

“UBER” ENERGY PROFESSIONALS

SURVEY RESULTS
AND
INTERVIEW SUMMARIES



Acknowledgments

PRINCIPAL AUTHOR

Bradford V. Hurte, Workforce Incubator

CONTRIBUTING AUTHORS

Survey & Interview Design & Execution: Fabienne Rodet and Don Chislow, Workforce Incubator



Executive Summary

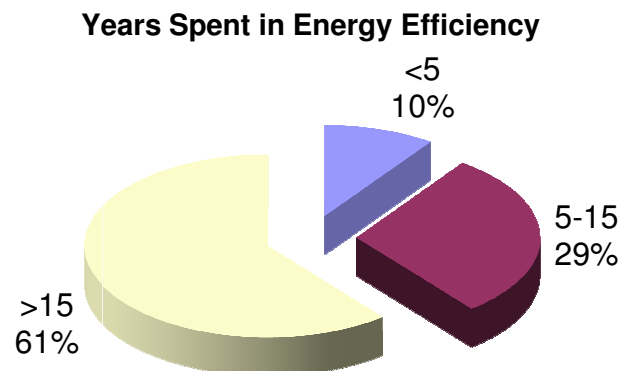
Workforce Incubator, in collaboration with ICF International and Pacific Gas & Electric, identified, surveyed, and interviewed a group of the top-performing energy efficiency professionals, “UEPs,” to assess their professional, educational, and training backgrounds. UEPs were identified by PG&E, the California Energy Efficiency Industry Council, and their peers. The goal of this research is to provide knowledge, skills, and abilities data that will aid in building knowledge maps that will form the foundation for new career pathways for a new generation of UEPs.

Research was performed in two phases. In phase one, UEPs were asked to complete a survey consisting of 24 questions, identifying their specific field and practices within the energy efficiency industry. In phase two, follow-up interviews gave UEPs the opportunity to expand on information provided in the survey. Survey questions are in Appendix A.

It is important to note that UEPs identified in this phase of the Energy Workforce Sector Strategy included primarily the professional workforce – engineers, architects, program managers, etc. – and not the skilled trades. Journey-level trades workers also constitute a significant portion of the energy efficiency workforce, and these UEP-level trades workers will be brought into the research in the next phase of the Sector Strategy.

Survey Results Summary

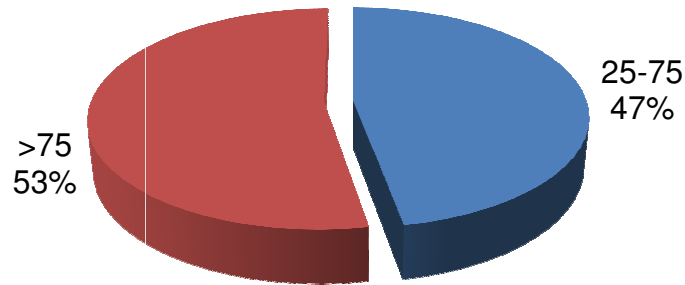
UEPs get to their level of performance through experience. More than 60% of the 53 UEPs surveyed have greater than 15 years of experience in energy efficiency.





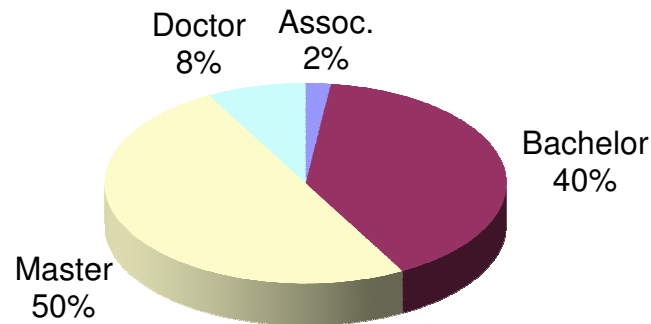
All of the UEPs surveyed spend at least 25% of their time on energy efficiency issues, with more than half spending greater than 75% of their time on energy efficiency.

% of Time Spent on Energy Efficiency Issues



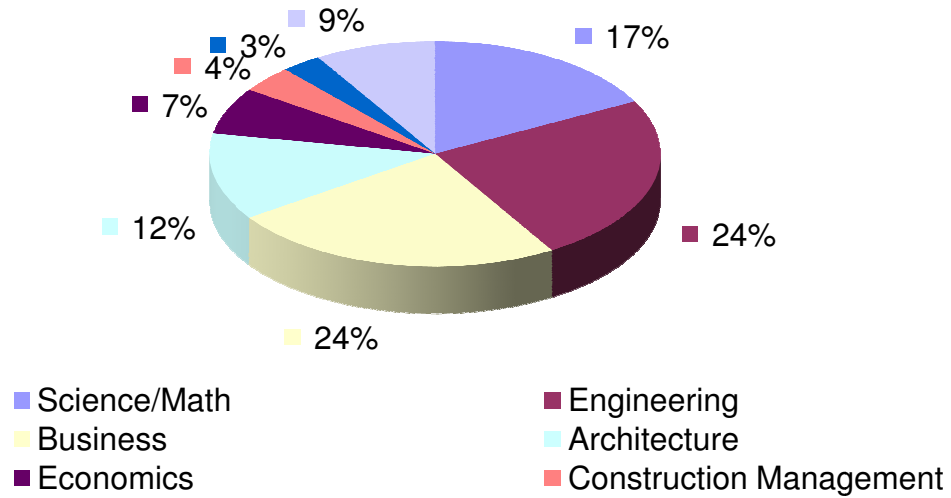
Educationally, UEPs come from a diverse, but highly educated, background, with 98% of UEPs holding at least a Bachelor's degree, though evenly spread through scientific and liberal arts fields. As will be noted subsequently, some UEPs noted in interviews that a liberal arts education provides a good starting point for skilled energy efficiency occupations.

