

California's Green Economy



Green Collar Jobs Council
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Understanding the Green Economy

What is California LMI Doing/Planning?

- Collaborate 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
- Respond to state and national information needs
 - Share knowledge across agencies and geographic areas
 - Host a shared “green web page” that addresses existing research, survey methods and tools; national, state and local activities; legislation; See our page at <http://www.labormarketinfo.edd.ca.gov/?pageid=1032>
- Survey California businesses to establish baselines of green employment and green business practices
- Conduct and publish career research to support workforce development

National Partnerships and Learning

- National Workforce Information Council (WIC) **Green Jobs Study Group**
 - WIC commissioned the Green Jobs Study Group to define and recommend methods for measuring green jobs
 - Eight states including California, BLS, O*NET (briefly)
 - (Not as easy as it sounds...)

- See Study Group reports.
 - Workforce Information Council web site “green jobs page”
<http://www.workforceinfocouncil.org/GreenJobs.asp>
 - Final report of the Workforce Information Council Green Jobs Study Group
<http://www.workforceinfocouncil.org/Documents/WICGreenJobsStudyGroupReport-2009-10-01t.pdf>

Department of Labor Learning

□ **Occupational Information Network (O*NET)**

“Green Economy Sector”

- Green enhanced skills
- Green increased demand
- New and emerging green occupations

<http://online.onetcenter.org/find/green>

□ **Bureau of Labor Statistics (BLS)** plans to study the green economy include

- Industry survey adapted from Quarterly Census of Employment and Wages (QCEW) Annual Refile Survey
- Occupational survey adapted from Occupational Employment Statistics (OES) survey
- Develop career information materials
- Beginning in 2010- 2011

New Resources and Opportunities

Employment and Training Administration Green Economy **LMI Improvement Grant Competition**

- Notified in mid November that our state proposal would be funded. Planned activities include:
 - Analyzing the results of our green employer survey currently being conducted
 - Conducting green occupational skills research;
 - Improving skills transference by evaluating occupational skill assessment tools, defining the relationships between assessment results and occupational characteristics, and automating the connection of these results to available labor market information;
 - Creating an online statewide green training inventory; and
 - Improving electronic information delivery through enhancements to the Labor Market Information Division's information technology infrastructure.

Our Working Definition of Green

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 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

Green Economy Survey Details

- First mailing in May 2009
- Over 50,000 businesses across the California economy; all industries, all sizes, all areas
- 5.2M employment in surveyed firms
- Goal is to create 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

California's Preliminary Survey Responses

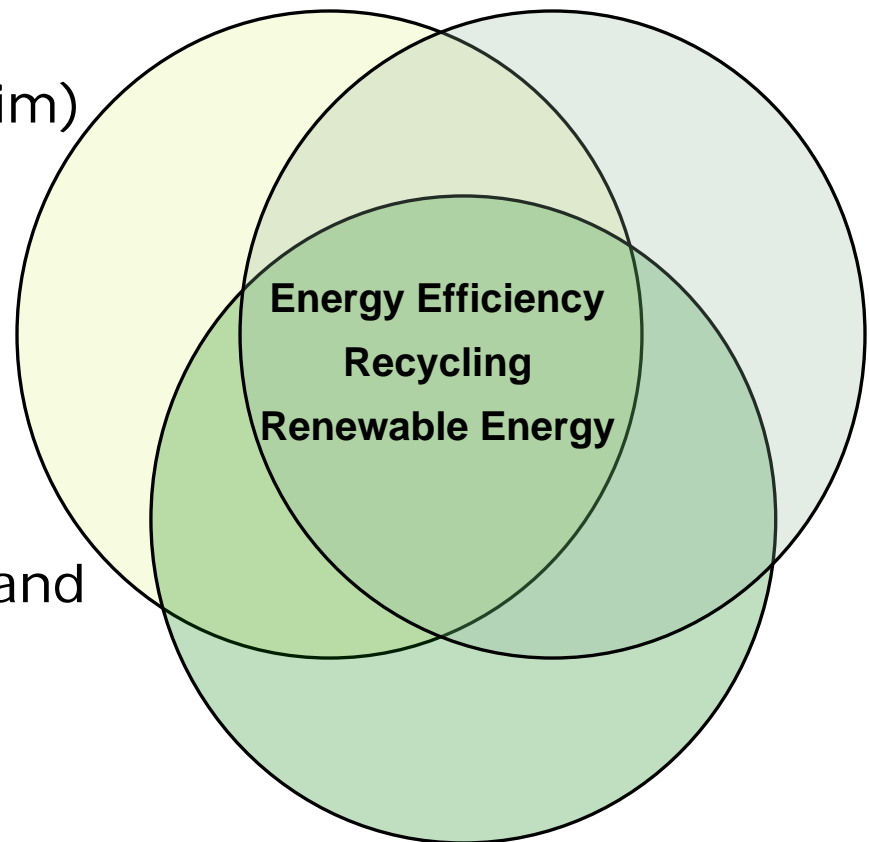
- Over 14,000 employers have responded
- 9.2 percent of employers report employees working on green products and services
- About 3.7 percent of all workers are working on green products and services
- About two-thirds of green workers spend more than half time on green aspects of job
- 62 percent of employers report using at least one green business practice
- Almost 80% of current green workers were trained on the job
- About 8% of employers in our initial sample have gone out of business during this difficult time in our economy

Comparison to Other States' Recent Green Workforce Surveys?

