

	Reverse Osmosis (RO)	Western Frac Vap (ADAPT)
Purify and desalinate seawater ?	Yes	Yes
Purify and desalinate frac fluid	No	Yes
Maximum TDS to purify ?	30,000 - 35,000 mg/l	300,000 mg/l
Process fracking fluid 100 %	No	Yes ,Can be cleaned to potable level
Can this process eliminate deep well injection	No	Yes , this technology can end deep well injection
Purify all water collected	No	Yes
Membranes used	Yes	Yes ,none at all
Additional cost for membranes use	Yes , Weekly ,monthly and yearly	Only regular maintenance
Disposal of Membranes Problematic ?	YES , Membranes do not degrade in landfill sites ,an environmental hazard	Not applicable ,no membranes used
Dangerous to plant life	Yes the brines from Ro systems are harmful to fish and plant life along with the coral sea life .	No
Can containerized units support this technology	Yes ,however ,very costly	yes
Is disposal of salty brines needed ?	Yes ,Since only 40 -70 percent of the seawater that flow through a RO systems is used ,the remaining salty brine left over is usually dumped into the ocean	No ,All the water is used ,any of the chemicals extracted from the fluid are dried and can be reused as chemicals in building products
Is this method scalable	Yes , However extremely costly due to real estate and energy costs	This system is very scalable.It can be made in containerized modules 40 feet in length connected in parallel ,if one section needs service ? it can be lifted out and a replacement dropped in place quickly ,no need for

		down time .
Can this unit deactivate bacteria ?	Some bacteria is filtered out	100 percent of the pathogens ,viruses and bacteria are killed off and deactivated
Can bi products be reuse into industry	They can but it not done with RO Systems	Yes ,all the suspended solids and dissolved solid can be extracted ,dried and re processed and packaged
Energy costs	Yes ,This is a big concern with RO systems ,energy costs are escalated at a rapid pace	This system ,has a exothermic reaction within it ,capable of reusing the energy ,the main energy input is hydrogen based with a fuel cell , 80 percent less than RO systems
Approval rate	No , When a plant is required ,land must be bought ,permits acquired and many environmental considerations have to be met	Yes ,Permits are required ,the land is likely leased .Our units are premade prior and tested at the factory level ,this can be acquired very quickly