UEP Education Level



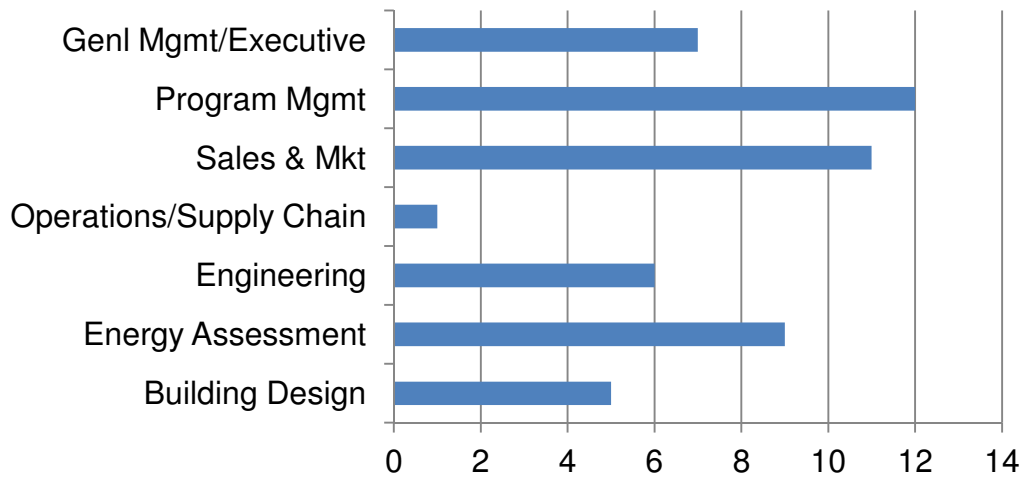


UEP Academic Disciplines



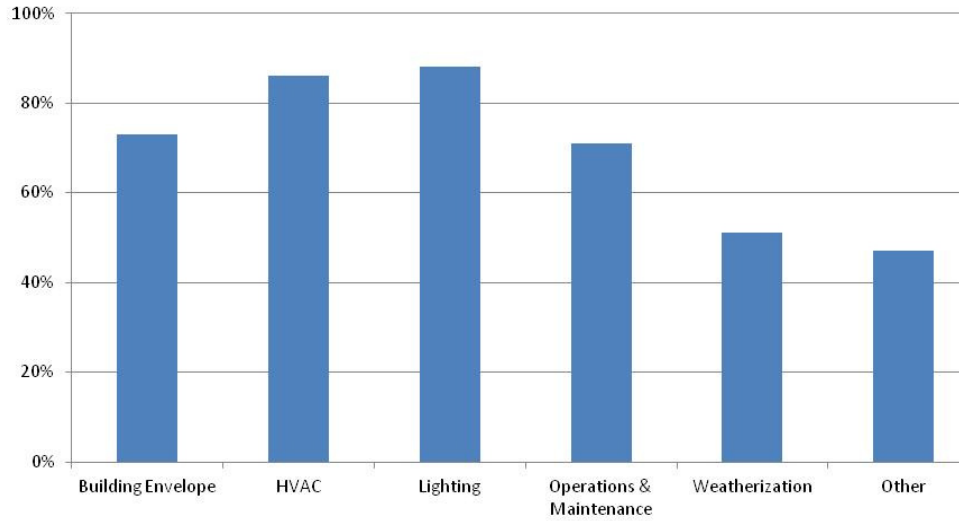
UEPs also deal with a broad array of energy efficiency disciplines from a wide variety of job functions within their firms.

UEP Job Functions





Relevant Energy Practices to Current Job



For complete survey results, see the document titled, *UEP Survey Summary.pdf*. Only questions that reveal names of individuals or companies have been omitted.



Interview Summaries

Workforce Incubator contacted all Survey respondents to request interviews, and achieved a 38% response rate. Interviews were conducted using a script, and were recorded and transcribed for later analysis. The interview script is in Appendix B.

Interview subjects fell into four broad categories of job function: Executive, Program Management, Account Management, and Other (Business Development, Directors of Industry Associations, Academics, etc.). Each was interviewed about how they reached their position, and what knowledge, skills, and abilities they felt were important for a new entrant to reach their position.

