

Office of Economic
 Resource Development
 Workforce Development
 1305 E. Pacific Coast
 Highway, EE 164
 Long Beach, CA 90806

Funding Sources



**A Model for Higher Education Integration through
 Clean Energy Workforce Training Program**



Photo courtesy Ameco Solar, Paramount CA



DOCKET

10-IEP-1D

DATE _____

RECD. SEP 29 2010

Rola Halawanji
 Environmental Technology Program Manager

Role of Community Colleges

- Address Gap of Green Workforce Training
 - ST: Home Performance Contractors, HERS Raters, Weatherization/Insulation & HVAC, Solar, Real Estate Professionals, and other ancillary
 - LT: Engineers, construction management, architects, MEP (mechanical electrical and plumbing), system designers
- Partnering with industry/ industry associations is a key component of green collar workforce development
- Government initiatives and partnerships set the stage for market transformation by incentivizing energy upgrade

LONG BEACH CITY COLLEGE

Educate. Engage. Empower.

Autodesk



Pacific Gateway
WORKFORCE INVESTMENT NETWORK

energy upgrade
CALIFORNIA



SIEMENS

California Building Performance Contractors Association
cbpca

AQUARIUM OF THE PACIFIC
A non-profit institution



HARDING
CONSTRUCTION & SUSTAINABLE SOLUTIONS



GreenPlumbers
CREATING SUSTAINABLE COMFORT



Build It Green

Strategic Partnerships

- SBDC
 - Green Gazelles
- PGWIB
 - PLA
 - Green Building Council
- Industry
 - Associations
 - Trends
 - Qualifications
- Cities
 - Driving the demand through ordinances, implementation of incentive programs, strategic planning on development project
 - Community Action Partnership
 - LA County Office of Sustainability



Energy Upgrade California

LACEP Program Overview

- Alliance with CEC, CPUC, County of LA, Southern California Edison and Southern California Gas Company
- 30,000 homes by June, 2013
- Driving consumer demand
- Going beyond energy: More comfort, cost, environmental and health benefits

Skills Gap & Barriers

- Minimum Qualifications
- Certification Costs
- Classroom and field technical training
- Marketing and business skills

Workforce Development

- Emerging Home Performance Industry in LA
- Opportunities for Contractors, HERS Raters, Weatherization/Insulation & HVAC, Solar, Real Estate Professionals, and other ancillary

Workforce Needs & Current Capacity

| Workforce Type | TOTAL |
|--------------------------|-------|
| BPI Analyst | 176 |
| Installation Technicians | 557 |
| HERS II Raters | 55 |

Data from LACEP

| Licensed Contractors | Active Number in LA County |
|--|----------------------------|
| Home Performance Contractors / BPI Analyst | 10 |
| General Contractor (B) | 22,247 |
| Insulation (C□-2) | 160 |
| HVAC (C□-20) | 2,806 |
| HERS II Raters | 0 |
| GreenPoint Raters Existing Home | 6 |

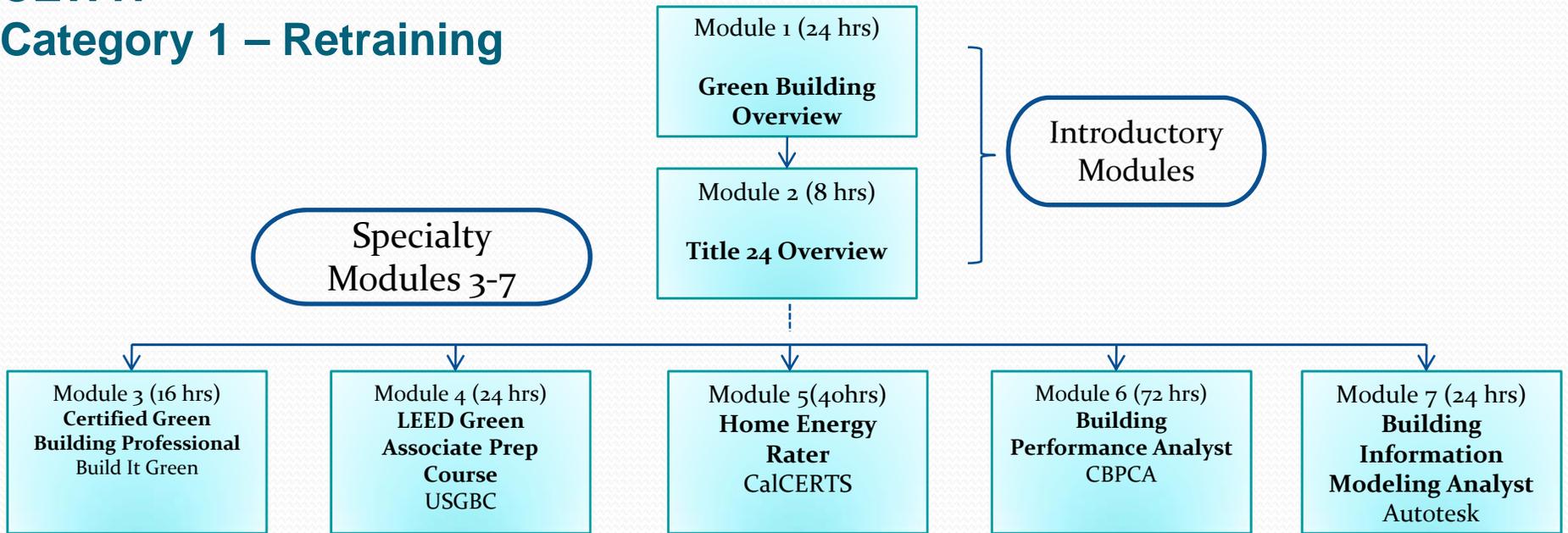
Data from BPI, HERS providers, Build It Green, & Contractors State License Board

