



GREEN VALLEY INITIATIVE

## **The Green Valley Initiative Sustainable Economic Development Plan**

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



**May 2008**

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

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## EXECUTIVE SUMMARY

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.

The purpose of the Green Valley Initiative Sustainable Economic Development Strategic Plan is to lay out strategies focusing job growth and business development in the green technology sector. 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.

## Economic Background and Drivers

The Inland Empire requires new investment to achieve a strong economic presence in Green Technology. 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. 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. Because resources are limited, coordinating efforts and leveraging investments will multiply the benefits.

The location has already attracted numerous large investments in applied green technology such as the ***Kramer Junction Solar Electric Generating System (SEGS)***, a utility-scale solar thermal electric generating facility and the **San Geronio Pass Wind Farm**, the second highest energy producing region in California, as well as many LEED-certified "Green Buildings". Investments have been made in research and entrepreneurship such as the ***Center for Environmental Research & Technology (CE-CERT)*** at the University of California at Riverside and the ***Inland Empire Center for Entrepreneurship (IECE)*** at California State University, San Bernardino. Investments have been made in education and training such as the program in maintaining hybrid vehicles offered at **Colton-Redlands-Yucaipa ROP** and the construction management program offered with a Green Building emphasis at **Riverside Community College District**. **Victor Valley College (VVC)** has adopted "Sustainability" as a main focus for their campus and is currently offering a Renewable Energy Certificate. VVC is currently planning wind, solar, and water courses (reclamation, conservation), desert landscaping, straw bale construction, and GIS courses all leading to an Environmental Technology degree (and certificates).

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.

## **Economic Vision & Goals**

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. Four goals identified to achieve the vision are to:

- 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 and venture capital firms

## **Recommended Economic Strategies**

The following strategies are designed to achieve the goals and vision outlined for the Green Valley Initiative:

1. Place branding the Green Valley
2. Establish a Green Tech Advocate
3. Purchase local green goods and services
4. Promote the use of green building practices
5. GVI Green Certification Program
6. Market region for manufacturing operations to green technology businesses
7. Conduct solar energy feasibility studies
8. Market region to solar businesses
9. Promote solar financing packages to increase solar technology adoption by homeowners
10. Establish a GVI Green Tech Entrepreneur Business Plan Competition
11. Establish a GVI Green Tech Innovation Network
12. Establish a GVI Green Brain Trust
13. Establish a GVI Green Tech Commercialization Program
14. Establish a GVI Small Business Innovation Research (SBIR) Green Tech Matching Grant
15. Develop a green technology incubator
16. Develop a green technology industrial park(s)
17. Market region's support for green technology start-ups
18. Identify federal and state financial resources
19. Develop legislation to establish Green Technology Innovation Zones that provide tax incentives to green energy companies

A coordinated effort by stakeholder groups and commitment from elected leaders will be necessary to successfully execute these strategies.

Opportunity Sites



**George Air Force Base**  
Source: Google Maps



**March Air Reserve Base**  
Source: Google Maps



**Norton Air Force Base**  
Source: Google Maps



**The Center for Water Education  
Diamond Valley Lake in Hemet**

## INTRODUCTION

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 regional economic development plan 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. 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.

## ECONOMIC BACKGROUND & DRIVERS

### *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.<sup>i</sup>

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.<sup>ii</sup> *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.<sup>iii</sup>

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.

## **Need for Investment**

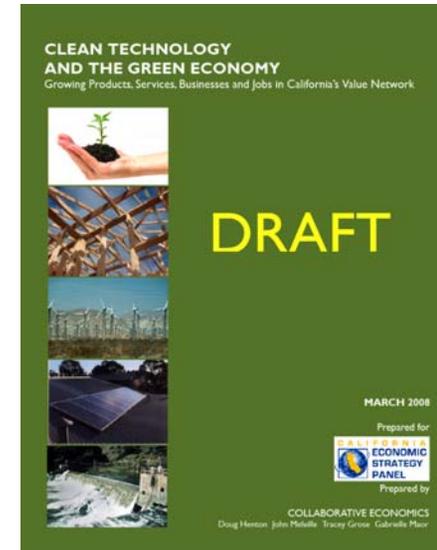
In order to catch this second wave of innovation and ride it to an economic boom, the following recommendations are made in the California Green Innovation Index<sup>iv</sup>:

- 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.

