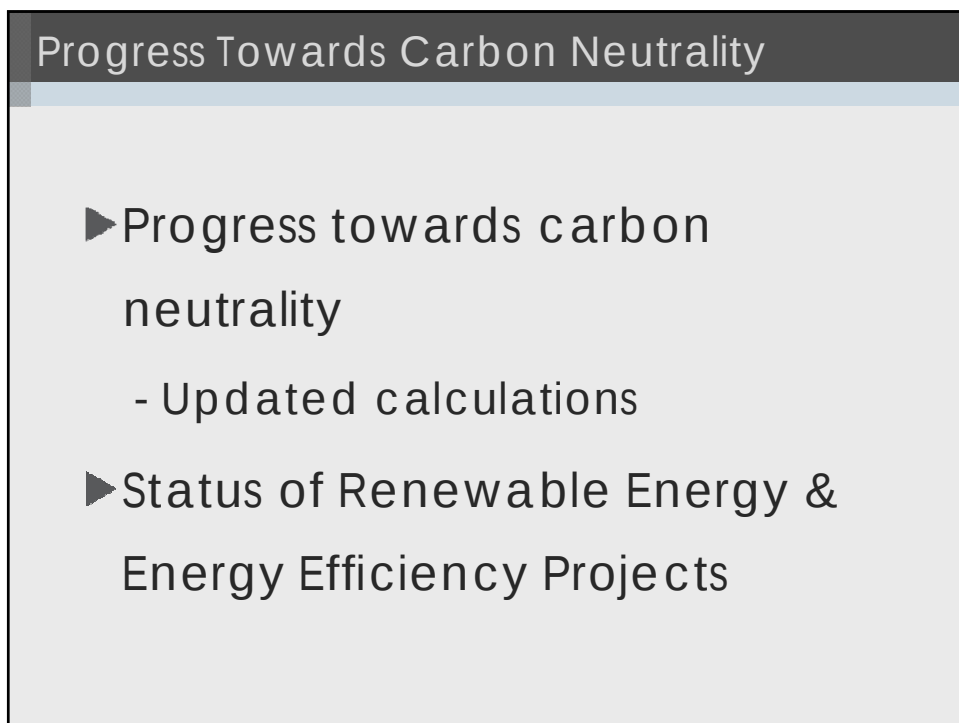
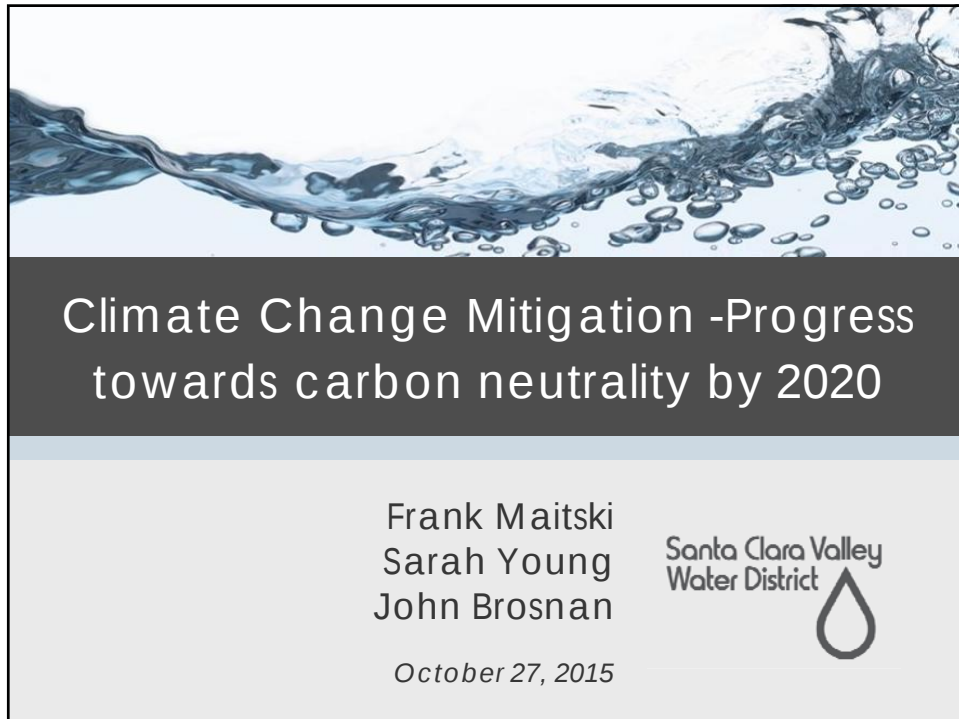




