



ENERGY & WATER CONSERVATION PROGRAM



Smart Cities → Efficient Services

City Council Presentation
May 16, 2016

PROCESS TO DATE



City Issues RFP	Dec. 2014
Climatec Competitively Awarded	April 2015
Feasibility Results to Fac. Committee	Sept. 2015
Scope Verified with Staff	Dec. 2015
<u>Audit Results to Facility Committee</u>	<u>Jan. 2016</u>
Council Consideration	Tonight

PROGRAM GOALS



* Upgrade Existing Systems

- * Heating & Air Conditioning
- * Building Automation Control
- * Interior & Exterior Facility Lighting
- * Street Lighting
- * Landscape Irrigation Control
- * Energy Dashboard
- * Solar Energy Generation (WPCP Phase II)



* Reduce Utility & Repair Costs

* Tie Improvements to CAP Goals

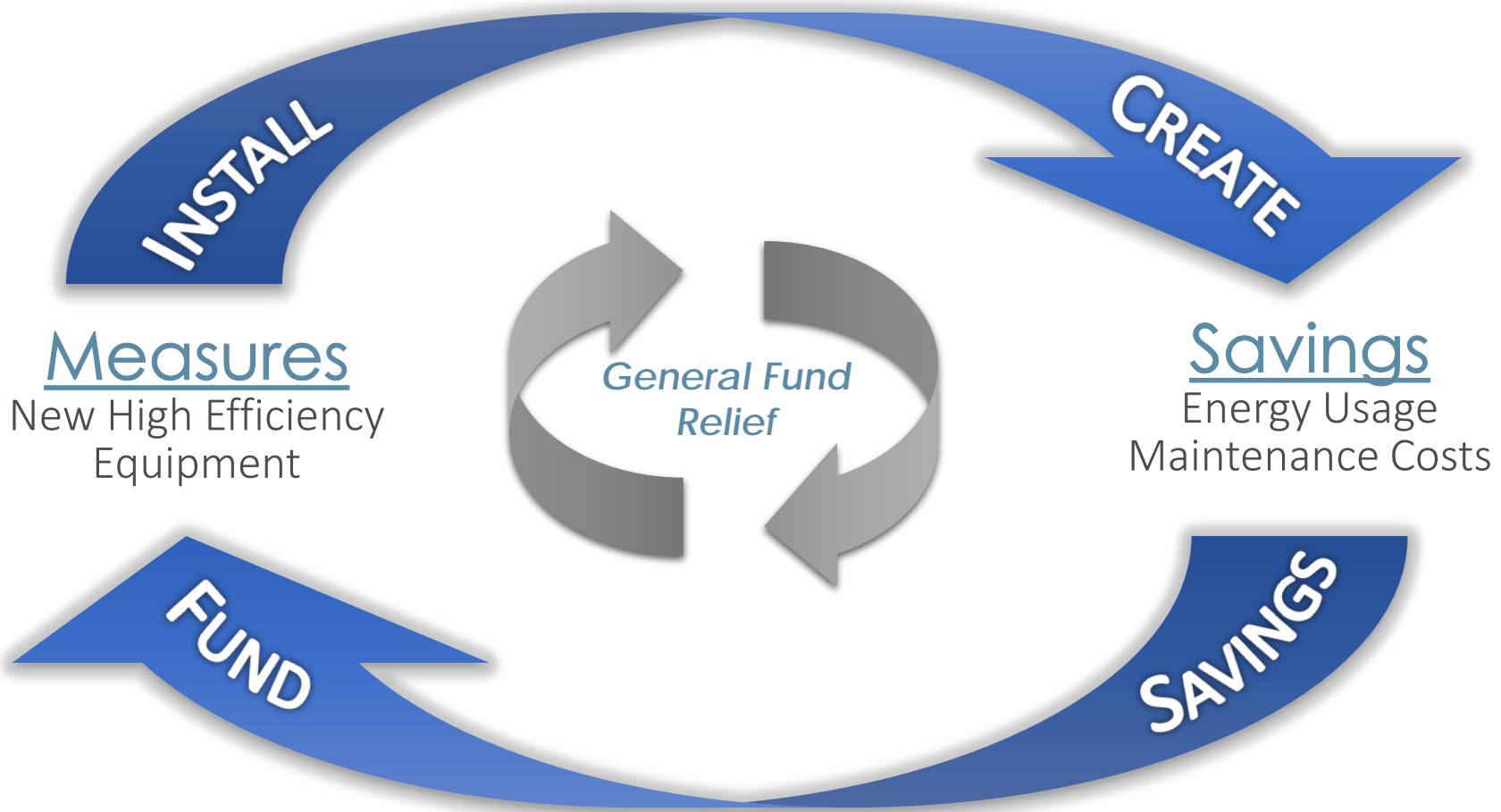


* \$0 Capital Required



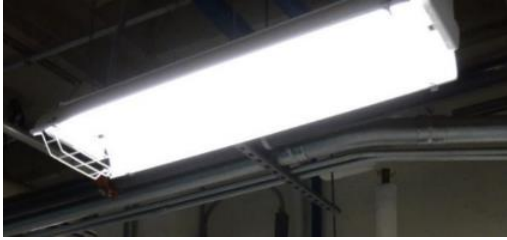
* Guarantee Financial Results

SELF FUNDED IMPROVEMENTS



LIGHTING UPGRADES

Interior LED Upgrades



Existing Interior Lighting



Recommended LED Lighting

LIGHTING UPGRADES

Exterior LED Upgrades



Existing Exterior Lighting

Recommended LED Lighting

STREET LIGHT UPGRADES

LS-2



STREET LIGHT UPGRADES

LS-2



Before

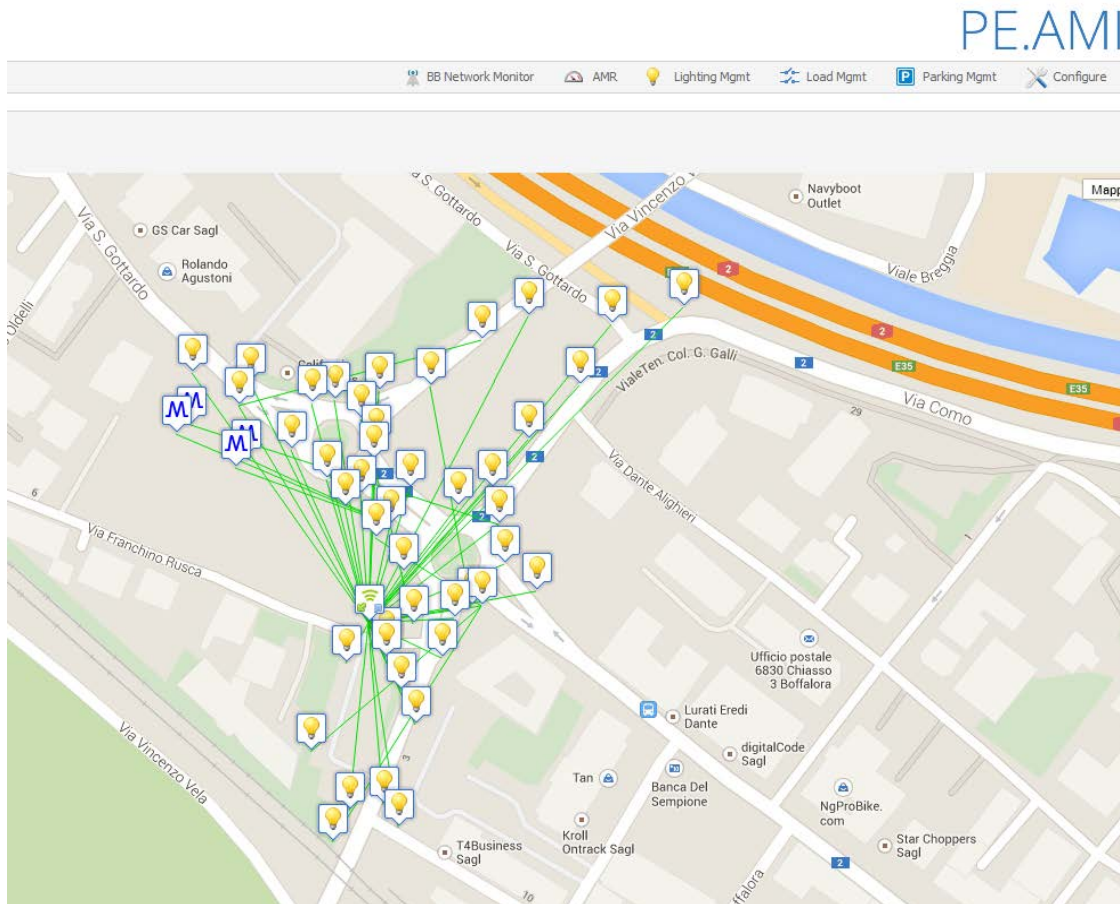


After



STREET LIGHT UPGRADES

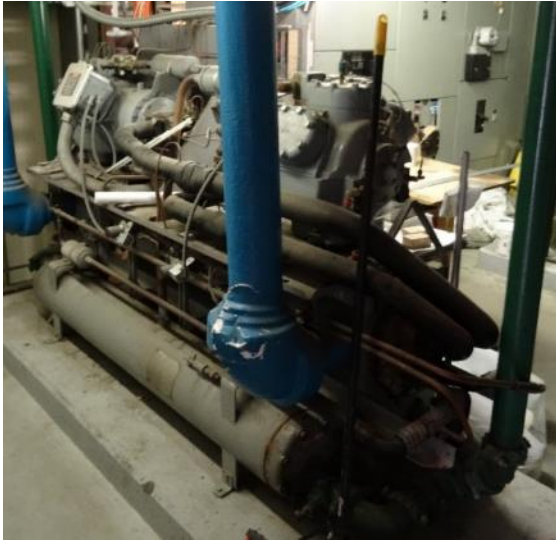
Street Light Control & Monitoring



Key Features:

