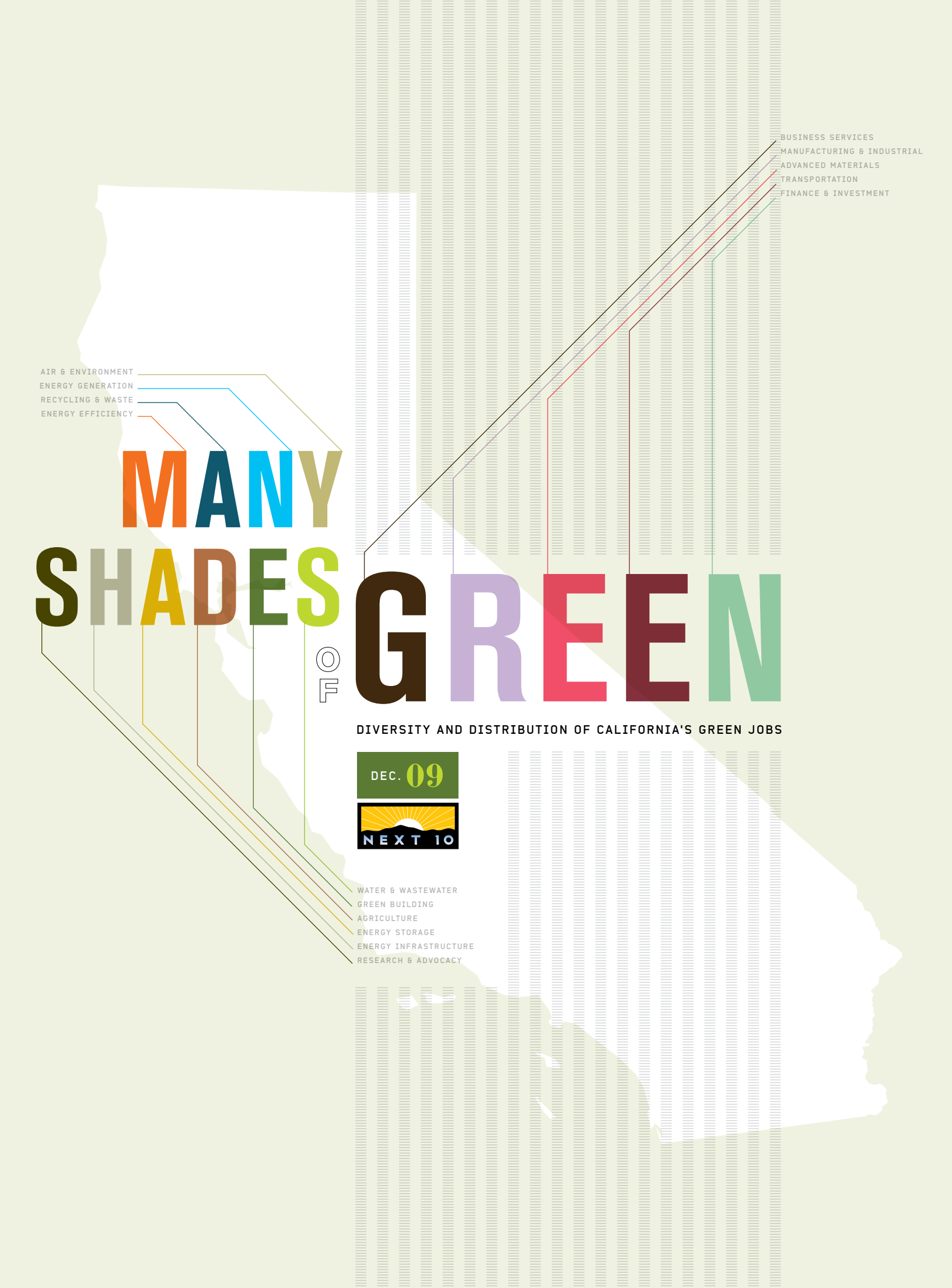
BUSINESS SERVICES
MANUFACTURING & INDUSTRIAL
ADVANCED MATERIALS
TRANSPORTATION
FINANCE & INVESTMENT
AIR & ENVIRONMENT
ENERGY GENERATION
RECYCLING & WASTE
ENERGY EFFICIENCY
MANY
SHADES OF GREEN
DIVERSITY AND DISTRIBUTION OF CALIFORNIA'S GREEN JOBS
DEC. 09
NEXT 10
WATER & WASTEWATER
GREEN BUILDING
AGRICULTURE
ENERGY STORAGE
ENERGY INFRASTRUCTURE
RESEARCH & ADVOCACY

NEXT 10 IS AN INDEPENDENT NONPARTISAN ORGANIZATION THAT EDUCATES, ENGAGES AND EMPOWERS CALIFORNIANS TO IMPROVE THE STATE'S FUTURE.

NEXT 10 WAS FOUNDED IN 2003 BY VENTURE CAPITALIST AND PHILANTHROPIST F. NOEL PERRY. NEXT 10 IS FOCUSED ON INNOVATION AND THE INTERSECTION BETWEEN THE ECONOMY, THE ENVIRONMENT, AND QUALITY OF LIFE ISSUES FOR ALL CALIFORNIANS. WE PROVIDE CRITICAL DATA TO HELP INFORM THE STATE'S EFFORTS TO GROW THE ECONOMY AND REDUCE GLOBAL WARMING EMISSIONS.

THIS REPORT SERVES AS A COMPANION TO NEXT 10'S *CALIFORNIA GREEN INNOVATION INDEX*, AND THE ANALYSIS PRESENTED HEREIN BUILDS ON THE GREEN BUSINESS ANALYSIS PUBLISHED IN THE *INDEX* SINCE 2008. THE *INDEX* TRACKS CALIFORNIA'S PROGRESS IN REDUCING GREENHOUSE GAS EMISSIONS, IMPLEMENTING INNOVATIVE PUBLIC POLICY, GENERATING TECHNOLOGICAL AND BUSINESS INNOVATION, AND GROWING BUSINESSES AND JOBS THAT ENABLE THE TRANSFORMATION TO A MORE RESOURCE-EFFICIENT ECONOMY.

WWW.NEXT10.ORG

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Dear Friend,

During this period of global economic challenges, California's economy is transforming as new opportunities emerge. In response to volatile energy costs and the need to promote energy efficiency, California's households and businesses are finding new ways to save money and conserve resources, and our innovative business community is finding new opportunities in providing the products and services we need to accomplish these goals.

In response to the lack of reliable information on the growing green economy, Next 10 has commissioned the development of a systematic approach for identifying companies, and the jobs associated with them, that are providing the means for reducing pollution, harnessing clean energy sources and minimizing environmental impacts — the Core Green Economy.

Next 10's *Many Shades of Green: Diversity and Distribution of California's Green Jobs* uncovers this new economic growth taking place across the state in the form of business and job generation. While the data underlying this analysis extend only to the very beginning of the current economic slowdown, it is noteworthy that the job growth in the Core Green Economy exceeded the broader economy from January 2007 to 2008 and over the long-term. From 1995 to 2008, jobs expanded 36 percent in green businesses and only 13 percent overall. Just from 2007 to 2008, green jobs grew five percent while total jobs dropped nearly one percent.

California's leadership in technology and business innovation as well as public policy innovation has fueled this growth in the state's green economy and will determine its sustained success. Through implementation of standards, incentives and funding directed to vital research and development, state policy makers have created market certainty and spurred the application of new clean "green" energy technology.

As a result, California is at the forefront of a wide range of green technologies. Many of our state's companies already enjoy success in markets outside the U.S. where energy and resource policies are more reflective of real global constraints. As U.S. policies catch up, new domestic markets will open for California's green companies. While green jobs alone will not solve the state's current unemployment challenges, over time these jobs could become a larger portion of total jobs in the state.

California's green businesses are diverse, located across the state and offer a very broad array of occupational opportunities. This means that as markets grow for the vital products and services offered by these green companies, Californians will benefit from new job opportunities and energy savings through improved efficiency as we make use of these products ourselves.

For decades, California has been at the forefront of innovative public policy and technological advance. As our public policies develop in forward-looking ways, we lay the groundwork for enabling the growth of forward-looking, and therefore highly competitive, businesses that can become global market leaders. The state's experience illustrates that smartly crafted incentives and regulations can spur a flourishing market for products and services that help households and businesses attain our urgent environmental goals. Given the current economic crisis, these lessons take on new meaning. The resulting prosperity is economic, environmental and broad based.

Sincerely,

F. Noel Perry
Founder, Next 10

CALIFORNIA FACTS

1995–2008

CORE GREEN ECONOMY EMPLOYMENT

FROM 117,000

TO 159,000

2.4% AVERAGE ANNUAL GROWTH RATE

BIOTECH JOBS

FROM 48,000

TO 52,000

0.6% AAGR

TOTAL EMPLOYMENT

FROM 15,910,000

TO 18,027,000

1.0% AVERAGE ANNUAL GROWTH RATE

SOFTWARE JOBS

FROM 118,000

TO 228,000

5.2% AAGR

POPULATION

FROM 31,712,000

TO 38,293,000

1.5% AVERAGE ANNUAL GROWTH RATE

GROSS DOMESTIC PRODUCT

(2008 INFLATION ADJUSTED DOLLARS)

FROM $1.3 TRILLION

TO $1.8 TRILLION

2.8% AVERAGE ANNUAL GROWTH RATE

Data Source: California Department of Finance; National Establishments Time Series data; Green Establishment Database; Bureau of Economic Analysis, U.S. Department of Commerce

CONTENTS

HIGHLIGHTS

CALIFORNIA IS HOME TO MANY COMPANIES THAT ARE DRIVING TECHNOLOGICAL ADVANCE IN PRODUCTS AND SERVICES THAT WILL ENABLE THE ENTIRE ECONOMY TO TRANSITION TO CLEAN ENERGY SOURCES, IMPROVE RESOURCE EFFICIENCIES AND REDUCE POLLUTION.

CALIFORNIA'S GREEN ECONOMY IS GROWING, DIVERSE AND DISTRIBUTED ACROSS THE STATE.

_Between 1995 and 2008, green businesses increased 45 percent in number. Employment in these businesses grew 36 percent while total jobs in the state expanded only 13 percent. Even in rural areas with a smaller economic base, green jobs are growing faster than the overall economy. Just between 2007 and 2008, green jobs grew five percent while total jobs dropped one percent.

_The Sacramento Area led the pack with job growth of 87 percent, followed by the San Diego Region (57%), Bay Area (51%), and Orange County and Inland Empire (50%).

_The agricultural regions of the San Joaquin Valley and Sacramento Valley grew robustly at 48 and 41 percent respectively.

DIFFERENT REGIONS HAVE DIFFERENT SPECIALIZATIONS THAT ARE BUILDING OFF OF EXISTING STRENGTHS THAT RELATE TO THE GROWING FIELDS OF GREEN INDUSTRIES.

_The Bay Area is home to 7,000 jobs in **Energy Generation** and has the highest employment concentrations in Energy Research, Hydrogen and Energy Consulting. San Diego is strong in multiple areas and top in Co-Generation technologies and Accessory Equipment & Controls. The San Joaquin Valley has the highest concentration of jobs in Wind, and the North Coast and Sacramento Area, in Geothermal. The Sacramento Valley is the hot spot in Biomass with employment shares more than fifty-times the state average.

_**Green Transportation** (vehicles, parts and clean fuels – but not feedstock production) is strongly represented in Orange County and the Los Angeles Area. The San Diego Region and Orange County have grown exceptionally, and both regions reflect strong degrees of specialization in vehicles and parts as well as clean fuels. San Joaquin Valley and Inland Empire have high concentrations in clean fuel production.

_In **Energy Efficiency**, Orange County is strong across many areas. The North Coast is highly specialized in Energy Conservation Consulting and the Central Coast, in related software.

_In terms of employment size and concentration, Los Angeles is the state leader in **Energy Storage** and in **Recycling & Waste**.

GREEN ACROSS THE VALUE CHAIN: CALIFORNIA'S CORE GREEN ECONOMY CONSISTS LARGELY OF HIGH-VALUE SERVICES AND MANUFACTURING AND ALSO ENJOYS A STRONG BASE OF RESEARCH AND DEVELOPMENT IN MULTIPLE FIELDS.

_**Services** account for 45 percent of all jobs in California's Core Green Economy, and the largest portion in Environmental Consulting.

_**Manufacturing** represents 21 percent of all green employment and grew 19 percent between 1995 and 2008. Half of all Manufacturing jobs are split across the two segments, Energy Efficiency and Energy Generation, where they represent 44 and 30 percent respectively.

_Green Transportation, Energy Generation and Air & Environment account for the largest numbers of private sector jobs at green **Research & Development** facilities. Advanced Materials is relatively small in total employment, but 42 percent is in R & D facilities and in Green Transportation, 20 percent.

OCCUPATIONAL OPPORTUNITY: Jobs in the green economy offer opportunities across the spectrum of skills levels and earnings potential. For the most part, the jobs in the Core Green Economy represent occupations that already exist but are in new demand such as Electricians or are seeing an expansion of skills and tasks such as Operations & Building Managers. Also, entirely new occupations are emerging such as Fuel Cell Technicians and Energy Auditors.

Part 1

WHAT DO WE MEAN BY THE GREEN ECONOMY?

The Core Green Economy provides the products and services that enable the transformation toward a cleaner, more efficient, and more competitive economy.

THE ECONOMY CONSISTS OF MANY DIFFERENT ACTORS SUCH AS HOUSEHOLDS, BUSINESSES, AND PUBLIC ENTITIES LIKE SCHOOLS, TRANSIT SYSTEMS AND OTHER SERVICES.

All these actors make decisions about the things they purchase and produce and the manner in which they conduct their activities. Globally the demand is rising for vital resources, like energy and fresh water, as the world's population grows and the standard of living in developing countries rises. Add into that equation volatile fuel costs and the real impacts of climate change such as diminishing sources of fresh water, threatened coastlines and changing weather patterns, the impetus has arrived for a transformation of the economy away from one based on fossil fuels and waste to one based on clean fuels and the efficient use of all resources.

For example, the volatility of fuel prices in the recent years has driven consumers — business, households and the public sector alike — to seek out cheaper alternative means of transportation and new methods for fuel conservation. These actions not only reduce overall consumption of scarce resources, they also help stimulate new markets and economic opportunity. In addition, public incentives and new regulations help spur innovation and the growth of new markets by lowering the cost of cleaner alternatives and increasing the cost of harmful fuels, products and practices. Likewise, the lack of sustained political commitment and accessible project funding will hamper growth.

As the economy shifts away from its dependence on carbon-based energy and toward clean(er) alternatives and improvements in efficiency, new market demand is created for products and services that conserve resources. Households, businesses and the public sector end up saving money otherwise spent on energy which they can invest in purchasing capital upgrades or hiring new employees. This transformation of the economy away from carbon also yields increased environmental and economic resilience which translates into improved competiveness for a company as well as an economy.

The changes taking place in the economy at present can be viewed in multiple layers. On one level, businesses are reexamining their processes to find ways of conserving resources in an effort to reduce costs or in anticipation of pending regulatory changes. On another level, increasingly businesses are starting up founded on principles of sustainability by which their products are developed with consideration for the entire product lifecycle.

