Understanding the Green Economy

What is California LMI Doing/Planning?

- Collaborating to expand knowledge
  - with federal/state/local research partners to review existing research and identify information gaps
  - with state and local partners to define workforce needs and support workforce development
  - with control entities and utilities responsible for bringing about climate change

- Responding to state and national information needs

- Share knowledge across agencies and geographic areas

- Host a shared “green web page” that includes research, survey methods and tools; national, state and local activities; legislation; [http://www.labormarketinfo.edd.ca.gov/?pageid=1032](http://www.labormarketinfo.edd.ca.gov/?pageid=1032)

- Surveying California businesses to establish baselines of green employment and green business practices

- Conducting and publishing career research to support workforce development
Our Working Definition of Green Jobs

Green jobs produce ("supply") goods or services that result in:

- **G**enerating and storing renewable energy
- **R**ecycling existing materials
- **E**nergy efficient product manufacturing, distribution, construction, installation, and maintenance
- **E**ducation, compliance and awareness
- **N**atural and sustainable product manufacturing

For the complete definition see:
http://www.labormarketinfo.edd.ca.gov/contentpub/GreenDigest/Californias-Draft-Definition-Green-Industries.pdf
Sustainable Practices Increase Demand

Important caveat…

- LMID’s green jobs definition focuses on the “supply” side
- Sustainable business practices (the “demand” side) are equally important to California’s green economy
- Demand leads to increased pressure for additional supply of products and services
- Survey covers “supply” and “demand” separately
Completed January 2010

Surveyed businesses across the California economy; all industries, all sizes, all areas

Creates a baseline measure of:

- Number of workers in green or clean product manufacturing and/or services
- Number of businesses that have adopted green practices
- Emerging occupations for further study related to skills and workforce needs

Partnering with Community Colleges, Air Resources Board, California Energy Commission, California Workforce Investment Board, Economic Strategy Panel, Employment Training Panel, and others

Preliminary data as of April 21, 2010
California’s Survey Results

- Nearly 15,200 employers responded
- 8.6 percent of employers report employees working on green products and services
- About 3.8 percent of all workers are working on green products and services
- About two-thirds of green workers spend more than half time on green aspects of job
- 63 percent of employers report using at least one green business practice
- Three-quarters of current green workers were trained on the job

Preliminary data as of April 21, 2010
Comparison to Other States’ Recent Green Workforce Surveys?

Green jobs as a percent of total employment

- California: 3.8%
- Washington: 3.3%
- Oregon: 3.0%
- Michigan: 3.0%

- Caveat...Definitions vary somewhat between states...
- Renewable energy, recycling, and energy efficiency are in each state's definition

Preliminary data as of April 21, 2010
Green Workers Reported

- Recycling existing materials: 25%
- Energy efficient product manufacturing, distribution, construction, installation, and maintenance: 24%
- Natural and sustainable product manufacturing: 22%
- Education, compliance, and awareness: 15%
- Generating and storing renewable energy: 6%
- Other: 8%

Preliminary data as of April 21, 2010
Industries with the Most Green Jobs

Preliminary data as of April 21, 2010

- Manufacturing: 93,143 jobs
- Construction: 67,973 jobs
- Professional, Scientific, and Technical Services: 42,197 jobs
- Administrative and Support and Waste Management and Remediation Services: 38,863 jobs
- Wholesale Trade: 34,233 jobs
Nine Economic Strategy Panel Regions

- Bay Area
- Central Coast
- Central Sierra
- Greater Sacramento
- Northern California
- Northern Sacramento Valley
- San Joaquin Valley
- Southern Border
- Southern California

Preliminary data as of April 21, 2010
Regional Distribution of Green Jobs

10,524

131,134

17,031

203,983

24,372

5,062

2,182

42,019

40,578

Preliminary data as of April 21, 2010
Southern California Region
Top Industries

Generating and Storing Renewable Energy
- Utilities (8,793 employees)
- Professional, Scientific and Technical Services (2,389 employees)
- Wholesale Trade (1,605 employees)

Recycling Existing Materials
- Manufacturing (9,114 employees)
- Administrative and Support and Waste Management and Remediation Services (8,868 employees)
- Wholesale Trade (8,371 employees)

Energy Efficient Product Manufacturing, Distribution, Construction, Installation and Maintenance
- Construction (13,079 employees)
- Manufacturing (9,747 employees)
- Retail Trade (6,593 employees)

Preliminary data as of April 21, 2010
Southern California Region
Top Industries (cont’d)

**Education, Compliance, and Awareness**
- Educational Services (5,366 employees)
- Transportation and Warehousing (3,944 employees)
- Public Administration (3,817 employees)

**Natural and Sustainable Product Manufacturing**
- Manufacturing (21,784 employees)
- Wholesale Trade (2,556 employees)
- Administration and Support and Waste Management and Remediation Services (1,720 employees)

Preliminary data as of April 21, 2010
Bay Area Region
Top Industries

Generating and Storing Renewable Energy
- Manufacturing (1,432 employees)
- Professional, Scientific, and Technical Services (1,112 employees)
- Construction (929 employees)

Recycling Existing Materials
- Manufacturing (3,517 employees)
- Construction (4,040 employees)
- Administrative and Support and Waste Management and Remediation Services (3,112 employees)

Energy Efficient Product Manufacturing, Distribution, Construction, Installation and Maintenance
- Construction (13,653 employees)
- Manufacturing (13,297 employees)
- Professional, Scientific, and Technical Services (3,157 employees)

Preliminary data as of April 21, 2010
Bay Area Region

Top Industries (cont’d)

Education, Compliance, and Awareness
- Professional, Scientific and Technical Services (8,230 employees)
- Accommodation and Food Services (4,144 employees)
- Educational Services (3,006 employees)