Green as a percent of total employment

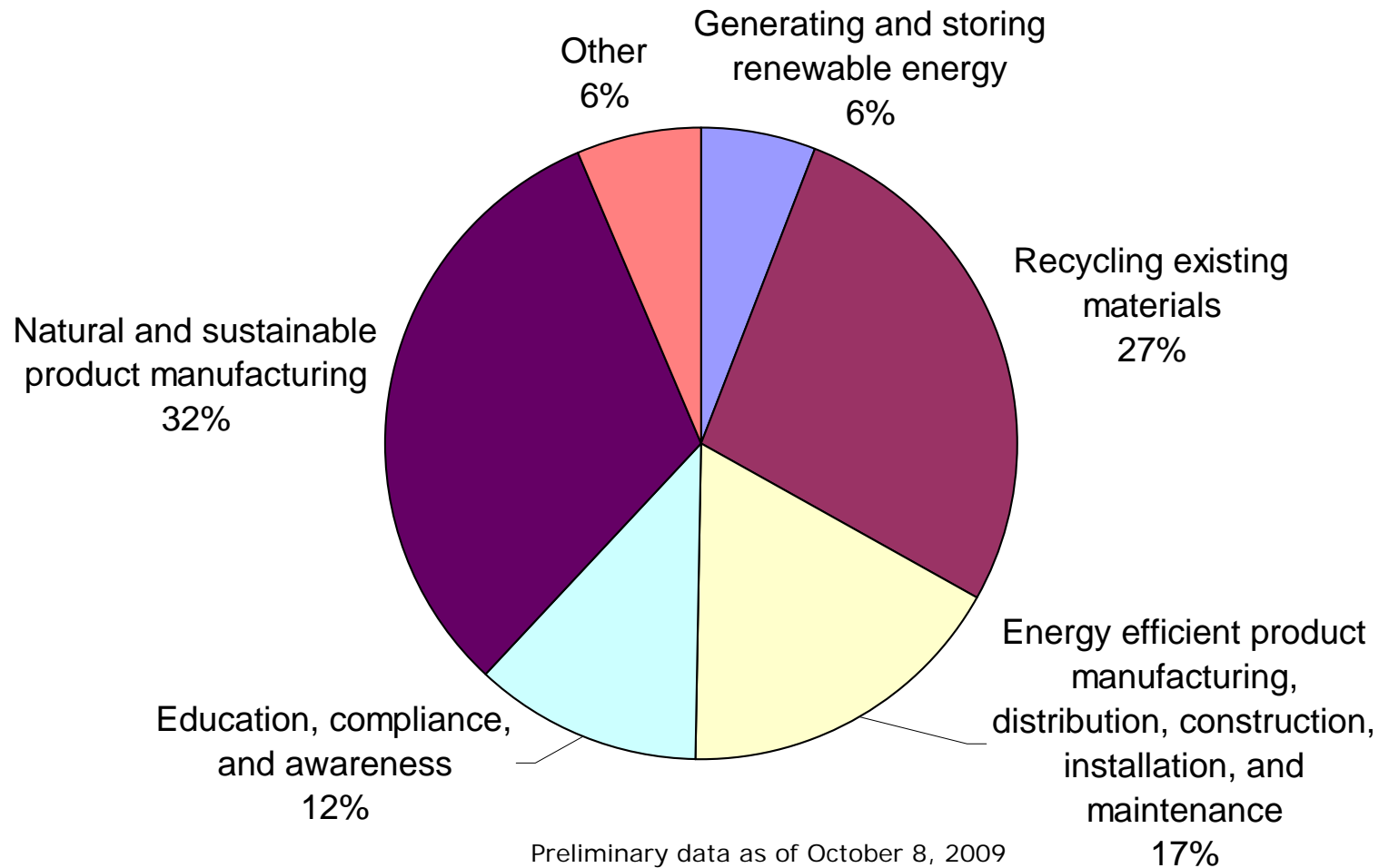
California	3.7 % (Prelim)
Washington	1.6 %
Oregon	3.0 %
Michigan	3.0 %

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



Green Workers Reported

Total Green Employment Reported by Category



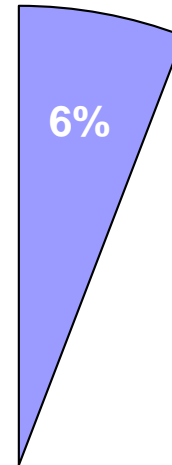
Generating and storing renewable energy

■ Top industries

- Professional and Business Services
- Utilities
- Wholesale Electronic Markets and Agents

■ Top occupations

- Architects, Except Landscape
- Alternative Energy Engineers
- Electrical Engineers
- Heating and Air Conditioning Technicians and Installers
- Wastewater Technicians and Operators
- Plumbers, Pipefitters, and Steamfitters
- Solar Photovoltaic Panel Installers and Technicians
- Air Quality Engineers; Air Pollution Specialists; Air Resources Engineers
- Building Performance or Retro-Fitting Specialists
- Electricians



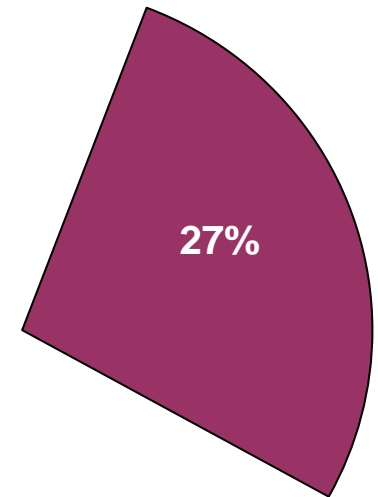
Recycling existing materials

□ Top industries

- Merchant Wholesalers, Durable Goods
- Waste Management and Remediation
- Educational Services
- Fabricated Metal Product Manufacturing
- Professional and Technical Services

□ Top occupations

- Recycling Center Operators
- Assemblers
- Hazardous Materials Removal Workers
- Heating and Air Conditioning Technicians and Installers
- Wastewater Technicians and Operators
- Construction Managers
- Sustainable Farmers and Farm workers
- Industrial Production Managers
- Plumbers, Pipefitters, and Steamfitters
- Air Quality Engineers; Air Pollution Specialist; Air Resource Engineers