At the core of these developments are the businesses in the third layer which provide the products and services that enable the green transformation across the entire economy (e.g. other businesses, households, schools, etc.). This is called the "Core Green Economy," and it consists of businesses that provide products and services that do the following:

_Provide alternatives to carbon-based energy sources

_Conserve the use of energy and all natural resources

_Reduce pollution (including GHG emissions) and repurpose waste

The Core Green Economy is broken down into fifteen segments. The broad scope of these segments reflects the many different factors associated with mitigating the sources and impacts of climate change. These segments were based originally on the cleantech segments defined by the Cleantech Network; however, while Cleantech's focus is on new technology, the definition of the Core Green Economy is broader in order to encompass all products and services that meet the criteria described above.

The lack of standardized industry data with information on "green" products, services and occupations has resulted in the development of multiple approaches to defining "green jobs" and the green economy. The definitions vary largely depending upon the underlying data. Some approaches focus on the activities of occupations and are based on job postings or employer surveys. Other approaches focus on businesses that operate in a "green" manner regardless of the end products and services they sell. While different approaches are valid and contribute different perspectives on changes under way, the approach presented in this report represents the most comprehensive analysis of businesses and jobs in the emerging green economy.

THE FIFTEEN SEGMENTS OF THE CORE GREEN ECONOMY

GREEN SEGMENT	DESCRIPTION	
Energy Generation	• Renewable energy generation (all forms of solar, wind, geothermal, biomass, hydro, marine & tidal, hydrogen, co-generation) • Associated equipment, controls, and other management software and services	• Renewable energy consulting services • Research & testing in renewable energy
Energy Efficiency	• Energy conservation consulting and engineering services • Building efficiency products and services • Alternative energy appliances (solar heating, lighting, etc.)	• Energy efficiency research • Energy efficiency meters & measuring devices
Transportation	• Alternative fuels (biodiesel, hydrogen, algae and biowaste-based ethanol and feedstock-neutral infrastructure)	• Motor vehicles & equipment (electric, hybrid, and natural gas vehicles, diesel technology)
Energy Storage	• Advanced batteries (Li-Ion, NiMH) • Battery components & accessories	• Fuel cells
Air & Environment	• Emissions monitoring & control • Environmental consulting (environmental engineering, sustainable business consulting)	• Environmental remediation
Recycling & Waste	• Consulting services • Recycling (paper, metal, plastics, rubber, bottles, automotive, electronic waste and scrap)	• Recycling machinery manufacturing • Waste treatment
Water & Wastewater	• Water conservation (control systems, meters & measuring devices) • Development and manufacturing of pump technology	• Research and testing • Consulting services • Water treatment and purification products and services
Agriculture	• Sustainable land management and business consulting services • Sustainable supplies and materials	• Sustainable aquaculture
Research & Advocacy	• Organizations and research institutes focused on advancing science and public education in the areas of: renewable energy and alternative fuels and transportation.	
Business Services	• Environmental law legal services • Green business portals	• Green staffing services • Green marketing and public relations
Finance & Investment	• Emission trading and offsets • Venture capital and private equity investment	• Project financing (e.g. solar installations, biomass facilities, etc.)
Advanced Materials	• Bioplastics and others	• New materials for improving energy efficiency
Green Building	• Design & construction • Building materials	• Site management • Green real estate & development
Manufacturing & Industrial	• Advanced packaging • Process management	• Industrial surface cleaning
Energy Infrastructure	• Consulting and management services	• Cable & equipment

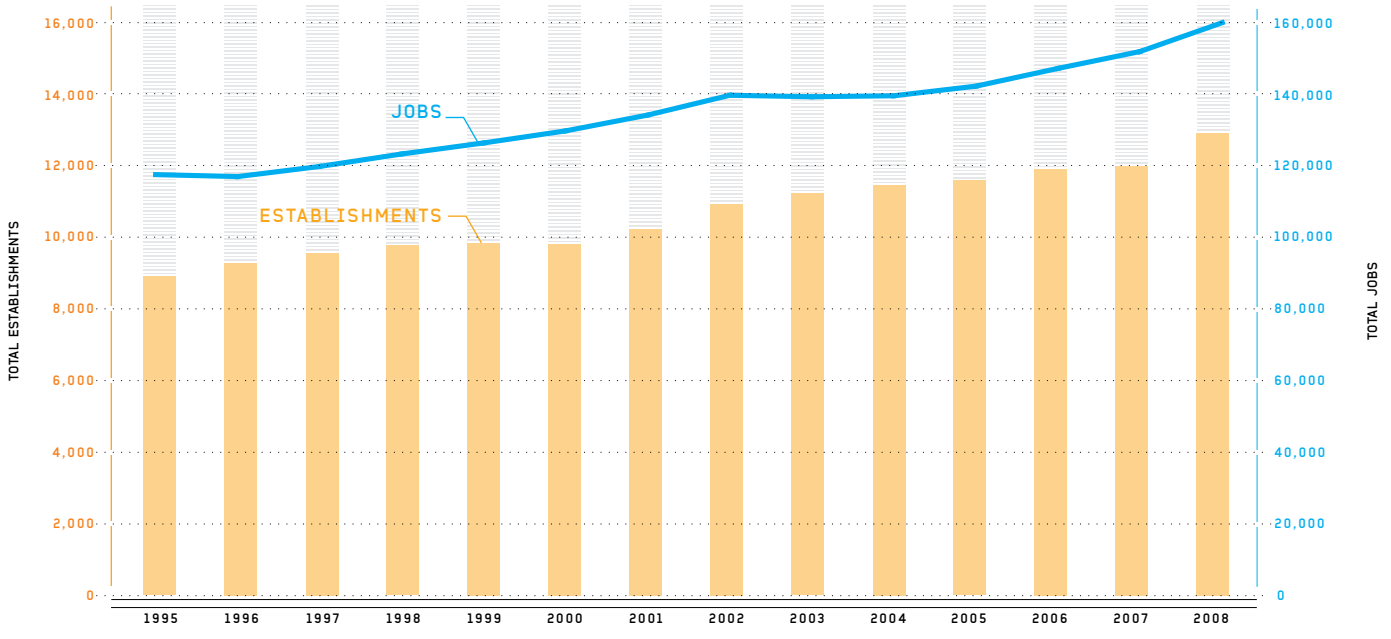
Part 2
CALIFORNIA'S CORE GREEN ECONOMY

California's Core Green Economy is growing at a faster rate than the economy as a whole and offers a wide range of job opportunities across all levels of skill.

California's Core Green Economy is diverse and growing. Between 1995 and 2008, California's green businesses increased 45 percent in number and 36 percent in employment. Green job growth exceeded the state's total of 13 percent over this period. Just between January 2007 and 2008, green jobs grew five percent while total jobs dropped one percent.

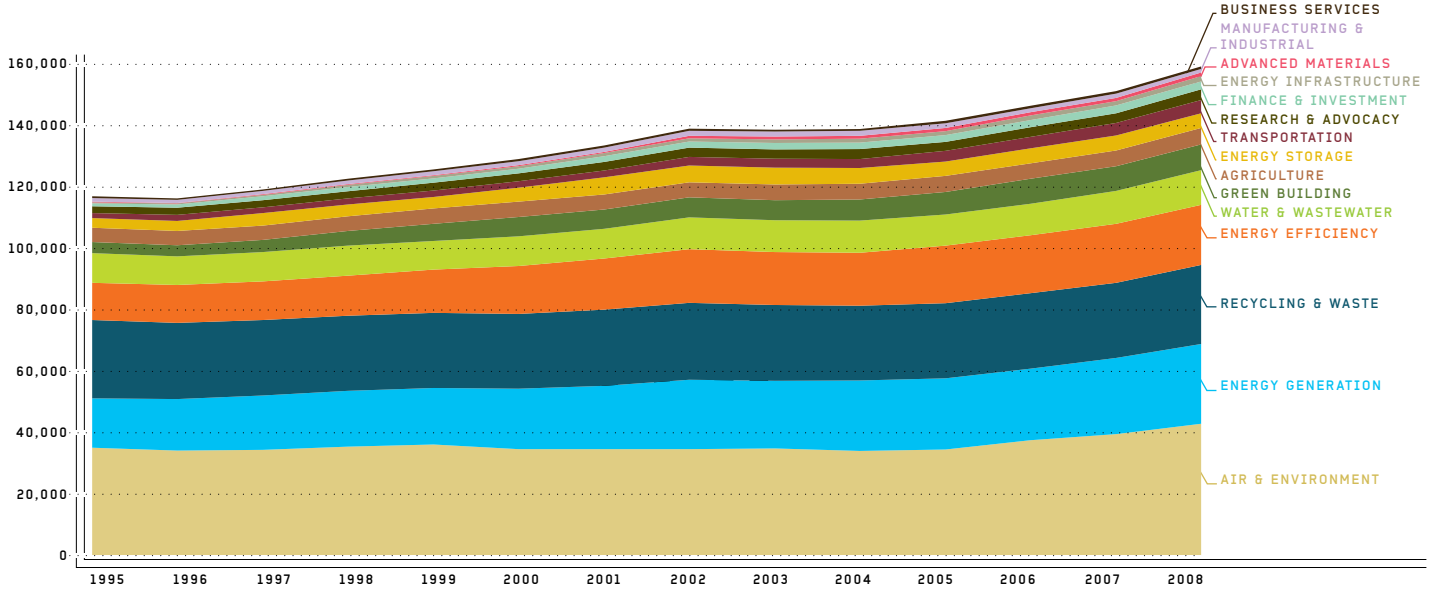
In terms of jobs, the green segments of Air & Environment, Energy Generation, Recycling & Waste and Energy Efficiency make up the largest segments of the state's Core Green Economy. (Job numbers reported by year are current as of January of the reported year.)

TOTAL BUSINESS ESTABLISHMENTS AND JOBS IN THE CORE GREEN ECONOMY



Data Source: Green Establishment Database

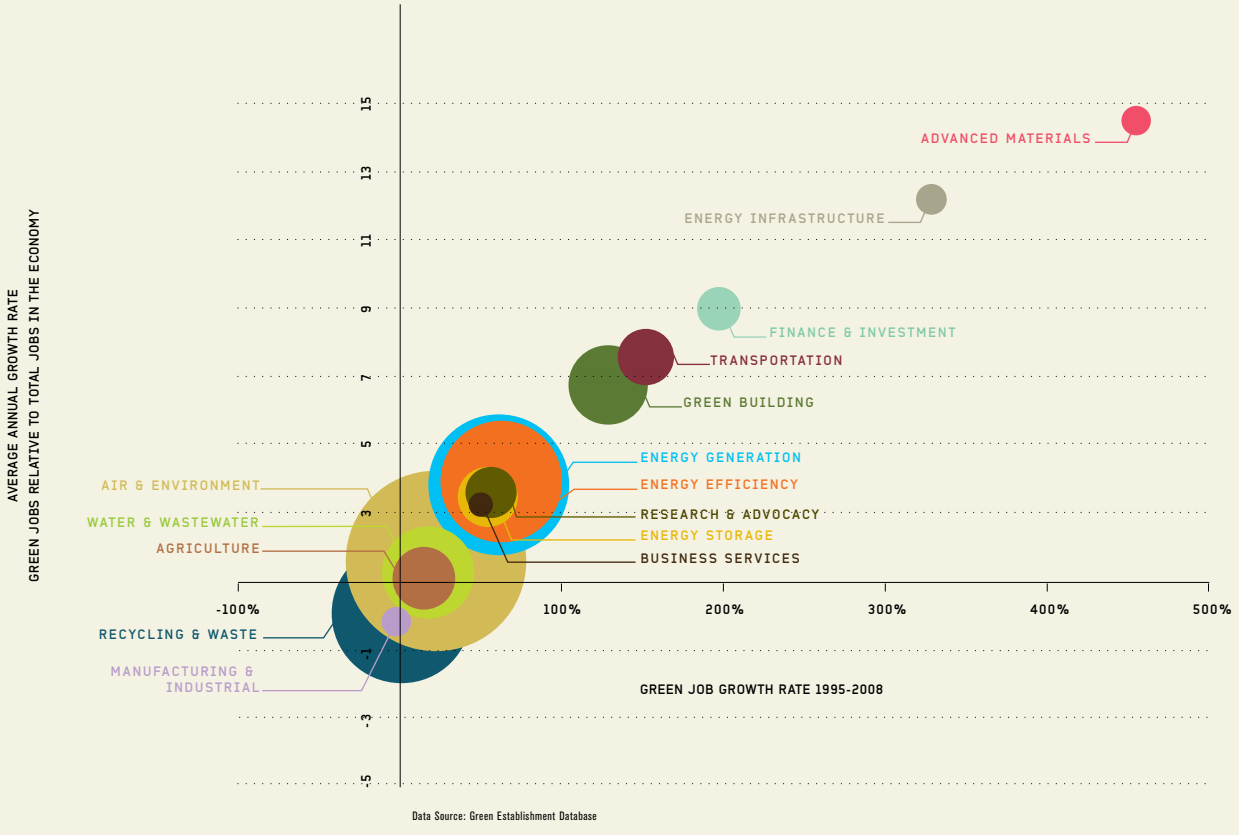
TOTAL JOBS BY GREEN SEGMENT



Data Source: Green Establishment Database

The 15 segments of California's Core Green Economy are growing at different rates. In the chart below, each "bubble" represents one of the 15 green segments (described in Part I), and its size illustrates the relative employment size.[1] While Advanced Materials is one of the smallest in number of jobs, it has grown the fastest, by 455 percent, between 1995 and 2008. Similarly, employment in Energy Infrastructure expanded by 328 percent. On an average annual rate, ten of the 15 green segments grew at a rate more than three times that of the state as a whole.

GREEN JOBS BY SEGMENT



Data Source: Green Establishment Database

SERIOUS MATERIALS

http://www.seriousmaterials.com

When a Chicago-area window factory closed last December following the bankruptcy of its operators, employees staged a sit-in protest hoping a deal could be struck to save their jobs. Now, thanks to Sunnyvale-based Serious Materials, the employees will be rehired at their previous rate of pay, once production is fully expanded, making the company's SeriousWindows and SeriousGlass products. The takeover provided President Obama and Vice President Biden a perfect example of the budding green economy: both men have visited the company's plants and praised the company for its innovation and the green jobs it has created as a result. In addition to their windows, the company also produces three types of sustainable drywall and sustainable doors at plants across the country, including a Newark, California plant that produces their QuietRock soundproof drywall.

The SUBSEGMENTS

California's **Energy Generation** sector is diversifying, but solar remains the dominant force. In Energy Generation, 66 percent of employment is in solar, and while total employment in solar grew 63 percent, its percentage of employment in this segment has not increased. As a share, wind energy dropped from eleven to six percent. However, businesses providing products and services related to hydro, marine & tidal systems increased in share from two to three percent.

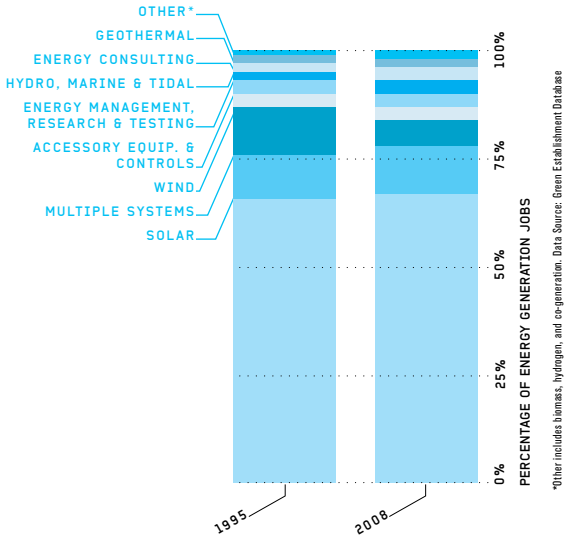
Jobs in **Energy Efficiency** are primarily in consulting, conservation products and lighting. As a percentage of total, conservation products and lighting increased the most between 1995 and 2008.