### **What is Green Technology?**

“Green Technology” refers to any technology with environmental sensitivity, that either restores, protects, or reduces our impact on the planet. These technologies are far-ranging, from pollution control instrumentation to electric cars to non-toxic cleaning products. Green Technology is expected to solve the energy crisis, global warming, and preserve the planet while allowing us to improve our quality of life by reducing pollutants at home and at work. Attention is being paid to green technology growth by the federal and state government as well as the investment community. For the Inland Empire, it presents an opportunity for job growth and the reduction of commutes with the side benefit of reducing air pollution.

The following industries represent a partial list of industries utilizing green technologies:

- Alternative Fuel Vehicles
- Biomass / Waste-to-Energy Power
- Construction: High-Performance Green Buildings
- Environmental Components Manufacturing
- Environmental Components Distribution
- Environmental Consulting
- Fuel Cells and Batteries
- Solar Power
- Waste Disposal
- Water Purification

### **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.<sup>v</sup> The following list was published on April 21, 2008.

## The Green Valley Initiative Sustainable Economic Development Strategic Plan

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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.

### Green-Collar Jobs

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.

Excerpted from: Green-Collar Jobs in America's Cities: Building Pathways out of Poverty and Careers in the Clean Energy Economy

## **Factors Affecting Economic Health**

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 the following factors are strategically addressed will determine whether or not the Green Valley Initiative will become a vibrant part of the Inland Empire's economy.

### **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
  - 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 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

# The Green Valley Initiative Sustainable Economic Development Strategic Plan

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**UCR – Center for Environmental Research & Technology**



**Coachella Valley – Wind Farm**



**Kramer Junction Solar Electric Generating System**



**Platinum LEED headquarters for Inland Empire Utility Agency**

## **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.

### **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.

### **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

### **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.”<sup>vi</sup>

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.

### **Adult Education Levels**

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

Inland Empire residents generally have very low level of educational attainment. According to 2005 Claritas estimates, nearly one-quarter the population (25 years and above) has less than a high school diploma. Low educational attainment negatively impacts the region’s labor force as more and more local students fail to complete high school and with it, the ability to obtain higher skilled and higher paying jobs.

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.

### **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.

## ECONOMIC VISION & GOALS

The vision for the Green Valley Initiative is that the Inland Empire will be the center of green technologies with balanced economic and community development. 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.**

## RECOMMENDED ECONOMIC STRATEGIES

The following strategies 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?**

### **Strategy #1: Place branding 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 21<sup>st</sup> 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 21<sup>st</sup> 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.

## **Strategy #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.

## **Strategy #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.

## **Strategy #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.

### **Strategy #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.<sup>vii</sup>

### **Strategy #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.

### **Strategy #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.

### **Strategy #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.

### **Strategy #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.<sup>viii</sup>
- 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.<sup>ix</sup>
- 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.<sup>x</sup>

### **Strategy #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.<sup>xi</sup> \$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.

### **Strategy #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..."<sup>xii</sup>

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.

### **Strategy #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.

### **Strategy #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.

### **Strategy #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.

### **Strategy #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.

### **Strategy #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:

### **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.

### **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.

### **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.

### **Strategy #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

### **Strategy #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.
- Research and Development (R&D) State 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.
- 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.

- 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.

### **Strategy #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.

### **Demonstrating the Vision: Place Branding**

To implement the vision, the strategies 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 strategy or program is listed along with the purpose or objective to be achieved and how it can be achieved.

