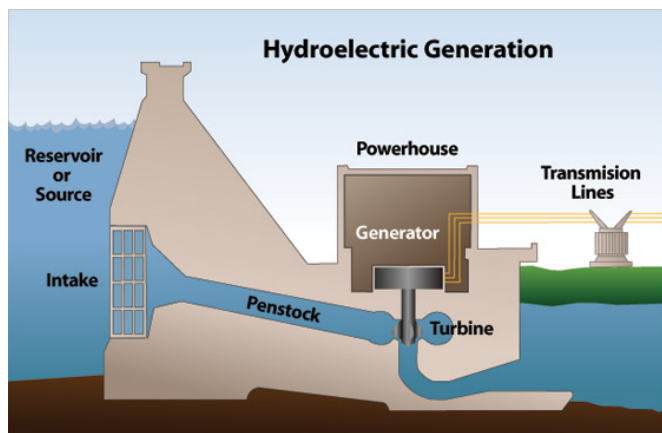


## The Energy and Water Connection

Water stored behind dams in natural lakes and manmade reservoirs represents potential energy that can be converted in electrical energy in hydroelectric power plants. This type of power generation supplies about 20% of the electrical power in California. The energy of falling water is converted to electricity by running it through a turbine connected to a generator as show in this diagram.



Courtesy of SCE

*Continued on page 2*

## AUTOMATIC PAYMENT PLAN AVAILABLE

Take advantage of our automatic payment plan and be assured that your account is always paid on time even if you are on vacation. You will still receive a monthly statement to keep track of your water usage and know the amount that will be debited from your bank account later in the month. Call 626-797-6295 today to request an application.

## Emergency Interconnections Completed

The recent completion of two joint pipeline projects with the City of Pasadena Water Department has enhanced the emergency preparedness of both water agencies. The first project on Ranch Top Road in the Upper Hastings area connects the KID's Vosburg Reservoir with the City's Don Benito Reservoir. Automated valves deliver water in either direction if the pressure drops below a preset value and effectively doubles the amount of water available to either system in an emergency situation.

The second project on Sierra Madre Villa Avenue and Fairpoint Street provides emergency water from our Vosburg Reservoir to the City's system which serves the lower portion of Sierra Madre Villa Avenue and Old House, Trevan, Wynn, Mesita and Calvert roads.

The completion of these projects brings the total number of emergency interconnections with the City to seven at critical locations throughout the KID service area. These emergency interconnections are a very cost-effective way of providing additional storage capacity to both agencies without building new reservoirs. To further enhance our emergency capabilities, the KID is also equipped with portable generators and pumps to move the water where it is needed in case of electrical outages. The primary emphasis of the Kinneloa Irrigation District's Water System Master Plan is directed to improving emergency preparedness. The plan can be viewed at <http://www.kinneloairrigationdistrict.info/> on the Agendas/Documents page.

Although electrical utilities such as Southern California Edison have been producing power from these “green” power plants since the early 1900s, it has been increasingly difficult to get approvals for new large-scale plants because of the many impacts on the environment such as the need for dams, roads and transmission facilities in scenic and protected public lands. The current content of SCE’s power as compared to the statewide average is shown below.

POWER CONTENT LABEL		
ENERGY RESOURCES	2008 SCE POWER MIX (projected)	2007 CA POWER MIX* (for comparison)
Eligible Renewable	16%	10%
--Biomass & Waste	2%	<1%
--Geothermal	9%	2%
--Small hydroelectric	1%	6%
--Solar	1%	<1%
--Wind	3%	2%
Coal	8%	32%
Large Hydroelectric	5%	24%
Natural Gas	50%	31%
Nuclear	21%	3%
Other	<1%	0%
TOTAL	100%	100%
*Percentages are estimated annually by the California Energy Commission based on electricity sold to California Consumers during the previous year.		

Regardless of the source, water and energy are also closely connected on the consumption side of the energy cycle. That is because water utilities like the KID use a large amount of electricity to pump water into the storage and distribution system. The process is the reverse of what is described above: Electric motors power pumps to lift water from a lower level to a higher level to provide the pressure needed to deliver water to your home. In fact approximately 25% of the total electricity used in California is for pumping water from its source to the consumer. Electricity is the KID’s largest variable expense. So next time your turn on a faucet or water your

landscaping, remember that you are using both water and electricity—commodities that are in short supply and increasingly expensive.

### CONSERVATION IS STILL THE FOUNDATION FOR A SUSTAINABLE WATER FUTURE

The continuing statewide shortage of local and imported water supplies has prompted the water industry and government to work together to address the complicated issues of increasing the water supply without causing significant impact on the environment. Many worthwhile infrastructure projects are being identified to improve conveyance and storage of water in times of need. But many of these projects are very costly in this era of environmental concerns and are long-term solutions that will take decades to design and build. In the meantime conservation remains the number one solution to the current crisis and is still the foundation of California’s blueprint for a sustainable water future that will meet the projected growth in population, industry and agriculture in the next fifty years.

The increased use of recycled water is also on the front burner in order to provide an alternate new source of supply for local water agencies. Recent advances in the science and technology of processing this water has brought the cost down to a level that will be comparable to the cost of imported water in the years ahead. Unfortunately, the negative public perception of the quality and safety of recycled water has prevented wide spread direct use of recycled water for domestic purposes even though this water meets and often exceeds federal and state drinking water standards and regulations.

*Now that we are in the rainy season please remember to turn off your automatic sprinklers prior to each forecasted storm. Other water conservation information, tips and rebates can be found at <http://www.bewaterwise.com/>.*

*Your questions and comments are welcome. You can e-mail us at [newsletter@kinneloirrigationdistrict.info](mailto:newsletter@kinneloirrigationdistrict.info) or include a note with your payment.*