the scope and cost. Ideally, both packages would be available to a homeowner from the inception of the program so as to give the homeowner the option of financing the level of improvements they desire at a cost they can afford. If the homeowner elects to finance the basic package, the measures prescribed in it will support future implementation of the advanced package of measures if the homeowner elects to undertake the advanced package in the future.

The advanced package includes a full home energy audit with comprehensive recommendations aimed at significantly improving energy efficiency, comfort and indoor air quality. The basic package achieves more modest improvements in energy efficiency through basic air sealing and insulation of the building shell, and is not designed to achieve as extensive improvements in comfort and indoor air quality as the advanced package. The advanced package is likely to cost more, although it may not, depending on conditions in the home.

The third package is a "Green" package and can be done together with either the basic or advanced package. The third package includes measures related to energy efficiency, like water efficiency that are not traditionally part of a home energy retrofit, but are nevertheless beneficial to the environment, can reduce greenhouse gas emissions, and may improve health. They are therefore deemed worthy of the homeowner's consideration. The measures proposed in the "Green" package would not currently be eligible for financing under AB811 or Mello Roos.

Finally, we have also included recommendations for HERs Rater and Contractor Qualifications and Quality Assurance (Section IV) and General Advice for Program Implementers (Section V).

## I. Package I – The Advanced Package (a.k.a. California Home Performance with Energy STAR)

### A. A HERs Phase II-compliant audit and rating (Whole House Home Energy Rating with test-in and test-out and combustion safety testing) shall be performed and a report written that includes a list of recommended cost-effective measures

- To set a baseline energy score/index that will serve as a performance metric.
- To describe baseline conditions/physical infrastructure present in the home at start of project.

*Note: Programs may want to increase the denominator in this equation now or in the future to lessen the total project financing available to provide an incentive for homeowners to retrofit their homes now instead of later, and to favor less expensive, more cost-effective investments in energy efficiency over more expensive, less cost-effective investments in solar or other technologies. However, the denominator should not be decreased, for all the same reasons stated above, unless energy costs increase substantially more than the 2-6% per year they have over the past 30 years.*

## II. Package II – The Basic Home Energy Retrofit Package

**A.** If this option is offered to property owners, the Advanced Home Energy Retrofit Package, as described in Section I above, shall also be offered to all property owners from the very start of program implementation.

**B.** Only the following list of measures shall be eligible for financing under The Basic Home Energy Retrofit Package. This package is also recommended to be required prior to approval of financing for renewables:

**1.** Each of the following measures must be performed (or already be done adequately based on verification by a HERS Rater) to be eligible for financing:

- Air Sealing
  - A blower door test shall be performed before and after air sealing which achieves a minimum 20% reduction in CFM @ 50 Pascals. It is recommended that reductions of greater than 20% be achieved, whenever possible, keeping in mind the California Community Services and Development (CSD) minimum ventilation standards that include number of occupants and house size.
  - Blower door Test-in and Test-out numbers must be recorded.
  - Air sealing must also be observable for verification, e.g. sealing all major penetrations and gaps in the attic, top plate, etc.
  - Weather-stripping of doors and windows shall be included.
  - Air sealing shall include repair of broken or unconnected ducts and minor sealing of major leakage areas at connections, e.g. plenum, boots and platform returns in garages. Performance of a duct blaster test is not required.
  - Major duct sealing or duct system replacement will not be performed - these can be performed only as part of the advanced package described in Section I above.
- Attic Insulation, but only after Air Sealing is completed as described above. Attic insulation must meet current Title 24 code. If code can't be met, then project must meet the requirements of the Advanced Home Performance Program.
- Insulate the Hot Water System, including hot water tank and accessible hot water pipes and first 5 feet of cold water pipes (if space permits it) from gas vents is adequate.
- Combustion Appliance Safety Testing shall meet Building Performance Institute (BPI), California Community Services and Development (CSD) or California Public Utility Commission's Low Income Energy Efficiency (LIEE) standards for combustion appliance safety checks.
- Installation of a combined carbon monoxide and smoke alarm.

B. All Raters shall be CEC-certified through a HERS provider in one of the following ways:

- California Whole House Home Energy Rater, or;
- Building Performance Contractor, trained by a California Energy Commission-approved building performance training program and certified by the Building Performance Institute (BPI)

C. All Contractors shall be trained and certified in one of the following ways:

- California Community Services and Development (CSD) or Utility weatherization training certification
- California Building Performance Contractor (CBPCA) prescriptive path contractor certification (coming Fall 2009)
- California Energy Commission HERS-II home performance contractor

D. All Contractors must possess a valid Class B license under the California Contractors State Licensing Board and either be BPI-accredited or gain BPI accreditation relevant to their area of expertise within 12 months of signing his/her first contract financed by the program.

E. There shall be a mandatory program orientation for all contractors at which all contractors shall sign a contractor performance agreement stipulating the training, certification, accreditation, work quality performance and quality assurance requirements for the rater/contractor.

F. Quality Assurance for work performed shall be accomplished as follows:

- Rater – 5% of all jobs shall be third party audited
- Contractor – 15% of all jobs shall be third party audited for quality assurance until contractor is BPI-accredited
- BPI-accredited contractors – 5% of all jobs shall be third party audited

## V. General Advice for Program Implementers:

Program Implementers should:

- Consider whether all available rebates/incentives are taken first, and the total amount financed adjusted accordingly.
- Have an exception review process for each of the above recommendations to allow for non-typical situations that may still merit funding/approval.
- Evaluate what actually occurs in homes using pre- and post-retrofit bills, and adjust these recommendations accordingly. Utilities could help gain approvals/provide incentives to get this data from homeowners. This can be accomplished by developing a sample of homes early in the program whose actual energy use is continually tracked throughout program implementation. This on-going feedback loop allows programs to make continuous improvements/mid-course corrections.
- Refer all duct/HVAC work to the Advanced Package/Home Performance Program pathway described in Section I. Strong efforts should be made to recruit HVAC contractors and all HVAC jobs performed into the program.

KCCD
KERN COMMUNITY COLLEGE DISTRICT

OFFICE OF EDUCATIONAL SERVICES
2100 CHESTER AVENUE
BAKERSFIELD, CA 93301-4099
(661) 336-5104

Order Instituting Informational Proceeding – American Recovery and Reinvestment Act
Docket Number 09-Oll-1

California Energy Commission
Public Testimony
07/15/09

John Means, Associate Chancellor of the Kern Community College District testifying on behalf of the District and our colleges, Bakersfield College, Cerro Coso Community College and Porterville College.

Over the past three years the Kern Community College District and its colleges have been working with its community and industry partners to address the State's energy needs. Cerro Coso Community College, sited in Eastern Kern County, has been working with solar photovoltaic (PV), solar thermal, geothermal and wind energy companies and industry associations to develop and deliver industry-recognized certificate courses that deliver a trained workforce in support of industry expansion plans. Our training programs have been very successful and today, many students are on a waiting list to attend the next sessions.

Governor Schwartzenegger and President Obama's focus on and support of renewable energy has and is expected to continue to result in expanded electricity generation plants along established and planned utility transmission lines along the eastern Sierras, delivering energy both north and south to high density population areas.

I am here today to suggest and urge the California Energy Commission to consider the following principles and project criteria in establishing and implementing the State Energy Plan (SEP) as well as other funding streams that may become available in the future.

The following principles are suggested to ensure that there is an equitable distribution of opportunity while building on existing transmission infrastructure:

1. Geographic equity informed by and based on renewable energy electricity expansion capacity and existing or planned infrastructure sites and corridors.

2. Balance geographic equity based on energy efficiency returns versus renewable electricity generation capacity and potential.

After reviewing the State Energy Plan application submitted by the CEC, earlier related CEC documents as well as the federal SEP program framework, it is my recommendation that the CEC consider the following project criteria in its implementation of the CA SEP program:

1. Prioritize utility scale renewable energy generation projects
   - (as well as energy efficiency and small distributed energy generation)
   - with a high return on investment (ROI) and
   - proven (existing) technology in the short term

   (For example: solar thermal or concentrating heat power / trough technologies; or others that may come on line as a result of concentrated research efforts now underway.)

   Why? Because
   - CA needs 25,000 MW to close the gap to the State's 33% x 2020 goal.
     i. Although projects delivering 2,800 MW were approved in 2008
     ii. In 2008 only 516 MW was added
   - Utility Scale projects ensure short-term progress to State's 33% renewable energy x 2020 goal

2. Prioritize projects sited in top 10-12 Competitive Renewable Energy Zones (CREZs). This approach will:
   - Maximize the State's renewable energy potential; and
   - Maximize the State's Return on Investment (ROI).

   For example:

   The Tehachapi/Owens Valley comprises 5 of the top 12 CREZs and accounts for half of all expected renewable energy development in CA.
   Currently, this area has the largest concentration of solar thermal plants in CA with seven 7 plants currently on-line. The Tehachapi/Owens Valley area has an additional 3000 MW of Wind Energy expected to be installed within the next 5 years (although that timing may now be stepped up) and has the potential for 22,000 MW of Solar PV/Thermal. In addition, Biomass is expected to double and geothermal is also expected to expand.

3. Prioritize projects with high Return on Investment (ROI)
   - Ensures quick hiring uptake
   - Ensures maximum contribution to meeting the State's renewable energy generation goals.

For example:

Renewable energy business and industry within the Tehachapi/Owens Valley area estimate the number of renewable energy technicians needed at 766 jobs within 2 years, 2985 jobs within 5 years and 7150 jobs within 10 years; based on current project plans on file with the CEC. These projections, however, do not include the thousands of expected construction jobs (estimated by RETI at 70-90,000 jobs) nor do they account for the infusion of ARRA funds or increased private capitalization.

4. Prioritize projects that build on existing or planned infrastructure (transmission lines). This approach will:
   - Ensure compatible land uses
   - Ensure retention of productive farming and agricultural land uses
   - Result in delivery to high consumption energy markets

Workforce development is a critical element necessary for achievement of State renewable energy goals. There are two tracks of workforce development that need investment in order to meet state goals and industry expansion plans. Energy auditing and building envelope efficiencies and operations are necessary to support energy conservation and energy efficiency efforts. I believe that this track will be addressed by a variety of public investments including the Energy Efficiency Block Grant as well as the Public Utility Training centers throughout the state.

The second track is left out of your consideration. Skills and competencies for electricity generation occupations such as power plant operators, solar PV and solar thermal installers, and wind technicians are the critical link for successful utility scale and distributed renewable energy generation.

It is for these reasons that I recommend criteria #

5. Preference projects that collaborate with workforce development projects
   - in areas of high renewable energy capacity, potential and planned projects.
   - Especially in areas with demonstrated jobs generation
   - Perhaps offer "bonus" points to applicants

   This approach will:
   - Ensure trained workforce is available during construction and at project completion
   - Ensure leverage of other ARRA and federal workforce development funds
   - Ties together state and federal funding streams
   - Benefits long-term capacity building throughout the state

6. Prioritize projects wherein pro-rata funds deliver pro rata generation of jobs.

It is my recommendation that the CEC ensure a pro-rata distribution of funds based on renewable energy capacity among applicants and partners with demonstrated employment opportunities for Californians, especially those areas hardest hit by recession layoffs in construction and other industries with transferrable skills to renewable energy industries.

7. Recommend threshold criteria including

   - Successful awardees include applications wherein all partner types including California Community Colleges within the top CREZs are active project partners.

   - Successful awardees would train to industry standards and to available jobs

   - Successful awardees would deliver industry-recognized certificates or degrees based on industry standards, skills and competencies.

   - Successful awardees would establish job projections based on industry and employer commitments.

Thank you for this opportunity to share our thoughts from the field. If there are questions, or comments, my contact information is below:

John Means
Associate Chancellor
Kern Community College District
2100 Chester Avenue
Bakersfield CA 93301

Phone: 661.336.5036

SOUTHERN CALIFORNIA
EDISON®
An EDISON INTERNATIONAL® Company

Lisa D. Cagnolatti
Vice President
Business Customer Division

July 7, 2009

Mr. Mark Dowling
Agency Administrator
San Bernardino County Economic Development Agency
215 North D Street, Suite 202
San Bernardino, CA 92415

Re: SCE Support for IRRCP Funding Proposal

Dear Mr. Dowling:

Our parent company, Edison International has fostered involvement of all of its companies in implementing its corporate value statement:

> "Edison has a strong heritage of leadership and values that have guided us throughout our history. Today, our vision is captured in the phrase *Leading the Way in Electricity*℠. Supporting this vision are our values of integrity, excellence, respect, continuous improvement and teamwork, which guide our work everyday.
>
> Our vision and values can be seen in our purchases of more renewable energy than any other utility nationwide, our national leadership in energy efficiency programs, and our exceptional service reliability. In addition, Edison is one of the most honored companies for workplace and supplier diversity, and has one of America's most generous work forces through the employee volunteerism and community support campaigns.
>
> Whether a customer service representative, a lineman, or a senior manager, we all have the power to make a positive difference in the lives of our customers, employees, and shareholders. Guided by our values, we intend to keep leading the way in electricity."

As a leader in energy efficient programs, we support energy conservation efforts, whether our own programs or those energy conservation programs advanced by others. One such program is the *Integrated Regional Resource Conservation Program* championed by the Green Valley Initiative, a project of Green Institute for Village Empowerment (GIVE). This program endeavors to make the business community aware of opportunities available for resource conservation, including as a major component, electrical energy conservation, as well as methods of providing financing options for such opportunities. The dual goals of the program are the creation of short-term and long-term jobs and the conservation of our resources. We share these important national goals.

8631 Rush Street
Rosemead, CA 91770

We are well acquainted with GIVE. In October, 2008, we entered into a cooperative statement regarding our mutual interests in energy conservation, energy efficiency, facilitating sustainable development and advancing environmental stewardship efforts. We are both committed to promotion of sustainable lifestyles, technologies, and development practices in the Inland Empire.

We, therefore, support this proposed program as we believe it will produce much needed jobs, while enabling businesses to make significant improvements in water, power, and waste management. Southern California Edison (SCE) administers an energy audit program in the region that can serve as a resource for the proposed integration of water, power, waste, and structural efficiencies of the region's industrial and commercial buildings. As proposed, the program would expand upon SCE's capacity to conduct energy audits, increasing the scope of services available to property owners, and enhancing the range of methods employed by the private sector to combat the production of harmful carbon emissions.

If you have any questions or wish to discuss this matter further, please contact Michael Bushey, Manager of Economic Business Services, at 714-934-0876.

Sincerely,

Lisa D. Cagnolatti

**RIVERSIDE COUNTY**
**Economic Development Agency**

July 14, 2009

To Whom It May Concern:

As Assistant Director of the County of Riverside Economic Development Agency, I have been involved in the Green Valley Initiative since (its inception in 2007), and have watched as the number of stakeholders involved has soared from the initial 100 to more than 500 people today.

This unprecedented economic development effort – a cooperative initiative to bring green jobs and industry to the region – has helped to bring a cohesive vision to our dual-county region. Working together, we are taking steps to focus our economic strength, our wealth of undeveloped land and appreciation for the environment into a push for a green economy built on sustainable technologies and practices.

A highlight of these efforts is Green Valley Initiative's proposed Integrated Regional Resource Conservation Program, (IRRCP), a project that would promote resource-efficiency audits, create jobs and promote the reduction of greenhouse gases throughout San Bernardino and Riverside counties. Through IRRCP, GVI and its partners will deliver resources and funding for workforce training, energy audits, retrofits and renewable energy modifications. The goal is to create jobs and help establish the Inland Empire as a regional demonstration project, targeting the region's 530 million square feet of commercial and industrial space.

We support this concept, and look forward to participating as a partner in the effort – a model for regional collaboration that could be implemented in other parts of the state as well.

Sincerely,

Sarah Mundy
Assistant Director
Riverside County Economic Development Agency

U:\Sarah\letter.support1.IRRCP.071409.doc

July 14, 2009

To Whom It May Concern:

As the Administrator for the San Bernardino County Economic Development Agency, I have been involved in the Green Valley Initiative and have watched as the number of stakeholders involved has soared from the initial 100 to more than 500 people today.

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Sincerely,

Mark Dowling, EDA Administrator
San Bernardino County

July 14, 2009

To Whom It May Concern:

As A board member of the Endangered Habitats League and The Riverside Land Conservancy, I have been involved in the Green Valley Initiative since its inception in 2007, and have watched as the number of stakeholders involved has soared from the initial 100 to more than 500 people today.

This unprecedented economic development effort – a cooperative initiative to bring green jobs and industry to the region – has helped to bring a cohesive vision to our dual-county region. Working together, we are taking steps to focus our economic strength, our wealth of undeveloped land and appreciation for the environment into a push for a green economy built on sustainable technologies and practices.

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We support this concept, and look forward to participating as a partner in the effort – a model for regional collaboration that could be implemented in other parts of the state as well.

As a recipient of an award for conservation from Governor Schwarzenegger last year I am aware of his support for our inland area and hope that with funding we can continue to be an example of wise stewardship of our environment

Sincerely,

Jane Block

Jane Block
Board member
Endangered Habitats League
Riverside Land Conservancy

**Andy Tsu**

**From:** Dan Silver [dsilverla@me.com]
**Sent:** Wednesday, July 15, 2009 11:38 AM
**To:** Andy Tsu
**Cc:** Jane Block
**Subject:** Fwd: Green Valley Initiative's proposed Integrated Regional Resource Conservation Program

**From:** Dan Silver <dsilverla@me.com>
**Date:** July 15, 2009 11:36:44 AM PDT
**To:** "dhusted@sdrpr.com" <dhusted@sdrpr.com>
**Subject: Green Valley Initiative's proposed Integrated Regional Resource Conservation Program**

July 14, 2009

To Whom It May Concern:

As Executive Director of the Endangered Habitats League, I have been involved in the Green Valley Initiative since itsinception in 2007 and have watched as the number of stakeholders involved has soared from the initial 100 to more than 500 people today.

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Sincerely,

Dan Silver
Executive Director

Endangered Habitats League
8424 Santa Monica Blvd Suite A 592
Los Angeles CA 90069

213-804-2750
dsilverla@me.com

UC RIVERSIDE UNIVERSITY OF CALIFORNIA

**Public Policy Initiative**

July 14, 2009

To Whom It May Concern:

This letter is submitted in support of the Integrated Regional Resource Conservation Program proposed through the Green Valley Initiative (GVI). We are pleased and encouraged to be part of this creative solution to our region's environmental, energy and economic challenges.

The IRRCP demonstration project promotes the region's leadership in the implementation of sustainable development and living practices. By providing critical cost benefit analyses, coordinating regional green technology services and leveraging funding resources, IRRCP promises to greatly impact the regional job market through resource efficiency audits and the subsequent implementation of green technologies that reduce the emission of greenhouse gases.

I encourage you to support this project, which could be developed as a model to be replicated in other regions throughout the state.

Sincerely,

Anil B. Deolalikar
Director
Professor of Economics

**900 University Ave, Riverside, CA 92521 Tel: (951) 827-2443 Fax: (951) 827-4537**

INTERNATIONAL BROTHERHOOD of ELECTRICAL WORKERS

**Local Union 440**

1405 Spruce Street, Suite G
Riverside, CA 92507
TEL (951) 684-5665
FAX (951) 369-9032

July 14, 2009

To Committee Members:

As Business Manager of the International Brotherhood of Electrical Workers Local Union 440, I have been involved in the Green Valley Initiative since its inception in 2007, and have watched as the number of stakeholders involved has soared from the initial 100 to more than 500 people today.

This unprecedented economic development effort – a cooperative initiative to bring green jobs and industry to the region – has helped to bring a cohesive vision to our dual-county region. Working together, we are taking steps to focus our economic strength, our wealth of undeveloped land and appreciation for the environment into a push for a green economy built on sustainable technologies and practices.

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We support this concept, and look forward to participating as a partner in the effort – a model for regional collaboration that could be implemented in other parts of the state as well.

Sincerely,

Robert C. Frost
Business Manager/Financial Secretary

The Community Foundation
Serving Riverside and San Bernardino Counties

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*President*
*Chief Executive Officer*

July 13, 2009

To Whom It May Concern:

As President/CEO of The Community Foundation Serving Riverside and San Bernardino Counties, I have been involved in the Green Valley Initiative since its inception in 2007, and have watched as the number of stakeholders involved has soared from the initial 100 to more than 500 people today.

This unprecedented economic development effort – a cooperative initiative to bring green jobs and industry to the region – has helped to bring a cohesive vision to our dual-county region. Working together, we are taking steps to focus our economic strength, our wealth of undeveloped land and appreciation for the environment into a push for a green economy built on sustainable technologies and practices.

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We support this concept and initiative, and we look forward to participating as a critical partner in the effort – a model for regional collaboration that could be implemented in other parts of the state as well. We firmly envision that the Green Valley Initiative will ultimately develop and improve the regional economy, workforce and quality of life for its four million residents for many years to come.

Sincerely,

Daniel Foster
President/CEO

cf NATIONAL STANDARDS

*Confirmed in Compliance with National Standards for U.S. Community Foundations*

4280 Latham Street, Suite C, Riverside, CA 92501
951.684.4194 • fax: 951.684.1911 • www.thecommunityfoundation.net

**Riverside Land Conservancy**

SERVING SOUTHERN CALIFORNIA

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*The Riverside Land Conservancy is dedicated to the preservation of open space by seeking to identify, protect, and manage habitats of rare and endangered species, natural lands, and other sensitive sites throughout the Inland Southern California Region.*

Riverside Land Conservancy
4075 Mission Inn Ave.
Riverside, CA 92501
(951) 788-0670
Fax (951) 788-0679
jyezzo@riversidelandconservancy.org
www.riversidelandconservancy.org

Non-Profit Organization
Section 501 (c) (3)

July 14, 2009

To Whom it May Concern:

This letter is submitted in support of the Integrated Regional Resource Conservation Program proposed through the Green Valley Initiative (GVI). We are pleased and encouraged to be part of this creative solution to our region's environmental, energy and economic challenges.

The IRRCP demonstration project promotes the region's leadership in the implementation of sustainable development and living practices. By providing critical cost benefit analyses, coordinating regional green technology services and leveraging funding resources, IRRCP promises to greatly impact the regional job market through resource efficiency audits and the subsequent implementation of green technologies that reduce the emission of greenhouse gases.

I encourage you to support this project, which could be developed as a model to be replicated in other regions throughout the state.

Sincerely,

Gail Egenes
Executive Director

GREEN VALLEY INITIATIVE

# EXECUTIVE SUMMARY

## FUNDING REQUEST FOR THE INTEGRATED REGIONAL RESOURCE CONSERVATION PROGRAM

### *Program Summary.*

Green Valley Initiative proposes to apply jointly with the County of Riverside and the County of San Bernardino for stimulus funds to achieve the dual goals of stimulating the economy through job creation, promoting energy independence and sustainable resource management.

Funding is sought for the initial phase of a comprehensive integrated resources conservation and energy efficiency program (Program) to meet the goals by providing conservation evaluations, resource audits, cost-benefit analyses, and prioritization of energy and resource management projects, implementation of an initial set of demonstration projects, and project assessment that forms the launching pad for a full scale regional program. The initial phase includes both the audits and an initial set of demonstration projects from which an assessment metric will be used to identify successes an early phase of the Program, and to define success through cost effective implementation and multiple benefit. Future funding requests for the regional program will be based on accurate project efficiency data, a "score card" of results from the demonstration projects and a sound basis for program expansion. The potential regional program includes more than 559 million square feet of commercial, office, retail and industrial building spaces that can be made more energy and resource efficient, provide for the reduction in the use of valuable resources, and result in the Inland Empire becoming more competitive in the global marketplace.

**The proposal calls for an initial $250,000 contribution of Department of Energy's Energy Efficiency and Conservation Block Grant Program (EECBG) funds from each of the two counties to establish the parameters of a regional energy and resource conservation program that will generate thousands of local employment opportunities at an efficient cost. Moreover, the program is scalable and will be a highly effective means of generating jobs and promoting energy efficiency at all funding levels. Additional funding to implement this high jobs-per-dollar spent program will be sought from a combination of EECBG and other sources.**

### *Program Objectives.*

The goals of the Program are:

- To provide for the quick and efficient application of federal stimulus funds to catalytic job creation activities;
- To develop an energy efficiency and resource management audit and effectiveness assessment "score card" tool that will provide the basis for prioritization of grant funding and assessment of overall project

effectiveness to assure grant funds are applied to projects that achieve the highest benefit and to verify goals were achieved.

- To leverage private and public resources to deliver effective contract issuance and project management services for stimulus funds on a regional level;
- To help establish the region as a center of green technology implementation, expertise, manufacturing and commerce, with vast portions of its 430 million square feet of industrial space, and a comparable portion of its commercial, office and retail buildings, representing a targeted 326 million square feet (of the total of 559 million square feet) upgraded to optimize energy and resource efficiency;
- To create sustainable green technology jobs in the Inland Empire region; and
- To assist local governments to meet their carbon emission reduction targets as required under AB 32 and SB 375.

## *Achieving the Dual Goals of Job Creation and Promoting Energy Independence.*

We propose a process for application of stimulus funds to achieve the dual goals of stimulating the economy through job creation and promoting energy independence. Related goals are the conservation of resources generally, so that water conservation, clean air practices, waste stream reduction and related measures will be implemented in addition.

Our proposed process involves these major components:

**Grants Requested Under this Request:**

- **Demonstration Phase; and**
- **Resource Audit Phase.**

**Future Activities (not part of the Program) to be Implemented by Future Grants or Private Funding:**

- **Solution Design and Implementation.**

The proposed Program envisioned by this grant request includes only the Demonstration Phase and the Resource Audit Phase. To assure stimulus funds are being applied cost effectively and achieving the highest benefits possible, the Program being proposed will be implemented in phases. The requested funds are for the initial phase of the Program that includes the major components listed above, but is limited to implementation and assessment of a focused set of top priority demonstration projects. By completing the program in phases, it will also allow for evaluation and prioritization of energy and resource efficiency opportunities through the audits, development of metrics to assess project success, focus of resources to higher priority project, and assessment of these projects to assure funds are most effectively used. This initial phase sets the stage for expansion of the program and effective use of future funding requests.

What is unique in this Program is the integration of energy resource efficiency with water and other resource management. This program therefore allow for multiple benefits and opportunities for growth in the Inland Empire. Because the solutions for these integrated projects have not been fully developed for implementation on a regional basis, the iterative nature of the proposed Program allow for innovation and continued greater efficiencies through the assessment of projects that feed into the planning and design of future projects. This knowledge sharing provides for regional green technology expertise, training, and job growth.

The summary tables shows the summary of total anticipated jobs created and costs as well as energy savings and greenhouse gas savings associated with the Program.

In addition to creating 1,800 jobs, this Program saves energy in the form of electricity, fuel in the form of natural gas, water and other resources. Without the initial audits, it is difficult to determine the degree to which water and other resources will be reduced, accordingly, these resource savings are not estimated. However, electricity and natural gas savings, as well as the related reduction in greenhouse gases are significant. We believe that after the audits are completed, good business judgment will compel the building owner and occupants to the conclusion that installation of these resource savings methods are cost-effective and warranted by the resulting return on investment. Through the use of innovative financing techniques, including lending measures based on AB 811, our goal is to reduce the use for permanent public funding and nonetheless create significant employment in the region. Overall, the net cost per job created is $8,509, significantly less per job created that the $55,555 anticipated by the Governor for California. Supporting calculations and assumptions for the results presented are contained in the full request.

***Integrated Regional Resource Conservation Program***
***Summary of Jobs Created and Costs***

| Program Phase | Direct Jobs Created | Indirect Jobs Created | Induced Jobs Created | Total Jobs Created | Total Program Costs | Gross Cost Per Job Created |
|---|---|---|---|---|---|---|
| Demonstration Phase | 6 | 3 | 7 | 16 | $ 500,000 | $ 31,250 |
| Resource Audit Phase | 603 | 289 | 892 | 1,784 | $ 74,568,224 | $ 41,798 |
| Total Program | 609 | 292 | 899 | 1,800 | $ 75,068,224 | $ 41,705 |
| ***As a Result of Audits Performed, Additional Jobs Generated by Funding of Building Retrofit by Private Sector or Other Public Funds*** | | | | | | |
| Retrofit Buildings: | | | | | | |
| Design and Engineering Jobs | 145 | 70 | 215 | 430 | | |
| Retrofit Jobs | 1,159 | 554 | 1,713 | 3,426 | | |
| Subtotal Design, Engineering, Retrofit | 1,304 | 624 | 1,928 | 3,856 | | |
| Second Tier Jobs | 1,070 | 513 | 1,583 | 3,166 | | |
| Total Jobs From Retrofit | 2,374 | 1,137 | 3,511 | 7,022 | | |
| Total Jobs Generated: | 2,983 | 1,429 | 4,410 | 8,822 | | $ 8,509 |

***Integrated Regional Resource Conservation Program***
***Summary of Energy Savings and Greenhouse Gas Savings***

| Building Type | SF of Inventory | Retrofit SF | CO2e Tons Saved | Annual Electrical | | Annual Gas | |
|---|---|---|---|---|---|---|---|
| | | | | KWh per SF | MWh Savings at 25% | Therms per SF | Mtherms Savings at 25% |
| General Industrial | 37,944,566 | 25,612,582 | 1,296 | 9.87 | 63,199 | 0.24 | 1,537 |
| Incubator | 17,542,758 | 11,841,362 | 599 | 9.87 | 29,219 | 0.24 | 710 |
| R&D/Flex | 10,763,294 | 7,265,223 | 367 | 9.87 | 17,927 | 0.24 | 436 |
| Warehouse/Distribution: | | | | | | | |
| Pure Warehouse | 262,635,861 | 212,735,047 | 4,677 | 4.29 | 228,158 | 0.02 | 1,064 |
| Refrigerated (at 7.8%) | 28,373,403 | 5,320,013 | 611 | 22.41 | 29,805 | 0.11 | 146 |
| Office Component (at 20%) | 72,752,316 | 42,560,105 | 936 | 4.29 | 45,646 | 0.08 | 851 |
| Office Buildings | 27,285,108 | 13,301,490 | 292 | 4.29 | 14,266 | 0.08 | 266 |
| Retail Buildings | 102,143,346 | 13,301,490 | 1,047 | 15.36 | 51,078 | 0.02 | 67 |
| Total Buildings | 559,440,652 | 331,937,313 | 9,826 | | 479,298 | | 4,744 |

Western Riverside Council of Governments

County of Riverside • City of Banning • City of Beaumont • City of Calimesa • City of Canyon Lake • City of Corona • City of Hemet • City of Lake Elsinore
City of Menifee • City of Moreno Valley • City of Murrieta • City of Norco • City of Perris • City of Riverside • City of San Jacinto • City of Temecula
City of Wildomar • Eastern Municipal Water District • Western Municipal Water District

July 14, 2009

This letter is submitted in support of the Integrated Regional Resource Conservation Program proposed through the Green Valley Initiative (GVI). As the Executive Director of the Western Riverside Council of Governments (WRCOG), I believe this proposal to be a practical step towards addressing some to our region's environmental, energy and economic challenges.

The IRRCP demonstration project promotes the region's leadership in the implementation of sustainable development and living practices. By providing critical cost benefit analyses, coordinating regional green technology services and leveraging funding resources, IRRCP holds the promise to positively impact the regional job market through resource efficiency audits and the subsequent implementation of green technologies that reduce the emission of greenhouse gases.

I encourage you to support this project, which could be developed as a model to be replicated in other regions throughout California.