POSITION & CRITICAL JOB RESPONSIBILITIES

Interviewees were asked basic information about their position, their companies, and their critical job responsibilities. Each was asked to give three or more responsibilities, and answer summaries are listed in the order given by the respondents.

Job Function Category	Titles	Critical Responsibility Summaries	
Executive	CEO Principal President VP	1	Business Development Proposal Writing/Fundraising Research/Strategic Intelligence Contribute to CPUC/CEC Proceedings
		2	Financial Analysis Partnering/Partner Identification General Management Client/Relationship Management Planning Vision
		3	Monitor & Respond to Regulatory Changes Program Design Personnel & Resource Management
Program Management	Program Manager Sr. Program Manager	1	Program Management Personnel Management Customer Relationship Management Communication
		2	Energy Efficiency Engineering Teaching Financial/Budget Management Task Coordination
		3	Energy Efficiency Policy Community Planning Contracts and Documentation



Job Function Category	Titles	Critical Responsibility Summaries	
Account Management	Account Manager Account Manager 2 Sr. Account Manager	1	On-time Projects Customer Satisfaction Customer Relationship Management
		2	Project Planning Providing Accurate Information Administrative Responsibilities Staff Management
		3	Resource Management Billing Availability of Services
Other	Director CRM Manager, Expert Supervisor Professor Architect Director, Bus. Development	1	Client Reporting Selling Energy Efficiency Personnel Management Teaching/Research Design/Structural Issues Program Management
		2	Billing Outage Issues Task Management Business Development
		3	Lead Generation and Management Community Outreach Customer Relationship Management Regulatory Issues Research – Future Programs



KNOWLEDGE

Interviewees were asked the top three Knowledge Areas they had mastered in their position. Each answer summary is listed in the order given by the respondents.

Job Function Category	Knowledge Area 1	Knowledge Area 2	Knowledge Area 3
Executive	Engineering; Electrical & Mechanical Research & Data Analysis Business Analysis Thermodynamics Fundamentals Fundamental Business Systems & Structure Theoretical & Practical Aspects of Energy Efficiency	Technical Report Writing Energy Efficiency Industry Landscape Building Science Sales Residential Retrofit	Energy Efficiency Simulations Energy Efficiency Economics Human Factors Leadership Financial Management Vision
Program Management	Urban & Regional Planning Architecture Management & Operation of Energy Efficiency Programs Psychology Mechanical Engineering	Broad Familiarity with Energy Efficiency Building Science Financial Management Energy Efficiency Lighting, HVAC, Building Envelope Personal Skills	Public Policy Personnel Management
Account Management	Negotiation Customer Relations Business Communications Interpersonal Relationship Development	Soft Skills Mathematics	Energy Research Project Management
Other	Lighting Energy Service Delivery Rates & Programs Architectural Design Financial Projections	Energy Efficiency Equipment Usage & Replacement Sales, Customer Needs CAD, Computer How Markets Work	3 rd Party Programs Community Knowledge Internal Processes Construction Management, Critical Path Market Psychology



TASKS

Interviewees were asked the top three tasks that take up the greatest amount of their time. Task summaries are listed in the order given by the respondents.

Job Function Category	Task Area 1	Task Area 2	Task Area 3
Executive	Project Management Personnel Management Meetings Time Management Communications Responding to Requests for Information	Task Execution Planning Design Documentation Performance Assessment Improving Energy Efficiency Programs	Business Development Proposal Writing Client Meetings Company Management
Program Management	Time Management Designing Course Curricula Meetings Responding to Customer Issues Communications	Customer Relationship Management Administrative Tasks Technology Reviews Documentation	Program Administration Research & Consulting on Design Practices Staff Management Supply Chain Management
Account Management	Project/Task Follow-up Energy Audits Responding to Customer Issues Regulatory Rate Analysis	Staff Management Root Cause Analysis Researching Projects Customer Relationship Management	Communications Track & Document Tasks 3 rd Party Coordination
Other	Report Tracking Root Cause Analysis Case Follow-up Project Design Research	Customer Relationship Management Client Meetings Issue Resolution Writing	Communications Community Involvement Project Coordination Financial Analysis



SUCCESS FACTORS

Interviewees were asked the top three factors contributing to success in their job. Answer summaries are listed in the order given by the respondents.

