



# Liandra Chapman

## Consultant



1500 SW 1<sup>st</sup> Avenue, Suite 720  
Portland, OR 97201  
chapman@evergreenecon.com  
www.evergreenecon.com

### EDUCATION

- > B.A., Economics, magna cum laude, Willamette University, Salem, Oregon

### CAREER

- > Evergreen Economics  
2021 – current

**Liandra Chapman** specializes in leveraging qualitative and quantitative data for Evergreen evaluations, including collecting data, performing quality control of data, and conducting data analysis. Liandra has worked with a variety of software packages including R.

### AREAS OF EXPERTISE

Liandra's analytical skills span both quantitative and qualitative methods, including survey analysis, billing analysis, and regression analysis. She is experienced in developing, programming, and managing survey campaigns across residential and commercial energy efficiency programs throughout the Pacific Northwest and California, as well as in conducting in-depth interviews and analyzing and reporting findings.

### SELECTED INDUSTRY EXPERIENCE

- > **FortisBC Commercial LED Lighting Baseline Evaluation**  
For FortisBC's Commercial LED Lighting program, analysis task manager overseeing survey and interview recruitment and analysis efforts for a project to gather local market data and program participant input to determine the program's energy savings impacts and inform any needed improvements to the program design and savings assumptions.
- > **Economic Impact Study of Cannabis Industry in Okanogan County, Washington**  
As an analyst, developed interview guides and worked on a literature review regarding economic impacts and cost benefits of legalized cannabis for a study on the economic impact of the cannabis sector in Okanogan County, WA. The study-measured economic activity through a comprehensive analysis that combined publicly available data with stakeholder engagement and assessment of the latest research into cannabis industry impacts.
- > **Energy Trust of Oregon Process Evaluation of the Commercial and Industrial Strategic Energy Management (SEM) Program and Energy Performance Platform (EPP) Assessment**  
Acting project manager for a process evaluation of Energy Trust's commercial and industrial SEM programs and an assessment of the EPP, a tool that participants use to track energy use and calculate savings.
- > **Pacific Gas and Electric Family Electric Rate Assistance (FERA) Study**  
Led customer survey design, fielding, and analysis; the survey was concerned with understanding PG&E customer awareness of, eligibility in, and interest in participating in rate discount programs (with a focus on the FERA program and FERA-eligible customers).



## SELECTED INDUSTRY EXPERIENCE (continued) .....

- > **Northwest Energy Efficiency Alliance 2022 Residential Building Stock Assessment**  
For NEEA, conducted quality control of on-site data collected by engineers to assist in the development of a current, robust, and representative characterization of the existing residential single-family and multifamily building stock in the Northwest.
- > **Bonneville Power Administration Comfort Ready Homes Program Process Evaluation**  
Assisted in recruiting for and conducting interviews for a process evaluation of BPA's Comfort Ready Homes program, which includes program training, communication, coordination, and midstream supplier incentives.
- > **Energy Efficiency Management Services for the State of Hawaii**  
Supported stakeholder engagement and communications by creating graphics and data visualizations for Evaluation, Measurement and Verification (EM&V) of the state's Hawaii Energy program plans, the Energy Efficiency Portfolio Standard (EEPS), and energy efficiency.
- > **Energy Trust of Oregon Irrigation Modernization Market Transformation Study Update**  
Supported analysis, research and interview guide development; and coordinated and conducted interviews for a study to assess market transformation progress by updating key market progress indicators (MPIs) and evaluating the Irrigation Modernization program's ongoing impact on the irrigation modernization market in Oregon.
- > **Silicon Valley Clean Energy Customer Survey**  
Assisted with web surveys of participants and non-participants of various SVCE programs by cleaning contact list, survey programming, survey implementation, and data processing; the surveys were conducted to track customer awareness and trends, inform marketing efforts, track technology adoption and identify differences by socioeconomic vulnerability index (SEVI) and EV and solar adoption compared with the general population.
- > **Southern California Edison San Joaquin Valley Disadvantaged Communities (SJV DAC) Pilot Impact Evaluation**  
Assisting with survey analysis for an impact evaluation to estimate the energy usage, energy bills, and non-energy impacts of Southern California Edison's (SCE's) SJV Disadvantaged Communities (DAC) pilot; this pilot offered no-cost gas line extensions and efficient natural gas appliances to homes that were reliant on propane and wood-burning appliances.
- > **SDG&E Single-Family Affordable Solar Housing (SASH) Program and Disadvantaged Community Single-Family Affordable Solar Housing (DAC-SASH) Program Evaluation**  
Conducted analysis for an evaluation of two programs that focus on increasing the number of solar installations on single-family affordable housing; one of the programs focuses on serving customers in disadvantaged communities. This project is for the California Public Utilities Commission (CPUC), sponsored by San Diego Gas & Electric.
- > **Pacific Gas and Electric Residential Equity Electrification Pilot (REEP) Program Evaluation**  
Quantitative research lead for a formative evaluation of PG&E's three-year Residential Equity Electrification Pilot (REEP), which involves monitoring and assessing the performance and outcomes of the program pilot while it is being implemented.

