

Local Government Energy Efficiency

BEST PRACTICE(S) IMPLEMENTED¹

- Understand local market conditions.
- Define & locate hard-to-reach customers & target programs accordingly, as appropriate.
- Conduct sufficient market research.

THE TOOL FOR IMPLEMENTATION

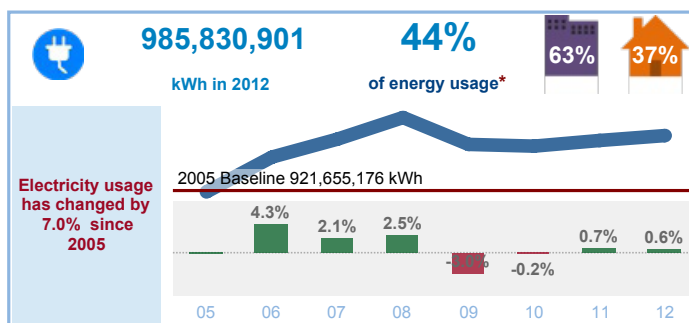
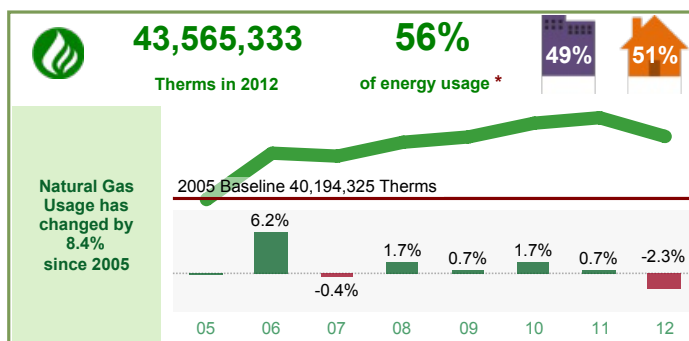
Starting in 2011, Pacific Gas and Electric Company (PG&E) made available to their local government partners community energy usage data using a new graphic software tool called Tableau. The analytics available through Tableau include not just energy usage data, but also census and demographic data that, when combined with energy usage, produce a rich profile of community energy usage patterns. The reports produced using the new software are highly customizable and, for the first time, allow local government energy efficiency program staff to see where the areas of highest energy efficiency improvement opportunity exist within their respective jurisdictions.

High level reports can be generated that give an overall picture of usage patterns for an entire community back to 2005, or can be focused down to a specific city block level. All levels of the data reporting are very useful for local government energy efficiency staff and programs that have aggressively utilized the Tableau tool to target their work have achieved significant results, as evidenced by the programs highlighted in this article.

USING COMMUNITY ENERGY DATA TO DRIVE PROGRAM SUCCESS

OPERATIONAL PARAMETERS

- Energy usage and savings reports are provided through PG&E's Green Communities Data Portal, a secure portal for public agencies to request and download energy consumption information. For first time users, PG&E can provide a Community Energy Manager, Local Government Partnership, or Account Manager review and explain the report to the local government representative.
- "Community Summary" reports are made available without the need for a non-disclosure agreement (NDA) since the report does not include sensitive customer-identifiable data and only presents data at the aggregated community level. These reports are often used to inform local elected officials about the need for energy efficiency programs in their communities.
- More granular energy usage data such as zip code, census block group, or individual customer data is available, as appropriate, to local government partnership (LGP) staff with an active contract with PG&E for implementing customer-funded energy efficiency programs in partnership with PG&E.



