



NAGLO 2009 Annual Meeting August 2-5

*Innovation in Workforce Development
for the 21st Century "Green Sector"*

Presentation by
Robert T. Mejia, Employment Services Manager
South Bay Workforce Investment Board
Manager, California's GREEN Workforce Coalition

Under Construction: Green Jobs and the Local Economy

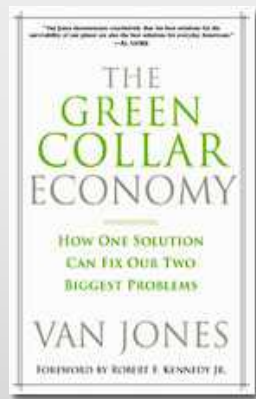
Summary:

- ▶ Green Jobs Descriptions
- ▶ Areas of Green Job Opportunity
- ▶ Occupations of Interest
- ▶ Challenges in Green Workforce Development
- ▶ What we are doing to address Challenges in Green Workforce Development
- ▶ California's GREEN Workforce Coalition
- ▶ Closing thoughts on How to Promote Green Jobs and Green Economy Development



Operational Definitions of Green Collar (Green) Jobs

A family-supporting,
career-track job that
directly contributes to
preserving or enhancing
environmental quality.



Van Jones

Co-Founder, Ella Baker
Center for Human
Rights

Founder, Green for All
Special Advisor for
Green Jobs, Enterprise
and Innovation, White
House Council on
Environmental Quality



Operational Definitions of Green Collar (Green) Jobs

Green-collar jobs are blue-collar jobs in green businesses; that is, manual labor jobs in businesses whose products and services directly improve environmental quality. Moreover, they are high quality jobs in sectors poised for dramatic growth—career-track jobs that can support families and help rebuild the middle class.

Raquel R. Pinderhughes, PhD, Professor of Urban Studies, San Francisco State University



Operational Definitions of Green Collar (Green) Jobs

- ▶ Green jobs are jobs in the primary industries of a green economy that promote environmental protection and energy independence.
- ▶ A green collar job is a paid position providing environmentally friendly products or services.

Initial Washington
Green Economy Industry
List (2008, July)
McCarthy, M. (2008,
February)



Operational Definitions of Green Collar (Green) Jobs

Jobs associated with any activity that generates electricity using renewable or nuclear fuels, agriculture jobs supplying corn or soy for transportation fuel, manufacturing jobs producing goods used in renewable power generation, equipment dealers and wholesalers specializing in renewable energy or energy efficiency products, construction and installation of energy and pollution management systems, government administration of environmental programs, and supporting jobs in the engineering, legal, research and consulting fields.

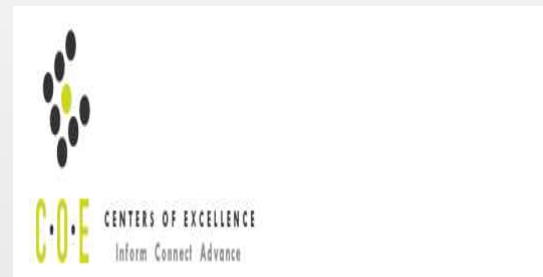
Current and Potential Green Jobs in the U.S. Economy (2008, October). Global Insight.



Operational Definitions of Green Collar (Green) Jobs

- ▶ A Green Job is an occupation that 1) directly works with policies, information, materials, and/or technologies that contribute to minimizing environmental impact, and 2) requires specialized knowledge, skills, training, or experience in these areas.


California Community Colleges Centers of Excellence



Operational Definitions of Green Collar (Green) Jobs

- ▶ 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.
- ▶ Based on this definition of “greening” occupations, O*NET developed three general categories within which to classify green jobs:
 - ▶ Green Increased Demand Occupations – increase in demand for an existing occupation; does not entail significant changes in the work and worker requirements; work context may change, tasks themselves do not.
 - ▶ Green Enhanced Skills Occupations – significant change to the work and worker requirements of an existing O*NET-SOC occupation; may or may not result in increased demand; essential purpose remains the same, but tasks, skills, knowledge and possibly credential requirements have been altered.
 - ▶ Green New and Emerging (N&E) Occupations – need for unique work and worker requirements, results in generation of a new occupation.