Training Providers in LA Region

| BPI Affiliates (10) | HERS Providers | CEWTP Recipients (5) |
|---------------------------|----------------|--------------------------------------|
| Build It Green | CHEERS | Los Angeles County |
| CACTUS | CalCERTS | Long Beach City College |
| CBPCA | | Los Angeles City |
| ConSol | | LA Trade Technical College |
| Energy Conservation Inst. | | South Bay Workforce Investment Board |
| Greener Dawn | | |
| JTRL | | |
| OurEvolution | | |
| Richard Heath & Assoc. | | |
| Synergy Co. | | |

CEWTP

Category 1 – Retraining



| Training Track | Occupations | Training Modules | Length of Training | Expected Wages |
|----------------|---|---------------------|--------------------|-------------------|
| Track 1 | LEED Green Associate Architect/ Designer | Modules 1,2,4, or 8 | 56 Hours | \$26.00 - \$39.00 |
| Track 2 | Home or Building Energy Rater | Modules 1,2,5 | 72 Hours | \$21.35 - \$31.25 |
| Track 3 | Building Performance Analyst | Modules 1,2,6 | 104 Hours | \$20.83 - \$31.25 |
| Track 4 | Water/ Energy Auditor | Modules 1,2,7 | 64 Hours | \$21.35 - \$31.25 |

What is a GREEN Building?

BY ALBERT ANDRES OF GREEN ENERGY MANAGEMENT SERVICES (GEMS)

A green building:

- Provides a comfortable and healthier environment
- Incorporates energy and water-efficient technologies
- Improves indoor air quality and occupant satisfaction
- Is easier to maintain and built to last longer
- Includes renewable energy technologies
- Brings higher resale value

DO SOMETHING GOOD FOR THE ENVIRONMENT! Make your home or workplace a little greener. Here are a few low cost ways you can reduce high energy bills and global warming. Every little bit helps so do a few changes and contribute to a happy planet. Let's talk about a few ways you can help and save money:

1. USE CFLS OR LED'S

Replace your incandescent light bulbs with ENERGY STAR® qualified compact fluorescent light bulbs (CFLs) or LED's. By replacing even your five most frequently used light bulbs, you could save \$100 per year.

2. PROGRAM YOUR THERMOSTATS

Save 10% on your heating and cooling costs just by setting your thermostat back when you're not home and while you're sleeping. Program your thermostat to 78 degrees F or higher in the summer and 62 degrees F or lower in the winter. Select ENERGY STAR® qualified programmable thermostats.

3. REPAIR OR PLUG AIR LEAKS

Air leaks waste energy in the home, but they can be simple to fix. Install weather-stripping and caulk to stop those drafts and improve indoor comfort. It's inexpensive, easy and almost anyone can do it. Look for leaks around windows, doors, electrical outlets, and plumbing penetrations.

4. TUNE-UP YOUR HVAC SYSTEM

Heating, ventilating, and air conditioning maintenance is important to healthy

and efficient heating and cooling. Get a professional inspection if you haven't had one in a few years. It could save you 5% to 10% on your heating and cooling bills. Also, clean or replace your filter every month. Dirty filters block normal airflow and significantly reduce the efficiency of the system, which wastes your money.

