

ELECTRON ENERGY

Can Electrons Lower Your Business’s Energy Costs?

By: Rob Gourley, Inventor and CEO of AquaNew, LLC and WIT International, LLC

The capacity of harnessing the energy potential of water has eluded many scientists. When the bonds of oxygen and hydrogen are broken through electrolysis, it creates unstable gases. Simply, oxygen and hydrogen will not bind without a reaction that converts back to liquid water.

A non-electrolysis process has been discovered. It involves a magnetized reactor cell that adds electrons to liquid water such that the clusters of water molecules repel. The result is liquid water converts to a stable electron-rich gas (without molecular bond breakage). The gas is breathable and can be infused into other liquids to raise the oxygen-reduction potential (ORP). One 80-cell machine can polarize over 60,000 gallons of pure water in a 24-hour period (or 10 batches of 6,000 gallons). The cost for polarization is very economical, involving only electricity to operate the machine, and approximately a total of 8 gallons of liquid water over a consecutive 24-hour period (at a rate of one Liter of liquid water converting to 1,800 Liters of gas @ ambient pressure and at room temperature (77° F.).

The applications for the gas are endless. The gas can be used for pre-treatment of incoming water that lowers energy costs (approximately 30%) and extends the life of expensive reverse osmosis membranes. More efficient water purification (greater percent recovery of permeate) also provides the benefit of greater water conservation which is an on-going challenge for any beverage manufacturer particularly craft beer being produced in drought-prone areas.

Comparison of Electron Pretreatment of Brackish Water vs. Thin Film Composite (TFC) Reverse Osmosis Membrane

Pre-treatment Alternatives	Na (Sodium) Raw / RO Treated mg/L	Na % Reduction	Cl (Chloride) Raw / RO Treated mg/L	Cl % Reduction	Trans Membrane Pressure
Electron Treatment *	29,800 / 24.9	99.91	4,120 / 38.0	99.08	30 psi
Typical TFC Membrane	29,800 / 9,834	67	4,120 / 1,359.6	67	120 psi

* Improved membrane salt rejection by 30%, increased permeate flow, while lowering the trans membrane pressures by 4 times.

Certain microbreweries are confronting a major water challenge in meeting booming customer sales demand. Unfortunately, water supplies are shrinking in areas of relentless drought.

The current water-management technologies used at the average brewery may require 4 gallons of water or more to make one gallon of beer. The drought has pushed both the microbreweries and major beer manufacturers to install water conservation and waste water recovery systems by changing water nozzle sizes on equipment, using recycled water on bottle washes, and switching from metal to plastic conveyor belts such that the latter do not need to be sprayed with water to help the bottles slide.

Some breweries have resorted to digging wells and installing expensive water filtration systems to combine groundwater with their natural river sources. One major concern of brew masters is that the beer can have an odd taste when groundwater is used.

The use of electron-rich gas could purify water coming into the brewery that will save the life of expensive reverse-osmosis membranes and reduce back water waste and energy consumption (lower pressures needed for the water to flow through the RO membranes). The resulting purified water will make great tasting, more robust and sweeter beer while conserving precious water resources and keeping craft beer more affordable for beer lovers to enjoy.

Electrons also are nature's best power supply, playing a huge role in support of healing within our own bodies. Without energy, we can neither heal nor have optimum cognitive function. Additives in energy drinks including sugar and caffeine do not replace the capacity of electrons in combating fatigue plus there are no secondary adverse effects.

Ultra-pure water infused with the electron-rich gas (we call "Polarized Water") is a good, stable base ingredient for many consumable products. Some of the health and product development benefits of Polarized Water include:

- Electron transfer supporting mitochondrial functions
- High ORP (Oxidation Reduction Potential) so that oxygen is available
- Stabilization of compounds for longer shelf life and product efficacy
- Linear structure that passes the blood-brain barrier without caffeine or other stimulants
- Amplification of redox signaling for stem cells and T-cells to topical wound sites
- Faster, more robust plant growth for crop production and improved animal health
- All natural, 100% ultra-pure water

Next time you have an energy challenge, perhaps the solution is to *Think Electrons!*

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