In **Green Transportation**, total employment expanded by 152 percent, but as a percentage of total, employment in alternative fuel businesses increased the most from 40 to 48 percent.

Employment in **Water & Wastewater** swelled by 3.5 times in Water Conservation and by 68 percent in Research & Testing.

Environmental Consulting accounts for 70 percent of jobs in **Air & Environment** and has increased in share since 1995. Also increasing are jobs in Environmental Remediation, Safety & Other which now make up ten percent of jobs in the segment.

ENERGY GENERATION JOBS

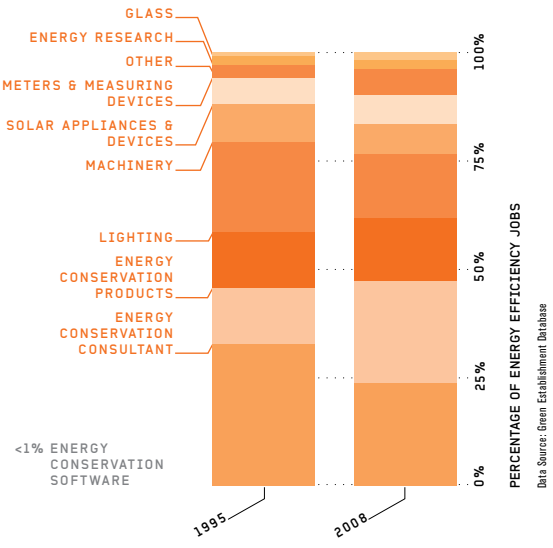


RECURRENT ENERGY

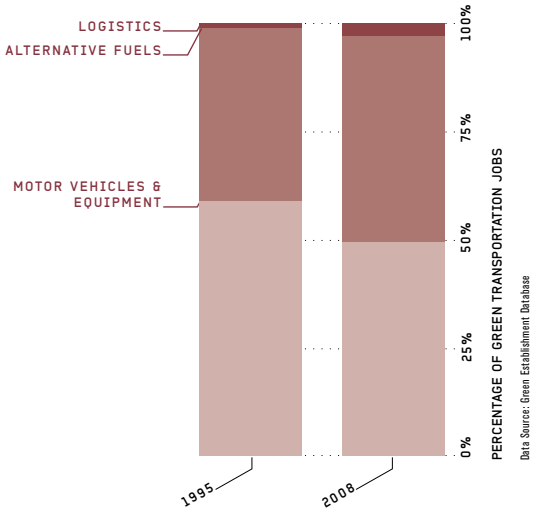
http://www.recurrentenergy.com

In large block letters, Recurrent Energy's website states, "Recurrent Energy is Distributed Solar Power." While that isn't strictly true, the San Francisco-based company's wide range of products do make them a leader in the solar energy field. By distributed solar energy, Recurrent means site-specific, locally-situated photovoltaic installations: they build, own and operate the systems while clients — mainly utilities and large individual consumers such as educational institutions — reap the benefits. The company's flagship venture is the Sunset Reservoir Solar Project, a five megawatt system that will be located on top of San Francisco's largest reservoir. As of the completion of the deal in May 2009, the installation would be the largest in California and the third-largest in the United States. The company is also installing a 1.1 megawatt system for The North Face apparel company in Visalia, California and has already finished a smaller system for the San Domenico School in Marin County.

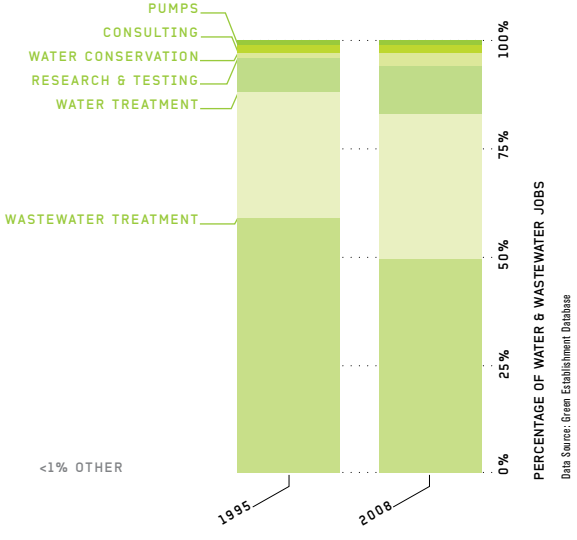
ENERGY EFFICIENCY JOBS



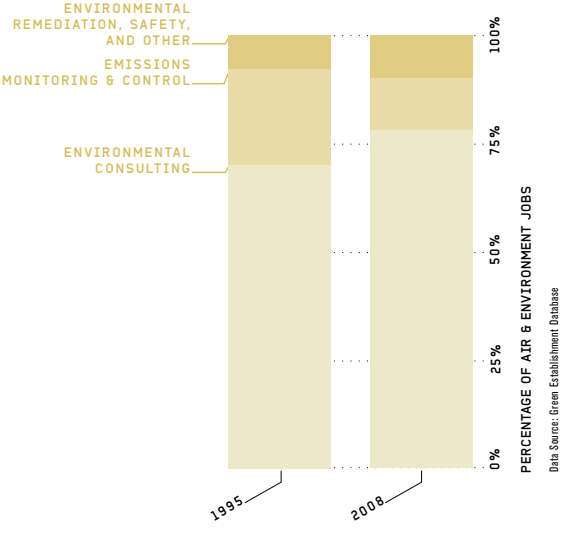
GREEN TRANSPORTATION JOBS



WATER & WASTEWATER JOBS



AIR & ENVIRONMENT JOBS



AUSRA

http://www.ausra.com

Initially focused on commercial-size solar installations, Ausra has since redirected its efforts on supplying solar thermal technology and equipment to industrial customers, a market which will allow Ausra to deploy its technology and generate revenue in the short-term. For example Ausra is supplying industrial plants such as food processors with the solar thermal equipment to produce steam for generating power. The company remains active in the commercial-size solar installation market and finalized an agreement in 2007 with Pacific Gas & Electric Company to build a 177-megawatt plant in San Luis Obispo County. As revenue streams build, Ausra may return to larger projects. Although its technology was developed in Australia, Ausra was founded in 2006 in Palo Alto with backing from venture capital heavyweights Khosla Ventures and Kleiner Perkins Caufield & Byers.

The VALUE CHAIN:
RESEARCH & DEVELOPMENT, MANUFACTURERS, SUPPLIERS, SERVICE PROVIDERS

California is home to many companies that are driving technological advance in products and services that will enable the entire economy to transition to clean energy sources, improve resource efficiencies and reduce pollution. From the point of conception until the delivery to the consumer and the maintenance over the lifetime of the product, there are many distinct activities that take place in the economy.

In addition to viewing the Core Green Economy by green segment, that is, by the field of application of products and services, businesses can also be viewed by their primary functions along the production value chain. These roles include research and development, manufacturing, suppliers, installers, sales, service providers and public education services. All of these roles are represented to varying degrees in California's Core Green Economy which means there exist: 1.) wide-ranging job opportunities across the skills spectrum, and 2.) strong potential for continued green business growth building on a diverse business base rich with interrelated competencies.

California's Core Green Economy consists largely of high-value services and manufacturing. Employment in businesses that primarily offer services account for 45 percent of all jobs in California's Core Green Economy. At 21 percent of all green employment, Manufacturing represents a sizable share.

Overall employment in California's Core Green Economy increased 36 percent between 1995 and 2008, but some activities in the value chain grew faster than others. While green jobs in Manufacturing increased in number by 19 percent, as a portion of total green employment, it dropped slightly as other parts of the value chain grew and manufacturers expanded operations outside the state to better reach new markets.

Employment in Installation more than doubled in number, increasing four percent as a share of all green jobs. Jobs in R&D and Public Education grew in share by one percent.

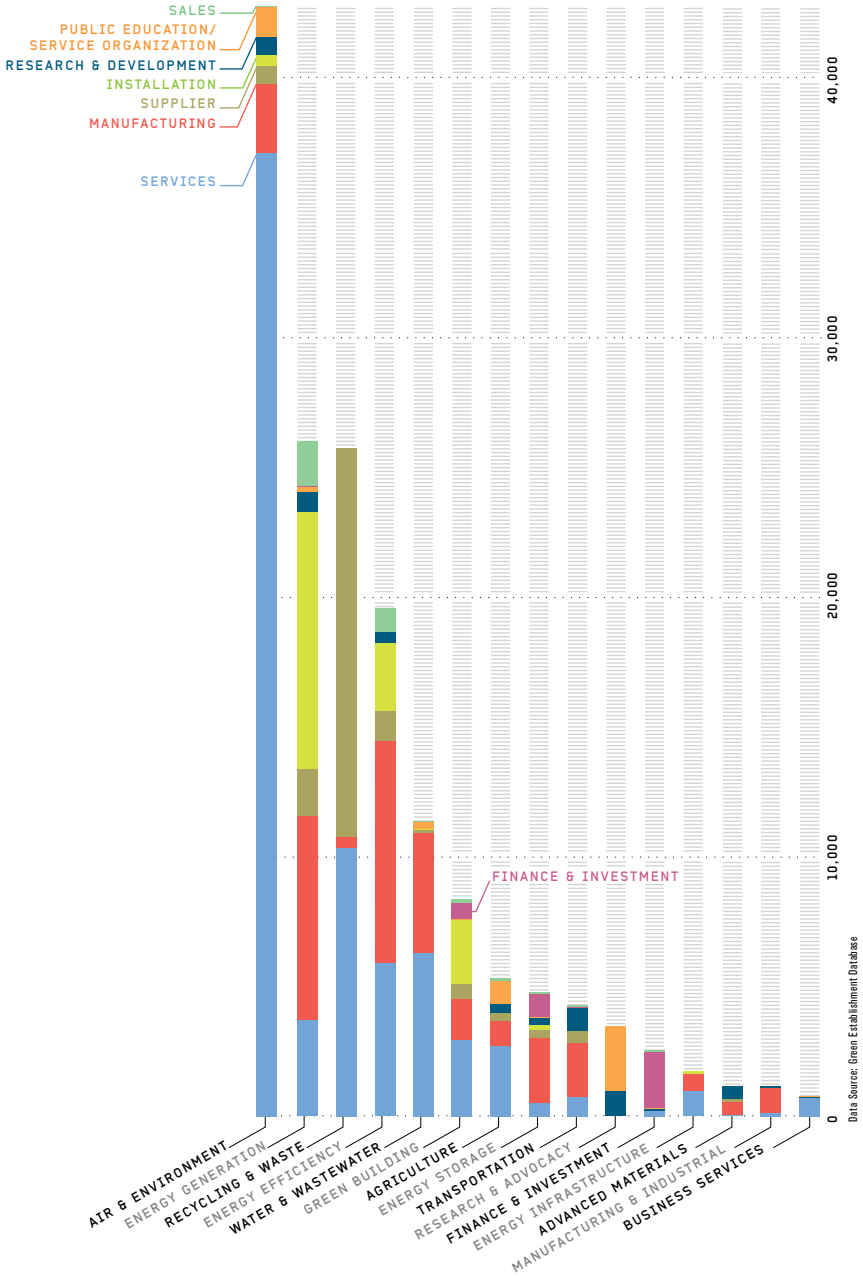
By green segment, Services and Manufacturing are the largest areas, but the mix of value chain roles varies widely. Half of all green jobs in Services are in Air & Environment which is largely dominated by businesses in Environmental Consulting. Half of all green jobs in Manufacturing are split across Energy Efficiency and Energy Generation. Within each of these two, Manufacturing makes up 44 percent of jobs in Energy Efficiency and 30 percent of jobs in Energy Generation.

Looking at other roles in the value chain, jobs in Installation are primarily in Energy Generation, Energy Efficiency and Green Building. In fact, Installation makes up 38 percent of all jobs in Energy Generation and 30 percent in Green Building. Green jobs in Suppliers are mainly in Recycling & Waste.

In addition to manufacturing and professional and technical services, Research & Development is strong in California's Core Green Economy. Outside of research organizations, the largest numbers of the state's green jobs at Research & Development facilities are in Transportation, Energy Generation and Air & Environment. Advanced Materials is relatively small in total employment, but 42 percent of jobs in that segment are in Research & Development facilities. Similarly, 20 percent of jobs in Transportation are in Research & Development.

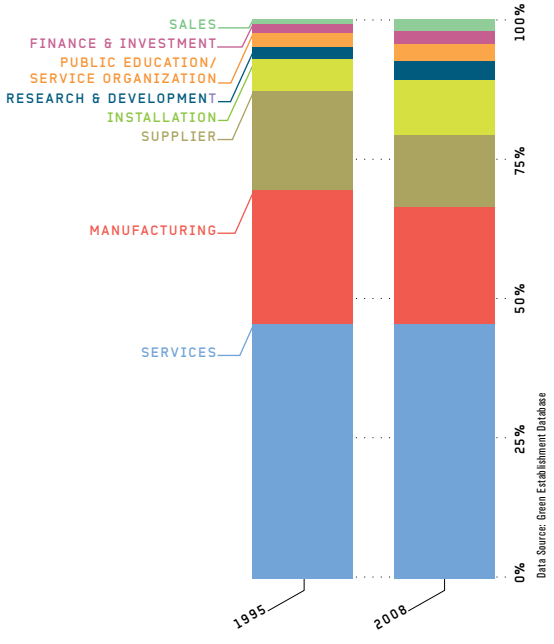
ESTABLISHMENT TYPE

CORE GREEN ECONOMY JOBS, 2008



CA GREEN VALUE CHAIN

EMPLOYMENT BY PRIMARY ROLE ACROSS ALL GREEN SEGMENTS



PROJECT FROG

http://www.projectfrog.com

For those who would like to build green but don't have the resources to design the buildings themselves, Project FROG has made energy efficient construction attainable. The San Francisco-based company produces ready-made structures — smart buildings, as they refer to them — that reduce construction time and increase energy savings while also being safer and using less harmful chemicals. Their design advances lower operational costs by an estimated 50-75 percent and their streamlined construction process allows buildings to move from planning to completion significantly faster than comparable methods. Projects currently underway or already finished include school buildings in Northern California and Hartford, Connecticut as well as the Crissy Field Center at the San Francisco waterfront park.

OCCUPATIONS *in the* CORE GREEN ECONOMY: EARNINGS AND EDUCATION & TRAINING REQUIREMENTS

A wide range of job opportunity exists in the Core Green Economy. The types of jobs associated with these areas of business activity represent an array of fields, levels of training and earnings potential. Jobs in the green economy include Ph.D. scientists and engineers but also a variety of technicians requiring two-year training as well as support occupations offering on-the-job training. Given that these jobs are in expanding markets, the opportunities for career progression should be ample across most fields.