Natural and Sustainable Product Manufacturing
- Agriculture, Forestry, Fishing and Hunting (6,090 employees)
- Manufacturing (6,099 employees)
- Educational Services (2,185 employees)

Preliminary data as of April 21, 2010
Other Regions

Top Green Industries

- Central Coast -- Construction (4,079) employees
- Central Sierra -- Accommodation and Food Service (606 employees)
- Greater Sacramento -- Wholesale Trade (5,604 employees)
- Northern California -- Agriculture, Forestry, Fishing and Hunting (2,332 employees)
- Northern Sacramento Valley -- Public Administration (860 employees)
- San Joaquin Valley -- Agriculture, Forestry, Fishing and Hunting (11,495 employees)
- Southern Border -- Construction (8,331 employees)

Preliminary data as of April 21, 2010
Preparation of Current Green Workers – OJT!

Training Methods Used by Employers to Prepare Current Workers for Green Jobs

- On-the-job training: 80.0%
- In-house classroom training: 20.0%
- Vendor training: 10.0%
- Hire only workers who are already trained: 10.0%
- College Degree (AA/AS or above): 10.0%
- Apprenticeship programs: 10.0%
- Community College courses: 10.0%
- Vocational training: 10.0%
- Other: 10.0%

Preliminary data as of April 21, 2010
Sustainable Business Practices

If your business makes use of green practices, services or products, what does your firm currently USE on site

Preliminary data as of April 21, 2010
Business Practice Skill Needs

What new skills or knowledge will future employees need in order to perform green activities at your firm?

![Bar chart showing the percent of firms with different skills needed for green activities]

- Waste Minimization
- Principles of Energy Conservation
- Information Technology
- Pollution Reduction and Control
- Codes/Standards/Legislation
- Alternative Energy
- Vehicle Technology/Maintenance
- Other

Preliminary data as of April 21, 2010
Sustainable Practices – Benefits

What do you view as the largest benefit to your business in taking steps to reduce greenhouse gas emissions?

- Environmentally Beneficial
- Other
- Cost Savings
- Competitive Advantage
- Advantageous Position

Preliminary data as of April 21, 2010
Occupational Findings

- **Green employees reported in 34 green jobs** listed on survey and written in occupations
- 12% of workers were reported under “Other Green Job Titles”
- Examples of write ins—include:
  - Warehouse Recycling Manager
  - LEED Accredited Professionals
  - Environmental Health and Safety Managers
  - Alternative fuel vehicle infrastructure engineers
  - Fleet manager (alternative fuel vehicles)
  - Transportation program specialist
  - Battery recyclers
- Greater detail will be collected in a subsequent occupational skills survey.

Preliminary data as of April 21, 2010
Top Green Jobs

Occupations Indicated by Firms Reporting Green Jobs

Assemblers
Farmers and Farmworkers, Sustainable
Other
Carpenters (involved in green activities)
Recycling Center Operators
Hazardous Materials Removal Workers
Architects, Except Landscape
Electricians (involved in green activities)
Alternative Fuel Vehicle Technicians
Heating and Air Conditioning Technicians and Installers (involved in green activities)

Preliminary data as of April 21, 2010
Top Green Jobs 50% of time or more

Occupations Indicated by Firms That Report Green Jobs Requiring 50 Percent or More of Work Time

Preliminary data as of April 21, 2010
Regional Distribution of Carpenters (involved in green activities)

- Bay Area: 31.3%
- Central Coast: 2.3%
- Central Sierra: 14.6%
- Greater Sacramento: 2.3%
- Northern California: 1.2%
- Northern Sacramento Valley: 4.2%
- San Joaquin Valley: 15.9%
- Southern Border: 0.4%
- Southern California: 14.6%

Preliminary data as of April 21, 2010
### Regional Distribution of Hazardous Materials Workers

<table>
<thead>
<tr>
<th>Region</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Bay Area</td>
<td>54.4%</td>
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<tr>
<td>Central Coast</td>
<td>20.9%</td>
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<tr>
<td>Central Sierra</td>
<td>8.4%</td>
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<tr>
<td>Greater Sacramento</td>
<td>6.1%</td>
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<tr>
<td>Northern California</td>
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<tr>
<td>Northern Sacramento Valley</td>
<td>3.3%</td>
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<tr>
<td>San Joaquin Valley</td>
<td>1.0%</td>
</tr>
<tr>
<td>Southern Border</td>
<td>0.6%</td>
</tr>
<tr>
<td>Southern California</td>
<td>0.2%</td>
</tr>
</tbody>
</table>

Preliminary data as of April 21, 2010
Regional Distribution of Sustainable Farmers and Farm Workers

Preliminary data as of April 21, 2010
Regional Distribution of Assemblers

- Bay Area: 44.6%
- Southern California: 26.3%
- Greater Sacramento Valley: 8.7%
- Northern Sacramento Valley: 2.0%
- Central Sierra: 0.8%
- Central Coast: 0.0%
- Northern California: 1.6%

Preliminary data as of April 21, 2010
Regional Distribution of Recycling Center Operators

Preliminary data as of April 21, 2010

- Bay Area: 51.2%
- Central Coast: 15.4%
- Central Sierra: 1.4%
- Greater Sacramento: 14.5%
- Northern California: 9.2%
- Northern Sacramento Valley: 0.4%
- San Joaquin Valley: 0.3%
- Southern Border: 0.2%
- Southern California: 7.6%
Next Steps

- Complete data refinement
- Review findings with key players
- Prepare summary report, with regional distinctions as warranted by the data
- Prepare industry-level reports
- Detailed occupational follow-up surveys and analysis
- Report on occupational skills and workforce development needs