

CITY OF HAYWARD

Hayward City Hall
777 B Street
Hayward, CA 94541
www.Hayward-CA.gov



CITY OF
HAYWARD
HEART OF THE BAY

Agenda

Monday, January 8, 2018

4:30 PM

City Hall, Conference Room 2A

Council Sustainability Committee

CALL TO ORDER**ROLL CALL****PUBLIC COMMENTS:**

(The Public Comment section provides an opportunity to address the City Council Committee on items not listed on the agenda as well as items on the agenda. The Committee welcomes your comments and requests that speakers present their remarks in a respectful manner, within established time limits, and focus on issues which directly affect the City or are within the jurisdiction of the City. As the Committee is prohibited by State law from discussing items not listed on the agenda, any comments on items not on the agenda will be taken under consideration without Committee discussion and may be referred to staff.)

APPROVAL OF MINUTES

[MIN 18-004](#) Approval of Minutes of Council Sustainability Meeting on November 13, 2017

Attachments: [Attachment I Minutes of Council Sustainability Meeting on November 13, 2017](#)

REPORTS/ACTION ITEMS

[ACT 18-001](#) East Bay Energy Watch Paper: "Navigating the Changing Landscape of Energy Efficiency Programs in the East Bay"

Attachments: [Attachment I Staff Report](#)
[Attachment II Report titled "Navigating the Changing Landscape of Energy Efficiency Programs in the East Bay"](#)

[RPT 18-013](#) Lead Testing in Schools

Attachments: [Attachment I Staff Report](#)

[RPT 18-004](#) Review of 2017 Mountain Tunnel Shutdown and Regional Reliability Efforts

Attachments: [Attachment I Staff Report](#)

[RPT 18-012](#) Semi-Annual Update on City's Waste Reduction and Recycling Programs

Attachments: [Attachment I Staff Report](#)

[RPT 18-014](#) City of Hayward Comment Letter - Prohibiting Wasteful Water Use Practices

Attachments: [Attachment I City Letter](#)

[ACT 18-003](#) Proposed 2018 Agenda Planning Calendar

Attachments: [Attachment I Staff Report](#)

FUTURE AGENDA ITEMS

COMMITTEE MEMBER/STAFF ANNOUNCEMENTS AND REFERRALS

ADJOURNMENT



CITY OF HAYWARD

Hayward City Hall
777 B Street
Hayward, CA 94541
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File #: MIN 18-004

DATE: January 8, 2018

TO: Council Sustainability Committee

FROM: Director of Utilities & Environmental Services

SUBJECT

Approval of Minutes of Council Sustainability Meeting on November 13, 2017

RECOMMENDATION

That the Committee reviews and approves the minutes of the Council Sustainability Committee meeting on November 13, 2017.

ATTACHMENTS

Attachment I Minutes of Council Sustainability Meeting on November 13, 2017

CITY COUNCIL SUSTAINABILITY COMMITTEE MEETING
Hayward City Hall – Conference Room 2A
777 B Street, Hayward, CA 94541-5007

November 13, 2017
4:30 p.m. – 6:30 p.m.

MEETING MINUTES

CALL TO ORDER: Meeting called to order at 4:30 p.m. by Chair Mendall.

ROLL CALL:

Members

- Al Mendall, City Council Member/CSC Chair
- Elisa Márquez, City Council Member
- Francisco Zermeño, City Council Member

Staff:

- Maria A. Hurtado, Assistant City Manager
- Alex Ameri, Director of Utilities & Environmental Services
- Jan Lee, Water Resources Manager
- Erik Pearson, Environmental Services Manager
- Corinne Ferreyra, Senior Management Analyst
- Ciaran Gallagher, CivicSpark AmeriCorps Fellow
- Linda Grand, CivicSpark AmeriCorps Fellow
- Carol Lee, Administrative Secretary (Recorder)

Others:

- Jillian Buckholz, Director of Sustainability, California State University East Bay (CSUEB)
- Tom Kelly, Kyoto USA

PUBLIC COMMENTS

Tom Kelly urged the Committee to consider designating 100% renewable energy as the default option for Hayward for East Bay Community Energy.

1. Approval of Minutes of Council Sustainability Meeting on September 11, 2017.

It was moved by Council Member Zermeño, seconded by Council Member Márquez, and carried unanimously, to approve the minutes of the Council Sustainability Committee meeting of September 11, 2017.

2. Water Loss Audit – Senate Bill 555 Compliance

Senior Management Analyst Corinne Ferreyra provided an overview of Senate Bill 555 related to the water loss audit and reported the City's fulfillment of all requirements.

The Committee and staff discussed the different types of water loss, the frequency of reporting required by the new legislation, and the City's historically small percentage of unaccounted water. Discussions regarding the Advanced Metering Infrastructure (AMI) project ensued. Staff addressed the Committee's concerns regarding customer feedback, noting that water consumption has increased city-wide, and provided several potential contributing factors.

Chair Mendall expressed concern over the fiscal impacts of water loss, and expressed his hope that the AMI project will reduce the amount of such unaccounted for water and minimize water loss due to leaks and breaks.

3. Recycled Water Supply Options

Director Ameri provided a brief overview of the report and introduced Water Resources Manager Jan Lee, who presented the item.

Discussion ensued regarding both near-term options for recycled water supply, including the ongoing discussions with Russell City Energy Center (RCEC), the purchase price of treated water potentially provided by RCEC, the location of the proposed City facility, and the permitting requirements for both options.

It was moved by Council Member Zermeño, seconded by Council Member Márquez, and carried unanimously, for staff to ask City Council to consider authorizing a professional services contract for the final design of a City-owned recycled water treatment facility at a subsequent meeting, and in parallel continue to work with RCEC to finalize a water supply agreement.

4. Construction, Repair, Reconstruction, Destruction or Abandonment of Wells: Introduction of Ordinance Updating Section 5-4.10 of the Hayward Municipal Code

Water Resources Manager Jan Lee presented the report.

The Committee and staff discussed the number of wells within the City limits, the types of wells used in Hayward, and Council's authority to act on any amendments by the Board of Supervisors of Alameda County.

Director Ameri confirmed that Council has the discretion to amend, rescind, or reject any amendments made by the Board of Supervisors of Alameda County.

It was moved by Council Member Zermeño, seconded by Council Member Márquez, and carried unanimously, to have staff move forward with asking the City Council to consider adoption of the revised ordinance at a future meeting.

5. East Bay Community Energy – Possible Purchase of Local Renewable Energy for City Facilities

Environmental Services Manager Erik Pearson provided a brief overview of the report and sought the Committee's direction regarding Hayward's participation in the premium rate program for East Bay Community Energy.

The Committee was in favor of the proposal. Council Member Márquez expressed her desire for the City to set the example for other cities and special districts.

Council Member Zermeño felt that the proposal was mutually beneficial for the City and EBCE.

It was moved by Council Member Márquez, seconded by Council Member Zermeño, and carried unanimously, for staff to obtain more detailed cost information from EBCE and then present EBCE's proposal to City Council.

6. Proposed CSC 2017 Agenda Planning Calendar

Environmental Services Manager Erik Pearson introduced the item and provided an overview of the suggested agenda topics.

The Committee and staff discussed future items, including lead testing in schools, Advanced Meter Infrastructure customer portal, "car-less" Sundays, a vehicle idle ban, long-term water conservation, and addressing concerns regarding plastic waste generated from single-use straws and utensils.

Jillian Buckholz cautioned the Committee against completely banning straws, noting that straws may be considered a public accommodation according to the Americans with Disabilities Act.

Staff affirmed her input and stated that they will look into a "straws on demand" policy, similar to one recently passed by the City of Alameda. Staff also noted that the issue is already scheduled for the Committee's review at its March 2018 meeting.

COMMITTEE MEMBER/STAFF ANNOUNCEMENTS AND REFERRALS:

Director Ameri provided a brief update regarding lead testing in the Hayward Unified School District and recent legislation regarding potable reuse by Assemblymember Quirk. Director Ameri also shared that he recently accompanied the Mayor to a visit to Primus Power, a Hayward-based provider of long-duration energy storage systems. He

noted that Primus energy storage systems could potentially replace diesel back-up generators with 100% renewable energy.

ADJOURNMENT: 5:59 p.m.

Attendance	Present 11/13/17 Meeting	MEETINGS		
		Present to Date This Fiscal Year	Excused to Date This Fiscal Year	Absent to Date This Fiscal Year
Elisa Márquez	✓	3	0	0
Al Mendall*	✓	3	0	0
Francisco Zermeño	✓	3	0	0

✓ = Present O = absent X = excused
* Chair



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File #: ACT 18-001

DATE: January 8, 2018

TO: Council Sustainability Committee

FROM: Director of Utilities & Environmental Services

SUBJECT

East Bay Energy Watch Paper: "Navigating the Changing Landscape of Energy Efficiency Programs in the East Bay"

RECOMMENDATION

That the Committee reviews and comments on this report.

ATTACHMENTS

Attachment I Staff Report

Attachment II Report titled "Navigating the Changing Landscape of Energy Efficiency Programs in the East Bay"



DATE: January 8, 2018

TO: Council Sustainability Committee

FROM: Director of Utilities & Environmental Services

SUBJECT East Bay Energy Watch Paper: “Navigating the Changing Landscape of Energy Efficiency Programs in the East Bay”

RECOMMENDATION

That the Committee reviews and comments on this report.

SUMMARY

The attached paper prepared by East Bay Energy Watch (EBEW) is for discussion purposes. It presents background information and considerations for making improvements in the administration of energy efficiency programs by regional entities. Staff is interested in hearing the Committee's thoughts to help guide on-going discussions.

BACKGROUND

In January 2017, staff provided the Committee with a [report](#) discussing an overview of regional energy programs, including East Bay Energy Watch (EBEW), the Alameda County Energy Council, and the Bay Area Regional Energy Network (BayREN). EBEW is a partnership with Pacific Gas and Electric company (PG&E) and the Counties of Alameda and Contra Costa and cities within the two counties. In September 2017, staff presented a [report](#) on EBEW programs available to small and medium sized businesses.

Hayward's General Plan, adopted by Council in 2014, includes the following programs regarding regional energy programs:

NR-9. Financing Program for Residential Energy Efficiency Retrofits. The City shall work with regional agencies and organizations to develop a residential energy efficiency retrofit financing program for single-family and multi-family homes.

NR-10. Financing Program for Commercial Energy Efficiency Retrofits. The City shall work with regional agencies and organizations to develop a commercial energy efficiency retrofit financing program for commercial and industrial properties.

NR-12. Financing Program for the Installation of Residential Renewable Energy Systems. The City shall work with regional agencies and organizations to develop a financing program for the installation of renewable energy systems on single-family and multi-family residential buildings and mobile homes.

NR-13. Financing Program for the Installation of Commercial Renewable Energy Systems. The City shall work with regional agencies and organizations to develop a financing program for the installation of renewable energy systems on commercial and industrial properties.

Hayward has been an active participant in the three regional energy efficiency programs (EBEW, Energy Council, and BayREN) for several years. In addition, Pacific Gas and Electric (PG&E) provides energy efficiency programs, many of which are provided directly to customers without City involvement. In December 2016, Hayward joined ten other cities and the County of Alameda to form East Bay Community Energy (EBCE). While EBCE's primary mission is to provide electricity with fewer greenhouse gas emissions, EBCE could also offer energy efficiency programs to reduce electricity demand. With the potential for five regional entities providing energy efficiency programs, there are questions about the most effective model for program delivery. In addition to economies of scale and program effectiveness, other considerations include local control and brand recognition.

DISCUSSION

EBEW prepared the attached paper titled "Navigating the Changing Landscape of Energy Efficiency Programs in the East Bay" (Attachment II) to spark discussion. The paper provides background information including the various energy efficiency programs currently offered by various entities as well as key considerations and questions for discussion to help decision-makers determine the best approach to providing energy efficiency services.

EBEW interviewed a variety of stakeholders, including staff from local governments, investor-owned utilities (IOUs), and community choice aggregators (CCAs) and asked several questions. Summaries of stakeholder responses are included in the paper. Following are some of the key questions and Hayward staff's thoughts on each.

1. *What are the strengths of the three types of organizations that administer energy efficiency programs in the East Bay?*

Each entity has unique strengths. EBEW's services are somewhat complicated by the fact that member jurisdictions will be served by three electric utilities: EBCE, MCE and PG&E.

2. *With CCAs operating in the East Bay, will EBEW's role become redundant?*

In the near term, EBEW's role will probably not be redundant. In the long term, it will depend on the CCAs' appetite for administering energy efficiency programs.

3. *Should CCAs invest in rather than administer energy efficiency programs?*

Staff agrees with the comment in the paper that “at least in the near term, EBCE won’t have funds to bolster EBEW’s programs. EBCE will need to direct any profits to developing new local renewable energy facilities and building its cash reserves.”

4. *Should BayREN administer energy efficiency programs on behalf of the CCAs?*

BayREN could administer energy efficiency programs on behalf of the CCAs, but it won’t have the brand recognition of the CCAs.

5. *Should CCAs be involved in administering ratepayer-funded energy efficiency programs?*

CCAs could promote the programs without offering them. Important comments in the paper are:

- “the cost effectiveness test¹ is onerous for organizations that don’t operate at an Investor Owned Utility’s scale. If CCAs don’t tie themselves to the public surcharge, they can embrace market transformation initiatives rather than just doing conventional energy efficiency programs like lighting swaps.” and
- “CCAs should focus on programs that achieve GHG reductions, aren’t reliant on ratepayer funding, and go beyond basic energy efficiency measures such as fuel switching, EV charging, battery storage, solar, creative financing, assisting cities with climate action plans. EBCE has significant GHG reduction goals beyond energy savings and should be thinking about how to evaluate programs based on GHG reductions rather than kWh reductions.”

6. *Should EBEW lead the coordination among PG&E, BayREN and the CCAs in the East Bay?*

EBEW is a ratepayer-funded program and may not have the flexibility that would allow for innovative programs that focus on GHG reductions. In addition, it may make sense for coordination to happen at a larger scale – perhaps by BayREN.

In addition to the above questions, the paper presents seven possible scenarios. Each one generically refers to EBCE and MCE as “CCA.”

1. CCA does not offer any ratepayer-funded energy efficiency programs.
2. CCA does not offer its own energy efficiency programs, but supports other organizations’ programs via outreach, funding, co-branding or other mechanisms.
3. CCA provides ratepayer-funded energy efficiency programs only to fill gaps in current programming.

¹ The California Public Utilities Commission (CPUC) requires that ratepayer-funded programs meet certain cost-effectiveness standards.

4. CCA offers ratepayer-funded energy efficiency programs that absorb, compete with, or replace existing East Bay programs.
5. CCA offers non-ratepayer-funded energy and GHG reduction programs.
6. EBEW takes on a formal coordination role among local governments, utilities and CCAs in the East Bay.
7. EBEW splits into two partnerships, with one covering MCE's jurisdictions and the other covering EBCE's jurisdictions.

Ultimately, a combination of the above scenarios might be implemented by EBCE. It is possible that the EBCE Board of Directors will decide to focus on its core mission of electricity procurement and providing good customer service in the near term. Regarding scenario one, staff recommends that in the long run, EBCE should offer at least some energy efficiency programs, but maybe not with rate payer funds (Scenario Five). Non-rate payer programs could include fuel switching (replacing natural gas appliances with electric appliances), which will be a key strategy for reducing community-wide GHG emissions. Promoting rooftop solar photovoltaics, battery storage and electric vehicle charging could also help EBCE achieve community-wide reductions in GHG emissions. As noted on the last page of Attachment II, MCE currently offers some of these programs.

STRATEGIC INITIATIVES

This agenda item does not relate to one of Council's three Strategic Initiatives.

FISCAL IMPACT

EBEW programs do not impact the City's General Fund. EBEW programs are funded by California utility ratepayer funds administered by PG&E under the auspices of the CPUC. Environmental Services staff spend staff time serving on the EBEW Strategic Advisory Committee and coordinating services offered in Hayward by EBEW.

SUSTAINABILITY FEATURES

Participation in regional energy programs allows Hayward to benefit from regional marketing activities and to access funding that would otherwise be unavailable. Such programs focus on improving energy efficiency, increasing the use of renewable energy, and conserving water – all of which support the City's sustainability and long-term GHG reduction goals.

NEXT STEPS

Staff will continue to participate in county and regional-level discussions and will report back to the Committee periodically. The EBEW paper may be presented to the EBCE Board in the near future.

Prepared by: Erik Pearson, Environmental Services Manager

Recommended by: Alex Ameri, Director of Utilities & Environmental Services

Approved by:

A handwritten signature in black ink, appearing to read 'K. McAdoo', is positioned above a horizontal line.

Kelly McAdoo, City Manager

NAVIGATING THE CHANGING LANDSCAPE OF ENERGY EFFICIENCY PROGRAMS IN THE EAST BAY

East Bay Energy Watch Partnership's
Strategic Advisory Committee:
Policy & Regulatory Subcommittee

October 2017

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ACKNOWLEDGMENTS:

Members of the East Bay Energy Watch Policy and Regulatory Subcommittee produced this paper. Various stakeholders shared insights and contributed to this “landscape.” Rachel DiFranco, Sustainability Manager in the City of Fremont, chaired the subcommittee and can be contacted with questions. StopWaste Program Manager, Jennifer West can be contacted with questions on the East Bay Energy Watch and the Strategic Advisory Committee (SAC).