- > **Pacific Gas and Electric Title 24 Codes and Standards Enhancement (CASE) Stakeholder Engagement Studies**  
Project manager for Evergreen's portion of a project to help inform the Title 24 2028 code cycle; Evergreen is responsible for drafting survey instruments to gain input on new codes from various stakeholders throughout the code cycle, as well as analysis and reporting.
- > **MCE Equitable Electrification Study**  
Conducted interviews and fielded a survey for a study that is analyzing the market potential for electrification measures, assessing the economic value proposition of different measure bundles, and identifying the key barriers and opportunities for adoption to help MCE promote fair and equitable electrification.
- > **MCE Strategic Energy Management (SEM) Core Assessment**  
Working on a regulatory review of California SEM program guidelines and requirements for a study for MCE that will help inform the decision to pursue a light version of an SEM offering for customers for whom a full SEM engagement is not appropriate.
- > **MCE Low Income Families and Tenants (LIFT) Program Evaluation**  
Conducted interviews for a project to characterize the current program cycle and assess the persistence of savings since the beginning of the LIFT pilot.
- > **San Diego Gas & Electric Categorical Eligibility Study**  
Conducted data collection and analysis for a study of how well public assistance programs serve as pre-qualifiers for utility program eligibility, with the goal of making enrollment in utility rate and energy efficiency programs easier for low-income customers and increasing program engagement and participation.
- > **2022 California Investor-Owned Utilities and the California Public Utilities Commission Low Income Needs Assessment**  
Conducted survey data analysis and reporting for the 2022 California Low Income Needs Assessment. This study involves a comprehensive market assessment of low-income renter households to understand their issues relating to energy; topics being explored include energy use patterns, energy burden, disconnects, and bill arrearages.
- > **Pacific Gas and Electric Small Business Utility Advocates (SBUA) Environmental and Social Justice (ESJ) Study**  
Served as lead analyst and conducted stakeholder and customer research (interviews) and customer data analysis (PG&E data) for a study that focused on the needs and potential for further engagement of small businesses in environmental and social justice (ESJ) communities including tribal lands.
- > **Northwest Energy Efficiency Alliance Residential Laundry Field Study**  
Cleaned site and appliance data for the recruitment tool used for a field study of residential consumer laundry habits. This residential laundry field study leveraged NEEA's 2022 Residential Building Stock Assessment (RBSA) project to collect data on laundry habits in the region served by NEEA.
- > **Northwest Energy Efficiency Alliance Residential End Use Load Research Study**  
Conducted quality control on metering data for a residential energy monitoring field study including 400 on-site metering equipment installations across the Pacific Northwest. This study involves recruitment of participants, coordinating field staff, data quality control, and the development of a robust IT infrastructure and data entry tools.
- > **Bonneville Power Administration Energy Efficiency Strategic Energy Management (SEM) Persistence Study**  
Provided a weekly site tracker for a persistence study to estimate the effective useful life and remaining useful life for measures associated with BPA's SEM program.

