How to Ensure CTE Programs are Relevant

March 2, 2010

Educating for Careers Conference

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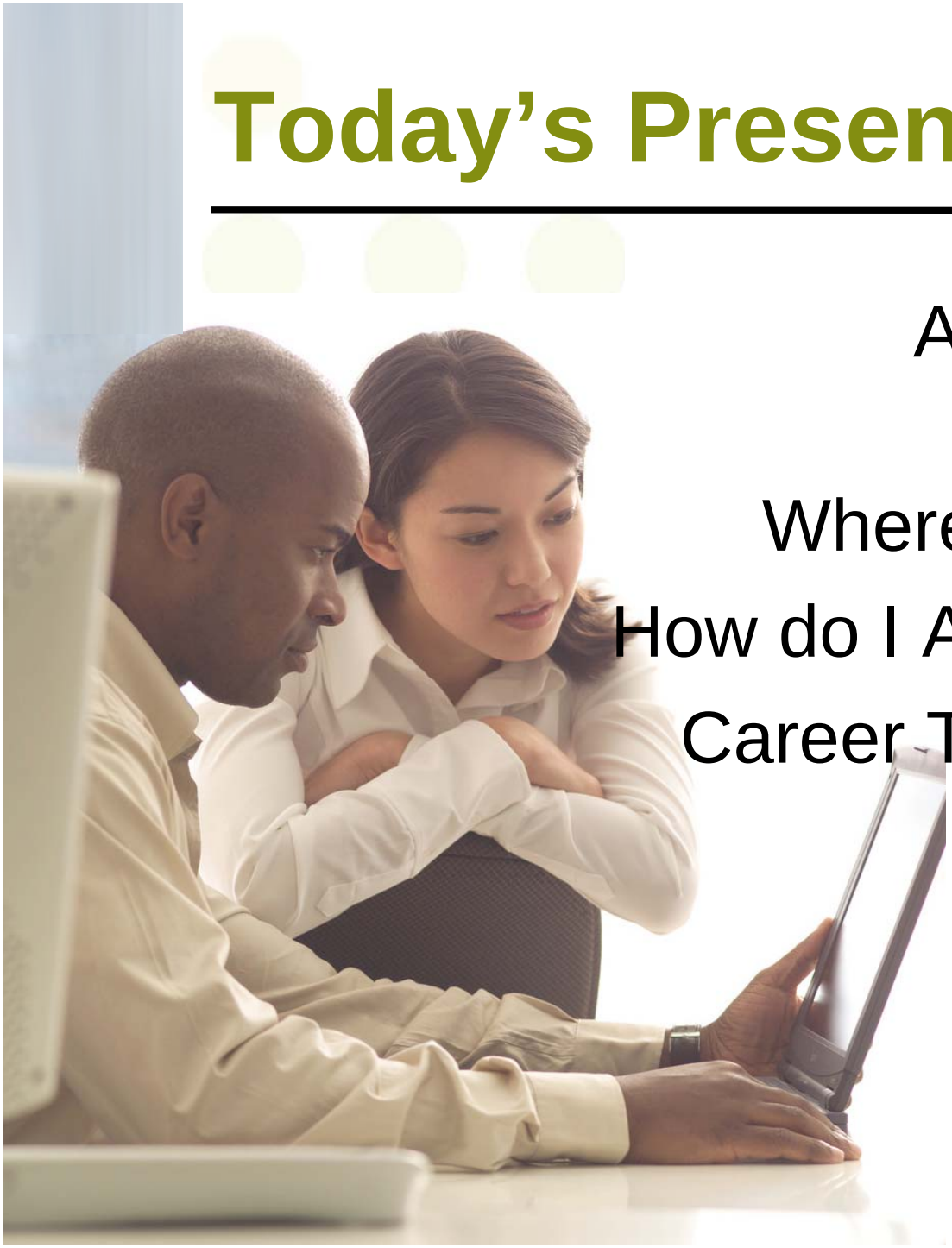
Today's Presentation



About the Centers of Excellence

Where Are the Hot Jobs?

How do I Access Information?

