

Agenda Report

March 13, 2017

TO: Honorable Mayor and City Council

THROUGH: Municipal Services Committee (February 28, 2017)

FROM: Water and Power Department

SUBJECT: ADOPT ENERGY EFFICIENCY AND DEMAND REDUCTION GOALS FOR FISCAL YEARS 2018 THROUGH 2027

RECOMMENDATION:

It is recommended that the City Council:

1. Find that the adoption of energy efficiency and demand reduction goals is exempt from the California Environmental Quality Act ("CEQA") pursuant to State CEQA Guidelines Section 15061 (b) (3) (general rule); and,
2. Adopt an energy efficiency goal of 13,500 MWh per year and demand reduction goal of 2.3 MW per year for fiscal years 2018 through 2027 in accordance with California Assembly Bill 2021 ("AB-2021") and Assembly Bill 2227 ("AB-2227").

MUNICIPAL SERVICES COMMITTEE RECOMMENDATION:

The Municipal Services Committee unanimously supported the staff recommendation at its February 28, 2017 meeting.

ENVIRONMENTAL ADVISORY COMMISSION RECOMMENDATION:

The Environmental Advisory Commission unanimously supported the staff recommendation at its February 15, 2017 meeting.

EXECUTIVE SUMMARY:

California law requires that local publicly owned utilities such as Pasadena Water and Power ("PWP") acquire all cost effective, reliable and feasible energy efficiency and demand response prior to other resources. It further requires that their governing boards such as the Pasadena City Council adopt ten-year energy efficiency and peak demand reduction goals every four years effective March 2013, and that utilities report their energy efficiency goals, spending, and progress regularly to the California Energy Commission ("CEC"). The City Council has previously adopted such goals in 2007,

2010, 2013 and the next filing is due to the CEC in March 2017. As a result of achieving PWP’s past goals, retail energy sales have declined by more than 12% and peak demand has dropped more than 10% over the last ten years.

As with prior years, a consultant was retained in collaboration with other publicly owned utilities throughout the state to develop a model to determine the market potential for energy efficiency in each participating utility’s service territory for years 2018 to 2027. The consultant customized the model to produce results appropriate for PWP’s service territory. Staff developed the proposed ten-year energy efficiency and demand reduction goals based on the consultant’s model results and taking into consideration simplicity, historical goals and achievements, and what may be practically achievable based on past experience.

Table I summarizes the average annual energy savings and demand reduction goals that were previously adopted by the City Council, the market potential determined by the consultant’s model, and the recommended goals for FY2018-2027.

Table I – Ten-Year Average Energy Efficiency Goal Summary

Energy Efficiency Target	2007 Goal	2010 Goal	2013 Goal	2017 Market Potential	Recommended Goal
Energy Savings* (MWh/year)	18,126	16,600	12,750	14,350	13,500
Demand Saving* (MW/year)	2.2	3.8	2.3	3.9	2.3

** Average annual energy savings and demand reduction goals adopted for the entire ten-year period.*

The recommended goals are inclusive of savings attributable to PWP’s share of reductions from statewide appliance standards and building codes (“Codes and Standards”) and represent about 1.25% of annual energy sales and 0.7% of average annual peak demand forecast for the ten-year period. The proposed energy efficiency goal is modestly higher than previous goals and extends the City’s leadership position in environmental sustainability as one of a few agencies considering a goal greater than 1% of energy sales. The recommended target is relatively aggressive and will extend PWP’s overall declining retail energy sales trend.

Staff recommends maintaining the current demand reduction goal of 2.3 MW annually consistent with PWP’s recent demand reduction achievements. Despite consistently meeting the annual energy savings goals, peak demand reductions have been inconsistent and are heavily dependent on the specific types of energy efficiency projects customers choose to pursue as well as changes in Title 24 building code.

PWP’s energy efficiency programs are funded with revenues from the Public Benefits Charge (“PBC”) rate that are maintained in a separate fund. Based on recent program experience and planned changes, PWP anticipates that total energy efficiency program expenditures will average about \$4 million per year to achieve these goals, or about 2.2% of annual retail electric revenues. PWP anticipates having sufficient funds to meet the recommended energy efficiency and demand reduction goals without increasing the PBC rate.

BACKGROUND:

Legislative Requirements

AB-2021, signed into law in September 2006, requires that the governing bodies of public utilities adopt ten-year energy efficiency and demand reduction goals every three years beginning in 2007. Assembly Bill 2227 (2012) changed the adoption timeline to every four years beginning in 2013. These statutes require that utilities report their energy efficiency goals, spending, and progress regularly to the CEC.