Job Function Category	Success Factor 1	Success Factor 2	Success Factor 3
Executive	<ul style="list-style-type: none"> “Fundamental” Undergraduate Degree Thinking “Outside the Box” Risk Management Broad Background – Structural, Mechanical Engineering, Architecture Business & Accounting Education Vision PhD with Practical Experience 	<ul style="list-style-type: none"> HVAC Experience Large Scale Integrator Knowledge Ability to Quickly Ascertain Market Viability Computer Skills Communication Skills Ongoing Industry Education Leadership Training Tenacity Long-term Experience 	<ul style="list-style-type: none"> Ability to Influence People Engineering/Technical Skills Policy Knowledge Sensing What Works - “Connecting the Dots” National Involvement Setting Goals
Program Management	<ul style="list-style-type: none"> Customer Relationship Management Skills Architecture Knowledge Problem Solving Skills Team Building Skills Establishing Trust Relationships Tactical & Strategic Problem Solving 	<ul style="list-style-type: none"> Technical & Financial Skills Advanced Business Education Operations Management Attention to Detail 	<ul style="list-style-type: none"> “Big Picture” Perspective Design Aspects of Building Systems Quality Protocols
Account Management	<ul style="list-style-type: none"> Mentors College Education Understanding Customer Needs Basic Business & Economics Skills 	<ul style="list-style-type: none"> Company Sponsors Training Accountability Responsiveness Follow-through 	<ul style="list-style-type: none"> Communications Skills Pragmatism – Needs vs. Expectations
Other	<ul style="list-style-type: none"> Education Experience Communications Skills Critical Thinking Industry Training 	<ul style="list-style-type: none"> Professional Development Living & Working in Community Served Technical & Business Acumen Problem Solving Skills Connecting “Big Picture” with On the Ground Implementation Strategic Thinking 	<ul style="list-style-type: none"> Multi-tasking Ability Dedication to Sustainability



TECHNICAL SKILLS

Interviewees were asked the top three technical skills they had mastered or acquired in their position. Answer summaries are listed in the order given by the respondents.

Job Function Category	Technical Skill 1	Technical Skill 2	Technical Skill 3
Executive	HVAC Science Data Analysis Engineering Analysis Design Tools Computer Skills Energy Efficiency Technology & Engineering Systems Analysis	Building Science Technical Writing Engineering Modeling Understanding Customer's Business Understanding Contractor Business	Electrical Systems Physics Load Calculations & Equipment Sizing Specialized Software Understanding Regulatory Environment
Program Management	Science Background Enclosure Design Computer Skills Mechanical System Performance	Working Knowledge of Energy Efficiency Psychometry Project Management Writing	Waste Water Lighting General Engineering
Account Management	Fundamental Engineering Calculations; Mechanical, Electrical Computer Skills Building Systems; Motors, HVAC, Lighting Mathematics	Controls; New Equipment Application of Products to Customer Requests Rates Analysis	Chemistry
Other	Energy Efficiency Gas & Electric Service Details Computer Skills; CAD	Rebate Program Knowledge Engineering Software and Analysis Building Science	Lighting Billing & Program Knowledge Residential Market Knowledge



BUSINESS SKILLS

Interviewees were asked the top three business skills they had mastered or acquired in their position. Answer summaries are listed in the order given by the respondents.

Job Function Category	Business Skill 1	Business Skill 2	Business Skill 3
Executive	Financial Analysis/Cash Flow Technical Writing Personnel Management Communications Accounting Vision	Feasibility Analysis Motivational Skills Industry Trend Knowledge Goal Setting	Proposal Writing Negotiation Teaching Labor Laws Selling Plans & Proposals Maintaining Contacts
Program Management	Financial Analysis Project Management Writing Task Scheduling & Performance Assessment	Cost/Benefit Analysis	Policy Management CRM Tools Use Adaptability
Account Management	Financial Analysis Business Research Rate Analysis	Marketing Cost/Benefit Analysis	Project Management Selling & Closing
Other	Time Management Negotiation Writing Accounting Financial Analysis/Cash Flow	Organizational Skills Communications Supervisory Skills Presentation Skills	Project Management Research Problem Solving Skills



INTERPERSONAL SKILLS

Interviewees were asked the top three interpersonal skills they had mastered or acquired in their position. Answer summaries are listed in the order given by the respondents.

Job Function Category	Interpersonal Skill 1	Interpersonal Skill 2	Interpersonal Skill 3
Executive	Listening Empathy People Management Communications Sense of Humor Motivational Skills	Documentation Mentoring Crisis Management Being Diplomatic & Constructive	Organizational Skills Leadership Presentation Skills Team Orientation Negotiation Insisting on Performance
Program Management	Client Relationship Management People Management Presentation Skills Communications Problem Solving	Diplomacy	Knowing Markers of Success Public Speaking Motivational Skills Leadership Empathy While Remaining Professional
Account Management	Communications Public Speaking	Reliability Writing Negotiation	Customer Relationship Management Understanding Human Behavior - "Reading the Room"
Other	People Management Customer Relationship Management Supervisory Skills Motivational Skills Listening Public Speaking	Sales Skills Corporate Politics Leadership Conflict Resolution Communications Writing	Personal Confidence Presentation Skills Empathy Viewing People as Assets



“MISSING” SKILLS

Interviewees were asked the top three skills they would like to develop further in pursuing their career. Answer summaries are listed in the order given by the respondents.

