

# MEMORANDUM

**TO:** UTILITIES ADVISORY COMMISSION  
**FROM:** UTILITIES DEPARTMENT  
**DATE:** February 6, 2019  
**SUBJECT:** Upcoming Home Energy and Water Reports Program

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## **RECOMMENDATION**

This is an informational report and no Utility Advisory Commission (UAC) action is requested. This report is provided to inform the UAC of the upcoming contract negotiation and eventual launch of a new Home Energy and Water Reports program and is agendized to enable the UAC to discuss the upcoming program and ask questions.

## **EXECUTIVE SUMMARY**

The City of Palo Alto Utilities (CPAU) energy efficiency portfolio has included Home Energy and Water Reports for residential customers intermittently over the past decade. When implemented, these programs contribute a substantial amount of cost effective energy savings to the portfolio, serve as an engagement tool and can increase customer satisfaction with the Utility. Staff published an RFP for energy efficiency services in July 2018, evaluated many qualified proposals, and is negotiating a contract for a new Home Energy and Water Report program. The program is part of a broader “Efficiency Action Platform” that includes an online customer portal, the home energy and water reports, and an online energy efficiency marketplace. The platform has the capability to support additional enhancements like smart meter data reporting and future efficiency innovations like competitions, lotteries, or other game-like efficiency incentive programs.

## **BACKGROUND**

From 2010 through 2015 CPAU ran a Home Energy Reports Program for the residential sector. In 2013 CPAU added a water component called the Home Water Reports Program. These programs are highly effective at encouraging customers to reduce energy and water consumption through education and awareness of load reduction programs, measures, and actions. When implemented, the Home Energy Report Program accounted for over 50% of the total natural gas savings portfolio for the City<sup>1</sup>. In 2015, the last year in which the program was fully implemented, the program accounted for 22.31% of CPAU’s total electric savings and 64.9% of CPAU’s total gas savings. The gas and electric energy component and the water component were hosted by two separate companies. CPAU ended the programs to seek a new provider

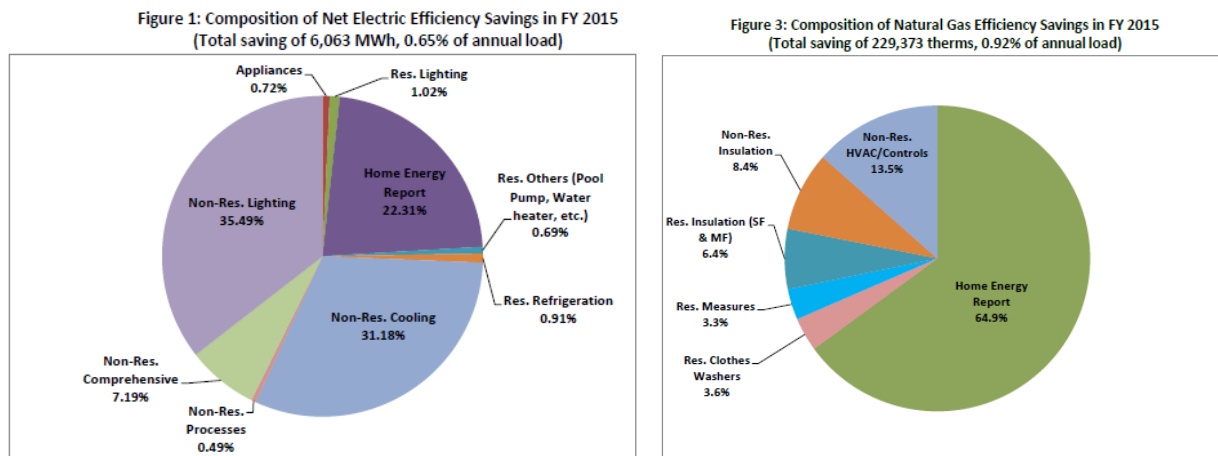
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<sup>1</sup> CPAU publishes an annual Demand Side Management report detailing the gas and electric savings City-wide. The most recent report representing the findings after a full year of an energy action program implementation is the [2015 DSM- Final Updated](#)

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whose platform would enable CPAU to respond to concerns customers had expressed about the previous program. Through a competitive RFP process, staff has now identified the best-in-class vendors for both water and energy comparison reports and plans to integrate these services into CPAU’s new My Utilities Account online platform. This will enable the customer to have a single portal where they can find all of their online utility resources. The new platforms will also enable staff to implement a variety of best practices as described below.

Staff has presented to the UAC the [Ten Year Energy Efficiency Plan](#) and an [Electric Integrated Resource Plan \(EIRP\)](#) (October 2018). These reports recommit the City to making energy efficiency a priority over procuring new energy resources, and set out an ambitious set of ten year efficiency goals. This program also fulfills the two main concerns of the City’s [Sustainability Implementation Plan \(SIP\)](#)- carbon emissions and water conservation- by addressing two key areas of activity: energy and water. Existing housing stock accounts for 46% of total City natural gas usage. This program is explicitly designed to serve both multi-family and single-family customer segments and therefore should have a significant impact on the City’s overall greenhouse gas emissions.



As CPAU continues to focus on the importance of the greenhouse gas reduction benefits of reducing natural gas usage, this program will be a major factor in achieving natural gas savings.

**DISCUSSION**

In implementing this program, staff has incorporated a number of industry best practices and has built in flexibility for future program enhancements.

**Best Practices Implemented**

Staff has designed its new program to take advantage of lessons learned through its previous program and the best practices identified by other utilities and researchers in the industry for maximizing customer satisfaction and program effectiveness.

