

# MODESTO IRRIGATION DISTRICT

Where Does  
Our Power  
Come From?

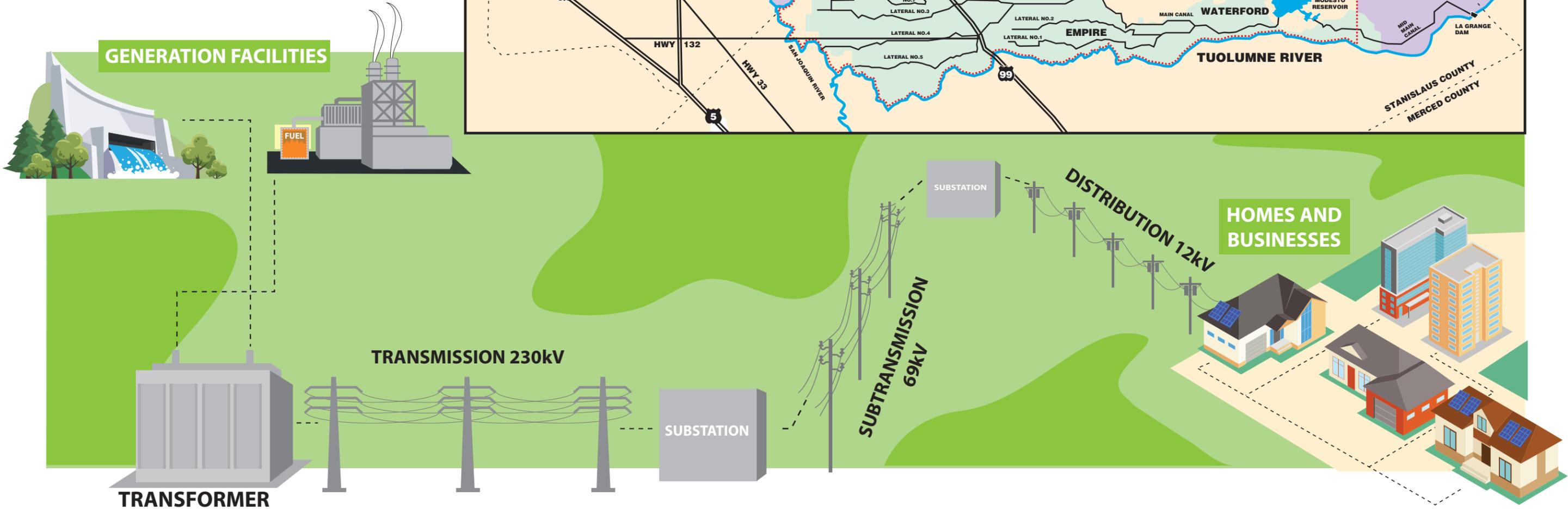


# The Communities MID Serves ▶

MID transmits and distributes electricity over more than 1,800 miles of power lines throughout our service area, providing power to the communities of Modesto, Waterford, Salida, Mountain House and parts of Ripon, Escalon, Oakdale and Riverbank.

# How Power Gets to Your Home ▼

Electricity is created at generating facilities by huge generators. These facilities capture the energy from wind, natural gas or water. The electric current that is produced is sent through transformers to increase the voltage to push the power over long distances. The electrical charge goes through high-voltage transmission lines that stretch across many states. It reaches a substation, where the voltage is lowered so it can be sent on through smaller power lines to your homes and neighborhoods.



## Our Power Mix ▼

MID relies on a diverse, balanced power resource mix to meet our customers' needs. We generate some electricity at our own power plants; others are owned in partnership with other public utilities. We also buy power from others under long-term contracts in the energy marketplace.

A diverse mix of power resources provides the best insurance for MID customers against all kinds of risks – marketplace, legislative, regulatory, technological, weather and climate.

MID's power mix includes solar, wind, natural gas, hydropower and a variety of other sources.



The energy from flowing water can be converted into electricity. Many hydroelectric power plants use a dam on a river to store water in a reservoir. Water released from the reservoir flows through a turbine, spinning it, which in turn spins a generator to produce electricity.



To generate solar energy, the photons radiated from the sun to Earth must be collected, converted into a usable format and then delivered to an electronic device or the electric grid. Panels containing photovoltaic cells are used to collect the energy from the sun and convert it into electricity.



When the wind blows past a wind turbine, its blades rotate. This rotation turns an internal shaft connected to a gearbox, which typically increases the speed of rotation by roughly a factor of 100. That spins a generator that produces electricity.



Natural gas power plants generate electricity by burning natural gas with gas turbines or reciprocating engines. For gas turbines, natural gas is added, along with a stream of air, which combusts and expands through the turbine causing a generator to spin a magnet, making electricity. Reciprocating engines operate like a car's engine, they're just much bigger.

## Electric Generation Facilities ▼

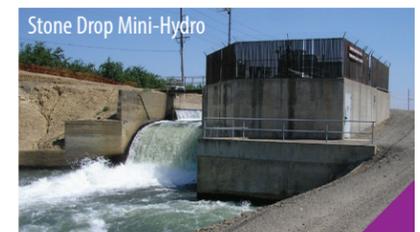
MID owns and operates these facilities to help meet the electric power demands of the area we serve.