# The Green Valley Initiative Sustainable Economic Development Strategic Plan

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## 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 <a href="http://Connectory.com">Connectory.com</a> to encourage business-to-business sales.
Promote the use of green building practices	<p>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.</p> <p>To encourage the growth of green building material development locally.</p>	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.	<p>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.</p> <p>Partner with economic development community to design and implement a Green Valley Initiative Business Recognition Program for green technology businesses.</p>

## The Green Valley Initiative Sustainable Economic Development Strategic Plan

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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.	<p>Survey green technology businesses for location requirements for manufacturing operations. Prepare marketing materials promoting attributes of region.</p> <p>Attend conferences for green technology industries, the Small Business Innovation Research program, and Business Plan promotions to identify expanding green tech businesses.</p> <p>Promote region to Angel Investor Networks and Venture Capital firms investing in green tech businesses.</p>
Conduct solar energy feasibility studies	To increase adoption of solar panels by local governments.	<p>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)</p> <p>Partner with Universities and Colleges to provide feasibility analysis, cost-benefit analysis, or Life Cycle Analysis through student class projects.</p> <p>Partner with the public utilities to seek funding from the PUC for some of the analysis</p>
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.	<p>Attend solar industry conferences to identify companies and promote region.</p> <p>Contact local businesses that serve the region and ask why they haven't opened an office in the region.</p> <p>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.</p>

## The Green Valley Initiative Sustainable Economic Development Strategic Plan

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.	<p>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.</p> <p>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.</p>
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.	<p>Partner with the Alliance for Commercialization of Technology, Cal State San Bernardino to conduct a commercialization program for green technologies.</p> <p>Fund a matching grant program of up to \$25,000 per applicant to support the initial feasibility analysis for new technologies.</p>
Establish a GVI Small Business Innovation Research (SBIR) Green Tech Matching Grant	To encourage local green technology innovation.	<p>Establish an investment fund to provide matching funds to successful applicants to the federal SBIR grant program.</p> <ul style="list-style-type: none"> <li>• Up to \$100,000 to support Phase I exploration of the technical merit or feasibility of a green technology</li> <li>• Up to \$750,000 to support a Phase II full-scale research and development of a green technology</li> </ul>
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.

## The Green Valley Initiative Sustainable Economic Development Strategic Plan

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.	<p>Develop marketing materials to be used regionally that promote the support structure that exists for green technology start-ups and manufacturers:</p> <ul style="list-style-type: none"> <li>• Green Valley Initiative</li> <li>• GVI Green Tech Entrepreneur Business Plan Competition</li> <li>• GVI Green Tech Innovation Network</li> <li>• GVI Green Tech Commercialization Program</li> <li>• GVI Small Business Innovation Research (SBIR) Green Tech Matching Grant</li> <li>• Green Tech Incubator(s)</li> <li>• Green Technology Park(s)</li> <li>• GVI Green Certification Program</li> </ul>
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.	<p>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.</p> <p>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.</p>

## Endnotes

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- i California Green Innovation Index: 2008 Inaugural Issue, p. 2, <http://www.coecon.com/Reports/GREEN/CAGreenIndex.pdf>
- ii California Economic Strategy Panel, California Labor & Workforce Development Agency, <http://www.labor.ca.gov/panel/>
- iii 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](http://www.labor.ca.gov/panel/pdf/DRAFT_Green_Economy_031708.pdf)
- iv California Green Innovation Index: 2008 Inaugural Issue, p. 9, <http://www.coecon.com/Reports/GREEN/CAGreenIndex.pdf>
- v What can Green do for you? Battelle Top Ten List Forecasts Emerging Green Technologies, Battelle, [http://www.battelle.org/SPOTLIGHT/tech\\_forecast/emerginggreen.aspx](http://www.battelle.org/SPOTLIGHT/tech_forecast/emerginggreen.aspx), April 21, 2008.
- vi "The Future of the California Economy is on the Coast", Center for Continuing Study of the California Economy, Stephen Levy, February 2007.
- vii EcoStar, "Summary of Standards", [http://www.ecostardevens.com/index\\_files/Page642.htm](http://www.ecostardevens.com/index_files/Page642.htm)
- viii 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.
- ix GreenTechMedia, "Battle for Home Solar Financing Begins", <http://www.greentechmedia.com/articles/battle-for-home-solar-financing-begins-757.html>, April 2, 2008.
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- xi CSULB Entrepreneurship, "Student Fast Pitch Competition", [http://entre.csusb.edu/simple\\_text.php?menu\\_id=23](http://entre.csusb.edu/simple_text.php?menu_id=23)
- xii Business Week, "The Engineer who Jump-started Silicon Valley", , August 25, 1997.