Rachel A. DiFranco, LEED AP O+M
Sustainability Manager
City of Fremont
RDiFranco@fremont.gov
(510) 494-4451

Jennifer West
Program Manager
StopWaste
jwest@stopwaste.org
(510) 891-6555

ENERGY EFFICIENCY PROGRAM SNAPSHOT

East Bay Energy Watch's Strategic Advisory Committee has developed this paper as part of their process of exploring opportunities for the EBEW partnership as it navigates the evolving and increasingly complex field of energy efficiency programs in the East Bay. The insights in this paper were informed by interviews with representatives of local utilities, municipalities, local government partnerships and community choice aggregators. This paper is intended to spark discussion among energy efficiency program administrators, implementers and other stakeholders, and to identify issues that would benefit from more in-depth analysis.

The California Public Utilities Commission (CPUC) regulates energy efficiency programs that are funded by a surcharge on customers' electricity and gas bills. This surcharge provides over \$1 billion per year for energy efficiency programs that fight climate change by reducing greenhouse gas emissions related to energy use.¹ A number of entities, including investor-

owned utilities (IOUs), regional energy networks (RENs), local government partnerships (LGPs), and more recently, community choice aggregators (CCAs), use these funds to develop, administer and implement certain energy efficiency programs. The CPUC serves as a public watchdog to ensure that the energy efficiency programs it funds meet its thresholds for energy savings and cost effectiveness.²

The eastern region of the San Francisco Bay Area consists of two neighboring counties, Alameda and Contra Costa, which are known collectively as the East Bay and which have a combined population of about 2.7 million people. Pacific Gas and Electric Company (PG&E) and the East Bay Energy Watch Partnership (EBEW) have been administering ratepayer-funded energy efficiency programs throughout these two counties for more than 10 years. Due to the longevity of these programs, administrators and implementers have developed significant technical expertise and stakeholder relationships. Certain EBEW programs have strong market recognition due to ongoing marketing and education efforts to target hard-to-reach demographics within their targeted sectors.

In addition, the San Francisco Bay Area Regional Energy Network (BayREN), a collaboration of the nine counties that make up the Bay Area, has been offering ratepayer-funded residential energy efficiency programs in the East Bay since 2013. Regional Energy Networks are coalitions of local governments that

This paper intends to spark discussion among energy efficiency program administrators, implementers and other stakeholders, and to identify issues that would benefit from more in-depth analysis.

¹ California Public Utilities Commission, "Regulating Energy Efficiency," February 2016, p 3.

http://www.cpuc.ca.gov/uploadedFiles/CPUC_Public_Website/Content/News_Room/Fact_Sheets/English/Regulating%20Energy%20Efficiency%200216.pdf

² The CPUC establishes cost effectiveness using four tests that assess costs and benefits of energy efficiency programs from different stakeholders' perspectives. These tests are described in the CPUC's [Standard Practice Manual](http://www.cpuc.ca.gov/General.aspx?id=5267), <http://www.cpuc.ca.gov/General.aspx?id=5267>.

offer large-scale, cross-sector energy management strategies on a regional level. California has two RENs—BayREN as well as the Southern California Regional Energy Network (SoCalREN), which serves public agencies and their constituents in the Southern California Edison and Southern California Gas Company service areas. StopWaste, a joint powers authority representing the 14 cities in Alameda County and the county itself, and Contra Costa County are two of the ten members of BayREN’s governing committee and conduct outreach for BayREN’s energy efficiency programs in their respective jurisdictions. StopWaste also implements regional multifamily energy efficiency rebate and financing programs for BayREN.

MCE, a community choice aggregator, has offered ratepayer-funded energy efficiency programs in Marin County and the City of Richmond (Contra Costa County) since 2012, and has been serving Napa County and the Contra Costa County cities of Walnut Creek, San Pablo and El Cerrito since 2016. It will begin serving other Contra Costa jurisdictions in 2018. Community choice aggregation regulations allow local governments to purchase or generate electricity on behalf of residents, businesses and municipal accounts in their area. Seven states including California currently allow community choice aggregation. Appendix B provides more information about community choice aggregation, including a list of CCAs in California.

East Bay Community Energy (EBCE), a community choice aggregator established in December 2016 and expected to begin operation in 2018, will serve most of the jurisdictions in Alameda County. As it begins enrolling customers, EBCE may consider entering into the East Bay’s energy efficiency program arena in the future.

These changes in the East Bay’s energy efficiency program landscape present new opportunities to help ensure California ratepayers’ funding is effectively used to meet the state’s energy savings and climate goals. However, potential issues including competition for funding and customers, market confusion, and duplication of administrative costs present challenges for program administrators, implementers, regulators and ratepayers.

ROLES AND PROGRAMS

A number of different types of organizations are involved with energy efficiency program administration within California. For the purposes of this paper, these roles are defined as follows:

- **Program administrator:** An organization that receives CPUC funding to run an energy efficiency program. Includes IOUs, RENs, and CCAs if they opt to do so.
- **Partnership:** A group of local governments collaborating on the design and delivery of energy efficiency programs. Local government partnerships (LGPs) and Regional Energy Networks (RENs) are both considered partnerships.
- **Implementer:** An organization that carries out an energy efficiency program. Program administrators can implement programs directly; local governments, third-party consultants and contractors are also implementers.
- **Program funders:** Includes CPUC (ratepayer funding), CCAs (revenue-based programs),

California Energy Commission, and cities (Richmond, for example, has settlement funds from Chevron for energy efficiency programs).

- **Convener:** An organization that formally chairs committees made up of local government representatives for the purpose of facilitating strategic planning and decision making regarding energy efficiency programming.

These roles are fluid and individual organizations may serve in more than one role. For example, StopWaste Energy Council convenes staff from its 15 member agencies to set priorities and develop funding proposals for energy programs. The Energy Council represents Alameda County jurisdictions in BayREN, which is a partnership of the nine counties in the Bay Area plus the Association of Bay Area Governments (ABAG). The BayREN governing body has elected Energy Council as the implementer of the regional multifamily program. In 2016 Alameda County and Contra Costa County jurisdictions voted for the Energy Council to assume the role of independent administrator of the EBEW partnership and assist the Strategic Advisory Committee in its strategic planning.

Table 1 lists the organizations involved with energy efficiency programs in the East Bay and their roles.

Table 1. Energy Efficiency Program Administrator Roles in the East Bay

Program Administrators	EBEW (PG&E)	BayREN	MCE
Conveners	Energy Council (StopWaste)	ABAG / MTC	N/A
Partnerships	Strategic Advisory Committee (SAC) with cities in Alameda & Contra Costa Counties	BayREN Member Agencies: 9 County Representatives and ABAG/MTC	N/A
Implementers	DNV GL, CESC Rising Sun, QuEST	Each Program is led by one BayREN member agency that oversees sub-consultants	DNV GL, CESC

Table 2 shows the main energy efficiency programs currently offered in the East Bay, by market sector and program administrator. Refer to Appendices B and C for a description of these organizations and programs. *Note that this is not an exhaustive representation of energy efficiency programs in the East Bay.*

Table 2. Main Energy Efficiency Programs in the East Bay, by Sector

ORG.	TERRITORY	SINGLE FAMILY	MULTIFAMILY	COMMERCIAL	MUNICIPAL	CROSS-CUTTING
PG&E	No. CA	<ul style="list-style-type: none"> • Advanced Home Upgrade • CA Advanced Homes • Energy Savings Assistance • Plug Loads & Appliances • Residential HVAC 	<ul style="list-style-type: none"> • Multifamily Upgrade • Multifamily EE Rebates • CA Multifamily New Homes 	<ul style="list-style-type: none"> • HVAC Optimization • Savings by Design 		<ul style="list-style-type: none"> • Energy Advisor • Calc/Deemed Incentives • Direct Install • Continuous Improvement • On-Bill Financing • Codes and Standards
EBEW	Alameda & Contra Costa Counties	<ul style="list-style-type: none"> • California Youth Energy Services 	<ul style="list-style-type: none"> • California Youth Energy Services 	<ul style="list-style-type: none"> • East Bay Energy Watch Program • Your Energy Manager • Building Operator Certification • EnergyWatch Microloan 	<ul style="list-style-type: none"> • Municipal Implementation Team • Civic Spark • Lucid Connected Cities • Automated DR Pilot 	
BayREN	9 Bay Area Counties	<ul style="list-style-type: none"> • Home Upgrade • Advanced Home Upgrade • Home Upgrade Advisor • Home Energy Score 	<ul style="list-style-type: none"> • Bay Area MF Building Enhancements • Bay Area MF Capital Advance Program 		<ul style="list-style-type: none"> • ZNE Assistance 	<ul style="list-style-type: none"> • Codes and Standards • PAYS On-Bill Financing
MCE	Marin, Napa, Contra Costa Counties	<ul style="list-style-type: none"> • Smart Thermostat Pilot 	<ul style="list-style-type: none"> • Multifamily Program 	<ul style="list-style-type: none"> • Commercial Program 		<ul style="list-style-type: none"> • Electric Vehicle Pilot
EBCE	Alameda County					

CHANGING CONTEXT OF ENERGY EFFICIENCY PROGRAMS: FLATTENING THE DUCK CURVE

The growth of solar-generated electricity and its impacts on California's electricity grid are expected to have a significant influence on energy efficiency programs in the East Bay over the next few years.

Since the mid-1970s, the State of California has promoted energy efficiency as the least expensive, most cost-effective energy resource. This has been based on the fact that it historically has been cheaper to save a kilowatt of electricity than to build and operate the infrastructure needed to generate and deliver that kilowatt. In large part due to the state's energy efficiency policies and investments, per capita energy consumption in California has been nearly flat over the past four decades.³

The longstanding emphasis on energy efficiency has produced tremendous benefits for Californians, including relatively low annual electric bills compared to most of the country, growth in clean energy jobs, increased economic output per kilowatt-hour consumed, cleaner air and greenhouse gas emissions reductions.⁴

Over the past few years, however, California has experienced rapid growth of distributed renewable energy deployment,⁵ and in particular solar-generated electricity. As a result, the state's grid is experiencing a growing imbalance between solar production and peak demand for electricity. Managing electricity demand, therefore, has increasingly become as or more important than energy efficiency.

When plotted on a chart, this imbalance takes on a distinctive shape known as the "duck curve" (Figure 1). At midday, when the grid is flooded with solar-generated electricity, there's a deep drop in net load (the grid's normal load minus solar and wind generation). In the late afternoon, as solar generation drops at the same time that people come home from work and start using appliances, air conditioners and other electric devices, there's a steep rise in net load and demand for power from conventional sources spikes. On a chart, the midday drop in net load looks like the sagging belly of a duck, while the late afternoon rise can be seen as the duck's neck. This misalignment of solar production and peak demand will only get worse as the state approaches its goal of 50% renewable energy generation by 2030.

This misalignment of solar production and peak demand will only get worse as the state approaches its goal of 50% renewable energy generation by 2030.

³ "California's Energy Efficiency Success Story: Saving Billions of Dollars and Curbing Tons of Pollution," NRDC Fact Sheet, July 2013, <https://www.nrdc.org/sites/default/files/ca-success-story-FS.pdf>.

⁴ Ibid.

⁵ Distributed energy refers to electricity generated from sources, often renewable energy sources such as solar or wind, near the point of use instead of centralized generation sources from power plants.

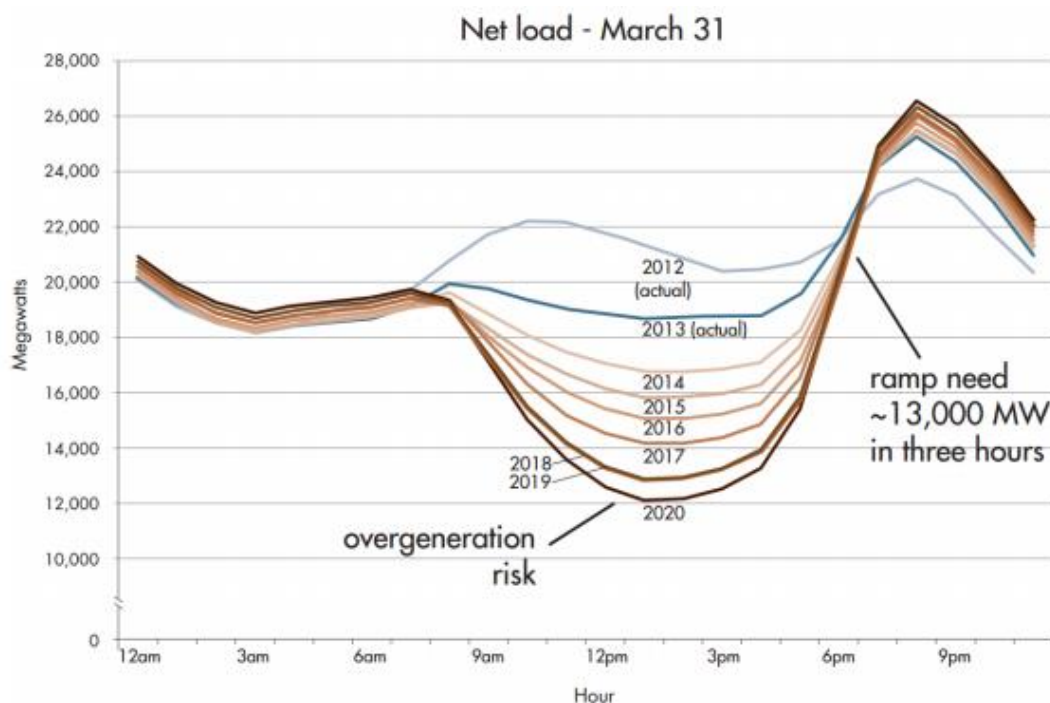


Figure 1. The Duck Curve⁶

California’s energy regulators recognize the need to flatten the duck curve through programs that address peak demand, demand response (DR) and energy storage. Measures that save energy in the late afternoon, for example, are becoming much more valuable than measures that save energy during off-peak times.

Technological advances in battery storage will allow for excess solar generation to be soaked up at midday and made available for use in the late afternoon and evening. Time-of-use pricing (charging customers more when electricity demand peaks and less when electricity supply is plentiful) and other demand response strategies can encourage customers to shift consumption to off-peak hours. Electric vehicles are also predicted to have a role to play in balancing renewables generation and peak demand (though, if improperly managed, could also result in excess demand during peak times).

Given the “duck curve” phenomenon, there’s a growing need for program administrators and implementers to develop demand management programs that address *when* electricity is used, not just *how much* is used. Some of the stakeholders interviewed for this paper, however, reported a lack of engagement with or understanding of these demand management issues at the local government level. Most local governments remain focused on conventional energy efficiency programs like lighting retrofits, appliance rebates, and other basic efficiency measures, as well as standard grid-tied solar PV systems, even though today the bigger opportunities relate to energy storage technologies and strategies that help customers manage demand intelligently in response to signals such as time-of-use

⁶ “Overgeneration from Solar Energy in California: A Field Guide to the Duck Chart,” National Renewable Energy Laboratory, November 2015, p. 3. <https://www.nrel.gov/docs/fy16osti/65023.pdf>

and peak day pricing.

NAVIGATING THE NEW ENERGY EFFICIENCY LANDSCAPE

We interviewed stakeholders who are directly or indirectly involved with administering or implementing energy efficiency programs, including local government, IOU, CCA and other program administrator staff. Their comments generally fall into three categories:

1. Program administrators' roles
2. Communication and coordination
3. Program gaps

The following pages capture insights offered by stakeholders, organized according to these three themes. This "Stakeholders' Insights" section is followed by an outline of various program options or scenarios that CCAs and EBEW might consider, with the pros and cons distilled from the interviews.

This section captures insights offered by stakeholders and should not be construed as a comprehensive analysis of the issues and options or as the recommendations or opinions of the Strategic Advisory Council.

STAKEHOLDERS' INSIGHTS

These comments are intended as discussion points for EBEW's Strategic Advisory Council and other stakeholders. They should not be construed as a comprehensive analysis of the issues and options or as the recommendations or opinions of the Strategic Advisory Council (SAC).

1. Program Administrators' Roles

What are the strengths of the three types of organizations that administer energy efficiency programs in the East Bay?

Stakeholders' comments:

- **Investor Owned Utilities**
 - Well positioned to serve large commercial customers and to develop solicitations for the design and implementation of emerging technologies programs that are not feasible on a small scale.
 - Due to large scale, IOUs can meet CPUC ratepayer funds cost-effectiveness requirements at a portfolio level by balancing less cost-effective programs (such as residential) with more cost-effective programs (commercial, codes and standards advocacy).
 - Energy Watch partnerships fall under the IOU umbrella; the cost effectiveness of their programs can be balanced against PG&E's overall portfolio.

- **Regional Energy Networks**
 - Well suited for running regional programs involving multiple jurisdictions, Codes and Standards efforts that tap into staff expertise with building codes, and energy efficiency programs for municipal facilities.
 - RENs are currently not held to the CPUC's cost effectiveness requirements for their overall portfolio. BayREN's portfolio is developed independently of PG&E and approved by the CPUC directly.
 - RENs are specifically directed to address:
 - activities that utilities cannot or do not intend to undertake,
 - pilot activities where there is no current utility program offering, and where there is potential for scalability to a broader geographic reach, and
 - pilot activities in hard-to-reach markets, whether or not there is a current utility program that may overlap.
- **Community Choice Aggregators**
 - Potential to have a closer relationship with and better ability to reach residential and small and medium business (SMB) customers.
 - May also have more success with hard-to-reach markets in their communities.
 - Have flexibility to focus on innovative programs, carbon reduction measures that aren't limited by the CPUC's energy efficiency and cost effectiveness requirements.
 - If CCAs do receive ratepayer energy efficiency funds, they will also be held to the cost effectiveness test; however, because of their small portfolios relative to IOUs, they may be more challenged to achieve cost effectiveness, particularly where they are in competition with other programs.