5. GO LOW-FLOW ON SHOWERS AND FAUCETS

Install low-flow showerheads and faucet aerators to save resources without sacrificing water pressure. An efficient showerhead could save a family of four up to \$285 per year. They can cost less than \$15, and installing them couldn't be easier: they just screw on.

6. OPTIMIZE YOUR WATER HEATER

Put an insulative jacket around your hot water heater and insulate the pipes around the water heater. Also consider turning the temperature on the water heater down to 120 degrees. This will save you money and prevent scalding. Also, look into a Tankless Water System.

7. PLANT A TREE

Shade trees can lower your cooling costs. They also make your home more comfortable and provide habitat for birds. Trees and shrubs can act as windbreaks shielding your home from cold winds and reducing heating costs.

8. BUY ENERGY STAR

When replacing your appliances, select ENERGY STAR qualified products. When replacing your water heater, furnace, or air conditioner, you should also select ENERGY STAR qualified products. You could save 10-30% on the operating costs vs. non-ENERGY STAR equivalents.

9. REQUEST A BLOWER DOOR TEST

A blower door test will uncover the hidden holes and cracks that are the main source of energy loss in your home. Hiring a certified Home Energy Rater (HERS) costs \$200 to \$400 and the inspection cost can be paid for within two years.

How does it benefit me?

10. USE LOW-VOC PRODUCTS

After painting, the volatile organic compound level can be 1,000 times the healthy normal level. Select low or no-VOC paints and finishes combating this health hazard. When selecting paints, look for the Green Seal. When cleaning around the house, use non-toxic natural products or make your own green cleaning products.

11. CHECK INSULATION

Make sure that there are no areas in your attic, floor, or wall with inadequate insulation. Even a small area with limited or no insulation, or insulation that has been damaged or compressed, can significantly decrease the effectiveness of the area's insulation. How much insulation do you need? Follow the Department of Energy's recommendations.

12. SOLAR POWER

Passive solar design takes advantage of the summer sun when it is higher than the winter sun. Overhangs shade the building from the summer sun, keeping it cool. The same overhangs allow the lower winter sun to enter the building and heat an interior thermal mass wall. Solar panels (also known as photovoltaic, (PV) panels) have no moving parts and emit no waste. When sunlight strikes the thin panel of silicon, the electrons get excited and start moving; this produces an electrical current. There will be a number of solar companies with information at the Huntington Beach Green Expo on September 18th, so please stop by and see what's new.



Back to Nature

ENJOY A TAMED WILDERNESS AT THESE LOCAL SPOTS

Bolsa Chica Wetlands

One of the City's Best Spots for Birdwatching and Nature Photography

“The Bolsa Chica Ecological Reserve extends along the east side of Pacific Coast Highway in the city of Huntington Beach from Warner Avenue to Seapoint Avenue. It is open to the public daily from sunrise to sunset.”

-bolsachica.org



Coming Soon: HB Community Garden

The Huntington Beach Community Garden (HBCG) is a voluntary non-profit organization founded from a desire to create an organic, self-sufficient public garden for the citizens of Huntington Beach. The grassroots organization is made up of gardening enthusiasts, business professionals, teachers, master gardeners and community organizers who share the common vision of promoting urban gardening and greening in Huntington Beach; there are now over 100 members. This garden, which will have 111 plots on a Southern California Edison site on Atlantis east of Brookhurst, will be an organic & chemical free community garden. For more information or to join the HBCG, please contact Vice President, Annette Parsons at akpj@social.r.com and visit www.huntingtonbeachcommunitygarden.com.

GEMS
Green Energy Management Services

Residential and Commercial Energy Audits

HERS Rater
Licensed California Home Energy Rater

LEED Accredited Professional
Certified Green Building Professional

www.gemsinc.org
info@gemsinc.org
714.383.0371

K+A
koch+andres sustainable architecture

Architects-Planners-Designers
www.ka-architecture.org
info@ka-architecture.org
714.383.0371

