Green Programs of Study
@ Los Angeles Trade-Technical College
NRCCTE Webinar October 26, 2010
Los Angeles Trade-Technical College
Green College Initiative

Launched in Fall, 2006
the LA Trade-Tech Green College Initiative
Consists of 4 Primary Objectives

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<td>• Green Certified Business Standards</td>
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What Propels the Green Economy and Demand for Green Jobs?

- Technological Innovation & Advances (availability of green technologies)
- Economic Conditions (energy prices, financing options)
- Public Policy (RPS, carbon caps, energy incentives, tax credits, ARRA)
- Public Demand (consumers, advocacy)

Most Promising Green Jobs
What Propels the Green Economy and Demand for Green Jobs?

**California Policy**
- **AB 3** - Energy: Renewable Energy Workforce Readiness Program
- **AB 19** - Greenhouse Gas Emissions: Consumer Product Labeling
- **AB 32** - California Global Warming Solutions Act of 2006
- **AB 64** - Energy: renewable energy resources: generation and transmission
- **AB 128** - Alternative fuels and vehicle technologies: funding programs
- **AB 177** - Energy: Green Economy Inclusion Act of 2009
- **AB 210** - Green building standards
- **AB 212** - Energy: building standards: zero net energy buildings
- **AB 231** - California Global Warming Solutions Act of 2006: Climate Protection Trust Fund
- **AB 236** - Energy: efficiency
- **AB 238** - Renewable energy resources
- **AB 262** - American Recovery and Reinvestment Plan: energy activities, programs, or projects
- **AB 289** - Public resources: geothermal resources: disposition
- **AB 290** - Neighborhood Stabilization Program grants: funding priorities and criteria
- **AB 758** - Energy/Energy Auditing
- **AB 811** - Contractual assessments: energy efficiency improvements
- **AB 2006** - California Community Colleges Economic and Workforce Development Program: Center of Innovation for Green Technology
- **AB 2574** - California Clean Energy Curriculum and Training Initiative of 2008
- **AB 2267** - California-based entities: self-generation incentive
- **AB 2477** - California Green Jobs Act of 2008
- **AB 2622** - Employment Training Programs: Clean Technology Industry
- **AB 2855** - Career Technical Education: Partnership Academies: Green Technology and Goods Movement
- **AB 2864** - School facilities: energy efficiency
- **AB 2868** - Redevelopment agencies: affordable housing
- **AB 3001** - Global warming: California Voluntary Carbon Offset
- **AB 3018** - California Green Collar Jobs Act of 2008
- **Executive Order S-14-08** - Governor Streamlines California’s Renewable Energy Project Approval Process and Increases the State’s Renewable Energy Standard to 33 Percent Renewable Power by 2020
- **SB 7** - Renewable Energy Sources: Net Metering
- **SB 17** - Electricity: Smart Grids Systems
- **SB 31** - California Global Warming Solutions Act of 2006: Revenue Allocations
- **SB 42** - Renewable Electric Generation Facilities
- **SB 105** - California Global Warming Solutions Act of 2006: designation of greenhouse gases
- **SB 125** - California Climate Change Institute
- **SB 375** - Redesigning Communities to Reduce Greenhouse Gases
- **SB 1672** - Renewable Energy, Climate change, Career Technical Education, and Clean Technology Job Creation Bond Act of 2010
- **SB 1734** - Energy: California Alternative Energy and Advanced Transportation Financing Authority
- **SB 1760** - Energy: greenhouse gas emissions

**Federal Policy**
- S. 1733 Clean Energy Jobs and American Power Act of 2009
- S. 320 Clean Energy Stimulus and Investment of 2009
- American Recovery & Reinvestment Act (e.g., the “stimulus bill”)

**Public Policy (RPS, carbon caps, energy incentives, tax credits, ARRA)**
What Propels the Green Economy and Demand for Green Jobs?