Erich C. Dierdorff, Jennifer J. Norton, Donald W. Drewes, & Christina M. Kroustalis, North Carolina State University and David Rivkin & Phil Lewis, National Center for O*NET Development



Operational Definitions of Green Collar (Green) Jobs

Green Collar Jobs are family-sustaining, career track jobs that contribute directly to preserving or enhancing environmental quality. Green-collar jobs range from low-skill, entry-level positions to high-skill, higher-paid jobs that include opportunities for advancement in both skills and wages.

Apollo Alliance and Green for All



Operational Definitions of Green Collar (Green) Jobs

Green or clean is any activity or service that performs at least one of the following:

- ▶ Generating and storing renewable energy
- ▶ Recycling existing materials
- ▶ Energy efficient product manufacturing, distribution, construction, installation, and maintenance
- ▶ Education, compliance and awareness
- ▶ Natural and sustainable product manufacturing

Common threads:

- ▶ Reduce environmental impact
- ▶ Remediate environmental damage
- ▶ Conserve and reduce energy use
- ▶ Conserve and use renewable and sustainable energy and materials
- ▶ Develop products that support these themes
- ▶ And/or provide related services

Labor Market Information Division
California Employment Development
Department

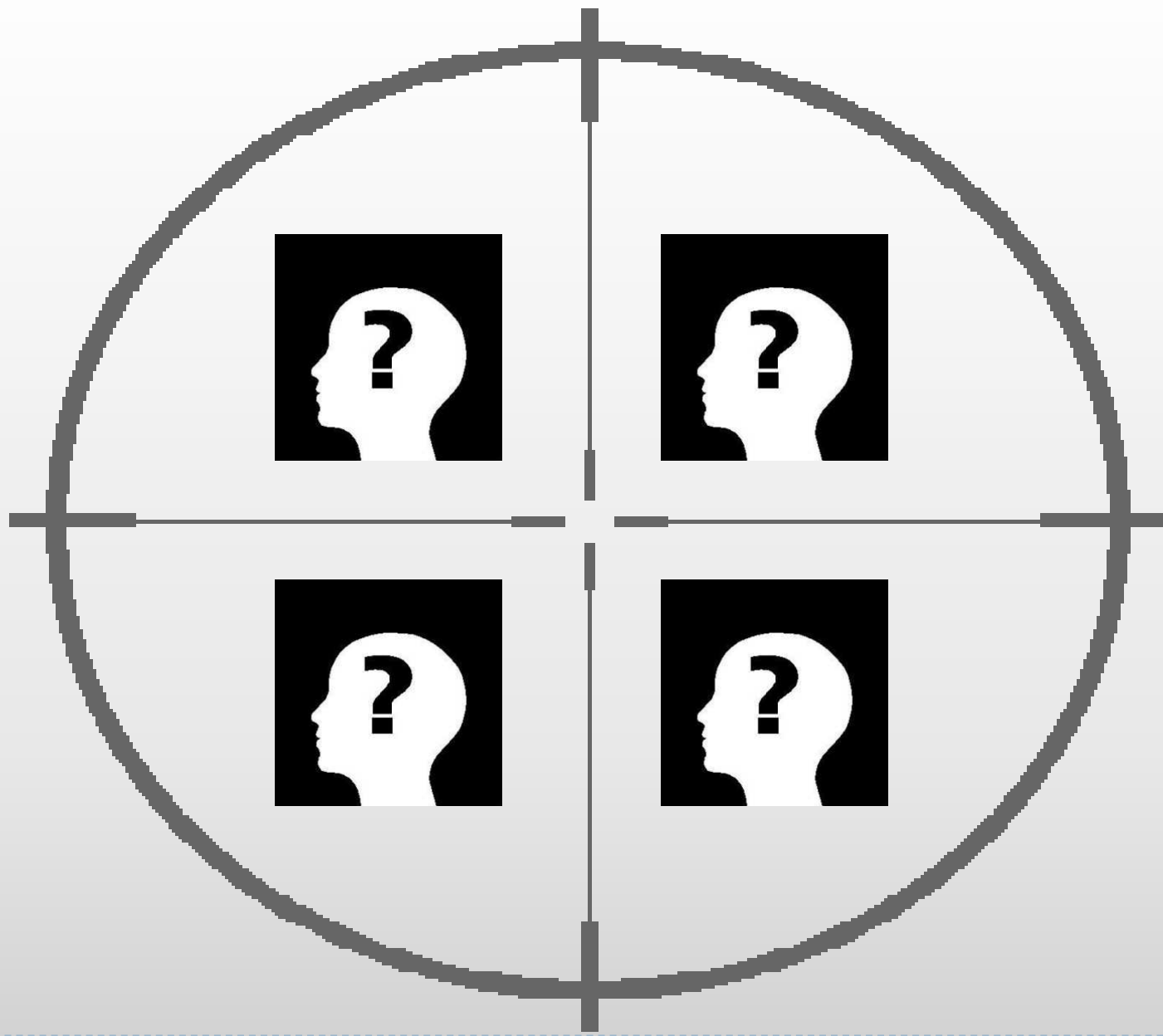


Operational Definitions of Green Collar (Green) Jobs

The most general trait of green jobs is that they must be jobs that somehow contribute to the improvement of environmental quality. A green job must be a job that is associated with improving the environment, is well-compensated and sustainable, and is available to a diverse workforce.

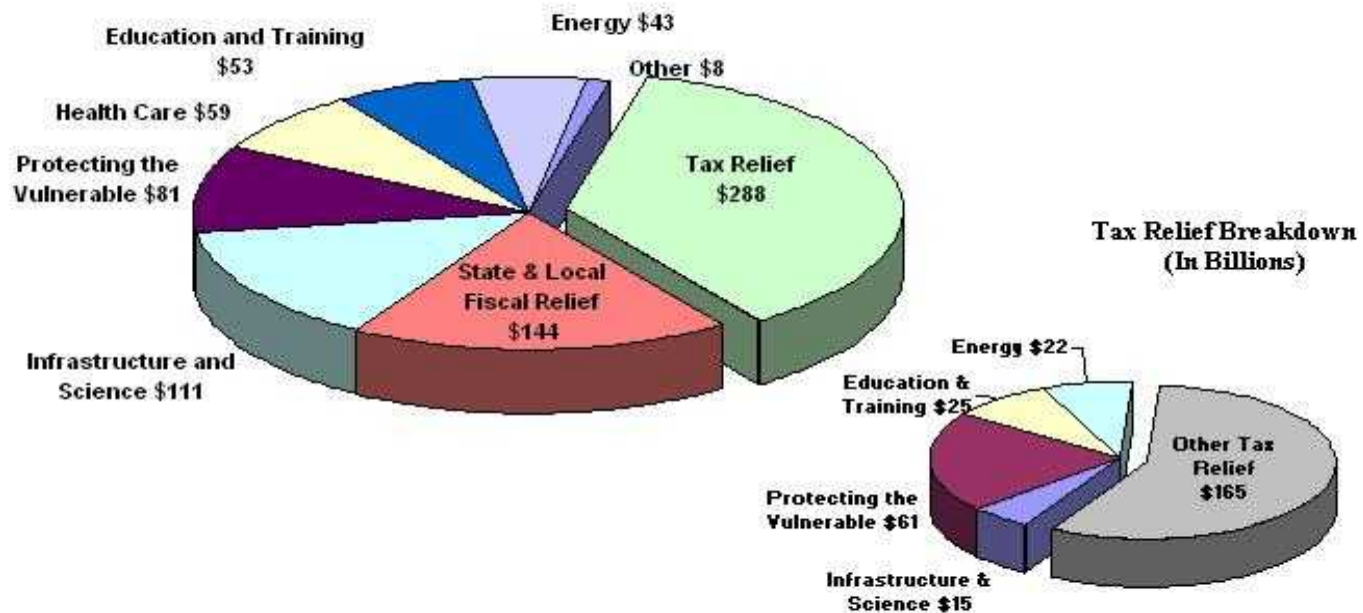
White House Task Force on the Middle Class - Office of the Vice President of the United States





American Recovery and Reinvestment Act

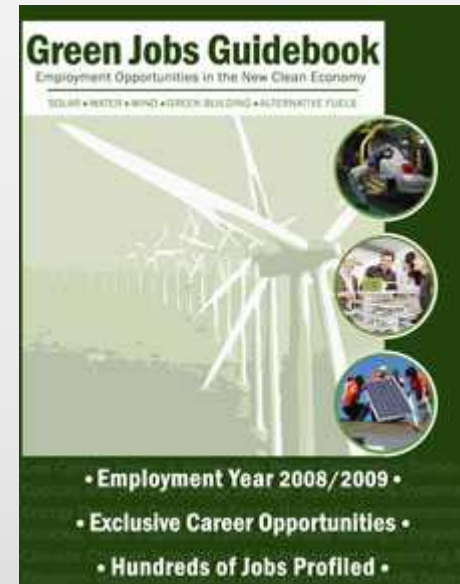
ARRA: OVERALL BREAKDOWN (IN BILLIONS)