It is important to note that for the most part, the jobs in the Core Green Economy represent occupations that already exist. As a result of the new demand in these industries, some occupations are experiencing new demand in the labor market such as Electricians, Power Systems Operators, Electrical Power Line Installers & Repairers, Environmental Scientists, Industrial Machinery Mechanics, and Carpenters. In some cases, the skills and tasks associated with an existing occupation are expanding to encompass the tasks related to new technology and regulations, for example: Supply Chain Managers, Operations & Building Managers, Fuel Storage Technicians, Architects, Energy Infrastructure Engineers, and Sustainable Agriculture Specialists.

In addition to the transformation of existing occupations, entirely new occupations are emerging. New positions, such as Chief Sustainability Officer or Energy Auditor, target newly recognized needs for improving resource efficiencies and managing sustainability more broadly. In other cases, entirely new occupations are appearing that are specific to the installation and application of new technology such as Solar Photovoltaic Installers, Biofuels Processing Technicians, Biomass Production Managers, Methane/Landfill Gas Generation System Technicians, Solar Thermal Installers & Technicians, and Fuel Cell Technicians.

In response to these real changes in the economy, the information on occupational statistics collected and reported by the Federal government is expanding in order to reflect the emergence of new occupations and the increasing demand and changing skill sets of existing occupations related to new green business activities in the economy. Of the existing occupational codes, occupations related to "green" activities have been ordered by the U.S. Department of Labor's National Center for O*NET Development into three categories: Green Increased Demand, Green Enhanced Skills Occupations, and Green New and Emerging.[2] The O*NET report describes the categories as follows:

_**Green Increased Demand Occupations**: The impact of green economy activities and technologies is an increase in the employment demand for an existing occupation. However, this impact does not entail significant changes in the work and worker requirements of the occupation. The work context may change, but the tasks themselves do not.

_**Green Enhanced Skills Occupations**: The impact of green economy activities and technologies result in a significant change to the work and worker requirements of an existing occupational code. This impact may or may not result in an increase in employment demand for the occupation. The essential purposes of the occupation remain the same, but tasks, skills, knowledge, and external elements, such as credentials, have been altered.

_**Green New and Emerging Occupations**: The impact of green economy activities and technologies is sufficient to create the need for unique work and worker requirements, which results in the generation of a new occupational code. This new occupation could be entirely novel or "born" from an existing occupation.

While the "greening" of occupations is taking place across the entire economy, the following analysis focuses on the occupations associated with California's Core Green Economy. The opportunities are diverse as are the training requirements and potential earnings. Median annual earnings range from $21,000 to well over $100,000.

GREEN INCREASED DEMAND OCCUPATIONS
IN CALIFORNIA'S GREEN ECONOMY

OCCUPATIONAL TITLE	2008 MEDIAN ANNUAL EARNINGS	EDUCATION & TRAINING
Laborers and Freight, Stock, and Material Movers, Hand	$23,040	Short-Term On-the-Job Training
Helpers—Installation, Maintenance, and Repair Workers	$24,620	Short-Term On-the-Job Training
Electrical and Electronic Equipment Assemblers	$27,210	Short-Term On-the-Job Training
Helpers—Carpenters	$28,480	Short-Term On-the-Job Training
Engine and Other Machine Assemblers	$30,880	Short-Term On-the-Job Training
Industrial Truck and Tractor Operators	$31,360	Short-Term On-the-Job Training
Production, Planning, and Expediting Clerks	$44,490	Short-Term On-the-Job Training
Team Assemblers	$23,580	Moderate-Term On-the-Job Training
Cutting, Punching, and Press Machine Operators, Metal and Plastic	$26,930	Moderate-Term On-the-Job Training
Mixing and Blending Machine Setters, Operators, and Tenders	$29,150	Moderate-Term On-the-Job Training
Drilling and Boring Machine Tool Operators, Metal and Plastic	$29,910	Moderate-Term On-the-Job Training
Computer-Controlled Machine Tool Operators, Metal and Plastic	$31,030	Moderate-Term On-the-Job Training
Customer Service Representatives	$34,000	Moderate-Term On-the-Job Training
Structural Metal Fabricators and Fitters	$35,410	Moderate-Term On-the-Job Training
Dispatchers, Except Police, Fire, and Ambulance	$35,720	Moderate-Term On-the-Job Training
Insulation Workers, Floor, Ceiling, and Wall	$37,860	Moderate-Term On-the-Job Training
Operating Engineers and Other Construction Equipment Operators	$63,010	Moderate-Term On-the-Job Training
Millwrights	$51,160	Long-Term On-the-Job Training
Industrial Machinery Mechanics	$51,180	Long-Term On-the-Job Training
Electricians	$52,690	Long-Term On-the-Job Training
Structural Iron and Steel Workers	$55,190	Long-Term On-the-Job Training
Boilermakers	$72,300	Long-Term On-the-Job Training
First-Line Supervisors/Managers of Production and Operating Workers	$52,290	Work Experience
Purchasing Agents and Buyers, Farm Products	$56,480	Work Experience
First-Line Supervisors/Managers of Mechanics, Installers, and Repairers	$63,500	Work Experience
Welders, Cutters, Solderers, and Brazers	$33,310	Post-Secondary Vocational Education
Electrical and Electronics Repairers, Commercial and Industrial Equipment	$55,450	Post-Secondary Vocational Education
Chemical Technicians	$43,020	Associate Degree
Commercial and Industrial Designers	$66,220	Bachelor's Degree
Environmental Scientists and Specialists, Including Health	$69,700	Bachelor's Degree
Occupational Health and Safety Specialists	$70,930	Bachelor's Degree
Chemists	$77,050	Bachelor's Degree
Industrial Engineers	$81,680	Bachelor's Degree
Industrial Production Managers	$88,530	Bachelor's Degree
Materials Scientists	$91,280	Bachelor's Degree
Chemical Engineers	$95,320	Bachelor's Degree
Computer Software Engineers, Systems Software	$103,670	Bachelor's Degree
Natural Sciences Managers	$133,050	Work Experience, Plus a Bachelor's or Higher
Zoologists and Wildlife Biologists	$71,440	Master's Degree
Hydrologists	$78,520	Master's Degree

Data Source: California Employment Development Department, Labor Market Information Division, Occupational Employment Statistics; Green Establishment Database; U.S. Bureau of Labor Statistics, Occupational Employment Statistics; U.S. Department of Labor Employment and Training Administration, O*NET

GREEN ENHANCED SKILLS OCCUPATIONS
IN CALIFORNIA'S GREEN ECONOMY

OCCUPATIONAL TITLE	2008 MEDIAN ANNUAL EARNINGS	EDUCATION & TRAINING
Shipping, Receiving, and Traffic Clerks	$28,330	Short-Term On-the-Job Training
Inspectors, Testers, Sorters, Samplers, and Weighers	$31,080	Moderate-Term On-the-Job Training
Construction Laborers	$34,250	Moderate-Term On-the-Job Training
Hazardous Materials Removal Workers	$40,050	Moderate-Term On-the-Job Training
Truck Drivers, Heavy and Tractor-Trailer	$40,310	Moderate-Term On-the-Job Training
Sheet Metal Workers	$48,530	Moderate-Term On-the-Job Training
Sales Rep, Wholesale and Manuf, Technical and Scientific Products	$77,060	Moderate-Term On-the-Job Training
Machinists	$36,030	Long-Term On-the-Job Training
Maintenance and Repair Workers, General	$37,330	Long-Term On-the-Job Training
Construction and Building Inspectors	$66,540	Work Experience
Electro-Mechanical Technicians	$49,140	Associate Degree
Industrial Engineering Technicians	$50,200	Associate Degree
Environmental Engineering Technicians	$51,100	Associate Degree
Environmental Science and Protection Technicians, Including Health	$51,940	Associate Degree
Wholesale and Retail Buyers, Except Farm Products	$49,660	Bachelor's Degree
Public Relations Specialists	$58,700	Bachelor's Degree
Training and Development Specialists	$60,830	Bachelor's Degree
Landscape Architects	$66,870	Bachelor's Degree
Personal Financial Advisors	$68,750	Bachelor's Degree
Architects, Except Landscape and Naval	$79,580	Bachelor's Degree
Financial Analysts	$80,750	Bachelor's Degree
Environmental Engineers	$83,090	Bachelor's Degree
Civil Engineers	$84,620	Bachelor's Degree
Mechanical Engineers	$85,530	Bachelor's Degree
Electrical Engineers	$92,980	Bachelor's Degree
Electronics Engineers, Except Computer	$94,320	Bachelor's Degree
Construction Managers	$100,160	Bachelor's Degree
Aerospace Engineers	$104,550	Bachelor's Degree
General and Operations Managers	$104,900	Work Experience, Plus a Bachelor's or Higher
Marketing Managers	$127,680	Work Experience, Plus a Bachelor's or Higher
Engineering Managers	$130,520	Work Experience, Plus a Bachelor's or Higher
Urban and Regional Planners	$70,470	Master's Degree
Geoscientists, Except Hydrologists and Geographers	$81,890	Master's Degree
Occupational Health and Safety Technicians	$47,260	Training Level Not Classified

EXAMPLES OF OTHER OCCUPATIONS IN GREEN ESTABLISHMENTS

Pipelayers	$47,960	Moderate-Term On-the-Job Training
Surveying and Mapping Technicians	$55,900	Moderate-Term On-the-Job Training
Control and Valve Installers and Repairers, Except Mechanical Door	$58,720	Moderate-Term On-the-Job Training
Plumbers, Pipefitters, and Steamfitters	$50,050	Long-Term On-the-Job Training
Carpenters	$51,230	Long-Term On-the-Job Training
Electrical and Electronics Drafters	$51,840	Post-Secondary Vocational Education
Life, Physical, and Social Science Technicians, All Other	$44,560	Associate Degree
Computer Support Specialists	$48,160	Associate Degree
Accountants and Auditors	$64,660	Bachelor's Degree
Surveyors	$74,210	Bachelor's Degree
Network Systems and Data Communications Analysts	$75,410	Bachelor's Degree
Materials Engineers	$90,220	Bachelor's Degree
Management Analysts	$77,890	Work Experience, Plus a Bachelor's or Higher
Market Research Analysts	$66,400	Master's Degree
Operations Research Analysts	$72,410	Master's Degree

Data Source: California Employment Development Department, Labor Market Information Division, Occupational Employment Statistics; Green Establishment Database; U.S. Bureau of Labor Statistics, Occupational Employment Statistics; U.S. Department of Labor Employment and Training Administration, O*NET

Part 3
REGIONAL DISTRIBUTION AND TRENDS

The Core Green Economy is present in every region in California, and each region has its own areas of specialization.

California's Core Green Economy is present and growing across the state. The large metro areas account for the largest number of green jobs, but regional specializations across the fifteen green segments are apparent. Typically, regional specializations (i.e. employment concentration) are building off of existing specializations that are related to the growing fields of the green industries.

The Sacramento Area experienced the strongest job growth expanding 87 percent from 1995 to 2008. The San Diego Region followed with 57 percent. Green jobs in the Bay Area grew by 51 percent and by 50 percent in Orange County and the Inland Empire. The agricultural regions of the San Joaquin Valley and Sacramento Valley grew robustly at 48 percent and 41 percent respectively.[3] In terms of employment size and concentration, Los Angeles is the state leader in Energy Storage and in Recycling & Waste.

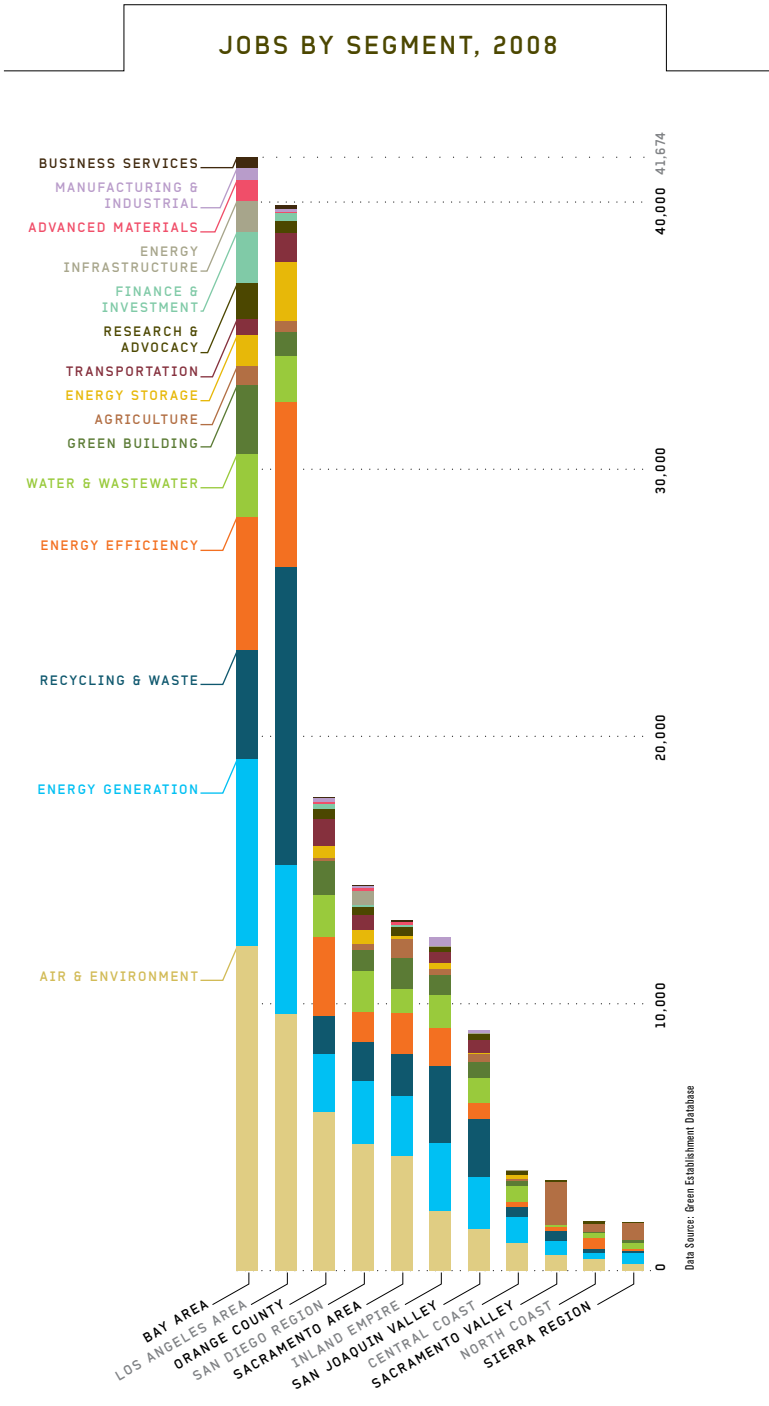
With the exception of the Sacramento Area, the highest employment concentrations were mainly in rural regions. This means that green jobs even in these areas with a smaller economic base are growing faster than the general economy.