With CCAs operating in the East Bay, will EBEW's role become redundant?

Stakeholders' comments:

- **YES:** There may be less need for Energy Watch partnerships in the future. CCAs could administer some of the programs EBEW administers now. To paraphrase one interviewee, in their heart of hearts, local governments don't really want to administer energy efficiency programs because they are cumbersome and highly technical.
- **NO:** EBEW has a very strong brand that can continue to drive energy efficiency gains. Its programs have good name recognition in the SMB market. In addition, EBEW offers program consistency across the two counties. EBEW and PG&E have built a strong partnership that should be capitalized on, not dismissed. The CCA can fill in energy program gaps that are not ratepayer funded and therefore less rigid.
- **NO:** Assuming the need remains strong for energy efficiency and intelligent strategies around mitigating demand response, peak day pricing and time-of-use issues, multiple entities will be needed to serve the East Bay.

*Should CCAs invest in rather than administer energy efficiency programs?**Stakeholders' comments:*

- **YES:** CCAs should invest in energy efficiency programs instead of managing them directly. CCAs could contract with EBEW to administer programs, thereby leveraging existing EBEW funding and enabling deeper retrofits.
- **NO:** At least in the near term, EBCE won't have funds to bolster EBEW's programs. EBCE will need to direct any profits to developing new local renewable energy facilities and building its cash reserves.

*Should BayREN administer energy efficiency programs on behalf of the CCAs?**Stakeholders' comments:*

- **YES:** Having a regional entity run energy efficiency programs improves the ability to reach contractor and consumer markets, which usually are not segmented by the boundaries of a county or a CCA.
- **NO:** CCAs will want control over their own programs, for the reasons described in the next section.
- **NOT NECESSARILY:** It doesn't have to be black and white; for example, BayREN and CCAs could collaborate on programs.

*Should CCAs be involved in administering ratepayer-funded energy efficiency programs?**Stakeholders' comments:*

- **YES:** It's not a question of "should." Their board of directors will want to see the organization run its own ratepayer-funded programs. In general, CCAs are well positioned to be a main or even the sole administrator of certain energy efficiency programs. They are closer to their customers than IOUs are, they may understand local communities better and do a better job of targeting outreach, and they don't have IOUs' negative reputation issues.
- **YES BUT:** If what's important to CCAs is recognition and awareness of their brand, ratepayer-funded programs administered by other organizations can carry the CCA's brand. CCAs can offer their customers energy efficiency programs without actually administering the programs.
- **YES BUT:** Having multiple entities running the same energy efficiency programs drives up administrative costs. Each type of organization could specialize in specific sectors (e.g., single family, multifamily, municipal, SMB, large commercial) with all cooperating and coordinating to support everyone's success. This works well right now, with EBEW focusing on SMB and municipal markets and BayREN focusing on residential markets. However, this may not work with the requirement that CCAs be cost effective, unless other solutions are found, such as MCE's "shared attribution" proposal.
- **NO:** Taking ratepayer funding means CCAs wind up chasing energy efficiency initiatives that the IOUs have led for years. The cost effectiveness test is onerous for organizations that don't operate at an IOU's scale. If CCAs don't tie themselves to the public surcharge, they can embrace market transformation initiatives rather than just doing conventional energy efficiency

programs like lighting swaps.

- **NO:** CCAs have the flexibility to explore new technologies, education programs, and innovative incentives. CCAs should focus on programs that achieve GHG reductions, aren't reliant on ratepayer funding, and go beyond basic energy efficiency measures such as fuel switching, EV charging, battery storage, solar, creative financing, assisting cities with climate action plans. EBCE has significant GHG reduction goals beyond energy savings and should be thinking about how to evaluate programs on the basis of GHG reductions rather than kWh reductions. **An in-depth analysis of these opportunities is beyond the scope of this paper.**

2. Communication and Coordination

Should EBEW lead the coordination among PG&E, BayREN and the CCAs in the East Bay?

Stakeholders' comments:

- **YES:** We need a stronger commitment from all the players to come together around needs and challenges, program design, and so on. EBEW is the perfect space for having this conversation. There's an even greater need for EBEW to coordinate with the CCAs now that most Contra Costa jurisdictions have joined or will join MCE. EBEW provides a good space to share resources and information. We're facing opportunities and challenges in finding appropriate ways for all IOUs, LGPs and CCAs to work together effectively and thoughtfully. It makes sense for Energy Watch to play that coordination role since it's already an established group with proven successes.
- **YES AND:** Smaller cities aren't at the table because they can't spare the staff time. EBEW could fund a regional position to assist small communities, like the consultant who is working on the GHG data for all the jurisdiction's climate action plans this year.
- **QUALIFIED YES:** Having the coordination is super important, even if it's not necessarily led by EBEW. Having StopWaste in the convener role has been very beneficial. Without having a place for significant local government representation and involvement at the staff level, expertise, knowledge and resources that were developed outside that space may be overlooked, especially as we get deeper into EBCE rollout.
- **NO:** There needs to be coordination, especially among local governments, but EBEW doesn't have to be the entity that provides it. There are trust issues. PG&E wants all stakeholders to be at the table and to have a voice. But do all those voices have equal weight? At the end of the day, will the IOUs have CCAs' best interest at heart? Coordination with IOUs gets complicated really quickly because of competition issues. Program coordination between the RENs and CCAs is more straightforward.
- **NO:** This would be problematic for two reasons: 1. EBEW is a ratepayer-funded program and is beholden to its contract with PG&E for cost effectiveness. It doesn't seem like the right place for coordination at that scale. 2. MCE is deeply engaged in coordination with PG&E and has been since launch. It is useful to have a single point of contact type model for coordinating programs, but EBEW is not the right entity. StopWaste or some other government agency that represents the majority of East Bay communities could be the right place for East Bay coordination. However, given MCE's growth and the number of CCAs operating within BayREN's area alone,

this issue is larger than the East Bay and may need to be addressed at a wider regional level, such as ABAG.

Should EBEW continue to serve two counties?

Stakeholders' comments:

- **YES:** EBEW has been exceptionally engaged in energy efficiency in both counties and has the biggest impact in terms of energy savings. It should continue in its current form; less change is better right now. It might even be beneficial to formalize EBEW's relationship in the two counties with a mechanism such as a Memorandum of Understanding (MOU).
- **YES:** EBEW and StopWaste create continuity and facilitate sharing of knowledge and experience across city and county borders. This is particularly beneficial for smaller cities that benefit from learning about more cutting edge programs (e.g., ZNE) that larger cities are implementing. And not every jurisdiction in Contra Costa County has joined MCE, so they would benefit from EBEW continuing to play an active role.
- **YES:** When it comes to advocacy, there is power in numbers. EBEW has more influence on the CPUC if it represents two counties. EBEW is the largest Energy Watch and represents a very large population. The cities, implementers and stakeholders currently active under the EBEW umbrella have a certain amount of leverage. StopWaste has moved this group's interests forward significantly and its advocacy role is as important, if not more, than its convening role. The issue of leverage matters and stakeholders might miss it if it's gone.
- **MAYBE NOT:** It could split into two entities, or dissolve completely. Another possibility is for EBEW to explore coming under the umbrella of a local government Program Administrator, such as BayREN, MCE or EBCE.

3. Program Gaps

Where are the overall gaps in the energy efficiency program offerings and outcomes? Note: These are the program gaps mentioned during the stakeholder interviews; this is not a comprehensive list of gaps.

Stakeholders' comments:

- **Low hanging fruit:** In many jurisdictions, there's still a lot of low hanging fruit for energy efficiency improvements. Some stakeholders emphasized that it's still helpful to have "first step" programs and that program administrators need to keep making progress on basic energy efficiency and measures that address, for example, weatherization, insulation, furnaces and water heaters.
- **Leveraging data:** Gaps include programs that deliver cost effective Energy Management Systems (now mandated by AB 793) and Commercial Whole Building approaches (sometimes referred to as Normalized Metered Energy Consumption approaches). These programs push the envelope on using customer data to establish baselines and savings and incentive levels, bypassing the cumbersome, expensive energy review process at the IOU and Energy Division that sometimes becomes an obstacle to projects moving forward.

- **Non-energy efficiency programs:** EVs, distributed generation, energy storage, and fuel switching present big opportunities to reduce GHG emissions that will not be tied to ratepayer funding restrictions. CCAs could address these needs directly or contract with other entities to offer non-energy efficiency programs.
- **Other gaps include:**
 - Ability to claim savings and pay incentives based on behavioral changes
 - Meter-based savings programs (may be limited by access to data)
 - Peak day pricing solutions
 - More creative financing efforts
 - Funding for outreach and education
 - Existing conditions as baselines for all projects under a certain demand/size

What are the energy efficiency program gaps specific to the residential sector?

Stakeholders' comments:

- **Middle-income residential sector:** EBEW's California Youth Energy Services (CYES) program services low-to-moderate income households, but the program only reaches a small number of middle-income households each year. BayREN's Advanced Home Upgrade to date has served primarily higher income homeowners. BayREN has proposed addressing this gap by shifting its focus from Home Upgrade to a middle-income single-family program.
- **Expanding CYES:** The Rising Sun program is popular but lacks capacity to serve every city every year. The need for cities to copay for the program is also an obstacle, especially for smaller cities and/or those without dedicated sustainability staff or budgets.
- **Hard-to-reach residential markets:** There are still some East Bay cohorts that aren't well served by existing energy efficiency programs: tenants, low income households, non-native English speakers. CYES does serve this market but the program is not large enough to provide adequate coverage.

What are the energy efficiency program gaps specific to the SMB sector?

Stakeholders' comments:

- **Demand reduction:** More consumer education is needed to reduce the "energy literacy" gap. If customers better understood their electricity rates and how they change over the course of the day, participation in demand response activities would likely increase.
- **Automated demand response:** ADR-capable HVAC systems, lighting technologies, plug strips and "smart" appliances can be programmed to work with an ADR platform that makes adjustments in an integrated fashion across devices, reducing energy use during peak hours and adjusting more energy use to off-peak hours. The key is getting all the ADR-enabled devices controlled on the same platform or standard. A big gap for the SMB sector currently lies in the piecemeal rather than holistic approach taken to ADR.
- **Small commercial retrocommissioning:** Retrocommissioning is a systematic process for fine-tuning existing buildings to make them operate more efficiently. Retrocommissioning small

commercial facilities is often not considered cost effective when gauging the cost of the improvements against energy savings over a one-year period. However, for small commercial facilities with predictable energy use, a baseline of 12 to 24 months of historic energy use data could be used to calculate the effectiveness of retrocommissioning for a period of 12 or more months into the future. Meter-based energy savings programs could measure what happens at the meter as a result of retrocommissioning efforts and pay customer incentives based on performance.

PROGRAM ADMINISTRATION SCENARIOS: PROS AND CONS

This section distills the key insights from the stakeholder interviews into seven program administration scenarios and presents pros and cons of each. The seven scenarios are:

1. CCA does not offer any ratepayer-funded energy efficiency programs, and is not involved with their implementation.
2. CCA does not offer its own energy efficiency programs but supports other organizations' programs via outreach, funding, co-branding or other mechanisms.
3. CCA provides ratepayer-funded energy efficiency programs only to fill gaps in current programming.
4. CCA offers ratepayer-funded energy efficiency programs that absorb, compete with, or replace existing East Bay programs.
5. CCA offers non-ratepayer-funded energy and GHG reduction programs.
6. EBEW takes on a formal coordination role among local governments, utilities and CCAs in the East Bay.
7. EBEW splits into two partnerships, with one covering MCE's jurisdictions and the other covering EBCE's jurisdictions.

As with the Stakeholders' Insights section above, these are intended as discussion points and not as recommendations. These scenarios are not necessarily mutually exclusive. For example, a CCA may choose to not offer ratepayer-funded programs (Scenario 1) in certain sectors and offer them in other sectors (Scenario 4).

Scenario 1: CCA does not offer any ratepayer-funded energy efficiency programs.

MCE currently administers a multifamily and commercial program using public goods charge funds, and has proposed to the CPUC that it serve in the role of downstream liaison for ratepayer-funded programs in the areas where it operates. Sonoma Clean Power (SCP), on the other hand, has not pursued ratepayer funding for any of its customer programs. East Bay Clean Energy hasn't yet determined when or if it might offer ratepayer-funded programs.

Pros:

- No disruption to current ratepayer-funded programs offered by PG&E, EBEW and BayREN

- Reduces competition for ratepayer funding
- Allows CCA to focus on developing its core business
- Allows CCA to focus on innovative programs that aren't hampered by the CPUC's onerous Total Resource Cost (TRC) test⁷
- Avoids market confusion that may arise if there are multiple similar programs
- Avoids duplication of program administration costs
- Avoids need to develop staff and systems to comply with complex and onerous regulatory requirements

Cons:

- Missed opportunity to leverage CCA's customer outreach
- Diminished visibility for the CCA into energy reductions occurring in its load base
- CCA will be restricted by the need to base programs on rates and thus may not have significant programming opportunities
- Inconvenient for CCA customers who have to deal with multiple organizations to buy electricity and receive energy efficiency services
- Missed opportunity for CCA to expand staff and capacity by leveraging CPUC-allocated administrative funds

Scenario 2. CCA does not offer its own energy efficiency programs, but supports other organizations' programs via outreach, funding, co-branding or other mechanisms.

Sonoma Clean Power is an interesting example of this approach. They encourage their customers to take advantage of PG&E's ratepayer-funded energy efficiency programs and essentially market these programs to their customers without receiving CPUC funds to do so. They see this outreach activity as benefitting their customers and helping the region achieve its climate goals. They have also collaborated with existing energy efficiency programs to deliver additional services prohibited by ratepayer funding. For example, BayREN Multifamily program technical consultants will be provided with EV training from Sonoma Clean Power. A CCA could also allow programs to carry the CCA's brand without having to take on an administrative or implementation role.

Pros:

Same as Scenario 1, plus:

- Potential to increase recognition and uptake of current energy efficiency programs
- Allows PG&E, EBEW and BayREN to leverage CCA's customer base

⁷ "This test compares benefits to society as a whole (avoided supply-side cost benefits, additional resource savings benefits) with the participant's cost of installing the measure plus the cost of energy efficiency program administration (non-incentive costs). Incentives are considered a transfer payment from program to participant and thus are not explicitly accounted for in the calculation. Since the TRC test takes a societal perspective into account, it is the appropriate test for regulatory agencies and other policymakers to use in establishing energy conservation goals." Source: <http://ceeeep.rutgers.edu/wp-content/uploads/2013/11/EEGuidebook2009.pdf>

- Potential to enhance CCA's reputation and electricity sales if they are associated with programs that have good name recognition
- CCA could pick and choose programs to support that best fit its goals
- Much less expensive than creating new programs
- CCA avoids having to deal with regulatory bureaucracy of ratepayer funding

Cons:

- Diverts CCA's staff time and revenue from other activities
- CCA might chafe at limited control of energy efficiency programs
- If customers have negative perception of program administrator, that may reflect poorly on the CCA's brand

Scenario 3. CCA provides ratepayer-funded energy efficiency programs only to fill gaps in current programming.

While certain market sectors, such as low and upper-income single-family residential, may be well served with programs, there are underserved sectors as well as technologies and products that may not be well addressed by current programs. A CCA that's not boxed into traditional utility programs might be successful in serving some of these niche areas.

Pros:

- No disruption to current ratepayer programs
- CCAs are potentially more nimble and creative than IOUs and could fill gaps by designing ground-breaking products or delivery channels
- Benefit of helping underserved communities within the CCA service area

Cons:

- CCA would be at competitive disadvantage if established program administrators "owned" the most cost-effective programs and CCA only had access to hard-to-reach markets that are expensive to serve, making TRC low

Scenario 4. CCA offers ratepayer-funded energy efficiency programs that absorb, compete with, or replace existing East Bay programs.

A CCA may apply to the CPUC for funding for programs that duplicate current programs, or that would even supplant those programs.

Pros:

- Continues to provide jurisdictional authority over ratepayer funds collected from CCA customers
- Provides greater visibility into demand reductions occurring within a CCA's load base
- Facilitates positive brand recognition of the CCA as it launches
- Competition among program administrators may spur them to create more innovative, efficient,

and effective programs that could help reduce TRC

- As the new kid on the block, a CCA may find it easier to capture customers' interest than well-established programs, especially if customers have negative associations with the existing program's brand

Cons:

- Competing program administrators might be unwilling to work cooperatively
- Programs may undercut each other when competing for the same customers
- Duplication of program administrative costs and outreach costs wastes ratepayers' money and fragmentation of program's within a region reduce economies of scale and cost effectiveness
- Competing programs or brands may confuse customers
- Taking ratepayer funds ties the CCA to a complicated and onerous set of regulations developed for IOUs and not appropriate to local government implementers
- Taking ratepayer funding could force CCA to aggressively market energy efficiency programs and could divert their resources from other goals (e.g., EBCE's goals of local power generation, local development and local economic benefit)

Scenario 5. CCA offers non-ratepayer-funded energy and GHG reduction programs.