Green Jobs Guidebook

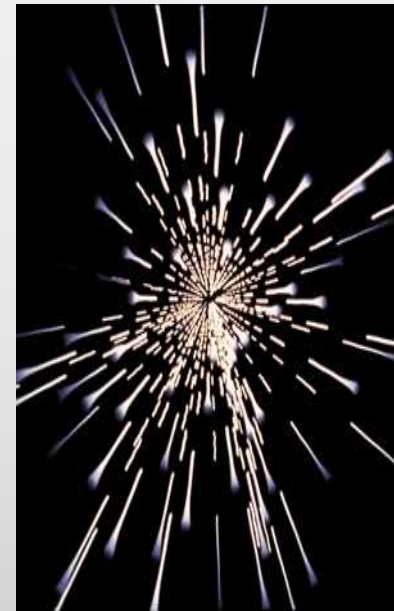
Green Job Industry Segments

- ▶ Low Carbon Power & Storage
- ▶ Carbon Capture and Storage (CCS)
- ▶ Energy Storage: Equipment & Systems
- ▶ Energy Efficiency and Demand Response
- ▶ Green Buildings
- ▶ Transportation
- ▶ Carbon Markets: Trading & Projects
- ▶ Climate Change Adaptation
- ▶ Public-sector/Government
- ▶ Consulting and Research
- ▶ Waste Reduction & Management
- ▶ Non-Profit Sector





- ▶ Energy Generation
- ▶ Energy Storage
- ▶ Energy Infrastructure
- ▶ Energy Efficiency
- ▶ Transportation
- ▶ Water and Wastewater
- ▶ Air and Environment
- ▶ Materials
- ▶ Manufacturing/Industrial
- ▶ Agriculture
- ▶ Recycling and Waste





- ▶ Green firms with similar activities, production value chains and/or products can form a green industry, sub-sector or sector. In particular, the COEs have classified all green firms into six green sectors or areas:

- ▶ Renewable Energy: Energy Generation, System Installation & Storage
- ▶ Green Building and Energy Efficiency
- ▶ Biofuels Production & Farming
- ▶ Transportation & Alternative Fuels
- ▶ Water, Wastewater & Waste Management
- ▶ Environmental Compliance & Sustainability Planning



California Employment Development Department Labor Market Information Division

Examples of Green Industry Sectors



- ▶ Public and Private Utilities
- ▶ Power Generation plants (electric, hydroelectric, other fuels)
- ▶ Power Transmission
- ▶ Power Distribution
- ▶ Construction—residential, commercial, industrial, remodeling
- ▶ Power and communication line construction
- ▶ Various manufacturing sectors—lighting, appliance, motor and generator, storage batteries, motor vehicle, semiconductors
- ▶ Automatic environmental controls





C·O·E

CENTERS OF EXCELLENCE
Inform Connect Advance

Occupations of Interest:



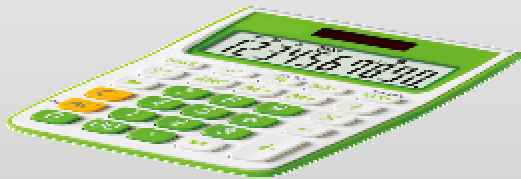
- ▶ Wind Turbine Technicians



- ▶ Alternative Fuel Automotive Technicians



- ▶ Solar System Installers/Technicians



- ▶ Cost Estimators for Green Building/Retrofitting



Challenges in Green Workforce Development



- ▶ Imbalance between the supply of funding for training and the demand for jobs
- ▶ Overwhelming confusion as to what green industry sectors represent in terms of vision, mission, goals, and values
- ▶ Lack of sustainability education at most levels of the system



Challenges in Green Workforce Development



- ▶ Difficult to identify “shovel-ready” projects able to employ eager workers
- ▶ Lack of access to opportunity for qualified, technically-skilled personnel who have suffered layoffs, as well as those new to the labor market (e.g., low-income, students, veterans)
- ▶ The private sector is underrepresented in most aspects of the process



Challenges in Green Workforce Development



- ▶ Lack of experienced, sustainability-oriented education and training providers
- ▶ Difficult to identify green employers with truly green, good-paying, unsubsidized jobs
- ▶ Lack of alignment between preparatory training and skill sets needed in targeted industry sectors and specific jobs



Challenges in Green Workforce Development



- ▶ Sustainability not yet widely recognized for its unique complexities as it relates to workforce development
- ▶ Employers need incentives to play an active, partnering role, beginning in the most initial stages of project development



Challenges in Green Workforce Development



- ▶ Currently, few possess operational/practical knowledge of sustainability in order to make informed decisions that have significant financial and service-related implications
- ▶ An emerging, critical need to educate those charged with evaluating the merits of training and job placement opportunities for people pursuing employment opportunities within the green jobs sector





South Bay Workforce Investment Board
Local Definition of a Green Workforce

“Two or more engaged in the useful and sustainable transformation of space, energy, effort, information, ideas, knowledge, or materials resulting in value.”