Career Technical Education Hub

Center of Excellence Mission

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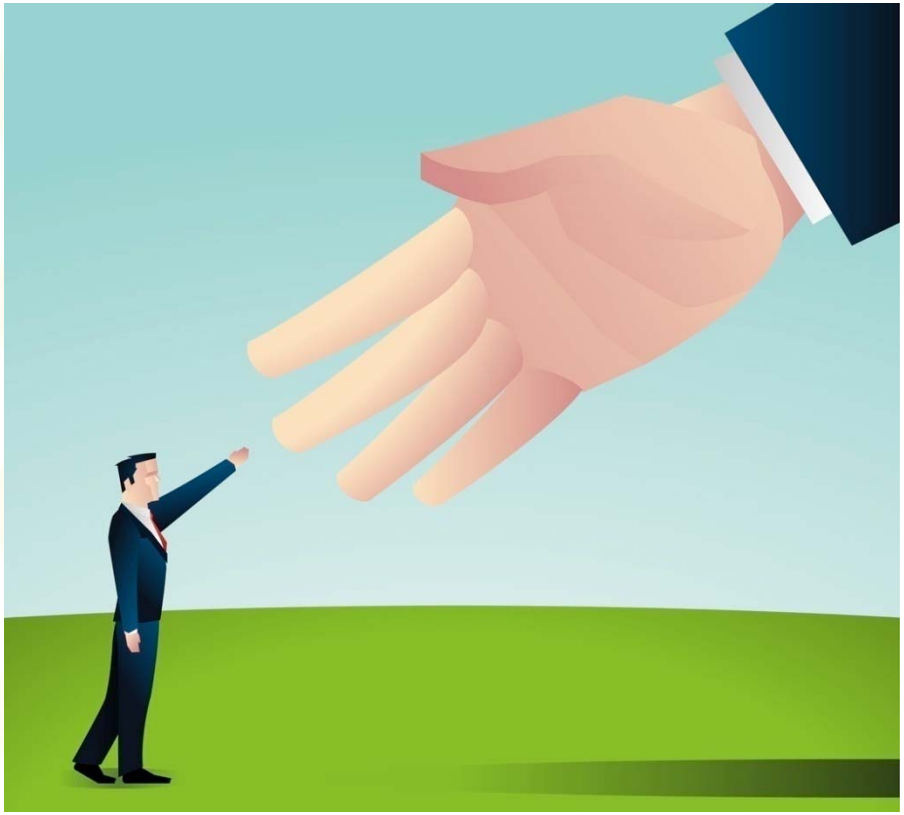
The Centers of Excellence, in partnership with business and industry, deliver regional workforce research customized for community college decision making and resource development

ECONOMIC & WORKFORCE DEVELOPMENT
through the
CALIFORNIA COMMUNITY COLLEGES

Where are the "Hot Jobs"?



HEALTHCARE

ENERGY & UTILITIES

TRANSPORTATION

BUILDING TRADES & CONSTRUCTION

Healthcare

High demand occupations in healthcare include:

- Medical Imaging Occupations
- Health Information Technicians
- Psychiatric Technicians
- Surgical Technicians

Medical Imaging Occupations

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Employment projections in Los Angeles County

Description	2009 Jobs	2014 Jobs	% Change	% New & Rep.	Avg Hourly Earnings
Radiation therapists	402	459	14%	22%	$43.35
Cardiovascular techs	1,171	1,322	13%	20%	$28.40
Diagnostic medical sonographers	1,421	1,575	11%	18%	$32.58
Nuclear medicine techs	705	756	7%	14%	$35.03
Radiologic techs	4,157	4,558	10%	16%	$28.92
Total	**7,856**	**8,670**	**10%**	**17%**	**$30.79**

Source: EMSI Complete Employment - 4th Quarter 2009

ECONOMIC & WORKFORCE DEVELOPMENT
through the CALIFORNIA COMMUNITY COLLEGES

Health Information Technicians

Employment projections in Los Angeles County

Description	2009 Jobs	2014 Jobs	% Change	% New & Rep.	Avg Hourly Earnings
Medical records and health information techs	4,342	4,845	12%	25%	$17.81

Source: EMSI Complete Employment - 4th Quarter 2009

Psychiatric Technicians

Employment projections in Los Angeles County

Description	2009 Jobs	2014 Jobs	% Change	% New & Rep.	Avg Hourly Earnings
Psychiatric techs	1,816	1,957	8%	25%	$23.19