(Chart courtesy of Sustainable Napa County)

1. Source: www.eebestpractices.com, Self-Benchmarking Tool, cross-cutting best practices

Lessons Learned

LESSONS LEARNED

The proper use of community energy usage data can help drive program success if combined with good program design and stakeholder collaboration. Some of the key findings include:

- Generate Political Support Community energy usage summaries can generate political support for energy efficiency programs if the data can be aligned with community goals, such as improving the local economy, climate and environmental concerns, new business and job creation, etc.
- Accurate Message Targeting Data at the zip code or city block level, when combined with local marketing data on buying habits, can help target marketing messages for energy efficiency programs and outreach efforts such as home shows, fairs, radio and TV ads, etc.
- Improve Program Outreach Efficiency Data at the customer level can help direct-install contractors avoid targeting businesses or neighborhoods that have already taken advantage of services through utility programs, therefore reducing wasted time in outreach to customers already served.
- Better Program Resource Allocation Community and zip code usage data can help regional energy efficiency program administrators allocate resources based on community usage profiles and energy efficiency opportunities; not just population or number of homes/businesses, etc.

BACKGROUND

The analysis of energy consumption data as a tool to motivate and validate improvement in the energy efficiency of buildings has been accepted as a best practice and well documented for many years (see VIEW Benchmark on <http://gpstoner.files.wordpress.com/2011/12/view-benchmark3.pdf> for more details). The practice of benchmarking building energy use through software tools such as the Department of Energy's Portfolio Manager <http://www.energystar.gov/buildings/facility-owners-and-managers/existing-buildings/use-portfolio-manager> has resulted in a multitude of building upgrades nationwide and is recognized today as an essential element in any energy efficiency program. What has not been done, until recently, has been to use the same analytic process in benchmarking buildings and attempt to apply it to an entire community or neighborhood. As with benchmarking a building, to "benchmark" a community requires more than just energy consumption data. Data on how the energy is used within the community is essential and this requires the data to be segregated into market segment and include information on climate zones, demographics, building age, design, etc. Unlike building benchmarking in Portfolio Manager, community analysis has not evolved to applying a relative score reflective of the efficiency level to the community, but that may come in time.

Beginning in 2011, PG&E made community energy usage data, using new graphic software called Tableau <http://www.tableausoftware.com>, available to their local government partners. Tableau is data visualization software that focuses on business intelligence. The software is not specifically designed for energy usage data, but was chosen by PG&E to develop community energy analytic tools because of its ability to combine and automatically synchronize inputs from multiple database sources.

The reports generated using Tableau range from community energy summaries that show energy usage trends since 2005 for both residential and non-residential buildings to reports that show usage at the customer level. The most useful reports to date are the community energy summaries and reports that show neighborhoods with the highest potential for energy efficiency upgrades. These reports are available for internal use by PG&E staff and/or can be made

Implementation

available to local government partners and 3rd party contractors if under contract with PG&E. Some of these reports can be provided without a non-disclosure agreement (NDA), but most require an NDA and business purpose before they can be released. All of the reports and protocols for releasing them comply with California state law and rulings from the California Public Utilities Commission (CPUC) related to data and customer privacy.

While PG&E was the first to utilize the Tableau software for energy usage reports, the other investor-owned-utilities - Southern California Edison, Southern California Gas, and San Diego Gas and Electric - will be providing similar energy usage reports as a result of Decision 14-05-016 <http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M090/K845/90845985.PDF> issued by the California Public Utilities Commission (CPUC) on May 5, 2014.

To date, most of the efforts to use community energy usage data to improve energy efficiency program performance have been limited to public outreach and gaining political support. Two examples of how the data reports have been used to implement the best practices highlighted in this fact sheet are explained below.

USING THE TOOL TO IMPLEMENT BEST PRACTICES

Data reports showing neighborhood and market segment consumption levels have been very helpful in improving program participation both for commercial and residential market focused programs.

In The Residential Market

A residential program that has used community energy data successfully is in Fresno County with the Central Valley Energy Tune-up (CVETU) <http://www.cvetu.com> program. CVETU is operated by the City of Fresno as part of the Fresno Energy Watch Local Government Partnership program with PG&E. The CVETU program provides no-cost residential and medium-commercial energy audits for PG&E customers in Fresno County. The program is designed to leverage the audit services into deep retrofits through strategic targeting of the services to customers that will reap the highest economic benefit from the upgrades and therefore be more willing to do projects.