CPUC-allocated ratepayer funds come with strings attached: programs have to meet a strict cost-effectiveness test. Foregoing these funds can free up CCAs to provide more innovative solutions to customers' needs.

Pros:

- Allows CCA to focus on programs that achieve GHG reductions and that aren't reliant on ratepayer funding, such as fuel switching, EV charging, battery storage, solar, creative financing, and education and marketing
- Allows CCA to focus on innovative programs that aren't hampered by the CPUC's onerous Total Resource Cost test

Cons:

- There is still a lot of "low hanging fruit" to be captured in the East Bay through conventional energy efficiency programs
- CCAs need to find other means of funding programs potentially impacting rates for CCA customers and/or limits funding for programs
- Causes CCA customers to pay twice for customer programs if duplicative

Scenario 6. EBEW takes on a formal coordination role among local governments, utilities and CCAs in the East Bay.

Pros:

- EBEW already has experience with this complex coordination

- Helps ensure good integration of CCAs into existing energy efficiency program and good coordination among all the entities involved with program administration
- Helps ensure that local governments share experiences and lessons learned

Cons:

- Participation might be limited unless there were a mandate
- Implementers may want to work directly with IOUs and CCAs, not through EBEW Partnership
- EBEW only covers part of the MCE jurisdictions and may not be well positioned relative to existing coordination efforts

Scenario 7. EBEW splits into two partnerships, with one covering MCE's jurisdictions and the other covering EBCE's jurisdictions.

With MCE serving most of Contra Costa County and EBCE poised to serve most of Alameda County, we asked interviewees if it would make sense for EBEW to divide along county lines.

Pros:

- Would allow for streamlining between the respective CCA and administrator of ratepayer-funded programs within each separate county

Cons:

- Local governments lose some of the cross pollination that comes from EBEW serving both counties
- Two smaller EBEWs would have less clout with the CPUC and other entities than one large EBEW
- Some Alameda County & Contra Costa County jurisdictions have not joined a CCA

ADDITIONAL QUESTIONS

This paper touches on a number of issues that would benefit from deeper exploration:

- **Duck curve.** How can local government's engagement with the duck curve phenomenon and related demand management issues be strengthened?
- **Gap analysis.** There's a need for a comprehensive gap analysis of the energy programs in the East Bay, emphasizing demand management, solar, EV charging, battery storage, creative financing and even fuel switching, as well as conventional energy efficiency programming.
- **Programming by market sector.** Additional information and analysis is needed regarding whether CCAs should offer energy efficiency programs in each market sector served by EBEW (residential, commercial, municipal, industrial).
- **Intelligent demand management.** The paper might benefit from an expanded discussion of how and why CCAs should look beyond CPUC-allocated ratepayer funding with its cost-effectiveness constraints to increasingly important opportunities related to intelligent demand management.

APPENDIX A. ACRONYMS

ABAG	Association of Bay Area Governments
ADR	Automated Demand Response
BAMBE	Bay Area Multifamily Building Enhancements
BAMCAP	Bay Area Multifamily Capital Advance Program
BayREN	Bay Area Regional Energy Network
CAP	Climate Action Plan
CCA	Community Choice Aggregator or Community Choice Aggregation
CCE	Community Choice Energy
CESC	Community Energy Services Corporation
CPUC	California Public Utilities Commission
CYES	California Youth Energy Services
DER	Distributed Energy Resources
DR	Demand Response
EBCE	East Bay Community Energy
EBEW	East Bay Energy Watch
EE	Energy Efficiency
ESAP	Energy Savings Assistance Program
EV	Electric Vehicle
EVSE	Electric Vehicle Service Equipment
GHG	Greenhouse Gas
HES	Home Energy Score
HVAC	Heating, Ventilation and Air Conditioning
HTR	Hard to Reach
IOU	Investor-Owned Utility
kW	Kilowatt
kWh	Kilowatt Hour
MCE	Marin Clean Energy
MIT	Municipal Implementation Team
PACE	Property Assessed Clean Energy
PAYS	Pay-As-You-Save
PG&E	Pacific Gas & Electric Company
PV	Photovoltaic
REN	Regional Energy Network
SCP	Sonoma Clean Power
SMB	Small and Medium Business
TRC	Total Resource Cost
ZNE	Zero Net Energy

APPENDIX B. ENERGY EFFICIENCY PROGRAM ADMINISTRATORS IN THE EAST BAY

Four types of organizations currently administer ratepayer-funded energy efficiency programs in the East Bay: investor-owned utilities (IOUs), regional energy networks (RENs), local government partnerships, and community choice aggregators (CCAs). These program administrator types are described here. Appendix C provides a description of the energy efficiency programs listed below.

Investor-owned Utilities

For over 30 years, PG&E has promoted energy efficiency throughout its service area. PG&E's energy efficiency program portfolio includes a diverse suite of rebates, incentives, services and tools for targeting every customer segment through multiple delivery channels. PG&E also partners with local and regional governments to tailor energy efficiency offerings to the local community through Energy Watch programs. Many of PG&E's programs are sector specific (single-family residential, multifamily, commercial, industrial, agricultural and municipal), while others cut across various sectors. Given the size of PG&E's service territory, the scope of its programs, and the utility's depth of experience with energy efficiency initiatives, the impact of their programs is significant.

These are PG&E's main energy efficiency programs offered in the East Bay:

- **Residential—Single family**
 - Advanced Home Upgrade
 - California Advanced Homes
 - Energy Savings Assistance Program (ESAP)
 - Plug load and appliances
 - Residential Heating, Ventilation and Air Conditioning (HVAC)
- **Residential—Multifamily**
 - Multifamily Upgrade Program
 - Multifamily Energy Efficiency Rebates
 - California Multifamily New Homes
- **Commercial**
 - Commercial HVAC Optimization Program
 - Savings by Design
- **Cross-cutting**
 - Energy Advisor
 - Calculated and deemed incentives
 - Continuous improvement consulting and training
 - Direct install
 - On-bill financing
 - Codes and Standards

Energy Watch Partnerships

PG&E has established Energy Watch Partnerships in their service territory to help local governments develop and implement energy efficiency programs and activities that support their community's sustainability and climate change objectives. PG&E provides incentives, tools and technical assistance to support these efforts, and Energy Watch Partnerships receive ratepayer funds to carry out energy efficiency programs in their service area.

East Bay Energy Watch serves Contra Costa and Alameda Counties. Most of the EBEW program implementer contractors are held directly by PG&E. EBEW's cost effectiveness is balanced against PG&E's overall portfolio, and ultimately its activities are approved by PG&E.

According to a 2016 survey of the local governments participating in EBEW, the number one reason for participation is to help meet climate action plan (CAP) goals for greenhouse gas (GHG) reduction. Every jurisdiction participating in EBEW in Alameda County and the majority of jurisdictions participating in EBEW in Contra Costa County have adopted CAPs.

Ratepayer-funded energy efficiency programs are one way in which local jurisdictions make progress toward achieving their CAP goals. In addition to helping reduce GHG emissions, energy efficiency programs have the potential to provide other benefits, including job training and job creation, lower utility bills, and healthier, safer, more resilient buildings and communities.

These are East Bay Energy Watch's current ratepayer-funded energy efficiency programs:

- **Residential—Single family and multifamily**
 - California Youth Energy Service (provided by Rising Sun)
- **Commercial—Small to medium businesses (SMB)**
 - East Bay Energy Watch Program (provided by DNV GL and CESC; was SmartLights and BEST programs)
- **Municipal**
 - Municipal Implementation Team (MIT) program (provided by QuEST)

EBEW also supports energy efficiency-related needs identified by member jurisdictions through its Strategic Energy Resources⁸ budget including Your Energy Manager, SMB MicroFinance Pilot, Building Operator Certification training, CivicSpark, Lucid Connected Cities and a Municipal Automated Demand Response pilot.

⁸ Strategic Energy Resource initiatives help communities to overcome barriers to achieving deeper energy savings by empowering their creativity to demonstrate new approaches to energy and GHG reduction that align with the longer-term elements of the CEESP and AB32 and to become models for all local governments in California. Source: Pacific Gas and Electric Company 2016-17 Energy Efficiency Portfolio Local Program Implementation Plan Local Government Partnerships Master PGE211005-1, PGE211005-2

Regional Energy Networks

The Bay Area Regional Energy Network (BayREN) is a collaboration of local governments from the nine counties that make up the San Francisco Bay Area. Led by the Association of Bay Area Governments (ABAG), BayREN draws on the expertise and experience of Bay Area local government staff to develop and administer energy efficiency programs. BayREN provides a platform for local government energy programs to benefit from regional consistency and scale. One of only two Regional Energy Networks in California, BayREN represents 20 percent of the state's population.

BayREN's portfolio is developed independently of PG&E and is approved by the CPUC directly. BayREN's energy efficiency programs complement and supplement the programs of the East Bay Energy Watch Partnership. This collaboration helps ensure that each organization's efforts are leveraged and that gaps in service offerings are minimized.

RENs are specifically directed to address:

- activities that utilities cannot or do not intend to undertake, neither as core programs nor under the LGP framework
- pilot activities where there is no current utility program offering, and where there is potential for scalability to a broader geographic region, and
- pilot activities in hard-to-reach markets, whether or not there is a current utility program that may overlap.

These are BayREN's ratepayer-funded energy efficiency programs in the East Bay:

- **Residential—Single family**
 - Energy Upgrade California Home Upgrade
 - Energy Upgrade California Advanced Home Upgrade Assessment Incentive
 - BayREN Home Upgrade Advisor
 - Home Energy Score
- **Residential—Multifamily**
 - Bay Area Multifamily Building Enhancements (BAMBE)
 - Bay Area Multifamily Capital Advance Program (BAMCAP)
- **Municipal**
 - Zero Net Energy (ZNE) Assistance for Municipal Buildings
- **Cross Cutting**
 - Codes and Standards
 - PAYS On-Bill Financing

In addition to these programs, BayREN has submitted proposals to the CPUC to run a public sector and commercial program.

StopWaste Energy Council

The StopWaste Energy Council is a Joint Powers Agency that assists its member agencies (the 15 jurisdictions in Alameda County) in strengthening staff capacity, providing technical expertise, and securing funds to implement local sustainable energy strategies. The Energy Council serves as one of the co-administrators of the East Bay Energy Watch PG&E Local Government partnership along with Contra Costa County. In addition, the Energy Council implements these energy efficiency programs:

- **Residential—Single Family**
 - BayREN’s Regional Home Upgrade program
- **Residential—Multifamily**
 - Bay Area Multifamily Building Enhancements (BAMBE)
 - Bay Area Multifamily Capital Advance Program (BAMCAP)
- **Cross Cutting**
 - BayREN Codes and Standards

StopWaste also provides Energy Council member jurisdictions with model policy support, climate change mitigation and resiliency planning, and assistance with creating zero net energy municipal buildings.

Community Choice Aggregators in the East Bay

To make it easier for people to buy electricity from renewable sources, in 2002 California passed a Community Choice Aggregation bill. This allows cities and counties to buy electricity on behalf of residents, businesses and local governments in their area. California’s CCAs typically offer their customers a choice of electricity generation options sourced from higher levels of renewable energy than investor-owned utilities offer, while keeping rates at or lower than what the IOUs charge. In communities that participate in a CCA program, customers are automatically enrolled but can opt out and continue to receive service from the IOU instead.

Community choice aggregation—also known as community choice energy (CCE)—is expected to play a vital role in helping meet California’s goal of achieving 50 percent renewable electricity by 2030. The state supports the CCA model because it provides choice to California’s ratepayers. Local governments are drawn to CCAs because of their potential to lower energy costs, help cities reach their climate action goals, provide more local control over procurement and programs, and benefit the local economy by bringing in revenue and jobs via local energy projects.

California leads the nation in community choice aggregation, with more than half of all currently operational CCAs located within the state. California’s CCAs focus more heavily on procurement of renewable energy, whereas other programs put more emphasis on competitive pricing and independence from investor-owned utilities. CCAs operating outside of California are Cape Cod Light Compact (MA), Northeast Ohio Public Energy Council (OH), Local Energy Aggregation Network (IL), Clean Power Choice (NJ) and Sustainable Westchester (NY).

CCAs have statutory rights as independent administrators of ratepayer funds for energy efficiency programs under the auspices of the California Public Utilities Commission. This right derives from public utilities code section 381.1. This statute offers two routes for CCA energy efficiency administration; the elect to administer (381.1 (f)) versus the apply to administer (381.1 (a-e)). Under the elect to administer option, a CCA can collect those funds which have been collected from CCA customers (less any funds allocated to statewide or regional programs). While this route applies greater autonomy to a CCA, the budget may be too small to be meaningful and the CCA is limited to serving only CCA customers, which can complicate outreach and enrollment activities. The authority provided under the apply to administer route is much broader, giving the CCA the potential opportunity to administer programs statewide. The apply to administer route subjects the CCA to full CPUC oversight regarding the ratepayer funds.

CCAs in California

According to Lean Energy US,⁹ as of July 2017 there are eight CCAs operating in California, as shown in Table 3. MCE was California's first community choice energy program, and is the only CCA currently operating in the East Bay. East Bay Community Energy (EBCE) is expected to begin operations in 2018. MCE and EBCE are described in detail following Table 4.

Table 3. Community Choice Aggregators Operating in California as of 2017

CCA	Year Started	Energy Mixes	Energy Efficiency Programs
MCE	2010	50% renewable 100% renewable-CA solar and wind 100% local solar	Multifamily, SMB, single-family, and low-income energy efficiency programs (details below) Also offers: Low-income solar rebates, a Feed-in-Tariff program for local renewables, and a "best in state" net energy metering policy
Sonoma Clean Power	2011	42% renewable (2016) 100% local geothermal	Refers customers to other agencies' energy efficiency programs Also offers: NetGreen solar net energy metering, DIY energy and water savings toolkit, and ProFIT feed-in tariff for developers, electric vehicle rebates, residential and workplace electric vehicle charging station rebates
Lancaster Choice Energy	2015	35% renewable 100% renewable	Has filed an Advice Letter to administer programs under the

⁹ <http://www.leanenergyus.org/cca-by-state/california/>

Appendix B. Energy Efficiency Program Administrators in the East Bay

CCA	Year Started	Energy Mixes	Energy Efficiency Programs
			“elect to administer” option; currently being reviewed by CPUC staff
CleanPowerSF	2016	40% local wind and solar 100% renewable	No energy efficiency programs Offers net energy metering for solar customers
Peninsula Clean Energy	2016	50% renewable, 75% carbon-free 100% renewable	No energy efficiency programs Offers net energy metering for solar customers
Apple Valley Choice Energy	2017	35% renewable 50% renewable	No energy efficiency programs Offers net metering for solar customers
Redwood Coast Energy Authority	2017	30% wind and solar, 12% local biomass 100% renewable	Offers net metering for solar customers
Silicon Valley Clean Energy	2017	50% renewable, 50% hydroelectric, 100% carbon-free 100% renewable, 100% carbon-free	No energy efficiency programs Offers net energy metering for solar customers

Lean Energy US lists additional CCAs expected to launch in California in 2018, as well as California jurisdictions exploring setting up a CCA. These are shown in Table 4.

Table 4. Emerging CCAs in California

Anticipated Launch in 2018	Exploring
City of Solana Beach	City of Hermosa Beach
City of San Jose	City of Pico Rivera
Contra Costa County (as part of MCE)	City of San Jacinto
East Bay Community Energy	Butte County
Los Angeles Community Choice Energy	Fresno County
Monterey Bay Community Power	Inyo County
Sierra Valley Energy	Kings County
Valley Clean Energy Alliance	Nevada County
	Riverside County
	San Diego County
	San Luis Obispo County
	Santa Barbara County
	Solano County
	Ventura County

Source: <http://www.leanenergyus.org/cca-by-state/california/> (data as of July 2017)

MCE

Launched in 2010, MCE’s service area includes the County of Marin and all jurisdictions within Marin, the County of Napa and all jurisdictions within Napa, the County of Contra Costa and the Contra Costa cities of Richmond, San Pablo, El Cerrito, Moraga, Lafayette, Walnut Creek, Concord, Martinez, Danville, Oakley, Pinole, Pittsburg, and San Ramon, as well as the City of Benicia in Solano County. Residents and businesses in these jurisdictions are automatically enrolled in MCE’s standard 50 percent renewable energy service. Customers can upgrade to higher levels of renewable energy or opt out and instead use PG&E’s standard energy portfolio with 33 percent renewable content.

MCE offers these ratepayer-funded energy efficiency programs in the communities they serve:

- **Residential—Multifamily**
 - No-cost energy assessments, rebates and other incentives
 - Assistance with obtaining energy efficiency loans and PACE financing
- **Single-Family**
 - “Seasonal Savings” programmable thermostat program that remotely adjusts thermostat set points
- **Low Income Families and Tenants Program**
 - Funded through the Energy Savings Assistance Program, this program aims to leverage the multifamily energy efficiency program to deepen the impact both programs can have. This program includes targets for deploying heat pump technology.
- **Commercial—Small businesses**
 - Assessments, rebates, financing and other assistance for small businesses
 - Assistance with obtaining energy efficiency loans and PACE financing

MCE also administers non energy-efficiency programs, including issuing rebates for the installation of electric vehicle supply equipment (EVSE), working with local transit agencies to facilitate procurement of an electric bus, and providing low-income solar rebates. MCE also currently administers more than \$1.7 million in California Energy Commission grants focused on innovative and scalable deployments of Distributed Energy Resources (DER).