Job Function Category	Missing Skill 1	Missing Skill 2	Missing Skill 3
Executive	Leadership Applied Engineering Skills Energy Efficiency Industry Basics Building System Problems & Solutions Financial Diagnostics Keeping Up With Technology Coalition Building	Presentation Skills Energy Efficiency Measures Decision Making Learning How to Learn Patience	Communications Listening How to Grow Business Understanding Capitalization & Markets Diplomacy
Program Management	Policy Analysis Architecture General Understanding of Energy Efficiency Industry Financial Analysis	On The Job Experience Critical Path Prioritization Technical Aspects of Energy Efficiency Lighting	Knowing “What Not to Do” Sales Skills ROI Analysis
Account Management	Presentation Skills Soft Skills Financial Analysis Technical Skills: HVAC, Electrical	Computer Skills	Distributed Generation Technology
Other	Time Management Mathematics Supervisory Skills MBA	New Energy Efficiency Technology Science Leadership Solar Design & Construction Economics	Program Management Computer Skills Emerging Construction Systems Energy Efficiency Training



“FUTURE” SKILLS

Interviewees were asked the top three skills they felt would be more important in the Energy Efficiency future. Answer summaries are listed in the order given by the respondents.

Job Function Category	Future Skill 1	Future Skill 2	Future Skill 3
Executive	Data Communications Financial Assessment Engineering Modeling Policy Management	Database Mechanical Engineering Computer Tools Leadership International Market Understanding	SmartGrid Integration & Implementation Quality Improvement
Program Management	Project Management Sales Cycle Energy Efficiency Technology System Performance	Business Writing Contract Management Computer Skills; Modeling	Financial Analysis Negotiation Knowledge of Energy Efficiency Options
Account Management	Controls Social Networking Public Speaking	Distributed Generation SmartGrid Technology	Regulatory Environment Computer Skills
Other	Contract Negotiation MBA Corporate Cross-Functional Knowledge New Construction Systems Multi-Family Projects	Value Engineering – New Technology Strategies Leadership Concrete Forms Financing & Financial Industry	New Design Principles Real Estate Industry – Insert Energy Efficiency Parameters



SCHOOLS AND TRAINING OPTIONS

Interviewees were asked to indicate their preferred training methods, and to identify any particular schools or training institutions that they trust for the quality of their graduates. Training options were ranked “3” for important, “2” for somewhat important, and “1” for not important.

Job Function Category	Highly Regarded Schools	Internship	Apprenticeship	Specialized Degree	Certification	Alternative Learning (e.g., Online)
Executive	All UCs & CSUs UC Berkeley UC Davis UC San Diego Sonoma State Stanford Colorado Boulder MIT BYU Texas A&M USC Indian Institute of Technology UCLA	3 (3) 2 (4) Avg. 2.43	3 (5) 2 (1) 1 (1) Avg. 2.57	3 (5) 2 (2) 1 (1) Avg. 2.5	3 (3) 2 (3) 1 (2) Avg. 2.13 Negative comments from some subjects on the value of certifications Specific certifications called out by others: NATE, BPI, HERS	3 (1) 2 (7) 1 (1) Avg. 2 Comments that alternative learning methods less valuable when used exclusively; proof of proficiency needed
Program Management	Santa Rosa Sonoma State Arcadia PG&E In-House Training UC Berkeley Stanford NOT Online Colleges	3 (4) 2 (2) Avg. 2.67	3 (3) 2 (2) Avg. 2.6	3 (4) 2 (1) Avg. 2.8	3 (2) 2 (3) Avg. 2.4	3 (1) 2 (2) 1 (2) Avg. 1.8
Account Management		3 (2) 2 (2) Avg. 2.5	3 (2) 1 (2) Avg. 2	3 (3) 2 (2) Avg. 2.6	2 (2) 1 (2) Avg. 1.5	3 (1) 2 (3) Avg. 2.25



Job Function Category	Highly Regarded Schools	Internship	Apprenticeship	Specialized Degree	Certification	Alternative Learning (e.g., Online)
Other	Sonoma State PG&E In-House Training UC Berkeley Presidio School of Management	3 (3) 2 (2) Avg. 2.6	3 (1) 2 (2) 1 (2) Avg. 1.8	3 (5) Avg. 3	3 (3) 2 (2) Avg. 2.6	2 (4) 1 (1) Avg. 1.8



CAREER PREREQUISITES

Interviewees were asked to identify certifications and entry- and mid-level positions they would consider prerequisite to attaining their current position. For entry- and mid-level positions, answer summaries are listed in the order given by the respondents.

Job Function Category	Certifications		Entry-Level Positions	Mid-Level Positions
Executive	Professional Engineering License Contractor License	1	Engineer Mechanical Design Code Compliance Sales Account Representative Program Management Simulation Modeling	Project Management Senior Designer Division Manager Program Design
		2	Engineering Auditor Commissioning Authority Production Associate Program Manager 1	Program Manager Sr. Engineer Production Manager
		3	Field Engineer Sr. Associate Program Manager	General Management
Program Management		1	Energy Study Researcher Project Assistant Energy Efficiency Specialist Energy Conservation Engineer	Project Management – Architecture Project Coordinator Installation Manager Senior Engineer
		2	Teaching Assistant Field Technician Sr. Energy Efficiency Specialist Entry-Level Building Operations Engineer	Account Manager Supply Chain Manager Chief Engineer
		3	Sales Manager Apprentice Controls Engineer	Sales Manager
Account Management		1	Residential Energy Auditor Small Customer Management Service Planning Small Commercial Auditor	Account Manager
		2	Business Customer Field Representative	
		3	Technology, Customer Segment Analyst	
Other	LEED AP BPI	1	Project Manager Account Representative Construction Coordinator Market Analyst	Service Planning Major Account Representative Sr. Account Representative Degreed Architect Program Design



