Advancing the Clean Energy Economy
PG&E’s PowerPathway™

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Biography

Lisa Shell is currently a member of PG&E's Strategic Workforce Development team which architected PG&E PowerPathway™, a nationally recognized workforce development best practice model. Begun in 2008, PowerPathway™ focuses on building California's capacity to meet the demand for skilled workers in the energy and utility industry, through strategic partnerships between public-, private- and social-sector stakeholders.

Before joining the workforce team, Lisa spent several years managing education and partnerships for PG&E's Distributed Generation programs, including the world-class California Solar Initiative program. Prior to PG&E, she worked for outreach and community relations consultants, as well as the San Francisco Mayor's Office, Newsom Administration.

Lisa received a BA from UCLA, a JD from Hastings College of the Law, and sits on several boards in San Francisco focused on advocacy and education.
Abstract

"Advancing the Green Energy Economy”

An overview of PG&E's viewpoint on workforce development and the individual programs and partnerships PG&E is cultivating to build the state's capacity to meet the energy and utility industry's current and future training and employment demands.
About PG&E

What we do:

Deliver safe, reliable, and environmentally responsible gas and electricity to approximately 15 million Californians throughout a 70,000-square-mile service area in northern and central California

<table>
<thead>
<tr>
<th>Employees</th>
<th>~ 20,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electric and Gas Customer Accounts</td>
<td>5.1 MM electric 4.3 MM gas</td>
</tr>
<tr>
<td>Circuit Miles of Electric Lines</td>
<td>&gt;141,215 miles</td>
</tr>
<tr>
<td>Miles of Natural Gas Pipelines</td>
<td>&gt; 42,141 miles</td>
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</tbody>
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PowerPathway: the big picture

Impetus
Success of first pilot and building off of this success
Aging Utility Workforce in a Growing Green Economy

• The median age at PG&E is 46 with 17 years of tenure

• 42% of employees will become eligible to retire over the next 5 years
  – Lineworker = 15%
  – Mechanics = 50%
  – Transmission & Distribution (T&D) Maintenance and Repair = 37%
  – Engineers = 41%
  – Gas T&D Pipefitters/Pipelayers = 50%
  – Hydro Power Generation = 55%

• To bring employees to journey-level status requires 4-12 years of apprenticeship training
PG&E PowerPathway Model for Career Prep

**PG&E/Employers**
Role: Hire and Identify and Communicate Hiring Needs

**Community-Based Organizations or Workforce Investment Boards**
Role: Outreach and Case Manage

**Community Colleges and other Education Institutions**
Role: Train

Leveraged Resources

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Initial results: Improved on diversity and candidate qualifications

Percent who qualified on the Physical Test Battery Pre-Employment Test increased with each Pilot

58% of PowerPathway candidates who became Physical Test Battery qualified were diverse

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PowerPathway Evolution
Vision: Build capacity in California to produce the skilled workers needed by PG&E and the energy & utility industry

- **ENLARGE TALENT POOL FOR PG&E**
  - PowerPathway: CAREER PREP
  - Working through communities to attract the right people with the right skills at the right time

- **JOINTLY ADDRESS WORKFORCE CHALLENGES**
  - PowerPathway: INDUSTRY
  - Preparing for retirement & diversity trends, and a carbon-constrained future

- **SUPPORT GREENING OF COMMUNITIES**
  - PowerPathway: GREEN
  - Guiding cities and municipalities on best practices to create a green workforce

- **PREPARE TOMORROW’S GRADUATES**
  - PowerPathway: EDUCATION (K-12)
  - Generating early interest in Science/Tech/Eng/Math (STEM) pathways and career technical education

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PowerPathway Portfolio

CAREER PREP
- PowerPathway Skilled Crafts Training Network
- Regional Multi-Employer Alliances
- PowerPathway Engineering & SmartGrid Training Network
- PowerPathway Clean Tech Vehicles Training Network

INDUSTRY
- Center for Energy Workforce Development (CEWD)
- National Commission on Energy Policy
- CA Energy & Utility Workforce Consortium
- PowerPathway Energy Efficiency & Renewables Training Network

GREEN
- Green Jobs Primer for Communities

EDUCATION
- New Energy High School Academies*
- STEM preparation & STEM career pathways*

*In collaboration with PG&E’s Community Relations

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2011 Focus

Strengthening Partnerships
Increasing Innovation of Training Centers
Stackable Credentials
PowerPathway Training Networks

Your future starts here in the skilled crafts training network

Your future starts here in the engineering and smart grid training network

Your future starts here in the clean tech vehicles training network

Your future starts here in the energy efficiency & renewables training network
Strategic Plan

9.1 VISION

By 2020, California's workforce is trained and fully engaged to provide the human capital necessary to achieve California's economic energy efficiency and demand-side management potential.

Goal 1. Establish energy efficiency education and training at all levels of California's educational system.

Goal 2: Ensure that minority, low income and disadvantaged communities fully participate in training and education programs at all levels of the DSM and the energy efficiency industry.

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Training Center Resources

Energy efficiency classes
– Offered free throughout IOU service areas

Tool Lending Library
– Loans building measurement equipment for energy analysis

Private Consultations
– Advise building professionals on energy-efficient design

• Events, Tours, Presentations
  – Have trained more than 500,000 people since 1978

Analysis of an architectural model using the **heliodon**, which simulates sunlight penetration and shading

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Energy Competency Model

Tier 6-8 – Occupation-Specific
- Nuclear Generation
- Non-Nuclear Generation (Coal, Natural Gas, Oil, Hydro, Solar, Wind, Biofuel, Geothermal)
- Electric Transmission & Distribution
- Gas Transmission & Distribution

Tier 5 – Industry-Specific Technical
- Industry Principles & Concepts
- Safety Awareness
- Environmental Laws & Regulations
- Quality Control & Continuous Improvement
- Troubleshooting

Tier 4 – Industry-Wide Technical
- Business Fundamentals
- Team Work
- Following Directions
- Planning, Organizing & Scheduling
- Problem Solving & Decision Making
- Working With Tools & Technology

Tier 3 – Workplace Requirements
- Mathematics
- Reading
- Writing
- Listening
- Speaking
- Engineering & Technology
- Critical & Analytical Thinking

Tier 2 – Academic Requirements
- Interpersonal Skills
- Integrity
- Professionalism
- Motivation
- Dependability & Reliability
- Self-Development
- Flexibility & Adaptability
- Ability to Learn

Your future starts here in the energy efficiency & renewables training network
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