The CORE GREEN ECONOMY *by* REGION

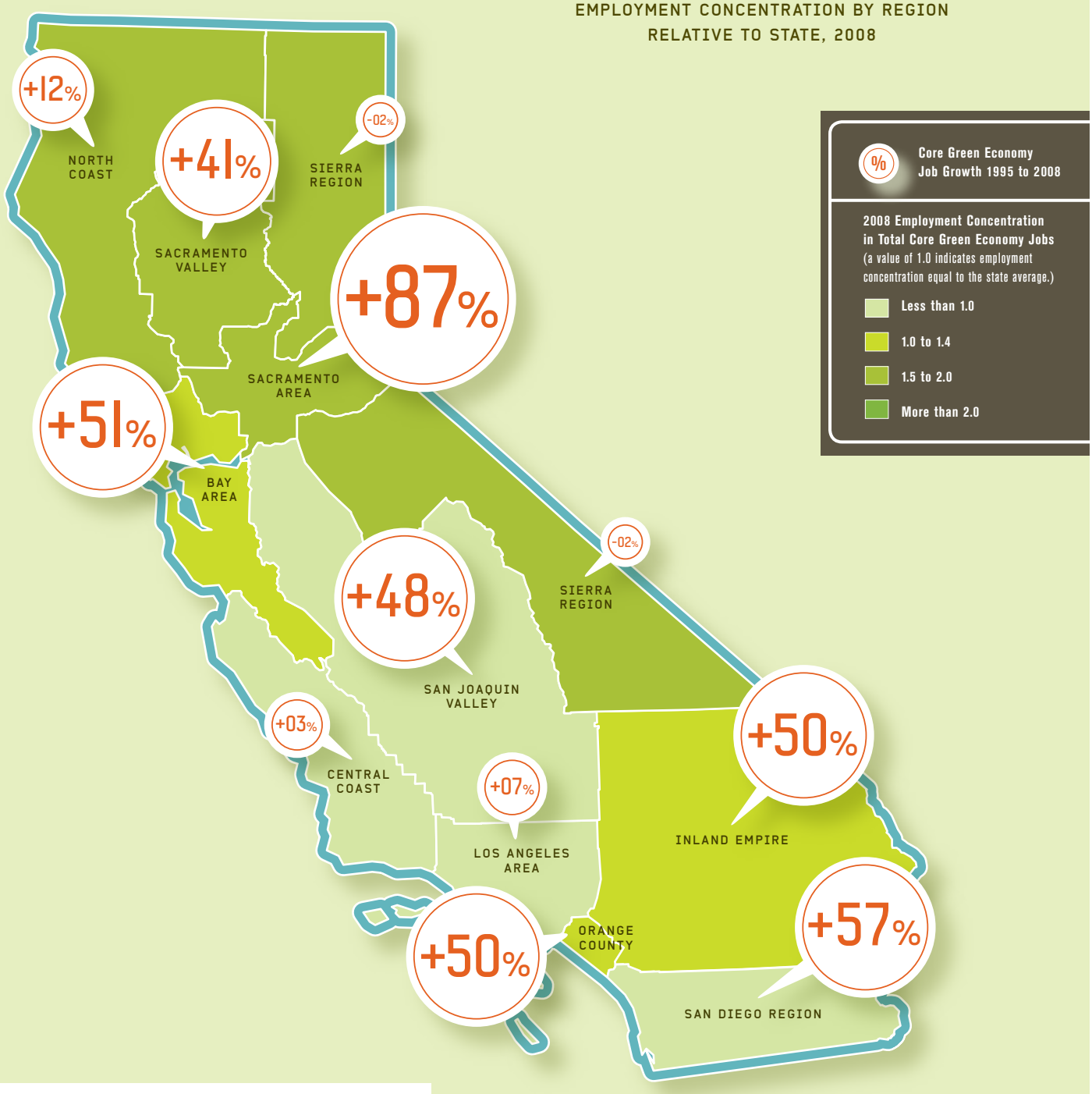
BLUEFIRE ETHANOL

http://bluefireethanol.com

Irvine-based Bluefire Ethanol leads a crowd of companies that are developing processes to convert waste matter into cellulosic ethanol as the environmental benefits and economic viability of corn-based ethanol come into doubt. Their recently-opened Lancaster, California production facility demonstrates the company's unique approach: instead of bringing trash to the plant, they brought the plant to the trash. The plant is located next to a landfill and is near both its materials — landfill-destined green waste such as non-recyclable paper and grass cuttings — and a large number of potential customers in the Greater Los Angeles area. Although permitting delays have delayed the opening of the plant, once online it will produce 3.1 million gallons of ethanol per year using its patented "concentrated acid hydrolysis" process. Thanks to a $40 million grant from the Department of Energy, a second biorefinery is in the design and permitting stages in Mecca, California.

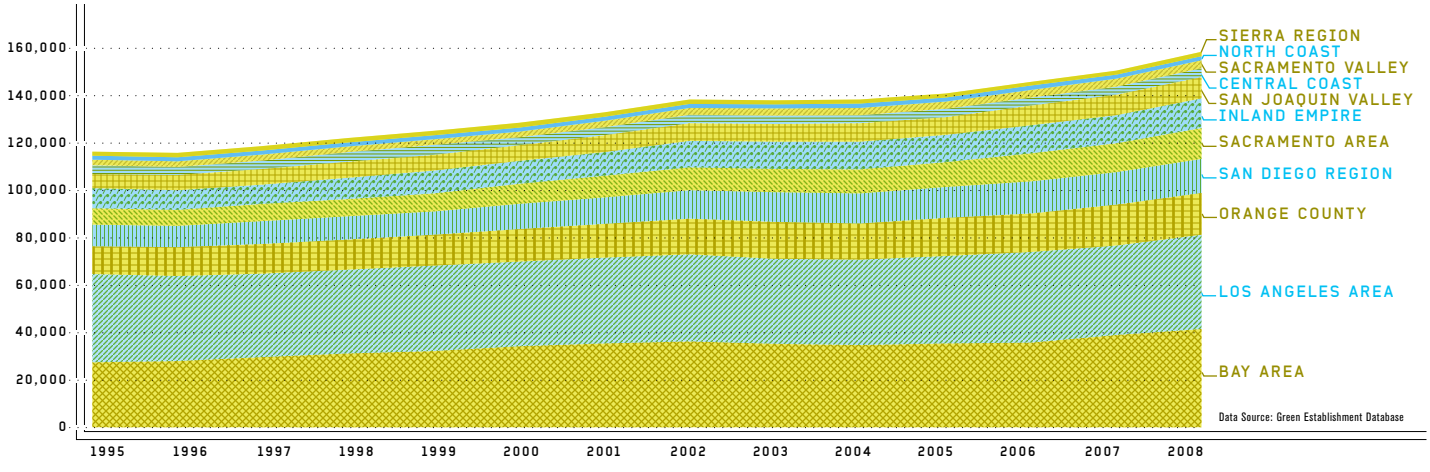


TOTAL CORE GREEN ECONOMY
EMPLOYMENT CONCENTRATION BY REGION RELATIVE TO STATE, 2008



Data Source: Green Establishment Database

TOTAL JOBS BY REGION OVER TIME



Data Source: Green Establishment Database

Energy Generation has been growing with gusto across the state in both number of companies and jobs. From 1995 to 2008, employment expanded 61 percent by nearly 10,000 jobs. In some regions, employment more than doubled over this period. Solar makes up the bulk of this segment and also witnessed the strongest growth (63%). The Central Coast witnessed jobs in this sector increase 200 percent followed by Orange County (178%), the San Diego Region (134%), the Sacramento Valley (161%), the Sacramento Area (141%), and the North Coast (119%).

In terms of employment concentration, the Sacramento Valley, the Sacramento Area and the Sierra Region reported employment shares in Energy Generation above the state average. Looking at the details within Energy Generation and their geographic distribution reveals regional specializations in solar, wind, geothermal and biomass across the state.

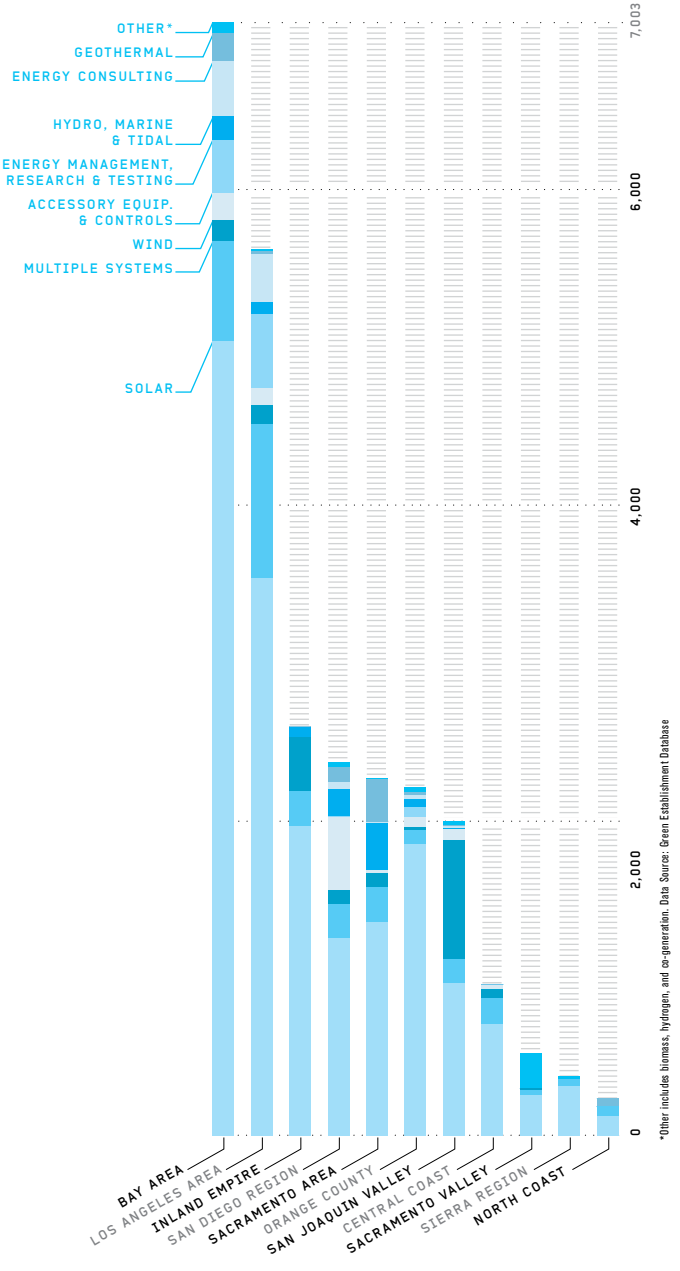
ENERGY GENERATION JOBS *by* REGION

CLIPPER WINDPOWER

http://www.clipperwind.com

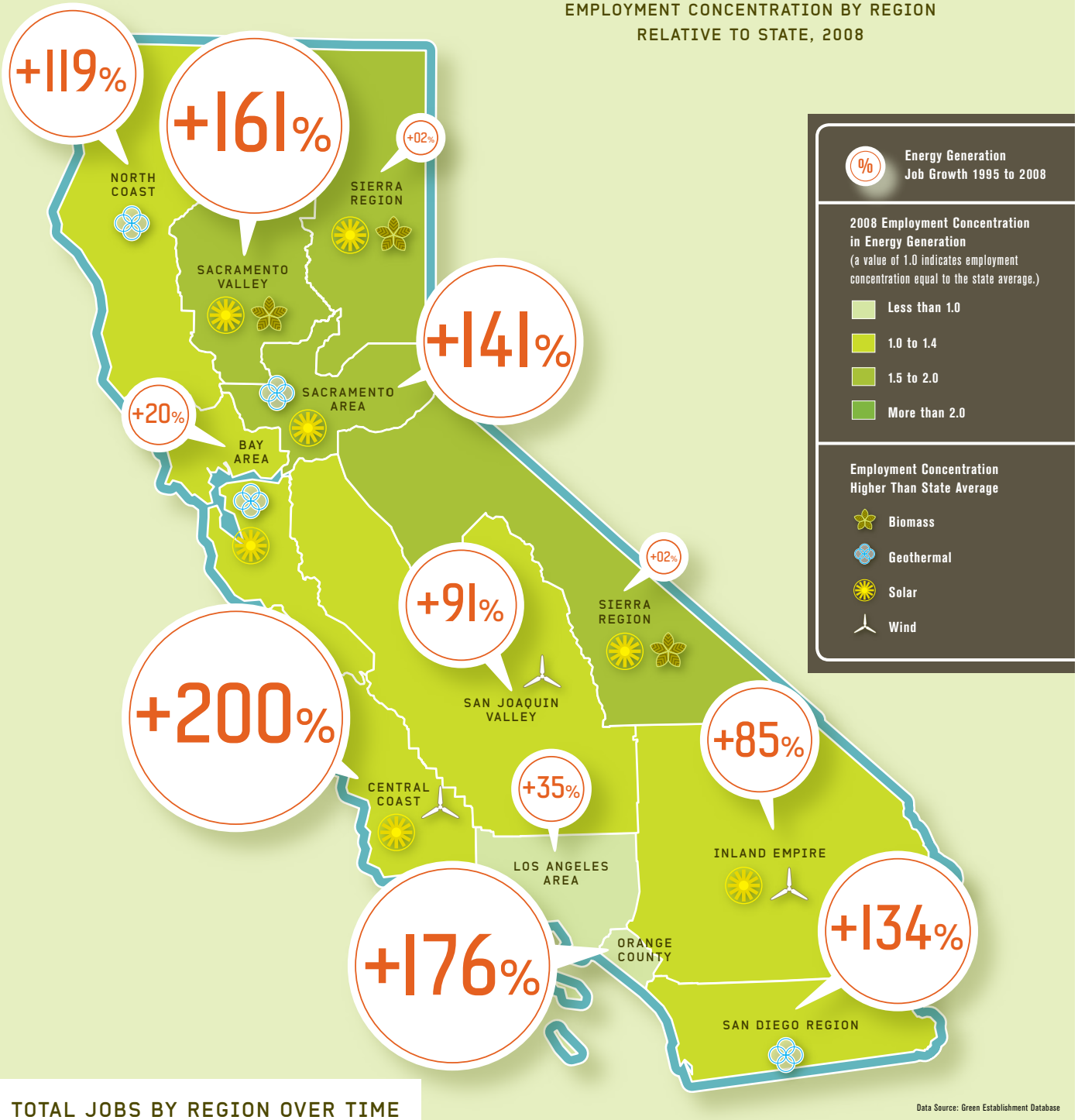
Located between Los Angeles and Santa Barbara in Carpinteria, Clipper Windpower was founded by Jim Dehlsen, a 25-year wind industry veteran whose passion for extracting clean power from wind caused him to eschew retirement in order to continue his work. Since the company's initial public offering in 2005, their Liberty 2.5 megawatt turbine received a Department of Energy award in 2007 for attaining "unparalleled levels of efficiency and reduced cost of energy." Using technological insights gained while attempting to harness ocean currents, Dehlsen and his son Brent developed a distributed drivetrain design capable of handling greater torque and harvesting wind more efficiently. Although the volume of turbine installations has slowed along with the economy, Clipper remains poised to capitalize once demand returns. Potential future projects include a 5,000 megawatt wind farm near Pierre, North Dakota, an installation so large that it could require its own manufacturing plant.