Preliminary data as of October 8, 2009

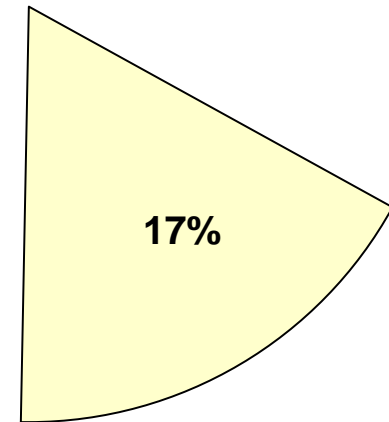
Energy efficient product manufacturing

■ Top industries

- Specialty Trade Contractors
- Computer and Electronic Product Manufacturing
- Construction of Buildings
- Professional and Technical Services
- Management of Companies and Enterprises

■ Top occupations

- Assemblers
- Heating and Air Conditioning Technicians and Installers
- Electricians
- Architects, Except Landscape
- Carpenters
- Construction Managers
- Energy Auditors, Home and Commercial
- Hazardous Materials Removal Workers
- Building Performance or Retro-Fitting Specialists
- Plumbers, Pipefitters, and Steamfitters



Preliminary data as of October 8, 2009

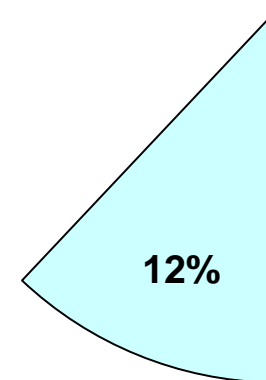
Education, compliance and awareness

■ Top industries

- Professional and Technical Services
- Educational Services
- Food Services and Drinking Places
- Membership Associations and Organizations
- Utilities

■ Top occupations

- Assemblers
- Plumbers, Pipefitters, and Steamfitters
- Heating and Air Conditioning Technicians and Installers
- Architects, Except Landscape
- Electricians
- Construction Managers
- Carpenters
- Alternative Energy Engineers
- Wastewater Technicians and Operators
- Environmental Engineers



Preliminary data as of October 8, 2009

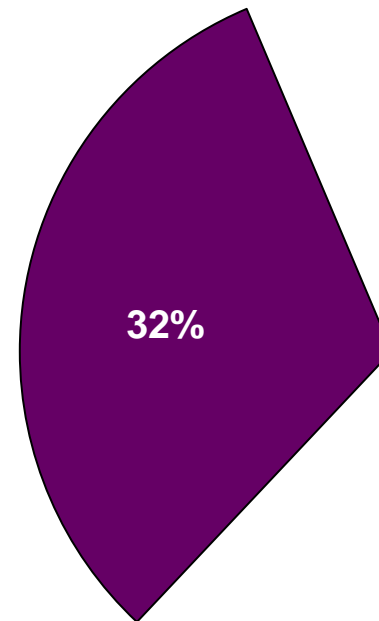
Natural and sustainable product mfg

■ Top industries

- Crop Production
- Food Manufacturing
- Paper Manufacturing
- Fabricated Metal Product Manufacturing
- Nonmetallic Mineral Product Manufacturing

