



## CHRISTINA TOROK

*Principal Consultant*

Email: torok@evergreenecon.com

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### PROFILE

**Christina Torok**, Principal Consultant, has over 16 years of industry experience conducting energy efficiency evaluations, managing large-scale, high profile studies with the California investor-owned utilities (IOUs), the California Public Utilities Commission (CPUC) and nationwide. She has a breadth of experience with varied sectors and technologies, and expertise in statistical analysis, end-use metering and conducting primary data collection with end-use customers and trade allies. Her past positions include Principal Energy Consultant for Itron, Inc., Reports Analyst for the Federal Reserve Bank of San Francisco, Investment Analyst for Dorn, Helliesen & Cottle, Inc. and Economist for Mathtech, Inc.

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### EDUCATION

M.A., Economics, University of Michigan, Ann Arbor

B.A., Economics, University of California, Santa Cruz

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### INDUSTRY EXPERIENCE

- **Integrated Demand Side Management (IDSM) Portfolio Opportunity Assessment, for the California Public Utilities Commission (2015–present)** (Project Lead) - This study is a comprehensive portfolio assessment of the IDSM content and potential of all California DSM programs, across all proceedings. This study will assemble portfolio data by sector representing all of California's ratepayer funded offerings. The study will develop and implement a methodology to enable each offering to be classified along a spectrum of IDSM accomplishments. In parallel, it will assess the IDSM potential of each offering, to identify the areas within the portfolio that have the greatest potential for IDSM improvement at the lowest cost.
- **Integrated Demand Side Management (IDSM) Program Studies, California Public Utilities Commission (CPUC) (2013-2015)** (Project Lead) - Evergreen managed two California Statewide CPUC-sponsored studies in support of the IOUs' Integrated Demand Side Management (IDSM) efforts. The first of these two studies was an examination of the patterns of IDSM uptake among residential customers, leveraging primary data collection to better understand the social and economic mechanisms that drive IDSM adoption. The results inform future program designs and serve as the baseline for tracking of changes in market characteristics and results of transformation efforts. The second study consists of several case studies of small-to-medium commercial sector IDSM projects. Each case study analyzes the streams of DSM costs and benefits as well as the associated interactions across DSM measures. The objective is to understand the unique features of integrated projects, and the customer perspective of integrated project cost/benefit assessment.

- **Integrated Demand Side Management Market Characterization, Residential and Small Commercial Markets in California, for San Diego Gas & Electric (2013-2014)** (Project Lead) - Evergreen staff researched residential and small commercial markets for integrated DSM solutions. This study documented consumer trends and the needs and wants of customer segments such that efforts to promote IDSM can be targeted most efficiently to maximize their impact.
- **Residential Load Control Program Evaluation, and Reliability Enhancement from Residential Air Conditioning Cycling, GPU - New Jersey** (Lead Analyst while with Itron) - An impact evaluation of the AC cycling load control program in New Jersey in conformance with PJM DLC Load Research Requirements. This study was accepted by PJM to determine the load reduction nomination that GPU would contribute to the PJM Power Pool.
- **Baseline Market Study for the Hawaii PUC** (Lead for Data Quality Assurance and Residential Reporting) - For the Hawaii PUC, Evergreen staff led a team to estimate baseline energy-using equipment market shares and to characterize equipment and home and business characteristics.
- **California Statewide 2010-2012 Nonresidential Program Assessments Study, CPUC and California IOUs** (Project Director) - This project implemented an innovative new study technique in order to provide due diligence review and meaningful feedback for all members of California's very large and diverse pool of 2010-2012 nonresidential programs (200+). The effort comprised a suite of seven *Program Group Studies* that drew from a common study framework founded on the California Energy Efficiency Best Practices Study.
- **California Statewide 2010-2012 Custom Impact Evaluation Report, CPUC, Work Order 33** (Task Lead) - The evaluation addressed program impacts for the 2010-2012 program cycle and concentrated on non-deemed projects and programs in the commercial, industrial and agricultural sectors. Gross impacts, net impacts and qualitative program assessment results were reported for the four main California IOUs. Ms. Torok contributed to the analysis and initial reporting for the qualitative assessments of impact results, termed "Lower Rigor Assessments". This was a new approach to impact evaluation, requiring less precision and time while providing meaningful guidance to the program regarding areas of success and opportunities for improvement.
- **Low Income Needs Assessment for the California IOUs and CPUC** (Lead Analyst) - Evergreen staff assessed the low-income population's needs, including characterization of demographics and energy-using equipment characteristics and assessment of their energy burden and energy needs. Ms. Torok led the assessment of energy burden, combining resources from IOU customer data, Census data, survey data and data available from the Residential Appliance Saturation Survey.
- **California Statewide Omnibus IDSM Process Evaluation, Program Years 2010-2012, for the CPUC** (Scope and Approach Development) - An investigation of the successes and lessons learned through the California IOUs' efforts to integrate DSM programs through implementation of the Statewide IDSM Program.