Key Board Discussions

Date	Topics	Key Updates
10/28/14	Climate Change Mitigation - Update on Progress Towards Achieving Carbon Neutrality by 2020	Updated GHG emissions projections related to State Water Project import; Provided report on renewable energy development.
03/26/13	Update on Progress and Approach Toward Achieving Carbon Neutrality by 2020	Agreed upon the Framework for accounting emissions and offsets, including offsets from water conservation and water recycling.
11/27/12	Energy Management Update Supplemental Energy Management Update	Presented Energy Management Plan.
08/20/12	Work Study Session, Policy E.4-3. Strive for Zero Net Greenhouse Gas Emission or Carbon Neutrality	Established explicit policy for achieving carbon neutrality by year 2020.

Board Policies Directions

Goal E-4.3. Strive for zero net greenhouse gas emission or carbon neutrality.

Objective 4.3.1. Reduce greenhouse gas emissions to achieve carbon neutrality by 2020.

| Attachment 1

District Strategies

- 1) Establish a District-wide internal carbon offset methodology.
- 2) Conduct periodic greenhouse gas emission inventories.
- 3) Review energy usage and options for reducing greenhouse gas emissions for District facilities.
- 4) Identify and develop opportunities to employ sources of alternative energy that reduce greenhouse gas emissions.
- 5) Maintain a portfolio of alternative energy supplies.
- 6) Increase energy use efficiency.
- 7) Increase fleet fuel use efficiency.
- 8) Provide funding for management of the County Green Business Program.

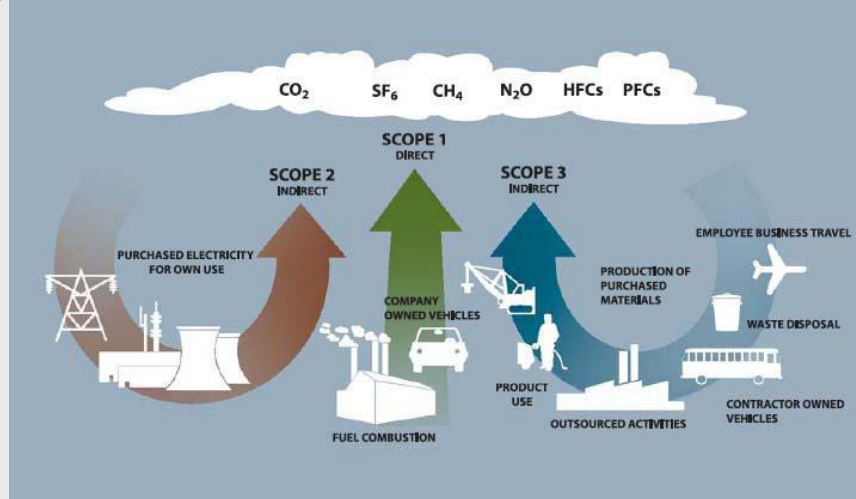
Outcome Measures

Outcome Measures	Status
By 2020, the amount of District greenhouse gas emissions is equal to or less than carbon offsets as calculated by the District carbon offset methodology.	Tracked annually
Maintain California Green Business Certification.	April 2013 Latest Recertification

