

Making Solar Desalination a Reality



Energy Efficient

DESALINATION

www.trevisystems.com

Key Details



Energy Use

Trevi Systems' low- grade heat enables co-generation, solar thermal or gas fired hot water sources to be readily used. A water cost per cubic meter model (20 year capital depreciation) has been developed showing that using natural gas results in a 30% savings and using a co-gen heat source results in a >50% savings. These numbers are based on a 7c/kWh cost for electricity.



Testing

The system has completed its laboratory trial period, demonstrating energy savings and capital costs. Trevi has now completed field trials at the US Navy NFESC facility in Port Hueneme. These trials validated energy savings, monitored the long term water quality and verified that thermal operating parameters of the FO system remain within acceptable ranges

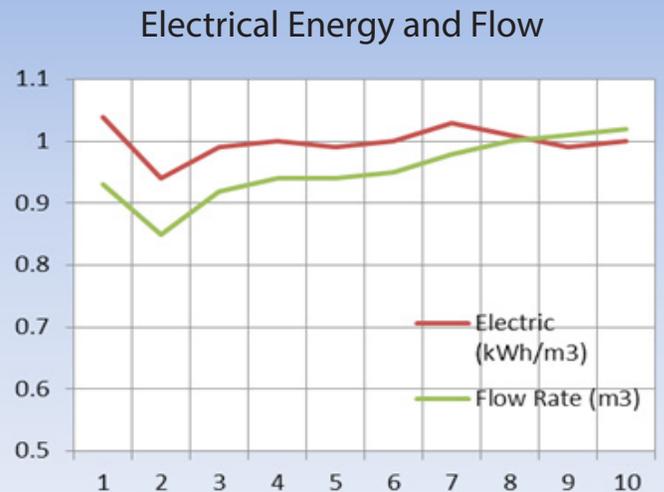
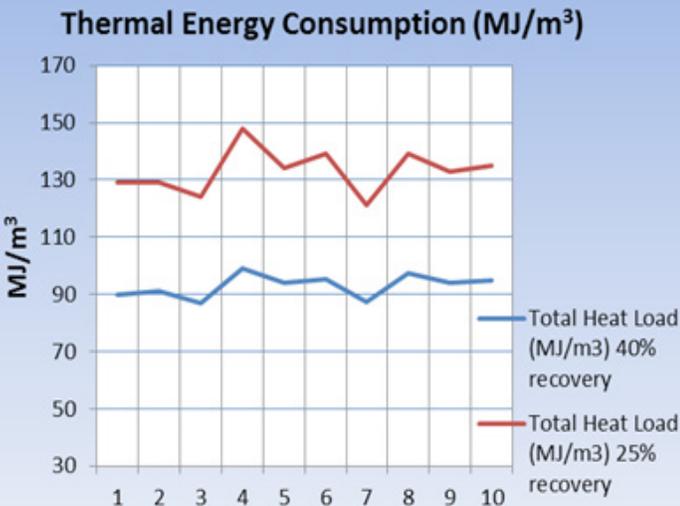


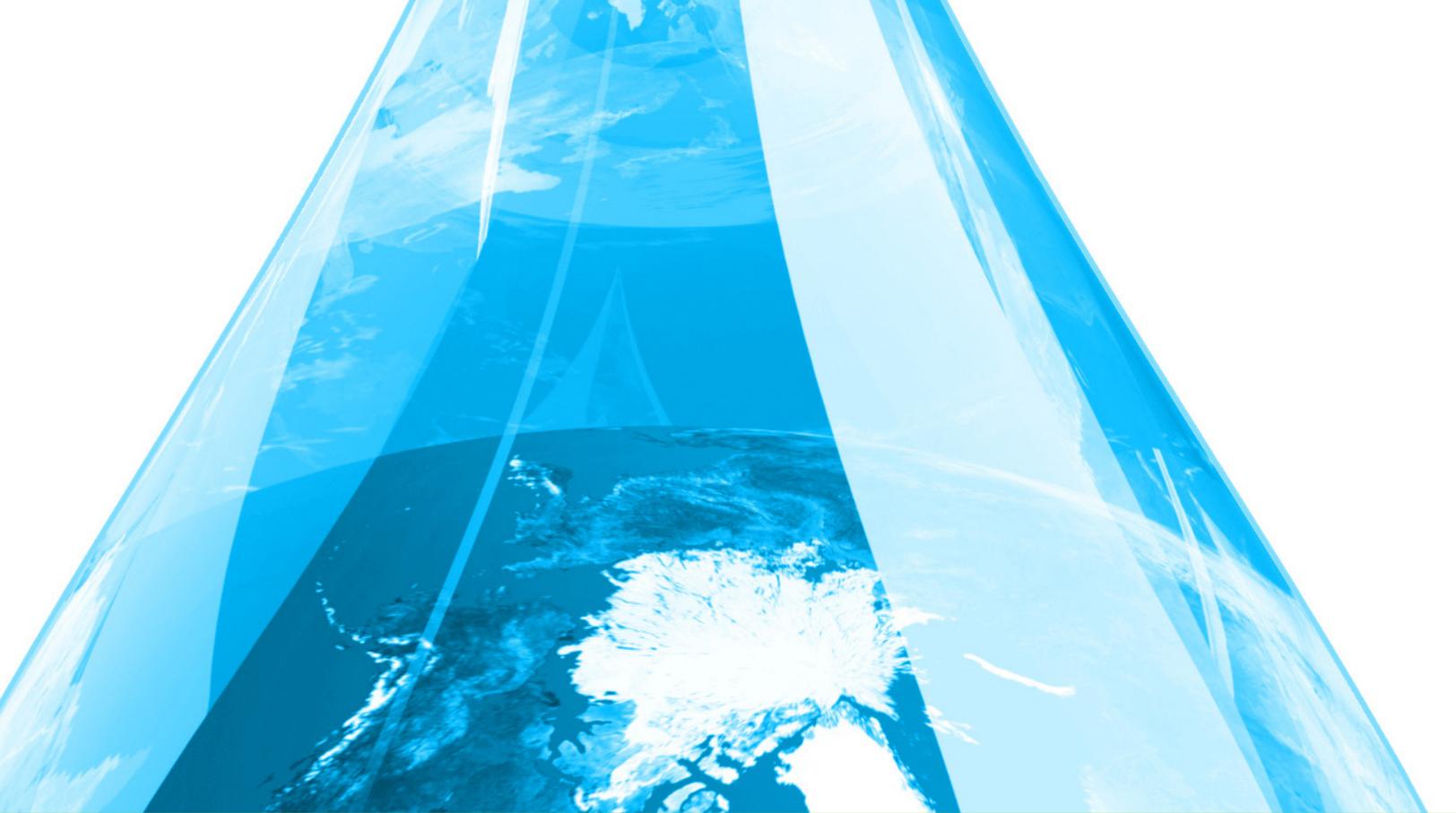
Market

The target market for such FO systems will develop rapidly once reliable sources of FO membranes are developed. Trevi is collaborating with six suppliers of membranes and welcomes any new membrane companies to collaborate with it in optimizing the draw solution/ membrane chemistry.

Energy	SWRO	Trevi FO
Thermodynamic*	0.52kWh/m ³	0.52kWh/m ³
Pre-Treatment	0.24kWh/m ³	0.24kWh/m ³
Electrical Energy	3.0kWh/m ³	0.2kWh/m ³
Thermal Energy	0	21kWh/m ³
Cost of Electricity	4-40c/kWh	4-40c/kWh
Cost of Thermal**	0	\$0.01- \$0.0004/kWh

Pilot Testing and Third-Party Evaluation





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