- **California Statewide On-Bill Financing Process Evaluation, Program Years 2010-2012, for the CPUC** (Scope Development and Project Management) - This study examined the IOUs' OBF offerings to determine their efficacy in improving energy efficiency program uptake, and deeper, more comprehensive retrofits.
- **California Statewide Home Energy Efficiency Survey Impact Evaluation, Program Years 2010-2012, for the CPUC** (Interim Project Manager) - This project used customer surveys and statistical techniques to measure energy impact arising from the IOUs residential energy efficiency survey offerings.
- **California Building Benchmarking Process Evaluation Program Years 2010-2012, for the CPUC** (Scope Development and Project Management) - This study examined the efficacy of building benchmarking in its capacity to improve uptake of energy efficient measures and practices.
- **Solar Hot Water and Photovoltaics Incentive Programs' Impact Evaluation, Florida Power and Light, 2012** (Lead for Approach Development in Residential PV and Commercial SHW) - This Itron study was an extensive end-use metering impact study of FPL's business and residential solar hot water and PV incentive programs.
- **Evaluation of Commonwealth Edison Energy Efficiency Program (2009-2011)** (Lead Evaluator for Single Family Home Energy Performance and DCEO Low Income New Construction) - This project consisted of three annual reporting cycles covering the portfolio of energy efficiency programs. Reporting efforts included impact and process evaluation for the ComEd Single Family Home Energy Performance, a residential energy efficiency audit and direct install program, and also the Low Income New Construction and Gut Rehab Program, administered by the Illinois Department of Commerce and Economic Opportunity (DCEO).
- **2009 California Solar Initiative Impact Evaluation, California Public Utilities Commission** (Lead for Energy Efficiency Audit Evaluation Component) - This study measured the energy and load impacts resulting from the 2009 CSI program, including the effects of the program requirement that participants conduct an energy efficiency audit as a precondition of their receiving CSI solar rebates.
- **2006-2008 Evaluation Report for the California Public Utilities Commission's Southern California Industrial and Agricultural Contract Group** (Led the statewide High Impact Measure (HIM) Evaluation of pipe and tank insulation) - The pipe and tank insulation impact evaluation involved site-inspections and engineering analysis of over 70 retrofit commercial facilities, as well as net-to-gross telephone surveys with hundreds of participants.
- **Evaluation of Multiple Commercial/Industrial and Residential Programs, Florida Power & Light (FPL) (2000-2008)** (Various Roles/Net-to-Gross and Market Assessment) - This project is a large and long running, comprehensive evaluation of energy efficiency and load control programs. The evaluations addressed an array of impact, market and process areas over commercial/industrial and residential energy efficiency and load control technologies.

- **2004/2005 Nonresidential Audit Program Evaluation** (Project Manager) - Comprehensive evaluation including gross and net impact measurements, process evaluation, an assessment of the longer-term benefits of the Audit and an innovative cross-program impact evaluation.
- **2002 and 2003 Statewide Nonresidential Audit Program Evaluation** (Lead Analyst) - These studies, managed by PG&E for the four California Investor Owned Utilities, met a variety of process and impact objectives.
- **2004/2005 Express Efficiency Evaluation CFL EUL Analysis** (Lead Analyst) - A CFL effective useful life study component completed as part of the Express Efficiency 2004/2005 Evaluation. This EUL Study utilized telephone survey data and hazard function estimation techniques to develop a model of CFL lifetimes in commercial facilities.
- **Residential Billing Model, Illinois Power Company (2000)** (Lead Modeler) - This project developed a new algorithm for residential bill estimation that was adopted for use when a meter-read was unavailable. The algorithm was developed with regression analysis techniques to predict customer usage using previous bills, weather and other relevant and available data.
- **U.S. Department of Energy Clothes Washer Study** (Lead Analyst) - This conjoint study of consumer's preferences and demand for clothes washers involved focus group data collection and statistical modeling.

## **SELECTED PUBLICATIONS AND PRESENTATIONS**

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- Torok, C., Bradley, K., & Friedman, R., (January 2009), "Nonresidential Audit Impacts: Digging Deeper Toward Causality", *2009 Association of Energy Services Professionals Conference*.
- Torok, C., Bradley, K., Sutter, M., Friedman, R., Landry, P., Gettig, B., & Train, K., (January 2007). "California Statewide Cross Program Net Impact Study: Attribution Analysis for a Nonresidential Program Portfolio", *2007 Association of Energy Services Professionals Conference*.