

# Improving Manufacturability and Reliability of Solar Water Distillers

**Location:** Juarez, Columbus, and Palomas  
**Type:** Water technology development and deployment  
**Size:** 1 to 2 gallon-per-day distillation units  
**Funding:** Total: US\$182,000  
 Private: US\$10,000  
 Public: US\$172,000  
**Objective:** To address water quality problems and create business opportunities.  
**Duration:** 2001–2002  
**Scale:** Urban and rural

## Summary

By using solar water distillers, sunlight (an abundant resource in Mexico) is used to produce drinking water (a scarce resource). The solar water distillation technology for the project was designed to be manufactured locally, thereby expanding the industrial capacity of the private sector. Local, private-sector participation supports the sustainability of this energy technology, which simultaneously gives households access to clean drinking water and creates wealth and well-being.

## In-Country Principles That Attracted Nondonor Financing

- Capacity building and informed decision making
- Public access in support of sustainable development and public participation, coordination, and partnerships



Principles that attracted financial support for the project included hiring people with the appropriate skills to match job requirements and developing those skills as needed. Partnerships, exchanges, and outreach programs also have helped enhance communication and education on water use issues.

Another principle that has attracted private-sector financial support has been broad stakeholder participation and empowerment in water resources decision making across sectors and social/cultural groupings.

## Financing

Total project investment is US\$182,000. The Border Pact provided US\$10,000 of private funds. The United States Environmental Protection Agency (USEPA) contributed US\$100,000, and the US Department of Energy (USDOE) National Border Technology Partnership Program and the Sandia/New Mexico Small Business Assistance Program provided US\$52,000 and US\$20,000, respectively.

## The Project

The installation of household-sized solar distillation units capable of providing 1 to 2 gallons of drinking water per day helps eliminate or reduce reliance on expensive bottled water.

The project benefits industrial and commercial sectors by capitalizing on the existing capacity in the regions. The distillation units come from local suppliers and manufacturers.

The residential sector gains financial savings and improved health through safe and readily available drinking water.

## Technical Data

The technology consists of family-sized, solar thermal distillation units that are capable of generating 1 to 2 gallons of drinking water per day.

## Performance Data

Forty households are using the units and saving money, because they no longer need to buy bottled drinking water.

Four people have been trained to manufacture the solar distillation units.

### Participants and Roles

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Sandia National Laboratories, the University of Texas – El Paso, New Mexico State University, SolAqua, Inc., and El Paso Solar Energy Association were all involved in the project. The US-Mexico Bi-National Laboratory Initiative connected the key players to develop and implement the solar water distillation project.

### Partner Contact

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