Job Function Category	Certifications	Entry-Level Positions		Mid-Level Positions
		2	Service Planning Drafting Program Evaluator	Billing Representative Construction Coordinator Research Analyst
		3	Call Center/Meter Reader Program Manager	



INDUSTRY OUTLOOK

Interviewees were asked a series of questions about the Energy Efficiency Industry outlook.

Job Function Category	Experience/Education Critical to Personal Development	Occupations Most Changing	New Jobs	Forces Driving Change
Executive	Communication, Presenting, Teaching Knowing politics of writing successful RFPs College Education Mentors Personal Drive	Building Operators Building Controls Architects Engineering Quality Assurance Residential Energy Efficiency Jobs (Construction, Skilled Laborers) Low-Skilled Contractor Jobs Diminish	Title 24 Field Inspectors Commissioning Jobs	Use of Energy Efficiency Data in Decision Making Need for Energy Efficiency Phased Out as it becomes Routine Information Systems Regulation Environmental Needs Increase in Retrofits BPI Fees Increasing Need for More Training Renewables vs. Efficiency (not equivalent) SmartGrid Financing Mechanisms Informatics Green Building Initiatives Communication Technologies Storage Technologies How Energy is Produced & Sold Climate Change US Economy



Job Function Category	Experience/Education Critical to Personal Development	Occupations Most Changing	New Jobs	Forces Driving Change
Program Management	Mentors Education/Master's Degree Broad Experience	Architects (marginalized) Rebate Processing Lighting & Control Jobs Direct Installers going away Data Acquisition & Analysis	Computer/IT Jobs Controls Jobs Demand Response-related Jobs	Loss of Funding Threat Economics of Energy Efficiency Politics & Policy of Energy Efficiency Regulation; code changes Digitization of Architecture Controls Lighting SmartGrid Climate Change
Account Management	Mentors	Controls-related Jobs Demand Response Program Jobs Thermal Storage Account Manager	Solar & Green Technology Jobs Fuel Cell Jobs Computer/IT Jobs	Regulation Technology Fossil Fuels Financial Payback Energy Storage Technologies Fuel Cells Solar Lighting
Other	Interest in Government Affairs Mentors IT Background Utility Company Experience	Energy & Gas Planning Sustainability & Architecture HVAC Remodeling & Real Estate	Communications Internal & External Marketing & Advertising Specialized Field Representative Computer/IT Jobs Construction Jobs Jobs Working with Financial Industry	Market Penetration Regulation/Code Technology Changes Reliability & Repair SmartGrid Technologies Environmental Concerns Regulation/Safety Artificial Intelligence Modularity Advanced Materials Finance Real Estate Marketing



FINAL COMMENTS

Interviewees were asked if they had any other thoughts on the interview topics. Here is a sampling of the comments:

- Information systems delivering commodity energy at the right time, commercial customers having more options, energy moving to a commodities market; skill sets needed with customer contact important.
- Continue PG&E in-house training.
- Job candidates have no education in how to interview, present themselves & add value.
- An Energy Management Design Program is needed.
- Want to see a time when sustainability benefits are available to the masses, not just to those who can afford it.

APPENDICES

- 1) Survey Questions
- 2) Interview Script



Appendix 1: Survey Questions



1. Please tell us who you are – Name:
 2. Company:
 3. Title:
 4. Phone:
5. Please identify your company's primary and secondary lines of business from the list below: - Primary
 - Utility Program Administrator
 - Utility Program Implementation Contractor
 - Design & Engineering Firm
 - Building & Construction Firm
 - Energy Services Company
 - Technical Support Service Company
 - Manufacturer
 - Facility Management Company
 - Other (Specify)
6. Please identify your company's primary and secondary lines of business from the list below: - Secondary (See List Above)
7. Please choose the job function that most closely relates to your current role from the list below.
 - Building Design
 - Construction
 - Energy Assessment
 - Engineering
 - Finance & Accounting
 - Human Resources & Training
 - Information Technology
 - Operations & Supply Chain
 - Sales, Marketing, Program Management
 - Technician & Installation
8. Select the Job Title that is most closely associated with your position.
9. How many years have you held your current position?
10. How many years have you been working in the field of energy efficiency?
11. What percent of your job is spent on tasks that pertain directly to energy



efficiency?