| Attachment 1

Key Definitions

Key Definitions



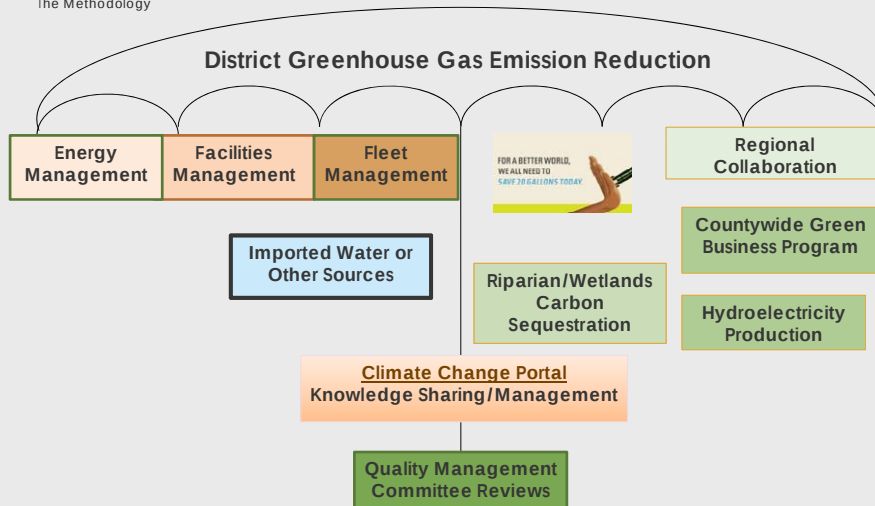
PWRPA and PG&E Electricity

Fleet

Imported Water, Employee Commute & Business Travel

District's Carbon Reduction Framework

The Methodology



| Attachment 1

Emission Calculations

Metric Tons of CO_{2e} Emission

=

Emission Factor

in Metric Tons of CO_{2e}/kWh or Metric Tons of CO_{2e}/acre-feet

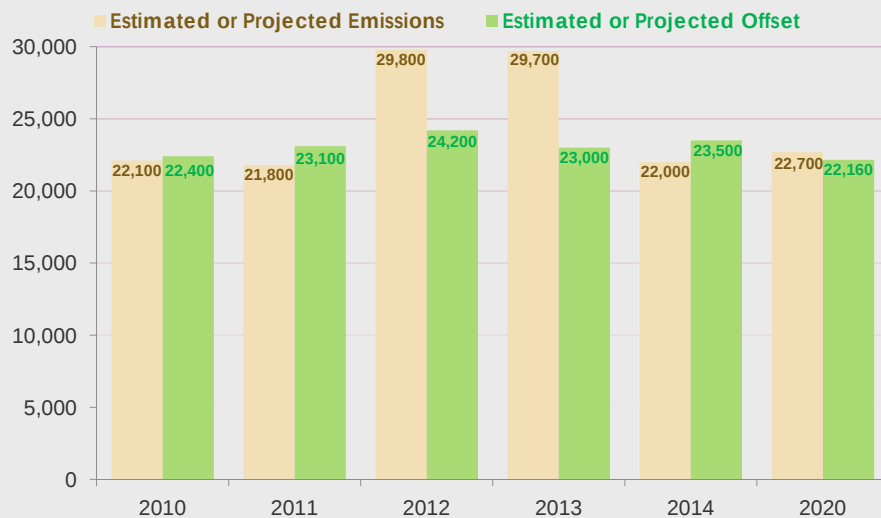
X

Amount of Use

in kWh or acre-feet

| Attachment 1

Estimated/Projected Emissions & Offsets (Metric Ton CO_{2e})



Key Changes for Emissions/Offset Calculation

- ▶ Customized emission factor for District's imported water
- ▶ Projected GHG emission based on DWR's latest emission reduction target
- ▶ Incorporated PG&E's projection of 2020 Emission Factor in offset related to water conservation
- ▶ Direct energy purchases increased for SVAWPC and Rinconada

Key Drivers for Carbon Neutrality

- ▶ Portfolio approach
- ▶ Water conservation
- ▶ Water recycling
- ▶ Green business
- ▶ Energy optimization
- ▶ Expand green footprint

What is in the Energy Optimization Plan?



