Solar Energy: The Best Idea Under the Sun

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Solar Light Levels

Solar PV Market

PV Installations in 2005
Regional Megawatt Breakdown

- Germany: 57%
- Japan: 20%
- United States: 7%
- Rest of Europe: 6%
- Rest of World: 10%

TOTAL: 1,460 MW

Source: Solarbuzz LLC
Market Opportunity

- Hotels
- Military Bases
- Dormitories
- Hospitals
- Restaurants
- Car Washes
- Laundries
- Health Clubs
- Fire stations
- Solar Energy Generation Company
  - Design & Installation
  - Specialize in large commercial projects
  - Finance

- Our Mission
  - Making Solar Mainstream
State of the Art Technologies

Solar Thermal (Hot Water)  Photovoltaic (Electric “PV”)
Hot Water Panels

**Inlet connection**

**Collector housing**: made from aluminium alloy or galvanized steel - fixes and protects the absorber plate.

**Flow tubes**

**Insulation**: to the bottom and sides of the collector to reduce loss of heat.

**Cover**: protecting the absorber plate and preventing loss of heat.

**Outlet connection**

**Absorber plate**: usually black chrome absorbing coating to maximise heat collecting efficiency.
How Solar Thermal Works
Los Angeles, California Homes
Circa 1910
Proximity Hotel, Greensboro, NC
Solar Thermal: 100 panels
Owner: Quantaince Weaver Hotels
Biltmore Park Hilton, Asheville, NC
Solar Thermal: 72 panels
Owner: Biltmore Farms
Kanuga Conference Center
Solar Thermal: 128 panels
Owner: FLS Energy
Purchase Model

- Tax Credits
- RECs
- Client
- FLS Energy
Solar Energy Purchase Agreement (SEPA)

Client

FLS Energy

RECs

Tax Credits
Solar Energy Purchase Agreement (SEPA)

Advantages
- Low upfront cost
- Minimal Risk
- Maintenance
- Fixing energy cost

Client

FLS Energy

Tax Credits

RECs
Savings of Solar vs Natural Gas

Based on Given Amount of Hot Water

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<th>Year</th>
<th>Savings of Solar vs Natural Gas</th>
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<td>Based on Given Amount of Hot Water</td>
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- natural gas (@ 5% annual increase)
- natural gas (@ 3% annual increase)
- solar
Monitoring and O&M

FLS Energy, Inc.

Proximity Hotel — Greensboro, NC

Last Reported 1:26 PM Aug 19, 2008

Generating 13 kWh
Flow Rate 1,388.4 gal/hr
Input Temp 148°F
Output Temp 152°F

Historical

Generated 35,802 kWh
Total Volume 2,435,000 gal

Greenhouse Gases Avoided Since Installation Jan 25, 2008

CO₂ 6,805 lbs.

Equivalent to:
The energy to power 109 homes for one day.
The pollution an average passenger car emits over 248 days.
Guilford College
Solar Thermal: 12 + 208 panels
Owner: FLS Energy
Shore Hall, Guilford College

Therms of Natural Gas

Before SDHW 2004 - 2006
After SDHW 2007 - 2008
Mars Hill College Dining Hall, Mars Hill, NC
Solar Thermal: 48 panels
Owner: FLS Energy
Knox County Prison, TN
Solar Thermal: 300 panels
Owner: Knox County
Camp LeJeune
Solar Thermal: 900 panels
Owner: FLS Energy
Making Solar Mainstream
Our Team

- **Certifications**
  - Licensed General Contractor in NC, TN, SC, GA
  - NABCEP Certifications
  - Licensed P.E.
  - Controller: CPA

- **Training**
  - SunPower Advanced PV Design
  - SunPower Advanced PV Installation
  - SEI Advanced Solar Design

- **Boards**
  - Governor’s Energy Policy Council
  - Progress Energy’s Community advisory Council
  - Duke Energy’s Efficiency Task Force
  - Department of Energy’s Efficiency Work Group
“We are way more than pleased with the good work that FLS Energy did for us…. they are trustworthy, competent and sincere.”

Dennis Quaintance, Developer of the Proximity Hotel, 2008