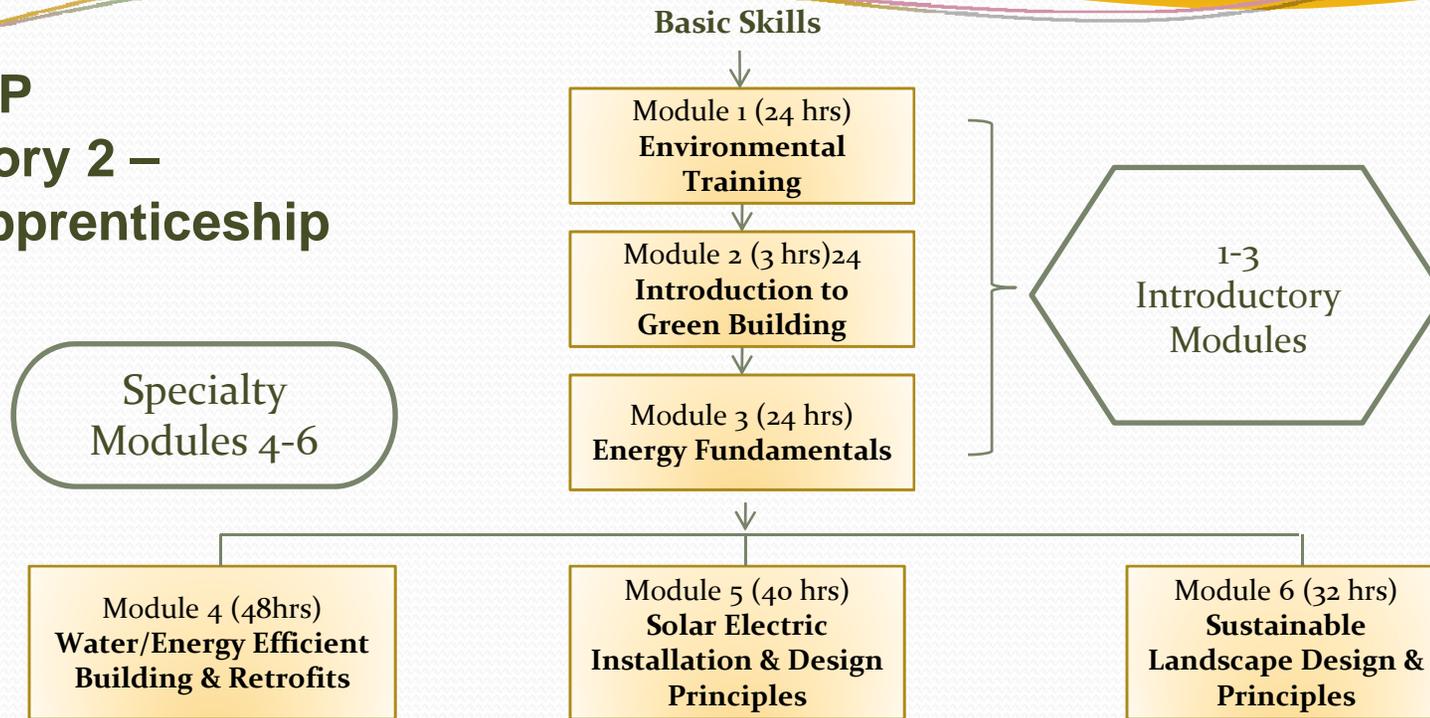
Shipley Nature Center

Mon-Sat: 9:00 AM to 1:00 PM
17851 Goldenwest Street
Huntington Beach

Shipley Nature Center is an 18-acre natural area. Situated within Huntington Central Park, the nature center is not only a sanctuary for the local wildlife, but it is also a haven for the residents and visitors of Orange County.



CEWTP Category 2 – Pre-Apprenticeship



| Training Track | Occupations | Training Modules | Length of Training | Expected Wages |
|----------------|--------------------------------------|--------------------|--------------------|-------------------|
| Track 1 | Resource Conservation Specialist | Modules 1, 2, 3 | 72 Hours | \$10.00 - \$16.00 |
| Track 2 | Basic Weatherization Specialist | Modules 1, 2, 3, 4 | 120 Hours | \$12.35 - \$20.25 |
| Track 3 | Retrofitting Specialist | Modules 1, 2, 3, 4 | 120 Hours | \$12.83 - \$21.35 |
| Track 4 | Solar Electrical Installer Assistant | Modules 1, 2, 3, 5 | 112 Hours | \$12.83 - \$21.35 |
| Track 5 | Landscape Designer Assistant | Modules 1, 2, 3, 6 | 104 Hours | \$12.35 - \$20.25 |

In Summary...

- Workforce Gap in BPI and HERS II to perform energy audits and energy efficiency improvements
 - Current training capacity is sufficient to meet the formal classroom training needs
 - Field mentoring to gain expertise is critical
 - CCs well positioned to respond to market demand for certified professionals
- Challenges
 - Trainings cost is significant challenge => need for subsidized training
 - Union Partnerships
- Leveraging resources is crucial
 - NSP II and III
 - Municipal Retrofits
 - Dept. of Energy Weatherization Program
- Local decision makers need to be on board!
 - Trade Associations