JOBS BY SUBSEGMENT, 2008



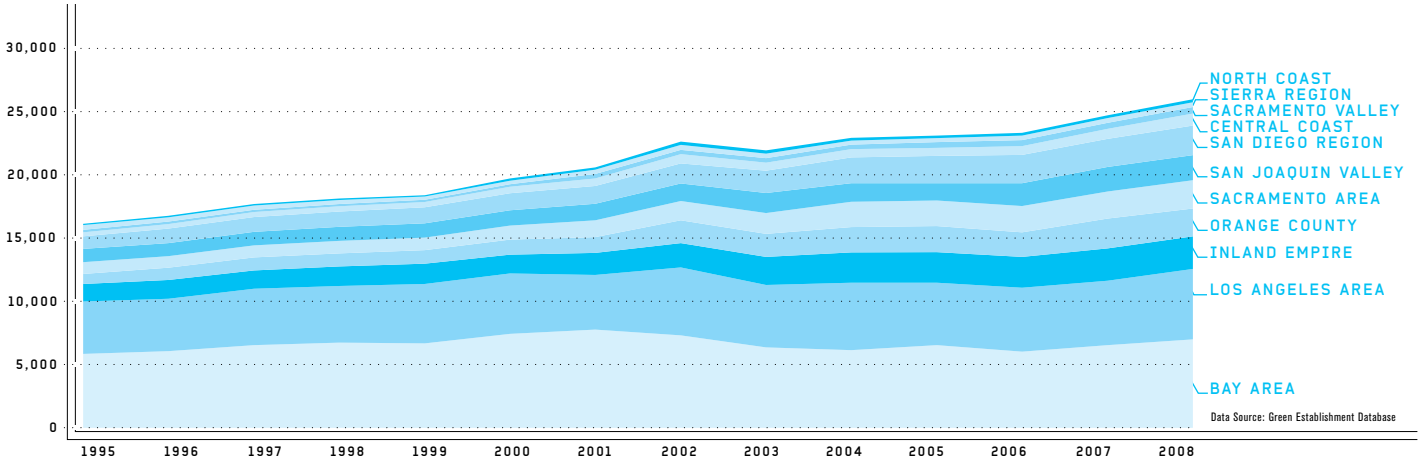
ENERGY GENERATION

EMPLOYMENT CONCENTRATION BY REGION
RELATIVE TO STATE, 2008



Data Source: Green Establishment Database

TOTAL JOBS BY REGION OVER TIME



Data Source: Green Establishment Database

Employment in Energy Efficiency increased 63 percent from 1995 to 2008. Growth was robust in the Sierra Region (194%) and the Central Coast (125%). Most other regions also experienced strong growth. Energy Conservation Products, a subsegment of Energy Efficiency, doubled in employment from 1995 to 2008.

The Los Angeles Area boasts the largest number of jobs in Energy Efficiency. However, in terms of employment concentration, Orange County employment shares stand above the state average in half of the ten subsegments with the largest portion (25%) in Energy Conservation Consulting. The North Coast reported a concentration double the state average in this segment and nine times the state average in Energy Conservation Consulting.

With an employment concentration eleven-times the state average, the Central Coast revealed a notable specialization in Energy Conservation Software.

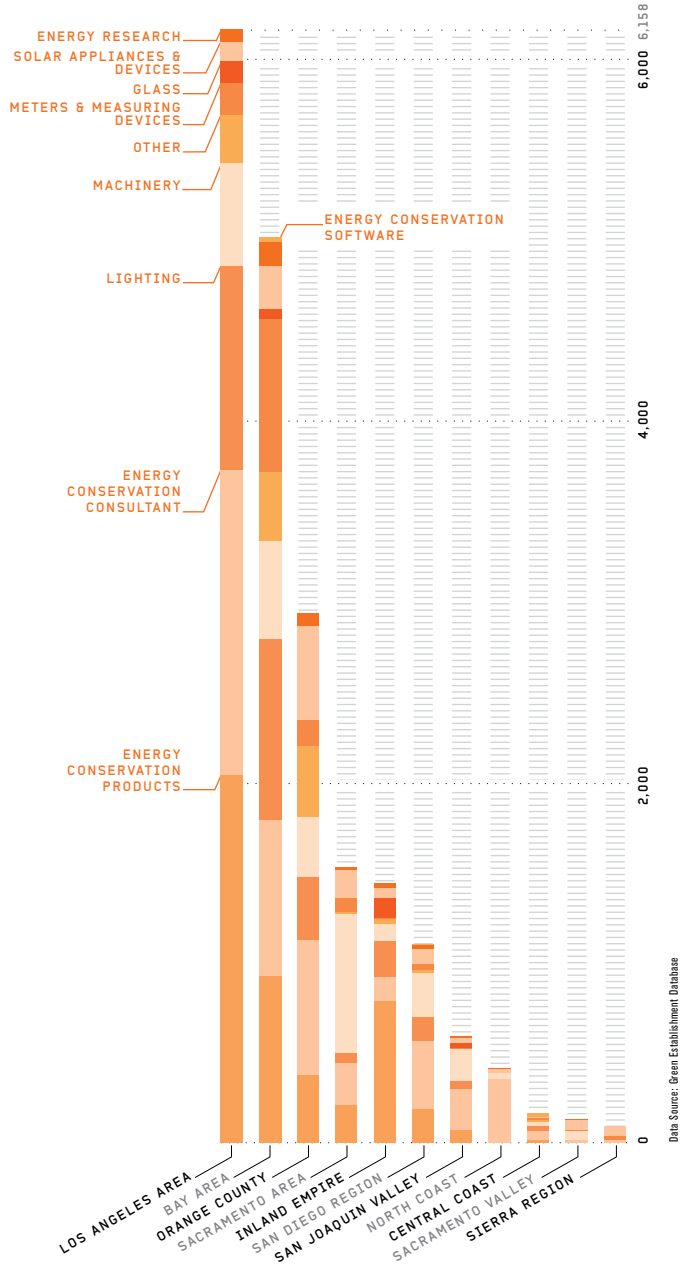
ENERGY EFFICIENCY JOBS *by* REGION

ECHELON CORPORATION

http://www.echelon.com

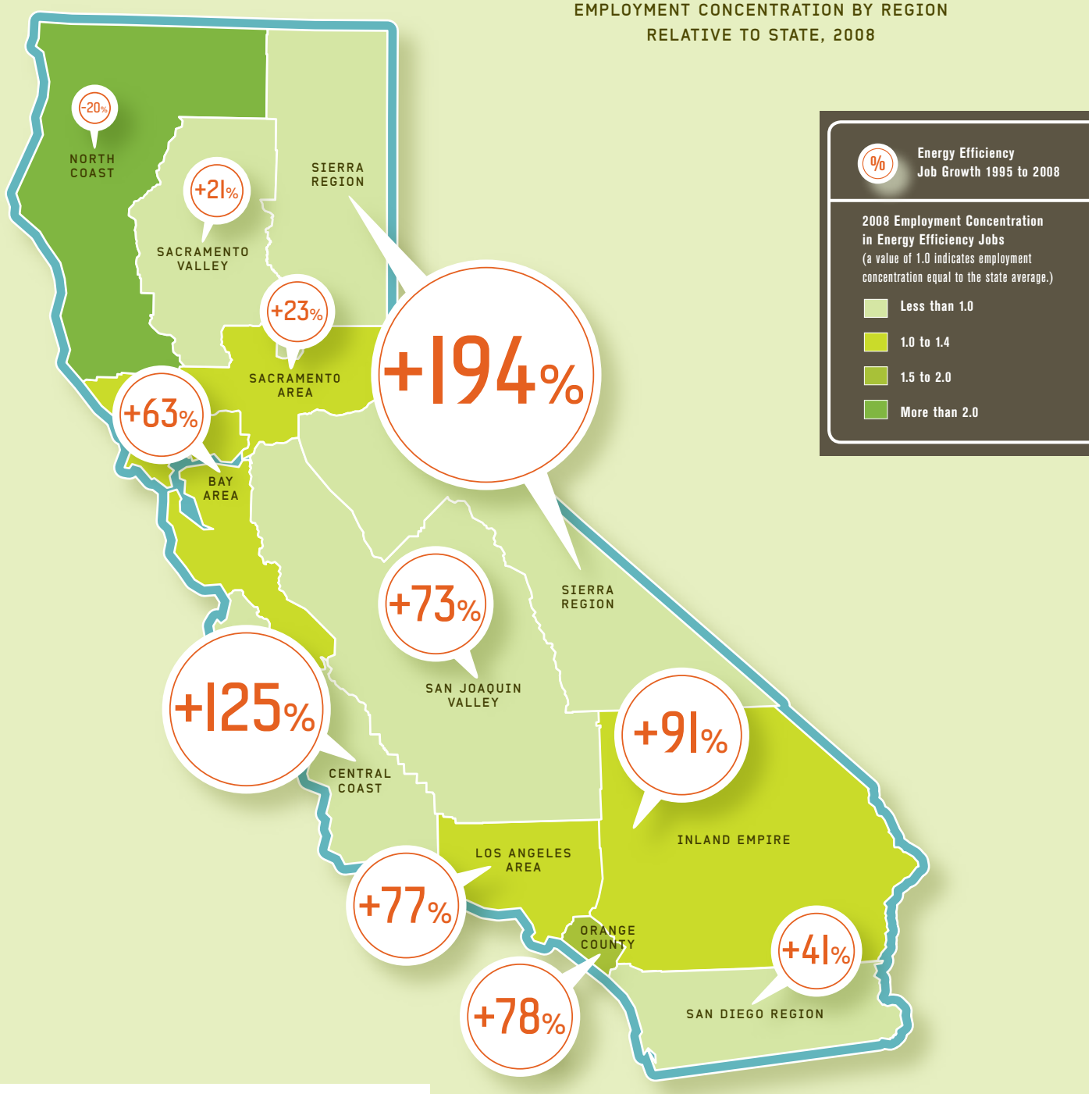
Providing technologies for communities from the Bay Area to Italy, San Jose-based Echelon Energy supplies energy users with the means to monitor, control and reduce their energy consumption, using smart metering and consumption monitoring software. In Italy, Echelon's NES System smart-metering product is used by more than 27 million homes to measure the amount of energy they use and adjust consumption habits towards greater efficiency. In California, the Cities of San Jose and Palo Alto have equipped their streetlights with Echelon's LonWorks platform, a system that allows the cities to monitor energy use more effectively, increasing efficiency and saving money. The company's products are also used in Norway and New York, but the Chinese government is likely their most visible customer. The LonWorks platform was implemented in Beijing's Bird's Nest, the iconic stadium that was the centerpiece of the 2008 Summer Olympics.

JOBS BY SUBSEGMENT, 2008



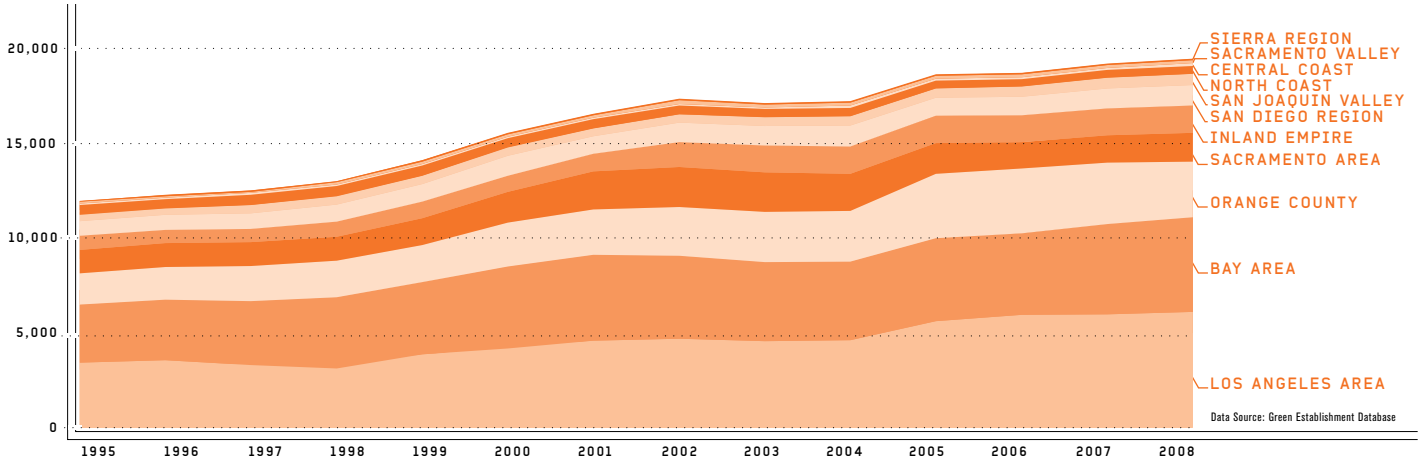
ENERGY EFFICIENCY

EMPLOYMENT CONCENTRATION BY REGION
RELATIVE TO STATE, 2008



Data Source: Green Establishment Database

TOTAL JOBS BY REGION OVER TIME



Data Source: Green Establishment Database

Since 1995 employment in Green Transportation has increased 152 percent while total state employment rose only 13 percent. The Los Angeles Area and Orange County are clearly the top regions in employment in Green Transportation. Starting from a very small base, growth in Orange County and the San Diego Region has been exceptional and mostly since 2000.

Green jobs in Transportation are primarily in Motor Vehicles & Equipment and Alternative Fuels. However, employment in Alternative Fuels has grown faster at 201 percent representing 48 percent of all jobs in Transportation. Vehicles & Equipment expanded robustly by 111 percent over the period. Employment in Green Logistics surfaced only in the Bay Area and grew remarkably by 1144 percent since 1995.

Orange County's employment concentration in Transportation is more than double the state average and high in both fuels and equipment. With a concentration three times the state average, the San Joaquin Valley is a hub for Alternative Fuels. The San Diego Region is strong in both fuels and vehicles. The Los Angeles Area is specialized in Vehicles & Equipment, and the Inland Empire, in Alternative Fuels.

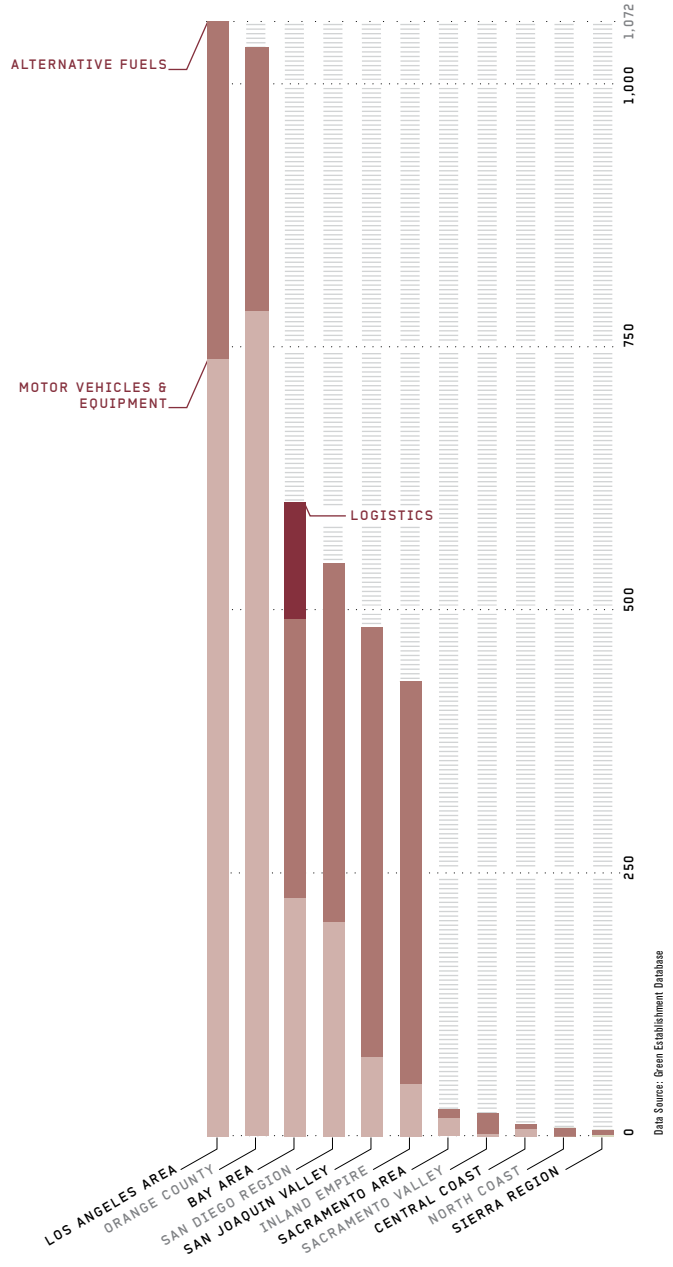
GREEN TRANSPORTATION JOBS *by* REGION

ISE CORPORATION

http://www.isecorp.com

Although their name is derived from the now-defunct space technology venture International Space Enterprises, ISE Corporation's products have significant practical applications here on Earth, enabling their customers to cost-effectively reduce their greenhouse gas emissions. Founded in 1995 by the same entrepreneurs that founded its namesake, the San Diego-based company produces hybrid-electric drive systems and is now poised to take advantage of the rapid growth in demand for hybrid buses. By connecting the combustion engine in their drive system to the energy storage system and the electric motor instead of the drive shaft, ISE is able to use a smaller combustion engine and thereby provide more fuel-efficient compulsion. ISE also gives its customers complete flexibility by offering gasoline, diesel and hydrogen fuel cell models. With their sales growing at an average rate of 141 percent since 2006, ISE is well-equipped to continue as a leading producer of hybrid-drive systems.

