

Lakeland Electric Lakeland, Florida

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Utility Profile	
<i>Type of Utility</i>	Municipal
<i>Number of Customers</i>	120,000
<i>Saturation of Electric Water Heaters</i>	95%
<i>System Peak</i>	875 MW; winter-peaking
<i>Residential Electric Rate</i>	\$0.11 per kWh
<i>Average Solar Radiation¹</i>	5.3 kWh/m ² /day (Tampa data)
<i>Sunshine Clearness Index²</i>	54% (Tampa data)

¹Average annual value for a surface tilted at the local latitude and facing south

²Average annual ratio of global horizontal solar radiation/extraterrestrial horizontal solar radiation

Solar Water Heating Program Summary	
<i>Goals</i>	Profitable sale of solar thermal energy Distributed generation of energy Acquire green attributes Strategic planning
<i>Start Date</i>	1997
<i>Number of Solar Water Heating Installations</i>	59 in pilot phase/New installations in progress
<i>System Certification Requirements</i>	Certification by Florida Solar Energy Center
<i>Current Utility Incentive(s) to Customer</i>	Long term savings to customer Service includes all maintenance New larger water heater installed with each Solar Water Heating system
<i>Current State Incentive(s)</i>	None

Lakeland Electric is the first U.S. utility to offer solar water heating (SWH) on an end-use, or “pay-for-energy” basis. Lakeland intends to promote the widespread installation of thousands of residential solar water heating devices. Lakeland has entered into an energy purchase agreement with a third party solar investment company, Regenes Power. The vendor will provide working capital and will assume the responsibilities of ownership and maintenance in return for monthly energy sale revenues. Lakeland plans to install up to 20,000 residential solar water heaters throughout the utility’s electric service territory. These SHW units will produce the thermal equivalent of about 40,000 megawatt-hours per year at full build out.

Lakeland believes that a successful SWH business must remove risks from the customer. These risks include system ownership, high up-front costs, perceived reliability and availability of maintenance services. The Lakeland program relieves its customers of these risks & responsibilities.

During its pilot stage Lakeland worked with major manufacturers to ensure that the SWH system design is reliable for the customer as well as cost-effective. Reliability is critical if the business is to grow. Although metering of the SWH output adds cost to the system, the company considers metering to be a fundamental requirement in the business plan. Metered output reinforces customer credibility and will provide tangible periodic verification of the value that the customer receives.

The Florida Solar Energy Center (FSEC) provided support to Lakeland's pilot program with a grant to develop the company's business plan. Advisors included FSEC and the National Renewable Energy Laboratory. It is significant to note that the business plan expressly avoided any government incentives and subsidies. The utility's justification was based on business design that can stand on its own, independent of incentives that may disappear.

Benefits to the customer:

- Eliminates risks of up-front costs & long term maintenance
- Long term fixed rate that is exempt from price increase
- Increased volume (gallons)
- Reduces carbon footprint

Benefits to Lakeland Electric:

- reduces customer demand
- sidesteps losses in transmission and distribution systems
- diversifies its fuel resource base
- reduces environmental impact from its operations
- acquires all green attributes associated with renewable energy
- encourages customer favor

See the [Solar for Lakeland: Project fact Sheet](#)