Sincerely,

Rick Bishop
Executive Director

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GREEN VALLEY INITIATIVE

# IRRCP HIGHLIGHTS

Jurisdictions receiving grant funds (stimulus money or other state, utility or federal block grant money) have several choices as to the methods of spending the funds. Our collective goal, in concert with the President's goals, should be to get the most "bang for the buck." Performing audits and presenting the results to building owner, in our opinion will raise the acceptance level and understanding of the immense benefits of resource conservation. Among the benefits are considerable resource cost savings, estimated to be nearly $90 million for the Inland Empire.

The table to the right is a demonstration of the additional leverage that may be applied if grant money is allocated to the Program, rather than the use of grant funds for upgrade of government buildings.

***Integrated Regional Resource Conservation Program***
***Two Alternative Methods of Spending Grant Money***

| | Alternative 1: Jurisdiction Retrofits Government Buildings | Alternative 2: Same Amount ($496,400) Spent on IRRCP Program |
|---|---|---|
| Square Feet of Buildings Audited | 500,000 | 3,896,894 |
| Square Feet of Buildings Designed | 500,000 | 2,992,198 |
| Square Feet of Buildings Retrofit | 500,000 | 2,992,198 |
| Expenditure of EECBG Funds: | | |
| Audit Costs | $ 77,700 | $ 496,400 |
| Design & Engineering | $ 23,700 | $ - |
| Retrofit Cost | $ 395,000 | $ - |
| Total EECBG Funds Expended | $ 496,400 | $ 496,400 |
| Jobs Created: | | |
| Audit | 1.9 | 14.5 |
| Design & Engineering | 0.6 | 2.7 |
| Retrofit | 4.6 | 21.4 |
| Subtotal | 7.1 | 38.6 |
| Second Tier Jobs | 0 | 19.7 |
| Total Jobs Created | 7.1 | 58.3 |
| Energy Savings: | | |
| Electricity MWh | 841 | 5,031 |
| Gas MTherms | 7 | 43 |
| C02 Equivalent Tons | 17 | 103 |

## ❑ *Highlights—"More Bang for the Buck"*

- **Eight times the jobs created;**
- **Six times the energy savings**
- **Six times the building square feet made energy efficient;**
- **Improves AB 32 Compliance for regional businesses;**
- **Absolute compliance with EECBG principles;**
- **Regional solutions favored by Washington and Sacramento;**
- **Positive impacts on other regulatory agencies such as AQMD, Water Resources Control Board, etc.**
- **Economic Development Effect—Regional business are more competitive in world marketplace;**
- **Cost per job created is very low, $8,506 as compared to White House at $92,000 and Sacramento at $55,555; and**
- **Enabling Green Valley Initiative jurisdictions to have a competitive advantage when applying for the competitive portion of the EECBG grant program ($445 million).**

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## COMPLIANCE WITH THE EECBG PRINCIPLES AND OUTCOMES.

| ALTERNATE 1 Jurisdiction Retrofits Government Buildings | ALTERNATE 2 IRRCP Program | Core EEGBG Principle |
|---|---|---|
| ✓ | ✓ | Prioritize energy efficiency and conservation. |
| | ✓ | Maximize benefits over the longest possible terms; look for ways to link energy efficiency efforts to long-term priorities (especially community economic development, community stabilization, and poverty reduction). |
| ✓ | ✓ | Invest funds in programs and projects that create and/or retain jobs and stimulate the economy while meeting long-term energy goals. |
| | ✓ | Target programs and projects that will provide substantial, sustainable, and measurable energy savings, job creation, and economic stimulus efforts. |
| ✓ | ✓ | Prioritize programs and projects that leverage federal funds with other public and private resources, including coordinated efforts involving other Federal programs targeting community development funded through the Recovery Act, such as the Community Development Block Grant program, HOME Investment Partnerships program, and job training programs. |
| | ✓ | Develop programs and strategies that will continue beyond the funding period (i.e., seed programs that can live beyond federal funding). |
| | ✓ | Enact policies that transform markets, increase investments, and support program goals. |
| ✓ | ✓ | Develop comprehensive plans that benchmark current performance and set aggressive goals. |
| ✓ | ✓ | Ensure oversight, transparency, and accountability for all program activities. |

| ALTERNATE 1 Jurisdiction Retrofits Government Buildings | ALTERNATE 2 IRRCP Program | Desired EEGBG Program Outcome |
|---|---|---|
| | ✓ | Increased energy efficiency, reduced energy consumption, and reduced energy costs through efficiency improvements. |
| | ✓ | New jobs and increased productivity to spur economic growth and community development. |
| ✓ | ✓ | Accelerated deployment of market-ready distributed renewable energy technologies. |
| ✓ | ✓ | Improved air quality and related environmental and health indicators. |
| | ✓ | Improved coordination of energy-related policies and programs across jurisdictional levels of governance and with other local and community level programs in order to maximize the impact of this program on long-term local priorities. |
| ✓ Indirectly only | ✓ Indirectly only | Increased security, resilience, and reliability of energy generation and transmission infrastructure. |
| | ✓ | Leveraging the resources of federal, state, and local governments, utilities and utility regulators, private sector and non-profit organizations to maximize the resulting energy, economic, and environmental benefits. |
| | ✓ | Widespread use of innovative financial mechanisms that transform markets. |

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# PROGRAM SUMMARY

**Integrated Regional Resource Conservation Program**
**Summary of Jobs Created and Costs**

| Program Phase | Direct Jobs Created | Indirect Jobs Created | Induced Jobs Created | Total Jobs Created | Total Program Costs | Gross Cost Per Job Created |
|---|---|---|---|---|---|---|
| Demonstration Phase | 6 | 3 | 7 | 16 | $ 500,000 | $ 31,250 |
| Resource Audit Phase | 603 | 289 | 892 | 1,784 | $ 74,568,224 | $ 41,798 |
| Total Program | 609 | 292 | 899 | 1,800 | $ 75,068,224 | $ 41,705 |
| **As a Result of Audits Performed, Additional Jobs Generated by Funding of Building Retrofit by Private Sector or Other Public Funds** | | | | | | |
| Retrofit Buildings: | | | | | | |
| Design and Engineering Jobs | 145 | 70 | 215 | 430 | | |
| Retrofit Jobs | 1,159 | 554 | 1,713 | 3,426 | | |
| Subtotal Design, Engineering, Retrofit | 1,304 | 624 | 1,928 | 3,856 | | |
| Second Tier Jobs | 1,070 | 513 | 1,583 | 3,166 | | |
| Total Jobs From Retrofit | 2,374 | 1,137 | 3,511 | 7,022 | | |
| Total Jobs Generated: | 2,983 | 1,429 | 4,410 | 8,822 | | $ 8,509 |

**Integrated Regional Resource Conservation Program**
**Summary of Energy Savings and Greenhouse Gas Savings**

| Building Type | SF of Inventory | Retrofit SF | CO2e Tons Saved | Annual Electrical | | Annual Gas | |
|---|---|---|---|---|---|---|---|
| | | | | KWh per SF | MWh Savings at 25% | Therms per SF | Mtherms Savings at 25% |
| General Industrial | 37,944,566 | 25,612,582 | 1,296 | 9.87 | 63,199 | 0.24 | 1,537 |
| Incubator | 17,542,758 | 11,841,362 | 599 | 9.87 | 29,219 | 0.24 | 710 |
| R&D/Flex | 10,763,294 | 7,265,223 | 367 | 9.87 | 17,927 | 0.24 | 436 |
| Warehouse/Distribution: | | | | | | | |
| Pure Warehouse | 262,635,861 | 212,735,047 | 4,677 | 4.29 | 228,158 | 0.02 | 1,064 |
| Refrigerated (at 7.8%) | 28,373,403 | 5,320,013 | 611 | 22.41 | 29,805 | 0.11 | 146 |
| Office Component (at 20%) | 72,752,316 | 42,560,105 | 936 | 4.29 | 45,646 | 0.08 | 851 |
| Office Buildings | 27,285,108 | 13,301,490 | 292 | 4.29 | 14,266 | 0.08 | 266 |
| Retail Buildings | 102,143,346 | 49,794,881 | 3,920 | 15.36 | 191,212 | 0.02 | 249 |
| Total Buildings | 559,440,652 | 368,430,704 | 12,698 | | 619,432 | | 5,259 |

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# Map of Inland Empire

GREEN VALLEY INITIATIVE

# FUNDING REQUEST FOR THE INTEGRATED REGIONAL RESOURCE CONSERVATION PROGRAM

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(951) 667-6277

June 23, 2009

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# THE INTEGRATED REGIONAL RESOURCE CONSERVATION PROGRAM

## Program Summary

Green Valley Initiative proposes to apply jointly with the County of Riverside and the County of San Bernardino for stimulus funds to achieve the dual goals of stimulating the economy through job creation, promoting energy independence and sustainable resource management.

Funding is sought for the initial phase of a comprehensive integrated resources conservation and energy efficiency program (Program) to meet the goals by providing conservation evaluations, resource audits, cost-benefit analyses, and prioritization of energy and resource management projects, implementation of an initial set of demonstration projects, and project assessment that forms the launching pad for a full scale regional program. The initial phase includes both the audits and an initial set of demonstration projects from which an assessment metric will be used to identify successes an early phase of the Program, and to define success through cost effective implementation and multiple benefit. Future funding requests for the regional program will be based on accurate project efficiency data, a "score card" of results from the demonstration projects and a sound basis for program expansion. The potential regional program includes more than 559 million square feet of commercial, office, retail and industrial building spaces that can be made more energy and resource efficient, provide for the reduction in the use of valuable resources, and result in the Inland Empire becoming more competitive in the global marketplace.

**The proposal calls for an initial $250,000 contribution of Department of Energy's Energy Efficiency and Conservation Block Grant Program (EECBG) funds from each of the two counties, a portion of local city EECBG allocations, and $25 million in California's Office of Energy's EECBG allocation, to establish a regional energy and resource conservation program that will generate thousands of local employment opportunities at an efficient cost. Moreover, the program is scalable and will be a highly effective means of generating jobs and promoting energy efficiency at all funding levels. Additional funding to implement this high jobs-per-dollar spent program will be sought from a combination of EECBG and other federal, local and private sources.**

## Program Objectives

The goals of the Program are:

- To provide for the quick and efficient application of federal stimulus funds to catalytic job creation activities;

> ***"Green Valley Initiative proposes to apply... stimulus funds to achieve the dual goals of stimulating the economy through job creation, promoting energy independence and sustainable resource management."***

- To develop an energy efficiency and resource management audit and effectiveness assessment "score card" tool that will provide the basis for prioritization of grant funding and assessment of overall project effectiveness to assure grant funds are applied to projects that achieve the highest benefit and to verify goals were achieved.
- To leverage private and public resources to deliver effective contract issuance and project management services for stimulus funds on a regional level;
- To help establish the region as a center of green technology implementation, expertise, manufacturing and commerce, with vast portions of its 430 million square feet of industrial space, and a comparable portion of

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its commercial, office and retail buildings, representing a targeted 326 million square feet (of the total of 559 million square feet) upgraded to optimize energy and resource efficiency;

- To create sustainable green technology jobs in the Inland Empire region; and
- To assist local governments to meet their carbon emission reduction targets as required under AB 32[1] and SB 375[2].

## *Achieving the Dual Goals of Job Creation and Promoting Energy Independence.*

We propose a process for application of stimulus funds to achieve the dual goals of stimulating the economy through job creation and promoting energy independence. Related goals are the conservation of resources generally, so that water conservation, clean air practices, waste stream reduction and related measures will be implemented in addition.

Our proposed process involves these major components:

**Grants Requested Under this Request:**

- **Demonstration Phase; and**
- **Resource Audit Phase.**

**Future Activities (not part of the Program) to be Implemented by Future Grants or Private Funding:**

- **Solution Design and Implementation.**

The proposed Program envisioned by this grant request includes only the Demonstration Phase and the Resource Audit Phase. This document, however, describes the complete and ultimate program, including those portions such as the Solution Design which may be subject to private financing or future public funding and subjected to competitive bidding. The Program Administrator or its principles may be bidders during that phase.

To assure stimulus funds are being applied cost effectively and achieving the highest benefits possible, the Program being proposed will be implemented in phases. The preliminary phase has already been completed and provides the community/stakeholder consensus building and goal definition. This preliminary phase has been the creation and investment into the establishment of the Green Valley Initiative that includes the communities of the Inland Empire. The requested funds are for the initial phase of the Program that includes the major components listed above, but is limited to implementation and assessment of a focused set of top priority demonstration projects. By completing the program in phases, it will also allow for evaluation and prioritization of energy and resource efficiency opportunities through the audits, development of metrics to assess project success, focus of resources to higher

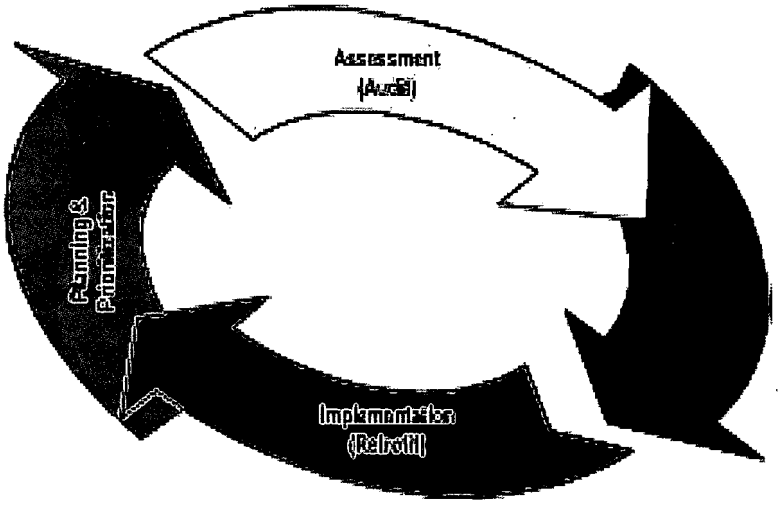

Figure 1

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priority project, and assessment of these projects to assure funds are most effectively used. This initial phase sets the stage for expansion of the program and effective use of future funding requests.

As shown in Figure 1 the Program core process is iterative and begins with the assessment (audit), followed by the planning or prioritization of programs, and then by implementation. Projects are then assessed for effectiveness in meeting a set of goals or metrics, and this formed the basis for planning and expansion of the Program.

What is unique in this Program is the integration of energy resource efficiency with water and other resource management. This program therefore allow for multiple benefits and opportunities for growth in the Inland Empire. Because the solutions for these integrated projects have not been fully developed for implementation on a regional basis, the iterative nature of the proposed Program allow for innovation and continued greater efficiencies through the assessment of projects that feed into the planning and design of future projects. This knowledge sharing provides for regional green technology expertise, training, and job growth.

Figure 2 shows the summary of total anticipated jobs created and costs associated with the Program.

In addition to creating 1,800 jobs, this Program saves energy in the form of electricity, fuel in the form of natural gas, water and other resources. Without the initial audits, it is difficult to determine the degree to which water and other resources will be reduced, accordingly, these resource savings are not estimated. However, electricity and natural gas savings, as well as the related reduction in greenhouse gases are significant. We believe that after the audits are completed, good business judgment will compel the building owner and occupants to the conclusion that installation of these resource savings methods are cost-effective and warranted by the resulting return on investment. These estimated amounts for the costs of retrofit are reported in Figure 3. Through the use of innovative financing techniques, including lending measures based on AB 811[3], our goal is to reduce the use for permanent public funding and nonetheless create significant employment in the region. Overall, the net cost per job created is $8,509, significantly less per job created that the $55,555 anticipated by the Governor for California.[4] Supporting calculations and assumptions for the results presented are contained in the Tables appended hereto beginning at page 20.

***Integrated Regional Resource Conservation Program***
***Summary of Jobs Created and Costs***

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| Total Jobs Generated: | 2,983 | 1,429 | 4,410 | 8,822 | | $ 8,509 |

Figure 2

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**Integrated Regional Resource Conservation Program**
**Summary of Energy Savings and Greenhouse Gas Savings**

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| R&D/Flex | 10,763,294 | 7,265,223 | 367 | 9.87 | 17,927 | 0.24 | 436 |
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| Total Buildings | 559,440,652 | 368,430,704 | 12,698 | | 619,432 | | 5,259 |

Figure 3

## What is a Resource Audit?

A good definition for industrial plant is found in the United State Environmental Protection Agency's Energy Star Program website:

> "Plant energy audits are comprehensive evaluations of the actual performance of a plant's energy using systems and equipment compared against the designed performance level or the industry best practice. The difference between observed performance and "best practice" is the potential for energy and cost savings. ENERGY STAR Partners have found that conducting plant audits is vital to a strong energy management program; without audits it is difficult to continuously improve energy efficiency and demonstrate savings.
>
> Energy audits help managers to:
>
> - Identify actions for improving energy performance;
> - Prioritize projects; and
> - Track progress.
>
> Regular plant energy audits are most effective when they are part of a strategic corporate energy management program. Corporate energy programs are ideal for replicating the savings opportunities identified through plant energy audits at other facilities. Through the corporate energy network, information can be shared, and savings multiplied. "

Source: US EPA, Energy Star Program,
www.energystar.gov/index.cfm?c=industry.bus_industry_plant_energy_auditing

A resource audit adds to the energy audit a similar audit of water use, waste steam generation, fuel use, recycling, hazardous waste generation, and an evaluation of other resources. The audits contemplated in the Program include a

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cost-benefit analysis of the various cost savings methods identified and a specific analysis of the feasibility of installation of solar power to the facility. Links to detailed audit checklists and related materials are found in Table I.

## *Program Components and Deliverables*

The solutions provided under the initial phase and future phases of the Program will include:

### ❒ *Demonstration Phase*

- Refinement of Program specific integrated energy and resource management automated audit tool using standardized auditing records to enable regional data collection, evaluation and sharing.
    - Deliverable: Energy and Resource Efficiency Management Audit Framework (Automated tool on tablet PC will be made available for lease to local auditing firms)
- Implementation of training to conduct energy and resource conservation audits using standardized and integrated auditing tool workforce training programs in partnership with regional utility companies, unions, universities and technology firms;
    - Deliverable: Training module and record of local firms participating in training
- Contracting and direct hiring of technical staff needed to conduct audits; perform resource conservation evaluations; provide cost-benefit analyses for various resource efficiency solutions and installations;
- Compilation and evaluation of auditing results using a defined set of criteria in which to prioritize projects for implementation.
    - Deliverable: Define set of criteria and compiled list of prioritized projects based on standardized audits.
- Provision of regional marketing and outreach services for the Program;
    - Deliverable: Marketing outreach plan and marketing tools
- Coordination and implementation of end user and regional financing solutions for Initial Phase demonstration projects resource conservation solutions, retrofitting and energy efficient technology installations;
    - Deliverable: Financing, grant, and rebate program application materials and handouts.
- Promotion of regional policies that leverage existing resources and incentivize adoption of green technologies and practices.
- Coordination of exiting regional conservation services and programs.
- Implementation of demonstration projects based on the audits and identification of projects through assessment using metrics developed in the prioritization process.
    - Deliverable: Completed set of Demonstration Project that include single or multiple energy conservation, alternative energy, water conservation, green house gas reduction, storm water management, and material resource management components.
- Completion of Demonstration Project Assessment using the set of metrics developed in the prioritization process to develop a "score card" for each project to evaluate the cost effectiveness of the project as well as a recommendation on innovations and areas to further improve efficiencies.
    - Deliverable: Demonstration Project Score Card

### ❒ *Resource Audit Phase*

- The actual performance of the audits will take place in this phase.
    - Deliverables: Resource Audits

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These two phases constitute the Program. Additionally, as a result of the Resource Audits and Demonstration results, we are confident that building owners will seriously consider the retrofits and solar installations presented in the audits.

These further activities would be natural and desirable results:

❒ ***Solution Design and Implementation***

- The actual performance of the design, permitting (if required) and competitive construction activities will take place in this phase.
    - Deliverables: Design documents, building permits, completed retrofit.

## *Program Phasing*

❒ ***Demonstration Phase***

We are requesting $500,000 from the Department of Energy Block Grant program currently being applied for by cities and counties to provide the "seed money" to begin the work of the Program. This money will be used for the activities described in the section entitled Program Components and Deliverables, found beginning at page 5. In general, the Demonstration Phase generates only 16 jobs as the Program plans are fully developed. However, in this phase, two representative buildings will be chosen as demonstration models to confirm assumptions.

❒ ***Resource Audit Phase***

We are requesting $75.1 million in this phase, from stimulus funds specifically indentified in the Demonstration Phase, for the purpose of conducting complete, "investment grade" resource audits on the stock of commercial, office, retail and industrial buildings in the Inland Empire, with a view towards retrofit of these buildings for energy and other resource efficiency. We anticipate that at least 603 long term jobs will be created directly through the Program, primarily resource auditors, as well as 289 indirect jobs and 892 induced jobs, for a total of 1,784 jobs. The productivity of this audit program will allow for the cost of producing each job to be $41,798, exceeding the Governor's anticipated goal of $55,555 per job created.

Although this funding proposal does not include requests to directly fund retrofits or solar installations, the Resource Audits will include a study of the feasibility of installing solar power on the rooftop of each building audited.

Table A shows the total costs of the Resource Audit phase, and Table B shows the resulting creation of jobs from this Resource Audit phase. Together, these two phases produce 1,800 jobs.

❒ ***Further Activities: Solution Design and Implementation***

This is the heart of this conservation effort. After the audits on all buildings are conducted, the most promising will be targeted for actual retrofitting to achieve what is anticipated to be at least a 25% reduction in resource costs, primarily electricity and gas. By then, the funding mechanisms will be established; consisting of private owner funds, private financing, federal and state grants, rebates and tax credits, utility company grants and rebates, and potentially bond funding, particularly under AB 811 programs. The funding facilities will all be explored in the Demonstration Phase and the Resource Audit Phase.

Total direct job creation during this phase is anticipated to be 145 jobs for the design and engineering, and 1,159 direct construction jobs during the actual retrofit construction phase. The total direct jobs created are 1,304 In

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addition, this phase will generate 624 indirect jobs and 1,928 induced jobs. This phase will require total financing of $329.7 million from all sources.

One feature included in the Program is the recognition of what we are describing as "second tier" job creation. As retrofits are implemented, the business enterprises will experience significant resource cost savings. We anticipate cost savings of nearly $90 million. ***What can the participating businesses do with $90 million?*** They will most likely invest in new capital projects and expand their work forces. This further expansion of the work forces is the "second tier" job creation effect. We anticipate that this effect will produce an additional 1,070 direct jobs, along with indirect jobs and induced jobs being created, for a total of 3,166 new jobs. Table C shows the calculation of the energy savings anticipated and Table D details the 3,166 additional jobs created as a result of the second tier energy savings.

The total design , engineering, retrofit construction, and second tier jobs, along with the related indirect and induced jobs will amount to total of 7,022 jobs created at cost of $329.7 million. If entirely paid with public funds, the results for this phase would amount to $46,958 per job created, lower than the Governor's goal of $55,555. However, an important goal of the Program is to implement financing programs so that the retrofit costs are borrowed and repaid by the building owners. Such a program would be a bond issuance pursuant to AB 811, with the bond proceeds lending money to the building owners to pay for the design, engineering and retrofit costs. After repayment, the net cost per job created plunges to $8,509, far improving on the Governor's goal of $55,555 per job created. The bond issuance is used to facilitate loans, but not to pay for the retrofit.

The anticipated retrofit construction costs are shown on Table E and the related job creation details are shown on Exhibit F. The related design and engineering costs are shown on Table G, and the related job creation calculations are shown on Table H.

## *Why Now?*

### ❑ *Opportunity*

There is an enormous opportunity for an integrated and comprehensive resources and energy conservation Program to be implemented on the extensive supply of commercial, office, retail and industrial buildings in the region. Riverside and San Bernardino Counties have over 559 million square feet of commercial, office, retail and industrial space. See Figure 3.

***"The Green Valley Initiative has the support of regional agencies, universities, and businesses; and the city councils of over 40 cities have committed to support this initiative and its objectives."***

The Inland Empire is the logistics and manufacturing hub of Southern California, as the abundance of affordable land and developable space has attracted companies to set up their manufacturing operations. Over 70% of goods that come from the Los Angeles and Long Beach ports are transported through the Inland Empire which has significant industrial warehouse space to accommodate this flow of goods.

In 2006, the Inland Empire had 68.4% of Southern California's industrial construction market, which is double Orange County, and roughly four times more than Los Angeles. Many of these warehouse spaces have significant natural resource and energy consumption requirements with respect to water, machinery, equipment, refrigeration, and other necessary energy to operate these large spaces, which are prime targets for conservation efforts.

The commercial, office and retail space will similarly benefit from the proposed resource audits and anticipated building retrofit.

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## ❒ *Regional Challenges*

In Southern California, employment opportunities are disproportionately located along the coast in the Los Angeles and Orange County regions while our adjacent Inland Empire counties house many of the commuters working in those jobs-rich coastal areas. In fact, both Riverside and San Bernardino counties have a very significant imbalance between jobs and population. It is the root cause of the challenging regional problems such as underemployment, high home foreclosure rates, traffic congestion, lengthy commutes, and air pollution.

If present trends continue, the Inland Empire is expected to retain a deficit of jobs as compared to housing through 2025. While it is among the fastest growing regions in the country, it has also experienced some of the highest rates of job loss and home foreclosures. A chief priority for the Inland Empire region, then, must be the swift implementation of effective regional job creation programs.

## ❒ *The Regional Solution*

Over the past three years, the Green Valley Initiative sponsors have invested significant resources in marketing, economic studies, consensus building and establishing strategic relationships to form the necessary structure for coordinated regional action. Five hundred key leaders from both Riverside and San Bernardino counties are involved in the initiative. The Green Valley Initiative has the support of regional agencies, universities, and businesses; and the city councils of over 40 cities have committed to support this initiative and its objectives. A key achievement is the approval by the United States Department of Commerce of our *Comprehensive Economic Development Strategy,* prepared by GVI, qualifying the Inland Empire for federal funding for clean and green projects.

Achieving consensus among these stakeholders has required considerable investments of direct funding, labor hours, research, outreach and marketing. The result is that the timing is perfect to now apply this consensus building effort to the Program, which will be a wide-ranging and important regional endeavor.

### *Alternate Methods of Spending Grant Funds*

Jurisdictions receiving grant funds (stimulus money or other state, utility or federal block grant money) have several choices as to the methods of spending the funds. Our collective goal, in concert with the President's goals, should be to get the most "bang for the buck."[5] Performing audits and presenting the results to building owner, in our opinion will raise the acceptance level and understanding of the immense benefits of resource conservation. Among the benefits are considerable resource cost savings, estimated to be nearly $90 million for the Inland Empire. See Further Activities: Solution Design and Implementation, above.

Figure 4 is a demonstration of the additional leverage that may be applied if grant money is allocated to the Program, rather than the use of grant funds for upgrade of government buildings.

***Integrated Regional Resource Conservation Program***
***Two Alternative Methods of Spending Grant Money***

| | Alternative 1: Jurisdiction Retrofits Government Buildings | Alternative 2: Same Amount ($496,400) Spent on IRRCP Program |
|---|---|---|
| Square Feet of Buildings Audited | 500,000 | 3,896,894 |
| Square Feet of Buildings Designed | 500,000 | 2,992,198 |
| Square Feet of Buildings Retrofit | 500,000 | 2,992,198 |
| Expenditure of EECBG Funds: | | |
| Audit Costs | $ 77,700 | $ 496,400 |
| Design & Engineering | $ 23,700 | $ - |
| Retrofit Cost | $ 395,000 | $ - |
| Total EECBG Funds Expended | $ 496,400 | $ 496,400 |
| Jobs Created: | | |
| Audit | 1.9 | 14.5 |
| Design & Engineering | 0.6 | 2.7 |
| Retrofit | 4.6 | 21.4 |
| Subtotal | 7.1 | 38.6 |
| Second Tier Jobs | 0 | 19.7 |
| Total Jobs Created | 7.1 | 58.3 |
| Energy Savings: | | |
| Electricity MWh | 841 | 5,031 |
| Gas MTherms | 7 | 43 |
| C02 Equivalent Tons | 17 | 103 |

Figure 4

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### ❒ *Highlights—"More Bang for the Buck"*

- Eight times the jobs created;
- Six times the energy savings
- Six times the building square feet made energy efficient;
- Improves AB 32 Compliance for regional businesses;
- Absolute compliance with EECBG principles;
- Regional solutions favored by Washington and Sacramento;
- Positive impacts on other regulatory agencies such as AQMD, Water Resources Control Board, etc.
- Economic Development Effect—Regional business are more competitive in world marketplace;
- Cost per job created is very low, $8,506 as compared to White House at $92,000 and Sacramento at $55,555; and
- Enabling Green Valley Initiative jurisdictions to have a competitive advantage when applying for the competitive portion of the EECBG grant program ($445 million)..

## *Program Impacts*

The benefits of the Program are:

### ❒ *The Demonstration Phase Complies the EECBG Principles and Outcomes.*

The *Energy Efficiency and Conservation Block Grant Program* (EECBG) provides grants to U.S. local governments, states, territories, and Indian tribes to fund programs and projects that reduce energy use and fossil fuel emissions and improve energy efficiency. The Program represents a Presidential priority to deploy the cheapest, cleanest, and fastest energy sources. EECBG was authorized in Title V, Subtitle E of the Energy Independence and Security Act (EISA), signed into law on December 19, 2007, and is modeled after the Community Development Block Grant Program administered by the Department of Housing and Urban Development (HUD).

The EECBG Program is new in 2009; it was funded for the first time by the American Recovery and Reinvestment Act of 2009.

The core program principles and desired program outcomes of the EEGBG Program as related to the Program are shown below, along with a comparison of the alternative of spending grant funds on government buildings, as described above, and shown in Figure 4.

**Core Program Principles and Application to this Program:**

| ALTERNATE 1 Jurisdiction Retrofits Government Buildings | ALTERNATE 2 IRRCP Program | Core EEGBG Principle |
|---|---|---|
| ✓ | ✓ | Prioritize energy efficiency and conservation. |
| | ✓ | Maximize benefits over the longest possible terms; look for ways to link energy efficiency efforts to long-term priorities (especially community economic development, community stabilization, and poverty reduction). |

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| ALTERNATE 1 Jurisdiction Retrofits Government Buildings | ALTERNATE 2 IRRCP Program | Core EEGBG Principle |
|---|---|---|
| ✓ | ✓ | Invest funds in programs and projects that create and/or retain jobs and stimulate the economy while meeting long-term energy goals. |
| | ✓ | Target programs and projects that will provide substantial, sustainable, and measurable energy savings, job creation, and economic stimulus efforts. |
| ✓ | ✓ | Prioritize programs and projects that leverage federal funds with other public and private resources, including coordinated efforts involving other Federal programs targeting community development funded through the Recovery Act, such as the Community Development Block Grant program, HOME Investment Partnerships program, and job training programs. |
| | ✓ | Develop programs and strategies that will continue beyond the funding period (i.e., seed programs that can live beyond federal funding). |
| | ✓ | Enact policies that transform markets, increase investments, and support program goals. |
| ✓ | ✓ | Develop comprehensive plans that benchmark current performance and set aggressive goals. |
| ✓ | ✓ | Ensure oversight, transparency, and accountability for all program activities. |

**Desired Program Outcomes and Application to this Program:**

| ALTERNATE 1 Jurisdiction Retrofits Government Buildings | ALTERNATE 2 IRRCP Program | Desired EEGBG Program Outcome |
|---|---|---|
| | ✓ | Increased energy efficiency, reduced energy consumption, and reduced energy costs through efficiency improvements. |
| | ✓ | New jobs and increased productivity to spur economic growth and community development. |
| ✓ | ✓ | Accelerated deployment of market-ready distributed renewable energy technologies. |
| ✓ | ✓ | Improved air quality and related environmental and health indicators. |
| | ✓ | Improved coordination of energy-related policies and programs across jurisdictional levels of governance and with other local and community level programs in order to maximize the impact of this program on long-term local priorities. |
| ✓ Indirectly only | ✓ Indirectly only | Increased security, resilience, and reliability of energy generation and transmission infrastructure. |
| | ✓ | Leveraging the resources of federal, state, and local governments, utilities and utility regulators, private sector and non-profit organizations to maximize the resulting energy, economic, and environmental benefits. |
| | ✓ | Widespread use of innovative financial mechanisms that transform markets. |

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### ❒ *Speed of Implementation*

The Program is "shovel ready" in that it can be implemented immediately beginning with the energy and resource efficiency audits and then implementation of selected demonstration projects completed over a 12 to 18 month period with only basic building permit requirements necessary, and without the need for CEQA or NEPA approvals.