East Bay Community Energy

East Bay Community Energy, which will provide greener energy choices in Alameda County, is expected to begin operations in 2018. This CCA will serve the County of Alameda and 11 of its 14 cities—Albany, Berkeley, Dublin, Emeryville, Fremont, Hayward, Livermore, Oakland, Piedmont, San Leandro and Union City. Newark and Pleasanton are not members at this time, and the city of Alameda is served by its own municipal utility.

At this point, no decisions have been made about whether EBCE will offer energy efficiency programs. A management team creating EBCE’s Local Business Development plan is in the process of interviewing stakeholders and assessing opportunities to collaborate with existing energy efficiency program implementers.

APPENDIX C. EAST BAY ENERGY EFFICIENCY PROGRAMS BY SECTOR

This section describes the main ratepayer-funded energy efficiency programs in the East Bay for each major market sector—single family, multifamily, commercial (including industrial and agricultural), municipal and cross cutting.

Note: Program results metrics are only provided where they were readily available for this paper.

Single-Family Programs

PG&E

Advanced Home Upgrade

Up to \$5,500 in rebates and incentives for energy efficiency improvements in existing homes. Requires that participating contractors evaluate the home's heating, cooling and water heating systems. Referrals to financing programs.

California Advanced Homes

Resources and incentives to architects and builders for energy-efficient new single-family homes.

Energy Savings Assistance Program (ESAP)

No-cost weatherization, energy-efficient appliances and energy education for low-income customers.

Plug Load & Appliances

Partnership with local retailers to market and provide special pricing for energy-efficient home appliances including clothes washers, gas water heaters, electric heat pump water heaters and pool pumps. In 2016, PG&E received more than 77,500 applications for this program in their service territory.

Residential HVAC

Education and resources for contractors about HVAC technology, installation and maintenance, and code and permit compliance. This program has had an influence on more than 20,000 HVAC systems in PG&E's service territory.

BayREN

Energy Upgrade California: Home Upgrade and Advanced Home Upgrade

Up to \$3,150 in rebates and incentives for energy efficiency improvements. Requires completion of at least three upgrade measures including one base measure. Provides \$300 rebate for homeowners who complete an energy assessment through PG&E's Advanced Home Upgrade program. Eligible projects must demonstrate a minimum of 10 percent modeled savings. Attracts primarily higher income households due to high out-of-pocket costs. BayREN is exploring program models for moderate-income households.

Appendix C. Energy Efficiency Programs by Sector

As of March 31, 2017, this program had served 1,297 homes in Alameda County and 1,833 homes in Contra Costa County.

Home Energy Score

BayREN also promotes the U.S. Department of Energy's Home Energy Score (HES) as a low-cost assessment tool for homeowners. Program outreach is managed by the StopWaste Energy Council.

Home Upgrade Advisor

Phone- and field-based consulting service providing individualized assistance to homeowners about energy efficiency programs and benefits, contractor selection, assessment report and bid review, financing options, upgrade project support and customer service. Also provides referrals to relevant complementary programs.

East Bay Energy Watch

California Youth Energy Services

EBEW contracts with Rising Sun Energy Center's California Youth Energy Services (CYES) program to hire and train youth ages 15 to 22 for summer jobs conducting Green House Calls, which include no-cost home assessments, installing energy- and water-saving devices, and giving residents energy and water conservation tips. Focuses on hard-to-reach households: low to moderate income, renters, multifamily, seniors, non-native English speakers.

CYES is popular with cities for its strong youth training component despite being costly to operate for savings achieved. Since 2010, the program has conducted assessments at 38,196 homes, including 17,364 East Bay homes, and trained and employed 1,537 youth, including 654 East Bay youth. It has saved 120,438,231 kWh, including 4,413,322 kWh in the East Bay, and offset 98,063 metric tons of CO₂ emissions.

MCE

MCE's Seasonal Savings program takes the Nest Thermostat energy savings one step further by providing customers with incremental energy savings throughout a particular heating or cooling season. It does this by making micro setpoint adjustments to a customer's schedule—after receiving their permission—over a three-week period.

Multifamily Programs

PG&E

Multifamily Upgrade

Tiered rebates of \$400 to \$3,000 per unit for whole building upgrades to HVAC and hot water systems, building envelope, lighting and appliances. Assessment incentive of up to \$300.

Appendix C. Energy Efficiency Programs by Sector

Multifamily Energy Efficiency Rebates

This program, which offered rebates for energy-efficient appliances in dwelling units and common areas, is on hold due to low activity.

California Multifamily New Homes

Resources and incentives for architects and builders for energy-efficient new multifamily buildings.

BayREN

Bay Area Multifamily Building Enhancements (BAMBE)

Rebates of \$750 per unit and free energy consulting for whole-building energy upgrades. Focuses on projects designed to reduce building's energy use by 15 percent or more. Targets homeowners associations (HOAs) and affordable and market-rate multifamily buildings with five or more attached dwelling units.

In the Bay Area, as of October 2016, this program provided consulting services impacting 65,000+ units; paid \$12+ million in rebates to 252 properties (16,107 units); and saved over 7.1 million kWh and 516,000 therms.

Specifically within Alameda and Contra Costa Counties, as of October 2016 this program provided consulting impacting 10,000+ units; paid nearly \$4 million in rebates for over 5,300 units; and saved over 2 million kWh and 185,000 therms.

Bay Area Multifamily Capital Advance Program (BAMCAP)

Zero percent interest loan for BAMBE participants. Loan limited to no more than 50 percent of the cost of the approved scope of work minus program incentives. New concierge model (expected to launch in 2018) will match property owners with lenders specializing in energy efficiency loans as low as \$5,000.

Since its launch in April 2015, this program has enrolled five lenders and completed three transactions, issuing \$879,000 in program capital and leveraging \$1.3 million in private capital.

East Bay Energy Watch

CYES serves households in multifamily residences through their Green House Calls, one household at a time. See Single-Family Programs for more information.

MCE

Multifamily Program

No-cost assessments (valued at \$3,000 to \$5,000), no-cost installation of lights, faucet aerators and showerheads, and hot water pipe insulation (valued at \$25 per unit), no-cost technical assistance to solicit bids and develop a scope of work, low-cost loans and rebates.

Low Income Families and Tenants (LIFT) Program

Funded through the Energy Savings Assistance Program (ESAP), this program leverages MCE's

multifamily program to deepen the impact both programs can have individually at the property level. The program has a particular emphasis on capturing “hidden communities,” or low-income communities that may not be captured by existing census data or other tracking systems. The program also includes a component to explore heat pump installations in the multifamily residential setting.

Commercial Programs

PG&E

Commercial HVAC Optimization

Incentives up to \$3,836 per unit for enrolling in air conditioning maintenance service agreements and installing optional unit retrofits.

Savings by Design

Resources and incentives for architects and builders for energy-efficient new non-residential buildings.

BayREN

Currently no commercial programs. SF Environment is the lead for a BayREN proposal submitted to the CPUC for a commercial program that would include an expansion of the financing program described below under “Energy Watch Microloan Program.”

East Bay Energy Watch

East Bay Energy Watch Program

Free energy audits. Incentives for lighting retrofits, refrigeration equipment, controls and other technologies; incentives typically cover 50 to 70 percent of the project cost. Prior to 2017, this was two distinct programs: SmartLights (an audit-based model administered by Community Energy Services Corporation), and BEST (a contractor model administered by DNV-GL).

Since 2002, SmartLights completed 8,050 projects saving nearly 92 million kWh. BEST completed 6,000 projects saving 96.7 million kWh.

Your Energy Manager

No-cost analysis, incentives and financing options for energy and water efficiency upgrades. Focus on operational and behavior improvements, lighting, plug load, and packaged HVAC equipment improvements. Serves small and medium-sized businesses with demand of less than 200 kW.

In 2016, YEM met its goal of engaging with 24 properties, where they trained energy champions, put operational and behavioral changes in effect, and implemented energy efficiency projects.

Building Operator Certification

Funding for municipal facilities staff to attend Building Operator Certification courses to learn how to optimize efficiency of city and county facility operations. Training addresses how to maintain and

enhance building systems at little to no cost.

In 2016, 10 jurisdictions in Alameda County and 4 in Contra Costa County participated. In 2017, 7 Alameda County and 4 Contra Costa County jurisdictions participated. Feedback from participants is that the course is very cost- and time-effective.

Energy Watch Microloan Program

Expected to launch in late 2017 in partnership with Mission Asset Fund. Will provide short-term, zero-interest loans to support completing projects in the San Francisco and East Bay Energy Watch territories. Serves small and medium businesses.

MCE

Commercial Program

Uses Community Energy Services Corporation (CESC), which also implements the East Bay Energy Watch commercial program. Provides assessments, matches business with available rebates and financing, and assists with project installation management. To date, this program has reached over 2,400 small businesses and distributed over \$500,000 in rebates.

Municipal Programs

PG&E

No municipal programs.

BayREN

ZNE Assistance for Municipal Buildings

Engineering and cost analysis assistance for zero net energy design and implementation of municipal facilities. This is a unique program that does not duplicate any existing energy efficiency programs in the East Bay.

East Bay Energy Watch

Municipal Implementation Team (MIT)

No-cost energy assessments and technical assistance for municipal buildings. Matches municipalities with cash incentives. Technical assistance, training and reporting services for local government staff on the use of ENERGY STAR Portfolio Manager. Program adjusted in 2016 to provide more flexibility to serve the diverse range of municipal facilities.

The 2016 technical assistance program model served 21 buildings, saving \$930,000, 5.8 million kWh, 22,825 therms, and 1,330 metric tons CO₂e.

Under the 2010–2015 custom incentive program model, 144 audits were performed and 27 projects installed, saving 3.7 million kWh and 137,818 therms. Over \$427,000 of incentives were awarded.

CivicSpark

CivicSpark is a Governor's Initiative AmeriCorps program in California that builds local government capacity to address climate change and water management issues. In the East Bay, activities include climate action planning and metrics, energy efficiency program outreach and implementation, greenhouse gas emissions inventories, outreach for the East Bay Energy Watch Program for small and medium-size businesses (formerly BEST and SmartLights), residential energy workshops, building energy efficiency benchmarking and billing, portfolio manager, and this EBEW paper.

In fiscal year 2015–16, 11 East Bay jurisdictions participated in the program by hosting 11-month Climate Fellows (Antioch, Berkeley, Contra Costa County, Emeryville, Fremont, Hayward, Martinez, Oakland, Piedmont, Pittsburg and Richmond). Each pledged 20 percent of CivicSpark Fellow service hours (out of 1,300+ total hour) to EBEW programs and increased participation in climate action planning and metrics, energy efficiency program outreach and implementation, and piloting and expanding Lucid's BuildingOS platform.

In fiscal year 2016–17, sixteen jurisdictions participated (Albany, Antioch, Berkeley, Contra Costa County, El Cerrito, Emeryville, Fremont, Hayward, Martinez, Oakland, Piedmont, Pittsburg, Richmond, San Leandro, Union City and Walnut Creek).

In fiscal year 2017–18, fourteen jurisdictions are participating (Alameda, Albany, Antioch, Dublin, El Cerrito, Fremont, Hayward, Martinez, Oakland, Piedmont, Pinole, Richmond, San Leandro and San Pablo).

Lucid Connected Cities (EBEW and Lucid partnership program)

Uses Lucid's BuildingOS platform to improve tracking of facility energy use and generation. Allows local governments to benchmark their buildings, provides automated reports and can be used for real-time automated displays. Serves municipal customers. Four jurisdictions have participated: Berkeley, Contra Costa County, Hayward and Oakland.

Municipal Automated Demand Response Pilot

Proposed pilot to encourage East Bay local governments to participate in PG&E's Automated Demand Response (ADR) program.

MCE

MCE could offer municipal programs through its small commercial program, but has deferred municipal projects to the local government partnerships operating in its service area.

Cross-Cutting Programs**PG&E***Energy Advisor*

Assists customers in understanding and analyzing their energy use and patterns, and selecting

Appendix C. Energy Efficiency Programs by Sector

appropriate energy-saving incentives, technologies and initiatives. Serves residential and commercial customers.

Calculated Incentives

Incentives and technical assistance for installing above-code equipment in existing buildings. Eligible projects require approval and a comprehensive savings verification process. Serves commercial, industrial and agricultural customers.

Code and program eligibility changes have resulted in a decline in projects over the past several years.

Deemed Incentives

Rebates to homeowners for energy-efficient refrigerators, clothes washers, air conditioners, water heaters and other appliances. Incentives for nonresidential customers and vendors for installing or selling qualified energy-efficient equipment. More straightforward than calculated incentives program because does not require comprehensive savings verification. Serves residential, commercial, industrial and agricultural customers.

Direct Install

Provides product and labor for installing efficiency measures. Serves commercial and low-income residential sectors. Straightforward for the customer but lacks flexibility, as the customer has no choice in contractor or product brand.

Continuous Improvement

Consulting services (training, facilitation of cohorts and best practices sharing circles, coaching) for long-term strategic planning and management to reduce energy intensity. Serves commercial, industrial and agricultural customers.

On-Bill Financing

Zero percent interest, zero down payment financing program for energy efficiency upgrades repaid on customer's PG&E utility bill. Serves commercial and municipal sectors.

Codes and Standards

Active member of a statewide team that has supported 80 building codes and 60 appliance standards in California, as well as 40 federal appliance standards or test procedures since 1998.

BayREN

Codes and Standards

Assists cities and counties in complying with the California Building Energy Efficiency Standards. Establishes metrics to evaluate compliance. Provides free training for staff involved in energy code enforcement. To date, this program has hosted 151 workshops and trainings attended by nearly 700 building department staff. In 2016, the program delivered four half-day regional forums, 38 energy code trainings and three online trainings. It also initiated the Residential Energy Assessment & Disclosure

(READ) working group, and customized and distributed over-the-counter permit guides to help building staff and permit applicants understand the building code.

PAYS (Pay As You Save) On-Bill Financing

Allows municipal water utility customers to pay for efficiency improvements through a monthly charge associated with their meter. Joint effort of Bay Area cities and counties and their water agencies. Serves residential, commercial and municipal customers.

Marin Clean Energy

EV Pilot

MCE is between phases of its EV rebate program. In 2016-2017, MCE distributed rebates for 67 EVSE installations. MCE aims to re-launch an EV rebate program in the late fall of 2017. MCE offers an EV rate option for households with electric vehicles. Residents who charge at night benefit from lower, off-peak rates.

Low Income Solar Rebate

MCE partners with GRID alternatives to offer additional funding for low-income customers who install solar on their roofs.

Storage Tariff

MCE offers a rate for residential customers who allow MCE to remotely dispatch residential storage technology.



CITY OF HAYWARD

Hayward City Hall
777 B Street
Hayward, CA 94541
www.Hayward-CA.gov

File #: RPT 18-013

DATE: January 8, 2018

TO: Council Sustainability Committee

FROM: Director of Utilities & Environmental Services

SUBJECT

Lead Testing in Schools

RECOMMENDATION

That the Committee reviews and comments on this informational report.

ATTACHMENTS

Attachment I Staff Report



DATE: January 8, 2018

TO: Council Sustainability Committee

FROM: Director of Utilities & Environmental Services

SUBJECT: Lead Testing in School Drinking Water

RECOMMENDATION

That the Committee reviews and comments on this informational report.

SUMMARY

Public drinking water supplies must meet all federal and state water quality standards, including thresholds for lead and copper contaminants, as measured at consumers' taps. Lead sampling, which is required every three years, was last performed by the City of Hayward in 2016. The City met the requirements. Recent actions by the State have prompted further requirements for water purveyors, such as the City of Hayward, to perform lead testing in K-12 schools. This report provides an update to the ongoing lead sampling program for Hayward schools.

BACKGROUND

On January 9, 2017, Committee members reviewed [information](#) regarding federal and state water quality standards, including lead, and the responsibilities of water purveyors for ensuring that the water delivered to the City's residents and businesses meet the requirements. At that time, the Committee directed City staff to be proactive by reaching out to school officials of institutions located within Hayward's service area and to work cooperatively to implement a lead sampling program.

DISCUSSION

Hayward has close to fifty schools, public and private, serving kindergarten through high school grades. In February 2017, the City and Hayward Unified School District (HUSD) initiated discussions regarding sampling and testing in drinking water at HUSD schools. HUSD has requested that all HUSD schools served by City water be tested for lead and has designated HUSD staff to work cooperatively with City staff to implement the requested lead sampling program.

Sampling at the first HUSD school site, Bowman Elementary School, was conducted in late August 2017. Sampling at three additional schools, Mt. Eden High School, Leadership Public School, and Palma Ceia Elementary School has also been completed as of the date this report was written.

Martin Luther King Jr. Middle School and Southgate Elementary School are both scheduled for sampling in the beginning of 2018. The legislation gives the schools 60 days to disclose the test results along with any corrective actions they may have taken. The City only plans to release sampling results after coordination with HUSD. City staff is also working with HUSD staff on implementation of a comprehensive sampling plan for all schools in the upcoming month.

