



CITY OF MILPITAS AGENDA REPORT (AR)

Item Title:	Receive Update on Preliminary Energy and Water Savings Conservation Measures for Implementation on City Facilities and Land
Category:	Community Services and Sustainable Infrastructure
Meeting Date:	2/4/2020
Staff Contact:	Tony Ndah, 408-586-2602
Recommendation:	<ol style="list-style-type: none">1. Accept the update on the Preliminary Energy and Water Savings Conservation Measures pertaining to the Energy Service Company (ESCO) Investment Grade Audit being implemented by Engie Services U.S. Inc.2. Provide input to staff on Preliminary Conservation Measures.

Background:

On October 1, 2019, the City Council approved a Professional Services Agreement with Engie Services U.S., Inc. (Engie) to perform facility audits and equipment surveys in order to understand the City's current infrastructure and utility usage and to make recommendations for improvements that would result in energy and water savings for the City. Engie has been working with City staff to assess energy and water usage at the City's facilities and have prepared preliminary energy conservation measures, as part of an Investment Grade Audit (IGA) which will be provided to the City.

The Investment Grade Audit will contain a series of Energy Savings Measures (ECMs) where the projected savings derived from implementing the ECMs equal or exceed the cost of implementing the ECMs as measured over what is generally a 10-17 year financing term. The program is separated into two phases, each with several distinct elements. The first phase is project development and the second phase is implementation of the identified projects.

The components of the project development phase were incorporated into the professional service agreement. The components of the project implementation phase will be incorporated into one or more "Energy Services Contracts." Staff will be returning to the Council at a subsequent date to request approval of any Energy Services Contracts.

Analysis:

The Project Development phase has involved several stages of review of the City's assets in an effort to develop an IGA for the City. The IGA would provide a in-depth analysis of City property and facilities and is being conducted to an industry standard level of detail. The audits are used to identify ECMs at an investment grade level, meaning the degree of certainty in the savings associated with projects is high at the completion of this stage.

The completion of the IGAs will result in one or more groupings or "packages" of ECMs that are "feasible." A package of ECMs is feasible if--over the period of time needed to finance implementation of those ECMs--the combined savings from the ECMs is projected to exceed the combined cost of implementing the ECMs. Accordingly, not every individual ECM included in a "package" must have a projected savings that exceeds the projected cost of implementing that individual ECM.

PRELIMINARY ENERGY AND WATER CONSERVATION MEASURES:

As part of the IGA development process, Engie has developed preliminary ECMs for the City. Some of the measures that were identified for the City fall in the areas below:

1. Solar Photovoltaics and Electric Vehicle Charging – This measure would generate clean, on-site power via solar shade structures and rooftop canopies. This measure would also reduce PG&E charges and protect against rising energy costs. Additional EV charging stations for public and staff use are being considered in key locations City wide.
2. Battery and Energy Storage for Resiliency and Demand Savings – This measure would help the City avoid peak demand charges and optimize energy rates. Additionally, the battery and energy storage are being considered in conjunction with generators and controls to provide emergency backup power for critical infrastructure and facilities in the event of power outages or shutoffs in the City.
3. Street and Park Lighting – This measure would upgrade exterior lighting to energy efficient LEDs to reduce energy usage, reduce maintenance costs, improve safety, and provide consistency in lighting quality City-wide. Energy-efficient LED lighting is also being considered at outdoor sports fields for reduced maintenance, better visibility, and reduced light pollution.
4. Interior and Exterior Facility Lighting – This measure would upgrade lighting at City facilities to energy efficient LEDs to reduce energy consumption and maintenance costs. This measure also improves indoor lighting quality and safety in parking lots and exterior spaces.
5. Energy Management Systems – This measure provides City-wide consistency in energy management and control systems to allow easier and more efficient monitoring and adjustment of temperature in City buildings. This measure also allows City staff to have better control of heating and cooling, saving costs and staff time.
6. Heating, Ventilation and Air Conditioning (HVAC) Upgrades – This measure is being analyzed to consider repairing, optimizing, and/or replacing ageing HVAC systems, to reduce maintenance costs, extend equipment life, provide energy savings and improve building comfort.
7. High-Efficiency Transformers – This measure replaces old transformers with newer and more efficient units. This measure also reduces losses, both when operating and in stand-by modes, and improves site electrical infrastructure reliability.
8. Water Fixture Retrofits – This measure fine tunes valves and fixtures to reduce leakage and water waste and includes installation of water-efficient fixtures where necessary, focusing on user satisfaction.
9. Irrigation Controls – This measure improves efficiency and automates the City's irrigation systems to reduce water waste, maintenance, and staff time.
10. Water Meter Upgrades – This measure consists of City-wide replacement of residential and commercial water meters to Automated Metering Infrastructure (AMI). Completion of this measure reduces the necessity for manual meter reading, improves accuracy of billing, and leverages grant funding from regional agencies.
11. Supervisory Control and Data Acquisition System (SCADA) – This measure would design and install a SCADA system for City-wide water, wastewater, stormwater management. Implementation of this measure reduces costs, improves cybersecurity and system reliability.

The preliminary ECMs are being presented to Council for input, prior to refining the ECMs for inclusion in the IGA. The chart below outlines the Next Steps under the Project Development Phase.

Date	Milestone
February 4, 2020	Preliminary Energy and Water Conservation Measures Presentation to Council
February 17, 2020	Preliminary Energy and Water Conservation Measures Presentation to the Energy and Environmental Sustainability Commission
March 17, 2020	Presentation of Final Energy and Water Conservation Measures to Council
April 21, 2020	Council Approval of Energy and Water Conservation Measures and Program direction for Project Financing
Summer 2020	Begin Project Implementation Phase

The timing of the development and approval of the final Energy and Water Conservation Measures is being aligned with the scheduled review and approval of the City's Capital Improvement Program for FY 2020 – 25. This would allow the City to leverage the experience and resources of Engie to complete projects already identified in the City's Capital Improvement Program that are tied to the ECMs identified as part of the IGA.

Fiscal Impact:

Not applicable at this time. Fiscal impacts related to specific measures will be brought forward to Council in March.

California Environmental Quality Act:

The action being considered does not constitute a "project" within the meaning of the California Environmental Quality Act ("CEQA") pursuant to CEQA Guidelines section 15378(a) as it has no potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment.

Recommendation:

1. Accept the update on the Preliminary Energy and Water Savings Conservation Measures pertaining to the Energy Service Company (ESCO) Investment Grade Audit being implemented by Engie Services U.S. Inc.
2. Provide input to staff on Preliminary Conservation Measures.

Attachments:

NA