Survey of Inclusion
Workforce Landscape

June 29, 2016

Submitted to:
Ms. Kristine Walker
Program Manager
Pacific Gas and Electric Company
245 Market Street
San Francisco, CA 94111
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Submitted by:
Mark Ouellette
Jessica Jenkins
Dominic Modicamore
Brad Hurte
Gary Craft
Kevin Stichter

This document was developed for Pacific Gas and Electric Company on behalf of the California Investor Owned Utilities – Southern California Edison, Southern California Gas, and San Diego Gas and Electric and under a contract with ICF International, Contract No. CWA 2501207873 and PO 2501210698. The ICF Team comprised of representatives from ICF International, Workforce Incubator, and Craft Consulting Group.
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Executive Summary

The ICF International Team was contracted to prepare a survey of the inclusion workforce landscape related to energy efficiency, divided into two separate scopes of work, Workscope A and Workscope D. Workscope A addressed the question, “What are the requirements for Energy Savings Assistance (ESA) Program field workers?” Workscope D was divided into three objectives. Objective D-1 addressed the question, “What are the existing career pathways within Energy Efficiency which provide promising opportunities for disadvantaged workers – entry-level and ongoing opportunities for advancement?” Objective D-2 addressed the questions, “What is the Definition for ‘Relevant’ Inclusion-Related Work in California? What is the Definition of ‘Working Relationship’ with the IOUs? What Qualifies as Inclusion-Related Working Partners for the IOUs?” Objective D-3 addressed the question, “What is an effective inclusion infrastructure for California and what is the IOUs’ role in this vision and infrastructure?”

In Survey of Inclusion Landscape Workscope A, the ICF International Team—compromised of ICF International, Workforce Incubator, and Craft Consulting Group—was tasked by the California’s Investor-Owned utilities (IOUs)—Pacific Gas and Electric (PG&E) Company, Southern California Edison (SCE), Southern California Gas (SoCalGas) and San Diego Gas and Electric (SDG&E)—to identify work requirements and gather job descriptions for four ESA Program field worker jobs: Energy Specialist/Program Representative/Residential Outreach Specialist, Installation Technician/Specialist, Natural Gas Appliance Test (NGAT) Technician, and Inspector. The study consisted of three major objectives:

1. Gather job descriptions for ESA field workers.
2. Determine whether the ESA job descriptions could be mapped into existing Federal or State job classifications.
3. Assess gaps in alignment with existing job classifications.

For Objective A-1, the ICF Team used information provided by the IOUs including brief ESA job descriptions, the ESA installation standards manual, and job task analysis findings from PG&E’s subject matter experts to gather detailed job descriptions. If there was not enough information provided on a particular job, as was the case for Inspector, the ICF Team located additional information from United States Department of Energy (DOE) job task analyses and used this information as the basis for the ESA Inspector job. The team synthesized the information from these sources and conducted a coding exercise to classify the knowledge, skills, abilities, and other characteristics (KSAOs) to gather job descriptions. The detailed job descriptions that represent ICF’s response to Objective A-1 are presented in section 1.2 of this report.

For Objectives A-2 and A-3, the ICF Team identified existing Federal or State job classifications potentially relevant to the four ESA jobs. After the search for relevant job classifications was complete, ICF conducted a systematic evaluation to determine whether the ESA program field worker jobs could be appropriately mapped to any of the identified job classifications, in which a rater panel assessed the level of similarity between the ESA jobs and the identified classifications. For two jobs, Energy Specialist/Program Representative/Residential Outreach Specialist and Inspector, no existing classifications were determined to be appropriately aligned.

Based on the evaluation results, it was determined that two of the jobs—Installation Technician/Specialist and NGAT Technician1—mapped to the classification of the Online Information Network or O*NET2 Weatherization Installers and Technicians. While the current research supports the use of this classification based on the information that was available about these two ESA jobs, these results should be validated with subject matter experts on the

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1 Note: under this category, across the IOUs, installation has many performance components of which a limited comparison was performed.
2 O*NET sponsored by the U.S. Department of Labor, Employment and Training Administration, is the primary national source of occupational information, and provides information on a wide range of jobs performed in the United States; www.onetonline.org
jobs (e.g., incumbents or supervisors of these positions) to confirm they represent how the jobs are actually performed. The other two ESA jobs—Energy Specialist/Program Representative/Residential Outreach Specialist and Inspector—did not map to any existing classifications.

In Workscope D, the ICF Team was asked how the IOUs, through their Workforce, Education, and Training (WE&T) efforts, can support disadvantaged workers in obtaining opportunities in energy efficiency (EE) careers. For Objective D-1, the ICF Team used a four-stage approach to identify four priority energy efficiency career paths: (1) Define promising energy efficiency career opportunities; (2) Evaluate Labor Market Information (LMI) forecasts; (3) Analyze real-time job posting data; and (4) Map career paths. The four career pathways that emerged are represented graphically in Exhibit 1:

Exhibit 1: Career Pathways

All occupations in the selected pathways were drawn from the Lawrence Berkeley National Laboratory’s Energy Efficiency Taxonomy, which is comprised of 78 occupations. The four career pathways all begin with Construction Laborer as the entry-level occupation. Construction Laborer is an occupation with broad exposure to other skilled trades, and with low barriers to entry for disadvantaged workers entering the workforce or transitioning to the energy efficiency field. All five occupations were shown to have regional and statewide demand through LMI forecasts validated by further research into the past 6 years of job posting trends. Ample training resources are available for each of the skilled trades, though varying by region, through the California Community Colleges, as well as through apprenticeship programs and other training providers. Wages for these occupations are shown to compare favorably in many cases with median wages for all occupations – only Construction Laborer earns less than the comparable median wage for All Occupations\(^3\) statewide, and that occupation earns from 79% to 115% of the comparable wage for All Occupations by region.