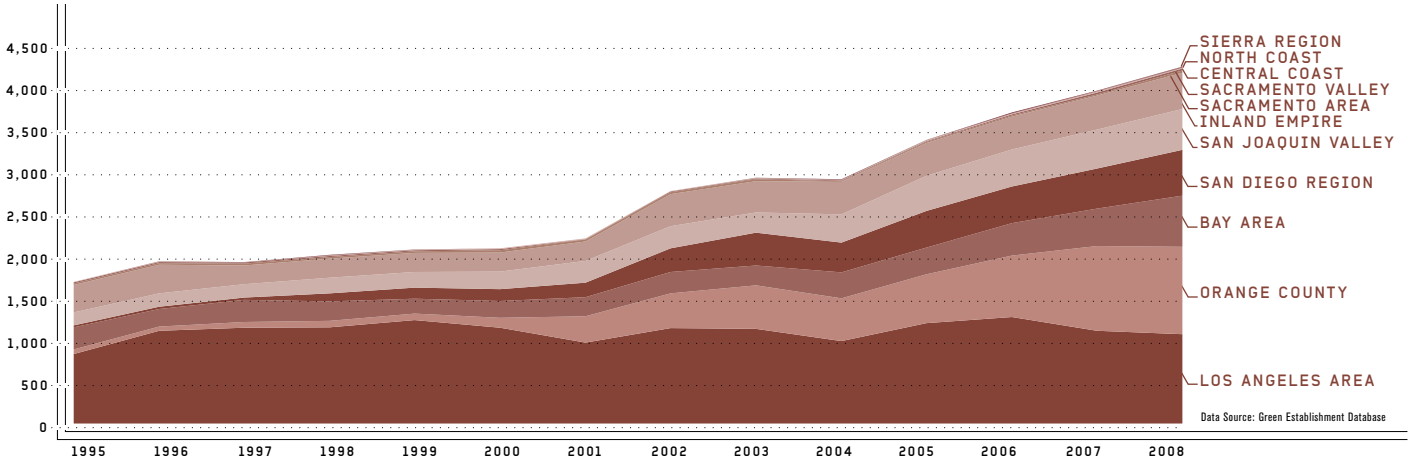
JOBS BY SUBSEGMENT, 2008



GREEN TRANSPORTATION
EMPLOYMENT CONCENTRATION BY REGION RELATIVE TO STATE, 2008

Data Source: Green Establishment Database

TOTAL JOBS BY REGION OVER TIME



Data Source: Green Establishment Database

Employment in Water & Wastewater increased 18 percent between 1995 and 2008. Over this period, Water & Wastewater employment doubled in the San Diego Region and grew by 83 percent in the Sierra Region.

The Bay Area and Los Angeles Area account for the largest shares of Water & Wastewater jobs in California. Although employment numbers are modest in size, the percentage of employment in Water & Wastewater in the Sierra Region was more than four times that of the state and in the North Coast, it was more than double the state average.

Roughly half of all Water & Wastewater jobs in the state are in the Wastewater Treatment subsegment. Of all Water & Wastewater subsegments, the strongest employment growth was in Water Conservation, increasing nearly four and a half times in size since 1995.

The North Coast is particularly specialized in Research & Testing, with an employment concentration seven times the state average.

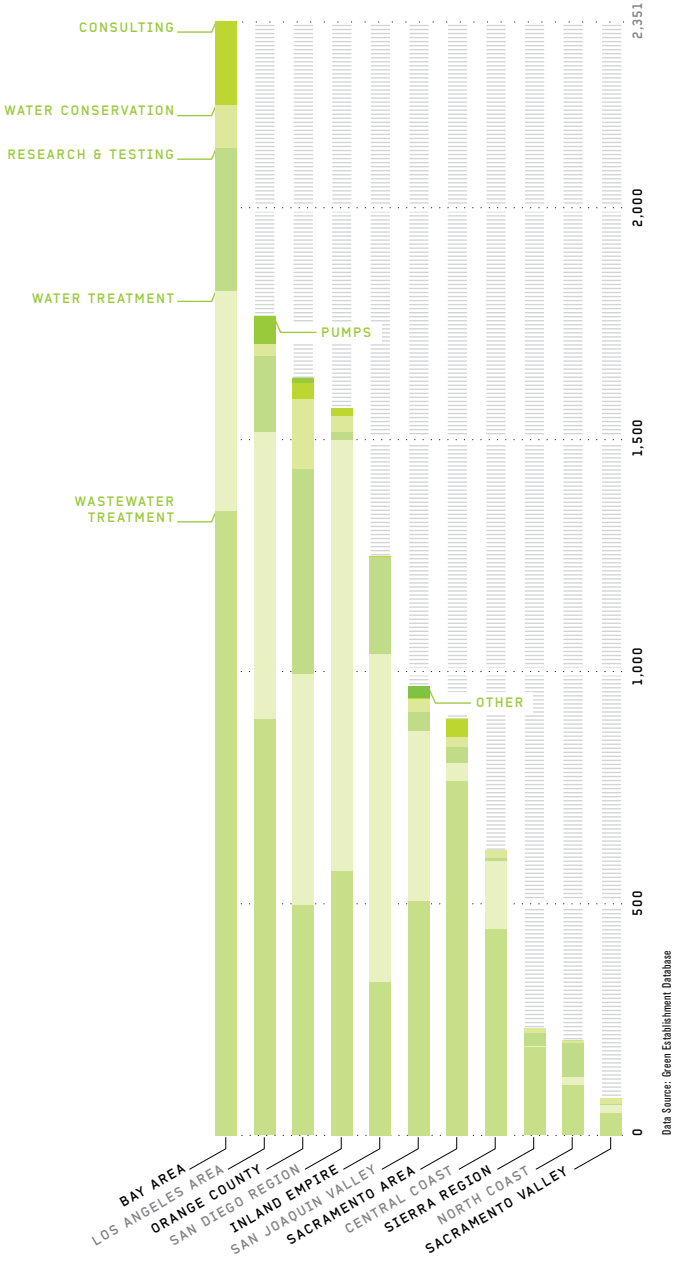
WATER & WASTEWATER JOBS *by* REGION

PURESENSE, INC.

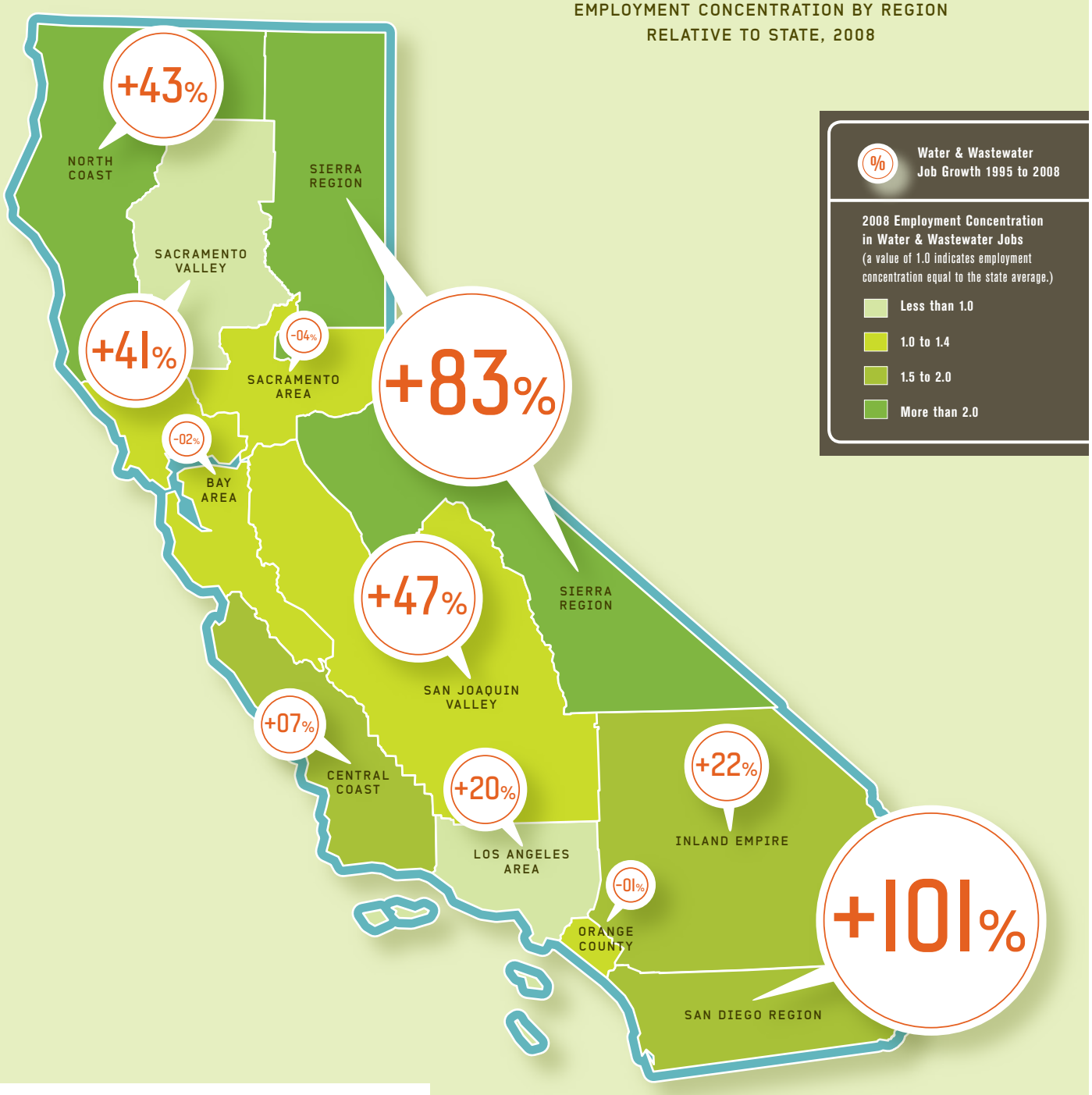
http://www.puresense.com

PureSense, based in Oakland, creates smart irrigation technology that enables large-scale agricultural enterprises to reap the multiple benefits of improving water efficiency. Their Irrigation Manager software allows growers to monitor soil moisture in real-time and respond quickly in order to maintain optimal moisture levels. The rewards of this are threefold: water is saved through more efficient usage; crop yield is increased and made less volatile as crops are adequately watered; and finally proper watering reduces the necessity of pesticides and their harmful build-up in crops, soil and ground water. Over 300 growers are using PureSense technology in California, Oregon and Washington.

JOBS BY SUBSEGMENT, 2008

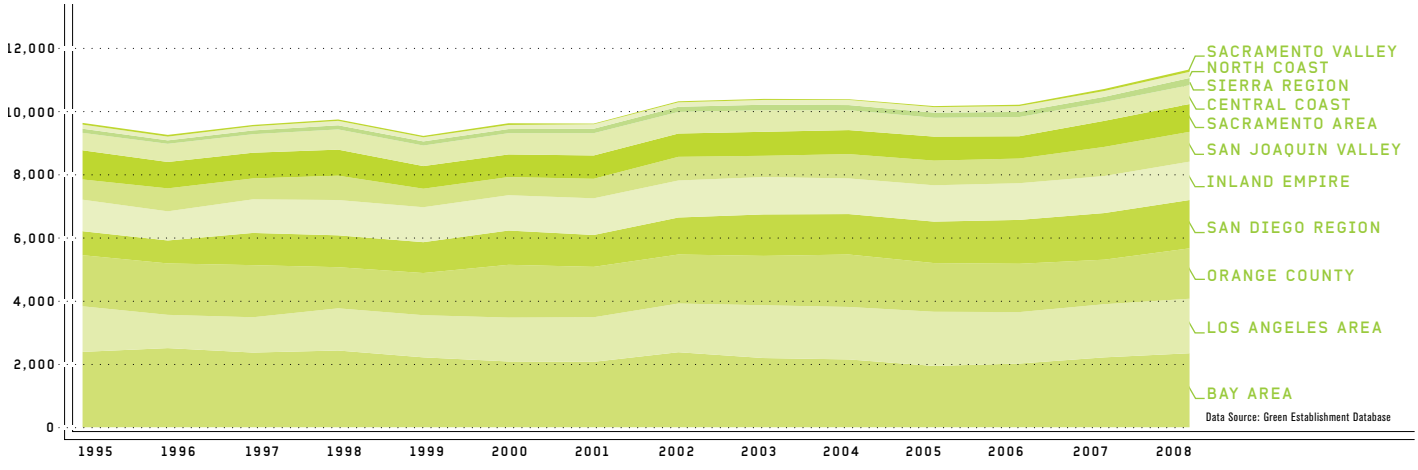


WATER & WASTEWATER
EMPLOYMENT CONCENTRATION BY REGION RELATIVE TO STATE, 2008



Data Source: Green Establishment Database

TOTAL JOBS BY REGION OVER TIME



Data Source: Green Establishment Database

With nearly 43,000 jobs in 2008, Air & Environment is the largest of California's green segments. From 1995 to 2005, the number of Air & Environment jobs remained fairly steady, hovering around 35,000. However, since 2005, the number of green jobs in this segment has increased 24 percent.

While the greatest portion of Air & Environment jobs are in the Bay Area and Los Angeles Area, the Sacramento Area accounts for the segment's highest growth, increasing more than two and a half times in size since 1995. Over this period, Air & Environment jobs grew by 91 percent in the Sierra Region and 68 percent in the North Coast.

Within the Air & Environment segment, 78 percent of jobs are in Environmental Consulting. In Sacramento, the employment share in this subsegment is double the state average. From 1995 to 2008, statewide jobs in the subsegment of Environmental Remediation, Safety & Other reported the strongest growth increasing by 55 percent. During the same time period, employment in the area of Emissions Monitoring & Controls decreased by 33 percent.

