County Metrics Database

Multiple Clients

Challenge: Data about customers and communities is increasingly important as utilities and local governments work to meet their ambitious energy, equity, sustainability or economic development goals. There are a myriad of data sets available but assembling these diverse sources into a cohesive structure that informs strategy and policy is difficult and time consuming.

Approach. Beginning in 2017 Tierra began developing County Metrics, a proprietary dataset that profiles various aspects of a community, such as, for example, demographic, equity, energy usage and carbon in the built environment and transportation sectors, and financial and economic performance characteristics. County Metrics is used in all of Tierra's projects where market characterization from the region to the census tract level is essential. This allows Tierra to accurately advise clients on a broad range of topics, from strategies designed to grow the local economy to programs designed to improve grid resiliency or achieve climate action and equity goals.

Outcome: Table 1 provides a summary of recent projects completed by Tierra where County Metrics has been used to define various market elements. County Metrics currently includes more the 50 data sources and is growing and updated monthly. Most data sources are publicly available, and the range of data elements and history of records allow for flexibility in analysis and outputs, such as geographic cross comparisons (e.g., comparing various cities or counties), or timeseries analysis of per capita funding or market adoption profiles. The County Metric Database is built in Microsoft Excel and is simple to use and update over time. As part of our services, Tierra regularly provides online dashboards in Tableau or Microsoft Power BI to help visualize outputs for staff, stakeholders, and community members.

Table 1. Tierra Projects Using County Metrics for Market Characterization

Client and Project	Projects with Market Characterization Focus
City of Redding's Electric Utility Assessment of Transportation & Building Electrification Impacts on the Utility	Characterized vehicle fleets and the built environment to define emerging grid needs resulting from vehicle and building electrification.
U.S. DOE Connected Communities Grant	Characterized single and multifamily building stocks to assess the market for grid interactive residential equipment.
Seattle City Light (SCL) Program Review and Update	Characterized the performance of SCL's residential and commercial programs to align with Washington's state carbon action planning.
City of Stockton, CA CCA Feasibility Study	Characterized residential and commercial building stocks, energy use and customer demographics to define high value CCA programs.
Duke Energy Winter Peak Study	Characterized the market for heat pump space and water heating in North and South Carolina to define the market for dispatchable, flexible gird interactive devices to address Duke's winter peak periods.
Central Coast Community Energy Electrification Roadmap	Characterized vehicle fleets and the built environment to develop a Strategic Electrification Roadmap and customer programs targeting the residential, commercial, agricultural, and transportation sectors.

California Energy Commission Multifamily EV Ready Community Blueprint	Characterized the low-income multifamily built environment to define 1) policies, 2) economic benefits and 3) supply and demand approaches to drive the adoption of EVs in the low-income market.
California Energy Commission Advanced Energy Community Pilot Initiative	Characterized the residential and hard to reach commercial markets to define and achieve an advanced energy community in the City of Fresno.
California Public Utilities Commission, Evaluation of Local Government Partnerships	Characterized the performance of EE programs in the residential and commercial built environment to assess the distribution of utility funding of locally focused programs.
Sonoma Clean Power Grid-Interactive Water Heater Program	Characterized the residential hot water heating market to design a Grid-Interactive Heat Pump Water Heater Pilot Program.
Alameda County, CA. CCA Feasibility Study	Characterized residential and commercial building stocks, energy use and customer demographics to define the impact of potential CCA programs.
Sonoma County Energy Independence Program (SCEIP) GHG Impact Analysis	Characterized the built environment and reviewed project installations to provide a comprehensive analysis and accounting of GHG emissions reductions associated with SCEIP's PACE financing program.

For more information about County Metrics, please contact Floyd Keneipp or Nick Snyder.

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