Through a detailed analysis of neighborhood, market segment, and zip code energy usage data in collaboration with the local PG&E Community Energy Manager, the CVETU program team, including a local marketing firm, is able to craft the right message and target the right customers to get maximum program participation rates.

The key to successfully developing the correct residential customer messaging from energy usage data is first taking zip code level energy data and then overlaying traditional marketing research information such as buying habits, spending levels, etc. related to the demographics of the zip code. Once the correct message is developed, targeting the outreach efforts in the specific zip code produces optimal results. The Central Valley Energy Tune-up program currently receives between 300 and 450 requests for residential audits per month and has a conversion rate from audit to retrofit of about 39%.²

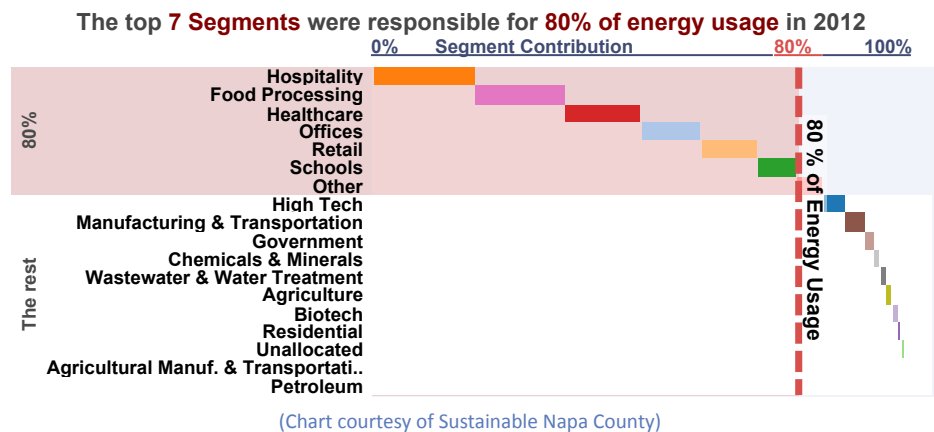
In The Commercial Market

For commercial customers, the approach is different. A good example of using data for commercial program efforts is in Napa County with the Napa County Energy Watch program, a partnership between PG&E and the non-profit, Sustainable Napa County <http://www.sustainablenapacounty.org>. Sustainable Napa County program staff use the community energy summaries in combination with the PG&E My Energy on-line energy tracking tool to work with local businesses. Community energy usage data helps target market segments with the highest usage and focus staff outreach efforts.

2. Information supplied by City of Fresno Development and Resource Management Department

Learn More

Sustainable Napa County staff approach businesses within the market segments with high usage levels and offer to help them analyze their opportunities for savings. Once a business is engaged, staff review 5-year usage trend data with the customer, provide rate reviews for customers interested in retrofits, and offer a My Energy tutorial slide presentation to help guide them in analyzing their usage patterns and finding savings. Sustainable Napa County staff worked with 40 businesses during 2013 and provided them with services customized to their respective needs.³



The success of the Fresno County and Napa County programs is the innovative way in which they have strategically and collaboratively used energy consumption data as a key element to implement these best practices:

- Understand local market conditions,
- Define & locate hard-to-reach customers & target programs accordingly,
- Conduct sufficient market research.

LEARN MORE

To learn more about the energy usage reports available to local government partnerships from PG&E, please visit the PG&E Green Communities data portal here:

<http://www.pge.com/mybusiness/environment/whatyoucando/greencommunities/>

OTHER LOCAL GOVERNMENT PARTNERSHIP PROGRAMS USING COMMUNITY ENERGY DATA TO DRIVE SUCCESS

- Fresno Energy Watch Business Outreach
- San Luis Obispo County Energy Watch
- Kern Energy Watch
- Sierra Nevada Energy Watch
- Santa Barbara Energy Watch

3. Information supplied by Sustainable Napa County