Sampling is being conducted per the sampling procedures created by the State. The water purveyor must provide and discuss the sample results with the school within ten days of receipt of the sample results from the testing laboratory, and within two business days of receipt when the sample results include an Action Level exceedance, as well as provide information regarding potential corrective actions. Repeat samples, if required due to results with an Action Level exceedance, must be collected within ten business days of the receipt of the previous sample results, as well as after any corrective action is taken by the school. Repeat sampling will not be conducted if the school chooses to remove the tap from service. Additionally, the water purveyor may not release the sampling results to the public for sixty days following the receipt of the initial sample results.

ECONOMIC AND FISCAL IMPACT

The water purveyor is responsible for all costs associated with collecting, analyzing, and reporting drinking water samples for lead testing at California schools and is required to meet with authorized school representatives to develop a sampling plan and review the sampling results. These additional costs are relatively low and can be absorbed in the current budget.

SUSTAINABILITY FEATURES

Water Quality. Water quality monitoring is critical to ensuring that water supplies meet all federal and state standards for public health.

PUBLIC CONTACT

Staff has been proactive in communicating with local schools and extending offers of assistance regarding lead testing. A press release article regarding lead testing in schools was published on the City's website earlier this year and provides links to the State's website for additional information on the program.

NEXT STEPS

Staff will continue to work cooperatively with HUSD staff to ensure that the lead sampling plan stays on schedule and is executed in accordance with the State directive. Staff will update the Committee on new developments as the sampling continues.

Prepared by: Alicia Sargiotto, Management Analyst

Recommended by: Alex Ameri, Director of Utilities & Environmental Services

Approved by:

A handwritten signature in black ink, appearing to read 'K. McAdoo', is positioned above a horizontal line.

Kelly McAdoo, City Manager



CITY OF HAYWARD

Hayward City Hall
777 B Street
Hayward, CA 94541
www.Hayward-CA.gov

File #: RPT 18-004

DATE: January 8, 2018

TO: Council Sustainability Committee

FROM: Director of Utilities & Environmental Services

SUBJECT

Review of 2017 Mountain Tunnel Shutdown and Regional Reliability Efforts

RECOMMENDATION

That the Committee reviews and comments on this informational report.

ATTACHMENTS

Attachment I Staff Report



DATE: January 8, 2018

TO: Council Sustainability Committee

FROM: Director of Utilities & Environmental Services

SUBJECT: Review of 2017 Mountain Tunnel Shutdown and Regional Reliability Efforts

RECOMMENDATION

That the Committee reviews and comments on this informational report.

SUMMARY

The San Francisco Public Utilities Commission (SFPUC) shut down the Mountain Tunnel, a key water conveyance tunnel for the Hetch Hetchy Regional Water System, for critical inspections and near-term repairs in early 2017, and plans to do so again in late 2018 (see figure on page 2). The 2017 shutdown was necessary to assess the condition of the tunnel so that decisions can be made on whether to repair the Mountain Tunnel or build a new bypass tunnel in the future. Based on SFPUC's preliminary findings and recommendations, the overall assessment is that the tunnel can be rehabilitated and a new tunnel is not needed.

The Regional Water System Intertie (Regional Intertie) connects the East Bay Municipal Utility District (EBMUD) water system and SFPUC Regional Water Systems through the City of Hayward. The Intertie facilities are owned by EBMUD and SFPUC and operated by the City of Hayward. During the 2017 Mountain Tunnel shutdown, the City worked cooperatively with SFPUC and EBMUD to prepare the Regional Intertie for service in the event of water supply interruptions. Staff anticipates that SFPUC will continue to shutdown Mountain Tunnel annually to facilitate inspection, repairs, and routine maintenance and the City may be asked to ready the Regional Intertie for emergency use.

The Bay Area Water Supply and Conservation Agency (BAWSCA) is interested in developing a pilot water transfer that could be implemented during the 2018 or a future shutdown of the Mountain Tunnel. The pilot transfer envisions use of EBMUD's Freeport Regional Water Project to bring water to Hayward from the Sacramento River through the EBMUD system and Regional Intertie. Progress on the pilot transfer has slowed because EBMUD is not planning to operate Freeport in the near term; however, BAWSCA is actively engaged in

regional reliability efforts with other Bay Area agencies and is evaluating whether a pilot water transfer could be implemented as part of one of these studies.

On November 14, 2016, the Committee was briefed on the Mountain Tunnel outages, as well as the potential for putting the Regional Intertie into service. This report has been prepared to update the Committee on the preliminary results from the 2017 Mountain Tunnel shutdown and an update on regional reliability efforts that could involve potential use of the Regional Intertie.

BACKGROUND

The Hetch Hetchy Regional Water System (RWS) provides water to 2.6 million customers in San Francisco, Santa Clara, Alameda and San Mateo counties, including the City of Hayward. Sierra Nevada snowmelt, stored within the Hetch Hetchy Reservoir in Yosemite National Park, supplies about 85% of the water. From Hetch Hetchy, the water flows 160 miles by gravity through a series of tunnels and pipelines to the Bay Area. A key component of the RWS is the Mountain Tunnel, which was constructed in 1925 and has been in service for over ninety years. This nineteen-mile tunnel has both concrete lined and unlined sections, and carries water from the Early Intake Reservoir/Kirkwood Powerhouse, to Priest Reservoir, as illustrated in the following figure:



Mountain Tunnel Improvements Project

The SFPUC initiated the Mountain Tunnel Improvements Project to evaluate the condition of the tunnel and ensure it can meet the established performance standards of providing reliable, quality drinking water to the San Francisco Bay Area. Past inspection reports have questioned the integrity of the lined portion of the tunnel and in 2013, an Alternatives Analysis Report recommended that the lower eleven miles of the tunnel be replaced with a new bypass tunnel. That conclusion was questioned by a 2014 Technical Advisory Panel

assembled by SFPUC to review the Alternatives Analysis Report and whether the lining could be repaired or whether a new tunnel needed to be constructed. Based on the conclusions from the Technical Advisory Panel, SFPUC identified the need for further evaluation and inspection of Mountain Tunnel.

Pilot Water Transfer

Since 2012, BAWSCA has been working with EBMUD on a pilot transfer to test the feasibility of long-term transfers as an option for obtaining supplemental water supplies during drought years. The transferred water would be conveyed through the EBMUD water system and the Regional Intertie. The pilot transfer anticipates use of EBMUD's Freeport Regional Water Project, with an intake located on the Sacramento River, to deliver water to the BAWSCA service area via EBMUD's raw water and treated water distribution system and the Regional Intertie. Transfer water delivered from EBMUD would be directly used by Hayward customers in lieu of supplies from SFPUC. In turn, the freed-up SFPUC water supplies would be delivered to other BAWSCA customers.

On September 17, 2013, staff briefed Council on the proposed BAWSCA-EBMUD pilot water transfer. Council generally expressed support for the effort and directed staff to proceed with discussions. However, Council also expressed concerns with potential water quality and operational impacts to Hayward customers and directed that staff work with BAWSCA to address these concerns and ensure Hayward is adequately compensated for its role in implementing a pilot water transfer. Council agreed with staff that, although all BAWSCA members, including Hayward, benefit from additional water in dry years, Hayward alone could be uniquely impacted by taking delivery of Sacramento River water from EBMUD through the Regional Intertie.

In February 2015, the City and BAWSCA entered into a cooperative agreement to develop a pilot water transfer plan and cost-share on a consultant study to identify potential impacts on Hayward, including changes in water quality, flow and pressure that could occur as a result of the pilot transfer. The consultant study was completed in March 2016 and confirmed that reversing the direction of flow and providing Hayward with a water supply from EBMUD through the Regional Intertie could result in changes to the water system pressures and flows. While these impacts would be acceptable during an emergency or a shutdown of the Regional Water System for critical maintenance work, more analysis, data collection and potential mitigation measures would be needed before the City commits to a long-term use of the Regional Intertie during droughts or other water shortage years.

In the near-term, Hayward and BAWSCA staff have identified the 2018 Mountain Tunnel shutdown as a potential window of opportunity to implement the pilot water transfer. Implementing the pilot water transfer during the Mountain Tunnel shutdown would occur during the winter when Hayward's demands are lowest. Although not every element of the pilot water transfer may be simulated, staff believes that planning to implement the pilot water transfer during the Mountain Tunnel shutdown would allow BAWSCA to move forward with developing the institutional arrangements and completing environmental reviews and approvals needed to test the viability of water transfers as a supplemental

water supply source, while staying within the agreed upon purposes for using the Regional Intertie.

In April 2017, Hayward and BAWSCA executed a second cooperative agreement to define the scope of the pilot water transfer and develop operational, monitoring and mitigation, and communication plans that would be implemented during the pilot water transfer. Planning for the pilot transfer has not progressed due to changed hydrologic conditions. Water year 2017 was one of EBMUD's wettest years on record and it is highly unlikely that EBMUD will be operating the Freeport Regional Water Project in 2018. Therefore, BAWSCA has expressed interest in exploring whether the pilot transfer could be more cost-effectively implemented as part of broader regional water supply planning efforts being conducted by Bay Area agencies.

DISCUSSION

2017 Mountain Tunnel Shutdown

In January 2017, SFPUC shut down Mountain Tunnel for approximately sixty days to conduct a detailed tunnel inspection to both assess the condition of Mountain Tunnel and develop the technical documentation needed to recommend a preferred repair or replacement alternative. During the shutdown, SFPUC made repairs to the concrete lining and improved entry ways and access roads to reduce the potential outage time from a Mountain Tunnel failure from up to nine months to three months.

The following photos illustrate a typical crack in the concrete lining and the lining after repair.





The photo below provides a view of an improved pipeline entryway.



A draft condition assessment report was completed by SFPUC's consultant team in July 2017 and presented to the Technical Advisory Panel, detailing the results of the inspection, summarizing the current condition of the tunnel, evaluating the integrity of the tunnel rock and lining, and determining if rehabilitation of the tunnel to restore service life is possible.

The preliminary findings are that the repair alternative appears to be the most appropriate, although no formal decision has yet been made by the SFPUC.

The Technical Advisory Panel and consultant team are currently finalizing separate reports summarizing the findings and recommendations from the 2017 Mountain Tunnel shutdown. SFPUC anticipates detailing the next proposed work efforts for Mountain Tunnel shortly thereafter. A second sixty day Mountain Tunnel shutdown is planned for mid-November 2018 to mid-January 2019, where SFPUC will continue to make repairs to the tunnel lining and inspect the condition of the repairs made during the 2017 shutdown. As was the case with the 2017 shutdown, City staff may be asked to prepare the Regional Intertie for possible service. It is not anticipated that the Intertie will be needed, as winter demands are typically much lower than during the summer months, and sufficient local supplies are available to meet winter demand. The City's level of effort to ready the Hayward Intertie for use has been substantially reduced due to the installation of a flushing valve that staff installed in advance of the 2017 shutdown that greatly reduces the amount of time and effort needed to ready the Regional Intertie for use.

Regional Reliability Efforts

As discussed previously, progress on implementing a pilot transfer with BAWSCA and EBMUD has slowed since it appears unlikely that EBMUD will operate the Freeport facilities this year. However, BAWSCA has expressed interest in exploring whether the pilot water transfer and/or future transfer opportunities involving use of the Regional Intertie could be implemented as part of other regional reliability efforts. Staff is working with BAWSCA and SFPUC to monitor these efforts to ensure that other agencies are aware of the City's concerns with use of the Regional Intertie and that any impacts to the City would be addressed.

- **Bay Area Regional Reliability:** Eight of the San Francisco Bay Area's largest public water agencies are working together through the Bay Area Regional Reliability (BARR) partnership toward regional solutions to improve water supply reliability. BARR's first project has been to develop a regional Drought Contingency Plan (DCP). The DCP addresses potential drought-related impacts. In addition, the DCP identifies regional drought mitigation projects that, when implemented, could provide increased drought reliability and redundancy.

The BARR agencies were recently awarded grant funding to develop a Bay Area Regional Water Market (Exchange/Transfer) Program, which would test the concept of interagency water transfers/exchanges. Many of the BARR agencies have been separately exploring potential pilot transfers/exchanges. BAWSCA is a participant in the BARR effort and is interested in evaluating whether the EBMUD-BAWSCA pilot water transfer could be implemented as part of this Regional Water Market Program. The BARR agencies anticipate evaluating potential transfer and exchange concepts in 2018, with the most feasible pilot transfers being considered for implementation in 2019. Therefore, even if the EBMUD-BAWSCA pilot water transfer is implemented as part of the BARR effort, it is unlikely that the pilot transfer would be implemented during the 2018 Mountain Tunnel shutdown.

- **Expansion of Los Vaqueros Reservoir:** The Los Vaqueros Reservoir, owned and operated by Contra Costa Water District (CCWD), is located in southeastern Contra Costa County and has a current capacity of 160 acre feet, or approximately fifty-two million gallons. CCWD is considering an expansion of the reservoir to 275 acre feet, the equivalent of nearly ninety million gallons, in order to improve the quality and reliability of regional water supplies. As part of the planning for this expansion, CCWD is working with local agency partners, including SFPUC, BAWSCA, and EBMUD, to determine how the additional storage capacity could be used to meet the needs of customers outside of the CCWD service area.

SFPUC and BAWSCA have identified a potential need for additional water supplies from the project. One of the alternatives for providing these additional supplies to SFPUC and BAWSCA's service areas could potentially involve routing water through the EBMUD water system to the Regional Intertie. As with the pilot transfer described previously, the potential use of the Regional Intertie to convey supplemental water from the expanded Los Vaqueros Reservoir to SFPUC/BAWSCA's service areas could cause adverse impacts to City customers.

In mid-2017, CCWD, EBMUD, SFPUC, and BAWSCA, and Hayward met to discuss the City's concerns. CCWD is exploring a broad range of alternatives during the planning and environmental phase of the project and potential partner agencies have not been asked to provide a firm commitment to participate in the project at this point. CCWD agreed to incorporate a discussion of the Regional Intertie and potential impacts on the City's customers in the environmental document. On June 30, 2017, CCWD released the draft environmental documentation for the project. Staff reviewed and determined that our concerns had been sufficiently addressed. CCWD has applied for State funding for this project, and intends to verify partner interest in 2018. Staff will continue to monitor this project closely and work with other agencies ensure that Hayward's interests are represented.

STRATEGIC INITIATIVES

This agenda item does not directly relate to one of Council's Strategic Initiatives.

ECONOMIC IMPACT

There will be no impact on Hayward ratepayers related to Hayward's work to ready or operate the Regional Intertie during future shutdowns of Mountain Tunnel for maintenance and repair. Similar to the 2017 shutdown, SFPUC will reimburse the City for all costs to prepare the Regional Intertie, as well as any costs associated with operating the facility if it is placed into service. Likewise, staff anticipates that all operational costs incurred by Hayward specifically related to a potential pilot water transfer implemented during a Mountain Tunnel outage would be reimbursed by BAWSCA and/or other partnering agencies.

FISCAL IMPACT

If the Regional Intertie is operated during a Mountain Tunnel shutdown, all costs will be reimbursed to the City from SFPUC, with no impact to the Water Enterprise Fund. If a pilot water transfer is implemented, Hayward's costs would be limited to staff time needed to develop plans and agreements. All operational costs directly related to Hayward's efforts to implement the water transfer is anticipated to be borne by BAWSCA and/or other partnering agencies, with no impact on the Water Enterprise Fund. There would be no impact on Hayward's General Fund.

SUSTAINABILITY FEATURES

The efforts described in this report are critical to ensuring water supply reliability, both locally and throughout the Bay Area region. SFPUC's actions to repair and improve Mountain Tunnel will help mitigate the potential for potential supply outages and ensure long-term supply reliability.

PUBLIC CONTACT

During the Mountain Tunnel shutdowns, SFPUC relies on local water sources. The water will meet all federal and state drinking water quality standards, but customers may detect a difference in the taste and odor. Depending on the extent of the changes, it may be necessary to notify sensitive customers by direct contact and alert the general population through media, the City's website and other outlets.

NEXT STEPS

Staff will continue to work cooperatively with SFPUC, BAWSCA and EBMUD on efforts related to the Mountain Tunnel shutdowns and potential water transfers that could involve use of the Regional Intertie and keep the Committee apprised of progress.

Prepared by: Jan Lee, Water Resources Manager

Recommended by: Alex Ameri, Director of Utilities & Environmental Services

Approved by:



Kelly McAdoo, City Manager



CITY OF HAYWARD

Hayward City Hall
777 B Street
Hayward, CA 94541
www.Hayward-CA.gov

File #: RPT 18-012

DATE: January 8, 2018

TO: Council Sustainability Committee

FROM: Director of Utilities & Environmental Services

SUBJECT

Semi-Annual Update on City's Waste Reduction and Recycling Programs

RECOMMENDATION

That the Committee reviews and comments on this report.

ATTACHMENTS

Attachment I Staff Report



DATE: January 8, 2018

TO: Council Sustainability Committee

FROM: Director of Utilities & Environmental Services

SUBJECT: Semi-Annual Update on City's Waste Reduction and Recycling Programs

RECOMMENDATION

That the Committee reviews and comments on this report.

SUMMARY

This report provides an update on the solid waste, recycling, and organic materials services Waste Management of Alameda County (WMAC) provides Hayward residents and businesses under the City's contract that commenced March 1, 2015. This report also shows WMAC's progress toward meeting contractual performance targets, and summarizes the City's compliance with the Alameda County Waste Management Authority's (ACWMA) mandatory recycling ordinance. The report provides an overview of outreach activities conducted to inform residents, businesses, and multi-family property managers about the variety of services available under the City's contract with WMAC. Since the WMAC contract commenced in 2015, the number of subscriptions to recycling and compost services by Hayward residents and businesses have increased each year, and the tonnage of material recycled and composted has also increased annually. Hayward's overall diversion rate for 2016 as reported to the State Department of Resources Recycling and Recovery (CalRecycle) is 73%.