Achieving the energy efficiency goals will also help PWP meet the goals other state laws, including:

- Assembly Bill 32 (2006), which sets forth statewide goals to reduce California's greenhouse gas emissions to 1990 levels by 2020;
- Senate Bill 350 (2015) which requires a doubling in the statewide energy efficiency savings by 2030; and,
- SB-1037 (2005), which requires each local publicly owned electric utility to acquire all cost effective, reliable, and feasible energy efficiency and demand response prior to other energy supply resources.

Pursuant to SB-350, the CEC is conducting proceedings to determine how to double statewide energy efficiency by January 1, 2030. PWP, in coordination with other California publicly owned utilities, is actively engaged in these regulatory proceedings. The CEC has signaled it may set annual targets for utilities as part of these proceedings, though PWP does not yet have enough information to estimate what PWP's individual target might be if in fact utility-specific targets are established. PWP will report back to City Council on any new efficiency targets that impact the newly adopted goals.

City of Pasadena Sustainability Policies

On September 18, 2006, the City of Pasadena adopted the United Nations Urban Environmental Accords ("Urban Accords") and endorsed the US Mayors' Climate Protection Agreement. These policies are aimed at providing leadership to develop sustainable urban centers and promote a clean, healthy and safe environment for all members of society. Urban Accords policies relevant to the recommendations herein include: (i) Reduce greenhouse gas emissions 25% by 2030; (ii) Reduce the City's peak electric load by 10% by 2012; and, (iii) Increase the use of renewable energy to meet 10% of the City's peak electric load by 2012.

In addition to supporting the Urban Accords goals, the energy efficiency goals adopted by the City Council are incorporated into the Power Integrated Resource Plans that provide PWP's long-range blueprint for providing customers with reliable, environmentally responsible electric service, competitive rates, and energy independence over the next two decades.

Municipal Utility Collaborative Process

Since the enactment of AB-2021, the California Municipal Utilities Association (“CMUA”), the Northern California Power Agency (“NCPA”) and the Southern California Public Power Authority (“SCPPA”) have worked in collaboration to develop and report individual utility energy efficiency and demand reduction targets, spending, and progress of 36 publicly owned utilities in California. Navigant Consulting was retained to build, update, and utilize an analytic model to guide each participating utility in establishing their respective goals for the 2010, 2013, and 2017 adoption cycles.

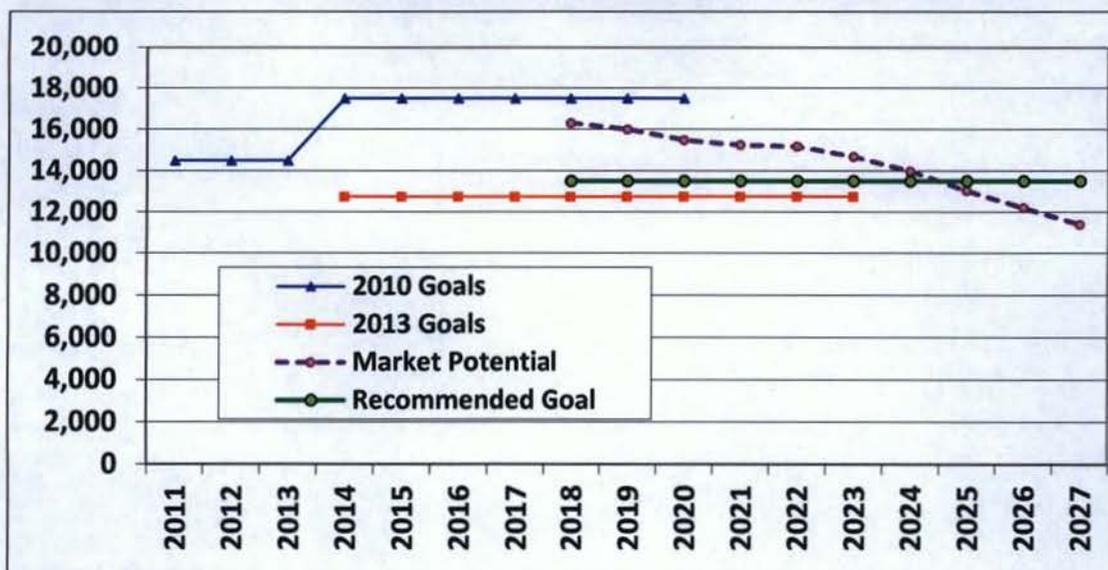
Energy Efficiency Model

The Energy Efficiency Resource Assessment Model (“EERAM”) developed by Navigant is customized and used to estimate the potential energy efficiency savings for each participating utility’s service area. The resulting market potential for energy efficiency is an estimate of the cost-effective and achievable annual energy savings and demand reduction that is typically used as a basis for developing energy efficiency goals. Unlike in prior years, the 2017 EERAM includes projected energy and demand reduction associated with Codes and Standards savings.