Source: EMSI Complete Employment - 4th Quarter 2009

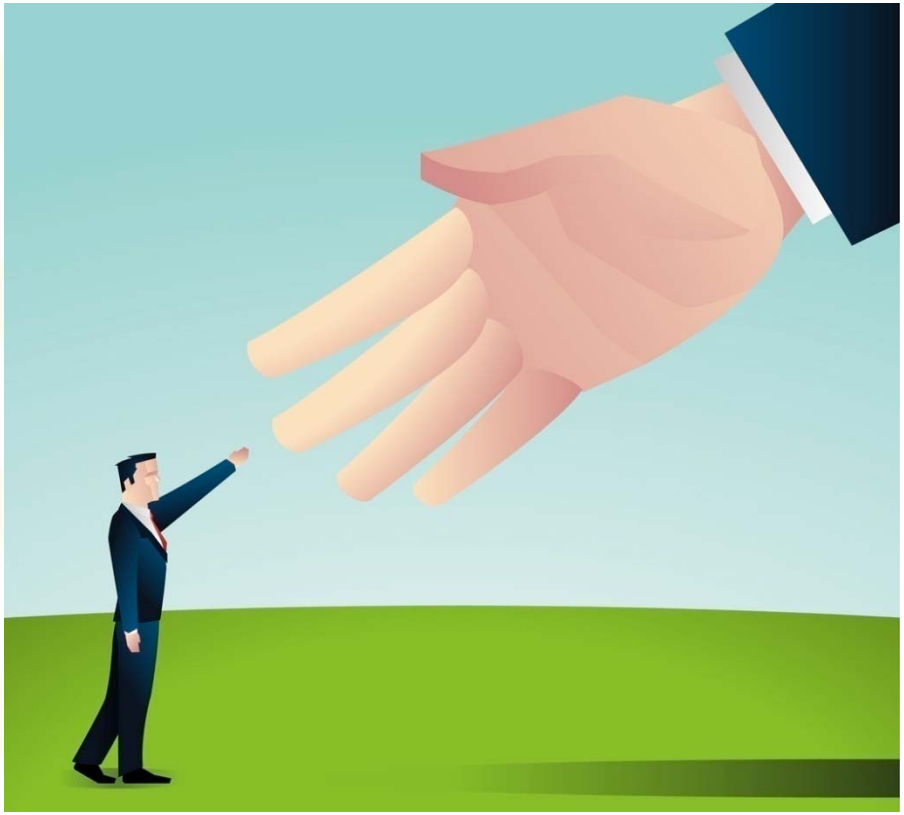
Surgical Technicians

Employment projections in Los Angeles County

Description	2009 Jobs	2014 Jobs	% Change	% New & Rep.	Avg. Hourly Earnings
Surgical techs	2,487	2,844	14%	30%	$21.97

Source: EMSI Complete Employment - 4th Quarter 2009

Where are the “Hot Jobs”?



ENERGY & UTILITIES

TRANSPORTATION

BUILDING TRADES & CONSTRUCTION

Energy & Utilities

- Energy Efficiency
- Renewable Energy
- Utilities (Water)

Energy Efficiency Sector: Los Angeles

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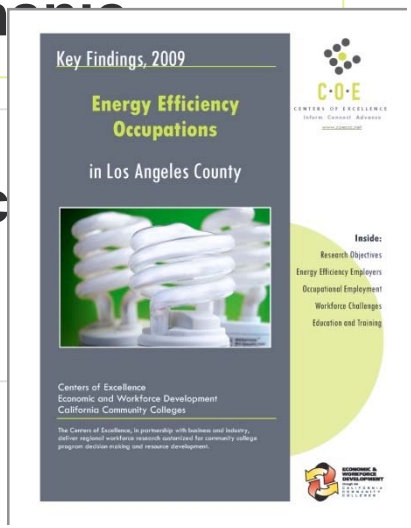
Public or Private Utilities or Agencies	**Compliance Analyst or Energy Regulation Specialist** **Resource Conservation or Energy Efficiency Manager** **Energy Auditor or Home Energy Rater**
Building Design and Construction	**Construction or Design Project Manager** **Building Performance or Retrofitting Specialist** **HVAC Technician, Installer or Mech**
Building or Facility Operations & Maintenance	**Building Controls Systems Technic** **Building Operator or Engineer**



Energy Efficiency Sector: Los Angeles

Energy Efficiency Occupations	2009 Employment Estimate	3-year Projected Growth	Growth Rate	Entry Level Median Annual Wage	Experienced Level Median Annual Wage
Project managers for construction or design work	5,000	970	19%	$50,000	$75,000
Building performance or retrofitting specialists	2,710	1,870	69%	$40,000	$60,000
HVAC mechanics, technicians or installers	3,010	1,020	34%	$50,000	$75,000
Energy auditors or home energy raters	1,340	520	39%	$41,600	$59,800
Resource conservation or energy efficiency managers	1,820	480	26%	$55,000	$66,300
Building controls systems technician	1,970	410	21%	$41,600	$70,000
Compliance analyst or energy regulation specialists	1,670	370	59%	$52,000	$76,500
Building operators or building engineers	3,280	710	23%	$42,900	$55,300
Total, All Occupations (totals may not add due to rounding)	20,730	6,580			

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Renewable Energy

- Solar Power
- Wind Power
- Geothermal Power
- Small Hydroelectric Power
- Biomass Power

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Renewable Energy: San Diego and Imperial

Occupational Employment

Seven renewable energy occupations were identified as high-growth and align with community college educatic programs. The table to the right details these occupations and their growth potential.

Renewable Energy Occupations	2009 Employment	12-month Growth	Growth Rate
Solar PV installers	340	290	86%
Renewable energy engineers	310	140	43%
Operations and repair technicians	320	100	33%
Customer service representatives	250	100	40%
Sales representatives or solar sales estimators	280	70	27%
Supervisors or managers of technicians and maintenance workers	430	60	15%
Research and development technicians	150	40	26%
Total, All Occupations (totals may not add due to rounding)	**2,080**	**810**	

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Utilities: Water & Wastewater

Water and Wastewater Occupations	2009 Employ-ment	5-year Growth Rate (total new job growth)	Eligible to Retire in 5 years (total replacement rate)	New & Replace ment Jobs (5 year total)
Water Treatment Operator	238	1%	45%	106
Water Distribution Operator	202	1%	24%	49
Wastewater Treatment Operator	433	6%	45%	214
Wastewater Collections Operator	212	15%	28%	90
Mechanic/Machinist	229	2%	43%	101
Electrician/Electrician Technician	126	2%	43%	52
Electronic Maintenance Technician/Instrument Technician	134	4%	47%	65
Total	**1,575**	**5%**	**40%**	**677**

