What is Silicon Valley Clean Water?

Silicon Valley Clean Water (SVCW) is a regional wastewater treatment facility operated under a Joint Powers Authority (JPA) serving a quarter-million customers in southern San Mateo County. During the summer, SVCW cleans a daily water flow of up to 13 million gallons per day (MGD), with wet weather peak flows of up to 80 MGD. Member agencies include the cities of Belmont, San Carlos, and Redwood City, and the West Bay Sanitary District.

As our resources become ever more limited and our technology improves, water, biosolids, and energy resource recovery opportunities are more cost effective than ever. To provide the highest level of service to our customers, and prepare for the future of water reuse, we focus on four key areas:

**Water**
California’s recent drought reminded us that water is one of our most precious resources. Every day, SVCW cleans water so it can be beneficially released to the environment or recovered for reuse as recycled water. Using recycled water has many benefits including using less energy by importing less water, taking advantage of the energy already expended to clean the water, and protecting strained habitats by keeping more water in rivers and streams during droughts. The City of Redwood City has already reduced the amount of drinking water it imports and the energy required to transport it by using up to 750 acre-feet of SVCW’s recycled water annually—over a quarter-billion gallons each year! SVCW is working with our regional partners to increase water recycling and take advantage of the benefits of integrated water management. By recognizing locally sustainable water supplies, we become regionally self-reliant and reduce the energy used and the amount of water transported from distant sources.

**Energy**
By recovering natural gas for energy, SVCW meets up to 70% of the facility’s electrical energy needs. Furthermore, almost 100% of the heat needed for plant processes is recovered through cogeneration. This reduces the amount of carbon-based energy we purchase, meaning we save money and reduce greenhouse gas emissions. SVCW actively looks for ways to reduce our energy demand and convert biosolids to energy. Research projects like food waste digestion and SAF-MBR (Staged Anaerobic Fluidized bed-Membrane Bioreactor) show significant promise towards increasing our renewable natural gas supplies.

**Solids Management**
SVCW processes and recovers biosolids for reuse in composting and farming. Some portion of biosolids are used as a necessary daily cover on landfills, rather than importing soils. SVCW is using emerging technology with the potential to significantly reduce the amount of biosolids produced, saving transportation costs and reducing GHG emissions.

**Research**
SVCW is a leader in exploring and implementing new technologies to maximize efficiencies, improve processes, and reduce costs to treat water. In recent years, the water, energy, and solids management field is showing significant advances in technology to improve treatment processes, produce energy, address regulations, protect our environment, and recover our limited resources at a lower cost. It’s therefore critical for SVCW to continually learn about and research new ways to help reduce our impact on the environment and become more sustainable and regionally self-reliant.

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