South Bay Workforce Investment Board

Local Green Job Definition

A Green Job is defined as:

- ▶ A group of homogeneous tasks related by similarity of functions. When performed by an employee in an exchange for pay, a green job consists of duties, responsibilities, and tasks that are (1) defined and specific, and (2) can be accomplished, quantified, measured, and rated.



Green Principles

- ▶ What is made or provided contributes to the reduction or elimination of greenhouse gases and/or other agents of environmental degradation;
- ▶ How a product or service is made or provided is sustainable;
- ▶ Work functions and outcomes are environmentally respectful and lead to value.
- ▶ The job should be connected to a family of sustainable occupations, especially those that constitute opportunities for upward mobility





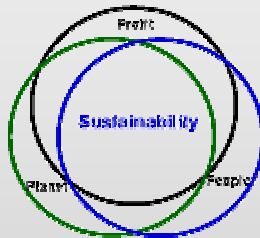
Establish Criteria for Evaluating Green Training and Projects

Emerald Rating System for Sustainability in Occupational Education

- ▶ Describe target industries
- ▶ Identify sustainable occupations
- ▶ Differences between green skills versus traditional skills

Triple Bottom Line:

- ▶ People
- ▶ Planet
- ▶ Profit



- ▶ Describe primary areas of environmental impact addressed by training and by specific employers





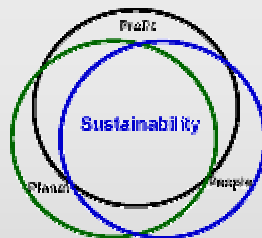
Establish Criteria for Evaluating Green Training and Projects

Emerald Rating System for Sustainability in Occupational Education

- ▶ Describe current industry measures designed to mitigate impact(s), including end of life-cycle measures
- ▶ Describe mitigation, compliance, and/or market-driven measures in place with specific employers

Triple Bottom Line:

- ▶ People
- ▶ Planet
- ▶ Profit



- ▶ Describe the life-cycle impacts of the products or services produced or used by individuals who will be employed in the target occupation



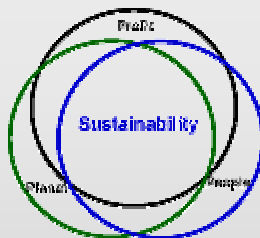


Establish Criteria for Evaluating Green Training and Projects

Emerald Rating System for Sustainability in Occupational Education

Triple Bottom Line:

- ▶ People
- ▶ Planet
- ▶ Profit



- ▶ Describe the types of employers you plan to reach out to. Do they have: Definable and enforceable sustainability-related plans? Do they have designated sustainability contact-persons?
- ▶ What has been your experience in placing program completers with environmentally conscious employers?
- ▶ Describe faculty and/or staff qualifications as they pertain to sustainability





California's GREEN Workforce Coalition

Mission:

- ▶ To serve as an alliance for the development of a skilled green workforce and a sustainable future.

Goal:

- ▶ To prepare a green workforce that responds to industry demands and supports economic development and growth in our communities, in our region and in our state.





Public, Education, and Nonprofit Members

Our members represent many of California's key workforce preparation and development systems including the California Employment Development Department, the California Community Colleges, the K-12 public education system, the local Workforce Investment Act system, and the California State University System.