Model Results and Recommended Goals

Navigant worked closely with PWP staff to configure the EERAM and estimate the potential for PWP’s service territory. Figure 1 shows the resulting market potential for energy efficiency steadily declines from 2018 to 2027, averaging approximately 14,350 MWh per year, or 1.34% of forecast retail sales volume. The figure also shows PWP staff’s recommended goal for 2018 – 2017 of 13,500 MWh per year, or 1.25% of forecast retail sales, as well as prior goals adopted by City Council in 2010 (14,500 MWh per year in the first three years) and 2013 (12,750 MWh per year). PWP is proposing to continue to maintain the demand reduction goal of 2.3 MW established in 2013, based on historical program achievements over the last five years.

Figure 1 - PWP’s Annual Energy Efficiency Goals (MWh per Year)



The savings potential declines over the 10 years primarily due to a forecast that there will be fewer savings opportunities remaining within the commercial building stock and diminishing savings from adopted Codes and Standards.

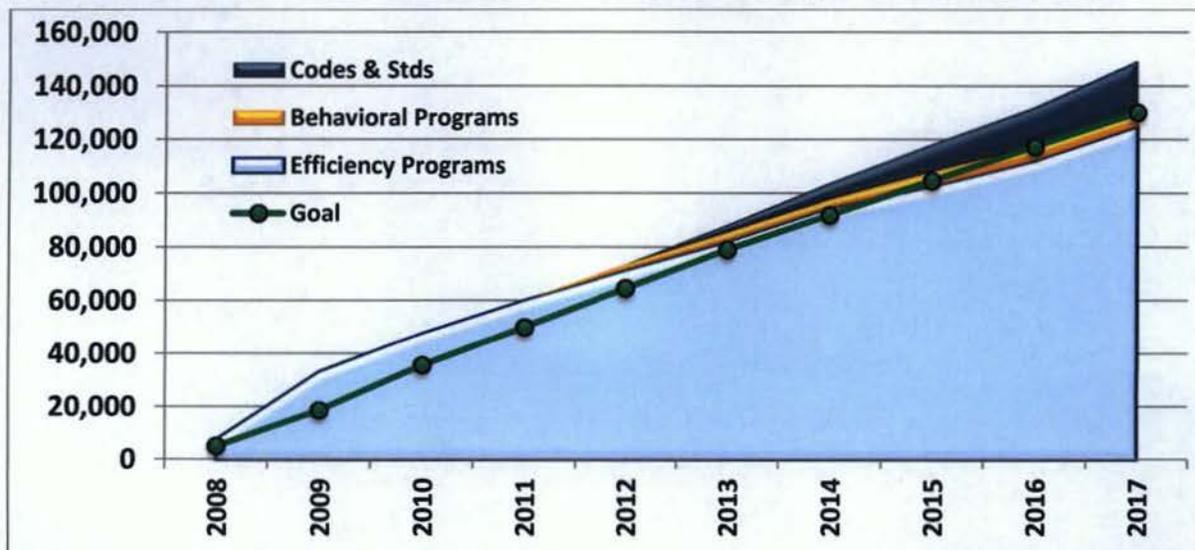
The proposed ten-year energy efficiency and demand reduction goals are based on the model results, but also consider factors such as the consistency and simplicity of the annual goals, the City's environmental objectives, evolving State policy requiring a doubling of energy efficiency by 2030, historical achievements, available funding for incentive programs, and potential electric rate impacts.

At the end of the ten-year period, staff estimates the proposed energy efficiency goals will have offset electric energy sales growth by a net cumulative amount approximately 86,000 MWh per year, approximately 8% of forecasted retail electricity sales.¹

Cumulative Progress Implementing Energy Efficiency Goals

Figure 2 depicts the cumulative actual and projected energy efficiency savings through FY 2017. On a cumulative basis from FY 2008 through FY 2017, PWP's energy efficiency programs have helped Pasadena customers save energy, thus reducing retail sales by approximately 140,000 MWh from what they otherwise would have been. The net effect of achieving these goals has been an absolute energy sales decline of more than 12% and peak demand reduction of more than 10% over the last ten years.

