Modular Inexpensive Solar Thermal Evaporative Desalinator (MISTED)



Modular MISTED system stacks layers of multi-stage flash (MSF) for highly scalable design



PSI has refined the design of MISTED key components

The MISTED Team

1700521-054 Quad Chart

- **Physical Sciences Inc (PSI)**: Technology developer with design and fabrication capabilities
- Winner Water Services (WWS): Pilot plant operator and commercialization partner
- **Corning Inc:** Innovator and US domestic manufacturer of glass system components
- National Renewable Energy Lab (NREL): Techno-Economic analysis and design support
- Brackish Groundwater National Desalination Research Facility (BGNDRF): Four wells on-site provide representative ground water with varying levels of salinity

Our team has design, operations, manufacturing and economic analysis, and commercialization expertise

• Anticipated Technology Consumers include oil well operators, agricultural water treatment servicers, and after adoption, municipal water utilities

Key Technical Advantages

- Low Cost Design and Operation: MISTED system is constructed using conventional, low-cost components.
- Combination of Multi-Stage Flash and Concentrated Solar Power: Ultra-efficient design captures maximum sun light while capturing latent heat of water evaporation.
- Efficient Self-Contained Design: Modular system allows many MSF stages to be stacked in series

MISTED system leverages key advantages to achieve a levelized cost of water of <\$1.70/m³