BACKGROUND

In accordance with the requirements of Measure D, a County Charter initiative amendment passed in 1990, the Alameda County Recycling Board established the goal of at least 75% diversion of all discarded materials in Alameda County by 2010. In 2007, Hayward City Council adopted a goal of diverting at least 75% of waste from the landfill by 2010 and in 2016, the City's actual diversion rate was 73%. The City's contract with WMAC establishes diversion goals based on the tons of material collected as recyclables, organics, or solid waste to be landfilled. The diversion goals identified in the WMAC contract were designed to help the City achieve an 80% diversion rate by 2018. In conjunction with the City's contract with WMAC, staff manages a variety of programs intended to help the City achieve its diversion

goals. The last report on solid waste reduction and recycling presented to the Committee was on [July 10, 2017](#).

General Plan Policies – Hayward’s General Plan, adopted on July 1, 2014, includes the following policies related to solid waste, recycling and organics collection:

Public Facilities and Services, Policy 7.4 Solid Waste Diversion – The City shall comply with State goals regarding diversion from landfill, and strive to comply with the provisions approved by the Alameda County Waste Management Authority (ACWMA).

Public Facilities and Services, Policy 7.21: Mandatory Recycling – The City shall implement mandatory recycling for commercial and multifamily uses and work with ACWMA to increase participation in this program.

Public Facilities and Services, Policy 7.14 Commercial Recycling – The City shall encourage increased participation in commercial and industrial recycling programs, and strive to comply with the recycling provisions approved by the ACWMA. The City shall work with ACWMA to provide technical assistance to businesses to implement mandatory recycling.

The current WMA Franchise Agreement (Agreement) commenced March 1, 2015 and includes several provisions WMA must follow to improve solid waste management in Hayward and ensure the City, its residents, and businesses comply with State and County waste management regulations. Some provisions include: Franchise Recovery Rate targets and increased diversion of material from landfill; dedicated outreach resources; enhanced bulky items collection services; and compost giveaway events.

Mandatory Recycling Ordinance – The ACWMA enacts and implements County-wide ordinances and diversion programs to help member agencies achieve their waste reduction and diversion goals. In January 2012, the ACWMA Board approved a mandatory recycling ordinance, which includes a goal to reduce the amount of recyclable and compostable materials landfilled to no more than 10% by 2020. Currently the amount of recyclable and compostable material sent to landfill by Hayward residents is about 35%.

The ordinance consists of two phases: the first phase required larger businesses and all multi-family properties to arrange for collection of recyclables; the second phase required all multi-family properties, and all businesses that generate a significant amount of food scraps and food-soiled paper, such as such as restaurants, food processors, and grocers, to implement separate organics collection. The second phase also required all businesses, regardless of size, to subscribe to recycling services. Multi-family properties are defined in the ordinance as properties having five units or more.

Enforcement of the ordinance is performed by ACWMA inspectors or staff from participating municipalities. However, ACWMA may only issue citations after receiving written approval by staff from participating municipalities. ACWMA assumes all costs to implement the enforcement program, including inspection, enforcement procedures, and assistance to

businesses to implement required programs. After allowing a grace period of all effected entities to implement required services, the ACWMA started actively enforcing all phases of the ordinance on January 1, 2017.

The City's contract with WMAC includes organics and recycling collection service to multi-family properties. Single-family and most multi-family recycling service is provided by subcontractor Tri-CED. The contract also offers organics service to businesses at 50% of the comparable garbage rate and recycling to businesses at 30% the cost of comparable garbage service. Per the contract, commercial recycling service will increase on March 1, 2018 to 40% the cost of comparable garbage service.

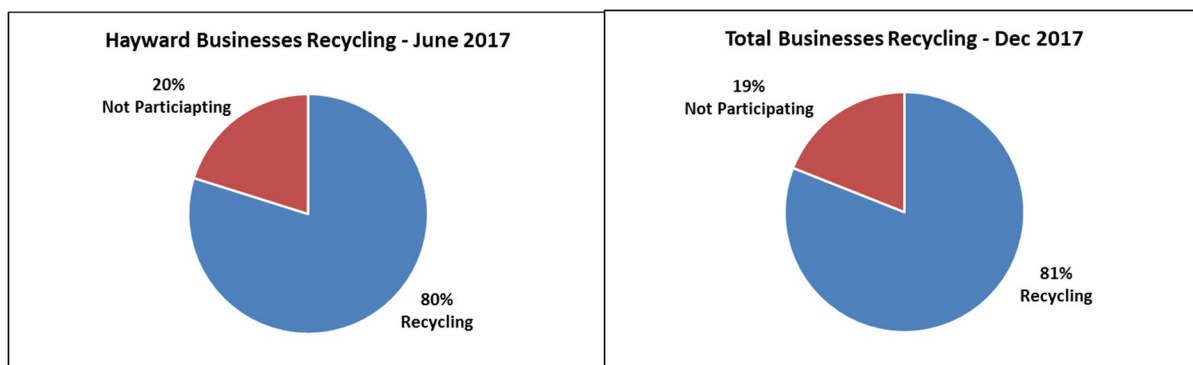
DISCUSSION

City, WMAC, and Tri-CED staff work with multi-family properties and businesses to help them meet all provisions of the mandatory recycling ordinance. Currently 98% of Hayward multi-family properties with five or more units subscribe to recycling services and 67% of multi-family properties participate in organics collection services. The percentage of businesses in Hayward subscribing to recycling services in December 2017 remained relatively flat for the last 6 months, at about 80%. The percentage of Hayward businesses subject to the ordinance subscribing to organics collection services increased by about 10% since June 2017.

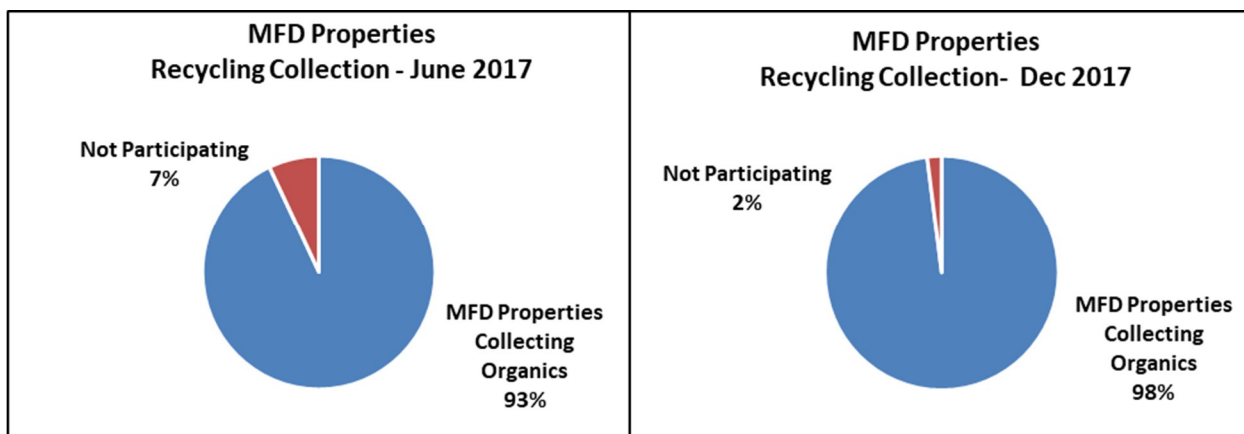
The tables and pie charts below summarize, from June 2017 through December 2017, the percent change in the number of Hayward businesses and multi-family properties that have arranged for collection of recyclables, and percent change in the number of Hayward multi-family properties that have arranged for organics collection through WMAC. The information is based on data provided by WMAC. Businesses and multi-family properties may also comply with the ordinance by arranging with other service providers, or self-hauling their recyclables and organics.

Mandatory Recycling Ordinance: Summary of Participation

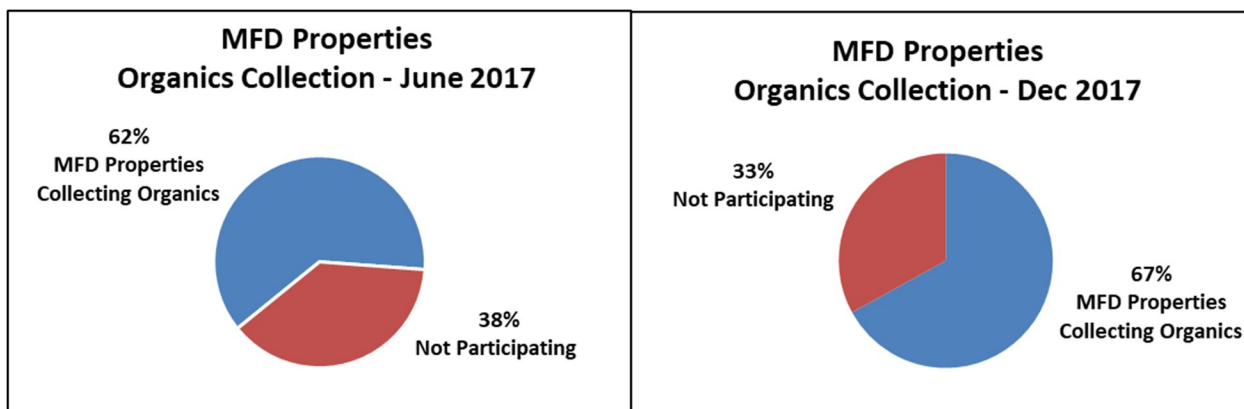
Collection of Recyclables from Businesses	Date	Percent
Percent subscribing to service	June 2017	80%
Percent subscribing to service	December 2017	81%



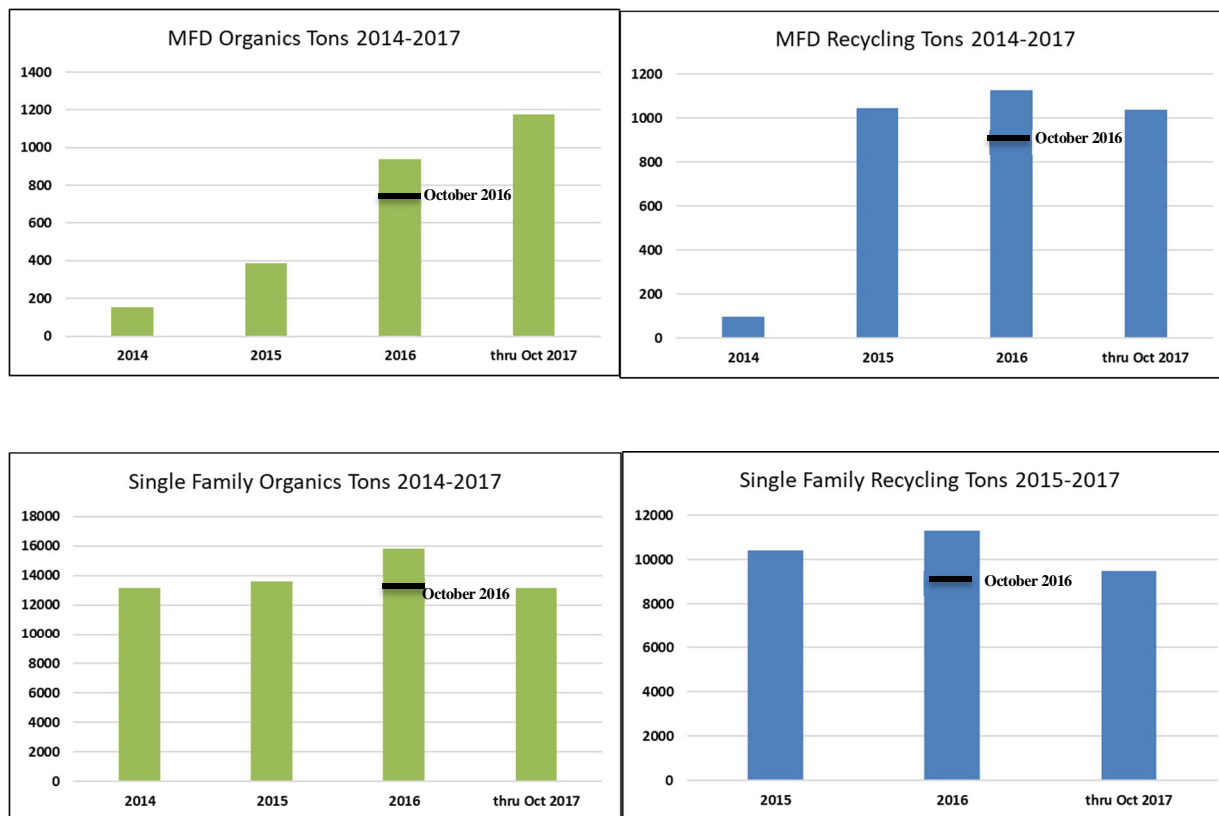
Collection of Recyclables from Multi-Family Properties	Date	Percent
Percent subscribing to service	June 2017	93%
Percent subscribing to service	December 2017	98%



Collection of Organics from Multi-Family Properties	Date	Percent
Percent subscribing to service	June 2017	62%
Percent subscribing to service	December 2017	67%



The pie charts above show the percentage of multi-family dwellings and businesses that subscribe to services. The data does not indicate whether a property or businesses subscribes to an adequate level of service or sorts material properly. The tables below show the tonnage of recyclable and organic material collected from residential properties from 2014 through October 2017.



WMAC staff, including interns dedicated to Hayward, as well as City staff, continue to perform outreach and provide assistance to businesses and multi-family properties so they can implement both services and comply with the ordinance.

Outreach to Multi-Family Properties – In 2016 and 2017, ACWMA, also known as StopWaste, performed outreach to multi-family properties through social media and email. ACWMA also launched a new website tool that enables businesses and multi-family property owners to create customize signage for recycling, trash and compost containers. City and WMAC staff also continue to work with property managers and owners to improve organics sorting/collection and facilitate bulky item removal. Presentations to tenants are coordinated with WMAC, Tri-CED, and property managers. Brochures have also been distributed at Hayward Downtown Street Parties and to the Keep Hayward Clean & Green Task Force. In addition, the City and WMAC collaborate to design and send bill inserts and mailings throughout the year to help inform residents of program parameters.

Outreach to Businesses – WMAC representatives offer Hayward businesses waste assessments and employee training to help facilitate implementation of programs. City assistance includes offering labels for containers and posters for reference by employees and patrons. City staff will continue to disseminate informational materials to businesses via field visits and inserts with bills issued by WMAC, and to inform businesses that recyclables collection is available at 30% of the comparable garbage rate, and organics collection is available at half the price of regular garbage collection. Although not always the case, numerous businesses, including

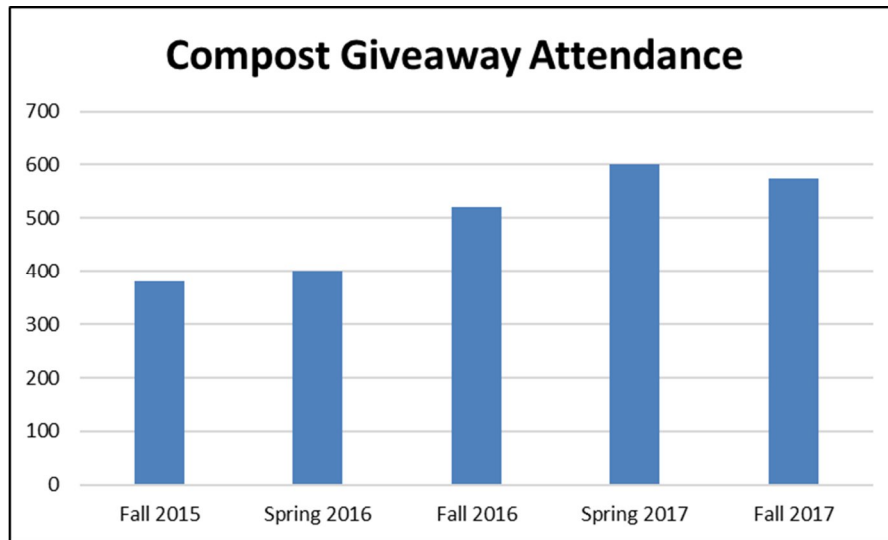
restaurants, grocers, and food processors, have been able to reduce garbage service and cost after implementing one or both services.

Outreach to Single-Family Residents – The mandatory recycling ordinance does not apply to single-family households. However, staff conducts outreach to single-family households to help residents properly sort recyclables and increase their organics diversion by placing food scraps and food-soiled paper in the green bin. Informational materials to single-family residents include bill inserts that highlight the twice-annual bulky item appointments and the variety of other services that continue to be offered. Additionally, the City's website and WMAC's website each offer residents and businesses extensive information regarding recycling and available services. WMAC and City staff recently posted Holiday Facebook ads to provide tips on recycling common Holiday items. WMAC also mails postcards to all households describing removal of bulky items, and sends holiday tree removal instruction postcards to all residents.