- ▲ **Don Pedro Powerhouse**  
 Hydropower from water stored in Don Pedro Reservoir  
 Output: Three turbines, 55 MW each and one turbine, 34 MW  
 MID owns 31.54% or 63 MW
- ▲ **Woodland Generation Station**  
 Flexible year-round power supply using natural gas  
 Unit 1 - completed: 1993 - Output: 49.4 MW  
 Unit 2 - completed: 2003 - Output: 83 MW  
 Unit 3 - completed: 2011 - Output: 49.6 MW
- ▲ **McClure Generation Station**  
 Peaking power natural gas generation -used during times of high power demand  
 Unit 1 - completed 1980  
 Unit 2 - completed 1981  
 Output: 56 MW each unit
- ▲ **Ripon Generation Station**  
 Peaking power natural gas generation - used during high power demand  
 Completed: 2006  
 Output: 95 MW
- ▲ **Stone Drop Mini-Hydro**  
 Hydropower from MID main canal during irrigation season  
 Completed: 1983  
 Output: 230 kW
- ▲ **New Hogan Powerhouse**  
 Hydropower from water stored in New Hogan Reservoir  
 Completed: 1986  
 Output: 3.15 MW

kW = kilowatt | MW = megawatt

### WATT DID YOU SAY?

Electric power is measured in units called **watts**. A **kilowatt (kW)** is equal to 1,000 watts. A **megawatt (MW)** is a unit for measuring power that is equivalent to 1 million watts. 1 MW is enough to power 1,000 homes in the winter and 300 in the summer. One megawatt hour (MWh) is equal to 1,000 kilowatt hours (Kwh). It is equal to 1,000 kilowatts of electricity used continuously for one hour.



## The Benefits of Public Power ▼

As a public power utility, MID is owned by the people we serve, which allows for unique benefits such as local control, low rates and high reliability.

Since public power utilities are community-owned, rates are set locally by citizen-elected boards in open public meetings where community members can influence local energy policies.

On average nationally, electric rates of public power utilities are lower than those of other utilities. That's because local, not-for-profit utilities have the power to put their neighbors first.

local control  
reliability  
lower cost



## Always Be Safe Around Electricity ▼

Electricity is very important to our daily lives, but it can be dangerous. Here are some important things to remember that will keep you safe.

### INDOORS



■ Keep appliances away from water.

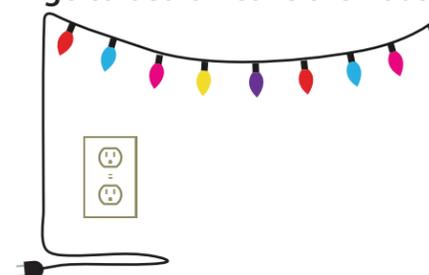
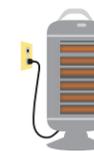
■ Don't overload outlets.



■ Place portable heaters away from walls and drapes.

■ Place portable heaters where you won't trip over the cord.

■ Unplug holiday lights when you go to bed or leave the house.



### OUTDOORS

■ Stay away from downed power lines. If you see one call 911.

■ There are power lines underground, too. Call 811 before you dig.

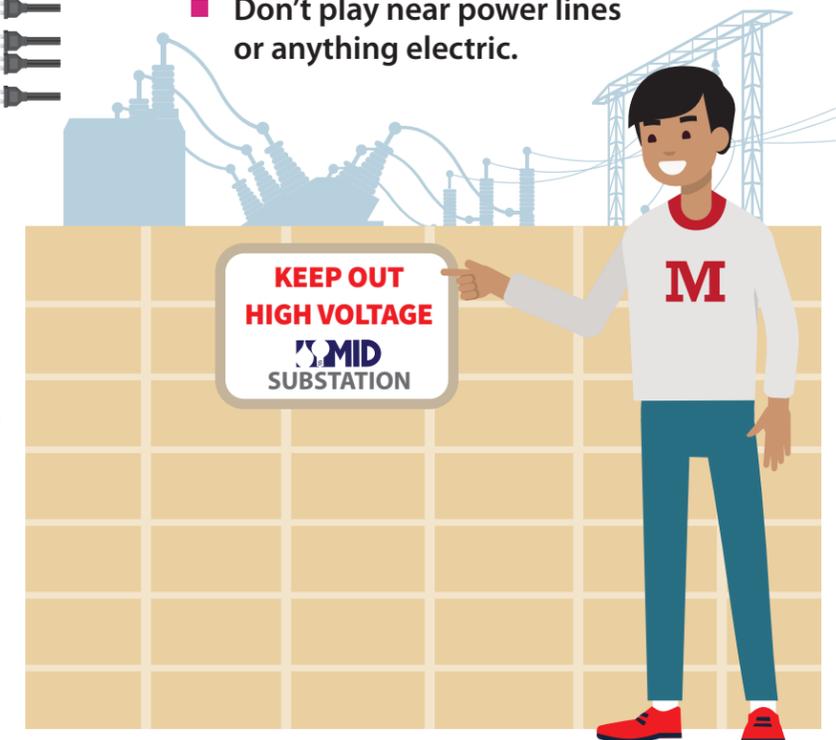


■ Keep ladders, tools and yourself away from power lines.

■ Look for power lines before you trim a tree.

■ Fly kites and drones in open areas away from power lines.

■ Don't play near power lines or anything electric.



## ABOUT MID

The Modesto Irrigation District is a public utility located in California's Central Valley. MID provides irrigation water to approximately 2,300 agricultural accounts irrigating close to 60,000 acres and electricity to more than 128,000 residential, commercial and agricultural accounts. MID also treats, delivers and wholesales up to 67,000 acre-feet of drinking water per year to the City of Modesto.

## KEY DATES

Established: July 1887

Irrigation water in the canals: 1904

Electric service: 1923

Modesto Regional Water  
Treatment Plant: 1994



[www.mid.org](http://www.mid.org)