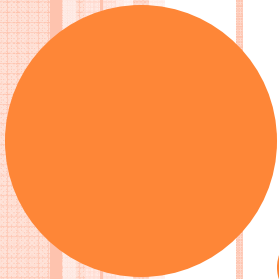




FLORIDA SOLAR ENERGY CENTER®

*Creating Energy Independence*



## SUNSMART E-SHELTERS

**Finalist Schools Webinar**





# OVERVIEW





## PROGRAM – BACKGROUND

- Based on 2003 SunSmart program
  - Educate students, teachers, community
  - More exposure to solar technology
  - Develop long-term interest
- Create jobs
- Provide emergency power





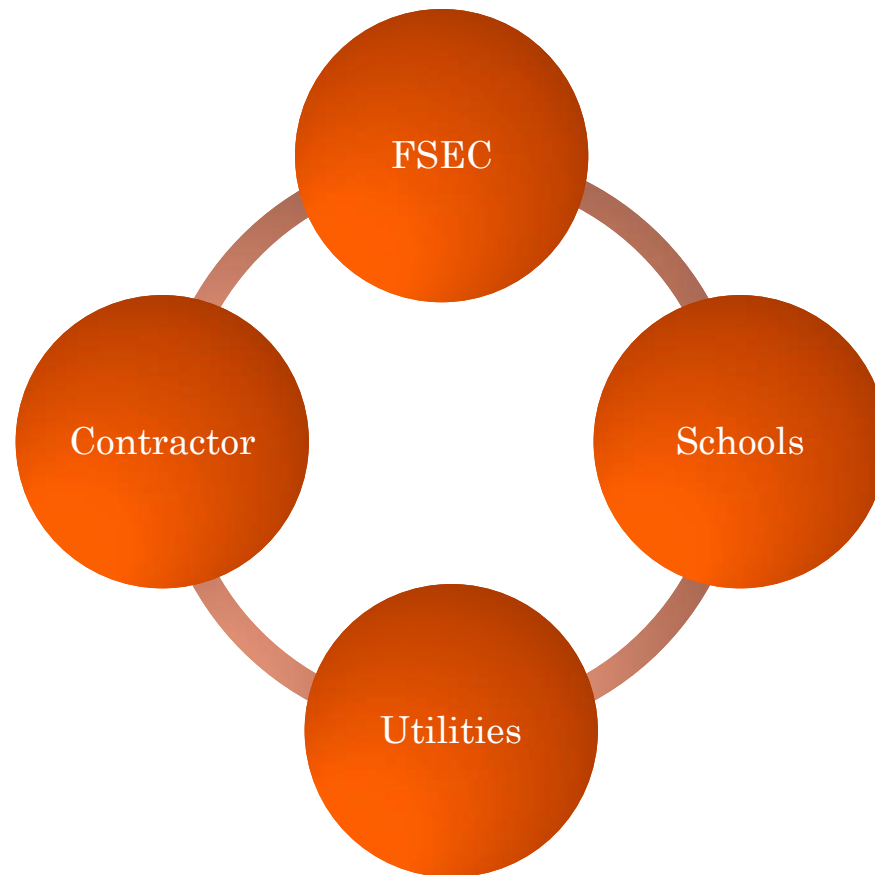
## PROGRAM – SOLAR FOR SHELTER

- 10 kW system
- 25 kWh battery back-up energy
- Grid connected
- Data monitoring
- Net metering





# PROGRAM – TEAM MEMBERS





## TIMELINE

1. Site Visit

2. Installation

3. Acceptance Test

4. Workshops

5. Education & Outreach



# TIMELINE – AGREEMENT



## SunSmart Schools Emergency Shelter School Agreement



Each school chosen to participate in Florida's SunSmart Schools Emergency Shelter Program must agree to the following program requirements (please initial next to each item):

- \_\_\_\_\_ 1) The school agrees to accept the installation of an FSEC approved Photovoltaic (PV) system, data collection system and appropriate signage (which will be no larger than 2' x 3') at the school.
- \_\_\_\_\_ 2) The school agrees to cooperate with utility personnel, contractors and FSEC staff members to facilitate the installation of the PV system and understands they will be responsible for allowing access to school property.
- \_\_\_\_\_ 3) The school agrees to provide school personnel to supervise and assist FSEC personnel while on school property.
- \_\_\_\_\_ 4) In the event that an electrician is required to install a service panel for the shelter critical loads, the school agrees to oversee said electrician and notify FSEC when the work is satisfactorily completed.
- \_\_\_\_\_ 5) The school understands that the PV system must be connected to the utility grid in accordance with all applicable Florida Public Service Commission interconnection tariff requirements, the national electrical code and all applicable local codes.
- \_\_\_\_\_ 6) The school agrees to coordinate with the installer to locate a suitable location for the inverter within 250 ft. of the PV array.
- \_\_\_\_\_ 7) The school agrees to provide Internet access (T1, cable, etc) with a dedicated network port located in close proximity (within 5 feet) to the PV system inverter. The school is responsible for making the connection as described above, including the cost of hardware and labor.
- \_\_\_\_\_ 8) The school will coordinate with district IT personnel to allow the data monitoring connection from the data monitoring system to penetrate the school computer network firewall.
- \_\_\_\_\_ 9) The school agrees to allow FSEC to track the performance of the PV system's

