



Connecting the Drops

What is missing from today's concern with energy demand and supply is the water connection. 8% of our nation's energy supply is used to pump, treat and heat water, at a cost of \$8 billion per annum.

In states such as California water pumping is the single largest user of electricity - accounting for 7% of the state's total electricity consumption. This is going to get worse over the coming decade as water will have to be pumped from further away, and as lower quality water will need additional treatment to bring it up to safe drinking water standards. Even now we are pumping water from greater depths as aquifer levels fall, and often have to pump it greater distances to the point of demand.

Some coastal communities are looking to Reverse Osmosis (RO) systems to cope with the growth problems - but industrial-scale systems use vast amounts of power to generate the power needed to force water through the membranes which provide the filtering.

Recently we saw conflict between the needs of farmers in the Klamath Lake area and the needs of tribes who depend on adequate river flows to maintain healthy salmon runs.

Yet every year local governments spend millions of dollars to expedite the flow of stormwater away from roads and buildings, often into rivers or the ocean only to be lost to productive use.

When rain falls it is fairly clean - it may contain small amounts of carbonic acid, and perhaps low levels of pollutants if carried in the air from industrial areas. Once it falls on our roofs it can collect small amounts of organic matter (leaf debris) and small amounts of bacteria (bird and squirrel droppings) but can still be collected and

treated inexpensively. Rain water collected for irrigation only needs the larger particles of organic matter filtered out to prevent clogging of system components. It can then be used to water your garden, or to flush toilets. This can substantially reduce the demand on your well.

In most of America we take water from wells and lakes, purify it to drinking water standards, then use it to flush our toilets. This is both a waste of water and energy. This happens even in San Juan County when you are hooked up to city water supplies such as Eastsound and Friday Harbor. Lopez CLT's latest affordable housing project avoids the waste by having a dual water pipe system that separates potable (drinking) water from non-potable uses such as toilet flushing. Rainwater collection will supply the non-potable sources.

Even those of us who have wells contribute to the problem. My well is over 300 feet deep and it takes power to pump that water into my pressure tank. Every time I run my shower, water my plants or flush my toilet, the water level in my pressure tank needs to be topped up, my well pump kicks in and I use power.

Here in the North West much of our power comes from hydroelectric sources - dams run by the BPA. Many power organizations like to portray hydroelectric power as 'green' and environmentally friendly. It's certainly less harmful than coal power, but it still causes many problems.

The Three Gorges dam in China has forcibly displaced as many as a million people from their homes, flooded

valuable farmland, and is now causing a large number of problems such as landslides, and the accumulation of high levels of harmful chemicals and fecal coliform behind the dam wall.

Here in the US we have avoided some of these problems, but the affect of dams on salmon migration has had an economic impact on the people who rely on salmon for their livelihood.

So what can we do to alleviate our impacts on the ecosystem? It's easy to start. Start by reducing power demand (reducing the need for new dams) by installing low demand lights such as CFLs (Compact Florescent Lamps) or LEDs (Light Emitting Diodes). Switch to energy efficient (Energy Star) appliances, and turn lights off when not needed. Most people are aware of these simple steps since they are widely advertised by electric utilities to reduce power demand.

On the water front switch to low flow showerheads and water saving appliances such as dishwashers and washing machines. Install water-efficient toilets (or composting where allowed) and then flush them less often ("if it's brown, flush it dow, if it's yellow, let it mellow"). There are now also residential (fold-away) urinals for the men in the house.

Planting native plans and shrubs will reduce the need to water in summer, since they are adapted to our dry summers.

If you have to water your garden use water wisely: water in the early morning and late evening (timers can help with this) and use drip irrigation to place the water precisely where it is needed, rather than spraying into the air for immediate evaporation. <http://www.epa.gov/watersense> has useful information.

If you have a pond you can reduce evaporation by shading with trees and shrubs.

Now that we are onboard the county can play its part by implementing Low Impact Development (LID) wherever possible. LID infiltrates stormwater from roads and buildings

back into the ground using native soils and plants to filter it as it recharges our aquifers.