Update on Green Jobs in the Energy Sector

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• The continuum of green jobs in the energy sector is changing. New positions are appearing on the horizon, and changing business needs are driving the marketplace.
  – New jobs currently being created
  – Where do they lead?
  – What’s getting in the way of industry growth?
  – Educational requirements for green jobs
HomeStar Legislation = Non-event

• BUT – passage of HomeStar legislation might have hurt us more than helped us (as an industry)
• Currently the market is growing *organically*
• Most companies are more concerned about customer demand than worker supply
• Pain around energy provides slower but steady growth
Historically – Green Economy Outpaces Overall Economy!


Source: Innovating the Green Economy in California Regions, Presentation by Karen Chapple, Malo Hutson, AnnaLee Saxenian, Pis With Larry Rosenthal and Cynthia Kroll, UC Berkeley
BPI Growth was HUGE in 2010

[Map showing growth percentages across different regions of the United States.]

*In parentheses: absolute number of certifications as of 12/31/10*
Where are all the new jobs?

- New positions are appearing on the horizon, but changing business needs must drive the marketplace for it to be sustainable.
- New markets are being created slowly
- Pay scales vary per territory
  - Field Technicians (entry-level): $10 - $20/hr
  - Crew Leads: $14 - $20/hr
  - Building Analysts or Estimators: $15 - $22/hr
  - Mechanical systems & skilled: $25/hr & up
...conducts a walk-through assessment to identify the general energy performance problems and make basic recommendations for improvements or further analysis.
Solar Site Analyst

- Assess potential of a proposed solar site using satellite imagery and shade analysis on-site tools
- Interface professionally with prospective customers knowledgably answering basic questions
- Hand off acceptable sites to Solar Sales Consultant for follow-up
Audit Technician

- Small Commercial Audit Technician: data collection to support commercial energy audit
- Multi-family Audit Technician: data collection to support a multifamily energy audit

http://microgrid-energy.com
Rater Field Inspector

• Data collection for generating a rating WITH solid knowledge of combustion safety

• Sponsoring rater is responsible for training

• Some busy raters are starting to use rater field inspectors all the time.
Uses software to generate building models based on data collected by a building analyst (or Auditor Technician).

Creates a thermal model of the building to identify how the building is performing, and predicts optimal performance.

Calibrates the weather data with the energy bills to true-up the model.
Green Collar Career Pathways in the Energy Sector

Green jobs in the energy sector will not be easily outsourced, and require skills that assure family-supporting wages.

- Efficiency Installation Crew
  - HVAC / Solar / Wind Installation
  - Crew Chief
  - Quality Assurance
  - Project Manager
  - Production Manager
  - Breakaway Unit Mgr

- Trainer / Educator
- Testing Proctor
- Training Development

- Home Energy Service Provider
  - HERS Rater
  - Green Building Rater
  - Quality Assurance
  - Ratings Field Mentor

- Multifamily Auditor Technician
- Commercial Auditor Technician
- Energy Modeler
- Residential Building Analyst
- Multi-Family Building Analyst
- Commercial Building Analyst
- Measurement and Verification Engineer
- Building Commissioning Agent
- LEED–Certified Professional
- Sustainability Consultant

- Software (Business) Analyst
- Software Tech Support
- Database Developer
- Programmer

Start here

www.PSDconsulting.com
www.GreenJobsAcademy.com
HERS Raters receive additional training in:

• Verification of green measures offered by green home building programs, and

• The application of specific decision criteria to determine if green measures are compliant with the requirements of a green home building program.

• USGBC is all about it
Life Cycle Assessor

A position the horizon...

- Industrial manufacturing life-cycle analysis
- Product life-cycle analysis
- Sort out the green from the green-washing
- Sustainability!
Honorable Mention

- Multi-family Building Operator: Upgrade from Building Superintendent (BPI cert)
- Green Realtor: Recognize an energy efficient home and sell its higher value
- Energy Analyst: Different things to different employers (commercial vs industrial)
- Smart Grid Installer: Basic electrician
Education Requirements

- 1,364: Post doctoral training, 0.04%
- 36,163: PhD, 1%
- 50,658: First professional degree, 1.4%
- 9,633: Post master's certificate, 0.3%
- 168,494: Master's degree, 5%
- 49,936: Post-bachelor's certificate, 1.4%
- 691,095: Bachelor's degree, 19%
- 336,807: Associate degree, 9%
- 338,514: Some college no degree, 9%
- 287,303: Postsecondary certificate, 8%
- 1,258,637: High school graduate, 34%
- 445,396: High school dropout, 12%
- 3,675,000: Total

Source: Carnevale, Strohl and Smith’s analysis of O*NET Education and Training data by Occupation
Nothing Beats Experience

• Classroom learning by itself is not enough
• Most successful programs include field work, internships, apprenticeships, or other on the job training
• No building is the same as another – every building is its own training program
• On-the-job apprentices/trainees are best
Trainers: Pre-Screening is now Critical

- Occupational requirements include physical, mental, & intellectual
  - 8th-grade reading comprehension
  - Basic math skills
  - Ability to follow instructions
  - Attention to detail
- Some hands-on is critical: carpentry, electrical, plumbing, HVAC, window replacement, etc.
- Identify potential employment “tracks,” and which candidates might be best fit for each