### ❒ *Efficiency*

The Program leverages existing private and public resources, and builds upon existing regional efficiency efforts, expanding them in scale and making them comprehensive by including all resources.

### ❒ *Immediate and Direct Economic Stimulus*

The Program will also create significant short term job opportunities for the auditors, training personnel for the auditors, engineers, consultants, designers, architects, installers, and other construction workers needed for this Program. Short term regional job growth and workforce development is accomplished through direct financing of Program services and the integration of existing and newly created training programs. The Program will issue contracts for technology upgrades and for green collar job training services. According to the Associated General Contractors of America (AGC) there is significant construction job creation in California from stimulus funds investment. According to the AGC, each billion of stimulus investment in nonresidential construction will yield 21,000 jobs and add $2.5 billion to the state's Gross Domestic Product. Of the 21,000 jobs, 7,100 would be direct construction jobs in California, 3,400 would be indirect jobs, primarily in California, and 10,400 jobs would be induced when workers and owners spend their incomes.[6]

The figures supplied by the AGC ($47,619 per job created) are slightly more optimistic than those used by the Governor's office ($55,555 per job created), but both estimates represent significant job creation opportunities.

In addition to construction jobs created in the short term, other supporting jobs will be directly needed for this Program.

In their blog entry on March 3, 2009, the American Society for Training Development estimated the demand for the following six high-paying jobs will increase from the application of stimulus funds:

- Urban planners;
- Civil engineers;
- Computer systems analysts;
- Medical researchers;
- Management consultants; and
- Auditors.

> *"The Program is 'shovel ready'. . ."*

The Program will require the skill sets involved in the at least four of these six positions.

### ❒ *Long Term Job Creation and Economic Development*

Jobs will be retained and created in the region as green technologies are employed by local businesses, thereby expanding the market for local green technology suppliers and installers. Enhanced resource conservation and energy efficiency will also make regional businesses more competitive and more likely to grow as this Program will allow the building owners to spend their savings on job creating activities.

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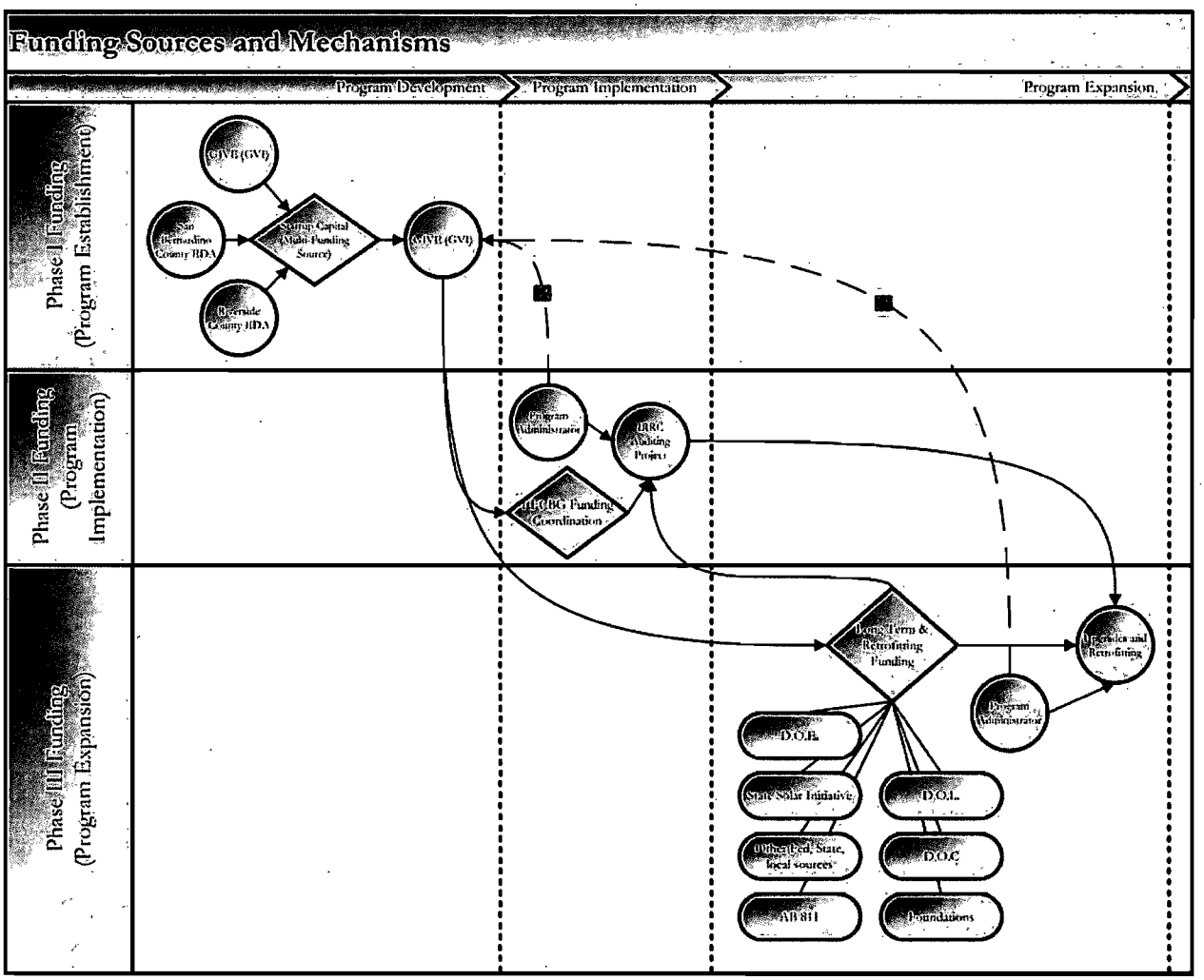
For example, if we can reduce a business's electrical bill from $10,000 per month to $5,000 per month that equals a $60,000 annual savings. Based on a 10% cap rate that is equivalent to a present value of a $600,000 cash infusion. This is significant as it would create increased purchasing power for these businesses and individuals to create economic stimulation that have long reaching and long term effects in the region, such as:

- Create a long term economic cycle where increased funds can lead to increased jobs, positive long term economic actions, and ultimately create wealth for the area.
- Purchase power to pay mortgages; buy homes - spurring construction and further real estate development.
- Purchase power for consumer items--create revenue to government through increased taxes.
- By making the buildings in this area energy efficient and boasting the cutting edge resource efficient technology, will attract bigger, high profile businesses. Long term conversion from warehousing to manufacturing to R&D space.




Mr. Lester R. Brown, of the Earth Policy Institute, in his remarks given December 11, 2008, has commented on the long term benefits of retrofitting existing buildings:

> "In terms of job creation, investment in retrofitting buildings creates more than seven times as many jobs as a similar investment in coal-fired power plants. One of the early leaders is Houston,

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which plans to retrofit each of its 271 government buildings, thus simultaneously reducing energy use and operational costs. As Houston Mayor Bill White says, 'It makes good business sense.'

"In California, Adobe Systems, a software firm, retrofitted its expansive corporate headquarters at a cost of $1.4 million, dropping its electricity use 35 percent and its natural gas use 41 percent. The energy savings paid back the $1.4 million retrofit investment in just 14 months. (More typically, the payback time on retrofitting buildings is closer to 5 years.) And these jobs cannot be outsourced."[7]

Through use of the services of the Program Administrator (see below for further explanation), who is highly skilled and experienced in such endeavors, the often burdensome and expensive project management effort associated with design and construction projects is minimized as to any single building. Additionally, in the purchase of materials for use within the Program, economies of scale are realized. The results are significant leverage of the private and public resources in delivering of the final product.

## Where Does the Money Come From?

As part of the stimulus package, the U.S. Department of Energy has been allocated $3.2 billion to disburse to state and local government. The Inland Empire stands to receive approximately $37 million of those funds in formula distribution alone. This number will grow significantly if our local governments shift their focus from the narrow benefits of upgrading government facilities to the broader benefits of the regional economic growth engine created by the Green Valley Initiative. Other sources will also be explored.

Of the allocated funds from the Department of Energy, approximately 84% are allocated to jurisdictions which are members of the Green Valley Initiative. Figure 5 shows the allocation.

### ❒ *Seed Money for a Regional Economic Engine of Growth*

With the Green Valley Initiative's present momentum as a collaborative regional effort, the Inland Empire is on the cusp of the next big economic growth cycle. The funding received from the Department of Energy must be not be squandered in an indirect and uncoordinated manner. Alternatively, the two counties and 50 some cities can stand together as committed in numerous city council proclamations and support this innovative regional engine directly through the seed money necessary to grow the Program, to create a successful regional program which advances the goals of job creation and energy and resource efficiency. By contributing only a fraction of the formula-driven stimulus money to the Program, the two counties can establish the partnership necessary for the enterprise to take the lead as co-applicant on a variety of grants that specifically target energy and resource efficiency projects. Securing these grants will allow this public-private partnership to focus and coordinate efforts on fueling the new economy.

### ❒ *Program Implementation – Grant Request - Initial Phase of Program*

With this dynamic public-private partnership established, we can take the lead in coordinating local funding projects. This

**Integrated Regional Resource Conservation Program**
**EECBG By Inland Empire Jurisdiction**

| Jurisdiction | Allocation | GVI Members | GVI Member Allocation |
|---|---|---|---|
| Apple Valley | $ 641,200 | ✓ | $ 641,200 |
| Cathedral City | $ 475,500 | ✓ | $ 475,500 |
| Chino | $ 831,800 | ✓ | $ 831,800 |
| Chino Hills | $ 636,000 | ✓ | $ 636,000 |
| Coachella | $ 156,900 | ✓ | $ 156,900 |
| Colton | $ 485,400 | | |
| Corona | $ 1,454,200 | ✓ | $ 1,454,200 |
| Fontana | $ 1,689,100 | ✓ | $ 1,689,100 |
| Hemet | $ 670,500 | ✓ | $ 670,500 |
| Hesperia | $ 775,100 | ✓ | $ 775,100 |
| Highland | $ 450,000 | | |
| Indio | $ 780,300 | | |
| La Quinta | $ 180,700 | ✓ | $ 180,700 |
| Lake Elsinore | $ 201,700 | | |
| Moreno Valley | $ 1,684,300 | | |
| Murrieta | $ 881,500 | ✓ | $ 881,500 |
| Ontario | $ 1,738,600 | ✓ | $ 1,738,600 |
| Palm Desert | $ 529,000 | ✓ | $ 529,000 |
| Palm Springs | $ 225,600 | | |
| Perris | $ 503,200 | ✓ | $ 503,200 |
| Rancho Cucamonga | $ 1,597,700 | ✓ | $ 1,597,700 |
| Redlands | $ 678,400 | ✓ | $ 678,400 |
| Rialto | $ 887,300 | ✓ | $ 887,300 |
| Riverside | $ 2,850,600 | ✓ | $ 2,850,600 |
| San Bernardino | $ 1,954,600 | ✓ | $ 1,954,600 |
| San Dimas | $ 150,200 | | |
| San Jacinto | $ 151,800 | ✓ | $ 151,800 |
| Temecula | $ 940,700 | | |
| Upland | $ 670,800 | ✓ | $ 670,800 |
| Victorville | $ 1,029,700 | | |
| Riverside County | $ 6,591,600 | ✓ | $ 6,591,600 |
| San Bernardino County | $ 4,050,800 | ✓ | $ 4,050,800 |
| Total | $ 36,544,800 | | $ 30,596,900 |
| | | GVI Percent of Total | 84% |

Figure 5



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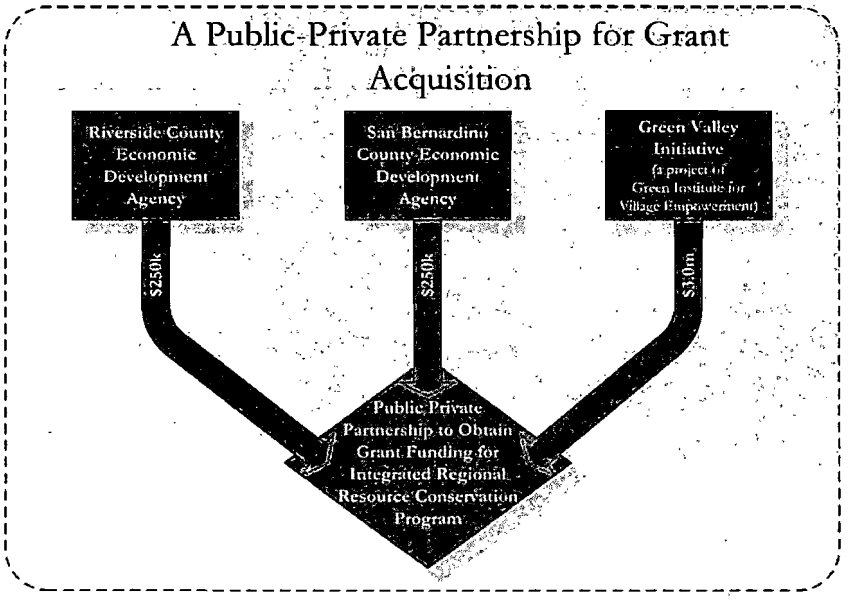
coordination will push the enterprise into a self sustaining economic development engine by supporting job creation on a regional scale. The funding will allow a new regional firm, the Program Administrator, to provide for Resource Audits for non-residential buildings. The Resource Audits, with their cost-benefit analysis, will provide a list of resource efficiency improvements and recommendations and prioritize the improvements by the best "bang for the buck." While the Program Administrator is conducting Resource Audits, GVI and the two counties, as part of the public-private partnership, will be securing long-term state and federal dollars and other funding sources that will enable building owners and operators to take action on the Resource Audits which best meet the goals of job creation and resource conservation.

Utilizing the results of the energy and resource efficiency audits through the standardized system, projects will be assessed using a defined set of criteria in which to prioritize the opportunities for current and future funding. Through an initial set of audits and prioritization during this phase, an initial set of "demonstration" projects will be indentified and implemented. These demonstration projects will include single or multiple energy conservation, alternative energy, water conservation, material resource management, and storm water management components on existing buildings (primarily retrofits). These projects will be selected using the set of criteria that identifies the retro-fit projects that achieve the greatest level of benefits in the most cost efficient manner. The number and size of this demonstration project will depend on the resources made available. It is envisioned that these projects also include a mix of public-private funding through project matching to assure the best use of public funds and greater level of participation with available funding. The Project Administrator has extensive experience in managing grant funded projects with this structure. These initial demonstration projects may also include municipal facilities, private businesses and utility managed projects.




This initial phase includes demonstration projects as part of the iterative project implementation process which includes assessment, planning and implementation phases. This initial set of projects will undergo assessment to determine if project goals were met and identify areas for improvements or innovation that can be implemented in future phases. This iterative process is collaborative with using the Green Valley Initiative as the mechanisms for the dissemination of these findings to spur growth in green technology in the Inland Empire.

## ❒ *Future Funding and Economic Growth*

The public-private partnership will be in a position to secure additional federal state and local funding sources including grants, loans and other mechanisms as they become available. Currently, we have identified funding sources that include the Department of Commerce, Department of Labor, Department of Energy, California Solar Initiative, AB 811, Foundations and Tax Deductible Contributions. To succeed in difficult economic times, it will take the expertise of GVI, in its role as a regional coalition, to leverage and coordinate all of these resources to build the Integrated Regional Resource Conservation Program and assure its success.

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## THE STRUCTURE OF THE ENTERPRISE AND THE FUNCTIONS OF ITS COMPONENTS

> ***"Our entire society benefits from efficient and cost effective institutions."***

This enterprise will involve the melding of several traditional structures to achieve a cost-effective and socially relevant result. Since public moneys are involved, each participant is bound by an obligation to produce results which spend the public's money efficiently, while producing a result which promotes the national goals of becoming energy independent while preserving the planet's resources for future generations.

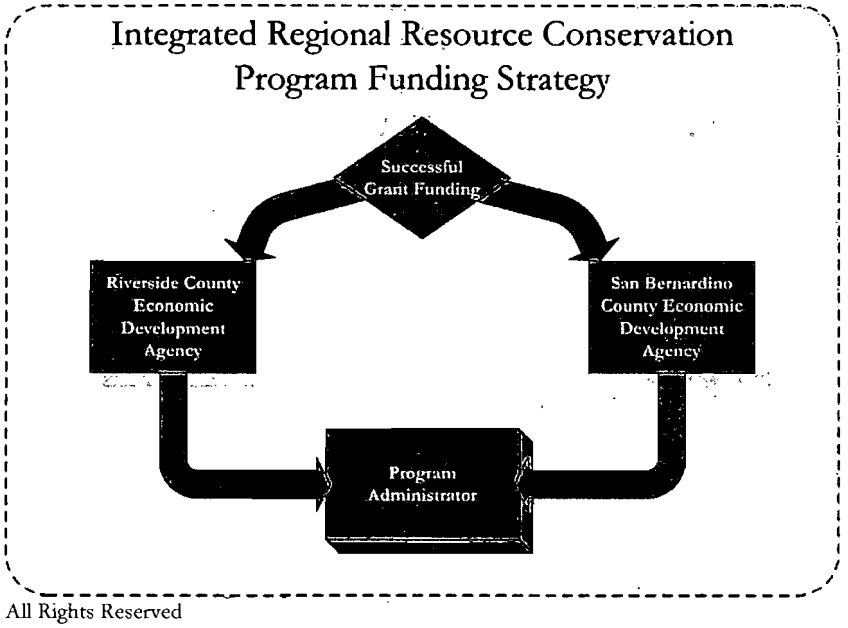
The primary organization which will make the application for stimulus funding for the Program will be a joint venture among the Green Valley Initiative (which itself is a project of the Green Institute for Village Empowerment, a California nonprofit public benefit corporation qualified as a charity under IRC 501(c) (3)), the County of San Bernardino and the County of Riverside. This joint venture will be known in this proposal as the Program Applicant. There are many examples where these types of public-private cooperation and operation have produced extraordinary and cost effective results.

The two counties and GVI will be the co-sponsors for all grant applications and funding requests, and will work jointly to identify funding sources and grant opportunities. GVI will provide the personnel to identify, draft, and submit all funding requests. This will require a binding memorandum of understanding (MOU) between the two counties and GVI. In addition to the efforts of GVI, the proposed Program Administrator has committed to assist in developing the grant request materials and to making necessary presentations to assure that grant funding for the Program is made available.

After success in achieving further grants, all funding received will go to the Economic Development agencies of the two counties; acting under a memorandum of understanding or similar document. The counties will enter into an exclusive program management services agreement with the Program Administrator. The Program Administrator will be the exclusive program manager for all projects and funding generated by the two counties and GVI. The Program Administrator will then implement the Program and disburse the Program funds per the Program requirements.

### *Who is the Program Administrator?*

The Program Administrator will perform all the functions of a contracting officer, if this were a public entity. In all cases, however, the Program Administrator will be under the oversight of the Program Applicant.




The Program Administrator is a professional, licensed contractor, experienced in all aspects of construction and project management that will act as the manager of the Program, essentially performing all of the functions of a contracting officer, in addition to providing technical, construction, marketing, outreach, and financial servicing functions to the Program. The Program Administrator will be also be intimately involved in the initial efforts to acquire funding for the Program in order to swiftly implement this integrated Program



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and realize the dual goals of stimulating the economy through job creation and promoting energy independence.

The functions of the Program Administrator include:

- Development of audit framework;
- Refinement of audit system;
- Training of auditing tool;
- Providing standardization of auditing for data gathering and prioritization;
- Collection and management of auditing data;
- Development of metrics and prioritization of the projects based on the audit data;
- Assisting the Counties in the requirements for contracting of audits;
- Providing the prioritization process and prioritized list of projects; and
- Conduct effectiveness assessment of demonstration projects.

## UNIQUE FEATURES OF THE PROGRAM

### *Competition Promotes Efficiency*

In contrast to earlier times, one hallmark of our system of government in the modern era is the concept that public moneys, when entrusted to public officials for allocation for projects for the public good, must be spent efficiently and effectively. One method of assuring compliance with this principle is the institution of public bidding practices at the federal, state and local levels. In addition to protecting the public interests, competitive bidding practices also encourage efficiency in the private sector. Only the leanest, most proficient bidder will win the competition, thus encouraging overall efficiency in the business sector generally. Our entire society benefits from efficient and cost effective institutions. Both public and private sectors are the beneficiaries of efficiency.

Our enterprise is supportive of this principle and will institute competitive bidding practices as appropriate.

### *Financial Accountability—the Obligations of the Program Administrator*

The moral obligations related to spending the public's funds are taken seriously by the Program Administrator. Accordingly, the Program Administrator agrees that it take on the substantial burdens associated with the administration and operations of the Program, including:

- Negotiate and execute in the name of and on behalf of Program Applicant any agreements for Resource Auditing, including:
    - Auditing services;
    - Testing or consulting services;
    - Agreements for the furnishing of any supplies, materials, machinery or equipment, associated with of any of the Resource Audit measures;
    - The authority to terminate such agreements, pursuant to the terms thereof, and enter into substitute agreements, if appropriate under the circumstances;
- Establish and implement appropriate administrative and financial controls for the audit, design and construction components of the Program;
- Oversee the coordination and administration, including making of appropriate payments, of the auditors and other professionals and consultants employed in connection with Program;

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- Cause all revenues of the Program to be payable to Program Administrator, on behalf of Program Applicant, and deposited in a bank account(s) established by Program Administrator on behalf of Program Applicant, and notify Program Applicant in a timely fashion of all payments required to be made by Program Applicant with respect to expenses incurred in connection with the Program and in connection herewith cause all invoices or other documentation with respect to the expenses of the Program to be presented to Program Applicant;

> ***"In the parlance of the public sector, the Program Administrator will perform all of the functions of a contracting officer..."***

- Make suggestions or requests for changes which could improve the design, efficiency or cost of the development of the Program;
- Apply for and maintain in full force and affect any and all governmental permits and approvals required for the lawful implementation of the Program;
- Comply with all terms and conditions applicable to Program Applicant or the Program contained in any governmental permit or approval required or obtained for the implementation of the Program or in any insurance policy affecting or covering the Program or in any surety bond obtained in connection with the Program;
- Keep Program Applicant fully informed on a monthly basis of the progress of the Program, including the preparation of such reports as are provided for herein or as may reasonably be requested by Program Applicant and which are of a nature generally requested or expected of project managers, construction managers, contracting officers, or similar positions on similar public or private projects;
- Use diligent efforts to obtain all approvals and permits necessary for the Program;
- Inspect the progress of the course of audits;
- Prepare (or supervise the preparation thereof) and deliver to Program Applicant a schedule, and monthly updates thereto as necessary, to reflect the progress of the Program.
- Prepare audit cost estimates as reasonably requested by Program Applicant or necessary for successful implementation and financing of the Program, and produce financial accounting reports, and monthly progress reports on the quality, progress and costs of audit, such monthly reports include:
    - the aggregate of costs incurred to the date of the report for development of the Program;
    - an estimate of the amounts constituting costs payable in connection with the Program to be expended on behalf of Program Applicant until completion of the Program;
    - a narrative report containing a description of the progress of the Program and an explanation for any material deviation or change from the budget.
- Assemble and retain all contracts, agreements and other records and data as may be necessary to carry out Program Administrator's functions hereunder or otherwise effect the successful implementation of the Program;
- Use its best efforts to accomplish the timely completion of the components of the Program.
- Notify Program Applicant immediately of any lawsuits, condemnation proceedings, rezoning, or, other governmental order or action or any threat thereof that becomes known to Program Administrator that might adversely affect the Program or any interest of Program Applicant whatsoever therein;
- Enter into contracts at Program Applicant's expense for electricity, fuel, water, telephone, or rubbish hauling, and other similar services or such of them as Program Administrator shall deem necessary or advisable;
- Hire and retain at Program Applicant's expense but as employees of Program Administrator and not as employees of Program Applicant, such personnel as Program Administrator reasonably determines is necessary or desirable to perform properly Program Administrator's functions and obligations hereunder. Such employee's compensation, retention and performance shall be determined by Program Administrator

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in its sole discretion. Program Administrator shall be responsible for complying with all laws and regulations and collective bargaining agreements affecting such employment, including the provision at Program Applicant's expense of any benefits or compensation required by statute or contract;

- Obtain appropriate liability insurance coverage for the Program, which coverage may include wrap-up provisions. If cost effective and legally permissible, attempt to become jointly insured in with insurance coverage which is available to the county or state stakeholders.
- Notify the general liability insurance carrier and Program Applicant promptly of any personal injury or property damage occurring to or claimed by any third party on or with respect to the Program and forward promptly to the carrier any summons, subpoena, or other like legal document served upon Program Administrator relating to actual or alleged potential liability of Program Applicant or Program Administrator, with copies to Program Applicant of all such documents;
- Negotiate and execute on behalf of Program Applicant each contract by building owner for participation in the Program;
- At Program Applicant's expense, advertise the availability of the Program, through the use of periodicals, signs, plans, brochures and other means suggested by Program Administrator; and
- Comply with all laws, ordinances, orders, rules, regulations and requirements from time to time in effect of all federal, state and local governments, courts, departments, commissions, boards and offices, any national or local Board of Fire Underwriters or Insurance Services Offices having jurisdiction over the Program or Program Administrator's obligations hereunder or any other body exercising functions similar to those of any of the foregoing. Program Administrator shall give prompt notice to Program Applicant of any violation or notice of alleged violation of such laws.

In the parlance of the public sector, the Program Administrator will perform all of the functions of a contracting officer for this initial phase.

## Injecting Free Market Competition Principles into the Resource Audits

Audit-related disciplines are considered professional designations, and typically in modern competitive bidding practices at the state and federal levels contracts are awarded to provide these types of services without competitive bidding. The goal of having efficient and effective institutions is so important, however, that we will introduce elements of competitive bidding into these components also. We will solicit bids from qualified firms for these services, and upon receipt and evaluation of the bid responses, we will designate or certify firms having the proper qualifications as approved for participation in our programs.

***"Only those elements that produce the optimum amount of resource conservation and create the acceptable number of jobs will be approved for application of public funds."***

Audit contracts will be distributed among the qualified bidders, so that as many firms as possible may participate in the process. This will support the Program goal of creation of as many jobs as possible. Our initial contracts will be awarded to these firms on a fixed price basis. The tasks of auditing and design, particularly in the commercial, office, retail and industrial sectors are somewhat homogeneous, that is reasonably simple and repetitive. Therefore, we anticipate such contracts could be awarded on a "per square foot" or similar basis, so that fixed price agreements would be possible, depending only on the size of the building involved. Simply put, the larger the building, the more time it should take to perform an audit, or a design a solution. This approach will inject some component of the free market competition principle into the process.

Each Resource Audit will include a cost-benefit analysis, as well as discussion of the feasibility of retrofit for solar power generation. The Audits will be made available to those bidding on the Design Solutions and Solution

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Implementation-construction, with confidential portions redacted if requested by the building owners. The following portions of the Program will be administered by the Counties or GVI.

## *Optimization of the Design Solution*

The Design Solution will be either competitively bid as a separate process, or on a design-bid basis. The sequencing is straightforward. At the completion of the Resource Audit process, the audit will be turned over to a Solution Design team to formulate a design which meets our goals of conserving energy and other resources. At the Program level, criteria will be established so that stimulus funds will be applied to create the most return on the public moneys. Algorithms will be developed to take into consideration the goals of resource conservation and job creation and upper and lower acceptable limits will be established. The design analysis will include the comparison of each element of the Solution Design to the goals. Only those elements that produce the optimum amount of resource conservation and create the acceptable number of jobs will be approved for application of public funds.

There may be elements that do not meet the optimization standards established for application of public funds. The building owner will have the option of including such elements in the final Design Solution, provided that the owner's funds pay for such elements which are outside of the Program standards.

After the above analysis, the final Design Solution will be reduced to written documents, including architectural, structural and engineering drawings and specifications suitable for use in the competitive bidding process for the Solution Implementation -- construction phase.

## *Solution Implementation*

The final Solution Design will result in a package which will constitute a typical competitive bidding package for construction purposes. The typical public bidding-type practices will be used, including pre-qualification of bidders, invitation for bids, set bid dates and times, job walks, public bid opening and the like. In order to emphasize the regional nature of the Program, there will be bid preferences available for local, Inland Empire-based bidders. To the degree which is allowed by applicable laws, bid bonds will not be required, or will be required in reduced amounts to allow the maximum stimulation of the economy though the greatest number of potential contractors, consistent with prudent business practices.

Contracts will be awarded and construction of the improvements will proceed.

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# TABLES

| Integrated Regional Resource Conservation Program<br>Audit Program Costs | | | | | |
|---|---|---|---|---|---|
| Building Type | SF of Inventory | Expected Participation Rate | Audited SF | Audit Dollars Per SF | Audit Amounts |
| General Industrial | 37,944,566 | 90% | 34,150,109 | $ 0.1868 | $ 6,380,678 |
| Incubator | 17,542,758 | 90% | 15,788,482 | $ 0.1868 | $ 2,949,953 |
| R&D/Flex | 10,763,294 | 90% | 9,686,965 | $ 0.1868 | $ 1,809,933 |
| Warehouse/Distribution | | | | | |
| Pure Warehouse | 262,635,861 | 90% | 236,372,275 | $ 0.1214 | $ 28,706,791 |
| Refrigerated (at 7.8%) | 28,373,403 | 75% | 21,280,052 | $ 0.1214 | $ 2,584,406 |
| Office Component (at 20%) | 72,752,316 | 90% | 65,477,084 | $ 0.1868 | $ 12,233,876 |
| Office Buildings | 27,285,108 | 75% | 20,463,831 | $ 0.1868 | $ 3,823,505 |
| Retail Buildings | 102,143,346 | 75% | 76,607,510 | $ 0.1214 | $ 9,300,152 |
| Subtotal | 559,440,652 | 86% | 479,826,308 | $ 0.1554 | $ 67,789,295 |
| Program Administration Fees | | | | 10% | $ 6,778,929 |
| Total Program Costs | | | | | $ 74,568,224 |

Table A

***Source of Data/Factors/Assumptions:***

- General Industrial SF: Grubb & Ellis Research, *Industrial Market Trends, Inland Empire,* First Quarter, 2009.
- Incubator SF: Grubb & Ellis Research, *Industrial Market Trends, Inland Empire,* First Quarter, 2009.
- R&D/.Flex SF: Grubb & Ellis Research, *Industrial Market Trends, Inland Empire,* First Quarter, 2009.
- Warehouse/Distribution SF: Grubb & Ellis Research, *Industrial Market Trends, Inland Empire,* First Quarter, 2009.
- Refrigerated Percent of Warehouse/Distribution SF: California Energy Commission, *California Commercial End Use Survey,* March, 2006
- Office Component of Warehouse/Distribution SF: Private Communication with Ryan Koda, Automation Systems Network, Inc. June 9, 2009.
- Office Buildings SF: Grubb & Ellis Research, *Office Market Snapshot, Inland Empire,* First Quarter, 2009.
- Retail Buildings SF: CB Richard Ellis, *Inland Empire Retail MarketView,* Second Quarter, 2008.
- Expected Participation Rate: Estimate.
- Audit Dollars per SF: Modified for Inland Empire from Los Angeles Source Data from Ryan Koda, Automation Systems Network, Inc. June 9, 2009.
- Program Administration Fee: Estimate.

