

Climate Change Greenhouse Gas Reduction

Santa Clara Valley Water District's approach to reducing its carbon footprint



Why the water district is moving towards carbon neutrality



The Santa Clara Valley Water District takes its commitment to the community and the environment seriously.

The water district board recognizes that climate change not only affects the district's mission, but district operations also generate, avoid,

reduce and sequester greenhouse gas (GHG) emissions. Therefore, the district is proactively seeking to reduce its GHGs that contribute to global warming and climate change. The district's board of directors has developed this policy objective: 4.3.1 Reduce greenhouse gas emissions to achieve carbon neutrality by 2020.

The water/energy nexus

The water/energy nexus is one of many reasons the district is involved in GHG reduction efforts. The water supply chain (conveyance, treatment and end use) is energy intensive. A reduction in flow through the water supply chain, through water use efficiency and water conservation, will decrease energy use and the carbon footprint.

What the water district is doing

The district's major efforts to achieve carbon neutrality include responding to the water/energy nexus through water use efficiency, energy efficiency and by developing alternative power sources.

Energy and Water Use Efficiency



The district has taken steps to ensure its water supply operations are conducted in the most efficient manner, while continuing to meet operational needs. It has implemented improvements, such as the installation of variable frequency pump drives at treatment

plants and pump stations, saving about 800 megawatt-hours (MWh) annually.

A significant portion of the district's power comes from renewable energy sources. The district's Energy Optimization Plan includes energy efficiency and conservation activities, in addition to investing in district owned renewable power sources; including solar energy projects and hydroelectric power generation.

The water district employs a variety of incentives and rebates, one-on-one home visits with free installation of water-saving devices, workshops, and outreach at community events to promote water savings. These incentives and programs reduce the consumers' carbon footprint.

Hydroelectric generation

Not only does water have embedded energy (water/energy nexus), the movement of water can be used to create renewable power. The district owns and operates hydroelectric generation facility at Anderson Dam, located in the southern part of the county as an additional source of alternative power generation. Since its construction in 1988, this facility has generated over 35,000 MWh of electricity. Also, the district continues to monitor in-conduit hydroelectric technology that may be compatible in some of its pipelines.

Solar energy investments

The district's solar energy portfolio will help cut atmospheric pollution by reducing carbon dioxide levels by an estimated 413,000 pounds per year, the equivalent of carbon dioxide produced yearly by 53 cars.

Solar panels were installed on two carports in the headquarters parking lot, and also on the roof of the water district's administration building. In addition, through the Power and Water Resources Pooling Authority, a joint power authority, the district has installed solar panels at two water treatment plants in 2016. These new systems will combine to produce 850 MWh annually facilities.

Other strategies

Other specific approaches that the district is undertaking are many and diverse. The following is an overview of these efforts.

- Explicit policy direction that targeted year 2020 for achieving carbon neutrality.
- An internal carbon reduction framework codified as a part of the water district's ISO 9000/14001 Quality and Environmental Management System.
- First water district to establish a binding climate divestment policy. The policy states: No investments will be made in fossil fuel companies with significant carbon emissions potential.
- A comprehensive Water Conservation Program.
- Habitat restoration, enhancements, and green business program to continue to expand the district's positive environmental impacts. Preserving, maintaining, restoring or enhancing wetlands/ riparian habitats also reduces the district's carbon footprint through carbon sequestration.
- A Climate Change Portal to disseminate information to employees and educate the public on water related climate change issues.

Conclusion

The district's commitment to the environment, meeting the challenges of climate change and reducing its carbon footprint are recognized through its certification as a green business, a Climate Action Leader, a California Sustainability Showcase water agency, and through its award-winning water use efficiency and conservation programs. In addition, the district continues to contribute to reducing the county's carbon footprint through wetlands restoration, habitat conservation, and supporting the expansion of trails and open space. The district also tracks its performance and progress towards carbon neutrality through its GHG emissions inventory, which includes accounting for reductions or offsets from water use efficiency, renewable energy production, habitat restoration/ enhancement, and green business programs. Performance on meeting GHG and energy reduction measures are reporting to the Board of Directors annually, and will be reviewed as part of the districtwide Climate Change Action Plan in 2019.

For more information on the water district's response to climate change, go to:
www.valleywater.org/Services/climatechange.aspx



Solar panel canopies at the water district headquarters