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Transportation

Los Angeles County

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Description	2010 Jobs	2015 Jobs	% Change	% New & Rep.	Avg Hourly Earnings
First-line supervisors/managers of helpers, laborers, and material movers, hand	8,014	8,761	9%	19%	$21.82
First-line supervisors/managers of transportation and material-moving machine and vehicle operators	7,510	8,152	9%	19%	$28.10
Motor vehicle operators, all other	3,020	3,283	9%	16%	$15.15
Locomotive engineers and operators	1,057	1,128	7%	24%	$27.95
Railroad brake, signal, and switch operators	583	568	(3%)	23%	$22.60
Railroad conductors and yardmasters	519	568	9%	29%	$27.25
Transportation inspectors	822	906	10%	27%	$30.78
Pumping station operators	1,349	1,606	19%	44%	$30.91
Total	**28,270**	**30,717**	**9%**	**21%**	**$24.69**

Source: EMSI Complete Employment - 4th Quarter 2009

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http://www.cahighspeedrail.ca.gov/map.htm

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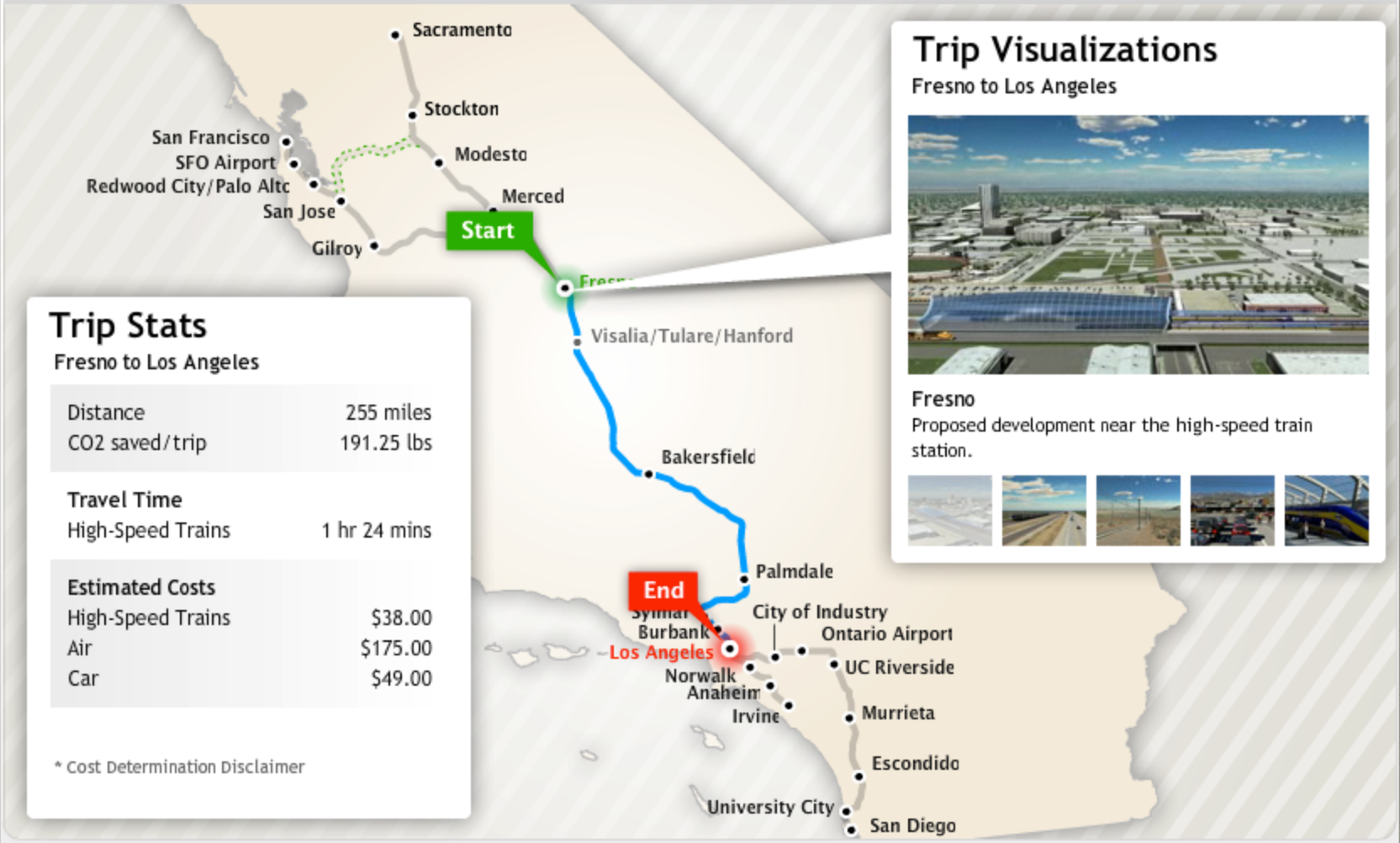
California High Speed Rail Authority Interactive Map

Interactive Rail Map

Fresno To Los Angeles



Trip Stats

Fresno to Los Angeles

Distance	255 miles
CO2 saved/trip	191.25 lbs
Travel Time	
High-Speed Trains	1 hr 24 mins
Estimated Costs	
High-Speed Trains	$38.00
Air	$175.00
Car	$49.00

* Cost Determination Disclaimer

Trip Visualizations

Fresno to Los Angeles

Fresno

Proposed development near the high-speed train station.