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**Integrated Regional Resource Conservation Program**
**Job Creation From Audits**

| Building Type | SF of Inventory | Audited SF | Audit Hours Per 1,000 SF | Total Auditor Person-hours* | Direct Jobs | Indirect Jobs | Induced Jobs | Total Jobs |
|---|---|---|---|---|---|---|---|---|
| General Industrial | 37,944,566 | 34,150,109 | 2.11 | 80,063 | 50 | 24 | 74 | 148 |
| Incubator | 17,542,758 | 15,788,482 | 2.11 | 37,015 | 23 | 11 | 34 | 68 |
| R&D/Flex | 10,763,294 | 9,686,965 | 2.11 | 22,711 | 14 | 7 | 21 | 42 |
| Warehouse/Distribution | | | | | | | | |
| Pure Warehouse | 262,635,861 | 236,372,275 | 1.37 | 359,811 | 225 | 108 | 333 | 666 |
| Refrigerated (at 7.8%) | 28,373,403 | 21,280,052 | 1.37 | 38,872 | 24 | 11 | 35 | 70 |
| Office Component (at 20%) | 72,752,316 | 65,477,084 | 2.11 | 153,507 | 96 | 46 | 142 | 284 |
| Office Buildings | 27,285,108 | 20,463,831 | 2.11 | 57,572 | 36 | 17 | 53 | 106 |
| Retail Buildings | 102,143,346 | 76,607,510 | 2.11 | 215,523 | 135 | 65 | 200 | 400 |
| Total Buildings | 559,440,652 | 479,826,308 | 2.01 | 965,073 | 603 | 289 | 892 | 1,784 |

* One year audit program.

Table B

***Source of Data/Factors/Assumptions:***

- General Industrial SF: Grubb & Ellis Research, *Industrial Market Trends, Inland Empire,* First Quarter, 2009.
- Incubator SF: Grubb & Ellis Research, *Industrial Market Trends, Inland Empire,* First Quarter, 2009.
- R&D/.Flex SF: Grubb & Ellis Research, *Industrial Market Trends, Inland Empire,* First Quarter, 2009.
- Warehouse/Distribution SF: Grubb & Ellis Research, *Industrial Market Trends, Inland Empire,* First Quarter, 2009.
- Refrigerated Percent of Warehouse/Distribution SF: California Energy Commission, *California Commercial End Use Survey,* March, 2006
- Office Component of Warehouse/Distribution SF: Private Communication with Ryan Koda, Automation Systems Network, Inc. June 9, 2009.
- Office Buildings SF: Grubb & Ellis Research, *Office Market Snapshot, Inland Empire,* First Quarter, 2009.
- Retail Buildings SF: CB Richard Ellis, *Inland Empire Retail MarketView,* Second Quarter, 2008.
- Audited SF: Table A.
- Audit Dollars per 1,000 SF: Modified for Inland Empire from Los Angeles Source Data from Ryan Koda, Automation Systems Network, Inc. June 9, 2009.
- Total Auditor Person-Hours: Calculation.
- Direct Jobs: Calculation Using Annual Billing of 1,600 Hours per Year.
- Indirect Jobs: Calculation Using .48 Factor as a Multiplier of Direct Jobs. Factor Derived from Associated General Contractors, *The Economic Impact of Construction in California*, Updated May 26, 2009, Original Source: Ken Simonson, Chief Economist, AGC of America from Prof. Stephan Fuller, George Mason University and U.S Government sources.
- Induced Jobs: Calculation Using 1.48 Factor as a Multiplier of Direct Jobs. Factor Derived from Associated General Contractors, *The Economic Impact of Construction in California*, Updated May 26, 2009, Original Source: Ken Simonson, Chief Economist, AGC of America from Prof. Stephan Fuller, George Mason University and U.S Government sources.

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**Integrated Regional Resource Conservation Program**
**User's Second Tier Cost Savings**
**Retrofit Energy Cost Savings to Users**

| Building Type | SF of Inventory | Retrofit SF | Annual Electrical Use on Retrofit SF | | | | Annual Gas Use on Retrofit SF | | | | Retrofit Energy Cost Savings to Users |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | KWh per SF | Cost Per KWh | Electrical Energy Dollars | Savings at 25% | Therms per SF | Cost Per Therm | Fuel Dollars | Savings at 25% | |
| General Industrial | 37,944,566 | 25,612,582 | 9.87 | 0.14 | $ 35,391,466 | $ 8,847,866 | 0.24 | 0.57997 | $ 3,565,087 | $ 891,272 | $ 9,739,138 |
| Incubator | 17,542,758 | 11,841,362 | 9.87 | 0.14 | $ 16,362,394 | $ 4,090,598 | 0.24 | 0.57997 | $ 1,648,232 | $ 412,058 | $ 4,502,656 |
| R&D/Flex | 10,763,294 | 7,265,223 | 9.87 | 0.14 | $ 10,039,086 | $ 2,509,771 | 0.24 | 0.57997 | $ 1,011,267 | $ 252,817 | $ 2,762,588 |
| Warehouse/Distribution: | | | | | | | | | | | |
| Pure Warehouse | 262,635,861 | 212,735,047 | 4.29 | 0.14 | $ 127,768,669 | $ 31,942,167 | 0.02 | 0.49286 | $ 2,096,972 | $ 524,243 | $ 32,466,410 |
| Refrigerated (at 7.8%) | 28,373,403 | 5,320,013 | 22.41 | 0.14 | $ 16,691,009 | $ 4,172,752 | 0.11 | 0.49286 | $ 288,422 | $ 72,106 | $ 4,244,858 |
| Office Component (at 20%) | 72,752,316 | 42,560,105 | 4.29 | 0.14 | $ 25,561,599 | $ 6,390,400 | 0.08 | 0.49286 | $ 1,678,094 | $ 419,523 | $ 6,809,923 |
| Office Buildings | 27,285,108 | 13,301,490 | 4.29 | 0.14 | $ 7,988,875 | $ 1,997,219 | 0.08 | 0.49286 | $ 524,462 | $ 131,115 | $ 2,128,334 |
| Retail Buildings | 102,143,346 | 49,794,881 | 15.36 | 0.14 | $ 107,078,912 | $ 26,769,728 | 0.02 | 0.49286 | $ 490,838 | $ 122,710 | $ 26,892,438 |
| Total Buildings | 559,440,652 | 368,430,704 | | | $ 346,882,010 | $ 86,720,503 | | | $ 11,303,374 | $ 2,825,844 | $ 89,546,346 |

Table C

***Source of Data/Factors/Assumptions:***

- General Industrial SF: Grubb & Ellis Research, *Industrial Market Trends, Inland Empire,* First Quarter, 2009.
- Incubator SF: Grubb & Ellis Research, *Industrial Market Trends, Inland Empire,* First Quarter, 2009.
- R&D/.Flex SF: Grubb & Ellis Research, *Industrial Market Trends, Inland Empire,* First Quarter, 2009.
- Warehouse/Distribution SF: Grubb & Ellis Research, *Industrial Market Trends, Inland Empire,* First Quarter, 2009.
- Refrigerated Percent of Warehouse/Distribution SF: California Energy Commission, *California Commercial End Use Survey,* March, 2006
- Office Component of Warehouse/Distribution SF: Private Communication with Ryan Koda, Automation Systems Network, Inc. June 9, 2009.
- Office Buildings SF: Grubb & Ellis Research, *Office Market Snapshot, Inland Empire,* First Quarter, 2009.
- Retail Buildings SF: CB Richard Ellis, *Inland Empire Retail MarketView,* Second Quarter, 2008.
- Retrofit SF: Table E.
- KWh per SF: California Energy Commission, *California Commercial End Use Survey,* March, 2006, Table 10-1.
- Cost per KWh: Private Communication with James Hodge, Southern California Edison, June, 2009.
- Electrical Energy Dollars: Calculation.
- Savings Rate: Estimate Based on Private Communication with Ryan Koda, Automation Systems Network, Inc. June 9, 2009.
- Therms per SF: California Energy Commission, *California Commercial End Use Survey,* March, 2006, Table 10-1.
- Cost per Therm: Southern California Gas Company, *Commercial & Industrial Rates,* June, 2009.

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| Integrated Regional Resource Conservation Program<br>User's Second Tier Job Creation<br>From Reinvestment of Energy Cost Savings | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Building Type | SF of Inventory | Retrofit Energy Cost Savings to Users | Savings Applied to Labor Force Expansion | Estimated Annual Average Labor Rate (Burdened) | Direct Jobs | Indirect Jobs | Induced Jobs | Total Jobs |
| General Industrial | 37,944,566 | $ 9,739,138 | 50% | $27,092 | 180 | 86 | 266 | 532 |
| Incubator | 17,542,758 | $ 4,502,656 | 75% | $27,092 | 125 | 60 | 185 | 370 |
| R&D/Flex | 10,763,294 | $ 2,762,588 | 75% | $27,092 | 76 | 36 | 112 | 224 |
| Warehouse/Distribution: | | | | | | | | |
| Pure Warehouse | 262,635,861 | $ 32,466,410 | 25% | $27,092 | 300 | 144 | 444 | 888 |
| Refrigerated (at 7.8%) | 28,373,403 | $ 4,244,858 | 25% | $27,092 | 39 | 19 | 58 | 116 |
| Office Component (at 20%) | 72,752,316 | $ 6,809,923 | 50% | $31,818 | 107 | 51 | 158 | 316 |
| Office Buildings | 27,285,108 | $ 2,128,334 | 50% | $31,818 | 33 | 16 | 49 | 98 |
| Retail Buildings | 102,143,346 | $ 26,892,438 | 25% | $31,945 | 210 | 101 | 311 | 622 |
| Total Buildings | 559,440,652 | $ 89,546,346 | | | 1,070 | 513 | 1,583 | 3,166 |

Table D

***Source of Data/Factors/Assumptions:***

- General Industrial SF: Grubb & Ellis Research, *Industrial Market Trends, Inland Empire,* First Quarter, 2009.
- Incubator SF: Grubb & Ellis Research, *Industrial Market Trends, Inland Empire,* First Quarter, 2009.
- R&D/.Flex SF: Grubb & Ellis Research, *Industrial Market Trends, Inland Empire,* First Quarter, 2009.
- Warehouse/Distribution SF: Grubb & Ellis Research, *Industrial Market Trends, Inland Empire,* First Quarter, 2009.
- Refrigerated Percent of Warehouse/Distribution SF: California Energy Commission, *California Commercial End Use Survey,* March, 2006
- Office Component of Warehouse/Distribution SF: Personal Conversation with Ryan Koda, Automation Systems Network, Inc. June 9, 2009.
- Office Buildings SF: Grubb & Ellis Research, *Office Market Snapshot, Inland Empire,* First Quarter, 2009.
- Retail Buildings SF: CB Richard Ellis, *Inland Empire Retail MarketView,* Second Quarter, 2008.
- Retrofit Energy Cost Savings to Users: Table C.
- Savings Applied to Labor Force Expansion: Estimate.
- Estimated Annual Average Labor Rate (Burdened): Factory, Office and Retail Hourly Rates for 2,080 Working Hours per Year, Estimated 25% Labor Burden. Rates from California Employment Development Department, *California Employment Guides for San Bernardino County,* Midpoint (50th Percentile), 2009.
- Direct Jobs: Calculation Using Annual Billing of 2,080 Hours per Year.
- Indirect Jobs: Calculation Using .48 Factor as a Multiplier of Direct Jobs. Factor Derived from Associated General Contractors, *The Economic Impact of Construction in California,* Updated May 26, 2009, Original Source: Ken Simonson, Chief Economist, AGC of America from Prof. Stephan Fuller, George Mason University and U.S Government sources.
- Induced Jobs: Calculation Using 1.48 Factor as a Multiplier of Direct Jobs. Factor Derived from Associated General Contractors, *The Economic Impact of Construction in California,* Updated May 26, 2009, Original Source: Ken Simonson, Chief Economist, AGC of America from Prof. Stephan Fuller, George Mason University and U.S Government sources.

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| Integrated Regional Resource Conservation Program<br>Retrofit Costs | | | | | | | |
|---|---|---|---|---|---|---|---|
| Building Type | SF of Inventory | Audited SF | Retrofit Participation (of Inventory SF) | Retrofit Participation (of Audited SF) | Retrofit SF | Retrofit Rate Per SF | Retrofit Dollars |
| General Industrial | 37,944,566 | 34,150,109 | 68% | 75% | 25,612,582 | $ 1.38 | $ 35,345,363 |
| Incubator | 17,542,758 | 15,788,482 | 68% | 75% | 11,841,362 | $ 1.38 | $ 16,341,079 |
| R&D/Flex | 10,763,294 | 9,686,965 | 68% | 75% | 7,265,223 | $ 1.38 | $ 10,026,008 |
| Warehouse/Distribution: | | | | | | | |
| Pure Warehouse | 262,635,861 | 236,372,275 | 81% | 90% | 212,735,047 | $ 0.54 | $ 114,876,926 |
| Refrigerated (at 7.8%) | 28,373,403 | 21,280,052 | 19% | 25% | 5,320,013 | $ 1.38 | $ 7,341,618 |
| Office Component (at 20%) | 72,752,316 | 65,477,084 | 59% | 65% | 42,560,105 | $ 1.38 | $ 58,732,945 |
| Office Buildings | 27,285,108 | 20,463,831 | 49% | 65% | 13,301,490 | $ 1.38 | $ 18,356,056 |
| Retail Buildings | 102,143,346 | 76,607,510 | 49% | 65% | 49,794,881 | $ 1.38 | $ 68,716,936 |
| Total Buildings | 559,440,652 | 479,826,308 | 66% | 77% | 368,430,704 | $ 0.79 | $ 329,736,931 |
| | | | Average | | | Average | |

Table E

***Source of Data/Factors/Assumptions:***

- General Industrial SF: Grubb & Ellis Research, *Industrial Market Trends, Inland Empire,* First Quarter, 2009.
- Incubator SF: Grubb & Ellis Research, *Industrial Market Trends, Inland Empire,* First Quarter, 2009.
- R&D/.Flex SF: Grubb & Ellis Research, *Industrial Market Trends, Inland Empire,* First Quarter, 2009.
- Warehouse/Distribution SF: Grubb & Ellis Research, *Industrial Market Trends, Inland Empire,* First Quarter, 2009.
- Refrigerated Percent of Warehouse/Distribution SF: California Energy Commission, *California Commercial End Use Survey,* March, 2006
- Office Component of Warehouse/Distribution SF: Personal Conversation with Ryan Koda, Automation Systems Network, Inc. June 9, 2009.
- Office Buildings SF: Grubb & Ellis Research, *Office Market Snapshot, Inland Empire,* First Quarter, 2009.
- Retail Buildings SF: CB Richard Ellis, *Inland Empire Retail MarketView,* Second Quarter, 2008.
- Audited SF: Table A.
- Retrofit Participation (of Inventory SF): Calculation.
- Retrofit Participation (of Audited SF): Estimate.
- Retrofit Rate per SF: Lime Energy, Inc., *Success Stories,* www.lime-energy.com, augmented with square footage data from various sources including press releases, assessor records, Google Earth.

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**Integrated Regional Resource Conservation Program**
**Retrofit Job Creation**

| Building Type | SF of Inventory | Retrofit Dollars | Average Prevailing Rate/Hour (Burdened) | Total Retrofit Hours | Total Person Years at 1920 Hours | Direct Jobs | Indirect Jobs | Induced Jobs | Total Jobs |
|---|---|---|---|---|---|---|---|---|---|
| General Industrial | 37,944,566 | $ 35,345,363 | $ 49.39 | 715,605 | 373 | 124 | 59 | 183 | 366 |
| Incubator | 17,542,758 | $ 16,341,079 | $ 49.39 | 330,843 | 172 | 57 | 27 | 84 | 168 |
| R&D/Flex | 10,763,294 | $ 10,026,008 | $ 49.39 | 202,987 | 106 | 35 | 17 | 52 | 104 |
| Warehouse/Distribution: | | | | | - | | | | |
| Pure Warehouse | 262,635,861 | $ 114,876,926 | $ 49.39 | 2,325,806 | 1,211 | 404 | 193 | 597 | 1,194 |
| Refrigerated (at 7.8%) | 28,373,403 | $ 7,341,618 | $ 49.39 | 148,639 | 77 | 26 | 12 | 38 | 76 |
| Office Component (at 20%) | 72,752,316 | $ 58,732,945 | $ 49.39 | 1,189,111 | 619 | 206 | 99 | 305 | 610 |
| | | | | | - | | | | |
| Office Buildings | 27,285,108 | $ 18,356,056 | $ 49.39 | 371,638 | 194 | 65 | 31 | 96 | 192 |
| Retail Buildings | 102,143,346 | $ 68,716,936 | $ 49.39 | 1,391,248 | 725 | 242 | 116 | 358 | 716 |
| Total Buildings | 559,440,652 | $ 329,736,931 | $ 49.39 | 6,675,877 | 3,477 | 1,159 | 554 | 1,713 | 3,426 |
| | | | | | 3 Year Program | | | | |

Table F

***Source of Data/Factors /Assumptions:***

- General Industrial SF: Grubb & Ellis Research, *Industrial Market Trends, Inland Empire,* First Quarter, 2009.
- Incubator SF: Grubb & Ellis Research, *Industrial Market Trends, Inland Empire,* First Quarter, 2009.
- R&D/.Flex SF: Grubb & Ellis Research, *Industrial Market Trends, Inland Empire,* First Quarter, 2009.
- Warehouse/Distribution SF: Grubb & Ellis Research, *Industrial Market Trends, Inland Empire,* First Quarter, 2009.
- Refrigerated Percent of Warehouse/Distribution SF: California Energy Commission, *California Commercial End Use Survey,* March, 2006
- Office Component of Warehouse/Distribution SF: Personal Conversation with Ryan Koda, Automation Systems Network, Inc. June 9, 2009.
- Office Buildings SF: Grubb & Ellis Research, *Office Market Snapshot, Inland Empire,* First Quarter, 2009.
- Retail Buildings SF: CB Richard Ellis, *Inland Empire Retail MarketView,* Second Quarter, 2008.
- Retrofit Dollars: Table E.
- Average Prevailing Rate (Burdened): California Department of Industrial Relations, *Rate Determination SBR-2009-1 and RIV-2009-2*, For Electrician. Marked up 41% per Personal Conversation with Ryan Koda, Automation Systems Network, Inc. June 9, 2009. Assumed 1,920 Hours Annually After 15 Days PTO, Five Rain Days.
- Direct Jobs: Calculation Using Annual Billing of 1,920 Hours per Year. Assumed three year build out.
- Indirect Jobs: Calculation Using .48 Factor as a Multiplier of Direct Jobs. Factor Derived from Associated General Contractors, *The Economic Impact of Construction in California*, Updated May 26, 2009, Original Source: Ken Simonson, Chief Economist, AGC of America from Prof. Stephan Fuller, George Mason University and U.S Government sources. Assumed three year build out.
- Induced Jobs: Calculation Using 1.48 Factor as a Multiplier of Direct Jobs. Factor Derived from Associated General Contractors, *The Economic Impact of Construction in California*, Updated May 26, 2009, Original Source: Ken Simonson, Chief Economist, AGC of America from Prof. Stephan Fuller, George Mason University and U.S Government sources. Assumed three year build out.

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| Integrated Regional Resource Conservation Program<br>Design and Engineering Costs Associated With Retrofit | | | | |
|---|---|---|---|---|
| Building Type | SF of Inventory | Audited SF | Retrofit Dollars | Design Costs at 6% of Retrofit Dollars |
| General Industrial | 37,944,566 | 34,150,109 | $ 35,345,363 | $ 2,120,722 |
| Incubator | 17,542,758 | 15,788,482 | $ 16,341,079 | $ 980,465 |
| R&D/Flex | 10,763,294 | 9,686,965 | $ 10,026,008 | $ 601,561 |
| Warehouse/Distribution: | | | | |
| Pure Warehouse | 262,635,861 | 236,372,275 | $ 114,876,926 | $ 6,892,616 |
| Refrigerated (at 7.8%) | 28,373,403 | 21,280,052 | $ 7,341,618 | $ 440,497 |
| Office Component (at 20%) | 72,752,316 | 65,477,084 | $ 58,732,945 | $ 3,523,977 |
| Office Buildings | 27,285,108 | 20,463,831 | $ 18,356,056 | $ 1,101,363 |
| Retail Buildings | 102,143,346 | 76,607,510 | $ 68,716,936 | $ 4,123,016 |
| Total Buildings | 559,440,652 | 479,826,308 | $ 329,736,931 | $ 19,784,216 |

Table G

***Source of Data/Factors/Assumptions:***

- General Industrial SF: Grubb & Ellis Research, *Industrial Market Trends, Inland Empire,* First Quarter, 2009.
- Incubator SF: Grubb & Ellis Research, *Industrial Market Trends, Inland Empire,* First Quarter, 2009.
- R&D/.Flex SF: Grubb & Ellis Research, *Industrial Market Trends, Inland Empire,* First Quarter, 2009.
- Warehouse/Distribution SF: Grubb & Ellis Research, *Industrial Market Trends, Inland Empire,* First Quarter, 2009.
- Refrigerated Percent of Warehouse/Distribution SF: California Energy Commission, *California Commercial End Use Survey,* March, 2006
- Office Component of Warehouse/Distribution SF: Personal Conversation with Ryan Koda, Automation Systems Network, Inc. June 9, 2009.
- Office Buildings SF: Grubb & Ellis Research, *Office Market Snapshot, Inland Empire,* First Quarter, 2009.
- Retail Buildings SF: CB Richard Ellis, *Inland Empire Retail MarketView,* Second Quarter, 2008.
- Audited SF: Table A.
- Retrofit Dollars: Table E.
- Design Costs Rate: 6% of Retrofit Costs per Personal Conversation with Ryan Koda, Automation Systems Network, Inc. June 9, 2009. Design and Engineering is typically 5-8% of construction costs.

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**Integrated Regional Resource Conservation Program**
**Design and Engineering Jobs Associated With Retrofit**

| Building Type | SF of Inventory | Audited SF | Retrofit Dollars | Design Costs at 6% of Retrofit Dollars | Estimated Annual Average Engineer Rate (Burdened) | Direct Jobs | Indirect Jobs | Induced Jobs | Total Jobs |
|---|---|---|---|---|---|---|---|---|---|
| General Industrial | 37,944,566 | 34,150,109 | $ 35,345,363 | $ 2,120,722 | $100,334 | 21 | 10 | 31 | 62 |
| Incubator | 17,542,758 | 15,788,482 | $ 16,341,079 | $ 980,465 | $100,334 | 10 | 5 | 15 | 30 |
| R&D/Flex | 10,763,294 | 9,686,965 | $ 10,026,008 | $ 601,561 | $100,334 | 6 | 3 | 9 | 18 |
| Warehouse/Distribution: | | | | | | | | | |
| Pure Warehouse | 262,635,861 | 236,372,275 | $ 114,876,926 | $ 6,892,616 | $100,334 | 69 | 33 | 102 | 204 |
| Refrigerated (at 7.8%) | 28,373,403 | 21,280,052 | $ 7,341,618 | $ 440,497 | $100,334 | 4 | 2 | 6 | 12 |
| Office Component (at 20%) | 72,752,316 | 65,477,084 | $ 58,732,945 | $ 3,523,977 | $100,334 | 35 | 17 | 52 | 104 |
| Office Buildings | 27,285,108 | 20,463,831 | $ 18,356,056 | $ 1,101,363 | $100,334 | 11 | 5 | 16 | 32 |
| Retail Buildings | 102,143,346 | 76,607,510 | $ 68,716,936 | $ 4,123,016 | $100,334 | 41 | 20 | 61 | 122 |
| Total Buildings | 559,440,652 | 479,826,308 | $ 329,736,931 | $ 19,784,216 | $100,334 | 145 | 70 | 215 | 430 |

Table H

***Source of Data/Factors/Assumptions:***

- General Industrial SF: Grubb & Ellis Research, *Industrial Market Trends, Inland Empire,* First Quarter, 2009.
- Incubator SF: Grubb & Ellis Research, *Industrial Market Trends, Inland Empire,* First Quarter, 2009.
- R&D/.Flex SF: Grubb & Ellis Research, *Industrial Market Trends, Inland Empire,* First Quarter, 2009.
- Warehouse/Distribution SF: Grubb & Ellis Research, *Industrial Market Trends, Inland Empire,* First Quarter, 2009.
- Refrigerated Percent of Warehouse/Distribution SF: California Energy Commission, *California Commercial End Use Survey,* March, 2006
- Office Component of Warehouse/Distribution SF: Personal Conversation with Ryan Koda, Automation Systems Network, Inc. June 9, 2009.
- Office Buildings SF: Grubb & Ellis Research, *Office Market Snapshot, Inland Empire,* First Quarter, 2009.
- Retail Buildings SF: CB Richard Ellis, *Inland Empire Retail MarketView,* Second Quarter, 2008.
- Audited SF: Table A.
- Retrofit Dollars: Table E.
- Design Costs at 6% of Retrofit Dollars: Table G.
- Estimated Annual Average Engineer Rate (Burdened): Environmental Engineer Hourly Rates for 2,080 Working Hours per Year, Estimated 25% Labor Burden. Rates from California Employment Development Department, *California Employment Guides for San Bernardino County*, Midpoint (50th Percentile), 2009.
- Direct Jobs: Calculation Using Annual Billing of 2,080 Hours per Year.
- Indirect Jobs: Calculation Using .48 Factor as a Multiplier of Direct Jobs. Factor Derived from Associated General Contractors, *The Economic Impact of Construction in California*, Updated May 26, 2009, Original Source: Ken Simonson, Chief Economist, AGC of America from Prof. Stephan Fuller, George Mason University and U.S Government sources.

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Chief Economist, AGC of America from Prof. Stephan Fuller, George Mason University and U.S Government sources.

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| City of Fresno, California, *Hazardous Waste Generator Audit Checklist, Small Quantity Generators* | http://www.co.fresno.ca.us/uploadedFiles/Departments/Public_Health/Divisions/EH/content/CUPA/content/Hazardous_Waste(s)/Hazwaste_Gen_Audit_Chklist_for_SQG.pdf |
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Table I

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[1] AB 32 (Nunez and Pavley) is the *California Global Warming Solutions Act of 2006*. It establishes first-in-the-world comprehensive program of regulatory and market mechanisms to achieve real, quantifiable, cost-effective reductions of greenhouse gases (GHG). The measure makes the Air Resources Board (ARB) responsible for monitoring and reducing GHG emissions, continues the existing Climate Action Team to coordinate statewide efforts, and authorizes the Governor to invoke a safety valve in the event of extraordinary circumstances, catastrophic events or the threat of significant economic harm; for up to 12 months at a time. The measure requires ARB to:

- Establish a statewide GHG emissions cap for 2020, based on 1990 emissions by January 1, 2008.
- Adopt mandatory reporting rules for significant sources of greenhouse gases by January 1, 2008.
- Adopt a plan by January 1, 2009 indicating how emission reductions will be achieved from significant GHG sources via regulations, market mechanisms and other actions.
- Adopt regulations by January 1, 2011 to achieve the maximum technologically feasible and cost-effective reductions in GHGs, including provisions for using both market mechanisms and alternative compliance mechanisms.
- Convene an Environmental Justice Advisory Committee and an Economic and Technology Advancement Advisory Committee to advise ARB.
- Ensure public notice and opportunity for comment for all ARB actions.
- Prior to imposing any mandates or authorizing market mechanisms, requires ARB to evaluate several factors, including but not limited to: impacts on California's economy, the environment, and public health; equity between regulated entities; electricity reliability, conformance with other environmental laws, and to ensure that the rules do not disproportionately impact low-income communities.
- Adopt a list of discrete, early action measures by July 1, 2007 that can be implemented before January 1, 2010 and adopt such measure.

Source: California Air Resources Board.

[2] SB 375 (Steinberg), augments AB 32, passed in 2006, *The Global Warming Solutions Act of 2006* which requires the State of California to reduce greenhouse gas (GHG) emissions to 1990 levels no later than 2020. According to the California Air Resources Board (CARB), in 1990 GHG emissions from automobiles and light trucks were 108 million metric tons, but by 2004 these emissions had increased to 135 million metric tons. The transportation sector contributes over 40 percent of the GHGs throughout the state. Automobiles and light trucks alone contribute almost 30 percent. AB 32 granted CARB broad authority over any "source" of GHG emissions, including the authority to regulate the car and light truck sector. SB 375, by Senator Darrell Steinberg, provides a means for achieving AB 32 goals from cars and light trucks. The bill is a monumental step forward in the State's efforts to achieve the global warming goals consistent with AB 32 (Nunez, Chapter 488, Statutes of 2006). Further, the bill aligns three critical policy areas of importance to local government: (1) regional long-range transportation plans and investments; (2) regional allocation of the obligation for cities and counties to zone for housing; and (3) a process to achieve greenhouse gas emissions reductions targets for the transportation sector.

Source: California State Association of Counties.

[3] AB 811 (Levine) would authorize all cities and counties in California to designate areas within which willing property owners could enter into contractual assessments to finance the installation of distributed renewable generation, as well as energy efficiency improvements, that are permanently fixed to the property owner's residential, commercial, industrial, or other real property. These financing arrangements would allow property owners to finance renewable generation and energy efficiency improvements through low-interest loans that would be repaid as an item on the property owner's property tax bill. The contractual assessments could not be used to finance the purchase or installation of appliances that are not permanently fixed to the real property.

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Source: California Public Utilities Commission.

[4] In his remarks made in Merced on March 18, 2009, the Governor Schwarzenegger stated the goals with respect to the cost of job creation:

> "Now, altogether in California the money, the $625 million, will create 11,250 jobs. So as you know, for every billion dollars that we spend on and invest in infrastructure, it creates another 18,000 new jobs, so this is why we are so eager to get this money from the federal government."

This amounts to $55,555 per job created.

The White House, in its document entitled *Estimates Of Job Creation From The American Recovery And Reinvestment Act of 2009*, released in May, 2009 states that the amount of $92,000 per job-year is the number used in White House projections, which figure includes direct, indirect and induced jobs.

The AGC summary document follows:

AGC of America
THE ASSOCIATED GENERAL CONTRACTORS OF AMERICA
Quality People. Quality Projects.

**The Economic Impact of Construction in California**

**The Economic Impact of Stimulus Investment in California:**

- An additional $1 billion in nonresidential construction spending would add about $2.5 billion to the state's Gross Domestic Product (GDP), about $820 million to personal earnings and create or sustain 21,000 jobs.
  - 7,100 jobs would be *direct* construction jobs located within California.
  - 3,400 jobs would be *indirect* jobs from supplying construction materials and services. The majority of these jobs would be located within the state but there would be some out of state jobs supported.
  - 10,500 jobs would be *induced* when workers and owners in construction and supplier businesses spend their incomes locally and nationwide.

**Construction Employment:**

- In 2007, a total of 1,451,000 jobs were supported by the direct and indirect outlays associated with the state's nonresidential construction spending.
- The construction industry (residential plus nonresidential) employed 665,000 workers in April 2009, a decrease of 283,500 (30%) from February 2006 when construction employment in California peaked.

**Nonresidential Construction Spending:**

- Nonresidential construction spending in California totaled an estimated $71 billion in 2007.
- This direct construction spending in the state contributed a total of $178 billion (9.8%) to state GDP of $1.8 trillion.
- Direct construction spending in the state added $58 billion in additional personal earnings to the benefit of California residents working in the state.