Figure 2 - PWP's Cumulative Energy Efficiency Goals (MWh/year)



PBC Fund and Budget Considerations

PWP customers pay a PBC rate based on their electric energy usage to fund cost-effective energy efficiency programs; renewable resources; research, development and

¹ This is smaller than the prior cumulative achievements in 2008-2017, since the forecast anticipates that substantial fraction of PWP's annual energy savings goals will be met with behavioral efficiency programs that are deemed to have a one-year measure life for reporting purposes; whereas, the average lifespan of PWP's other energy efficiency program measures is approximately ten years.

demonstration (“RD&D”) projects; and, low income rate assistance and energy efficiency programs. PBC revenues are maintained in a separate fund (PBC Fund 410) that is used only for these purposes as authorized under Public Utilities Code 385(a). At the end of each fiscal year, any remaining unspent revenues are carried forward to the next fiscal year. The PBC revenues are the sole source of funding for PWP’s energy efficiency and solar energy incentive programs.

The PBC rate is determined by a formula based on the approved PBC budget, less any available carry-forward funds, divided by forecast energy sales. The PBC rate is currently 0.685¢ per kilowatt hour (“kWh”) and generates approximately \$7.6 million in revenue per year, costing the average residential customer using 500 kWh \$3.43 per month.

PWP anticipates the current PBC rate will be sufficient to cover energy efficiency expenditures anticipated to meet the recommended goals while maintaining funding for low income and RD&D expenditures at current levels without increasing the PBC rate. PBC funding for renewable resources is expected to decline significantly over the next two fiscal years as the current solar photovoltaic incentive program winds down. To the extent that future PBC revenues may exceed PBC expenditures, the City Council may choose to direct these funds to increase funding PBC eligible programs or to reduce the PBC rate in the future.

COUNCIL POLICY CONSIDERATION:

The proposed energy efficiency and demand reduction goals are consistent with the City’s Urban Environmental Accords Goals, the General Plan Energy Element, the City Council’s Strategic Planning Goals, and the 2015 Integrated Resource Plan. PWP anticipates meeting the Urban Environmental Accords 32 MW demand reduction goal by the end of FY2014 through the cumulative impact of energy efficiency programs and the installation of clean, customer-owned generation (e.g., solar photovoltaic and fuel cells) since 2007. Adoption of the proposed goals will also contribute to greenhouse gas reduction goals by reducing energy use.

ENVIRONMENTAL ANALYSIS:

The proposed action has been determined to be exempt from CEQA pursuant to State CEQA Guidelines Section 15061 (b)(3), the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment. Where it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment, the activity is not subject to CEQA. Such is the case with the proposed adoption of an energy efficiency goal. CEQA only applies to projects that have the potential for causing a significant effect on the environment. These proposed goals will not be detrimental to the public interest, health, safety, convenience, or general welfare of the City nor do they have the potential for causing a significant effect on the environment, do not constitute approval of any construction project, and are therefore exempt from CEQA review pursuant to State CEQA Guidelines Section 15061(b)(3).

FISCAL IMPACT:

The recommended action has no direct fiscal impact, as it does not authorize additional expenditures or rate adjustments. Future Light and Power Fund expenses and retail electric revenues are expected to decline as a result of achieving the recommended goals. The magnitude and timing of revenue impacts will depend on numerous factors including customer participation in efficiency programs, changing patterns in electric use, actual cost savings achieved, and the timing of electric rate adjustments that may be necessary as a result of reduced retail sales volumes.

Energy efficiency program expenditures are approved in annual PBC Fund (Fund 410) budget approvals and are expected to average about \$4 million per year (about 2.2% of annual retail electric revenues) to achieve the recommended goals. This estimate excludes direct install measures funded from other sources such as So Cal Gas, the Water Fund, or grant funds for certain direct-install programs. Energy procurement costs are expected to decline by a similar or higher amount over the lifecycle of the energy efficiency measures installed each year. Additional power distribution infrastructure investment costs may be reduced or deferred as a result of the electric energy savings achieved.

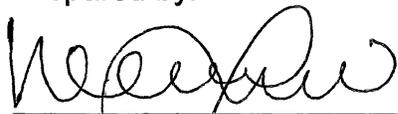
At this time, staff does not anticipate any need to adjust the PBC rate to achieve the recommended goals and continue funding other ongoing PBC programs.

Respectfully submitted,



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