* Map based on 2005 Statewide Programmatic EIR/S preferred route, and staff recommendation to Authority Board December 19, 2007 Mapping Sources: US Census 2000; CA

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Transportation

Los Angeles County

Description	2010 Jobs	2015 Jobs	% Change	% New & Rep.	Avg Hourly Earnings
First-line supervisors/managers of mechanics, installers, and repairers	10,850	11,277	4%	16%	$30.36
Automotive technicians and repairers	29,524	31,453	7%	17%	$21.52
Bus and truck mechanics and diesel engine specialists	7,218	7,733	7%	18%	$22.00
Heavy vehicle and mobile equipment service technicians and mechanics	4,159	4,527	9%	18%	$28.29
Total	**51,751**	**54,990**			

Source: EMSI Complete Employment - 4th Quarter 2009

Transportation

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Alternative Vehicle Automotive Technician

Emerging Occupations

Passenger Vehicle	Buses & Trucks
Electric (hybrid) Vehicle Technician	Natural Gas/LNG/CNG Technician
Biodiesel Technician	Biodiesel Technician
Natural Gas Technician	Alternative Fuel Technician (multiple tech.)
Hydrogen/Fuel Cell Technician	

ECONOMIC & WORKFORCE DEVELOPMENT
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Building Trades & Construction

Description	2010 Jobs	2015 Jobs	% Change	% New & Rep.	Avg Hourly Earnings
Construction laborers	36,727	40,520	10%	14%	$20.26
Carpenters	31,195	33,873	9%	15%	$24.74
First-line supervisors/managers of construction trades and extraction workers	21,458	23,328	9%	15%	$29.45
Painters and paperhangers	13,487	14,692	9%	18%	$22.41
Pipelayers, plumbers, pipefitters, and steamfitters	11,874	12,768	8%	18%	$24.28
Construction equipment operators	6,674	7,254	9%	18%	$29.88
Electricians	13,856	14,268	3%	16%	$25.00
Total	**135,271**	**146,703**			

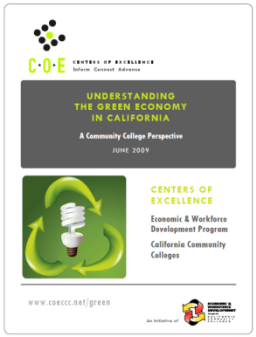
Source: EMSI Complete Employment - 4th Quarter 2009

Building Trades & Construction

- High Speed Rail
- Additional Infrastructure
- Green Construction

Interested in more green jobs? Understanding the Green Economy

- Provide a research-based framework to assist administrators and faculty in studying what "green" means.
- Includes overview of industries, occupations and educational programs.



Green Industry Sectors

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Green Industry Sectors

- **Renewable Energy: Energy Generation, System Installation and Storage.** Includes solar, wind, water and hydro-electric power; geothermal power; hydrogen; energy storage, transmission, distribution, and services; and utility-scale renewable energy plants.
- **Green Building and Energy Efficiency.** Includes product manufacturing; construction materials (wholesale); energy services; design, construction, retrofitting, and retro-commissioning of buildings; operations and maintenance; certifications (LEED); and landscaping.
- **Biofuels Production and Farming.** Includes biofuels production, organic farming practices, biomethane production (energy from animal waste and landfills), and sustainable fisheries.
- **Transportation and Alternative Fuels.** Includes green transportation technology, fuel efficient vehicle manufacturing, repair and maintenance of alternative fuel vehicles, logistics, and green infrastructure (ports, airports, etc.).
- **Water, Wastewater and Waste Management.** Includes watershed conservation and management, water treatment, rainwater harvesting, graywater recycling, wastewater treatment and management, and solid and hazardous waste management and recycling.
- **Environmental Compliance and Sustainability Planning.** Includes air quality, conservation and pollution prevention, rule development and enforcement, cleanup and safety, emissions control, monitoring and compliance, and transportation systems.

through the CALIFORNIA COMMUNITY COLLEGES

How to Access Information

Reports disseminated through:

- **COE website: www.coeccc.net**
- Presentations at meetings and conferences
- Webinars
- Bi-monthly e-newsletter