**Construction Industry Pay:**

- In 2007 annual pay of all construction workers in California averaged $51,600, 3.4% more than the average for all private sector employees.

**Small Business:**

- California had 78,000 construction firms in 2006, of which 88% were small businesses employing fewer than 20 workers.

Source: Ken Simonson, Chief Economist, AGC of America, simonsonk@agc.org, from Prof. Stephen Fuller, George Mason University; and U.S. Government sources

Updated: May 26, 2009

[5] See Executive Office of the President, Council of Economic Advisors, *Estimates of Job Creation from the American Recovery and Reinvestment Act Of 2009, page 6.*

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[6] The concept of direct, indirect, and induced jobs is not novel, and has been commented upon for years by economists studying the subject. The White House, in its document Executive Office of the President, Council of Economic Advisors, *Estimates of Job Creation from the American Recovery and Reinvestment Act Of 2009*, released in May, 2009 discusses this concept and presents its own factors. However, since most of the work is construction related, we chose to use the Associated General Contractor's factors in calculating the job creation. The White House document describes the three categories as follows:

> "Direct jobs, which are the job-years created in the actual government-sponsored project.
>
> Indirect jobs, which are the job-years created at suppliers who make the materials used in the project.
>
> Induced jobs, which are the job-years created elsewhere in the economy as increases in income from the direct government spending lead to additional increases in spending by workers and firms."

The Inland Empire is has large enough area, population, and diversity that it is assumed that all direct, indirect and induced jobs occur within the Inland Empire.

[7] The Adobe headquarters building is LEED certified. The retrofit figures are as follows:

| **Adobe Headquarters (LEED Certified)** | | |
|---|---|---|
| Cost From: www.sustainablefacility.com | | |
| Size From: www.energystar.gov | | |
| Adobe Expenditures | $ | 1,118,173 |
| Rebates | $ | 349,460 |
| Total Cost | $ | 1,467,633 |
| Size of Building in SF | | 939,358 |
| Cost per SF | | 1.56 |

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GREEN
VALLEY
INITIATIVE

**U.S. DEPARTMENT OF COMMERCE**
Economic Development Administration
Jackson Federal Building, Room 1890
915 Second Avenue
Seattle, Washington 98174
Fax: (206) 220-7669

October 8, 2008

Mr. Ali Sahabi
Chairman
Green Institute for Village Empowerment
Post Office Box 77756
Corona, CA 92877

Re: Comprehensive Economic Development Strategy.

Dear Mr. Sahabi:

The Seattle Regional Office of the Economic Development Administration (EDA) has reviewed your "Comprehensive Economic Development Strategy" submitted by the Green Institute for Village Empowerment, prepared by USC Center for Economic Development.

SRO approves your CEDS document and supports the Green Institute for Village Empowerment in your economic development efforts. The efforts of you and your staff are appreciated, we at EDA-SRO hope the CEDS will assist your communities in their economic development activities as well as provide much needed help in seeking other public and private funding opportunities.

The annual update will remain on file and current through October 31, 2009, at which time another annual report/update will need to be submitted. Potential projects in the qualified communities covered by the CEDS would be eligible for EDA support until that time. However there is no guarantee that a proposed project will be financially supported by EDA.

If you have any questions or comments, please contact me at (206) 220-7680, or Bettye Atkinson, Area Director at (206) 220-7665.

Sincerely,

Bill O'Neil
Community Planner

cc: Les Hamasaki

GREEN VALLEY INITIATIVE

# 2008 - 2013 Green Valley Initiative

# Comprehensive Economic Development Strategy

A Framework
for
Green Technology Business and Job Creation
in the
Inland Empire

***Submitted to***
**Economic Development Administration**
***By***
**Green Institute for Village Empowerment**

**August 2008**

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***Prepared by***

**USC Center for Economic Development**
**School of Policy, Planning, and Development**
**University of Southern California**

**August 2008**

## Foreword

The Green Valley Initiative is a movement to bring green technologies and sustainable practices to the Inland Empire. The desired outcomes are to reduce the region's long commutes, promote more efficient use of the region's under-utilized resources, and align business and land-use practices to increase quality of life and promote sustainable economic development.

This effort was initiated when the Green Institute for Village Empowerment sponsored a stakeholders meeting on June 1, 2007. Stakeholders present at the kick-off meeting included County Supervisors from Riverside and San Bernardino counties, and representatives from education, local government, Indian tribes, and business. The purpose of this gathering was to initiate the Green Valley Initiative (GVI), a regional economic development plan focused on bringing green technologies, renewable energy, alternative transportation, and sustainable lifestyles to the Inland Empire.

Developing and implementing a comprehensive economic development strategy requires planning and vision. Stakeholders met during the summer and autumn of 2007 to discuss what it would take to transform the local economy into a green economy. The Principal Leaders of the Sustainable Economic Development Committee are Bill Carney, President & CEO of the Inland Empire Economic Development Partnership, Michael Morris, Vice President of Commercial Development of LNR Commercial Property Group, and Sarah Mundy, Deputy Director of Riverside County Economic Development Agency.

At the end of the process, the following recommendations were made:

- Encourage the growth of local green technology businesses
- Attract renewable energy businesses
- Encourage local entrepreneurial efforts through
    1. Green business development
    2. Development of green technology incubators, targeted commercialization support, and development of green technology parks
- Encourage local green finance from angel investors to venture capital investments to operations

This report highlights the competitive strengths of the Inland Empire for attracting, retaining and growing green technology businesses, identifies strategies to encourage the growth of existing companies and increase the region's competitiveness for attracting renewable energy businesses, and identifies strategies to encourage local entrepreneurial activity in green technology industry sectors.

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## *Introduction*

The Green Valley Comprehensive Economic Development Strategy (CEDS) has been developed under the guidance and direction of the Green Valley Initiative Sustainable Economic Development Committee for the Inland Empire, which is composed of the counties of Riverside and San Bernardino. See Appendix for a list of committee members. The CEDS outlines the requirements that must be met to qualify for assistance under most Economic Development Administration (EDA) programs. Public Law 105-393, the Economic Development Administration Reform Act of 1998, and the Public Works and Economic Development Act (PWEDA) of 1965, as amended, requires a strategy to qualify for assistance under EDA public works programs, economic adjustment, and most planning programs.

The Inland Empire is strategically located, ethnically diverse, and a vibrant player in the state, national, and international economy. The region exhibits a distinct identity within Southern California and with a population of 4,170,780 represents 11 percent of California's population.

In this report, we present the CEDS for the Inland Empire or the Region, in the form of an economic roadmap that attempts to diversify and strengthen the local and regional economy. This document presents recent socio-economic trends and identifies economically distressed areas that are eligible for EDA assistance. It also presents economic development problems, opportunities, goals and objectives, and discusses strategies to alleviate poverty and create new high-paying jobs in the area.

This CEDS is intended to serve as a baseline document and part of a dynamic process to evolve economic development strategies that influence planning and implementation of projects. Pursuant to 13 C.F.R. § 303.7, this CEDS is divided into the following sections:

1. Background
2. Analysis of Economic Development Problems and Opportunities
3. Community and Private Sector Participation
4. CEDS Goals and Objectives -- Defining Regional Expectations
5. Strategic Projects, Programs and Activities
6. CEDS Plan of Action
7. Performance Measures

**1. Background**

This section provides an overview of the Inland Empire with a discussion on population growth and socio-economic trends including age, race, income, education levels, occupational distribution, housing, and other relevant information. Altogether, these topics provide an accurate description of how the region exists today. The section also provides data on area eligibility for federal funding based on criteria provided by EDA, U.S. Department of Commerce.

**2. Analysis of Economic Development Problems and Opportunities**

This section highlights the main strengths and weaknesses of the Inland Empire, and identifies problems and opportunities. The analysis incorporates materials from other government sponsored or supported plans, identifies past, present, and projected future economic development investments, and identifies and analyzes economic clusters within the region.

**3. Community and Private Sector Participation**
A diverse constituency of public and private sector including residents, businesses, local government staff, community-based organizations, and economic development corporations has participated in the development and implementation of CEDS. In this section, we present community identified problems and opportunities.

**4. CEDS Goals and Objectives -- Defining Regional Expectations**
A CEDS is the result of a continuing economic development process developed with broad-based and diverse public and private sector participation. In this section, we identify goals and objectives necessary to solve the economic problems, stakeholder vision, and recommended economic development strategies.

**5. Strategic Projects, Programs and Activities**
In this section, we identify the projects, programs and activities designed to implement the goals and objectives of the CEDS. Based on the community participation process, we identify suggested projects and vital projects that best address the region's greatest needs or best enhance the area's competitiveness.

**6. CEDS Plan of Action**
The plan of action identifies next steps necessary to implement the goals and objectives identified in the CEDS to strengthen and diversify the local and regional economy.

**7. Performance Measures**
In this section, we enumerate the performance measures that will be used in evaluating the successful development and implementation of the Green Valley CEDS. Measures include and are not limited to the number and type of jobs created, number of jobs retained, amount and type of private sector investment leveraged after implementation of the CEDS.

# I. Background

The Inland Empire is comprised of the counties of Riverside and San Bernardino in Southern California (Map 1). This area is among the fastest growing regions in the nation. The Inland Empire covers 27,312[i] square miles or 17.6 percent of the State of California's 155,959[ii] square miles. Its population of 4,170,780[iii] accounts for only 11 percent of the state's total population due to the geography of the region.

**Riverside County**

Riverside County has a land area of 7,207 square miles and roughly half of the population of the Inland Empire. The largest city and the county seat is the City of Riverside, which is one of 24 incorporated cities in the county. Riverside County was created by the Legislature in 1893 from the territory of San Diego and San Bernardino Counties. Riverside County is bordered by the state of Arizona on the east, San Bernardino County on the north, Orange County on the west, and San Diego and Imperial Counties on the south.

Incorporated Cities in order of size:

| | | |
|---|---|---|
| Riverside | Palm Desert | Norco |
| Moreno Valley | Perris | Beaumont |
| Corona | Palm Springs | Blythe |
| Temecula | Lake Elsinore | Desert Hot Springs |
| Murrieta | La Quinta | Rancho Mirage |
| Indio | Coachella | Canyon Lake |
| Hemet | San Jacinto | Calimesa |
| Cathedral City | Banning | Indian Wells |

**San Bernardino County**

San Bernardino County has a land area of 20,105 square miles and is the largest county in California. It houses roughly half of the population of the region. Approximately 53 square miles are covered by water. On April 26, 1853, San Bernardino County was created from parts of Los Angeles, San Diego, and Mariposa counties. The largest city, the City of San Bernardino was incorporated as the county seat in 1854 and it is one of 24 incorporated cities in the county. San Bernardino County is bordered by the States of Arizona and Nevada on the east, Inyo County on the north, Kern and Los Angeles Counties on the west, and Orange and Riverside Counties on the south.

Incorporated Cities in order of size:

| | | |
|---|---|---|
| San Bernardino | Chino Hills | Twentynine Palms |
| Ontario | Upland | Adelanto |
| Rancho Cucamonga | Redlands | Barstow |
| Fontana | Apple Valley | Loma Linda |
| Rialto | Colton | Yucca Valley |
| Victorville | Highland | Grand Terrace |
| Hesperia | Yucaipa | Big Bear Lake |
| Chino | Montclair | Needles |

**Exhibit 1: Map of Inland Empire**

In the next section, we discuss demographic trends and the socio-economic profile of the Inland Empire and the cities, with populations greater than 65,000, which meet EDA funding criteria. Those cities are Apple Valley, Chino, Fontana, Hemet, Hesperia, Indio, Moreno Valley, Ontario, Redlands, Rialto, San Bernardino, and Victorville. The cities that are not eligible for EDA funding are Corona, Chino Hills, Murrieta, Rancho Cucamonga, Redlands, Temecula, and Upland.

The Inland Empire is represented by the data for the Riverside-San Bernardino-Ontario Metropolitan Statistical Area (MSA) which encompasses the two counties. For consistency, Inland Empire or region is used when referring to the Riverside-San Bernardino-Ontario MSA. The data is from Claritas. The 1990 and 2000 figures are from the 1990 and 2000 U.S. Census. The 2008 estimates and 2013 forecasts were calculated by Claritas. Their methodology is described in the text box.

**Claritas Update Demographics**

For more than 35 years, Claritas has delivered annual demographic data updates. In building the update, Claritas relies on data obtained through federal government agencies such as the U.S. Census; U.S. Postal Service & Office of Federal Housing Enterprise Oversight; local government agencies and non-governmental sources such as Equifax, Valises, ADVO, and the National Association of Realtors. This data is utilized in a combined 'bottom-up' and 'top-down' process for generating current year estimates and five-year projections for demographic base counts, population characteristics, household characteristics and housing unit characteristics.

In the "bottom-up" process, local level data is used to assess demographic growth and decline in small geographies. In the "top-down" process, U.S. Census Bureau estimates and other federal data are used to develop totals for demographic variables for larger areas such as cities, counties and states. These independently produced estimates serve the important function of methodological controls to ensure that any indications of demographic change are consistent across all demographic data sources.

www.claritas.com

## A. Population

The Inland Empire experienced growth of 25.7% between 1990 and 2000 and an estimated growth of 28.1% between 2000 and 2008 as shown in Exhibit 1. According to the Claritas forecast, the region is growing faster this decade than last; however this growth is not evenly distributed throughout the two counties. Between 2000 and 2008 Apple Valley, Chino, and Hesperia had almost twice the growth of the previous decade, while the population of Indio and Redlands had more than doubled. The most significant among these is Redlands with 13.3% growth between 2000-2008 in comparison to 1.5% between 1990 and 2000. In contrast, Ontario, Rialto, and San Bernardino experienced a decline in growth between 2000 and 2008. The forecast is for continued growth at a slightly slower rate.

**Exhibit 2: Population Growth**

| City | Population | | | | | | |
|---|---|---|---|---|---|---|---|
| | 1990 Census | 2000 Census | 2008 Estimate | 2013 Projection | Growth 1990-2000 | Growth 2000-2008 | Growth 2008-2013 |
| **Inland Empire** | 2,588,793 | 3,254,821 | 4,170,780 | 4,800,532 | 26% | 28% | 15% |
| **Apple Valley** | 46,168 | 54,239 | 72,922 | 84,989 | 17% | 34% | 17% |
| **Chino** | 59,803 | 67,168 | 80,854 | 90,364 | 12% | 20% | 12% |
| **Fontana** | 87,444 | 128,929 | 177,288 | 208,186 | 47% | 38% | 17% |
| **Hemet** | 49,088 | 58,812 | 72,042 | 81,992 | 20% | 23% | 14% |
| **Hesperia** | 50,909 | 62,582 | 89,240 | 105,996 | 23% | 43% | 19% |
| **Indio** | 37,554 | 49,116 | 82,771 | 103,693 | 31% | 69% | 26% |
| **Moreno Valley** | 118,757 | 142,381 | 190,199 | 223,188 | 20% | 34% | 17% |
| **Ontario** | 134,910 | 158,007 | 178,000 | 193,953 | 17% | 13% | 9% |
| **Redlands** | 62,649 | 63,649 | 72,015 | 78,531 | 2% | 13% | 9% |
| **Rialto** | 72,300 | 91,873 | 100,024 | 107,289 | 27% | 9% | 7% |
| **San Bernardino** | 170,740 | 185,401 | 200,150 | 213,661 | 9% | 8% | 7% |
| **Victorville** | 50,624 | 64,029 | 106,865 | 132,807 | 26% | 67% | 24% |

Source: U.S. Census, Claritas 2008 Demographic Update

### B. Density

The Inland Empire has density of only 153 persons per square mile due to the large portion of each county that is unpopulated but filled with natural features such as mountain ranges, deserts, and wildlife reserves. Within the cities studied, the densest cities are Fontana and Rialto and the least dense are Apple Valley and Hesperia.

**Exhibit 3: Density**

| Geography | 2008 Population Estimate | Area (sq.miles) | Density (Persons/ sq.miles) |
|---|---|---|---|
| **Inland Empire** | 4,170,780 | 27,260 | 153 |
| **Apple Valley** | 72,922 | 73 | 994 |
| **Chino** | 80,854 | 21 | 3,841 |
| **Fontana** | 177,288 | 36 | 4,868 |
| **Hemet** | 72,042 | 26 | 2,810 |
| **Hesperia** | 89,240 | 67 | 1,325 |
| **Indio** | 82,771 | 27 | 3,101 |
| **Moreno Valley** | 190,199 | 51 | 3,713 |
| **Ontario** | 178,000 | 50 | 3,576 |
| **Redlands** | 72,015 | 35 | 2,030 |
| **Rialto** | 100,024 | 22 | 4,574 |
| **San Bernardino** | 200,150 | 59 | 3,403 |
| **Victorville** | 106,865 | 73 | 1,468 |

Source: U.S. Census, Claritas 2008 Demographic Update

### C. Households

The Bureau of Census defines household as "a person or group of people who occupy a housing unit as their usual place of residence. The number of households equals the number of occupied housing units in a census." We observe trends similar to population growth in household growth. The number of households experienced an increase of 19.4 percent in the Inland Empire from 866,804 in 1990 to 1,034,812 in 2000. One reason for strong household growth is migration from neighboring counties due to the availability of less expensive single-family housing. The estimate of growth over the past eight years is even greater at 25 percent and is expected to slow to 13 percent in the next five years.

As shown in Exhibit 3, all of the cities except Rialto and San Bernardino experienced significant growth in households between 2000 and 2008. The percentage growth of households in Rialto decreased from 12.8% between 1990 and 2000 to 4.4% between 2000 and 2008. The growth of households between 2000 and 2008 almost doubled for Hemet, Hesperia, Indio, Moreno Valley, Redlands, San Bernardino and Victorville than over the previous decade. According to the

Claritas forecast, a majority of the cities will continue experiencing an increase in households but at a slower rate between 2008 and 2013.

**Exhibit 4: Household Growth**

| | Household | | | | | | |
|---|---|---|---|---|---|---|---|
| | 1990 Census | 2000 Census | 2008 Estimate | 2013 Projection | Growth 1990-2000 | Growth 2000-2008 | Growth 2008-2013 |
| **Inland Empire** | 866,804 | 1,034,812 | 1,297,214 | 1,472,131 | 19% | 25% | 13% |
| **Apple Valley** | 15,621 | 18,557 | 24,641 | 28,470 | 19% | 33% | 16% |
| **Chino** | 15,678 | 17,304 | 20,044 | 21,952 | 10% | 16% | 10% |
| **Fontana** | 26,283 | 34,014 | 44,931 | 51,510 | 29% | 32% | 15% |
| **Hemet** | 23,092 | 25,252 | 30,482 | 34,331 | 9% | 21% | 13% |
| **Hesperia** | 16,700 | 19,966 | 27,599 | 32,189 | 20% | 38% | 17% |
| **Indio** | 11,003 | 13,871 | 23,560 | 29,345 | 26% | 70% | 25% |
| **Moreno Valley** | 34,967 | 39,225 | 51,232 | 59,064 | 12% | 31% | 15% |
| **Ontario** | 40,771 | 43,525 | 47,517 | 50,757 | 7% | 9% | 7% |
| **Redlands** | 22,768 | 23,593 | 26,271 | 28,401 | 4% | 11% | 8% |
| **Rialto** | 21,864 | 24,659 | 25,753 | 26,952 | 13% | 4% | 5% |
| **San Bernardino** | 56,438 | 56,330 | 58,380 | 60,877 | 0% | 4% | 4% |
| **Victorville** | 16,855 | 20,893 | 33,593 | 40,841 | 24% | 61% | 22% |

Source: U.S. Census, Claritas 2008 Demographic Update

The proportion of family to non-family households is shown in Exhibit 4. Three quarters of households in the Inland Empire are families. Fontana has the highest proportion of family households at 86 percent. Only three of the cities studied, Hemet, Redlands, and San Bernardino, have fewer family households than 75%.

Household size is tabulated in Exhibit 5. In the Inland Empire, 37% of households have 4 or more people and 63% have 3 or less. In contrast, nine of the studied cities have more households of 4 or more people. Five of the cities, Chino, Fontana, Moreno Valley, Ontario, and Rialto, have greater than 10% more households of 4 or more people. Hemet and Redlands have more small households containing 3 or less people, with 82% and 74% respectively.

**Exhibit 5: 2008 Estimate of Households by Household Type**

| | 2008 Estimate | Family Households | Non-Family Households |
|---|---|---|---|
| **Inland Empire** | 1,297,214 | 75% | 25% |
| **Apple Valley** | 24,641 | 77% | 23% |
| **Chino** | 20,044 | 82% | 18% |
| **Fontana** | 44,931 | 86% | 14% |
| **Hemet** | 30,482 | 60% | 40% |
| **Hesperia** | 27,599 | 79% | 21% |
| **Indio** | 23,560 | 78% | 22% |
| **Moreno Valley** | 51,232 | 84% | 16% |
| **Ontorio** | 47,517 | 79% | 21% |
| **Redlands** | 26,271 | 68% | 32% |
| **Rialto** | 25,753 | 83% | 17% |
| **San Bernardino** | 58,380 | 73% | 27% |
| **Victorville** | 33,593 | 76% | 24% |

Source: U.S. Census, Claritas 2008 Demographic Update

**Exhibit 6: 2008 Estimate of Households by Household Size**

| | 2008 Estimate | 1-person Household | 2-person Household | 3-person Household | 4-person Household | 5-person Household | 6-person Household | 7-person Household |
|---|---|---|---|---|---|---|---|---|
| **Inland Empire** | 1,297,214 | 19% | 28% | 16% | 16% | 10% | 5% | 5% |
| **Apple Valley** | 24,641 | 18% | 33% | 17% | 15% | 9% | 5% | 3% |
| **Chino** | 20,044 | 13% | 21% | 18% | 20% | 13% | 7% | 7% |
| **Fontana** | 44,931 | 10% | 18% | 17% | 20% | 16% | 9% | 9% |
| **Hemet** | 30,482 | 33% | 38% | 11% | 9% | 5% | 2% | 2% |
| **Hesperia** | 27,599 | 16% | 28% | 18% | 17% | 11% | 6% | 5% |
| **Indio** | 23,560 | 16% | 25% | 16% | 16% | 13% | 7% | 8% |
| **Moreno Valley** | 51,232 | 11% | 21% | 18% | 21% | 14% | 8% | 8% |
| **Ontario** | 47,517 | 15% | 21% | 16% | 17% | 13% | 8% | 10% |
| **Redlands** | 26,271 | 26% | 32% | 17% | 14% | 7% | 3% | 2% |
| **Rialto** | 25,753 | 13% | 19% | 17% | 19% | 14% | 9% | 10% |
| **San Bernardino** | 58,380 | 20% | 24% | 16% | 15% | 11% | 7% | 7% |
| **Victorville** | 33,593 | 18% | 27% | 17% | 17% | 11% | 6% | 4% |

Source: U.S. Census, Claritas 2008 Demographic Update

### D. Age

According to 2008 Claritas estimates, the Inland Empire is made up of 23 percent youth and children (Age 14 and below), 51 percent working age (age 25-64) and 10 percent seniors. Exhibit 6 provides a breakdown of the population by age group. Although there is variation between cities, as a group they are within one percentage point of the Inland Empire average.

The cities with the widest variance of youth and children aged 0-14 are Fontana with 28.6 percent and Redlands with 18.6 percent. On the other end of the age spectrum, the cities with the widest variance are Hemet with 30 percent and Fontana and Moreno Valley with 5 percent.

There is much less variation in the working aged population. Nine cities are within 2 percentage points of the Inland Empire, three are within 4 percentage points, and only Hemet is 10 percentage points less than the average.

**Exhibit 7: 2008 Estimate of Population by Age**

| | 2008 Estimate | Age 0-9 | Age 10-14 | Age 15-20 | Age 21-24 | Age 25-34 | Age 35-44 | Age 45-54 | Age 55-64 | Age 65 + |
|---|---|---|---|---|---|---|---|---|---|---|
| **Inland Empire** | 4,170,780 | 15% | 8% | 10% | 6% | 16% | 14% | 13% | 8% | 10% |
| **Apple Valley** | 72,922 | 14% | 9% | 11% | 6% | 13% | 11% | 13% | 10% | 13% |
| **Chino** | 80,854 | 14% | 8% | 11% | 7% | 18% | 16% | 13% | 8% | 6% |
| **Fontana** | 177,288 | 19% | 10% | 10% | 6% | 16% | 16% | 12% | 7% | 5% |
| **Hemet** | 72,042 | 13% | 6% | 7% | 5% | 14% | 11% | 9% | 7% | 30% |
| **Hesperia** | 89,240 | 15% | 9% | 11% | 6% | 15% | 13% | 13% | 9% | 10% |
| **Indio** | 82,771 | 18% | 8% | 10% | 6% | 19% | 15% | 10% | 6% | 8% |
| **Moreno Valley** | 190,199 | 16% | 9% | 11% | 6% | 18% | 14% | 13% | 7% | 5% |
| **Ontario** | 178,000 | 18% | 9% | 10% | 6% | 18% | 16% | 12% | 7% | 6% |
| **Redlands** | 72,015 | 12% | 7% | 10% | 6% | 15% | 13% | 14% | 11% | 12% |
| **Rialto** | 100,024 | 18% | 10% | 11% | 6% | 16% | 14% | 12% | 7% | 6% |
| **San Bernardino** | 200,150 | 18% | 9% | 10% | 6% | 16% | 14% | 11% | 7% | 7% |
| **Victorville** | 106,865 | 17% | 10% | 10% | 6% | 14% | 14% | 12% | 8% | 10% |

Source: U.S. Census, Claritas 2008 Demographic Update

### E. Race and Ethnicity

The census data tracks both race and ethnicity by race. These have been combined in Exhibit 7 to show the percentage that is not Hispanic or Latino by race and the percentage of the population that is Hispanic or Latino. In the Inland Empire as a whole, 45 percent of the population is Hispanic or Latino according to the 2008 estimates from Claritas. 39 percent is White, 7 percent is Black or African American, 5 percent is Asian, 1 percent is American Indian or Alaska Native, and 2% are from two or more races.

All of the cities are within 1 percentage point of the average in population of American Indian and Alaska Native, and Two or More Races. The range is wider for the Asian population, 4 percentage points at the widest. However, with the exception of Victorville, the studied cities range widely from the average for the Inland Empire in the remaining population distribution.

In Apple Valley, Hemet, and Redlands over 50 percent of the population is White and less than 30 percent of the population is Hispanic or Latino. In Chino, Fontana, Indio, Ontario, Rialto, and San Bernardino, the reverse is true, less than 27 percent of the population is White and over 57 percent of the population is Hispanic or Latino. Hemet has the largest white percentage with 61 percent, Indio has the largest Hispanic or Latino percentage with 80 percent, and Moreno Valley has the largest Black or African American population with 20 percent.

**Exhibit 8: 2008 Estimate of Race and Ethnicity**

| | 2008 Estimate | Not Hispanic or Latino | | | | | Hispanic or Latino of Any Race |
|---|---|---|---|---|---|---|---|
| | | White Alone | Black or African American Alone | American Indian & Alaska Native Alone | Asian Alone | Two or More Races | |
| **Inland Empire** | 4,170,780 | 39% | 7% | 1% | 5% | 2% | 45% |
| **Apple Valley** | 72,922 | 58% | 10% | 1% | 3% | 3% | 25% |
| **Chino** | 80,854 | 27% | 7% | 0% | 6% | 2% | 58% |
| **Fontana** | 177,288 | 16% | 12% | 0% | 5% | 2% | 65% |
| **Hemet** | 72,042 | 61% | 3% | 1% | 2% | 2% | 30% |
| **Hesperia** | 89,240 | 51% | 4% | 1% | 1% | 3% | 40% |
| **Indio** | 82,771 | 15% | 2% | 0% | 2% | 1% | 80% |
| **Moreno Valley** | 190,199 | 22% | 20% | 0% | 8% | 3% | 46% |
| **Ontario** | 178,000 | 17% | 6% | 0% | 4% | 2% | 70% |
| **Redlands** | 72,015 | 55% | 4% | 1% | 6% | 2% | 30% |
| **Rialto** | 100,024 | 14% | 19% | 0% | 2% | 3% | 62% |
| **San Bernardino** | 200,150 | 20% | 15% | 1% | 5% | 2% | 57% |
| **Victorville** | 106,865 | 35% | 13% | 0% | 4% | 3% | 44% |

Source: U.S. Census, Claritas 2008 Demographic Update

### F. Educational Attainment

Formal educational attainment is an important indicator of employment-related skills and predictor of lifetime earning potential. A population's education attainment profile plays an important role in employment rates, household income, and type of employers that recruit from or locate near that population base.

The educational attainment profile for the Inland Empire is represented for the population aged 25 or above in Exhibit 8. In the region, 75 percent of the population aged 25 or above has completed a High School education. However, in Chino, Indio, Ontario, Rialto, and San Bernardino, less than 67% of the population aged 25 or above has completed their High School education. On the other end of the scale, in Redlands, 86% of the population aged 25 or above has completed their High School education, 19% have their bachelor's degree and another 16% has completed both a bachelor's degree and a graduate degree.

**Exhibit 9: 2008 Estimate of Population Age 25+ by Educational Attainment**

| | 2008 Estimate | < High School | High School Graduate (or GED) | Some College, no Degree | AA Degree Only | Bachelor's Degree | Graduate Degree |
|---|---|---|---|---|---|---|---|
| **Inland Empire** | 2,534,471 | 25% | 25% | 26% | 7% | 11% | 6% |
| **Apple Valley** | 44,550 | 18% | 28% | 30% | 8% | 10% | 6% |
| **Chino** | 49,461 | 29% | 26% | 24% | 7% | 10% | 3% |
| **Fontana** | 97,855 | 33% | 25% | 25% | 7% | 8% | 3% |
| **Hemet** | 50,232 | 26% | 31% | 27% | 5% | 7% | 4% |
| **Hesperia** | 52,672 | 27% | 31% | 27% | 7% | 5% | 3% |
| **Indio** | 48,039 | 42% | 23% | 21% | 4% | 6% | 4% |
| **Moreno Valley** | 108,750 | 25% | 25% | 27% | 8% | 10% | 5% |
| **Ontario** | 103,050 | 37% | 24% | 23% | 6% | 8% | 3% |
| **Redlands** | 46,720 | 14% | 18% | 25% | 8% | 19% | 16% |
| **Rialto** | 54,927 | 33% | 28% | 24% | 7% | 6% | 2% |
| **San Bernardino** | 112,673 | 35% | 25% | 22% | 6% | 8% | 4% |
| **Victorville** | 61,147 | 23% | 30% | 29% | 8% | 7% | 4% |

Source: U.S. Census, Claritas 2008 Demographic Update

### G. Income and Poverty

Household Income is used to determine poverty. Exhibit 9 shows the median household income level for the Inland Empire and the cities studied. Eight of the cities fall below the median and four fall above. Exhibit 10 shows the distribution of incomes from less than $15,000 to over $100,000.