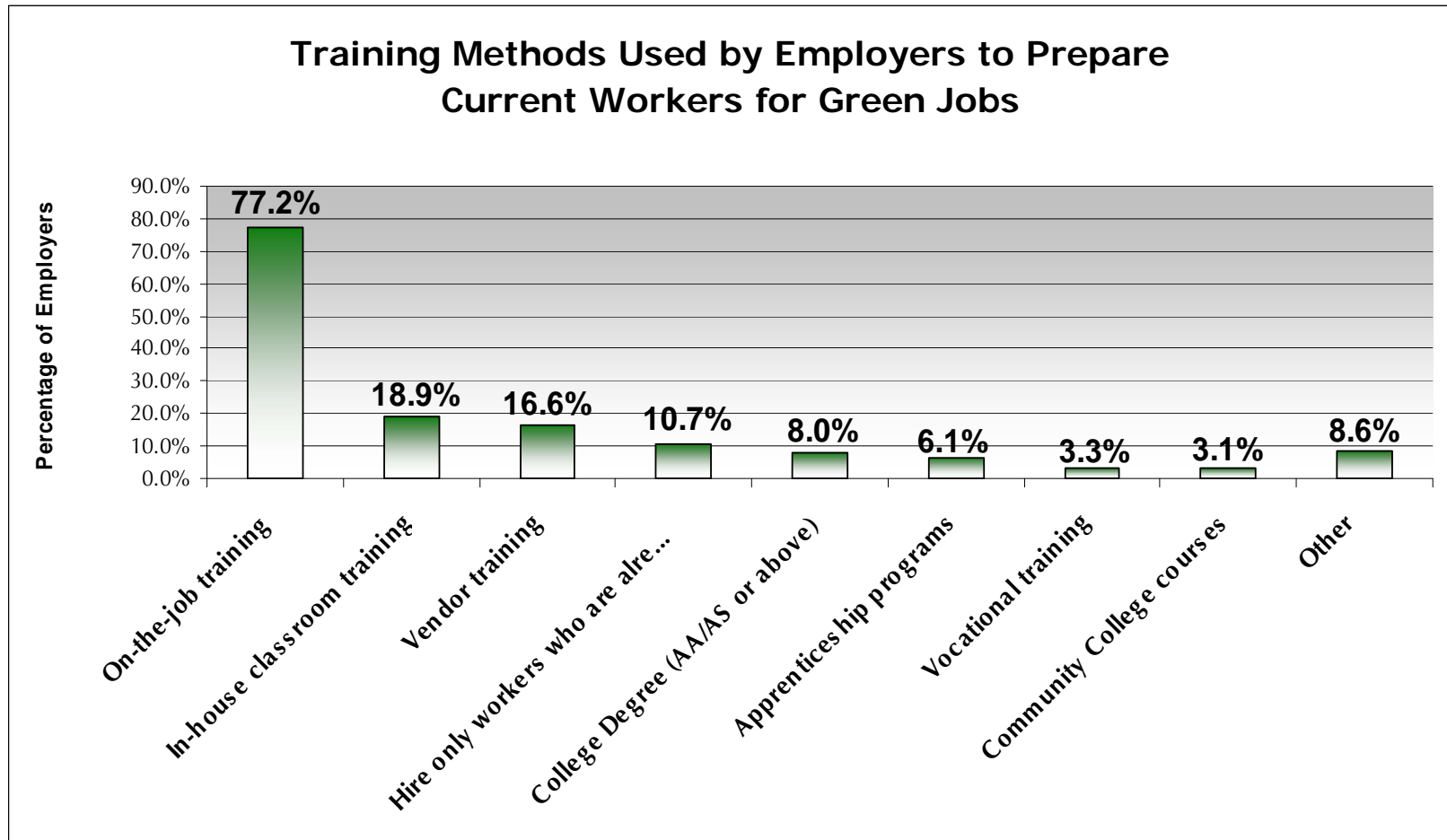
■ Top occupations

- Sustainable Farmers and Farmworkers
- Assemblers
- Recycling Center Operators
- Carpenters
- Biomass Collectors
- Industrial Production Managers
- Biological Technicians
- Construction Managers
- Soil and Plant Scientists
- Hazardous Materials Removal Workers



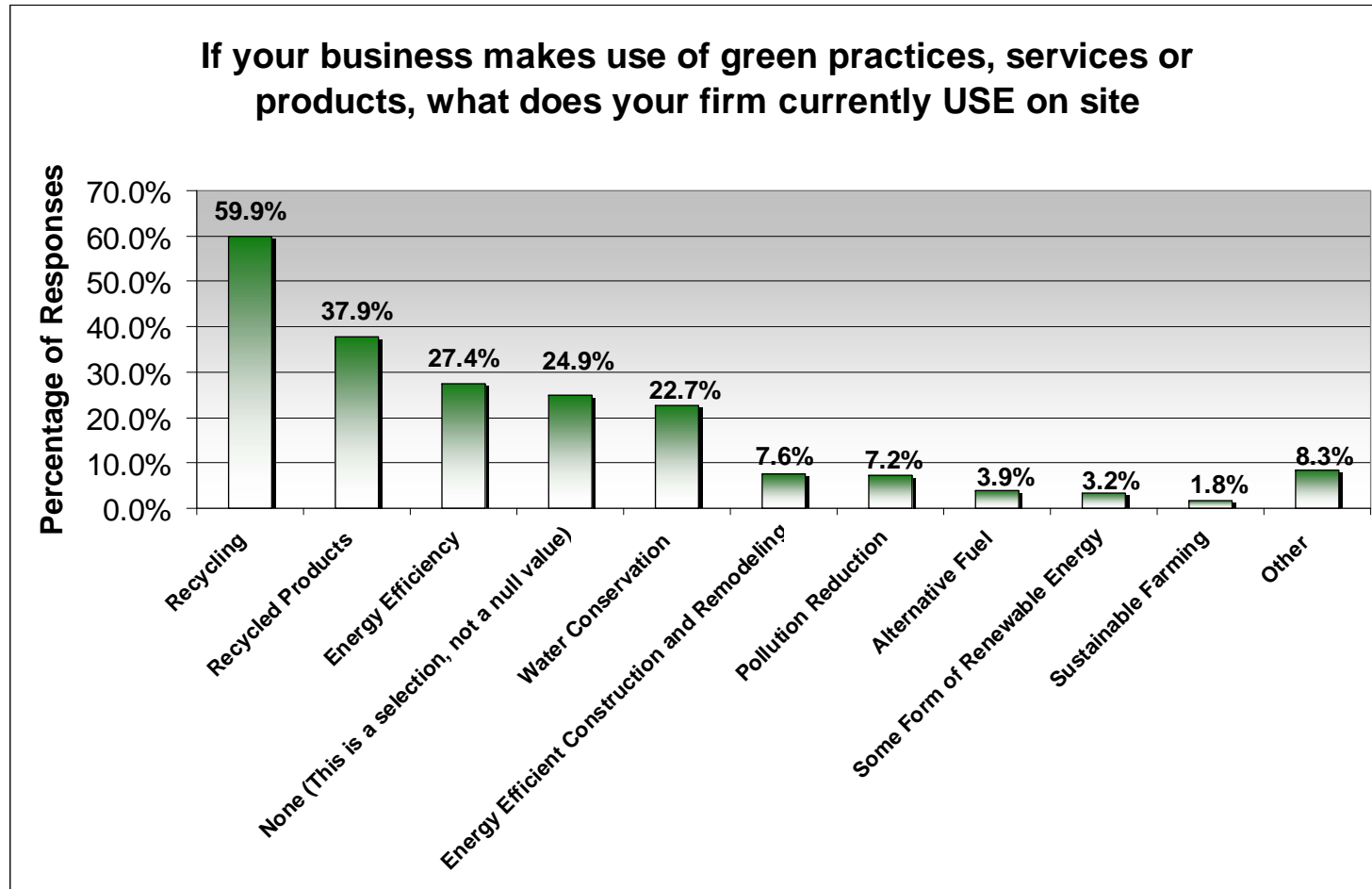
Preliminary data as of October 8, 2009

Preparation of Current Green Workers – OJT!