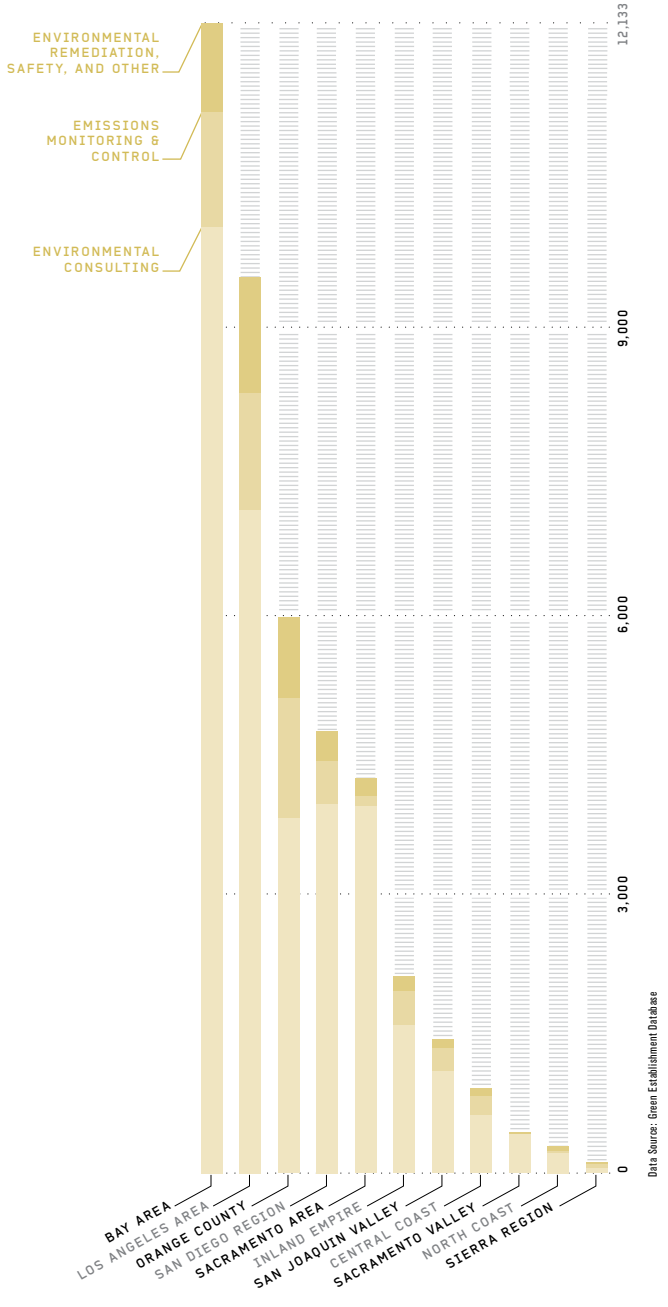
AIR & ENVIRONMENT JOBS *by* REGION

MAXWELL TECHNOLOGIES

http://www.maxwell.com

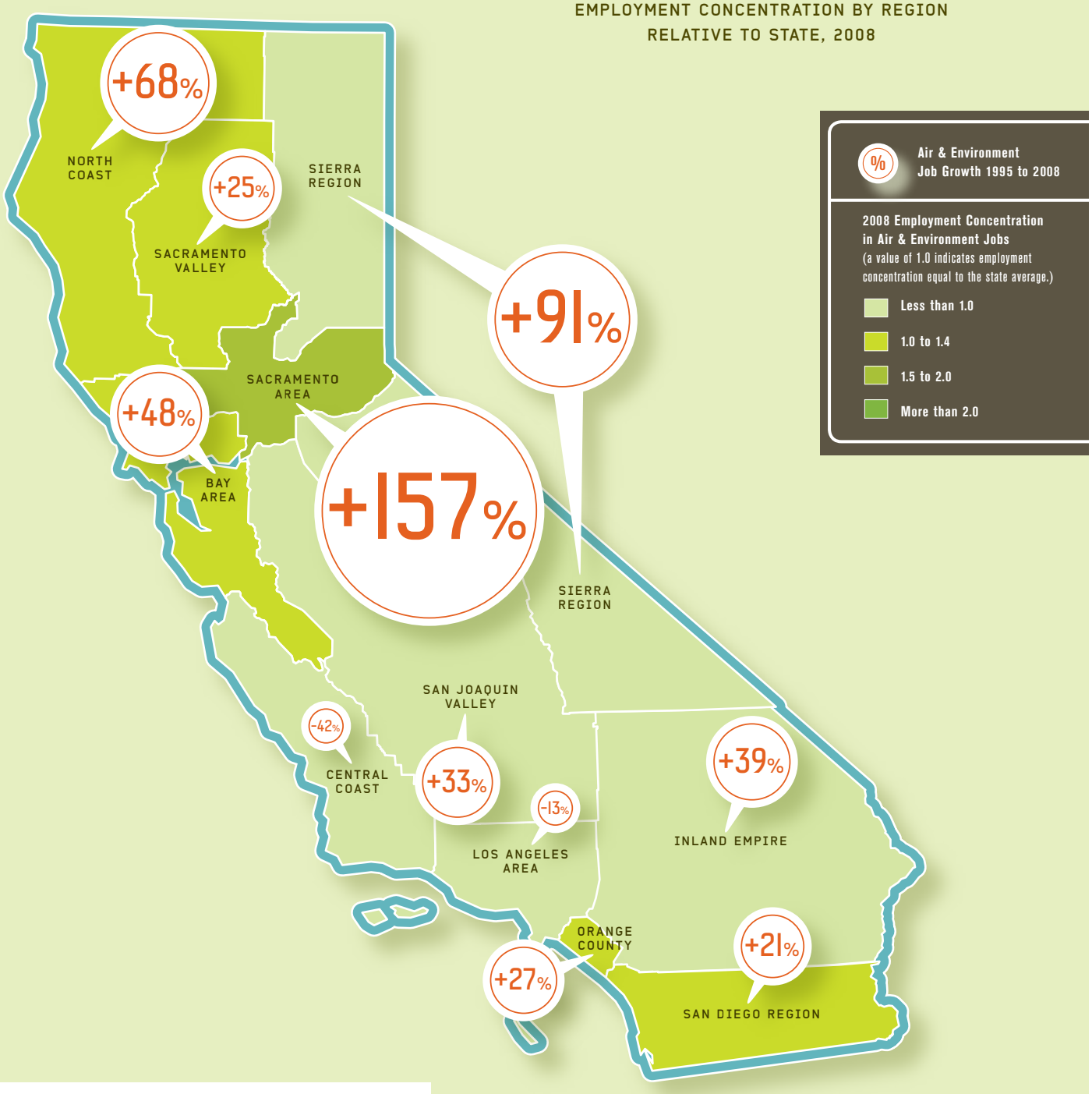
Originally founded in 1965, Maxwell Technologies has kept up with the times, becoming one of the leading producers of ultracapacitors, energy storage devices that are significantly more efficient than common batteries. The San Diego-based company's primary customers are wind power generators and electric vehicle manufacturers. Their Boostcap capacitors allow wind companies to hedge against variable wind speeds by storing excess power while the product's light-weight design make them a perfect match for hybrid buses. Currently, Boostcaps are used by buses in New York, Chicago and Long Beach, but the company hopes to expand into the rapidly growing Chinese hybrid-bus market. Their wind power business is already international, and InterCon, a German wind turbine manufacturer, is their principal client.

JOBS BY SUBSEGMENT, 2008



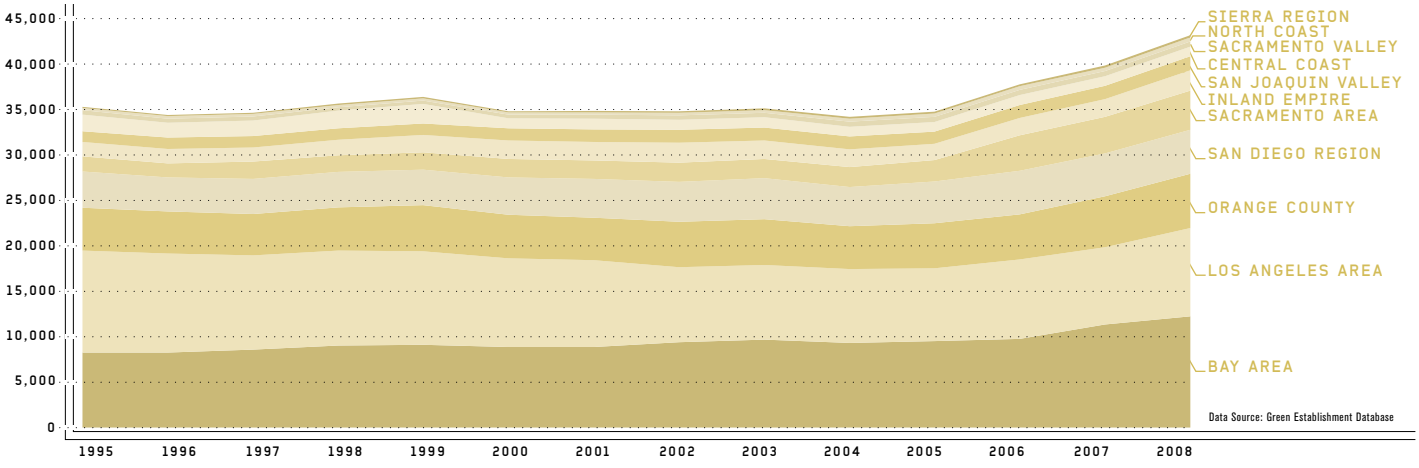
AIR & ENVIRONMENT

EMPLOYMENT CONCENTRATION BY REGION RELATIVE TO STATE, 2008



Data Source: Green Establishment Database

TOTAL JOBS BY REGION OVER TIME



Data Source: Green Establishment Database

APPENDIX

California's Core Green Economy: Green Business Establishments Database

Collaborative Economics has developed an approach for identifying and tracking the growth of businesses with primary activities in the core green economy. While most other studies on green jobs are based on employer surveys and macro modelling, this approach provides the most comprehensive accounting of businesses and jobs in the emerging green economy.

This methodology was originally developed for work carried out on behalf of Next 10, a California-based nonprofit, and published in the *California Green Innovation Index* (2008, 2009, 2010 forthcoming).

The Green Establishments Database is a composite database that draws information from multiple sources (including New Energy Finance and the Cleantech GroupTM, LLC) for the identification and classification of green businesses and also leverages a sophisticated internet search process. CEI designed the parameters of the internet search platform which was engineered by QL2, a Seattle-based developer of business intelligence tools. The National Establishments Time-Series (NETS) database based on Dun & Bradstreet business-unit data was sourced to extract business information such as jobs. Because of changes to D&B's methodology, 1995 is the earliest year that is comparable to the recent years.

The jobs numbers reported in the database reflect all jobs at each business location as of January of each reported year. In the case of multi-establishment companies, only the green establishments are included. While this approach does not examine specifically green occupations that are appearing across the entire economy (such as Chief Sustainability Officer), it does account for the businesses behind the products and services that these new professionals need to use in their jobs (such as advanced metering devices, co-generation equipment, and various high-efficiency materials).

The multilayered process involves both automated and manual verification steps of business establishments and their activities. In cases where the results were uncertain and the activities of a business establishment could not be verified (e.g. on a company's website), the establishment was dropped from the database. Therefore, the database offers a conservative estimate for the numbers of establishments and jobs in the core green economy.

Occupations in California's Green Economy

The industry codes for the businesses in the Green Establishments Database were used to determine the occupations associated with California's Core Green Economy. The occupational staffing pattern was provided by the California Employment Development Department, Labor Market Information Division's Occupational Employment Statistics (1st Quarter 2009). The 2008 Median Annual Wage was provided by the U.S. Bureau of Labor Statistics' Occupational Employment Statistics (May 2008). The identification of the green increased demand occupations and green enhanced skills occupations was made available by the U.S. Department of Labor, Employment and Training Administration's O*NET. The National Center for O*NET Development submitted a report in early 2009 titled *Greening of the World of Work: Implications for O*NET-SOC and New and Emerging Occupations*. That report provides a definition of the occupations classified as green increased and enhanced skills occupations.

ENDNOTES

[1] The jobs numbers reported in this analysis reflect all jobs at these business locations. In the case of multi-establishment companies, only the green establishments are included. While this approach does not examine specifically green occupations that are appearing across the entire economy (such as Chief Sustainability Officer), it does account for the businesses behind the products and services that these new professionals need to use in their jobs (such as advanced metering devices, co-generation equipment, and various high-efficiency materials).

[2] Erich C. Dierdorff, Jennifer J. Norton, Donald W. Drewes, Christina M. Kroustalis, David Rivkin, Phil Lewis. February 2009. "Greening of the World of Work: Implications for O*NET-SOC and New and Emerging Occupations" National Center for O*NET Development. U.S. Department of Labor, Employment and Training Administration. http://www.onetcenter.org/reports/Green.html. The report defines "green" as economic activity related to reducing the use of fossil fuels, decreasing pollution and greenhouse gas emissions, increasing the efficiency of energy usage, recycling materials, and developing and adopting renewable sources of energy. The "greening" of occupations refers to the extent to which green economy activities and technologies increase the demand for existing occupations, shape the work and worker requirements needed for occupational performance, or generate unique work and worker requirements.

Green occupations identified in this report come from three different sources: (a) occupations included in the 2006 O*NET-SOC taxonomy, (b) N&E occupations identified from research conducted on in-demand industry clusters, and (c) N&E occupations identified during the current research on the greening of the world of work.

O*NET has identified 64 O*NET SOC occupations as "Green Increased Demand" occupations, 60 occupations as "Green Enhanced Skills", and 91 occupations as "Green New & Emerging (N&E)" occupations; however, 46 of which are still waiting final approval. In this analysis of California's Core Green Economy, 41 "Green Increased Demand" occupations and 34 "Green Enhanced Skills" occupations were identified in the state's Green Establishments.

[3] The reported drop in the Sierra Region is due to the workforce reduction of a single company in sustainable forestry.

_BAY AREA ALAMEDA / CONTRA COSTA / MARIN / NAPA / SAN BENITO / SAN FRANCISCO / SAN MATEO / SANTA CLARA / SANTA CRUZ / SOLANO / SONOMA

_CENTRAL COAST MONTEREY / SANTA BARBARA / SAN LUIS OBISPO

_INLAND EMPIRE RIVERSIDE / SAN BERNADINO

_LOS ANGELES AREA LOS ANGELES / VENTURA

_NORTH COAST DEL NORTE / HUMBOLDT / LAKE / MENDOCINO / SISKIYOU / TRINITY

_ORANGE COUNTY ORANGE

_SACRAMENTO AREA EL DORADO / PLACER / SACRAMENTO / SUTTER / YOLO / YUBA

_SACRAMENTO VALLEY BUTTE / COLUSA / GLENN / SHASTA / TEHAMA

_SAN DIEGO REGION IMPERIAL / SAN DIEGO

_SAN JOAQUIN VALLEY FRESNO / KERN / KINGS / MADERA / MERCED / SAN JOAQUIN / STANISLAUS / TULARE

_SIERRA REGION ALPINE / AMADOR / CALAVERAS / INYO / LASSEN / MARIPOSA / MODOC / MONO / NEVADA / PLUMAS / SIERRA / TUOLUMNE

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