**Exhibit 10: 2008 Estimate of Median Household Income**

| | Median Household Income |
|---|---|
| Inland Empire | $53,854 |
| Apple Valley | $49,202 |
| Chino | $69,562 |
| Fontana | $61,025 |
| Hemet | $33,709 |
| Hesperia | $50,487 |
| Indio | $45,902 |
| Moreno Valley | $57,358 |
| Ontario | $53,218 |
| Redlands | $60,426 |
| Rialto | $50,072 |
| San Bernardino | $38,162 |
| Victorville | $44,507 |

Source: U.S. Census, Claritas 2008 Demographic Update

**Exhibit 11: 2008 Estimate of Household Income**

| | 2008 Estimate | < $15,000 | $15,000-$24,999 | $25,000 - $49,999 | $50,000-$74,999 | $75,000-$99,999 | $100,000 or more |
|---|---|---|---|---|---|---|---|
| Inland Empire | 1,297,214 | 11% | 10% | 25% | 20% | 13% | 20% |
| Apple Valley | 24,641 | 12% | 11% | 28% | 19% | 12% | 18% |
| Chino | 20,044 | 7% | 8% | 19% | 21% | 16% | 30% |
| Fontana | 44,931 | 9% | 8% | 24% | 21% | 16% | 22% |
| Hemet | 30,482 | 18% | 19% | 33% | 16% | 8% | 8% |
| Hesperia | 27,599 | 11% | 11% | 27% | 23% | 14% | 13% |
| Indio | 23,560 | 12% | 12% | 31% | 21% | 10% | 14% |
| Moreno Valley | 51,232 | 9% | 9% | 25% | 22% | 16% | 19% |
| Ontario | 47,517 | 10% | 9% | 28% | 24% | 14% | 16% |
| Redlands | 26,271 | 9% | 9% | 24% | 20% | 13% | 25% |
| Rialto | 25,753 | 11% | 10% | 28% | 22% | 13% | 16% |
| San Bernardino | 58,380 | 20% | 14% | 29% | 18% | 9% | 10% |
| Victorville | 33,593 | 15% | 14% | 27% | 20% | 13% | 12% |

Source: U.S. Census, Claritas 2008 Demographic Update

Chino, Fontana, and Redlands all have median incomes greater then the Inland Empire and have a higher percentage of households earning over $100,000 and a lower percentage of households earning less than $15,000. Moreno Valley also has a higher median income; however, it is the incomes between $75,000 and $99,999 that raise the median. All of the other cities have lower proportions of households earning over $100,000 than the region.

In Exhibit 11, the 2008 estimate of the percentage of families living below the poverty line is listed. San Bernardino has twice the proportion of families as the region which correlates to the percentage of households with income than $15,000 per year. Hemet does not follow suit because the size of families in Hemet is smaller. The low incomes in Hemet are tied to the large retired population.

**Exhibit 12: 2008 Estimate of Families below the Poverty Line**

| | 2008 Estimate |
|---|---|
| **Inland Empire** | 12% |
| **Hemet** | 12% |
| **Indio** | 17% |
| **Moreno Valley** | 12% |
| **Apple Valley** | 14% |
| **Fontana** | 12% |
| **Hesperia** | 12% |
| **Rialto** | 14% |
| **San Bernardino** | 24% |
| **Victorville** | 15% |
| **Chino** | 7% |
| **Ontario** | 12% |
| **Redlands** | 8% |

Source: U.S. Census, Claritas 2008 Demographic Update

### H. Transportation to Work

The 2008 estimate of workers aged 16 and above is shown in Exhibit 12 by the type of transportation used to travel to work. Inland Empire workers aged 16 and over overwhelmingly (91%) use an automobile or a motorcycle to get to work, with 74 percent driving alone and 17 percent carpooling. Only Indio, Ontario, Rialto, and San Bernardino have significantly higher shares of carpooling. The overall share of public transit ridership in the Inland Empire is 2 percent. In Ontario and San Bernardino, 3 percent of their workforce population utilizes public transit. Workers who walk, bicycle or work at home comprise an average of 6 percent of the region's workforce and 1 percent uses some other means.

**Exhibit 13: 2008 Estimate of Workers Age 16+ Transportation Mode to Work**

| | 2008 Estimate | Auto or Motorcycle | | | Public Transit | Walk, Bicycle, Work At Home | Other Means |
|---|---|---|---|---|---|---|---|
| | | Total | Drive Alone | Car Pool | | | |
| **Inland Empire** | 1,690,066 | 91% | 74% | 17% | 2% | 6% | 1% |
| **Apple Valley** | 27,184 | 93% | 77% | 16% | 1% | 6% | 1% |
| **Chino** | 33,239 | 92% | 75% | 17% | 1% | 6% | 1% |
| **Fontana** | 69,427 | 93% | 74% | 19% | 2% | 3% | 1% |
| **Hemet** | 20,338 | 90% | 74% | 16% | 1% | 7% | 1% |
| **Hesperia** | 32,882 | 93% | 75% | 18% | 1% | 5% | 1% |
| **Indio** | 31,345 | 91% | 67% | 24% | 2% | 6% | 1% |
| **Moreno Valley** | 79,983 | 93% | 74% | 19% | 2% | 4% | 1% |
| **Ontario** | 72,649 | 92% | 70% | 22% | 3% | 4% | 1% |
| **Redlands** | 34,555 | 91% | 78% | 13% | 1% | 8% | 0% |
| **Rialto** | 36,789 | 93% | 73% | 20% | 2% | 4% | 1% |
| **San Bernardino** | 68,696 | 90% | 70% | 20% | 3% | 6% | 1% |
| **Victorville** | 38,364 | 93% | 74% | 19% | 1% | 5% | 1% |

Source: U.S. Census, Claritas 2008 Demographic Update

Travel time for workers aged 16 and above is shown in Exhibit 13. 57 percent of the region's workers travel less than 30 minutes to work, 18 percent travel between 30 and 44 minutes, and 6 percent travel 45 to 59 minutes, and 16 percent travel over one hour to work.

Over one-fifth of workers travel 60 minutes or more to work in the cities of Fontana, Hesperia, and Victorville, however, Indio has significant of percentage of workers (76.2%) traveling less than 30 minutes to work and thus has only 3.2% of workers traveling 60 or more minutes.

**Exhibit 14: 2008 Estimate of Workers Age 16+ Travel Time to Work**

| | 2008 Estimate | < 15 minutes | 15-29 minutes | 30-44 minutes | 45-59 minutes | 60 minutes or more |
|---|---|---|---|---|---|---|
| **Inland Empire** | 1,629,956 | 25% | 32% | 18% | 6% | 16% |
| **Apple Valley** | 25,991 | 26% | 37% | 11% | 8% | 19% |
| **Chino** | 32,284 | 23% | 31% | 19% | 10% | 17% |
| **Fontana** | 67,900 | 16% | 36% | 20% | 8% | 20% |
| **Hemet** | 19,726 | 37% | 23% | 17% | 8% | 15% |
| **Hesperia** | 31,540 | 21% | 28% | 14% | 15% | 22% |
| **Indio** | 30,399 | 28% | 48% | 18% | 2% | 3% |
| **Moreno Valley** | 77,543 | 19% | 29% | 24% | 8% | 19% |
| **Ontario** | 71,041 | 24% | 36% | 17% | 8% | 15% |
| **Redlands** | 33,570 | 37% | 39% | 12% | 4% | 9% |
| **Rialto** | 35,892 | 15% | 38% | 21% | 8% | 18% |
| **San Bernardino** | 66,808 | 25% | 41% | 19% | 6% | 11% |
| **Victorville** | 37,185 | 29% | 26% | 12% | 12% | 21% |

Source: U.S. Census, Claritas 2008 Demographic Update

## I. Employment and Occupation Profile

The Inland Empire's labor force is employed in a mix of white collar, blue collar, and service sector occupations. According to 2008 Claritas estimates more than half of the 1,713,338 civilian labor force (population age 16+) in the Inland Empire is engaged in white collar occupations, as shown in Exhibit 14. With 69 percent, Redlands has highest percentage of population working in white collar occupations. In cities, the proportion of blue collar workers ranged from 16 percent in Redlands to 75 percent in Indio. The share of service sector and farm jobs was highest in Hemet, with more than 34 percent of all jobs in the city.

Exhibit 15 further breaks out blue collar and white collar occupations. The leading category of white collar occupations in the Inland Empire is Sales and Office (27.2%) followed by Professional and Related Occupations (16.7%). The leading category of white collar occupations is Production, Transportation and Material Moving (15.4%). Farming, Fishing and Forestry with only 1.1% has the least percentage of civilian employment.

Among eligible cities, Redlands has the highest number of jobs in Professional and Related Occupations (32%). Sales and office jobs are highest in Moreno Valley (30.6%); Construction, Extraction, and Maintenance jobs are the highest in Hesperia (16.8%); Management, Business, and Financial Operations jobs are highest in Chino (13.8%) while Ontario has highest number of jobs in Production, Transportation, and Material Moving (23.7%).

**Exhibit 15: 2008 Estimate of Civilian Population by Occupation Classification**

| | 2008 Estimate | Blue Collar | White Collar | Service and Farm |
|---|---|---|---|---|
| **Inland Empire** | 1,713,338 | 27% | 55% | 18% |
| **Apple Valley** | 27,779 | 26% | 58% | 16% |
| **Chino** | 33,878 | 27% | 57% | 15% |
| **Fontana** | 71,342 | 34% | 51% | 15% |
| **Hemet** | 32,091 | 25% | 41% | 34% |
| **Hesperia** | 33,720 | 37% | 47% | 15% |
| **Indio** | 20,912 | 75% | 25% | 25% |
| **Moreno Valley** | 81,936 | 29% | 56% | 15% |
| **Ontario** | 74,416 | 35% | 48% | 17% |
| **Redlands** | 35,275 | 16% | 69% | 14% |
| **Rialto** | 37,849 | 35% | 49% | 16% |
| **San Bernardino** | 70,591 | 30% | 50% | 20% |
| **Victorville** | 38,960 | 28% | 53% | 19% |

Source: U.S. Census, Claritas 2008 Demographic Update

**Exhibit 16: 2008 Estimate of Employed Civilian Population Age 16+ by Occupation**

| | 2008 Estimate | Management, Business, and Financial Operations | Professional and Related Occupations | Service | Sales and Office | Farming, Fishing, and Forestry | Construction, Extraction and Maintenance | Production, Transportation and Material Moving |
|---|---|---|---|---|---|---|---|---|
| **Inland Empire** | 1,713,338 | 12% | 17% | 17% | 27% | 1% | 11% | 15% |
| **Apple Valley** | 27,779 | 12% | 20% | 15% | 27% | 0% | 12% | 14% |
| **Chino** | 33,878 | 14% | 15% | 14% | 29% | 1% | 9% | 18% |
| **Fontana** | 71,342 | 9% | 13% | 14% | 29% | 0% | 11% | 23% |
| **Hemet** | 20,912 | 8% | 15% | 20% | 27% | 1% | 12% | 16% |
| **Hesperia** | 33,720 | 8% | 13% | 15% | 26% | 0% | 17% | 20% |
| **Indio** | 32,091 | 7% | 11% | 29% | 23% | 5% | 15% | 10% |
| **Moreno Valley** | 81,936 | 10% | 16% | 15% | 31% | 0% | 11% | 17% |
| **Ontario** | 74,416 | 10% | 11% | 15% | 27% | 2% | 11% | 24% |
| **Redlands** | 35,275 | 14% | 32% | 14% | 24% | 0% | 7% | 9% |
| **Rialto** | 37,849 | 8% | 12% | 16% | 29% | 0% | 11% | 23% |
| **San Bernardino** | 70,591 | 8% | 15% | 20% | 27% | 0% | 12% | 18% |
| **Victorville** | 38,960 | 10% | 16% | 19% | 27% | 0% | 12% | 16% |

Source: U.S. Census, Claritas 2008 Demographic Update

### A. Housing

Owner-occupied housing dominates the landscape of the Inland Empire as shown in Exhibit 16, only 32 percent of the housing units are renter occupied. Among study cities, owner-occupied housing ranges from 52 percent in the City of San Bernardino to 72 percent in Hesperia and Moreno Valley. Cities like San Bernardino and Ontario are almost evenly split between renter- and owner-occupied housing.

**Exhibit 17: 2008 Estimate of Occupied Housing Units by Tenure**

| | 2008 Estimate | Owner Occupied | Renter Occupied |
|---|---|---|---|
| **Riverside-San Bernandino MSA** | 1,297,214 | 68% | 32% |
| **Apple Valley** | 24,641 | 70% | 30% |
| **Chino** | 20,044 | 69% | 31% |
| **Fontana** | 44,931 | 70% | 30% |
| **Hemet** | 30,482 | 66% | 34% |
| **Hesperia** | 27,599 | 72% | 28% |
| **Indio** | 23,560 | 59% | 41% |
| **Moreno Valley** | 51,232 | 72% | 28% |
| **Ontario** | 47,517 | 56% | 44% |
| **Redlands** | 26,271 | 60% | 40% |
| **Rialto** | 25,753 | 39% | 31% |
| **San Bernardino** | 58,380 | 52% | 48% |
| **Victorville** | 33,593 | 66% | 34% |

Source: U.S. Census, Claritas 2008 Demographic Update

As shown in Exhibit 17, low density single family housing dominates Inland Empire with two-thirds of the housing (65.8%) single-family detached units. Single-family detached units range from 41 percent in Hemet to 83 percent in Moreno Valley. The Inland Empire has only 18 percent of structures with multiple units (2 units and above) and in comparison, the majority of the studied cities have a higher percentage of structures with multiple units. Multiple units range from a low of 12 percent in Moreno Valley to 30 percent in the City of San Bernardino. Mobile Homes or Trailer forms a significant part of the housing units in the cities of Hemet and Indio with 29 percent and 17 percent respectively. Boats, Recreational Vehicles, and Vans provide another 4 percent of the housing units in the city of Hemet.

**Exhibit 18: 2008 Estimate of Housing Units by Units in Structure**

| | 2008 Estimate | 1 Unit Attached | 1 Unit Detached | 2 Units | 3 to 19 Units | 20 to 49 Units | 50 or more Units | Mobile Home or Trailer | Boat, RV, Van etc. |
|---|---|---|---|---|---|---|---|---|---|
| **Inland Empire** | 1,465,832 | 6% | 66% | 1% | 10% | 2% | 5% | 10% | 1% |
| **Apple Valley** | 26,511 | 4% | 74% | 2% | 14% | 1% | 0% | 5% | 0% |
| **Chino** | 20,650 | 5% | 71% | 1% | 8% | 2% | 9% | 3% | 0% |
| **Fontana** | 47,229 | 3% | 76% | 1% | 9% | 3% | 7% | 2% | 0% |
| **Hemet** | 35,053 | 5% | 41% | 1% | 12% | 2% | 5% | 28% | 4% |
| **Hesperia** | 29,254 | 2% | 80% | 2% | 7% | 1% | 2% | 5% | 1% |
| **Indio** | 29,200 | 7% | 46% | 1% | 14% | 2% | 9% | 16% | 3% |
| **Moreno Valley** | 53,954 | 2% | 83% | 1% | 6% | 1% | 4% | 3% | 0% |
| **Ontario** | 49,107 | 8% | 58% | 2% | 17% | 4% | 8% | 4% | 0% |
| **Redlands** | 27,432 | 4% | 64% | 2% | 16% | 2% | 8% | 4% | 0% |
| **Rialto** | 26,958 | 2% | 71% | 1% | 11% | 2% | 7% | 6% | 0% |
| **San Bernardino** | 64,916 | 4% | 58% | 2% | 16% | 4% | 9% | 7% | 0% |
| **Victorville** | 35,831 | 2% | 72% | 2% | 11% | 1% | 6% | 7% | 0% |

Source: U.S. Census, Claritas 2008 Demographic Update

**Exhibit 19: 2008 Estimate of Housing Units by Year Structure Built**

| | 2008 Estimate | 1999 to 2008 | 1995 to 1998 | 1990 to 1994 | 1980 to 1989 | 1970 to 1979 | 1960 to 1969 | 1950 to 1959 | 1940 to 1949 | 1939 or Earlier |
|---|---|---|---|---|---|---|---|---|---|---|
| **Inland Empire** | 1,465,832 | 23% | 5% | 9% | 23% | 16% | 10% | 8% | 3% | 3% |
| **Apple Valley** | 26,511 | 27% | 4% | 11% | 33% | 14% | 7% | 4% | 1% | 1% |
| **Chino** | 20,650 | 16% | 3% | 7% | 22% | 29% | 11% | 8% | 2% | 1% |
| **Fontana** | 47,229 | 30% | 7% | 10% | 26% | 11% | 7% | 6% | 3% | 1% |
| **Hemet** | 35,053 | 19% | 3% | 9% | 24% | 25% | 12% | 4% | 1% | 2% |
| **Hesperia** | 29,254 | 29% | 4% | 11% | 31% | 16% | 5% | 4% | 0% | 0% |
| **Indio** | 29,200 | 45% | 6% | 7% | 14% | 10% | 9% | 6% | 1% | 1% |
| **Moreno Valley** | 53,954 | 25% | 3% | 11% | 44% | 10% | 4% | 2% | 1% | 0% |
| **Ontario** | 49,107 | 13% | 3% | 6% | 23% | 20% | 12% | 14% | 6% | 4% |
| **Redlands** | 27,432 | 12% | 1% | 5% | 21% | 20% | 14% | 12% | 4% | 10% |
| **Rialto** | 26,958 | 9% | 4% | 10% | 33% | 19% | 11% | 11% | 2% | 1% |
| **San Bernardino** | 64,916 | 9% | 2% | 6% | 18% | 16% | 15% | 18% | 9% | 7% |
| **Victorville** | 35,831 | 39% | 5% | 15% | 23% | 8% | 5% | 3% | 1% | 1% |

Source: U.S. Census, Claritas 2008 Demographic Update

As already noted in household and population growth, the region has seen significant growth in the last decade as is reflected in the number of housing units built since 1999 in Exhibit 18.

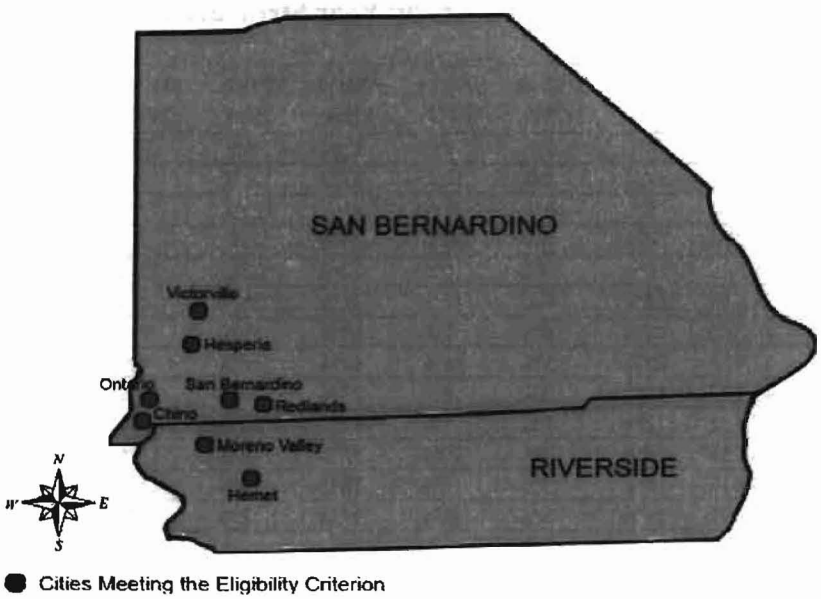
## K. EDA Eligibility

According to the EDA Reform Act of 1998, there are three basic distress factors that determine the eligibility of an area for EDA assistance - high unemployment, low per capita income or "special needs". The following section identifies areas that are eligible for EDA assistance under the first two criteria.

***Unemployment Rate:*** The EDA uses unemployment rate to determine area eligibility. To qualify for assistance, the area's unemployment rate should be at least 1% greater than that of the U.S. national average. According to 2006 American Community Survey (ACS), the national average unemployment rate was 6.4 percent. Hence, to qualify for EDA assistance under the high unemployment criterion, the unemployment rate of the area should be at least 7.4 percent. Exhibit 21 shows that Chino, Hemet, Hesperia, Moreno Valley, Ontario, Redlands, San Bernardino, and Victorville qualify for EDA assistance based on the unemployment criterion.

Data for cities with population less than 65,000 is not available from ACS, so Bureau of Labor Statistics data would be used to determine eligibility for smaller cities that have a project they'd like to propose.

**Exhibit 20: Map of Qualified Cities under the Unemployment Rate Criterion**

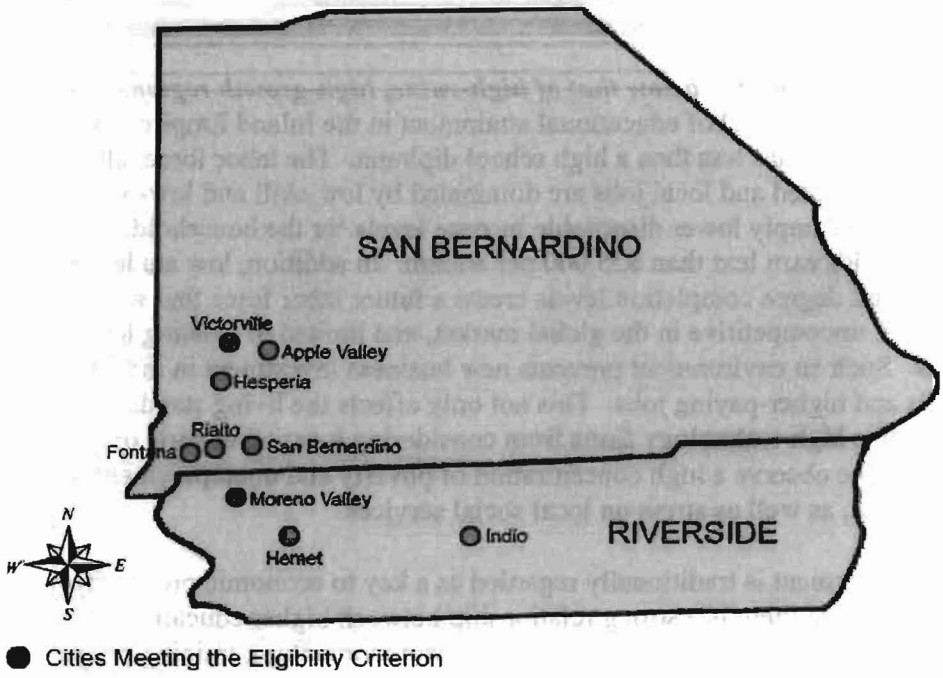



Source: 2006 American Community Survey (ACS), U.S. Census Bureau

***Per Capita Income:*** The EDA uses per capita income to determine area eligibility. To qualify for federal assistance, an area's per capita income should be 80% or below the national per capita income. We have analyzed area eligibility for the region based on the most recent data from the 2006 American Community Survey (ACS). According to 2006 ACS, the national per capita income was $25,267. Thus the criterion for per capita income establishes a threshold of $20,214 as the maximum to qualify for assistance from EDA. An area with per capita income greater than this would not qualify for EDA assistance under this low-income criterion. Exhibit 20 shows that Apple Valley, Fontana, Hemet, Hesperia, Indio, Moreno Valley, Rialto, San Bernardino, and Victorville qualify under the per capita income criterion.

Data for cities with population less than 65,000 is not available from ACS, so 2000 census data would be used to determine eligibility for smaller cities or communities within larger cities or unincorporated portions of the counties that have a project they'd like to propose.

**Exhibit 21: Map of Qualified Cities under the Per Capita Income Criterion**




Source: 2006 American Community Survey (ACS), U.S. Census Bureau

# II. Analysis of Economic Development Problems and Opportunities

The analysis provided below identifies economic development problems and opportunities for the Inland Empire. The region has reached a critical moment requiring serious rethinking of its future with a focus on the relationship between the region's and Southern California's economy and the impact on its quality of life. The Inland Empire has an economic vision for its future as the Green Valley, that the Inland Empire will be the center of green technologies with balanced economic and community development. The creation of a CEDS is only one step in the process of realizing the job and economic growth of the new green technology industries. The Inland Empire must plan for growth and development by capitalizing on its existing strengths, assets, and many opportunities while overcoming its weaknesses and potential threats.

## *II. A. Problems*

***A.1 Educational attainment below that of high-value, high-growth regions:*** One of the major weaknesses is the low level of educational attainment in the Inland Empire. One-quarter of the population (age 25+) has less than a high school diploma. The labor force, although large, is relatively less educated and local jobs are dominated by low-skill and low-paying retail jobs. Lower paying jobs imply lower disposable income levels for the household. Approximately one-fifth of households earn less than $25,000 per annum. In addition, low student academic performance and degree completion levels create a future labor force that will be unprepared for the job market, uncompetitive in the global market, and limited to existing low-skilled and low-paying jobs. Such an environment prevents new business investment in industries that require higher skills and higher-paying jobs. This not only affects the living standards of the labor force, but also, inhibits high-technology firms from considering locating in parts of the region. Consequently, we observe a high concentration of poverty and unemployment that create poor living conditions, as well as stress on local social services.

Educational attainment is traditionally regarded as a key to economic prosperity and it has been well established that there is a strong relationship between higher educational attainment, higher income, and higher economic productivity. To attain momentum, training programs will be needed in alternative energy & related green technology skills within San Bernardino & Riverside Counties.

***A.2 Jobs-Housing Imbalance:*** The Southern California Association of Governments began developing a vision for the future of Southern California in 2001. One of the areas of concern was the traffic congestion and resulting air pollution generated by commuters. Their analysis showed that a balance between jobs and housing within a region results in reduced driving times, reduced congestion, fewer air emissions from automobiles, lower costs to commuters, greater family stability, and higher quality of life. When combined with more compact land use, it can also result in lower costs to businesses and lower public expenditures on facilities and services.

In Southern California, the jobs-rich areas are located primarily along the coast. Hence, Los Angeles and Orange Counties are jobs-rich and the adjacent Inland Empire counties are housing-rich, housing many commuters working in the jobs-rich areas. Jobs/housing ratios are forecast to increase in the western portion of the Inland Empire by 2025, but much of the Inland Empire is forecast to remain housing rich.

They also observed that high-tech "New Economy" jobs and venture capital investments that have a strong tendency to cluster at culturally- and amenity-rich urban locations are powering the job growth in coastal areas. Their recommendations included promoting wealth-generating, high paying, "New Economy" jobs in the Inland Empire. This would enable Inland Empire residents to find comparable work to the western regions and would shorten commutes of Inland Empire residents.

The proposed jobs-creation strategies included:

- Investments in public education
- Development of high technology business parks and incubation centers
- Fiber optic cable investments
- Airport investment and promotion

***A.3 Competition from Coastal Communities:*** The Center for Continuing Study of the California Economy (CCSCE), an independent, private economic research organization specializing in the analysis and study of California, argues that the inland regions may have the fastest growth but the future of the California economy will be written on the coast. In February 2007, they published a brief analysis of the California Budget Project report that California jobs have shifted inland over the past 15 years titled, "The Future of the California Economy is On the Coast". They point out that the coastal regions (Southern California, San Diego, and Bay Area) house most of California's residents, 75% of the state's economy, and the development of most new industries in California.

They argue that Riverside and San Bernardino Counties should be considered coastal communities and included in the Southern California coastal region, just like Alameda and Contra Costa Counties are included in the Bay Area coastal region. They argue, "While these counties (Riverside and San Bernardino) are developing many county-specific initiatives, it is helpful in broader policy discussions to remember that they are connected to what goes on in the rest of the region.[iv]"

The Inland Empire is a part of the Ventura, Los Angeles, Orange County, Southern California economy and saw 25% of California job growth between 1990 and 2005, however, most would argue that it is not yet a full participant in the development of new industries. Investment in University research into technology development will be needed to compete in the arena of new industry development.

***A.4 Poor Perception/Lack of Identity:*** The Inland Empire suffers from poor perception and a lack of pride in its identity. Business location decisions often hinge on the attractiveness of a location to the CEO or other decision-makers.

The region is predominantly low density residential with a mix of retail, office, and industrial uses. In general, the Inland Empire is home to single-family neighborhoods indistinct in style and character or aesthetic appeal. The preponderance of gated communities, their inward orientation expressing exclusion instead of inclusion, and a lack of connectivity among neighborhoods creates sterile environments devoid of street life.

The suburban character combined with strong auto-orientation and large amounts of land devoted to surface parking creates a pedestrian unfriendly environment. Fast moving traffic in the commercial corridors, vacant lots, and curb cuts do little to promote walkability. Commercial corridors lack character and exhibit a hodge-podge of uses without any aesthetic considerations. The inordinate amount of warehousing and strip retail contributes to an unseemly environment as well.

As described by several participants, the Inland Empire is like Orange County was when Los Angeles County was the only place to find cultural activities. There is no well-developed sense of place, uniqueness or identity that sets the Inland Empire apart. Poor perception of the region, in general, promotes negative stereotypes, which can inhibit new investment.

***A.5 Quality of Jobs*:** As a nation, we are experiencing a decline in manufacturing jobs and suburbs have not been spared either. This follows a national trend of job decline in manufacturing and increase in services. The reasons for loss of manufacturing jobs include increased technological productivity, cheaper labor and production costs oversees, shortage of skilled workers, and lower federal R&D spending in engineering and physical sciences. Replacing these manufacturing jobs are transportation/logistics and warehousing jobs which have become significant in the Inland Empire and like retail and service sector pay lower than white collar jobs.

If the transportation and logistics infrastructure were to support exports of value added goods manufactured in the Inland Empire out to the rest of the world, it would generate economic surplus and wealth. It appears, however, that infrastructure is predominantly is being used to transport products through Inland Region from where it was produced to some market/point of sale elsewhere. This ends up requiring the Inland Region to maintain a very expensive infrastructure for accommodating transient products that bring no tax revenue and fill up valuable real estate with very low employment utilization rates.

***A.6 Fewer Resources:*** The larger question is to what extent can Inland Region take advantage of its location, entrepreneurial pool of firms and individuals, and capitalize on the new knowledge-based and information-based technology jobs. Clearly, the region faces many outside pressures that could negatively impact its economic development efforts. The relocation of local businesses to competitive locations, both domestic and abroad, is a threat to the areas' low-skilled workers. The large low-skill labor force is highly dispensable and likely to be hit the hardest in tough times.

Federal and state government has decreased spending for many social programs including community and economic development. Thus, current and future economic development efforts will have to find new and innovative funding sources or public-private partnerships to achieve

their objectives. The lack of other resources, such as water and energy, due to potential infrastructure, market, or legal limitations could also inhibit the future economic growth and development of the region.

***A.7 Environmental Justice Issues:*** The Inland Empire has experienced rapid population growth during the last decade and is expected to grow at a fast rate in the future as well. At the same time, the region has become a hub for transportation and logistics businesses. The growing demands of housing people are increasingly in conflict with existing and future demand for industrial and warehousing uses and trucking-related operations.

Potentially contaminated sites from heavy industry and defense-related uses are still prevalent in the region. These industries negatively impact the environment and contribute to air- and water-pollution, as well as ground-water contamination that can adversely affect the health of area residents. Housing people next to heavy industries, processing plants, airports, railroads, freeways, and trucking or warehousing operations exposes residents to air, water, and sound pollution. Much of the burden is borne by the working poor or the disenfranchised that have little say in the system. The presence of toxic chemicals or substances in proximity to residential areas poses not only environmental but protracted health risks.

***A.8 Natural Disasters:*** Natural disasters such as earthquakes, fires, and floods are potential threats that can negatively impact the Inland Empire's economy. The region is located on two of the state's most active earthquake faults, the San Andreas and San Jacinto. Seasonal fires, floods, and landslides are quite common as have been experienced in the recent years. Clearly, pre-disaster planning and hazard mitigation is critical to minimizing damage costs. Potential terrorist activity and security threats to infrastructure cannot be overlooked either. Such threats can have a devastating and debilitating effect on the economy, hence, adequate plans should be in place to assess and counter them.

## *II. B. Opportunities*

***B.1 Intellectual Capital:*** The Inland Empire is home to 17 colleges and universities. In response to the dramatic population growth in the Inland Empire the largest colleges and universities are planning for growth. As they identify areas for growth and hiring of new faculty, the Green Valley Initiative has an opportunity to develop a Green Brain Trust through faculty appointments at the University of California at Riverside, California State University San Bernardino, and Cal Poly Pomona that will fuel the green technology.