- Anaheim Workforce Investment Board
- Bresee Foundation
- California EDD LA./Ventura Workforce Services Division
- California State University, Dominguez Hills
- Burbank Adult School
- California EDD Labor Market Information Division
- Career Dreams Educational Foundation
- Century Center for Economic Opportunity YouthBuild
- Center of Excellence at Mount San Antonio College
- Citrus College
- City of Santa Ana Workforce Investment Board



Public, Education, and Nonprofit Members

- Contra Costa County Workforce Development Board
- Council on Adult and Experiential Learning (CAEL)
- East Los Angeles College
- El Camino College
- El Camino College-Compton Educational Center
- Environmental Charter High School
- Foothill Workforce Investment Board
- Glendale Community College
- Goodwill SOLAC
- Hi Desert Region Green Jobs Initiative
- Infrastructure Academy
- Long Beach Community College District
- Long Beach Unified School District
- Los Angeles City College
- Los Angeles Community College District
- Los Angeles Community College District CACT



Public, Education, and Nonprofit Members

- Los Angeles County Center of Excellence at LACCD
- Los Angeles County Office of Education
- Los Angeles/Orange County Regional Consortium
- Los Angeles Opportunities Industrialization Center
- Los Angeles Trade Tech College
- Los Angeles Urban League WorkSource Center
- Los Angeles USD East Los Angeles Skills Center
- Loyola Marymount University
- North Orange County Community College District
- Orange County Workforce Investment Board
- Our Community Works
- Pacific Gateway Workforce Investment Network
- Pacific Asian Consortium in Employment (PACE)
- Pasadena City College
- Pierce College
- Purpose Focused Alternative Learning Corporation
- PVJOBS



Public, Education, and Nonprofit Members

- Rio Hondo College
- Riverside County Workforce Development Board
- San Bernardino County Workforce Investment Board
- San Gabriel Valley Conservation Corp
- Solar Living Institute
- South Bay Science Foundation
- South Bay Workforce Investment Board
- Southeast Los Angeles County (SELACO) WIB
- Southern California Regional Occupational Center
- Sustainable Programs for Independent Neighborhoods
- The Green LA Coalition
- Tongan Community Service Center
- U.S. Veterans Initiative
- Venice Community Housing Corporation
- Verdugo Workforce Investment Board
- Young Jobs, Inc.



Industry Intelligence Group



Coalition members representing environmentally conscious firms, utilities, labor, economic development and research, green consulting, sustainability-focused associations, and private sustainability experts comprise the Industry Intelligence Group whose purpose is to:

- ▶ Serve as an advisory group to the *Coalition's* public, education, and nonprofit members
- ▶ Discuss the general effects of sustainability trends and legislation on business and industry
- ▶ Discuss workforce trends in sustainability
- ▶ Engage *Coalition* members to address current workforce needs



Industry Intelligence Group



Artilliant

Alesia Bell Alaziz

Beacon Economics

California Green Solutions

California Transportation & Logistics Institute

Calivan, LLC

Devon Werble, Los Angeles City College

Eco-GREEN Environment Consultants Group

Ecospire

Ericka Saenz

GeoGreen Biofuels

Felippe Marques, LEED AP, Daum Commercial

GREENsultation

Hawthorne Chamber of Commerce

Healing Spaces by Design

Int. Brotherhood of Electrical Workers Local 11

Jasana

Labeling Ecologically Approved Fabrics (L.E.A.F.)

Laurie Kaye Nijaki, ECONometrics

Long Beach Green Business Association

LA & San Gabriel Rivers Watershed Council

Madeline Drake, Career Tech Ed Consultant

Metropolitan Water Dist. of Southern California

Reel Green Media, LLC

Residential Energy Assessment Services, Inc.

Sam Abedzadeh

Sandi Sinicrope, ASF Millworks and Design, Inc.

Southern California Edison Economic Dev. Services

Sheila Wiley, Jobing.com

The Green Hive

Teamsters Joint Council 42

Tony Pereira, MSME, EIT, UCLA

Turner Construction

U.S. Green Building Council Los Angeles Chapter



Coalition Activities to Develop a Green Workforce



- ▶ Learn about sustainability from experts
- ▶ Educate and learn from our peers
- ▶ Forge new alliances
- ▶ Discuss curriculum needs
- ▶ Discuss labor market data issues
- ▶ Change our behavior



California's GREEN Workforce Coalition Accomplishments to Date



- ▶ Identified emerging green occupations with employment growth potential at the state and local levels
- ▶ Identified the characteristics of significant green jobs in the Renewable Energy and Energy Efficiency industries and current and projected labor market demand for such jobs in California and Los Angeles County
- ▶ Identified North American Industrial Classification System industry sectors, which correspond to green industry segments in Los Angeles County



California's GREEN Workforce Coalition Accomplishments to Date



- ▶ Developed beta version of Coalition Website
- ▶ In process of developing a resource guide for collaborative green workforce preparation and development among workforce partners





California's
Green
Workforce Coalition

LOGIN | CONTACT [GO](#)

 Job Seekers
  Business Resources
  Coalition
  CA Green Initiatives
  Green News

California Green Workforce Coalition

Global warming, its immediate effects on the planet, and its long-term effects on the Earth's life-supporting systems, is creating worldwide momentum to take action. U.S. leadership will largely determine whether the world community will defeat the greatest threat mankind has ever faced. Collectively, we must move to more intelligent forms of design, production, consumption, and disposal that provide value for all people while preserving the sanctity of the environment.