**Transparent Comparison Algorithm:** The new platform for Home Energy and Water Reports will have the ability to customize comparison modules and messaging to more accurately compare neighbors (for example, by adjusting for the number of people in the household), to more

clearly communicate that improved comparison to customers (with a clear statement on the report about the assumptions used for each household), and will allow customers to adjust those parameters through an online portal. In the previous Home Energy Reports, some customers voiced concern at the lack of transparency in with the method of comparison between customers. Some customers did not believe the comparison took into account the unique dimensions of their household, or could not tell how the algorithms worked. All customer data is kept completely confidential in the program platform. “Neighbors” in the neighborhood comparisons are anonymous accounts with similar demographics.

**Proper Accounting for EVs and Electrification:** The new platform will be able to properly account for the higher electric usage of customers who have EVs or have adopted other electrification measures. These customers will have their comparison basis adjusted to account for their increased electric usage. The previous reports did not account for this difference. This understandably led to dissatisfaction among customers with these vehicles and devices. Customers who take actions that reduce carbon but increase electric usage should receive reports that take into account their higher electric usage when determining how efficient their energy use is.

#### **Comparison Option for PV Customers**

The new platform will allow PV customers to do an annual comparison to their previous year’s usage. In the previous program, customers with PV were unable to access Home Energy Reports at all. This caused them frustration as they generally tended to be the green early adopters who wanted to be in the program and did not want to be left out.

**Single Sign-on for Online Content:** The new Home Energy and Water Reports will be integrated into the new My Utilities Account online portal under a single sign-on, meaning one username and password gives access to all online services at once. CPAU is a unique utility in that it provides gas, electricity and water. It has been difficult to find qualified vendors to provide a single platform for all three commodities that can be delivered cost-effectively and in a manner that will enable CPAU to report savings to the California Energy Commission (CEC). Because of these challenges, in the past customers have had to use as many as four separate online portals: one for bill pay, one for their gas and electric comparisons, another for their water comparison, and, for customers in the Customer Connect pilot, a fourth portal for their smart meter data. This has understandably been a barrier to participation.

#### **Additional Functionality for Long-term Program Flexibility**

Staff plans to work with a vendor with a platform capable of enabling the program to improve over time. Below is some functionality that may not be used immediately, but will be available to staff for future program enhancements:

**Interval Data Capability:** The new platform is capable of incorporating hourly interval data. This functionality was included in anticipation of the AMI system as described in the [Utilities Smart Grid Assessment and Utilities Technology Implementation Plan](#). Interval data will allow real-time water leak reporting and more granular energy consumption analysis, and may enable other enhancements for the Home Energy and Water Reports.

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**Energy Challenge Module:** The industry is in the process of exploring “gamification” as a way to improve customer engagement with energy efficiency. Gamification is the inclusion in a non-game context of features normally seen in games, such as competition between players or rewards such as badges, progress meters, or prizes. The new platform is capable of hosting energy challenges that would incentivize customers to reduce energy use using game-like features such as prizes or other rewards. This will allow CPAU to run programs that are cost-effective, positive, and voluntary, and could encourage customers to reduce commodity use through methods other than neighborhood comparisons.

**Online Marketplace Module:** Staff is referring to its integration of the traditional customer portal with the Home Energy and Water Reports and an Online Marketplace as its “Efficiency Action Platform.” The synergy between these different services has been used at other utilities to increase customer engagement and participation in utility programs. For example, when the Home Energy or Water Report informs customers of their energy use, they will also provide a direct pathway to the Online Marketplace, where customers can sign up for programs and educational workshops, as well as purchase energy and water saving products or smart-home devices (with instant rebates if applicable) to help decrease energy consumption and/or decrease carbon footprint. This Online Marketplace also has the potential to expand offer services such as contractor matching, financing options, best-practice tips for installing and operating home equipment, and other functionality. This will make it easier for customers to engage with the Utilities and complete home energy improvement projects.

### **Cost and Benefits**

The forthcoming program contract is estimated to cost less than \$200,000 per year, and it is projected to provide more than one million kilowatt hours of electricity savings, as well as over 100,000 therms saved. This makes it one of the most cost-effective programs in the CPAU energy efficiency portfolio. Additional benefits of this program include high social equity since it is accessible to all residential customers, regardless of financial or other constraints. It also allows for extensive customer contact and engagement, and it serves as a helpful tool to increase utility consumption awareness. The program also assists customers with taking energy and water saving actions and improving their home’s carbon footprint.

### **NEXT STEPS**

Staff expects to take contracts for these programs to City Council in March 2019 and initial reports are expected to be published by fall 2019.

### **RESOURCE IMPACT**

This program is estimated to cost roughly \$200,000 per year for the electric and gas component of the reports, with additional costs for the water reports and the online marketplace, which are still under negotiation. The entire set of services will be highly cost-effective under traditional energy efficiency cost-effectiveness measures. CPAU will implement this program with existing staff resources and budgets.

**POLICY IMPLICATIONS**

The programs referenced here contribute to various plans, including the Utilities Strategic Plan, the Sustainability and Climate Action Plan (S/CAP), the Electric Integrated Resource Plan (EIRP), the Ten Year Energy Efficiency Plan, and the Sustainability Implementation Plan.

**ENVIRONMENTAL REVIEW**

The Utilities Advisory Commission's discussion of this informational report does not meet the definition of a project under Public Resources Code 21065 and therefore California Environmental Quality Act (CEQA) review is not required.

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