Highlights of the programs and capacity existing at these institutions of higher learning illustrate the strength of the local intellectual capital that should be nurtured and guided to address the challenges of energy efficiency and clean energy alternatives as well as other green technologies.

**Inland Empire Center for Entrepreneurship (IECE)**
IECE is a multifaceted Center located in the College of Business and Public Administration at California State University, San Bernardino (CSUSB), whose mission is to advance the study and practice of the entrepreneurial spirit through:

- Entrepreneurship education
- Student internships
- Entrepreneurial training
- Business assistance programs
- Collaborative community partnerships
- Entrepreneurial research

IECE achieves its mission by offering innovative programs and services to students at CSUSB and to small businesses, entrepreneurs, and non-profit entrepreneurs in the Inland Empire. In addition, IECE serves as the breeding ground for entrepreneurial ideas and programs being developed through the various departments within the College of Business and Public Administration (CBPA).

**Center for Environmental Research & Technology (CE-CERT)**
CE-CERT is a model for partnerships among industry, government, and academia, located in the Bourns College of Engineering at the University of California, Riverside, whose goals are to become a recognized leader in environmental education, a collaborator with industry and government to improve the technical basis for regulations and policy, a creative source of new technology, and a contributor to a better understanding of the environment.

Inside the CE-CERT laboratories, engineers and scientists explore a wide-ranging research agenda that encompasses:

- Developing autonomous vehicles and transportation systems for the future
- Converting biomass such as yard waste into vehicle fuel
- Measuring air pollutants and modeling how they react in the atmosphere
- Developing alternative-fueled engines and vehicles
- Evaluating clean and renewable energy sources
- Manufacturing commercial products that will improve our quality of life

**Master of Science degree in Regenerative Studies (MSRS)**
The John T. Lyle Center for Regenerative Studies at Cal Poly Pomona University offers a unique Master of Science degree in Regenerative Studies (MSRS) that prepares students to find successful solutions to environmental problems in the 21st century. The program prepares individuals for Ph.D. programs in environmental fields, or professional careers in public agencies and private non-profit organization, and in business, education, environmental design, engineering, planning, resource management, and other related fields.

A key feature of the program is its integration of specialized disciplinary knowledge from a variety of university programs - agriculture, physical sciences, environmental design, business, engineering, social sciences and humanities - into a multidisciplinary research, and practice-oriented core.

***B.2 Alternative Energy Industry:*** The Inland Empire is home to many alternative energy producers along with hundreds of jobs from service to installation, and more importantly has the room to expand. Home to the largest thermal solar farm, wind farms that produce enough energy to power Palm Springs and the entire Coachella Valley, and an innovative project to use "cow

power" to generate electricity, the Inland Empire has many examples of early adoption of new technologies in energy generation.

**Kramer Junction Solar Electric Generating System (SEGS)**
Kramer Junction SEGS consists of five 33-Megawatt solar thermal electric generating facilities located in the Mojave Desert at Kramer Junction, California. These utility-scale power plants were designed and developed in the mid-1980's by LUZ Industries and have been upgraded by Solel Solar Systems, improving efficiency. They are now expected to last until 2022.

The Kramer Junction Company has an agreement to sell power to Southern California Edison. These are "peaking" facilities, meaning they provide over 80% of their output during the highest demand times, during midday when businesses and homes are using the greatest amount of energy.

**San Gorgonio Pass Wind Farm**
Located in the San Gorgonio Mountain Pass in the San Bernardino Mountains in Palm Springs, the San Gorgonio Pass Wind Farm was the second highest energy producing region in California in 2005, vying with the Altamont Pass Wind Farm and trailing the Tehachapi Pass Wind Farm. As of March 2008, San Gorgonio had 3,215 turbines producing 611 megawatts of electricity.

California had the second largest installed capacity from wind turbines in 2006 at 2,361 megawatts, just behind Texas. California was an early adopter of wind power and ranks 17th out of the top 20 states in potential power.

The U.S. Department of Energy released a report on the future of wind power in America on May 12, 2008, titled, 20% Wind Energy by 2030: Increasing Wind Energy's Contribution to U.S. Electricity Supply. As the title suggests, the report proposes how wind power could become a major contributor to America's electricity supply over the next three decades and contrasts that future with one in which no new investment is made.

**Inland Empire Utility Agency (IEUA): Anaerobic Digester**
IEUA is a public water and wastewater agency, supplying imported and recycled water and disposing of wastewater for six cities and two water districts, serving 800,000 people. As a part of these activities, IEUA operates with the Los Angeles County Sanitation Districts, the largest enclosed composter in the state for processing biosolids resulting in a byproduct of 180 tons of Class B biosolids per day.

As a part of the utility's strategic planning process for protection of the Chino Subbasin of the Upper Santa Ana Valley Groundwater Basin, the utility was faced with impacted water quality worsening due to dairy operations. Their innovative solution was to develop an anaerobic digester that would combine the manure and wastewater from the dairies with the biosolids from their wastewater treatment plants to produce methane gas for energy production. They planned for a two phase approach resulting in 3,000 kilowatts of energy at the end of Phase II in 2007.

This project resulted in the following firsts in California:

- Constructed first centralized digester using a combination of manure and biosolids

- Generated first renewable energy credits from "cow power"
- Sold first green-house gas credits from "cow power"
- Sponsored first legislation to authorize "net metering" from "cow power" and was the first public agency to use the program

The IEUA was also the first public agency in the nation to construct a Platinum LEED-rated energy efficient headquarters.

***B.3 International Trade:*** The region has a well-developed multimodal transportation system consisting of freeways, airports, and railways which support the demand to move goods and people quickly and efficiently. Without another vision, the Inland Empire would continue on as the logistics capital of Southern California. It can however, become a center for international trade of green technology.

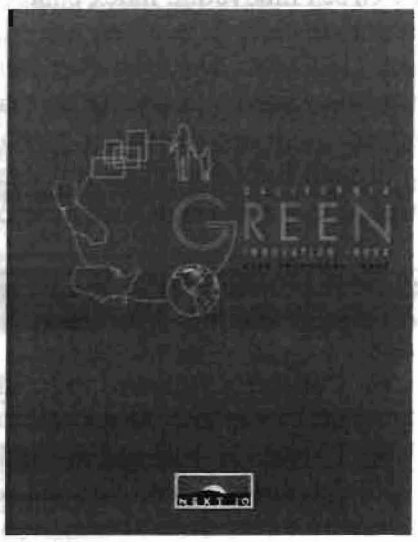
The Inland Valley Development Agency (IVDA), a joint powers authority, is responsible for the redevelopment of the non-aviation portion of the former Norton Air Force Base. The site receives California Enterprise Zone incentives as a Local Agency Military Base Recovery Area (LAMBRA) and has a U. S. Customs office on site. It could become the heart of the Green Valley Initiative Global Green Technology Trade Center.

***B.4 California Solar Initiative:*** At the direction of Governor Schwarzenegger, the California Solar Initiative was approved by the California Public Utilities Commission (CPUC) on January 12, 2006. The initiative creates a $3.3 billion ten-year program to put solar on a million roofs in the state, thus encouraging the growth of the solar industry.

- This program changes the way the state's renewable energy incentives and rebates will be managed. The CPUC will oversee a program to provide incentives for **existing** residential customers and for all non-residential customers.
- The California Energy Commission will manage a 10-year, $400 million program to encourage solar in **new home construction**, known as the **New Solar Homes Partnership** (NSHP).
    - The Energy Commission will work with builders and developers to incorporate high levels of energy efficiency and high-performing solar systems to help create a self-sustaining solar market where home buyers demand energy efficient, solar homes. The NSHP will specifically target single family, low-income, and multi-family housing markets.

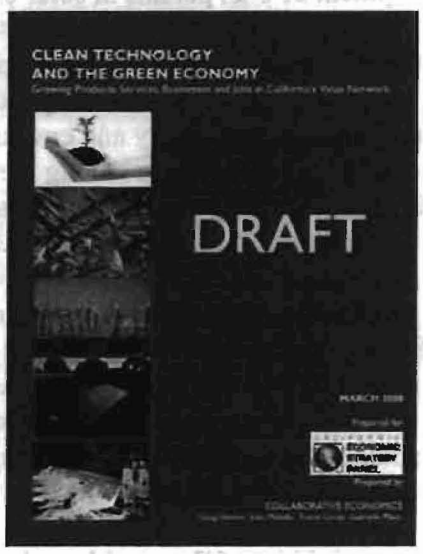
***B.5 Toward a Green Economy:*** California is often touted as a bellwether state, a leader in innovation. Most people, when asked, would also point to California as a leader in green technology adoption. What was not quantified until recently is California's role in green technology development. Two reports have been published in 2008 that begin to describe the greening of the California economy. The first is the 2008 inaugural issue of the *California Green Innovation Index*. The second which is still in draft form is *Clean Technology and the Green Economy: Growing Products, Services, Businesses and Jobs in California's Value Network.*

Next 10, an independent, nonpartisan, nonprofit organization has launched the *California Green Innovation Index* to track the state's green innovation as well as economic and environmental performance within the context of the landmark California Global Warming Solutions Act (AB 32). The Index analyzes key indicators including energy consumption and efficiency, economic growth and carbon emissions, to better understand the role green innovation plays in achieving two goals critical to California's future: 1) reducing the absolute level of the greenhouse gas emissions that cause global warming, and 2) increasing the state's gross domestic product, which is the basis for our economic vitality.[v]




The bipartisan California Economic Strategy Panel was established in 1993 to develop an overall economic vision and strategy to guide statewide public policy. The Panel engages in an objective and collaborative biennial planning process that examines economic regions, industry clusters, and cross-regional economic issues. The California Regional Economies Project (CRE Project) is currently the lead mechanism for these efforts.[vi] *Clean Technology and the Green Economy: Growing Products, Services, Businesses and Jobs in California's Value Network* is a monograph in a series of studies they have produced. The monograph's primary objective is to help define California's green economy and provide state government policy leaders with answers to the questions as to what makes up the green economy, what jobs are being created, and what economic policy issues need to be addressed.[vii]

The preface to the Clean Technology monograph identifies several private and public sector actions that are driving interest in clean technology and the green economy. The venture capital community is heavily investing in clean technologies and policy makers enacted AB 32 as mentioned above, and Governor Schwarzenegger signed Executive Order # S-3-05 on June 1, 2005 which established greenhouse gas emissions targets and the Climate Action Team to implement global warming emission reduction programs and report on the progress made toward meeting the statewide greenhouse gas targets.




These observers of innovation in clean and green technology feel that California is becoming a leader and that these industries have the power to transform the state's economy. The role of the California Economic Strategy Panel in this process is to engage the leaders contributing to this economic transformation and make recommendations to policy-makers on how to facilitate growth and competitiveness of the emerging green economy.

The Green Innovation Index concludes that California benefited both economically and environmentally from a first wave of green innovation as a result of increasing energy efficiency since the 1970s. The following factors are identified that are setting the stage for a new wave of green innovation: the awareness that global warming is an urgent challenge to be addressed, the high adoption rate of existing green products and practices such as CLF bulbs, energy star appliances, hybrid vehicles and solar power systems, and that California continues to grow its share of U.S. patents in solar energy, wind, and battery technology.

***B.6 Need for Investment:*** In order to catch this second wave of innovation and ride it to an economic boom, the following recommendations are made in the California Green Innovation Index[viii]:

- California will need to rapidly increase its pace of change with breakthroughs in energy efficiency and the adoption of clean energy alternatives.
- California will need to continue to invest in research and commercialization that promotes the creation and adoption of clean energy.

To join in California's economic boom, the Inland Empire will need to position itself to participate in the research and the manufacturing of breakthrough products in energy efficiency and clean energy alternatives. This requires investment in research and commercialization.

There is wide public support for actions that address global warming and more and more businesses are becoming members of the California Climate Action Registry which are seen as positive indicators for success. Another indicator is that green establishments and jobs are increasing in the state. The largest gains can be seen in energy generation and energy efficiency.

The Green Valley Initiative has initiated the process of positioning the Inland Empire to capitalize on this economic boom by bringing together many of the local leaders who can educate the community about the urgency of addressing the causes of global warming, promote the adoption of existing green products and practices and support the investment of research and development of U.S. patents in solar energy, wind, and battery technology.

***B.7 Green Trends:*** Many organizations are studying the direction of green innovation today. The world's largest nonprofit independent research and development organization, Battelle, assembled an expert energy and environmental focus group of scientists and engineers and surveyed many others from among their 20,400 employees in more than 120 locations worldwide, including seven national laboratories which Battelle manages or co-manages for the U.S. Department of Energy and the U.S. Department of Homeland Security.

The topic question was "What will likely be the most important Green trends worldwide from 2008 to the year 2020?" "Green" was broadly defined as environmentally neutral or beneficial and included air and water quality, waste management, and global climate change. "Trends" included any patterns existing or expected to exist in the future in science, technology, economics, demographics, social behaviors, public policy and regulation.[ix] The following list was published on April 21, 2008.

1. Increased Use of Renewable and Sustainable Fuels for Electric Power Generation

- The increased demand for electricity world-wide will drive the increase in the use of green fuels such as wind power, solar power, fuel cells, biofuel, and clean coal technologies.

2. Water Resource Management, Including Reuse and Recycling of Water
   - The demand for water world-wide will require increased conservation, desalination, technologies to improve the quality and supply of fresh water, including use of treated graywater.
3. Carbon Regulations and Policy
   - The threat of global warming will likely result in the U.S. joining with other countries to limit and reduce carbon use through increased vehicle emissions limits, taxes on carbon emissions, carbon markets, and development of cleaner, advanced energy systems.
4. Green is Good Business
   - Green technologies can reduce industrial waste, energy use, and cost and lead to sustainability for corporations, especially if green labeling comes to pass in the U.S. as it has in Europe.
5. The Greening of Transportation
   - With a third of greenhouse gas emissions coming from vehicles, renewable and sustainable fuels for automobiles and trucks will be important from ethanol to biofuel, hybrid drive systems, "plug-in" electric vehicles and fuel cell cars. Fuel cells and advanced batteries are likely to be used as auxiliary power units and technologies may emerge to capture and store the carbon emissions.
6. Increasing Availability of Green Products and Services
   - On the demand side, consumers will drive innovation as they become more educated. Products will be designed with a plan for disposal that reduces greenhouse gas emissions, waste effluents, and packaging.
7. A Systems Approach to Environmental Analysis
   - Products, services, and processes will be evaluated at the macro-system level so that the side-effects are taken into account such as the impact of rising corn prices on food costs due to increased use for ethanol. Life-cycle analysis is one such tool.
8. Increasing impact of the world's growing urban population on resources
   - In 2000 the global population was 6 billion and by 2020 it expected to be 7.6 billion. This will increase the stress on basic services for electricity and water in urban centers where the population is concentrated as well as the local ecosystem.
9. Information and Communication Technologies (ICT) Used in Place of Traveling
   - As these technologies become more widely adopted alternatives, telecommuting, video-conferencing, email, and Internet shopping could reduce automobile use thereby reducing gasoline consumption and greenhouse emissions considerably.
10. Green Buildings
    - Green building codes are likely to become widely adopted resulting in the design of buildings that integrate and optimize the heating, cooling, lighting, and water systems, incorporating alternative energy systems such as solar power, fuel cells, geothermal energy, and possible wind energy, and construction methods will be developed to reduce greenhouse gas emissions.

***B8: Green-Collar Jobs:*** The Apollo Alliance is a coalition of business, labor, environmental, and community leaders working to catalyze a clean energy revolution in America. They began

in 2004 as a response to the 9/11 tragedy by the Center on Wisconsin Strategy and the Institute for America's Future and has grown into an organization with nation-wide impact. Former California Treasurer Phil Angelides recently joined the Apollo Alliance as Chairman the Board after serving for several years on their National Advisory Committee. Their stated mission reads:

> Inspired by the vision and technological achievements of the Apollo space program, we promote policies and initiatives to speed investment in clean energy technology and energy efficiency, put millions of Americans to work in a new generation of well-paid, green collar jobs, and make America a global leader in clean energy products and services.

To properly describe their perspective on Green Collar Jobs, the following passages have been excerpted from, "Green-Collar Jobs in America's Cities: Building Pathways out of Poverty and Careers in the Clean Energy Economy". It is a vision that can be shared by the Green Valley Initiative.

> "Green-collar jobs, as we define them, are well paid, career track jobs that contribute directly to preserving or enhancing environmental quality. Like traditional blue-collar jobs, green-collar jobs range from low-skill, entry-level positions to high-skill, higher-paid jobs, and include opportunities for advancement in both skills and wages.
>
> Green-collar jobs tend to be local because many involve work transforming and upgrading the immediate built and natural environment—work such as retrofitting buildings, installing solar panels, constructing transit lines, and landscaping.
>
> Green-collar jobs are in construction, manufacturing, installation, maintenance, agriculture, and many other sectors of the economy. A number of recent publications describe these jobs in detail. While some green-collar jobs (e.g. wind turbine technician) are in new occupations, most are existing jobs that demand new green economy skills. For example, construction companies building and retrofitting America's cities need workers with traditional construction skills who also have up-to-date training in energy efficiency. And employers doing solar installation need workers with conventional electrical training, in addition to specialized solar skills.
>
> Because the phrase "green-collar job" has been bandied about so much lately, it is important to emphasize once again what we mean—or rather, what we do *not* mean—when we use this term. Put simply, if a job improves the environment, but doesn't provide a family-supporting wage or a career ladder to move low-income workers into higher-skilled occupations, it is not a green-collar job. Such would be the case with workers installing solar panels without job security or proper training, or young people pushing brooms at a green building site without opportunity for training or advancement.
>
> In sum, spurring the creation of green-collar jobs in your community means more than creating short-term work on individual green projects. It means building a sustainable economy, where environmental goals go hand in hand with social and economic goals. It

means embracing visionary policies for your community, mobilizing all of the resources at your disposal to meet those goals, and explicitly working to expand the number of long-term, high-quality green-collar jobs for local residents."[x]

***B.9 Inland Empire Tech Coast Angel Network:*** Ten years ago, that's when a handful of investors from Orange County and Los Angeles met to talk about forming an angel group. From this small group of original investors in 1997 to the present 270 members, Tech Coast Angels has expanded from its Orange County roots and today has networks operating in Santa Barbara, Westlake Village, Los Angeles, San Diego and the Inland Empire.

In these past 10 years they've funded more than 130 startups with $86 million of their own money and attracted venture capital funding that approaches a billion dollars. This level of activity makes them the largest angel group in the country.

- For an entrepreneur, their size and experience means that you are working with people who can make funding happen. They know how to work with small companies and position them for success.

- For a potential member, what every member appreciates is the breadth of experience, both in industry expertise and dealmaking. Whatever startup comes to present, no matter what the industry they represent, there's bound to be someone in the room who knows the industry. That kind of breadth comes from a large and diverse membership. It means that your individual portfolio of startup investments can be highly diversified across several sectors.

***B.10 Local Regional Economic Development Corporations:*** Five local economic development organizations supplement the efforts of city and county economic development staff to improve the economic output of the Inland Empire. A list of these organizations follows with short descriptions of their activities.

**Inland Empire Economic Partnership** – (http://www.ieep.com/)
The Inland Empire Economic Partnership (IEEP) is the private, non-profit regional economic development organization for the Inland Empire. IEEP's core mission is the expansion and relocation of business to the Inland Empire. A coalition of 180-public and private-sector members partner with IEEP to support the organization and its services. Advancing the goals and objectives that benefit the entire two-county region, the IEEP's mission is to attract, create, expand and retain business in order to increase the region's growth and economic output.

**Services offered include:**

- Up-to-date access to available real estate (commercial and residential executive housing)
- Coordination and organization of site tours for real estate in the Inland Empire
- Incentives and tax information
- Access to workforce information, hiring, and training
- Demographic and economic data
- Contacts with local government and private industry

**Hemet-San Jacinto Valley Economic Development Corporation** – (http://www.vedc.com/)
The organization promotes the San Jacinto Valley for business attraction. The selling points are its central location, accessibility via three Interstates and two major state highways, a skilled, eager, and growing workforce, availability of commercial and industrial sites, and total operating costs of approximately 7 percent below the Orange County area – including property taxes, lease rates, and wages.

**The Pass Economic Development Association** – (http://www.ecopac.org/)
The Pass Economic Development Association (PassEDA) is a unique regional business recruitment and retention organization serving the San Gorgonio Pass communities of Banning, Beaumont, Cabazon, Calimesa, Cherry Valley, Oak Glen, White Water, Yucaipa, and the Morongo Indian Reservation. PassEDA draws upon and coordinates key resources available through state and local government agencies and private sector advisors to foster a positive business climate, promote quality business expansion, and develop a well-qualified workforce.

PassEDA private sector partners include five chambers of commerce, utilities, banks, brokers, investors, educational institutions, manufacturers, and representatives from the hospitality and service industries. Public sector partners include four state legislators, two county supervisors; representatives from four city governments, two county economic development agencies and workforce development boards, and a large federally recognized Indian Tribe.

**Economic Development Corporation of Southwest California** – (http://www.edc-swrc.org/)
The Economic Development Corporation of Southwest California (EDC) acts as an umbrella organization for Lake Elsinore, Murrieta, Temecula, and portions of unincorporated Riverside County, that pulls together and coordinates the region's many and diverse interests, organizations and constituents to ensure integral participation of the private sector in economic development.

The EDC is committed to:

- Provide a clear and united voice of the EDC's economic development efforts.
- Be the "One Voice" advocate of the public/private sector in pursuit of economic growth.
- Create task forces needed to carry out essential economic development activities.
- Provide and cultivate the leadership necessary to sustain the public/private partnership.
- Reach to the regional community - foster a sense of inclusion.
- Inform, educate and communicate.
- Establish, protect, and reflect high standards of quality economic development.
- Stimulate and assist business growth, expand job opportunities and enhance the competitive position of Southwest California.

**Coachella Valley Economic Partnership** – (http://cvep.com/)
The Coachella Valley Economic Partnership, popularly known as "CVEP," was established in 1994 as an action-oriented, non-profit corporation dedicated to expanding the economy of the Coachella Valley desert region while maintaining the quality of life for a resort environment. CVEP has devoted attention to strategies of business attraction, expansion and retention during the past decade. Today, CVEP also is focusing attention on planning and nurturing the growth of new industry clusters which include Healthcare, Advanced technologies, Multimedia, Education, and Recreation.

The Coachella Valley encompasses the following communities: Cathedral City, Coachella, Desert hot Springs, Indian Wells, Indio, La Quinta, Palm Desert, Palm Springs, Rancho Mirage, Bermuda Dunes, Thousand Palms, and Mecca-Thermal-Oasis.

# III. Community and Private Sector Participation

The Green Institute for Village Empowerment sponsored a stakeholders meeting on June 1, 2007. Stakeholders present at the kick-off meeting included supervisors of Riverside and San Bernardino counties and representatives from education, local government, Indian tribes, and business. A follow-on series of public meetings were held in the Inland Empire in the summer and fall of 2007 to discuss area strengths, weaknesses, opportunities and strategies for green technology economic development and to develop the strategies for implementation. Participants included representatives from local non-profits, business owners, educators, economic development professionals, and city and county representatives.

The input from the public meetings and additional feedback received from the Green Valley Initiative Sustainable Economic Development Committee is summarized below.

**Strengths**

- Intellectual capital at the 17 colleges and universities in the region
- Strong presence of the alternative energy industry from solar to wind to waste-to-energy
- Presence of environment-related industries & technologies
- New green building investment such as:
    - Estimated 60 registered buildings with LEED certification
    - Platinum LEED-certified headquarters for Inland Empire Utility Agency
    - Platinum LEED-certified Western Center for Archeology and Paleontology – first museum certified at this level
    - Solar Power Project in Loma Linda
    - The Frontier Project, a 14,000 square foot demonstration building seeking to attain Platinum LEED certification
    - Lakeshore Plaza, Dos Lagos
- Room for business location & expansion
- Location along primary corridors of international trade
- Close proximity to regions with high-value, high-growth enterprises and venture capital resources
- Base of skilled workers in the region that currently commute to jobs outside the region
- A growing understanding of regional challenges and a willingness to work together to improve the future
- Growing political and social support
- Expanded participation of diverse interests
- High quality of life

**Weaknesses**

- The perception that going green will increase regulatory costs on businesses, further

hindering their growth
- Lack of coordination between jurisdictions in economic development and land use planning
- Educational attainment below that of high-value, high-growth regions
- Limited focus on inclusion and diversity
- The region has few incentives to offer businesses to attract them compared to other states
- Few resources to overcome the obstacles to entry for start-up green technology companies

**Opportunities**
- The Green Valley Initiative
- Collaboration among the colleges and universities
- A growing workforce to be trained in the green collar jobs of the future
- Focusing growth in Green Village Developments of walkable mixed-use communities with jobs and housing in close proximity
- Availability of land for expanding companies
- Commercialization technical assistance
- Inland Empire Tech Coast Angel Network

**Threats**
- Inaction will result in the Silicon Valley and Los Angeles, Orange and San Diego Counties becoming the green innovation centers
- A fragmented vision for the future of the region
- The status quo future as the logistics capital of Southern California
- Water shortage that will limit growth
- Parochial competition among sub-regions
- Perception that there is a lower quality of life available compared to coastal regions
- Perception that California is a high-cost, overly regulated, and unfriendly place to do business
- Perception that "going green" is code for a more costly and contentious business environment

Factors affecting the region's capacity to effectively join in the green economic boom range from education levels of the current workforce and competition from the coastal counties to investment decisions made by the region's leaders. How these factors are strategically addressed will determine whether or not the Green Valley Initiative will become a vibrant part of the Inland Empire's economy.

# IV. CEDS Goals and Objectives – Defining Regional Expectations

The economic vision for the Green Valley Initiative is that the Inland Empire will be the center of green technologies with balanced economic and community development. The four goals identified to achieve the vision are to:

**Goal 1: Encourage the growth of local green technology businesses.**

**Goal 2: Attract renewable energy businesses.**

**Goal 3: Encourage local entrepreneurial efforts through:**

1. **Green business development**
2. **Development of green technology incubators, targeted commercialization support, and development of green technology parks**

**Goal 4: Encourage local green finance from angel investors and venture capital firms.**

## *OBJECTIVES*

The following objectives are designed to achieve the goals and vision outlined for the Green Valley Initiative. To achieve the goals requires:

- Coordinated effort by various stakeholder groups.
- Commitment from elected leaders to support the implementation plan.
- Promotion of the region's strengths and existing green assets.
- Perseverance and focused investment.

**What can be done to transform the local economy into a green economy?**

## Objective #1: Place brand the Green Valley.

Place branding as a tool for economic development is a relatively new idea, but it has quickly become a key strategy in plans for inter-regional competition around the world. New economic realities have changed the rules in regional competition, and place identity is now a priority item in any region's unique competitive advantage.

***Place Branding is about Identity, Not Resources***

Successful place branding describes much more than infrastructure and resources. Many places (Boston's Route 128 Corridor, or Washington, DC's Dulles Toll Road, for instance) have tried to emulate Silicon Valley, only to find that a high tech office park or new fiber optic cable is not the stuff of a deep, concentrated place brand. In the 21st century, competitive place branding describes not only what a place *has,* but also what it *is*, how that identity is a product of its unique character and history, and most importantly how its identity offers unique advantages in the 21st century economy.

***Place Branding is a Process, Not a Product***

The process of developing a competitive place brand should be considered as integral to the process of economic development, and not simply as a label attached at the end. The development of economic identity and place identity should be synonymous.

## Objective #2: Establish a Green Tech Advocate.

Because resources are limited, coordinating efforts and leveraging investments is important. The economic development staff in each city and county will not become experts in the field of green technology overnight. They are trained in their field but they need a resource to which they can turn to for support. Someone who can attend conferences and promote the region to green technology companies, who can stay informed about trends in the solar energy industry, who will know if the solar company looking for development assistance is using the most advanced technology and is predicted to grow and hire many local residents or not. This role is being called a Green Tech Advocate.

The Green Tech Advocate would facilitate introductions between companies interested in exploring the Inland Empire for their operations and the city or county economic development staff with potential locations. They would be available to the local staff for technical assistance and they would work with strategic partners to promote entrepreneurial activity in green technology industries.

## Objective #3: Promote the purchase of goods and services from local green technology businesses.

If green technology is to flourish, it needs a market. Demand is growing for green technologies. Businesses are offering greener products and providing services in helping businesses and consumers alike to become more resource efficient. Purchasing goods and services from local green technology businesses supports the growth of the local economy.

Local businesses produce local income, jobs, and tax receipts. They are more likely to utilize local ads, banks, and other services. They are more accountable to the local community and as they grow are likely to support local nonprofits, sponsor youth sports, and provide local leadership.

## Objective #4: Promote the use of green building practices.

Green building practices range from utilizing green building materials to the design and construction of a high-performance building that uses less water and energy or meets the Leadership in Energy and Environmental Design (LEED) Green Building Rating System standards to land use planning focusing growth in Smart Growth or Green Village Developments of walkable mixed-use communities with jobs and housing in close proximity.

Green building materials range from renewable materials like lumber from forests certified to be sustainably managed, or plant materials like bamboo, to recycled materials such as rubber matting made from tires, or non-toxic, reusable, and/or recyclable materials. Inherent in the definition is a reduced energy cost associated with extraction and transportation.

Even when green building materials are not produced locally, they are sold locally, generating local sales tax and employment. As demand grows, it may encourage the growth of green building material development locally, particularly as green technology innovation in the region is nurtured.

Existing local producers of high-performance green building products should be showcased at every opportunity to promote their growth. Education of the local development, construction, and architecture community will help in adoption or provide constructive feedback to improve the product.

Even more beneficial to the region and to reduction of the negative impacts of global warming is the energy conservation, reduced maintenance or replacement costs over the life of a green building, and improved occupant health and productivity.

Land use planning can support the use of green building practices through zoning and land use designations that allow and encourage the development of walkable mixed-use communities with jobs and housing in close proximity. This development is called Smart Growth and it is more town-centered, is transit and pedestrian oriented, and has a greater mix of housing, commercial and retail uses. It also preserves open space and many other environmental amenities.

An example of this in action in the Inland Empire is Dos Lagos in Corona, a master-planned mixed-use development that balances nature and community. The specific plan laid out the housing and commercial development to create a pedestrian-friendly community while restoring and preserving the natural beauty of the land and the native flora and fauna on the golf course, around the lakes, and in the 135 acres of dedicated hillside open space.

## Objective #5: Develop a green certification program to identify and recognize local green technology businesses.

Consumers are becoming more conscious of the impact their buying decisions make on the environment they live in or will leave their children and grandchildren. Consumers appreciate knowing that businesses care about their impact on the environment and have taken steps to reduce it.

There are a number of successful programs that promote green products or businesses through a certification and labeling process. The ENERGY STAR program labels products. The Santa Monica Green Business Certification program labels businesses that have implemented environmental actions and policies company-wide. Both programs provide consumers with information that guides their buying decisions.

***ENERGY STAR***

ENERGY STAR was first introduced in 1992 by the US Environmental Protection Agency (EPA) as a voluntary labeling program designed to identify and promote energy-efficient products to reduce greenhouse gas emissions. The program was designed to help consumers and businesses save money while protecting the environment.

Computers and monitors were the first labeled products. Since then, EPA has partnered with the U.S. Department of Energy and expanded the label to over 50 product categories as well as new homes and commercial and industrial buildings.

***Santa Monica Green Business Certification- Sustainable Works***

The City of Santa Monica, the Santa Monica Convention and Visitors Bureau and Chamber of Commerce have joined together to certify and recognize green businesses through a local nonprofit educational organization, Sustainable Works.