Around the country, public institutions are eager to launch new efforts to prepare a workforce to fuel essential economic transformation. What has given these institutions pause, however, is a lack of clarity in the definition, purpose, and location of *green jobs*. This is caused, in part, by anachronistic methods of describing economic activity and labor market conditions. Therefore, changes must occur in the way we approach business. This then is the mission of California's Green Workforce Coalition: the creation of a *green* workforce in California, fully engaged in the useful and environmentally sustainable transformation of space, energy, effort, information, ideas, and knowledge, resulting in value.

>> [More About the Coalition](#)

Solar Living Institute

Promote sustainable living through inspirational environmental education

[Learn more](#)



1 2 3

Green Projects

Projects

Yiepo oiuer wo otiwtw owit otiweytioet
Wo o dfuowieu fodwu oti wtyowit oti tioet
Nowoe adfowr wo oti wtyotiwdfg gfdseytioet

ECO-nomic Development

Yie po oi uer wo otiwt yo wit otiw eytioet
Oko asdfyeo aodure o otiweytioet
Yiepo oiuer wo otiwtw owit otiweytioet

Legislation & Research

Legislation

Yie po oi uer wo otiwt yo wit otiw eytioet
Oko asdfyeo aodure o otiweytioet.kdjfoweu
sdfuweoruw oertuweotwiu

Research

Yie po oi uer wo otiwt yo wit otiw eytioet
Oko asdfyeo aodure o otiweytioet
akjdfowieurow eluwoeituweotiu

Green Resources

Resources for Job Seekers

Green employer profiles
Green Jobs websites
Green Education Programs

Resources for Employers

Green business examples
Training resources
Post your job or business profile

Coalition Member Green Workforce Development

Pacific Gateway Green Jobs Corps Initiative

- ▶ Will serve 125 at-risk youth ages 17-24 interested in developing skills and gaining employment in green and eco-friendly industries
- ▶ 25 younger youth ages 17-18 and 100 older youth and young adults ages 19-24
- ▶ Career pathways have been developed in conjunction with partnering organizations that focus on solar energy, recycling, green building and construction, water efficient and drought resistant landscaping, and community supported agricultural opportunities



Coalition Member Green Workforce Development

- Electrical Training Institute (IBEW-NECA, Los Angeles)
- ▶ Trained 1300 apprentices in Solar PV last 12 months
 - ▶ Trained 1800 journeymen in Solar PV last 12 months



Coalition Member
Green Workforce Development

Citrus College

- ▶ Solar Preparation: Linked classes with skill sets preparing for entry level solar industry; 47 students enrolled Summer 2009
- ▶ Energy Systems Technology program in approval process to begin January 2010: Certificates of Achievement in Building Systems Design Technology and Building Systems Maintenance & Operations Technology
- ▶ New classes approved: Water Conservation, and Environmental Management for Public Works



Coalition Member Green Workforce Development

Long Beach City College

LNG Technician Training Program addresses the workforce gap of skilled LNG, CNG and Green Diesel technicians through incumbent worker training, high school to college pathway development, and upgrade, for-credit instruction for AS degree and transfer-ready students.

- ▶ Developed the only Certified Westport LNG Technician Training in the US
- ▶ Trained 72 incumbent diesel technicians from Kenworth, Westport, Peterbilt, Cummins, and Wal-Mart
- ▶ Technicians trained from US, Canada, Australia & Mexico
- ▶ Developed pathway from Cabrillo HS to LBCC's Advanced Transportation Program- 26 Cabrillo HS students currently enrolled
- ▶ Achieved 90% HS attendance rate and 100% passing rate – Program fulfills A-G Science Requirement



Coalition Member Green Workforce Development

Los Angeles Urban League Green Technology Center

- ▶ The Green Technology Center will function as a satellite WorkSource Center. Funded by the City of Los Angeles WIB, Green Technology Center will coordinate job placement services for individuals completing training programs of the Center, including training in Weatherization and Water Technologies