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\(^3\) "All Occupations" is a Standard Occupational Classification developed by the United States Bureau of Labor Statistics to capture wage and employment data for all workers. All supporting wage and employment data are provided as appendices.
The ICF Team addressed Objective D-2 through a combination of secondary research and follow-up phone conversations with service providers who perform inclusion-related work ("inclusion implementers"). Inclusion-related work is defined, for purposes of this study, as "programs targeted at workers from disadvantaged communities that guide them towards rewarding careers in energy efficiency jobs and occupations". The ICF Team was asked what would qualify as an inclusion partner, and proposed that qualified inclusion partners for the IOUs’ consideration would meet seven criteria identified by the United States Department of Health and Human Services Self-Sufficiency Research Clearinghouse as promising practices:

- Training by itself doesn’t guarantee success. Providing disadvantaged individuals with occupational training by itself does not guarantee successful job placement and retention. Wraparound services that teach soft skills, address individual barriers to employment, help an individual prepare for and seek employment, and post-placement follow-up are required in a more holistic approach.

- Simply offering generic post-employment job coaching, guidance, advice, and training referrals are unlikely to make a difference. Instead of trying to be all things to all people, post-employment job coaching, guidance, advice, and training referrals should be specific to the target sector, industry, or occupation.

- Subsidized employment alone hasn’t proven successful. At a minimum, disadvantaged individuals should receive soft and hard skills training, help with job search and placement, and case management throughout and after their training.

- Work-focused strategies with support services may be more promising than using either work-focused strategies or support services alone.

- Provide a mix of job search activities and short-term education/training, and include a strong focus on quick employment.

- Financial work incentives combined with job coaching and guidance after being placed in a job may strengthen employment retention.

- Hard-to-serve need, unpaid work experience, job placement, and education services to recipients with health conditions had longer-term gains.

Based on these criteria, the ICF Team developed two methodologies for the IOUs to determine if a training program is aligned with the IOUs inclusion goals. The first methodology is a quadrant matrix approach which categorizes implementers into one of four quadrants, based on the inclusion implementers’ focus on disadvantaged workers and the alignment of the programs to the targeted career pathways outlined in this report. Providers falling in Quadrant 1 have the greatest alignment with goals of bringing energy efficiency training to disadvantaged populations.

The second methodology is a “yardstick” evaluation where inclusion implementers’ programs are scored on a number of supporting “dimensions” in both the “qualified inclusion partner” and “training alignment.” For each criterion, an implementer may score 1 (yes), 0 (no), or “na” (not applicable). The result is that the IOUs can then create a scatterplot of programs on a continuum as well as quickly compare one program to another on established criteria. Providers plotted higher on the X (Inclusion) and Y (Quality Program) axes of the scatterplot have the greatest alignment with goals of bringing energy efficiency training to disadvantaged populations.

5 MDRC, Meeting the Needs of Workers and Employers: Implementation of a Sector-Focused Career Advancement Model for Low-Skilled Adults, October, 2014.
6 Ibid.
8 MDRC, Providing Earnings Supplements to Encourage and Sustain Employment, May, 2011.
11 Inclusion Implementer is an organization the focuses on training individuals from disadvantaged populations.
Appendix 12 highlights the 76 organizations researched for this effort and their rankings among these two criteria. For either of these criteria, the IOUs may want to refine the criteria based on additional priorities.

For Objective D-3, the ICF Team conducted secondary research regarding national best practices for providing energy efficiency-related training and support to disadvantaged workers. Best practices are commonly defined as “techniques or methodologies that, through experience and research, have been proven to reliably lead to a desired result.” The overall objective of the research is to (1) provide an overview of California’s current energy efficiency workforce training system focused on disadvantaged workers; (2) identify inclusionary program best practices; and (3) determine an effective inclusion infrastructure for California and what role the IOUs might play in this infrastructure.

The ICF Team presents a framework of best practices for inclusionary training programs with examples drawn from research. This framework includes recruitment into training programs, incorporating workforce skills standards into training programs, and providing “wrap-around” services for disadvantaged workers. Specifically, five best practices were identified:

- Workforce Sector Strategies: Coalitions of industry, education, and other workforce stakeholders to plan and implement training programs targeted at specific industry needs;
- Pre-Apprenticeship Training: To attract, introduce, prepare, and train new entrants for careers in aligned trades;
- Skills Standards and Credentials: While there is broad acceptance that skill standards are needed and that industry recognition of credentials is beneficial, there is less evidence of industry coordination around standards and credentials;
- Career Readiness and Supportive Services: Disadvantaged workers face barriers other than hard skills training; comprehensive case management provides the supportive services framework necessary to help disadvantaged workers find and prepare for the workforce; and,
- Job Placement and Follow-up Support Services: Once trained, disadvantaged workers need assistance in finding and retaining employment.

12 Bitpipe Definition.