



**UNIVERSITY OF CENTRAL FLORIDA**

**COLLEGE OF ENGINEERING  
& COMPUTER SCIENCE**



**Progress Energy**

# Senior Design in Renewable & Sustainable Energy

**April 27, 2009**

# Stakeholders



## Progress Energy

**SIEMENS**



**ASHRAE**

*Advancing HVAC&R to serve humanity  
and promote a sustainable world*

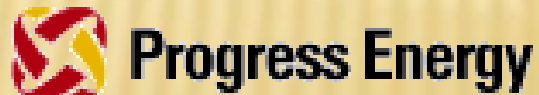
Department of Sustainability  
and Energy Management



University of  
**Central  
Florida**

# Mechanical Engineering

- ❑ Coconut Processing for Biodiesel
- ❑ Wind Turbine Electric Power Generation
- ❑ Reversible Hydrogen Fuel Cell
- ❑ Hybrid Electric Golf Cart Team #1
- ❑ Hybrid Electric Golf Cart Team #2



# Mechanical Engineering

- ❑ Witch Hat Strainer Failure
- ❑ ASHRAE - Competition Design
- ❑ ASHRAE - Competition Selection
- ❑ UCF Shuttle Bus Ridership Tracking
- ❑ UCF Shuttle Bus GPS Tracking

**SIEMENS**



Dept. of Sustainability  
& Energy Mgmt.

# Mechanical Engineering

- ❑ Water for the Billions
- ❑ Turbo Charger Turbine
- ❑ Solar Powered Barbecue
- ❑ Plastic that Rocks
- ❑ Solar Thermal Power
- ❑ Wave Energy Converters
- ❑ Low Speed Wind Tunnel



# Electrical Engineering & Computer Engineering

- ❑ DynaLite - home LED based lighting
- ❑ Low Power Wind Turbine Energy Maximizer
- ❑ Biodiesel 9000
- ❑ E.E. Byke - Exercise Bicycle
- ❑ Wind Power Generation System

# Industrial Engineering & Management Systems

- Power Allocation Management for  
Seminole County Environmental Services  
(SCES)



# Civil Engineering

- Removal of Iron and Color From Industrial Wastewater With Coal Derived Fly Ash



Thanks To Our Sponsors



**Progress Energy**

**SIEMENS**



Department of  
Sustainability and  
Energy Management