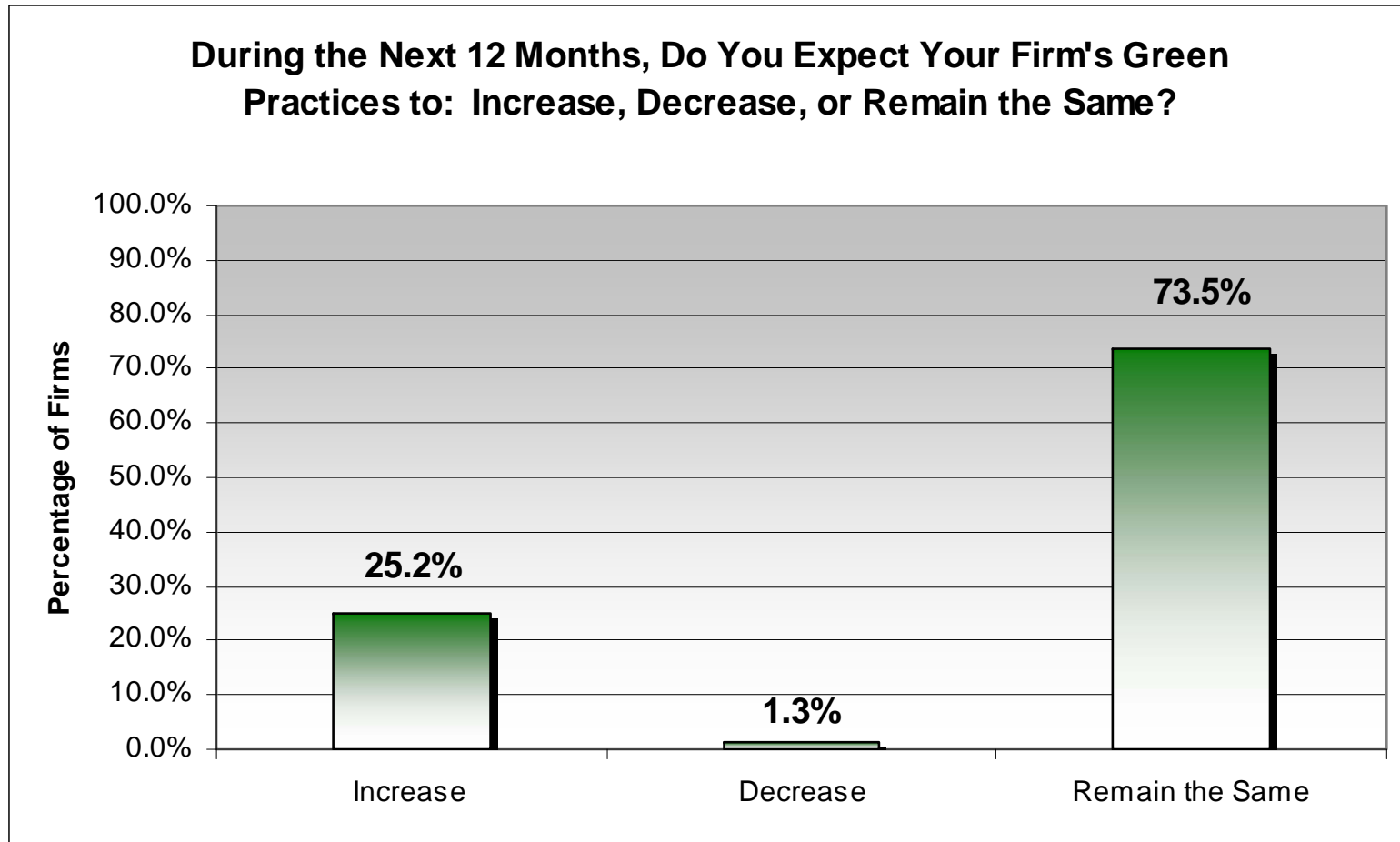
Preliminary data as of October 8, 2009

Sustainable Practices – Current



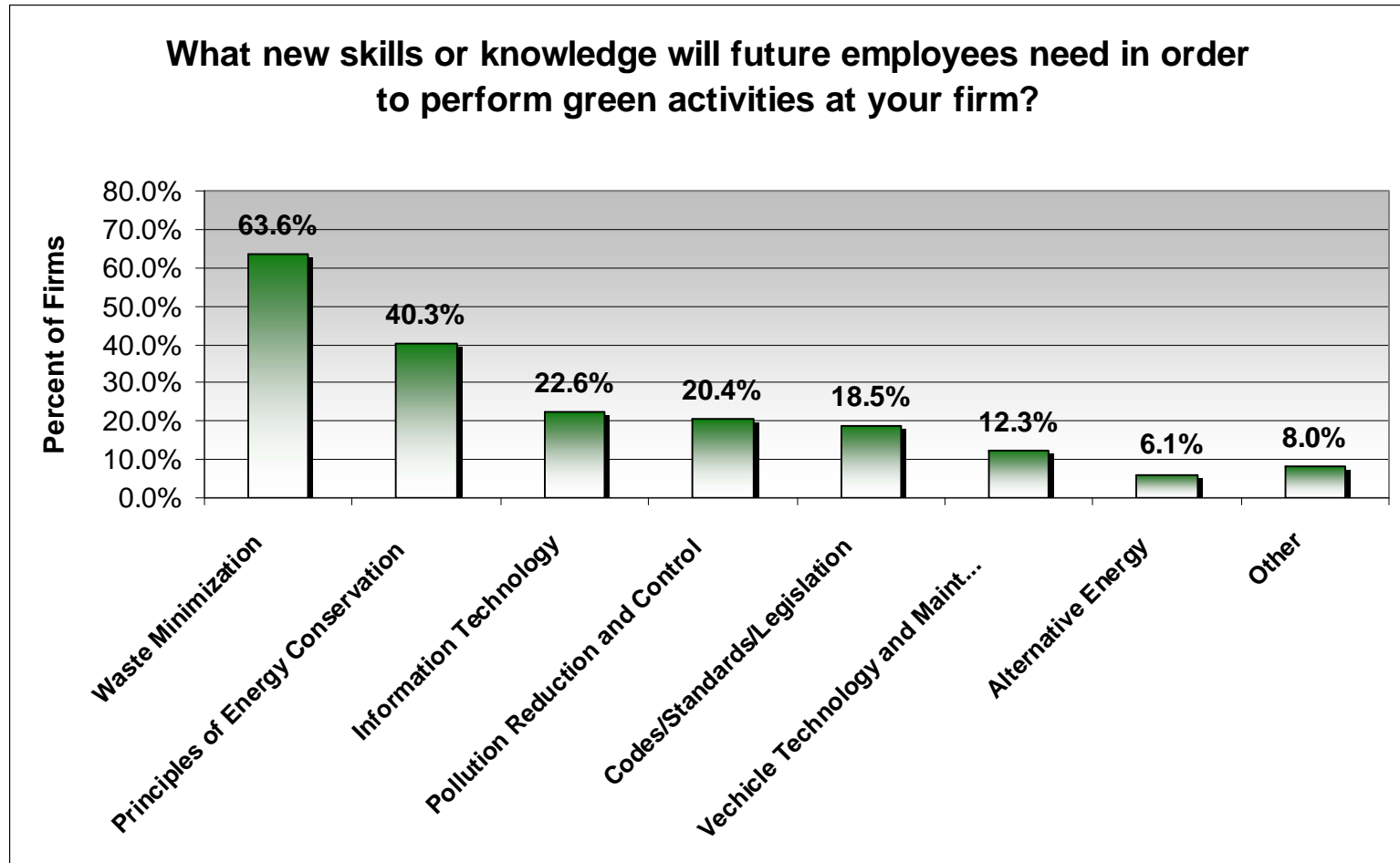
Preliminary data as of October 8, 2009

Sustainable Practices – Expectations



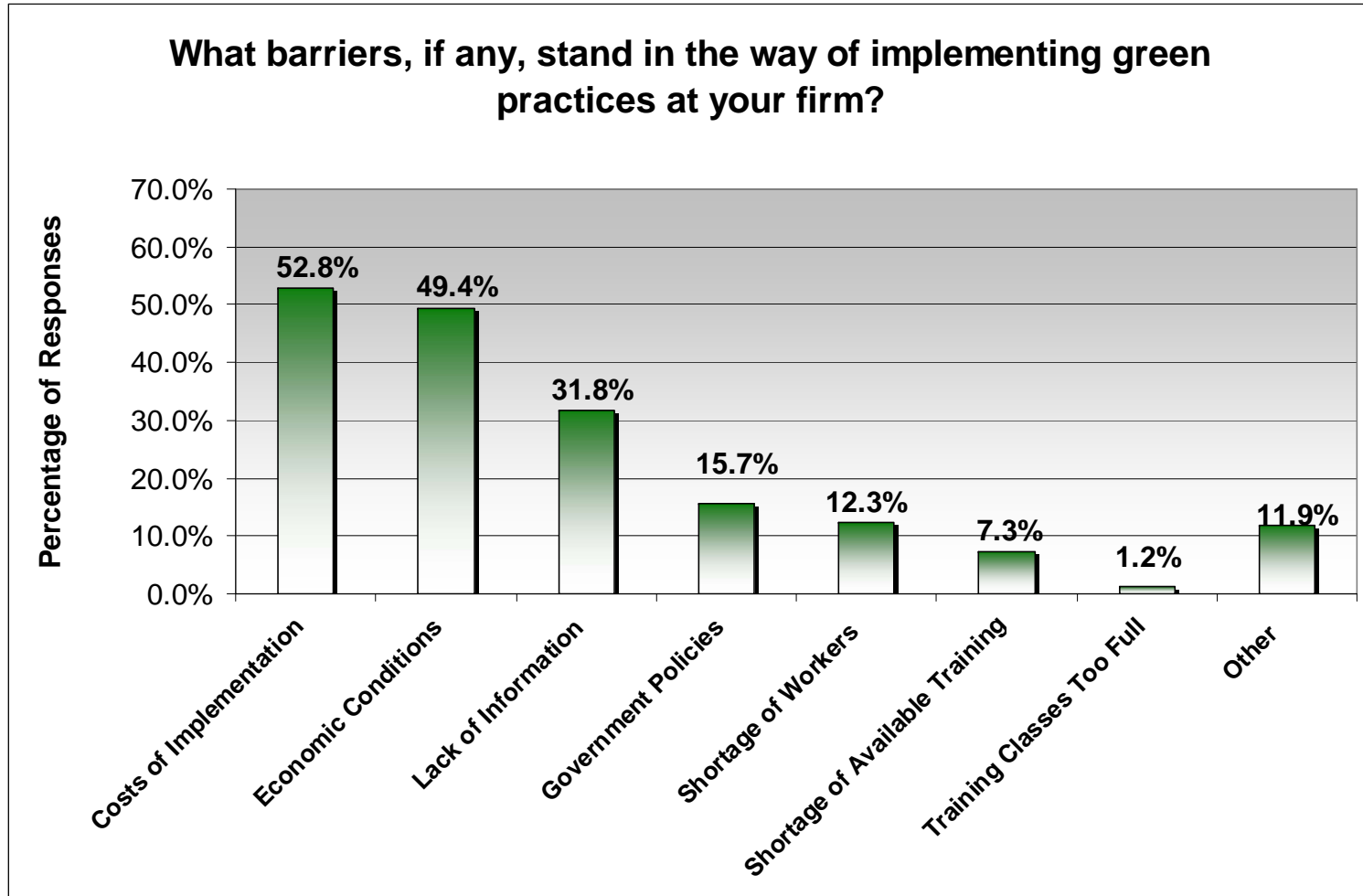
Preliminary data as of October 8, 2009

Sustainable Practices – Skill Needs



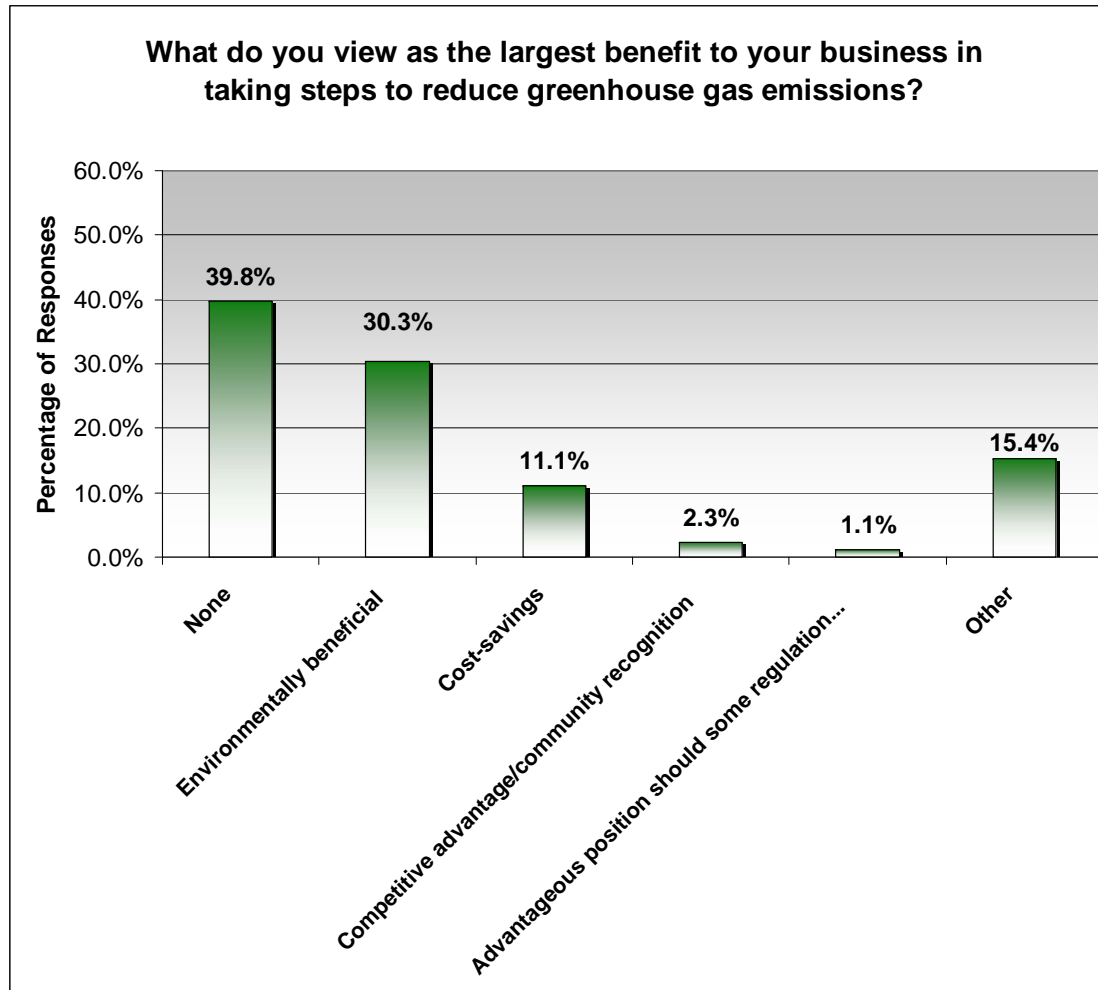
Preliminary data as of October 8, 2009

Sustainable Practices – Barriers



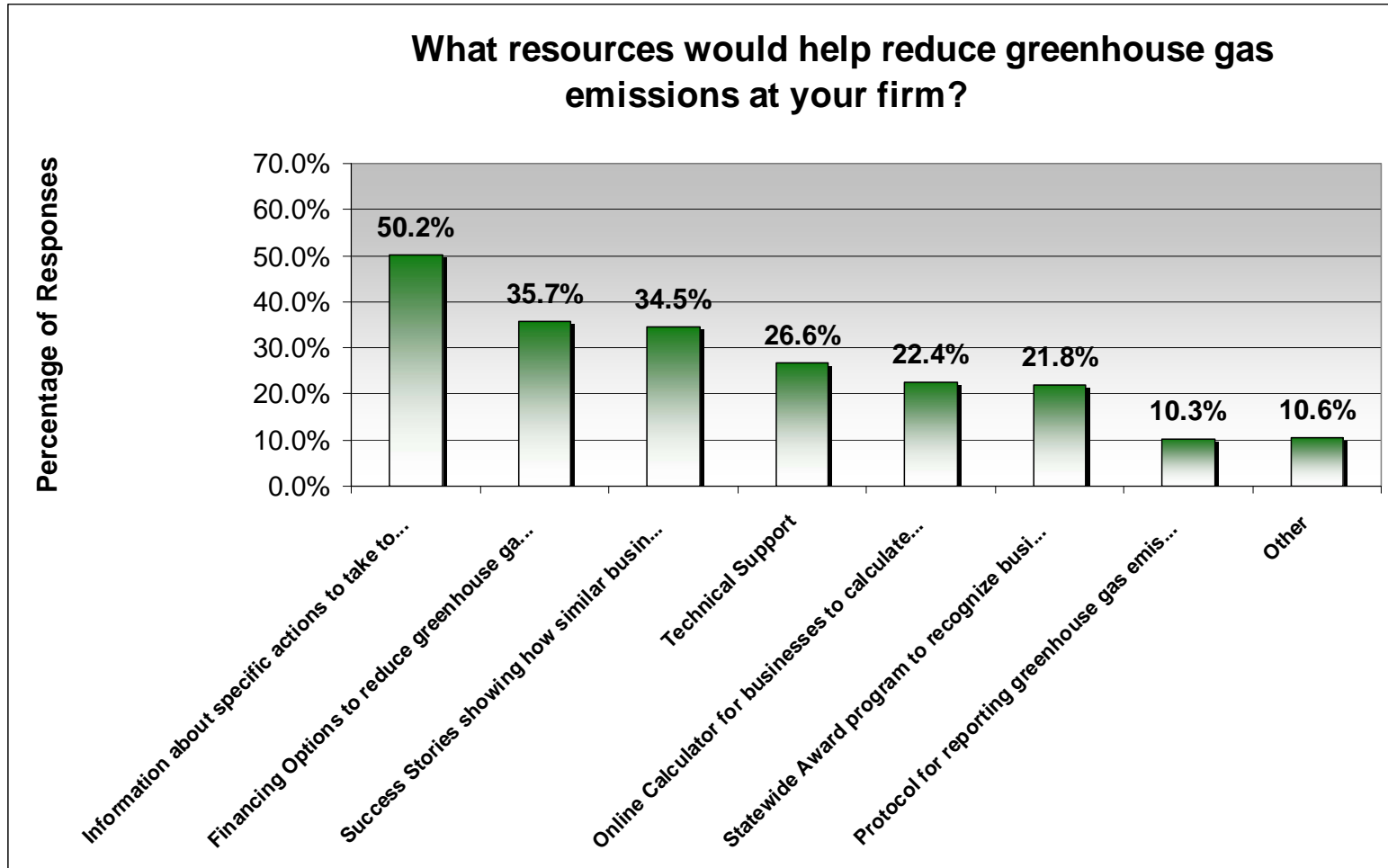
Preliminary data as of October 8, 2009