Technological Innovation & Advances
(availability of green technologies)

Patents – Los Angeles
• Solar – 250
• Fuel Cells and Vehicles – 225
• Green Building/Lighting – 166
• Total – 1,096


Venture Capital Investments - California
• Solar – 68%
• Energy Management – 18%
• Wind – 9%
• Other – 5% (Geothermal, Energy Co-Generation, Energy Conservation)


Economic Conditions
(energy prices, financing options)

Public Policy (RPS, carbon caps, energy incentives, tax credits, ARRA)
Developing Green Workforce Programs

- **Approach:** Integrate components as much as possible into core/existing programs
  - Over 55 Green Programs ranging from Environmental Science to Wastewater Technology
  - Created new programs where necessary and revised exiting programs to integrate “green” aspects

- **Establish and Strengthen** existing partnership with Industry and Community Based Organizations
  - Non-profit partners key establishment and leveraging of program resources
  - Rely on industry partners for immediate feedback on recent graduates

- **Follow Labor Market Demands** and Faculty “Readiness” Index to select industries or sectors
  - Select based on faculty potential not necessary current expertise
    - Electrical Construction faculty with intense professional development led development of Solar Program
    - Creative Carpentry faculty led work in Energy Efficiency
    - Build and support faculty who are at “tipping point”

- **Examples of Strategy Success**
  - Transportation Training Facility – Hybrid, Alternative Fuels and Electric Vehicles as well as Transit
    - Energy Efficiency & Retrofit Leader and Training for New & Incumbent Workers
  - Building Performance Institute (BPI); North American Technician Excellence (NATE); North American Board of Certified Energy Practitioners (NABCEP); Green Plumber
Stackable Certificate Programs and AS Degree

- Liberal Arts Courses to Satisfy AA/AS Degree Requirements or for Transfer to 4-Year University
  - Occupation-Specific & Management Skills and Competencies
  - Includes Competencies to Pursue Other Career Options
  - Tiers 8-9 of Competency Model Framework
  - Standards, Competencies for Occupation-Specific or Management Industry-Recognized Certifications

- Occupation-Specific Skills and Competencies
  - Tiers 6-8 of Competency Model Framework
  - Standards, Competencies for Occupation-Specific, Industry-Recognized Certifications

- Industry-Wide Skills and Competencies
  - Includes Applied Mathematics/Algebra
  - Tiers 5-6 of Competency Model Framework
  - Standards, Competencies for General Industry-Recognized Certifications

General Education Requirements

Advanced Technical Courses

Core Technical Certificate Program(s)

Fundamentals Certificate Program

Liberal Arts Courses to Satisfy AA/AS Degree Requirements or for Transfer to 4-Year University
New Role of Administrators

• Find the resources for faculty to dream, create and implement
  – Changed faculty perception of what is possible
• Change approach from “rules” or “past practice” to “pilot”
• Review approach on exiting funding revenues to reward innovation and modernization
  – LATTC Perkins Plan focuses on activities to support these activities through competitive process
• Since 2008 created and launched Solar Program, Electrical Lineman Program (including all female class)
• Tenacity and determination…..learn to hear “no” several times
  – US Department of Energy National Weatherization Center & California Certified Weatherization Training Facility
Alternative Fuels/Diesel Technology Program

• Trains workforce in heavy-duty vehicle repair
• Program includes Alternative fuels/green transportation technologies
• Students participate in a 7 week internship at Santa Monica’s Big Blue Bus
Training for today’s and tomorrow’s needs

- Technology is infused into curriculum-
  - All classes are set up as on-line classes
  - All students must create an e-portfolio

- Basic skills:
  - Contextualized English and math
  - Workplace success workshops
Piloting New Program Approach

• 10 month Accelerated Diesel Mechanic Program
• Training of incumbent workers in new technologies
  – CNG/LNG
  – Hybrid and plug-in electric vehicle
  – Biodiesel
  – CARB Diesel Retrofit Certification
Industry Partners/lessons learned

• Industry partnerships are essential to keeping at the forefront of new technology training—both industry and academia benefit

• Private and public trucking/agencies include:
  – CARB, Santa Monica Big Blue Bus, Inland Kenworth, Eaton Corporation, Cummins Cal Pacific
Overview: Solar Program @ LATTC

• Interdisciplinary – Includes Electrical and aspects of Carpentry
• Tremendous student variation – skill ad employment background
• Integrating aspects of Solar technology to K-12 students and other disciplines (Solar Go-Kart)
Overview: Architecture Program

Architecture and Environmental Design Discipline

- A.A Degree in Architecture Technology
- Certificate Architecture Technology

- A.S. Degree MAPS/GIS (Urban Planning)
- Certificate GIS (Urban Planning)

- CAD Skill Certificate
- Digital Design Skill Certificate
- Historic Preservation Skill Certificate
Example of Strategy Change: Trainee Outreach and Recruitment – Role of College

- Work with City/County WIB and WorkSource Providers
- Direct Outreach through LATTC Job training Portal http://college.lattc.edu/jobtraining
Lessons Learned

• Faculty are key to program success
• Practices require constant monitoring, evaluation and adjustment
• Most elements require organizational culture change