12. Which of the following energy efficiency practices does your job currently apply to: (CHECK ALL THAT APPLY):

- Building Envelope
- HVAC
- Lighting
- Operations & Maintenance
- Weatherization
- Other (Please Specify)

13. Please identify your highest level of educational attainment from the list below (CHOOSE ONE):

- High School
- Associate Degree
- Bachelor's Degree
- Master's Degree
- Doctorate Degree
- Other (Please Specify)

14. Please identify your discipline of study from the following categories: (CHECK ALL THAT APPLY):

- Science / Math
- Engineering
- Business
- Architecture
- Economics
- Construction Management
- Law/Political Science
- Other (Please Specify)

15. Do you have any certifications from AEE that might have contributed to your subject matter expertise in your field? (CHECK ALL THAT APPLY):

- Certified Building Commissioning Professional (CBCP)
- Certified Building Energy Simulation Analyst (BESA)
- Certified Business Energy Professional (BEP)
- Certified Carbon & GHG Reduction Manager (CRM)
- Certified Energy Auditor (CEA)
- Certified Energy Manager (CEM)
- Certified Energy Procurement Professional (CEP)
- Certified Geexchange Designer (CGD)



- Certified Green Building Engineer (GBE)
 - Certified Lighting Efficiency Professional (CLEP)
 - Certified Measurement & Evaluation Professional (CMUP)
 - Certified Measurement & Verification Professional (CMVP)
 - Certified Power Quality Professional (CPQ)
 - Certified Renewable Energy Professional (REP)
 - Certified Residential Energy Auditor (REA)
 - Certified Sustainable Development Professional (CSDP)
 - Distributed Generation Certified Professional (DGCP)
 - Energy Manager in Training (EMIT)
 - Existing Building Commissioning Professional (EBCP)
 - None
 - Other (Please Specify)
16. Do you have any certifications from ASHRAE that might have contributed to your subject matter expertise in your field? (CHECK ALL THAT APPLY):
- Building Energy Assessment Professional (BEAP)
 - Building Energy Modeling Professional (BEMP)
 - Commissioning Process Management Professional (CPMP)
 - Healthcare Facility Design Professional (HFDP)
 - High-Performance Building Design Professional (HBDP)
 - Operations & Performance management Professional (OPMP)
 - None
 - Other (Please Specify)
17. Do you have any certifications from BOMA that might have contributed to your subject matter expertise in your field? (CHECK ALL THAT APPLY):
- Building Systems Maintenance Certificate (BSMC)
 - Facilities Management Administrator (FMA)
 - Facilities Management Certificate (FMC)
 - Property Management Financial Proficiency Certificate (PMFPC)
 - Property Administration Certificate (PAC)
 - Real Property Administrator (RPA)
 - Systems Maintenance Administrator (SMA)
 - Systems Maintenance Technician (SMT)
 - None
 - Other (Please Specify)
18. Do you have any certifications from US GREEN BUILDING COUNCIL that might have contributed to your subject matter expertise in your field? (CHECK ALL THAT APPLY):



- Green Associate - US Green Council (LEED GREEN ASSOCIATE)
- LEED AP - US Green Building Council (LEED AP)
- LEED AP Building Design + Construction - US Green Building Council (LEED AP BD+C)
- LEED AP Interior Design + Construction - US Green Building Council (LEED AP ID+C)
- LEED AP Neighborhood Development - US Green Building Council (LEED AP ND)
- LEED AP Operations + Maintenance - US Green Building Council (LEED AP O+M)
- None
- Other (Please Specify)

19. Do you have any certifications from OTHER CERTIFYING ORGANIZATIONS that might have contributed to your subject matter expertise in your field? (CHECK ALL THAT APPLY):

- Certified Facility Manager (CMP) - International Facility Management Association (IFMA)
- Facility Management Professional (FMP) - International Facility Management Association (IFMA)
- Building Operator Certificate (NWEEL & Univ of Oregon)
- Energy Management Certification (NWEEL & Univ of Oregon)
- Residential Auditor & Inspector (NWEEL & Univ of Oregon)
- Sustainable Building Advisor (NWEEL & Univ of Oregon)
- Energy Resource Management Certificate (UC-DAVIS)
- None
- Other (Please Specify)



Appendix 2: Interview Script



Workforce Incubator UEP Study – Interview Subject No. 01

Name: _____ Organization: _____

Title: _____

Phone: _____ email: _____ Date: _____

INTRODUCTION

Hello, my name is _____ with Workforce Incubator, an independent consulting firm in Livermore, CA. We are conducting a confidential PG&E-sponsored survey with individuals in the utility and clean energy industries who are promoting or developing energy efficiency programs and solutions.

Distributed generation and demand response are included within the scope of energy efficiency for the purposes of this survey.

- 1. I was directed to contact you through a source within PG&E because you were identified as someone whose work pertains to the promotion or development of energy efficiency programs or solutions.

Is now a good time to conduct the interview?

Yes	1 (continue)
No	2 *

* IF NO, ATTEMPT TO MAKE APPOINTMENT TO CALL BACK AT A MORE CONVENIENT TIME.

DATE: _____ TIME: _____

JOB RESPONSIBILITIES – (What are key foundation aspects of the UEP’s day-to-day duties)

We want to better understand your job – what you do and how you spend your time.