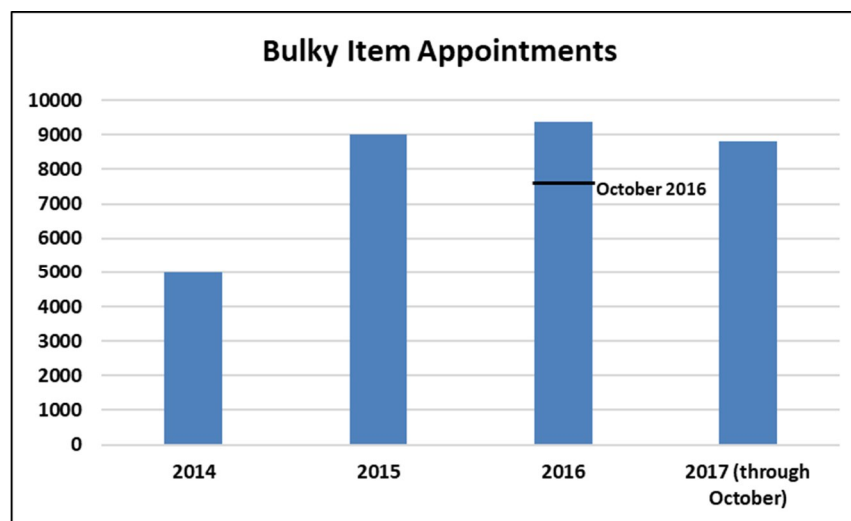
Cal State East Bay

In addition to outreach conducted with WMAC, in 2017 staff worked with Cal State East Bay classes as part of the Pioneers for Sustainable Communities (PFSC) pilot program to design and conduct outreach for Hayward residents. Cal State PFSC program students placed hang tag flyers on the garbage carts of approximately 6,000 single-family homes. The tags reminded residents to place food scraps in the green yard trimmings cart and not in the garbage. In 2018, the City and Cal State East Bay are not operating the PFSC program, however, staff plans to leverage the relationships formed through the Program to team with a Cal State East Bay Human Development class to perform the hang tag outreach again.

Compost Giveaways – A provision of the WMAC Agreement requires WMAC provide Hayward residents with 5,000 one cubic-foot bags of compost annually. The City distributes these bags of compost to residents by means of compost giveaway events held twice a year on Saturdays. During these events, residents drive to a designated venue and City staff loads bags of compost into residents' vehicles. Since the inception of the contract in March 2015, the City has hosted five events and given roughly 11,700 bags of compost to more than 2,350 residents. The events are promoted via inserts in garbage bills, emails, flyers at libraries, and by way of Nextdoor.com. Surveys conducted at the events indicate a very positive response from residents. In October 2017, in response to a request from the Committee, staff held the giveaway at a new location. The event occurred at Tennyson High School for the first time, however, a delay in confirming the availability of the high school delayed the announcement of the location until a week before the event. Staff believes the delayed venue announcement caused a decrease in attendance of about 50 residents. However, staff received very positive feedback regarding the new venue, and plans to hold the next compost giveaway in April 2018 at Tennyson High School.



Bulky Item Collection – The WMAC Agreement offers Hayward single-family households and multi-family properties free collections of 4 cubic yards per dwelling unit of bulky items such as furniture, mattresses, and appliances each year. While the participation by Hayward residents in the program has increased over the first few years of the new contract with WMAC, residents only utilize about one-quarter of the appointments allowed by the contract. Also, about 20% of bulky appointments are second collections for the same address. Staff has continued to prioritize promoting bulky item collection in 2017. In summer of 2017, staff teamed with WMAC to create and post a Facebook ad promoting the bulky item collection service. The ad scored very well on Facebook’s Relevancy scale and generated more clicks than anticipated. In 2018, staff and WMAC plan to create two bulky item collection videos to be posted on the City and WMAC websites as well as promoted through Facebook. One video will promote the service and the other will show residents how to properly set out their material for collection. Through October of 2017, 8,807 collections have occurred. Through October of 2016, 7,891 collections had occurred.

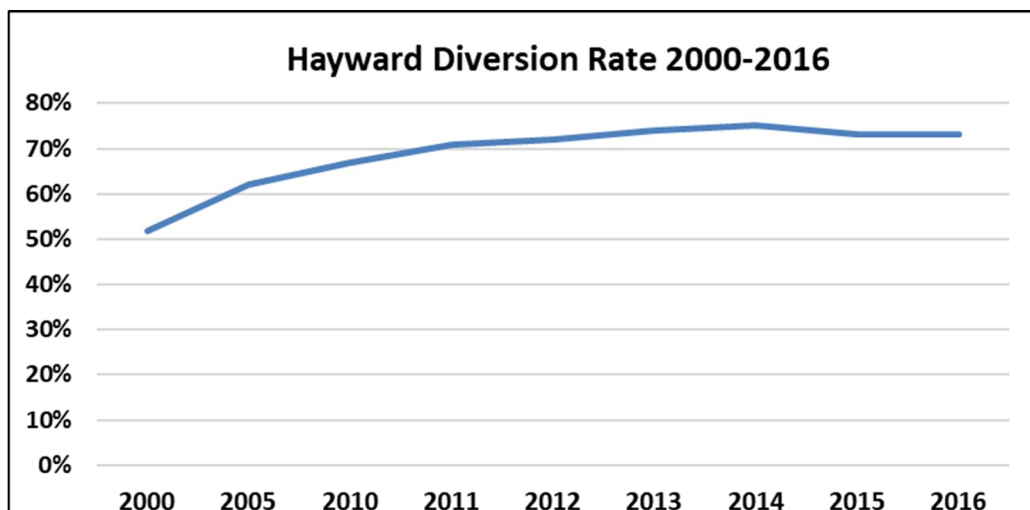


Franchise Recovery Rate – CalRecycle’s diversion rate takes into consideration all wastes generated within Hayward’s boundaries, some of which is not hauled by WMAC. The Franchise Recovery Rate is an annual benchmark included in the WMAC Agreement to track WMAC’s performance diverting material from landfill. It measures only the material collected and managed by Waste Management and the required Franchise Recovery Rate gradually increases each year of the contract to reach 80% by 2024, the final year of the Agreement. In calendar year 2016, WMAC achieved a Franchise Recovery Rate of 37%, well below the target of 50% for 2016. As of October 2017, the Franchise Recovery Rate was 39%, well below the 54% target for 2017. The Franchise agreement allows the City to penalize WMAC for not achieving its Franchise Recovery Rate

WMAC periodically experienced challenges fully staffing its outreach team since the Agreement began in 2015, but more effectively stabilized it’s staffing in 2017. In addition to more outreach, WMAC is working to increase recycling for some large industrial accounts that use roll-off bins whose loads can be processed to retrieve recyclables.

Despite WMAC outreach staffing challenges, in 2016 the number of businesses participating in the recycling and organics collection services offered under the City’s contract with Waste Management continued to increase (or increased by 4%), and the tonnage of organics collected from multi-family properties increased by about 55% over 2015. Participation by businesses and multi-family properties is critical because about 80% of all materials sent to landfill are generated by those two groups. Staff will continue to work with Waste Management to increase business and multi-family participation in recycling and organics collection services.

Diversion - The City achieved a 73% diversion rate during 2016, based on the per capita disposal rate compiled by the State and a methodology approved by CalRecycle. Although the 2016 rate remained the same as 2015 at 73%, the rate has increased from the mid-60% range achieved from 2008-2010 and the 71% achieved in 2013.



STRATEGIC INITIATIVES

This agenda item supports the Complete Communities Strategic Initiative. The purpose of the Complete Communities strategy is to create and support structures, services, and amenities to provide inclusive and equitable access with the goal of becoming a thriving and promising place to live, work and play for all. This item supports the following goal and objectives:

Goal 1: Improve quality of life for residents, business owners, and community members in all Hayward neighborhoods.

Objective 2: Foster a sense of place and support neighborhood pride.

Objective 3: Increase collaboration with businesses, non-profits and neighborhood groups on placemaking projects.

SUSTAINABILITY FEATURES

Solid waste management involves the safe and responsible management of discarded material from generation through processing to disposal. Reducing waste landfilled by maximizing the reuse, recycling, and composting of materials increases diversion, conserves natural resources, and plays an important role in making a community sustainable.

FISCAL/ECONOMIC IMPACTS

Solid Waste Program staff will continue to work with the ACWMA and WMAc to coordinate implementation and enforcement of the mandatory recycling ordinance. Recycling Fund monies will be used to fund these activities, so there will be no impact to the General Fund. These funds are based on tons of garbage disposed at the landfill, and are collected and disbursed by ACWMA. Currently, there is sufficient revenue in the Recycling Fund balance to pay costs associated with implementing the ordinance. However, funds have decreased by about 50% from several years ago, as tons landfilled has decreased. To replenish the City's Recycling Fund, additional funds will be remitted to the City by WMAc per the terms of the contract starting in FY2018-2019.

In June 2017, City staff started following the Agreement's rate-setting procedures and began the process of conducting an evaluation of WMAc's operating costs for 2016, the second year of the Contract. The cost analysis is part of the 2018 rate-setting process and will be presented to Council this winter. In addition, City staff is in the process of hiring a consultant to help review WMAc's revenues, expenditures, and return on investment. New rates will be effective March 1, 2018.

NEXT STEPS

City staff will continue to offer assistance to businesses and multi-family properties to implement separate collection of recyclables and organics. Outreach efforts will continue through a variety of channels, including the Rental Housing Owners Association, special events and the Chamber of Commerce. In early 2018, City Staff will present the rate-setting process and new rates to Council.

Prepared by: Jeff Krump, Solid Waste Program Manager

Recommended by: Alex Ameri, Director of Utilities & Environmental Services

Approved by:

A handwritten signature in black ink, appearing to read 'K. McAdoo', is positioned above a horizontal line.

Kelly McAdoo, City Manager



CITY OF HAYWARD

Hayward City Hall
777 B Street
Hayward, CA 94541
www.Hayward-CA.gov

File #: RPT 18-014

DATE: January 8, 2018

TO: Council Sustainability Committee

FROM: Director of Utilities & Environmental Services

SUBJECT

City of Hayward Comment Letter - Prohibiting Wasteful Water Use Practices

RECOMMENDATION

This is an informational report and staff requests Committee feedback on the attached comment letter.

ATTACHMENTS

Attachment I City's Comment Letter to State Water Resources Control Board dated 12/21/17 related to Prohibiting Wasteful Water Use Practices.



December 21, 2017

Jeanine Townsend, Clerk to the Board
State Water Resources Control Board
1001 "I" Street, 24th Floor
Sacramento, CA 95814-0100
commentletters@waterboards.ca.gov

Subject: City of Hayward Comment Letter – Prohibiting Wasteful Water Use Practices

Dear Ms. Townsend:

The City of Hayward (City or Hayward) appreciates the opportunity to comment on the proposed regulations pertaining to the Conservation and Prevention of Waste and Unreasonable Use Regulations. The City is supportive of the State Water Resources Control Board's (SWRCB) efforts to maximize beneficial use of potable water supplies by addressing wasteful practices, consistent with the Governor's Executive Order B-37-16, which specifically states: "The Board shall permanently prohibit practices that waste potable water..." However, Hayward is concerned that certain provisions in the proposed regulations could impact Hayward's ability to develop recycled water as a locally, sustainable alternative to using potable water for irrigation of landscaped areas.

The City of Hayward serves water to about 150,000 residents and over 8,700 businesses and other non-residential customers in Alameda County. California State University – East Bay, Chabot Community College, and Life Chiropractic College West are among the education institutions served by the City. Hayward currently purchases 100 percent of its water supply from the San Francisco Public Utilities Commission (SFPUC). Similar to all SFPUC wholesale water customers, the quantity of water available to Hayward is subject to reduction in dry years or other periods of water supply shortage.

During the recent drought, the SWRCB appropriately adopted emergency regulations to prohibit the waste of potable water supplies. Hayward incorporated all of the SWRCB prohibitions into its Nonessential Water Use Prohibition Ordinance. Now, as the SWRCB seeks to make the prohibitions permanent, we ask that the SWRCB continue to limit the application of these regulations to saving potable water. Of particular concern to Hayward is the broad prohibition on irrigating "turf on public street medians or publicly owned or maintained landscaped areas between the street and sidewalk, except where the turf serves a community or neighborhood function." As written, this provision would extend to irrigation of these areas with recycled water, which does not constitute a "waste or unreasonable use." Waste and unreasonable use of recycled water would involve runoff, which is already strictly prohibited under State Water Reclamation Requirements and Title 22 regulations.



As noted, Hayward currently relies entirely on SFPUC for its water supply. In order to diversify the City's water supply portfolio and reduce the demand for potable water, Hayward is implementing a recycled water project, which will provide a locally sustainable and drought-proof supply of recycled water to customers for irrigation and industrial uses. The first phase of the recycled water project includes construction of a storage tank, pump station, distribution system and customer connections to deliver an estimated 290 acre-feet per year of recycled water. The first phase of the project is expected to go into construction in early 2018 and will cost over \$20 million. The project is being partially funded through a grant and low interest loan secured through the State's Clean Water State Revolving Fund.

Hayward is one of the lowest water users per capita in the State of California and the City's ongoing commitment to demand management and efforts to lock in a portion of the water conservation savings realized by its customers during the recent drought will make it increasingly more difficult to save potable water during future droughts. The City is committed to investing substantially in developing recycled water to improve overall water supply reliability by further conserving potable water supplies. The ability to utilize recycled water on established turf in medians and other public areas is critical to the feasibility of Hayward's recycled water project.

Along with Hayward's demonstrated commitment to water use efficiency, the City also has a keen interest in and commitment to improving the appearance of the community, in part, through additional landscaping in public places and maintenance of existing landscaping. The proposed regulations do not distinguish between new and existing landscape installations. As the SWRCB can appreciate, it would be costly to replace all existing turf in medians and other public areas with other plant materials. Having flexibility at the local level to maintain existing turf and utilize recycled water for irrigation of turf in public areas is important to our continued efforts to make Hayward a greener and more livable community.

The source of supply for Hayward's recycled water project will be treated wastewater from Hayward's Water Pollution Control Facility that would otherwise be discharged to San Francisco Bay. The SWRCB's proposed restrictions on the use of recycled water for irrigation would diminish Hayward's investments in recycled water and provide no water supply benefit since there is no shortage of supply for the City's recycled water project. In other words, restricting the use of recycled water will result in more treated wastewater and associated residual pollutants being discharged to San Francisco Bay, rather than being put to beneficial use.

Hayward respectfully requests that consideration be given to the significant investments that many communities have made in recycled water infrastructure, the impact that the proposed prohibitions may have on the feasibility of recycled water projects and the desire of communities, such as Hayward, to maintain and improve landscaping in public areas in a sustainable manner. Specifically, we ask that the regulations not be extended to recycled water and that communities be given flexibility to decide whether to allow continued irrigation of existing turf in public medians and other publicly maintained areas.

We appreciate your consideration of our comments. Please feel free to contact Jan Lee, Water Resources Manager, at (510) 583-4701 or at jan.lee@hayward-ca.gov with any questions.

Sincerely,



Alex Ameri
Director of Utilities & Environmental Services

cc: Jan Lee, Water Resources Manager



CITY OF HAYWARD

Hayward City Hall
777 B Street
Hayward, CA 94541
www.Hayward-CA.gov

File #: ACT 18-003

DATE: January 8, 2018

TO: Council Sustainability Committee

FROM: Director of Utilities & Environmental Services

SUBJECT

Proposed 2018 Agenda Planning Calendar

RECOMMENDATION

That the Committee reviews and comments on this report.

ATTACHMENTS

Attachment I Staff Report



DATE: January 8, 2018

TO: Council Sustainability Committee

FROM: Director of Utilities & Environmental Services

SUBJECT Proposed 2018 Agenda Planning Calendar

RECOMMENDATION

That the Committee reviews and comments on this report.

DISCUSSION

The Committee's regular meeting schedule is the second Monday of every odd month. In 2018, this schedule conflicts with two City holidays. September 10 is Admission Day and Veterans Day will be observed on November 12. Staff suggests that the Committee meet on September 24 and November 26, 2018 as alternate dates.

For the Committee's consideration, staff suggests the following tentative agenda topics.

March 12, 2018
EBCE – Consideration of Renewable Content for Default Product (Action)
Plastic Straws and Utensils (Action)
Addressing Litter from Disposable Food Packaging (Action)
AMI Implementation Update & Customer Portal (Action)
CYES Annual Report (Informational)
May 12, 2018
Establishing 2025 and 2030 GHG Reduction Goals (Action)
Progress Toward 2025 ZNE Goal (Informational)
Bike Share Programs (Informational)
Anti-Idling Programs (Informational)
Car Sharing (Informational)

Unscheduled Items
WMAC Franchise Agreement Annual Report (July)
Sustainable Groundwater Plan
Accelerating Multifamily Building Upgrades (California Energy Commission grant)
Stormwater Trash Reduction Requirements
Laundry to Landscape Ordinance
Tiny Homes
Electrify America's Investment Plan
Potential Assembly Bill to Ban Fossil Fuel Automobiles
Bulky Pickup Service & Illegal Dumping (What Works Cities)
Long Term Water Conservation Framework
Current Drinking Water Quality Testing

NEXT STEPS

Upon direction from the Committee, staff will revise the above list and schedule items accordingly for 2018.

Prepared by: Erik Pearson, Environmental Services Manager

Recommended by: Alex Ameri, Director of Utilities & Environmental Services

Approved by:



Kelly McAdoo, City Manager