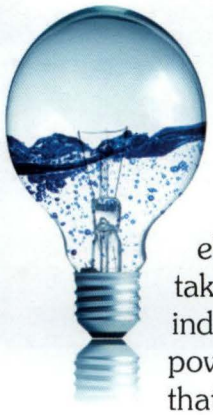
San Jacinto River Authority Kids Page



Is it important for us to conserve water AND energy?

To answer that question, let's take a look at the **NEXUS** (connection) between energy and water...that is the relationship between how much water is used to generate and transmit electricity, and how much energy it takes to collect, clean, move, store and dispose of water. We take this relationship for granted. Imagine for a minute what it would be like if we each had to boil individual containers of water to produce enough steam to turn some kind of turbine to generate the power we need for our iPads, televisions, computers, lamps, and all the many electrical appliances that improve our quality of life every day!

We are indeed fortunate that there are "power plants" all over the country to perform those tasks for us. Just as we are fortunate that there are water producers that deliver top quality potable water to our homes and businesses, and provide the significant amount of water necessary for electrical generation.

Virtually every method for generating electricity utilizes water – either to "process" the raw materials/fuel used by the facility, to construct the actual plant itself, and/or to generate the electricity. Water is used to cool steam electric plants that are fueled by coal, oil, natural gas, and nuclear power.

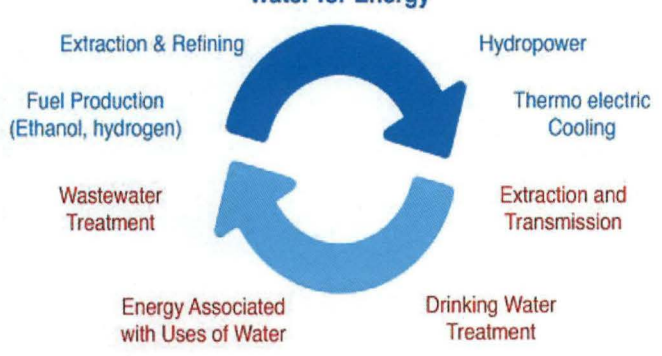
Here are some amazing statistics: ■ US power plants withdraw 143 billion gallons of fresh water every day, more than the amount taken for irrigation and three times as much as is used for public water supplies. ■ About two gallons of water is evaporated to create one kilowatt hour (kWh) of energy in the US. ■ According to a study at Virginia Tech, keeping a single 60-watt light bulb lit for 12 hours uses as much as 60 liters of water.

There are also a variety of ways that energy is used to produce and use our water supplies. Pumping groundwater uses between 500 and 3,000 kWh of electricity per million gallons of water, depending on the depth of the water. Treatment of wastewater and stormwater requires millions of kilowatt hours a year. In California alone, 19 percent of the state's electricity is used for transporting, storing, treating, distributing, and collecting water and wastewater.

Using too much of one resource can impact and deplete the other. That is why it is critically important for everyone to commit to deliberate action to conserve both water and energy in our everyday lives.

All family members – young and old – can help. The best place to start is with a good dose of old fashioned common sense. Make appliances that use both energy and water – hot water heaters, dishwashers, clothes washers – priority joint conservation targets. Consider lowering temperatures; insulating the water heater; using less; or upgrading the equipment to newer, more efficient models. And remember, the little actions add up. Always turn out lights when leaving a room...don't leave televisions and other entertainment appliances running when no one is in the room. Shorten that 20 minute shower to 10 and save both water and energy.

Working together, the water and energy we conserve today can serve us tomorrow.



Source: Water, Energy and Climate Change: A Contribution from the Business Community. World Business Council for Sustainable Development. 2009

A FUN "FACT" About Electricity...

What do golden "stones" have to do with Electricity?

The Greek word *elektor*, means "beaming sun" and *elektron* is their word for "amber". This goldish brown "stone" is really fossilized tree sap from millions of years ago. Small insects got trapped in the sticky stuff and can often be seen in the stones. Ancient Greeks noticed that when rubbed, amber would attract feathers or fibers. They were mystified by this phenomenon and didn't realize they had discovered *static electricity*! The Latin word, *electricus*, means to "produce from amber by friction." So, we can track our English word *electricity* from Greek and Latin words about amber.