



Energizing Florida's Cities with Solar

Florida Redevelopment Association Annual Conference

October 29, 2009

Colleen McCann Kettles



- **Established by the Florida Solar Energy Industries Association to promote the growth of solar energy in Florida**
- **Operates as a contractor on behalf of the Governor's Energy Office**
- **Administers Market Transformation and Public Awareness Programs**

Solar Energy in Florida

Solar Technologies

- **Solar Water Heating**
- **Solar Pool Heating**
- **Solar Electric (Photovoltaics – PV)**

Solar Water Heating

- **Uses the sun's heat to produce hot water for domestic use**
- **Provides 50 to 90 percent of household hot water needs (back up electric or gas is provided)**
- **Water heating represents about 15% of household energy consumption**
- **Commercial installations include small scale up to large industrial scale systems for hotels and restaurants**

Solar Water Heating – Residential Single-family



Solar Water Heating – Residential Multi-family



Solar Water Heating – Commercial



Solar Water Heating – Commercial



Solar Pool Heating

- **Uses the sun's heat to increase pool water temperature**
- **Allows swimming year round in some cases**
- **Can also provide night time cooling to reduce pool water temperature**
- **Most cost effective use of solar energy**
- **No federal tax credit available**

Solar Pool Heating – Residential



Solar Pool Heating – Condominium



Solar Pool Heating – Atlanta Summer Olympics



Photovoltaics (Solar Electric – PV)

- **Uses the light of the sun to generate electricity**
- **Produces direct current electricity which is converted to alternating current**
- **Systems are grid tied with the serving utility or in some cases off grid with battery back up**
- **Requires subsidies to be cost effective in most cases, but costs are declining**
- **Rising electric rates improve cost effectiveness**
- **Florida law provides for net metering and interconnection with electric utility (applies to investor owned utilities only, but municipals and rural electric cooperatives allow as well)**

Photovoltaics (Solar Electric – PV)

- **Applications include:**

- Remote Power (off-grid applications, highway signage, street lighting, water pumping)
- Distributed Generation (grid-connected residential and commercial applications)
- Central Station (utility scale applications)

Photovoltaics – Residential with SDHW



Photovoltaics – Residential Building Integrated



Photovoltaics – Residential Multi-family



Photovoltaics – Community Owned



Photovoltaics – Customer Owned and Sited



Photovoltaics – Orange County Convention Center



Financial Incentives

Federal Solar Tax Credits:

- **30% Federal Residential Tax Credit (for solar water heating and PV, no cap)**
- **30% Federal Business Investment Credit (for solar water heating and PV, no cap)**
- **Business Investment Credit Available as Grant in lieu of tax credit for 2009-2010**
- **Available to taxable entities, individuals only**

Financial Incentives

Federal Tax Credits for Energy Efficiency

- Tax credits are available at 30% of the cost, up to \$1,500, in 2009 & 2010 (for existing homes only) for:
- Windows and Doors
- Insulation
- Roofs (Metal and Asphalt)
- HVAC
- Water Heaters (non-solar)
- Biomass Stoves

Financial Incentives

Federal Tax Credit for Energy Efficient New Homes

- **\$2,000 tax credit for a new energy efficient home that achieves 50% energy savings for heating and cooling over the model code**
- **At least 1/5 of the energy savings must come from building envelope improvements**
- **Applies to new homes located in the United States whose construction is substantially completed after August 8, 2005 and that are acquired from the eligible contractor for use as a residence from January 1, 2006 through December 31, 2009**
- **Tax credit goes to the builder**

Financial Incentives

Florida Financial Incentives:

■ Sales Tax Exemption:

- Solar water heating, pool heating and photovoltaics

■ State Solar Rebate Program

- Solar Water Heating
 - \$500 for residential systems
 - \$15/1,000 Btu for commercial systems (\$5,000 cap)
- Photovoltaic Systems
 - \$4 per watt
 - \$20,000 cap for residential systems
 - \$100,000 cap for commercial

Financial Incentives

Florida Financial Incentives:

■ State Solar Rebate Program

- Solar Pool Heating
 - \$100 for residential or commercial solar pool heaters

■ SunBuilt Program

- \$500 Rebate to Homebuilders for installing solar water heating

■ SunCatcher Program

- Incentives for Hotels, Restaurants and Condominiums that install solar water heating, solar pool heating and photovoltaics

Financial Incentives

■ **Florida Property Tax Exemption:**

- Enacted in 1980
- Constitutional amendment approved by voters in 1980
- Sunset in 1990
- Re-enacted in 2008
- Constitutional amendment repealed in 2008 by new constitutional amendment
- Laws Conflict, new implementing law not enacted in 2009
- ??????

Utility Incentives

- Include rebates, low interest loans, and performance based incentives
- Consider energy efficiency incentives as well to maximize conservation efforts and optimize solar investments
- Gulf Power, Progress Energy, JEA, GRU, OUC, City of Tallahassee, Clay Electric Cooperative currently offer solar incentives
- Orange County provides supplement to Progress Energy, OUC and Winter Park Electric customers
- Current proceeding before the Florida Public Service Commission will result in new utility program offerings
- <http://www.flaseref.org/utilityIncentives.html>

Solar Weatherization Assistance Program

- Stimulus funding has significantly increased WAP funds, and solar is an eligible measure, subject to prior approval
- Renewable energy systems such as solar water heating will be considered during WAP FY 2009-12.
- Sub-grantees interested in installing this renewable energy system should contact the state office for clarification of guidelines.
- Weatherization measures that are required through the Priority List and audits must be provided before installation of a renewable energy saving system may be considered.
- Prior approval for installation of a renewable energy saving system is required from the state office.