Understanding the Green Economy

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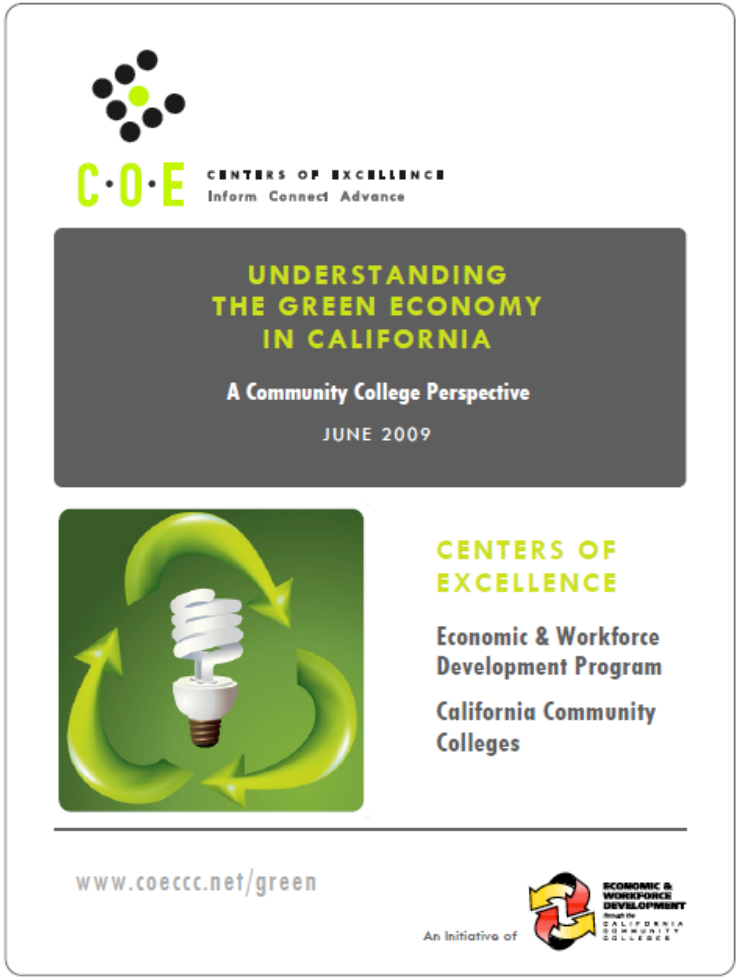

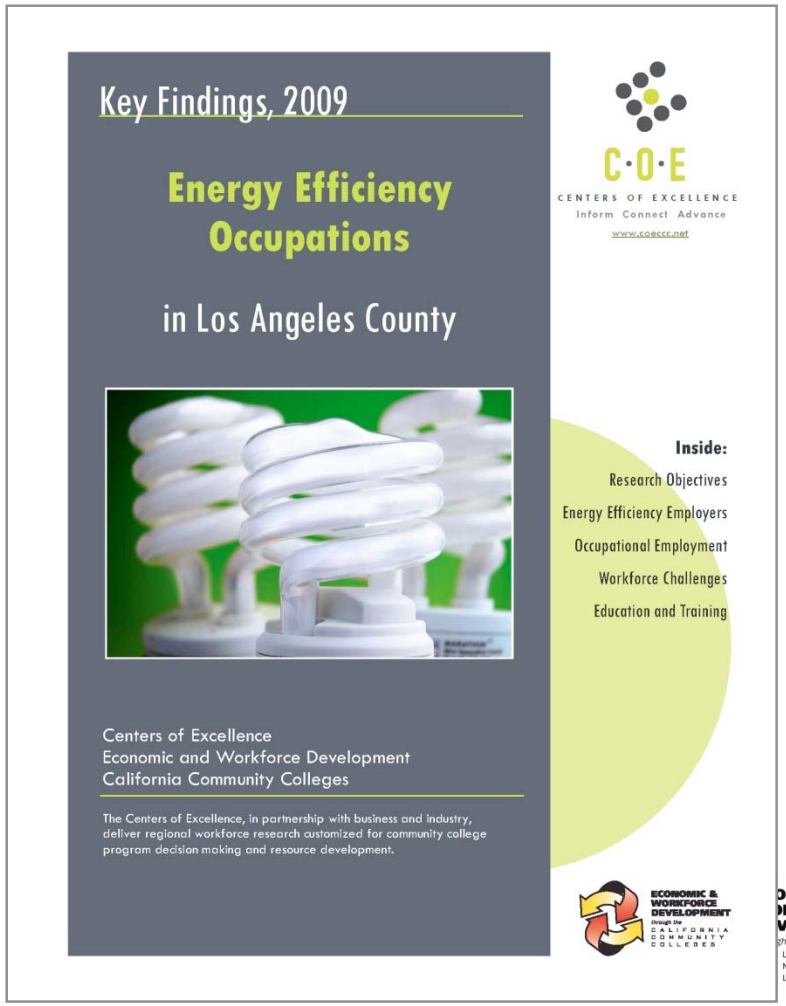

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Enter your keywords:

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Filter & Sort Options

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and/or Filter by Area: All

Sort by: Title - A to Z

Then by: None

Then by: None

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Environmental Scans

Objective Data for Informed Decision Making

Welcome L L. (If you are not L L, please click here to register.)

The initial list of scans is sorted by year (newest scans first) and then title. Roll-over the scan titles for a brief description.

First Previous Next Last View All

Title	Area	Release Date
Energy Efficiency Occupations	Los Angeles	Dec 2009
Energy Efficiency Occupations	Central Coast	Dec 2009
Water & Wastewater Occupations	Bay Area	Dec 2009
Aerospace Industry Technicians	Los Angeles	Nov 2009
Energy Efficiency Occupations	Inland Empire	Nov 2009
Energy Efficiency Occupations	Orange County	Nov 2009
Dental Occupations	Inland Empire	Oct 2009
Energy Efficiency Occupations	Central Valley	Oct 2009
Energy Efficiency Occupations: Northern Coastal	Far North	Oct 2009
Energy Efficiency Occupations: Northern Inland	Far North	Oct 2009

