

Can I reduce the amount of energy/cost to pump water?

Yes! Here are a few ways you can reduce the amount of energy to pump water:

1) Pump your water as efficiently as possible. Not all pumps are created equally nor are they created for the same job! Pump A may be able to pump water at the same pressure and volume as Pump B. Pump B, however, utilizes a high efficiency motor and has been hydro-dynamically engineered to reduce internal energy losses and has been sized to operate in its peak efficiency range. Pump A is 50% efficient and Pump B is 70% efficient when you compare the amount of electrical energy put into the pump to the amount of mechanical energy output in the water. In real world terms pump B uses 20% less power to do the same thing that pump A does. One of our recent customers saves \$3000/year in electricity by simply changing to a pump OPS helped them select for the application.

2) Pump your water as few times as possible. Many water systems include many pumps that pump the same water multiple times. Take, for example, a system OPS helped revise at a large Hospital. As you read, note the number of times "pumped" is used in the description of the old system.

*Water comes from springs located up in the foothills and travels in pipes to the hospital where it is stored in an underground storage tank. The water was then **pumped** to a second underground storage tank where it was then **pumped** up to an elevated storage tank. From the elevated storage tank the water gravity feeds the hospital compound and then travels down hill to a nursing school where the water was held in an underground storage tank. This water was then **pumped** to a second underground storage tank from where it was then **pumped** to another elevated storage tank.*

For users at the very end the water was "pumped" FOUR times! The tragic part of this scenario is that the water would never need to be pumped even once if the water system had been properly laid out or installed in the first place! OPS was able to cut the number of times the water was pumped down to two because complete system replacement was not feasible. Are there ways that your water system can utilize gravity or modify operations to eliminate unnecessary pumping?

3) Waste less water. Wasting water comes in the form of several areas. Leaks are one of the biggest culprits. A dripping faucet can waste 5 gallons of water a day! A hose not completely turned off can waste 500 gallons per day! Leaky underground pipes are sometimes responsible for leaks on the order of thousands of gallons per day. To find leaks in your system, you need to strategically locate one or more water meters, make sure you aren't using any water and check the meter to see if it is showing water movement. You can also check for leaks in your well water system with the use of a pressure gauge. Make sure you don't use any water for a given period of time, watch your pressure gauge and if it goes down over that period of time, then you have a leak!

4) Use less water! There are several areas in which water may be reduced. Irrigation water is usually one of the highest water consumers. Check with your landscaper and slowly start reducing watering times/frequency and monitoring plant health. Utilizing mulch in cultivated soils significantly increases water retention and can reduce water needs. Install plants that require less water or none at all. You can also install shower heads, toilets and sink faucets that flow at much reduced rates. Don't run a load of dishes in the dishwasher until it is full, and when you run a load of clothes in the washer, make sure to adjust the load size to the actual load you are putting in. Running the machine on the full setting when you have only half a load can waste a significant amount of water and energy.

5) Pump your water in off peak electrical demand periods. If you have tried the above methods to reduce water usage and are after some additional cost savings, pumping your water in off peak electrical demand periods may be a possibility. This scenario involves pumping your water to storage tanks in the night and mornings and then using water from those storage tanks during the on-peak demand hours when electricity is much more expensive. Your system needs to be reviewed and analyzed to see if it can benefit from such a scenario.