Evolving Financial Models/Incentive Programs

■ **Property Tax Assessment Model**

- Berkeley CA
- Palm Desert CA
- Boulder County CO
- Sonoma County CA

■ **Community Solar**

- Solar Shares (SMUD – CA)
- SunSmart (Utah)

Evolving Financial Models/Incentive Programs

- **Public and Private Sector: Purchase and Own**
 - Google
 - Microsoft
 - **Publix**

- **Public and Private Sector: Third Party Ownership**
 - Wal-Mart
 - Whole Foods
 - **Orange County Convention Center**

Evolving Financial Models/Incentive Programs

- **Qualified Energy Conservation Bonds**
- **Build America Bonds**
- **Recovery Zone Economic Development Bonds**
- **Recovery Zone Facility Bonds**
- **Advanced Energy Manufacturing Tax Credit (48C)**

Evolving Financial Models/Incentive Programs

Energy Efficiency and Conservation Block Grants (EECBG)

- Non-Entitled Cities and Counties
- Electric Car Rebate
- Competitive Solicitation (NEW)
- Retrofit Ramp Up
- General Innovation Fund for Local Governments

Evolving Financial Models/Incentive Programs

State Energy Program:

- Clean Energy Opportunity Fund
- Solar Energy Loan Program
- Florida Residential Retrofit Grants/Loans
- Florida Clean Energy Grants

Too Much Information!



- <http://www.energy.gov/recovery/index.htm>
- <http://www.smud.org/en/community-environment/solar/Pages/solarshares.aspx>
- <http://www.sgsunsmart.com/index.htm>
- <http://www.floridaleagueofcities.com/Advocacy.aspx?CNID=1579>
- <http://www.floridaleagueofcities.com/EconomicStimulus.aspx>
- http://myfloridaclimate.com/climate_quick_links/florida_energy_climate_commission

U.S. DEPARTMENT OF ENERGY

Energy Efficiency & Renewable Energy

Solar America Cities

[Home](#) [About](#) [News](#) [Events](#) [Resources](#) [For the Media](#) [Cities](#) [SAMCIN Log In](#)



RESOURCES

GUIDE FOR LOCAL GOVERNMENTS
Executive Summary
1.0 Organizing and Strategizing Your Effort
2.0 Accelerating Demand through Policies and Incentives
3.0 Updating and Enforcing Local Rules and Regulations
 3.1 Develop or Improve Solar Access and Solar Rights Laws
 3.2 Improve Building Energy Codes
 3.3 Streamline and Improve Solar Permitting Processes
 3.4 Promote Installer Licensing and Certification
 3.5 Conduct Code Official Training
4.0 Engaging Your Utility
5.0 Creating Jobs and Supporting Economic Development
6.0 Accelerating Demand through Outreach and Education
7.0 Leading by Example with Installations on Government Properties



Glossary
Abbreviations & Acronyms
List of Examples

SOLAR POWERING YOUR COMMUNITY: A Guide for Local Governments

U.S. DEPARTMENT OF ENERGY | JULY 2009

3.3 Streamline and Improve Solar Permitting Processes

[< Previous](#) [Next >](#)

 [Printer Friendly](#)
 [E-Mail This Page](#)
 [Download PDF of Guide](#)

On This Page
[Description](#)
[Benefits](#)
[Implementation Tips and Options](#)

Examples
[San Jose, California](#)
[Portland, Oregon](#)
[Madison, Wisconsin](#)
[New Orleans, Louisiana](#)

Additional References and Resources
[Websites](#)
[Publications](#)

Highlights
"In Portland, Oregon, installers can now e-mail their permit application to the city and expect a review within 24 hours."

[» 234](#)

Description

To install a grid-connected PV system, the property owner must obtain an electrical permit and in some cases a building permit from the local government followed by an inspection of the installation. Solar thermal or SWH systems require a plumbing permit and sometimes a building or mechanical permit, or both.

[\[read more\]](#)

Benefits

Simplifying permitting requirements and processes can increase the likelihood of successful solar installations and save a significant time and money. Creating consistent permitting processes across a state or region benefits solar installers by providing a standard set of operating procedures, reducing uncertainty, and allowing them to produce more accurate estimates.

[\[top\]](#)

Implementation Tips and Options

- Understand the entire permitting and inspection process for PV and SWH systems and the dynamics between the entities involved (installers, consumers, various city departments and inspection officials, and the local utility).
- Identify barriers to installing systems quickly and cost-effectively.
- Establish a clear path for communications between code enforcement offices and the local utility provider to expedite the interconnection and inspection processes.
- Allow over-the-counter building permits for standard roof-mounted solar energy systems that don't exceed the roof support capabilities of a structure meeting minimum building code requirements.
- Simplify permit application forms and review processes and leverage resources by coordinating permitting procedures with nearby jurisdictions and providing training to educate building and electrical inspectors about PV and SWH technologies and installations. [See Conduct Code Official Training.](#)
- Adopt flat fees or fee waivers for permitting small commercial and residential solar energy systems because these systems require comparable time and attention from inspectors. Fees based on the cost of the project can discourage investment in larger systems.

Thank You!

Colleen McCann Kettles

cmkettles@cfl.rr.com

407-786-1799

www.flaseref.org