First Previous Next Last View All

The Centers of Excellence environmental scans focus on areas that have demonstrated labor market needs that warrant an organized community college response. The studies of an industry or occupation provide detailed information on how colleges are currently responding, as well as

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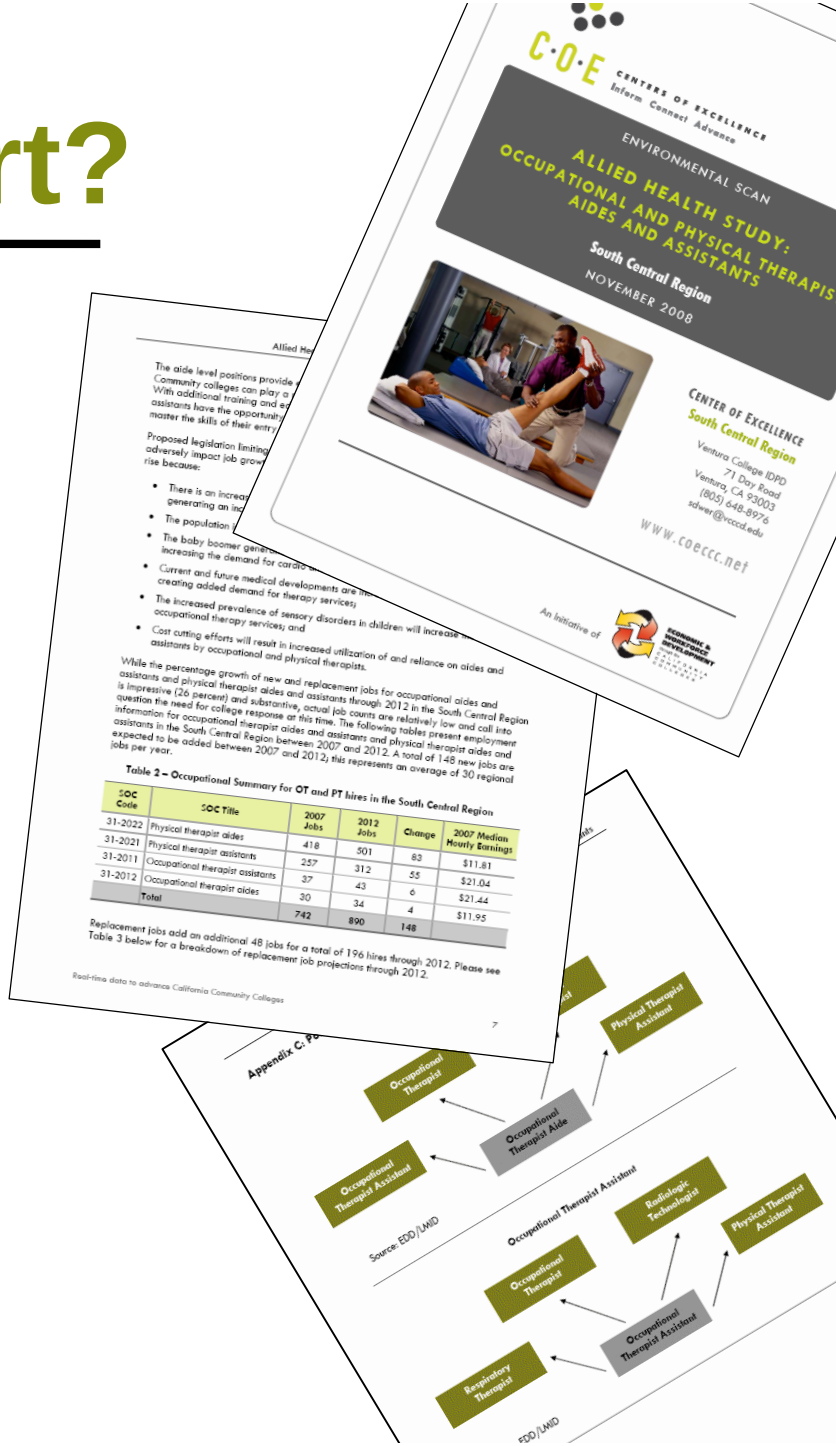
What’s in a Report?

- Industry overview
- Occupations and wages
- Short-term job forecasts
- Skills and training requirements
- Existing college programs
- Workforce challenges (industry perspective)
- Resources and references



CTE Liaison Hub – Statewide

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- Helps all CTE partners connect, and use the results of the research conducted by the 10 Centers of Excellence.
- Provides information and data to counselors, instructors and administrators at community colleges, high-schools and ROCPs.

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Career & Technical Education Hub

and agencies across six Bay Area counties employ close to 1,600 workers in seven key occupations. In five years, there may be as many as 670 new and replacement jobs for these positions. **More+**

Energy Efficiency Workers

In the South Central region, employers are projected to add as many as 2,300 new jobs over the next three years in eight energy efficiency occupations. **More+**

ICT: Information & Communications Technologies

Employment in computer systems design and related services is estimated to grow

Career & Technical Education Hub

Program Development & Career Counseling Tools

The Centers of Excellence partner with business and industry to deliver regional workforce research customized for community college decision making and resource development.