output for a minimum of five (5) years and make this data available to the general public. The school furthermore agrees to release any rights to this collected data.

- \_\_\_\_\_ 10) The school agrees to send two faculty members to attend a regional six-hour orientation workshop hosted by FSEC. These faculty will then facilitate a district in-service or onsite training for other teachers in the school district about renewable energy education curriculum and the Energy Whiz website.
- \_\_\_\_\_ 11) The school agrees to send a minimum of one facility personnel to attend a regional seven-hour facility manager workshop hosted by FSEC.
- \_\_\_\_\_ 12) The school will provide documentation of its progress and efforts in incorporating renewable energy education content into the curriculum-i.e. lessons plans, photos, event flyer, etc.
- \_\_\_\_\_ 13) The school will promote the SunSmart Schools Emergency Shelter Program through appropriate outreach events (such as an open house) to educate the general community about the PV system and how it works.

\_\_\_\_\_  
Principal (signature)

\_\_\_\_\_  
Date

\_\_\_\_\_  
Principal (printed)

\_\_\_\_\_  
University of Central Florida (signature)

\_\_\_\_\_  
Date

\_\_\_\_\_  
University of Central Florida (printed)



## TIMELINE – SITE VISIT

- FSEC schedules team meetings
  - Coordinate with FSEC
- FSEC, emergency manager, facility manager, contractor
  - Provide escort and access
- Team determines location for PV array, inverter, batteries
- Team determines critical loads





## TIMELINE – INSTALLATION

- Contractor visits school
  - Provide access
- Contractor obtains building permits and drawings
- FSEC gives notice to proceed
  - Coordinate installation with contractor
- Contractor ships components
  - Provide secure storage
- Contractor installs system
  - Provide access
  - Receive system documentation
- Contractor trains facility manager
  - Provide facility manager
- Contractor demonstrates datalogging to FSEC





## TIMELINE – ACCEPTANCE TEST

- FSEC schedules acceptance test
  - Coordinate with FSEC
- FSEC verifies operation
- FSEC verifies code compliance
- Everyone shakes hands with big smiles
- Contractor gets final payment from FSEC





## TIMELINE - WORKSHOPS

- Professional Development for Teachers - Solar Workshops
  - Regional – 7 minimum
  - Six (6) Hours
  - Attendees host in-service/training in home district
- Facility Manager Workshop
  - Regional – 5-7
  - Seven (7) Hours
  - 1-2 district personnel to attend





## TIMELINE – CURRICULUM & INSTRUCTION

- Supplemental Curriculum – FSEC Website
  - *Solar Matters I, II & III*
  - *Understanding Solar Energy*
  - Data monitoring
  - EnergyWhiz.com Website
  - Education Kit
  - Lending Library





## TIMELINE – EDUCATION & OUTREACH

- Educate Students
  - Incorporate solar into lesson plans
  - EnergyWhiz Olympics
  - Send documentation of solar education to FSEC
- Community
  - Host open house to educate public
  - Send documentation to FSEC





## RESPONSIBILITIES

- Assist FSEC with scheduling team meetings
- Provide escort for site visit
- Allow contractor access to grounds
- Allow facility manager to attend training from contractor
- Provide escort for acceptance test
- Assist with critical power panel





## RESPONSIBILITIES

- Send two teachers to solar workshop
- Send one to two facility person(s) to facility workshop
- Incorporate solar into curriculum and send FSEC documentation
- Host open house and send FSEC documentation





## SUMMARY

- Program
  - Based on SunSmart
  - Provides electricity to disaster shelter
  - You, Us, Contractors, Utilities
- Timeline
  - Site visit
  - Installation
  - Acceptance test
  - Workshops
  - Education & Outreach
- Responsibilities
  - See School Agreement





## FOR MORE INFORMATION

Websites:

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THANK YOU!

Questions?