Coalition Member Green Workforce Development

U.S. Veterans Initiative

- ▶ Recently received a Department of Labor VWIP grant to target veterans for placement in Green Jobs
- ▶ Starting up in July of 2009
- ▶ Goal is to serve 133 veterans over the next 12 months
- ▶ Grant funds will pay for occupational training, supportive services, counseling and case management, job development, and follow-up services



Coalition Member Green Workforce Development

East Los Angeles College

- ▶ Partnership with the Wilshire Metro Work Source Center to recruit bus operators at MTA to enroll in this fall semester's Transportation Planning, which has units on "green" planning
- ▶ Received a 2.5 million dollar grant to infuse and promote "green" curriculum
- ▶ Architecture department updated courses to infuse green including a new course that tours "green" project sites. This department also teaches LEED topics



Coalition Member Green Workforce Development

Verdugo Workforce Investment Board

- ▶ Used stimulus funding to fund a project by Glendale Community College to train personnel to upgrade the power grid for Glendale and at least 2 other municipalities
- ▶ Used stimulus \$ to fund a project by Burbank Adult School to train electricians to work in the solar energy area and related infrastructure projects
- ▶ Used stimulus funding to fund a project by Burbank Adult School to train electrical/cable installers to work on building retrofitting and related projects



Coalition Member Green Workforce Development

Rio Hondo College

Conducting extensive workshops in:

- ▶ Alternative Energy
- ▶ Renewable Energies
- ▶ Biodiesel
- ▶ Electrical Diagnosis
- ▶ Advanced Electrical Diagnosis
- ▶ Powertrain Management of Truck and Transit LNG/CNG Systems



Coalition Member Green Workforce Development

Green Solar Technologies, Inc.

- ▶ 125 new green collar jobs created, with trainees permanently placed
- ▶ 25 solar panel installations done for low-income resident households
- ▶ 10 megawatts of solar power installed in Los Angeles
- ▶ 3 newly established solar panel installation businesses in Los Angeles



Coalition Member Green Workforce Development

County of San Bernardino

- ▶ Sam J. Racadio Highland Library and Environmental Learning Center built in spring of 2008 to LEED Gold Certification
- ▶ Inland Empire Utility Agency (IEUA) headquarters built to LEED Platinum standards – the highest rating available from the U.S. Green Building Council



Coalition Member Green Workforce Development

South Bay Workforce Investment Board

- ▶ Approved New Technology Learning Center for Solar Panel Installation Training Referrals
- ▶ Partnered with Cal State Dominguez Hills to Establish Solar Panel Installer Program W/Solar City
- ▶ Approved Citrus College for Solar Prep Panel Installation Courses
- ▶ Developing Sustainable Manufacturing Technology Centers



Create Sustainable Communities

“ States can help localities set the ground rules for green sector growth through sustainable”



- ▶ Land use policies
- ▶ Zoning
- ▶ Economic Development
 - ▶ Priorities for business attraction, retention and development
- ▶ Tax policies



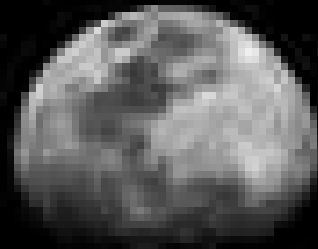
Create Sustainable Communities



“ States can help localities set the ground rules for green sector growth through sustainable”

- ▶ Financial incentives, rewards and deterrents
- ▶ Purchases
- ▶ Services
- ▶ Leadership by example





Create a Climate Action Plan





Create a Climate Action Plan

- Inventories and baselines GHG emissions
- Projects future emissions
- Sets goals for GHG reduction
- Identifies strategies for achieving GHG goals
- Aligns with Climate Change legislation/regulations



Create a Climate Action Plan

- Promotes sustainable communities
- Positions to acquire climate change resources
- Sets framework for green economy development
- Creates context for green workforce development



Create a Climate Action Plan

Chandra Krout, AICP, LEED AP, GPR
Environmental Programs Administrator

City of Irvine, California

949/724-7447 (P)

ckrout@ci.irvine.ca.us



Create a Green Workforce

Robert T. Mejia

Employment Services Manager

South Bay Workforce Investment Board

California's GREEN Workforce Coalition

310/970-7747 (P)

rmejia@sbwib.org

A surreal landscape featuring a vibrant green field in the foreground, a blue lake in the middle ground, and dark mountains in the background. The sky is dark and contains two moons: a large, detailed moon on the left and a smaller, simpler moon on the right. The text "THANK YOU" is centered in the sky area.

THANK YOU