Sustainable Practices – Benefits



Preliminary data as of October 8, 2009

Sustainable Practices – Resources



Preliminary data as of October 8, 2009

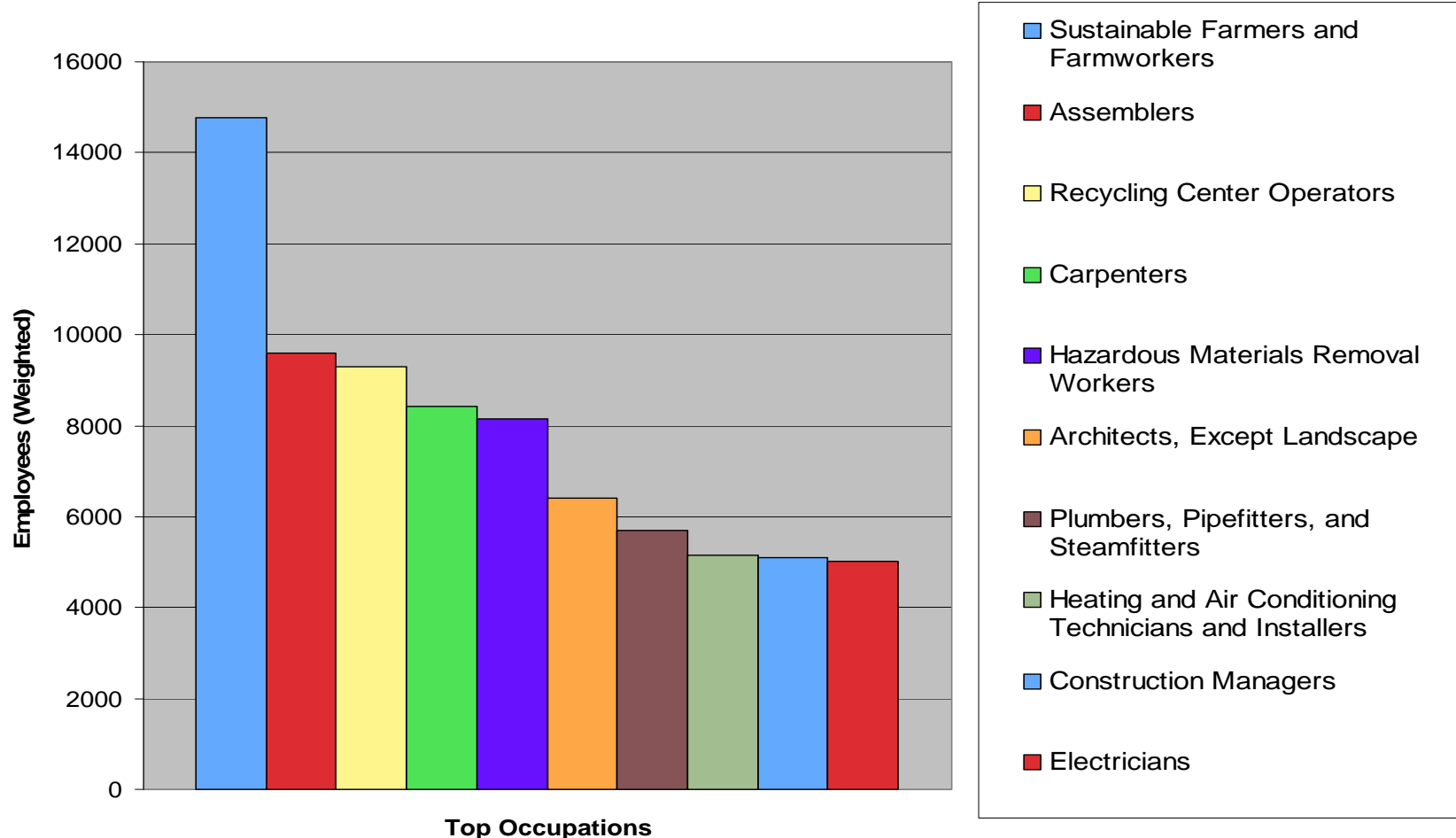
Preliminary Occupational Findings

- Employers categorized **127,800 green employees within the 34 green jobs** described on the survey. An additional 15,600 workers were reported under “Other Green Job Titles”
- **Write ins–include:**
 - Janitors and Cleaners,
 - Sustainability Assistants,
 - LEED Accredited Professionals,
 - Mobile Heavy Equipment Mechanics (maintaining electric forklifts),
 - Recyclers (reprocessing on site materials)
- Greater detail will be collected in a subsequent occupational skills survey.

Survey respondents' top green jobs...

Farmers, Assemblers, Recyclers, Carpenters ...

Top 10 Green Jobs Reported - Preliminary (Weighted Sample)



Preliminary data as of October 8, 2009

Top Surveyed Green Jobs

OES median wage* by training level

□ High skill—BA or higher

- Architect \$81,105
- Construction Manager \$101,354

□ Skilled—2 years of education or training

- Carpenters \$51,839
- Electricians \$53,314
- *Farmers, Sustainable (emerging)* \$94,164
- Plumbers \$50,643
- HVAC Technicians \$46,625

□ Up to one year training

- Assemblers \$23,959
- *Farm Workers, sustainable (emerging)* \$23,476
- HAZMAT workers \$40,520
- *Recycling Center Operators (emerging)* \$39,678

*Source: 2009 Occupational Employment Statistics. Not a green survey wage!

Next Steps

- Complete data collection
- Analyze complete data
- 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

Questions? Thank you!

Feel free to get in touch

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