Implementation of energy efficiency and conservation measures

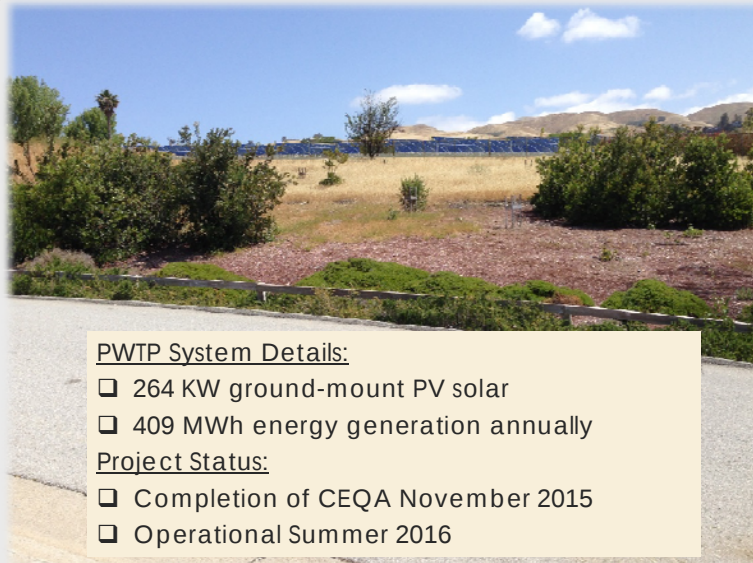


PV solar power projects at Penitencia and Santa Teresa Water Treatment Plants



Potential In-conduit hydroelectric projects

Photovoltaic Solar Project – Penitencia



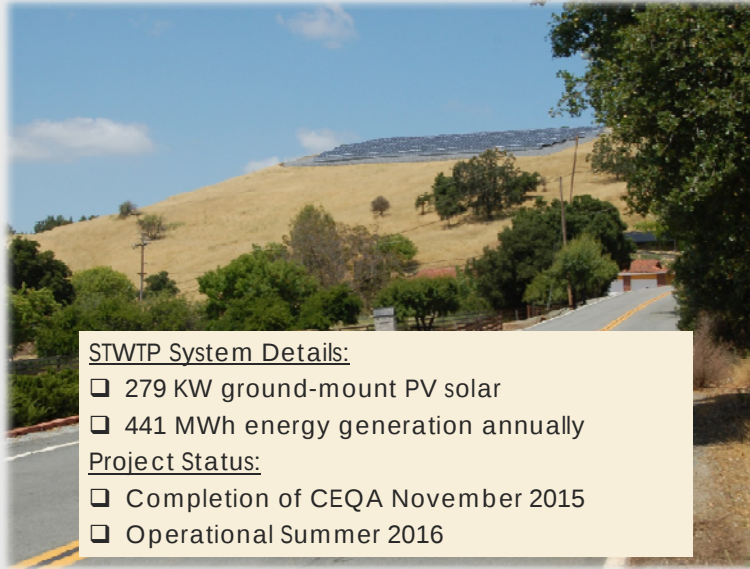
PWTP System Details:

- ❑ 264 KW ground-mount PV solar
- ❑ 409 MWh energy generation annually

Project Status:

- ❑ Completion of CEQA November 2015
- ❑ Operational Summer 2016

Photovoltaic Solar Project – Santa Teresa



STWTP System Details:

- ☐ 279 KW ground-mount PV solar
- ☐ 441 MWh energy generation annually

Project Status:

- ☐ Completion of CEQA November 2015
- ☐ Operational Summer 2016

In-Conduit Hydroelectric Projects – Anderson Hydro

Status

NLine Energy, Inc. – an ACWA Approved Preferred Provider

- ☐ 2014 Initial Feasibility Report
 - ☐ Turnouts not practical for in-conduit projects
 - ☐ Anderson Hydro only site feasible for generation
- ☐ 2015 Anderson Hydro Evaluation Report
 - ☐ Power purchase agreement (PPA) with PG&E expires 2018
 - ☐ Options for renewing PPA and equipment

Schedule

- ☐ FY16/FY17 – Staff and NLine finalize plan to transition facility

PWRPA Renewable Energy Projects

Projects expected operational in 2017:

- ☐ Whitney Point Solar Project – Fresno County
 - ☐ Secured 750 kW allocation of 20 MW project
- ☐ Astoria II Solar Project – Kern County
 - ☐ Secured 400 kW allocation of 75 MW project



Energy Efficiency and Conservation

Completed:

Fiscal Year	Projects/Measures Completed
FY2013	8
FY2014	4
FY2015	8
Total:	20

Schedule:

Fiscal Year	Projects/Measures Scheduled
FY2016*	23
FY2017 - FY2020	6
Total:	29

* Includes ECMs postponed from FY15 to FY16 due to project scheduling

- ☐ Impact of fully implemented projects and measures
 - ☐ Save about 3220 MWh of energy annually
 - ☐ Offset about 550 Metric Ton of CO₂e per year
- ☐ Estimated cost to complete is \$827,500



Questions ?

www.valleywater.org

19

Santa Clara Valley Water District 