- > **2025 California Investor-Owned Utilities and the California Public Utilities Commission Low Income Needs Assessment**  
 Conducted secondary data analysis and reporting for the fifth California statewide low-income needs assessment to inform the state's low-income utility weatherization program (specifically, the Energy Savings Assistance [ESA] program) and the primary low-income rate program (the California Alternative Rates for Energy); this most recent study provides a comprehensive market characterization of low-income high and low energy using households together with a survey of energy use habits.
- > **Southern California Gas (SoCalGas) San Joaquin Valley Disadvantaged Communities Pilot Projects Process Evaluation**  
 For SoCalGas, assisted with fielding a survey and with data collection for a process evaluation of a pilot project to convert San Joaquin Valley communities that rely on propane or wood burning appliances to either natural gas or all electric appliances. The evaluation was intended to determine the effectiveness of pilot processes and provide recommendations to improve their design and delivery and provide a basis to determine the success of the pilots in meeting their stated goals.
- > **Pacific Gas and Electric San Joaquin Valley Disadvantaged Communities (SJV DAC) Pilot Impact Evaluation**  
 Fielded a survey and analyzed findings for an impact evaluation of the SJV DAC Pilot in the communities served by two program administrators, Pacific Gas and Electric (PG&E) and Richard Heath and Associates (RHA). This pilot offered no-cost electrification, remediation, and electric appliance upgrades to communities that were reliant on propane and wood-burning appliances.
- > **Energy Trust of Oregon Trade Ally Interviews**  
 Recruited for and conducted in-depth interviews for a project to interview contractors that belong to Energy Trust's Trade Ally Network in an effort to explore potential issues for trade allies including barriers to program participation.
- > **Statewide Evaluation of New Mexico Investor-Owned Utilities' Electric and Gas Energy Efficiency and Load Management Programs**  
 For the New Mexico Public Regulation Commission, programmed survey instruments, conducted survey analysis and in-depth interviews, reported findings, and calculated program net-to-gross ratios for a statewide evaluation of electric and gas energy efficiency and load management programs focusing on five New Mexico utilities, including process and impact analysis for programs serving the residential (including multifamily and low-income), commercial, and industrial sectors.
- > **Pacific Gas and Electric Home Energy Use Study for Codes and Standards Program**  
 Assisting with implementation of quarterly and annual follow up surveys for a field study including metering of equipment to update saturation estimates and load shapes. The study covers the residential sector, encompassing all electricity and natural gas-using equipment, as well as building shell characteristics and the presence of distributed generation (i.e., solar photovoltaic).
- > **Pacific Gas and Electric Codes and Standards Program Research**
  - o **TVs Study** – For a project to gain an understanding on how participants' TV viewing choices and habits affect energy use, assisted with interview recruitment, conducted interviews, and cleaned and analyzed data.
  - o **Laundry Clothes Washers Survey** – Assisted with participant recruitment, programmed surveys, recorded and cleaned data, and conducted load shape analysis for a study assessing customer laundry habits focusing on clothes washers. This mini-study is a component of a multi-year Home Energy Use Study covering the residential sector that involves on-site surveys and metering of appliances.
  - o **Induction Stove Tops Study** – Leveraged data to prepare graphics for research on induction stove tops to understand how the perceptions and opinions of induction stove tops change when end users gain experience using them.

- **Door-in-Door Refrigerators Study** – Have begun designing metering tools to test door opening practices based on different refrigerator configurations.
- > **Bonneville Power Administration Energy Efficiency Impact Evaluation Services**  
Preparing weekly data tracker using R for a multi-year impact evaluation of BPA energy efficiency programs. Currently, Evergreen is conducting an impact evaluation of residential and commercial HVAC measures, including air source heat pumps, ductless heat pumps, and duct sealing. This project includes coordinating analysis of data across dozens of BPA's customer utilities.

## SELECTED PUBLICATIONS AND PRESENTATIONS

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- > Chapman, Liandra, Tami Rasmussen, Kayla Banta, Ted Helvoigt, and David Tripamer. 2025. "The Heat is On! Understanding the Savings Potential of Heat Pumps." Paper presented at the International Energy Program Evaluation Conference, Denver, Colorado.
- > Chapman, Liandra, Kayla Banta, Ted Helvoigt, and Sarah Monohon (Evergreen Economics); Lauren Gage (Apex Analytics); Santiago Martin Rodriguez-Anderson (SBW); Hanna Lee (Bonneville Power Administration). 2024. "SEM - Break Down Barriers and the Savings Persist." Paper presented at the American Council for an Energy-Efficient Economy (ACEEE) Summer Study on Energy Efficiency in Buildings, Pacific Grove, California.