Local businesses can request an assessment of their green practices and are given targeted recommendations for improvement. Sustainable Works provides free technical assistance to help the business prioritize and implement the new practices through cost information, employee education and follow-up. Once they complete their implementation plan they receive recognition and the right to market their business as a Santa Monica Certified Green Business.

***EcoStar***

The EcoStar program is another program that publicly recognizes businesses for environmentally sound practices. This program differs in that businesses must meet 15 environmental standards to become an EcoStar achiever. 10 of the standards are required and the remaining 5 may be chosen out of a list of 15. This program emphasizes employee training and involvement as well as educating customers and involving the community.

Each Member receives a copy of the *EcoStar Action Guide* – a comprehensive manual that guides participants through each of the 25 performance standards. For each standard, the manual provides a description of the purpose and benefits, how to document and achieve the standard and provides users with a list of relevant references and resources to help organizations see what other businesses are doing to meet these standards.[xi]

## Objective #6: Market region for manufacturing operations to green technology businesses.

The Inland Empire's competitive advantage over the coastal communities which are leading innovation is the room to grow. As new ideas are developed and commercialized, they require manufacturing operations. Some will license their technology to existing companies, but some will need a site for production. Phoenix Motor Cars is just such an example.

The Inland Empire has airports, rail, and highways to connect local operations to other parts of the country, it has colleges and universities graduating trained engineers and technicians, and it has room to grow business operations. The next step is to market the region to these growing companies.

Green technology companies attend green technology conferences promoting their products, green technology entrepreneurs attend National Small Business Innovation Research/Small Business Technology Transfer Conferences and universities host business plan competitions. All of these events provide opportunities to meet and recruit new businesses and promote the Green Valley as a location for production or expansion of operations.

## Objective #7: Conduct solar energy feasibility studies.

Beginning in 2007, to encourage installation of solar energy systems on government buildings, the California Solar Initiative began offering California's government agencies an up-front incentive between $2.65 and $3.25/watt to compensate for their inability to access the federal tax incentive or a performance based incentive between $0.37 to $0.50/megawatt-hour (MWh). Because these rebate levels decrease an average of 7% per year between 2007 and 2017, the sooner a system is installed the higher the return.

The more public entities that commit to evaluating the feasibility of installing solar panels on their public buildings, the larger the potential market for solar systems in the Inland Empire. This becomes a marketing opportunity for the Green Valley Initiative.

## Objective #8: Market region to solar businesses.

Two current trends indicate solar is a growth industry, the demand for energy world-wide and the increase in polysilicon production capacity that is finally coming online this year and next. Prices are expected to drop by as much as a third around 2010. The lag in price decrease is because most solar panel manufacturers are locked into long-term contracts for polysilicon, the principal material in solar panels.

Solar Industry observers say that global demand for solar is growing 50% per year due to government incentives in California, Germany, and Japan. With a drop in price, solar adoption is expected to increase.

The Inland Empire is an ideal location for capturing sunlight and turning it into electricity. Capturing the jobs that will be generated by an increase in the industry is the logical next step.

Solar businesses range from design and manufacturing to sales, installation, maintenance, repair and service.

## Objective #9: Promote solar financing packages to increase solar technology adoption by homeowners.

Many homeowners would like to have a solar energy system, but the upfront expense has been insurmountable. New solar financing packages are coming on the market. To support solar market growth and encourage as many homeowners and housing developers as possible to take advantage of the Go Solar incentives and the anticipated decrease in solar panel prices, financing packages should be promoted. In the past year, new financing developments include:

- GE Money's Sales Finance unit and the Electric & Gas Industries Association (EGIA) provide revolving and installment consumer financing of residential solar systems through EGIA's GEOSmart Sustainable Financing Solutions loan program.[xii]
- SolarCity signed a deal with Morgan Stanley that will cut homeowners' upfront solar-installation costs to about $2,000 and charge them a fixed monthly fee -- not a rate -- for solar power, called the SolarLease. It's the latest in a series of new programs trying to use a commercial financial model to grow the residential solar market.[xiii]
- The Berkeley City Council unanimously approved a solar financing district on November 6, 2007. Home and business owners would voluntarily tax themselves over 20 years to pay for solar panels. The annual tax would be about the same or less than what the property owner would save on energy bills. The city will borrow money at a relatively low interest rate to pay for solar panel installation for property owners who want to participate. Because the city would be borrowing a large sum of money, the interest rate would be lower than what a property owner could secure individually.[xiv]

## Objective #10: Establish a GVI Green Tech Entrepreneur Business Plan Competition.

Business plan contests provide venture capitalists access to promising projects. They take place all over the world, particularly at colleges and universities. They are used to support students, alumni, faculty, and local inventors in their entrepreneurial pursuit of creating a business and commercializing promising technologies.

They are also used to attract certain types of new ventures. In Wisconsin, the Governor's Business Plan Contest was developed to attract high-tech businesses to the state. The London Business School is looking for business plans for the best innovation in homeland security. Intel and UC Berkeley partnered to offer The Intel®+UC Berkeley Technology Entrepreneurship Challenge. They are looking for business plans that offer engineering and scientific solutions to make the world a better place.

A Green Tech Entrepreneur Business Plan Competition would focus on innovative business ideas in green technologies for development in the Inland Empire. Several business plan competitions take place in the region at local universities. As a first step, the Green Valley

Initiative can partner with these competitions to offer a prize for winning green technology ideas.

The following competitions take place in the Inland Empire:

- The **CSUSB Student Fast Pitch Competition** is an innovative program offered by the Inland Empire Center for Entrepreneurship (IECE) to expose motivated students to the challenges and rewards of starting their own business (both for-profit and nonprofit social enterprises). The mission of the competition is to involve California State University San Bernardino students in the entrepreneurial process and to foster an environment that promotes the creation of new ventures.[xv] $7,500 in prize money is offered.
- The **Henry R Kravis Award for Entrepreneurship** is an annual business concept plan competition held at the Peter F. Drucker and Masatoshi Ito Graduate School of Management, Claremont Graduate University by The Venture Finance Institute. It is open to alumni and current students and provides feedback to the finalists on the strengths and potential of their plan.

## Objective #11: Establish a GVI Green Tech Innovation Network.

Silicon Valley blossomed because of the synergy that occurred from proximity. Networking, idea jam sessions, and cross-fertilization happened at the coffee shop, the gym, parent-teacher nights, trendy restaurants, and at Stanford University.

Fred Terman was the Dean of Engineering at Stanford University in 1946 and he had a vision of a center of learning from the ancient tradition of Bologna or Oxford. "This is the twentieth and twenty-first century form of the honored and ancient community of scholars," Terman wrote of the community he brought to life. "The faculty and students of such a place live in no 'ivory towers.' They have numerous contracts with stimulating, highly creative individuals in industry..."[xvi]

The GVI Green Tech Innovation Network would begin as a quarterly networking meeting aimed at business owners, entrepreneurs, scientists, engineers, and faculty and students, with the purpose of encouraging innovation and growth in green technology-based businesses in the Inland Empire.

## Objective #12: Establish a GVI Green Brain Trust

Fred Terman recruited the greatest minds to Stanford. His goal was to research and develop solutions to the challenges of his day. The Green Valley Initiative has the opportunity to do the same through the expansion occurring at the University of California at Riverside, California State University San Bernardino, and Cal Poly Pomona.

As these institutions identify areas for growth and hiring of new faculty, the Green Valley Initiative has an opportunity to develop a Green Brain Trust through faculty appointments that will fuel green technology innovation. The Initiative leaders can approach the leadership of these colleges and universities and explore how to further this goal. They can also approach members of the green technology business community regarding the vision and encourage them to participate by endowing research chairs and funding innovative research.

## Objective #13: Establish a GVI Green Tech Commercialization Program.

Entrepreneurs are usually good at developing or designing their product or technology, but not at transitioning it into the marketplace. The purpose of establishing and promoting the existence of a commercialization program aimed at green technologies is to encourage Inland Empire inventors to pursue their ideas and establish companies in the region that will lead to economic and job growth. Once they have their idea fully formulated, a commercialization program can assist them in getting it to market. Commercialization assistance would range from market studies to prototype development.

## Objective #14: Establish a GVI Small Business Innovation Research (SBIR) Green Tech Matching Grant.

The U.S. Small Business Administration (SBA) Office of Technology administers the Small Business Innovation Research (SBIR) Program and the Small Business Technology Transfer (STTR) Program. Through these two competitive programs, SBA ensures that the nation's small, high-tech, innovative businesses are a significant part of the federal government's research and development efforts. Eleven federal departments participate in the SBIR program; five departments participate in the STTR program awarding $2 billion to small high-tech businesses.

The purpose of establishing a local matching grant program to recipients of SBIR or STTR grants for green technologies is to encourage innovative businesses to pursue the commercialization of their products in the Inland Empire. The matching grant may in-kind, to provide research space at the green technology incubator or assistance from the GVI Green Tech Commercialization Program or it may be a cash match to further the commercialization research of their SBIR grant.

## Objective #15: Develop a green technology incubator.

The Alliance for Commercialization of Technology (ACT) was recently launched by California State University, San Bernardino (CSUSB). It is developing a high-technology innovation network located in Southern California's Inland Empire (IE), which includes Riverside and San Bernardino Counties and adjacent communities. Through its Network Office currently located at Cal State San Bernardino, ACT plans to coherently assemble and link innovation resources across the IE. Through planned local semi-autonomous accelerator facilities, network resources will be applied to Client high technology companies enabling successful innovation and commercialization of their products. Each accelerator facility will have a particular technology focus, and it is anticipated that at least one will focus on companies with clean technology products. The overarching goal of ACT is to stimulate economic growth and job creation in the Inland Empire.

UC Riverside has the strongest research focus on clean and green technology in the **Center for Environmental Research & Technology.** They developed the technology licensed by Viresco Energy that can produce clean synthetic transportation fuels from biomass such as municipal

sludge, agricultural waste, and wood. A green technology incubator associated with CE-CERT would provide tenants with links to the faculty and graduate students at UC Riverside and a continuing source of new ventures.

## Objective #16: Develop a green technology industrial park(s).

One of the most famous and first of its kind high tech business parks is Stanford Research Park. It was established as a source of revenue for the University and to provide local employment opportunities for graduating students. Because the University owned the land and had a vision that included research and development that would engage its faculty and students, leases were limited to high technology companies.

The Green Valley Initiative demands no less than a green technology park based on research and development with strong linkages to the local research universities and colleges. The region has three locations that could foster such industrial parks and target specific green technology industries:

***March Air Reserve Base – Green Transportation***
Situated on the south side of Moreno Valley in Riverside County the base redevelopment plan calls for commercial and industrial development. A green technology business park with a focus on green transportation such as bio diesel, cellulosic ethanol, Ultra Light Rail Transit (Cybertran, International) and electric car manufacturing and assembly (Phoenix Motor Co.) has merit because of the proximity to UC Riverside and the Center for Environmental Research & Technology and their research in developing autonomous vehicles and transportation systems for the future, converting biomass such as yard waste into vehicle fuel, and developing alternative-fueled engines and vehicles.

***George Air Force Base – Clean Energy***
George Air Force Base is located in Victorville and has been designated as a Free Trade Zone so it will be attractive to companies that are importing parts for manufacture for the domestic market or that are manufacturing for export. With the world-wide demand for electricity driving the increased use of clean energy from wind power, solar power, fuel cells, etc., companies manufacturing for export in these industries would be able to take advantage of the tax benefits of the free trade zone.

***Norton Air Force Base – Advanced Building Material and Appliance Technology***
Norton Air Force base is located in San Bernardino. At that site, companies investing in research and development will have easy access to the Alliance for Commercialization of Technology at CSUSB. Establishing a green technology business park with a focus on green building services, advanced building materials manufacturing and development, and green appliances would be in keeping with the Green County San Bernardino initiative for green building. Examples of companies in these industries that will need expanded manufacturing capacity as their product expands are Volcan Technologies Inc. in Minneapolis with the patented VolcanWall Steel-framed, Hand-finished, Insulated Panels (SHIPs) which make buildings energy efficient and sustainable at an affordable price and iCel Systems in Van Nuys with a proprietary technology for advanced lithium battery storage for use in cars, homes, or for commercial applications.

***The Center for Water Education at Diamond Valley Lake – Green Water Technology***
The Center for Water Education is located in Hemet, adjacent to Diamond Lake, California's newest and largest reservoir. This $30 million museum and educational center is managed by a nonprofit foundation created by the Metropolitan Water District of Southern California (MWD). It houses 30,000 square feet dedicated to the objectives of water education and research in water supply, reliability, and sustainability. The Inland Empire faces a water shortage that will limit growth without viable solutions. Globally, fresh clean drinking water and desalination are already major concerns. The research conducted at this location could address these local and global issues and be combined with incubation and manufacturing for a Green Water Technology Park.

***Global Green Technology Trade Center:*** Both George and Norton Air Force Bases are also well situated to become part of the Green Valley Initiative Global Green Technology Trade Center. Green technology has global markets that make the Inland Empire an attractive location for manufacturing operations. Norton has California Enterprise Zone incentives as a Local Agency Military Base Recovery Area (LAMBRA) and has a U.S. Customs office on site. George has a Free Trade Zone which provides tax benefits to manufacturers with overseas markets or components.

## Objective #17: Market region's support for green technology start-ups.

As each of the following strategies are implemented they strengthen the case to entrepreneurs that the support available in the Inland Empire means that it is "the" place to start their business. Marketing this infrastructure for green technology start-ups will also support the place branding of the Green Valley.

- Green Valley Initiative
- GVI Green Tech Entrepreneur Business Plan Competition
- GVI Green Tech Innovation Network
- GVI Green Tech Commercialization Program
- GVI Small Business Innovation Research (SBIR) Green Tech Matching Grant
- Green Tech Incubator(s)
- Green Technology Park(s)
- GVI Green Certification Program

## Objective #18: Identify federal and state financial resources.

Identifying federal and state resources is an ongoing process which is facilitated by email notification of federal grant opportunities. A list of the annual grant programs can be developed and grant writers identified to access the programs. Grants.gov is the web-based listing of all federal grant programs. The state is developing a similar listing.

The following agencies provide grant programs that would be useful for implementing the Green Valley economic strategic plan.

- U.S. Department of Commerce, Economic Development Administration – infrastructure related to high-skill, high-wage jobs

- U.S. Department of Housing and Urban Development – Economic Development Initiative – grants and loans for development

- The California Infrastructure and Economic Development Bank (I-Bank) - tax-exempt securities for acquisition, construction, rehabilitation and equipping of manufacturing and processing facilities for private companies.

- California Research and Development (R&D) Tax Credit - allows taxpayers to claim a credit for a portion of their incremental R&D expenses. Incremental expenses are calculated as increases in the ratio of a taxpayer's current-year R&D expenses to gross sales relative to a four-year base period. The credit is equal to 15% of "qualified," also known as applied, incremental R&D expenses, and 25% of qualified incremental "basic" R&D expenses. Basic R&D is research conducted at qualified universities or scientific research organizations.

- California Energy Commission's Research and Development Division Public Interest Energy Research (PIER) Program - supports energy research, development and demonstration (RD&D) projects that will help improve the quality of life in California by bringing environmentally safe, affordable and reliable energy services and products to the marketplace. The PIER Program annually awards up to $62 million to conduct the most promising public interest energy research by partnering with RD&D organizations, including individuals, businesses, utilities, and public or private research institutions.

- California Energy Commission's Research and Development Division Energy Innovations Small Grant (EISG) Program - provides up to $95,000 for hardware projects and $50,000 for modeling projects to small businesses, non-profits, individuals and academic institutions to conduct research that establishes the feasibility of new, innovative energy concepts. Research projects must target one of the six PIER program areas, address a California energy problem, and provide a potential benefit to California electric and natural gas ratepayers.

## Objective #19: Develop legislation to establish Green Technology Innovation Zones that provide tax incentives to green energy companies.

The State of California has two geographically-based economic incentive programs, the California State Enterprise Zone Program (EZ), and the Recycling Market Development Zone (RMDZ).

The most successful program is the Enterprise Zone. It was created to stimulate economic growth in areas throughout the state that are economically distressed. The Program provides a variety of incentives to cities to help stimulate business expansion in designated areas and is

designed to aid in attracting and retaining businesses and industries to help facilitate the creation of job opportunities for California residents.

The RMDZ is more specialized. It was developed to combine recycling with economic development to fuel new businesses, expand existing ones, create jobs, while diverting waste from landfills. Businesses locating in an RMDZ have access to loan funds for equipment, working capital, or real estate; technical assistance; and free product marketing.

A purpose of a Green Technology Development Zone Program would be to stimulate the growth of green technology businesses in targeted areas within the state, especially in the Green Valley, to focus incentive programs, both private and public to foster job growth that could include streamlined permitting, attractive loans, low or no-cost technical assistance, marketing support, and tax incentives linked to research and development expenditures or local hiring.

# V. Strategic Projects, Programs, and Activities

To implement the vision, the objectives must be linked through place branding such that the branding becomes a key driver in the realization of the growth of green technology as companies want to become a part of what's happening in the Green Valley.

The branding process can be considered as a key element in five dimensions of the local economic development package:

1. **Repositioning**: Assessments of the Inland Empire's current advantages and resources, its disadvantages, and its opportunities can all be framed within the development of an evolving place identity.

2. **Visioning**: The development of relationships between investors, residents, businesses, and public agencies should be considered in terms of the emergence of the Green Valley's place identity. Partnerships between these stakeholders should be considered from the standpoint of their unique character, and championed for the unifying vision these relationships provide. In turn, it is these partnerships that will champion and manage the place brand.

3. **Strategy**: The detailed plan for implementing the economic development strategy should be framed in terms of the development of the Green Valley's evolving story. Implementation of the economic development strategy and place branding strategy should be simultaneous and indistinguishable.

4. **Activities**: Funded activities undertaken to brand the identity of the Green Valley should be part of the same strategic rollout as funded activities undertaken for economic development.

5. **Marketing:** Promotion and media placement should focus on the life of the Green Valley, as it is enriched by the economic development activities, and how the place has evolved over time.

**Inputs, Outputs, Desired Outcomes**

The work of developing a successful place brand should be divided into three categories described as inputs, outputs, and desired outcomes. *Inputs* include defining objectives, target audiences, and articulating the brand image; *Outputs* include a list of clear values and unique advantages; *Desired Outcomes* are the benchmarks by which the branding program is evaluated.

In the following table, each objective has been defined as a program and is listed along with the purpose or objective to be achieved and how to achieve it.

## *BLUEPRINT FOR BECOMING THE CENTER OF GREEN TECHNOLOGY DEVELOPMENT*

| PROGRAM | PURPOSE OF PROGRAM | HOW TO IMPLEMENT THE PROGRAM |
|---|---|---|
| Place branding the Green Valley | To develop a synonymous economic and place identity to promote the Green Valley. | Maintain the dialogue with the regional stakeholders and establish charter memberships in the Green Valley Initiative. Establish a branding committee to develop the inputs, outputs and desired outcomes for the place branding program. |
| Green Tech Advocate | To support the economic growth and development of the Green Valley. | Establish funding for Green Tech Advocate to support cities and counties and promote entrepreneurship. |
| Purchase local green goods and services | To support the growth of the local economy. | Identify local green technology businesses. Co-market with the Green Valley Initiative. Promote local green products. Register manufacturing businesses with Connectory.com to encourage business-to-business sales. |
| Promote the use of green building practices | To develop high-performance buildings with reduced maintenance or replacement costs over the life of the building, energy conservation, and improved occupant health and productivity.<br><br>To encourage the growth of green building material development locally. | Partner with the U.S. Green Building Council Inland Empire to develop programs to promote the use of green building materials and the adoption of high-performance building standards (Title 24) through education, advocacy, and training of architects, engineers, designers, general contractors, developers, planners, municipalities, material manufacturers, green-collar workers, and consumers. |
| GVI Green Certification Program | To support the growth of the local economy, instill community pride, and encourage private investment. | Partner with the Chambers of Commerce to design and implement a Green Valley Initiative Certification Program for businesses adopting green practices. Establish criteria for a special category for businesses that purchase goods and services from local green technology companies.<br>Partner with economic development community to design and implement a Green Valley Initiative Business Recognition Program for green technology businesses. |

| PROGRAM | PURPOSE OF PROGRAM | HOW TO IMPLEMENT THE PROGRAM |
|---|---|---|
| Market region for manufacturing operations to green technology businesses | To increase local manufacturing base for the green economy. | Survey green technology businesses for location requirements for manufacturing operations. Prepare marketing materials promoting attributes of region.<br><br>Attend conferences for green technology industries, the Small Business Innovation Research program, and Business Plan promotions to identify expanding green tech businesses.<br><br>Promote region to Angel Investor Networks and Venture Capital firms investing in green tech businesses. |
| Conduct solar energy feasibility studies | To increase adoption of solar panels by local governments. | Ask each public entity or jurisdiction to commit to evaluating the feasibility of installing solar panels on each public building by the end of 2010. (Go Solar California)<br><br>Partner with Universities and Colleges to provide feasibility analysis, cost-benefit analysis, or Life Cycle Analysis through student class projects.<br><br>Partner with the public utilities to seek funding from the PUC for some of the analysis |
| Promote solar technology financing packages | To increase solar panel adoption by homeowners. | Partner with developers, financial institutions and solar manufacturers to promote financing mechanisms attractive to new and existing homeowners. |
| Market region to solar businesses | To attract solar businesses to expand into the region. | Attend solar industry conferences to identify companies and promote region.<br><br>Contact local businesses that serve the region and ask why they haven't opened an office in the region.<br><br>Survey end-users to learn why they have chosen businesses outside the region. Share results with local businesses and provide marketing assistance to increase their market share. |

| PROGRAM | PURPOSE OF PROGRAM | HOW TO IMPLEMENT THE PROGRAM |
|---|---|---|
| Establish a GVI Green Tech Entrepreneur Business Plan Competition | To encourage local green technology entrepreneurial business development. | Partner with Angel Investor Networks and technology transfer and commercialization offices at the Universities and Colleges in the region to establish green technology and business plan judging criteria. Develop review team.<br><br>Develop prize for winner(s) – such as technical support with a Small Business Innovation Research grant application or commercialization support, or free rent for 1 year at a green technology incubator, or opportunity to present their business plan to an Angel Investor group. |
| Establish a GVI Green Tech Innovation Network | To support the interaction between engineers, inventors, and entrepreneurs together. | Establish a quarterly green innovation networking and lecture series to bring investors and entrepreneurs together. |
| Establish a GVI Green Tech Commercialization Program | To support the initial feasibility analysis of new green technologies. | Partner with the Alliance for Commercialization of Technology, Cal State San Bernardino to conduct a commercialization program for green technologies.<br><br>Fund a matching grant program of up to $25,000 per applicant to support the initial feasibility analysis for new technologies. |
| Establish a GVI Small Business Innovation Research (SBIR) Green Tech Matching Grant | To encourage local green technology innovation. | Establish an investment fund to provide matching funds to successful applicants to the federal SBIR grant program.<br>• Up to $100,000 to support Phase I exploration of the technical merit or feasibility of a green technology<br>• Up to $750,000 to support a Phase II full-scale research and development of a green technology |
| Develop a green technology incubator | To support the development of new green technology business ideas. | Conduct a green technology incubator feasibility study. As an interim strategy, engage existing incubators and recruit green technology entrepreneurs to their facilities to develop a track record for green technology business development. |

| PROGRAM | PURPOSE OF PROGRAM | HOW TO IMPLEMENT THE PROGRAM |
|---|---|---|
| Develop a green technology industrial park(s) | To support the marketing of the region to green technology businesses. | Identify existing industrial parks with a high percentage of green technology tenants or locations for development of a new industrial park to be dedicated to green technology businesses. Proximity to universities, colleges and green technology focused incubators should be considered. |
| Market region's support for green technology start-ups | To attract green technology business entrepreneurs to region. | Develop marketing materials to be used regionally that promote the support structure that exists for green technology start-ups and manufacturers:<br>• Green Valley Initiative<br>• GVI Green Tech Entrepreneur Business Plan Competition<br>• GVI Green Tech Innovation Network<br>• GVI Green Tech Commercialization Program<br>• GVI Small Business Innovation Research (SBIR) Green Tech Matching Grant<br>• Green Tech Incubator(s)<br>• Green Technology Park(s)<br>• GVI Green Certification Program |
| Identify federal and state financial resources | To increase funding for green technology business development and expansion. | Develop list of annual federal and state grant programs. Identify grant writers. Establish plan for pursuing annual grant opportunities. Develop partnerships to pursue grant opportunities. Monitor one-time grant opportunities on Grants.gov and pending legislation for future opportunities. |
| Develop legislation to establish Green Technology Innovation Zones that provide tax incentives to green energy companies | To stimulate economic growth through incentives that help attract and retain businesses and support business expansion. | Review legislation for the State Enterprise Zone and for the Recycling Market Development Zone. Determine whether either program can be extended to support green technology and whether legislation is required.<br><br>If legislation is required, identify a law firm to provide pro bono support in drafting potential legislation. Meet with local legislators about sponsoring legislation to establish Green Technology Development Zones. |

# VI. CEDS Plan of Action

The CEDS is a dynamic process that involves broad-based stakeholder participation to improve an area's economy. The Green Valley Initiative CEDS Committee will undertake the following next steps to strengthen and diversify the economic base and improve the living conditions in the Inland Empire:

- Work closely with the Southern California Economic Development Representative to identify priority areas of investment.
- Hold meetings with public stakeholders including municipal leaders and representatives to bring resources to the area. Discuss possible projects and improvements that can be facilitated with EDA investments and can result in new jobs for the area.
- Hold meetings with private stakeholders including developers to identify possible development projects. Collaborate and develop public–partnerships eligible for EDA investment.
- Review projects; identify projects that meet EDA guidelines and priorities; assist other potential EDA grantees in shaping their applications; identify EDA projects in the pipeline for future funding.
- Present to EDA pre-application for federal funding for select projects and assist project proponents with grant application requirements.
- If funded by EDA, review performance of EDA investments on a regular basis.
- Identify and leverage funding for needs identified from sources other than EDA.
- Review CEDS document on a yearly basis and revise as needed in response to the changing economic conditions.
- Expand CEDS Committee to reflect the diversity of the stakeholders of the project area.

# VII. Performance Measures

The following describes the criteria used to guide the program and project selection portion of the CEDS. Since EDA investments are very competitive, projects and programs will be evaluated based on the extent to which they meet and/or maximize the following criteria.

- **Market Based:** Are the proposed investments market based? How will the investment stimulate the private economy?
- **Proactive Investments:** Are the proposed investments proactive in nature and scope?
- **Economic Changes/Diversification:** Do the proposed investments look beyond the immediate horizon, anticipate economic changes, and diversify the local and regional economy?
- **Private capital investment:** Are investments maximizing private capital investment? (Discuss search for other funding and explain necessity for EDA investment.)
- **Success Anticipated:** What is the probability of success?
- **Matching Funds:** Level of local, state, and private matching funds.
- **Local Political Capital:** High degree of commitment of local political "capital" by elected officials.
- **Human Resources:** Commitment of human resources talent to project outcomes.
- **Jobs Created/Wealth:** Will the proposed investment create an environment where higher paying jobs are created? (Describe types of jobs created, and how federal investment increases the wealth of the workforce.)
- **Return on Taxpayer Investment:** Does the proposed investment maximize return on taxpayer investment? (Results from investment anticipated; describe benefits to local economy and tax base.)

The following CEDS Rating Instrument will assist the Inland Empire CEDS Committee evaluate potential projects and applicants for funding. In addition, organizations or jurisdictions applying for EDA funding can utilize the Rating Instrument to conduct a self-evaluation to fully assess the potential of the project in fulfilling the goals and objectives of the region.

## CEDS Suggested Project Rating Instrument

### CRITERIA MEASUREMENT SUGGESTED RATING

| CRITERIA | MEASUREMENT | SUGGESTED RATING |
|---|---|---|
| JOB CREATION | | |
| 1. Number of long-term jobs created | 0-9<br>10-49<br>50-99<br>>100 | -0-<br>1-3<br>4-6<br>7-9 |
| 2. Quality of job created appropriateness to community | Retail, Finance, Education, Services, Health Care, Manufacturing & High Tech | 1-9 |
| Pay scale of jobs | Minimum Wage, Living Wage, Skilled and Professional | |
| 3. Total cost per job ratio | > $12,501<br>$7,500 - $12,500<br><$7,500 | 1-3<br>4-6<br>7-9 |
| COMMUNITY IMPACT | | |
| 4. Unemployment rate in project area | <5%<br>5-8%<br>>8% | 1-3<br>4-6<br>7-9 |
| 5. Median income in project area | $35,001-$50,000<br>$25,000-$35,000<br><$25,000 | 1-3<br>4-6<br>7-9 |
| 6. Community benefit | - Creation of new jobs<br>- Welfare to work<br>- Family-wage and higher pay (high value jobs)<br>- Local hiring<br>- Creation of new business opportunities in the project area<br>- Improve quality of life<br>- Increase the tax base | 1-9 |
| 7. Groups and organizations endorsing the project | | 1-4 |

| CRITERIA | MEASUREMENT | SUGGESTED RATING |
|---|---|---|
| JOB CREATION<br><br>8. Employment plan | - Timing of employment plan<br>- Comprehensiveness of employment plan (e.g., plan for local hiring, coordination with local/ regional/employment/training organizations, outreach, etc) | 1-5 |
| PROJECT READINESS & INVESTMENT | | |
| 9. Current status of proposed project | Conceptual<br>Planning and design<br>Ready to construct<br>(Consider site control, relocation, environmental issues, time frame relative to grant year and if financing has been secured) | 1-3<br>4-6<br>7-9 |
| 10. Other funding sources | 25% private investment<br>26-40%<br>>40% | 1-3<br>4-6<br>7-9 |
| 11. EDA funding request to total project cost ratio | | 1-5 |
| 12. Capacity of operator during construction and as a going concern | - Experience (number and size of other projects and how successful were they?)<br>- Financial strength | 1-9 |
| 13. Bonus | - Overall quality of the project<br>- Innovation and creativity<br>- Coordination with other projects in region<br>- Secondary impacts<br>- Other | 1-5 |
| TOTAL POINTS POSSIBLE | | 100 |
| TOTAL POINTS FOR THIS PROJECT | | |

# Endnotes

i Department of Finance, Riverside and San Bernardino County Profiles, Area

ii Department of Finance, State of California Profile, Area

iii Claritas estimate 2008

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v California Green Innovation Index: 2008 Inaugural Issue, p. 2, http://www.coecon.com/Reports/GREEN/CAGreenIndex.pdf

vi California Economic Strategy Panel, California Labor & Workforce Development Agency, http://www.labor.ca.gov/panel/

vii Clean Technology and the Green Economy: Growing Products, Services, Businesses and Jobs in California's Value Network, p.3, http://www.labor.ca.gov/panel/pdf/DRAFT_Green_Economy_031708.pdf

viii California Green Innovation Index: 2008 Inaugural Issue, p. 9, http://www.coecon.com/Reports/GREEN/CAGreenIndex.pdf

ix What can Green do for you? Battelle Top Ten List Forecasts Emerging Green Technologies, Battelle, http://www.battelle.org/SPOTLIGHT/tech_forecast/emerginggreen.aspx, April 21, 2008.

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xi EcoStar, "Summary of Standards", http://www.ecostardevens.com/index_files/Page642.htm

xii Renewable Energy Worldwide.com Online, "GE Helps Homeowners Afford Solar with Nationwide Financing", http://www.renewableenergyworld.com/rea/news/story?id=49472, July 30, 2007.

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xvi Business Week, "The Engineer who Jump-started Silicon Valley", August 25, 1997.