- 2. What are your most critical job responsibilities? Please list them in order of



importance.

Responsibility 1: _____

Responsibility 2: _____

Responsibility 3: _____

Responsibility 4: _____

Responsibility 5: _____

3. What are the top knowledge areas that one needs to have mastered in order to be in this position?

Knowledge Area 1: _____

Knowledge Area 2: _____

Knowledge Area 3: _____

4. What tasks would you say take up the greatest amount of your time on an average day?

Task 1: _____

Task 2: _____

Task 3: _____

5. In thinking about what differentiates you from your peers, can you highlight the major success factors that you believe are key to your effectiveness?

Success Factor

1: _____

Success Factor

2: _____

Success Factor

3: _____

SKILLS – (*Defines key competencies of the position*)

Our primary objective with this study is to understand the skills that you believe are most important for your job. We categorize skills into three groups: technical, business, and interpersonal.



Let's begin with the technical skills. These include competencies used to perform a particular task. They generally are acquired through experience (e.g. design, engineering, planning, equipment maintenance, testing, or installation, etc).

- 6.** Please list the technical skills, in order of importance which you believe are most critical to your job performance. (LIST SKILLS ACCORDING TO RANK ORDER)

Technical Skill 1: _____

Technical Skill 2: _____

Technical Skill 3: _____

Next are the business skills. These include such things as critical analysis and thinking, problem solving, idea generation, and industry knowledge.

- 7.** What would you say are the most important business skills that you apply in your work?

Business Skill 1: _____

Business Skill 2: _____

Business Skill 3: _____

- 8.** Which interpersonal skills do you use every day?

Interpersonal Skill 1: _____

Interpersonal Skill 2: _____

Interpersonal Skill 3: _____

- 9.** Are there any skills that you would like to develop in order to be even more effective?

Missing Skill

1: _____

Missing Skill

2: _____

In this next section I'd like to get your input about the trends you think will impact the way people do this work in the future.

- 10.** In your view, which skills will be most important in the future?

Future Skill



1: _____

Future Skill

2: _____

Future Skill

3: _____

EDUCATION – (*Drivers for education pathways*)

11. In thinking about the schools that prepares people for a career in your field in energy efficiency, which ones do you think provide the best training / education on a regional level?

What advice would you offer education and training organizations to help them prepare candidates for your type of job?

12. Specifically, how important would you say the following options are on a scale from 1-3 where 3 = “Very Important”; 2 = “Somewhat Important”; 1 = “Not Important”? (READ EACH OPTION AND CHECK ALL THAT APPLY, THEN RATE)

13. Can you explain how each of these adds value? (PROBE)

Training Options	25 – Rating	26 - Comments / Specific Advice
<input type="checkbox"/> Internships		
<input type="checkbox"/> Apprenticeships		“
<input type="checkbox"/> Specialized degree programs		“
<input type="checkbox"/> New industry certifications		“
<input type="checkbox"/> Alternative modes of learning [online, etc.]		“
<input type="checkbox"/> Other		“

CAREER PATHWAY – (*Basis for knowledge map*)

In this next section we would like to get a better understanding of your career path to determine how best to advise job candidates just starting out.

14. Please briefly outline your career path by telling me the positions, and the



approximate number of years you spent in each one, that lead to where you are today?

Position 1: _____ Number of years _____

Position 2: _____ Number of years _____

Position 3: _____ Number of years _____

Position 4: _____ Number of years _____

Position 4: _____ Number of years _____

15. What would you say are the entry-level requirements for someone who wishes to work their way towards a job like yours? (PROBE)

16. Are any certifications required to secure employment in your field?

Certification 1: _____

Certification 2: _____

Certification 3: _____

We also want to understand your career path at a more granular level, particularly how various entry, mid- and senior-level positions have helped you be successful.

17. Let's start with the entry level positions. Please list the types of entry-level jobs that could prepare someone to reach your current level.

Entry level Job 1: _____

Entry level Job 2: _____

Entry level Job 3: _____

18. Which mid-level positions are most important to develop leadership ability in this sector?

Mid level Job 1: _____

Mid level Job 2: _____

Mid level Job 3: _____



19. Finally, looking back over the course of your entire career, which factors were instrumental in getting you where you are today? Please discuss any specific professional experiences you have had, or describe a mentor who had an impact. (PROBE)

INDUSTRY OUTLOOK – (*Future drivers & opportunity for education investment*)

Before we wrap up, I wanted to get your input on the outlook for employment in your field.

20. Which occupations do you believe will undergo the most change?

21. Can you think of any potential new jobs that will arise in the energy efficiency industry? Which jobs do you believe will go away? (PROBE)

22. What are the major forces that will drive change in your industry in the next 10 years?

Industry Trend

1: _____

Industry Trend

1: _____

Industry Trend

1: _____

WRAP UP

Thank you for your time. Your perspective has been incredibly valuable!

23. I want to make sure I capture all of your thoughts. Is there anything you would like to add?

24. Would you like to receive a copy of our summary report? Where would you like that sent?

25. May we contact you with any follow-up questions?