The Career and Technical Education Hub (CTE Hub) leverages the work of the ten Centers of Excellence by presenting the research findings in a format that meets the needs of CTE partners beyond community colleges, such as high-schools and Regional Occupation Programs (ROPs).

These tools include information and data on high-demand industries and occupations, employment forecasts, career pathways, skill requirements, existing training or educational programs, and need for new program development. They can be used for two main purposes: program development and career counseling.

To find out which new programs are needed, click here.

To access career counseling tools, click here.

Contact CTE Hub Director: **Audrey Reille**
(909) 594-5611, ext. 6106
areille@mtsac.edu

New Materials

New content on our website for CTE instructors, administrators and career counselors:

- Industry trends fact sheets
- High-demand careers fact sheets
- Online PowerPoint presentations on industries
- YouTube videos on industries and careers

Look under *"Our Products"* to find *"Career Counseling Tools"* and *"Program Development Tools"*

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What's New

Water & Wastewater Occupations

Water and wastewater utilities and agencies across six Bay Area counties employ close to 1,600 workers in seven key occupations. In five years, there may be as many as 670 new and replacement jobs for these positions. **More+**

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What's New

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ICT: Information & Communications Technologies

Employment in computer systems design and related services is estimated to grow nearly 40% and account for almost one-fourth of all new jobs created in California over the next five years. **More+**

"On your most recent industry

Career Counseling Tools

Career Fact Sheets

The Centers of Excellence are not just another informational Web site. We have customized regional information pertinent for counselors, and job market information that can be very challenging to find. That includes high-demand occupations, job growth, educational and training requirements and salaries.

We present that information to you in easy snapshots, and a variety of formats. Check out our Career Fact Sheets below.

Healthcare

- Medical Imaging Snapshot (pdf)
  Los Angeles County & Orange County
- Psychiatric Technician Snapshot (pdf)
  Los Angeles County
- Surgical Technician Snapshot (pdf)
  Los Angeles County

Green

- **Energy Efficiency Careers** (2009)
  - Bay Area (pdf)
  - Los Angeles (pdf)
  - Orange County (pdf)

« Back to Career Counseling Tools

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"On your most recent industry scan, I say 'Well Done'! It is informative, and well crafted and I hope that it will spur an expansion of programs to educate more people into our

Program Development Tools

Industry Snapshots

Helping students make the connection between school and work is dependent on the quality of courses and programs that they take, and how well informed they are about their options and career paths. Whether you create courses and programs or counsel students, you need current, relevant and easily accessible information.

Our downloadable industry snapshots distill that information for you in an easy format, so that you can design the most needed classes to prepare students for careers that are in high-demand in your region.

Healthcare

- **Medical Imaging Snapshot**
  Los Angeles County & Orange County
- **Psychiatric Technician Snapshot**
  Los Angeles County
- **Surgical Technician Snapshot**
  Los Angeles County
- Key Findings: **Allied Healthcare Occupations**
  - **Greater Sacramento** (2009)
  - **Northern Inland Counties** (2009)
  - **Northern Coastal Counties** (2009)
  - **Inland Empire** (2008)
- For more information on healthcare occupations, such as occupational profiles and existing community college programs and courses, visit the **healthcare** study webpage or download the full **environmental scan**.

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ICT: Information & Communications Technologies

Employment in computer systems design and related services is estimated to grow

Resources

The Centers of Excell track and monitor trends and developments in a variety of high growth industries and occupations. Available resources include:

COE e-Newsletter – A monthly update on most recent industry scans and links to related articles of national, statewide, regional, or regional significance. Sign up to be put on the email list to receive this publication regularly.

Web Links – Helpful links to workforce and industry organizations and resources.

Publications – Special publications on workforce trends and developments.

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"The Labor Market Information

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Meet our dynamic research team! Contact a regional COE Director today for more information on available products and services.

Elaine Gaertner - Statewide Director of Centers of Excellence

CCCEWD Program
1218 Fiddlers Green
San Jose, CA 95125

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Fax: (408) 288-8606
Email: elaineg@cccewd.net

Name, Title and Region	Organization/College	Phone, Fax and Email
John Carrese Center Director *Bay Region COE*	**City College of San Francisco** 1400 Evans Avenue San Francisco, CA 94124	**Phone:** (415) 550-4418 **Fax:** (415) 550-4400 jcarrese@ccsf.edu
Sharon Dwyer Center Director *South Central COE*	**Ventura College, Institute for Com & Prof Dev** 71 Day Road Ventura, CA 93003	**Phone:** (805) 648-8976 **Fax:** (805) 648-8918 sdwyer@vcccd.edu
Kevin Fleming Center Director	**San Bernardino CCD** 114 S. Del Rosa Dr	**Phone:** (909) 382-4037 **Fax:** (909) 382-4003

Thank You!

Lisa Lewenberg
Director, Center of Excellence
Hosted at Los Angeles Community College District
Phone: (213) 891-2162
E-mail: lewenble@laccd.edu
&
Audrey Reille, Ed. D.
Director, Center of Excellence and CTE Hub *(statewide)*
Hosted at Mt. San Antonio College
Phone: (909) 594-5611 ext. 6106
E-mail: AReille@mtsac.edu

website: www.coeccc.net