- * Adaptive Control
- * Dynamic Dimming
- * Individualized Power Reporting
- * Outage Detection & Maintenance Tracking
- * Interactive Mapping
- * Remote Access

HVAC UPGRADES



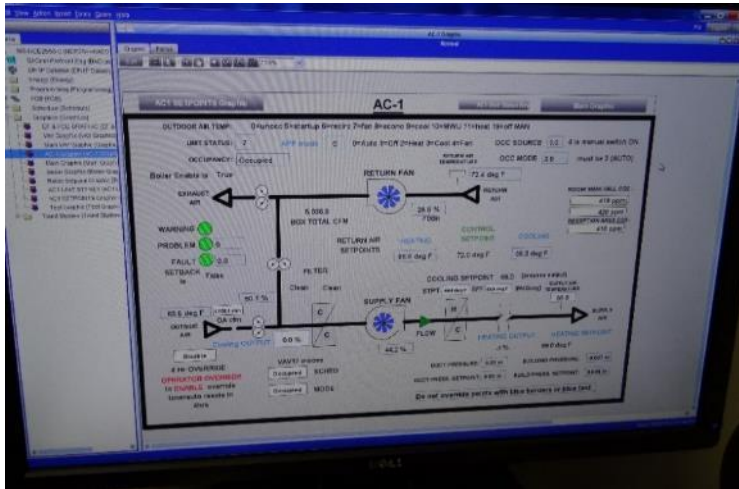
Existing HVAC Equipment



Recommended
High Efficiency
HVAC Upgrades



BUILDING AUTOMATION SYSTEM



Upgrade
Thermostats to JCI

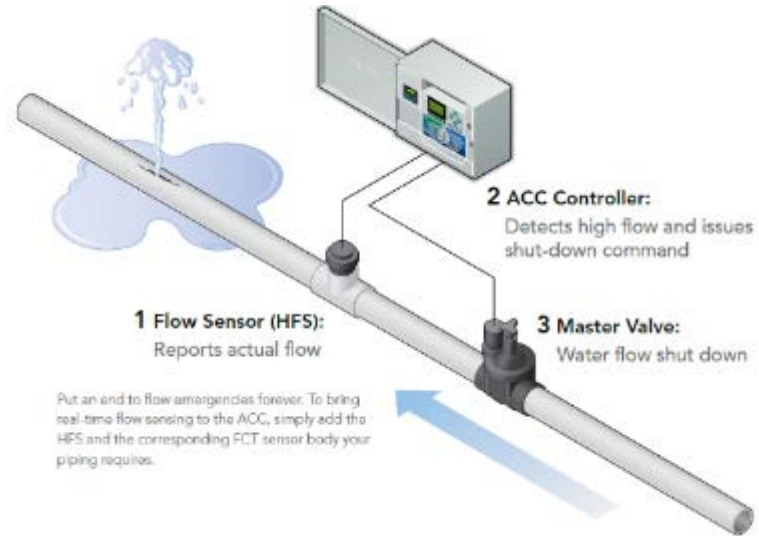
IRRIGATION UPGRADES

Weather Based Smart Irrigation Controls



Existing Controls

Recommended Controls



CLIMATEC FINANCIAL HIGHLIGHTS



Total Infrastructure Improvements	\$ 5,270,455
15 Year Lifecycle Savings	\$ 7,944,410
Estimated 1st Year Project Inflows	\$ 528,734
Estimated 1st Year Project Outflows	\$ 448,124
15 Year Net Project Savings	\$ 1,173,065
Capital Required To Fund Project	\$ 0

ENERGY & WATER EFFICIENCY PROJECT

CAP Goal 6.1 - Increase energy efficiency in City facilities



This project will reduce City facility related greenhouse gas emissions by 25%.

Energy and water savings translate into the following green equivalencies:



Removing **277** cars off the road



Saving **150,441** gallons of gasoline



Preserving **39,548** trees from deforestation



Powering **198** San Leandro homes



Providing drinking water for **23,540** San Leandro residents

NEXT STEPS



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Council Consideration	Tonight
City Selects Lending Partner	June 2016
Project Implementation Begins	July 2016