

# HIRAM W. WADSWORTH PUMPING/ HYDRO-GENERATING FACILITY

## Generating Clean Energy



Metropolitan's mission of providing a reliable source of water for Southern California means moving massive amounts of water through an intricate system that spans hundreds of miles. That commitment offers the opportunity to harness the energy used to deliver that water to generate clean electricity.

The largest of Metropolitan's hydroelectric power plants is the Hiram W. Wadsworth Pumping/Hydro-generating Facility located near Hemet at Metropolitan's Diamond Valley Lake. The plant is located on the west end of the reservoir, which helps secure about six months of emergency supplies for all of Southern California. Wadsworth produces 12 million kilowatt-hours (kWh) per year on average (2014 – 2018) that can be marketed by Metropolitan as renewable energy.



### Facility Highlights

#### Forebay

- Serves as a regulating reservoir when generating power; has a 500-acre-foot capacity

#### Pumping

- Nine pumps – 6,000 horsepower each
- Capacity of 1,575 cubic feet per second

#### Generating

- Nine generators of 3.3 megawatts each
- Generating capacity – 29.7 megawatts of renewable energy

#### Pressure Control Facility

- Houses seven, 66 inch by 42 inch pressure control valves used to discharge water when generators are offline or out of service
- Water that is discharged reenters the forebay

#### Tunnel

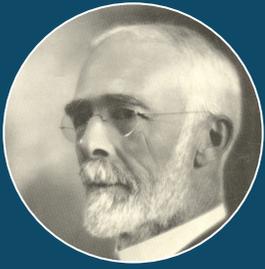
- Steel-lined, 16-foot diameter by 2,300 feet long
- Connects inlet/outlet tower with the pump/generation plant

#### Inlet/Outlet Tower

- 270 feet high; nine tiers each with dual 84-inch valves on each tier



On its journey to Wadsworth, the water stored in DVL will have travelled from Northern California through the State Water Project and its 444-mile California Aqueduct before being delivered through the Inland Feeder and the Eastside Pipeline. Stored reservoir water is drawn through the inlet/outlet tower and then a 2,300-foot-long pressure tunnel. This tunnel connects to the Wadsworth facility, where it courses through as many as nine electrical generators that produce up to 3.3 megawatts (MW) each. Water is typically released to the nearby San Diego Canal, which carries the water south to Lake Skinner and Metropolitan's Robert A. Skinner Water Treatment Plant (one of five regional treatment plants in Metropolitan's system). Water from DVL also can be delivered to almost all of Metropolitan's service area, also as far west as Ventura County, if needed during a drought or an emergency.



## The Namesake

Hiram W. Wadsworth was known as the father of Metropolitan. As vice president of the Boulder Dam Association and mayor of Pasadena, he led the call to create a regional consortium of municipalities to help bring water to Southern California. He created the Colorado River Aqueduct Association and was elected president on Sept. 18, 1924. For the next five years, Wadsworth directed the campaign that eventually created Metropolitan.

Metropolitan's use of renewable energy dates to the late 1920s and the creation of the Colorado River Aqueduct, which uses hydroelectric power from Hoover and Parker Dams to move water to the south coastal plain. Today, Metropolitan's renewable energy assets include 16 hydroelectric power plants located throughout the Southland.

Since nearly all of Metropolitan's greenhouse gas emissions come from the energy used to move and treat water, reducing emissions requires lessening energy usage. To help meet that challenge, Metropolitan has invested in and now operates solar facilities at three of its water treatment plants as well as one at the Diamond Valley Visitor Center. Metropolitan is currently developing a comprehensive Energy Sustainability Plan.

## Solar Facilities



### Skinner Water Treatment Plant in Winchester

**Solar Power:** 1 MW, generating 2.3 million kWh of clean energy a year, offsetting nearly 20% of the plant's demand



### Weymouth Water Treatment Plant in La Verne

**Solar Power:** 3MW, generating 6.5 million kWh of clean energy a year, offsetting nearly 40% of the plant's demand



### Jensen Water Treatment Plant in Granada Hills

**Solar Power:** 1 MW, generating 2.3 million kWh of clean energy a year, offsetting nearly 20% of the plant's demand



### Diamond Valley Lake Visitor's Center In Hemet

**Solar Power:** 0.5 MW capacity, generating about 643,000 kWh of clean renewable energy per year

## WHO IS METROPOLITAN

The Metropolitan Water District of Southern California is a state-established cooperative of 26 member agencies—cities and public water agencies—that serve about 19 million people in six counties. Metropolitan imports water from the Colorado River and Northern California to supplement local supplies, and helps its members to develop increased water conservation, recycling, storage and other resource-management programs.

## OUR MISSION

The mission of the Metropolitan Water District of Southern California is to provide its service area with adequate and reliable supplies of high-quality water to meet present and future needs in an environmentally and economically responsible way.

### The Metropolitan Water District of Southern California

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