Challenges for Municipal Electric Utilities (like Tallahassee) to Address Pending Energy Policies

2009 Annual PURC Conference
February 4, 2009

Kevin Wailes – General Manager – Electric Utility
Electric Utility Overview

- 113,000 Electric Customers
- 221 Sq. Mile Service Territory
- 620 MW Peak Demand
- 800 MW of Generation
- FY 2008 Revenue $405 million
Energy Policy Issues

- Climate Change
- Renewable Portfolio Standards
- Energy Efficiency & DSM
Issue: Climate Change – Carbon Regulation

- Tallahassee Generating Fleet:
  - 98% Natural Gas + small hydro and solar
  - 75% of the fleet - average age 3.5 years
  - 75% of the fleet – average Heat Rate of 7,900 btu/KWh
  - Carbon intensity for 2009 projected at 930 lb/MWh
Issue: Climate Change - Carbon Regulation

Pounds of CO₂ per MWh

Source: Carbon Monitoring for Action (CARMA) Website.
Issue: Climate Change - Carbon Regulation

Fuel $ / 1000 KWh

Source: FMEA Rate Comparisons November 2008
Challenge: Climate Change – Carbon Regulation

- Tallahassee vs. Florida Large Utility Average
  - Residential customer (1,000 KWh/month):
    - 10,000 lbs less CO$_2$ per year
    - $460 more per year
  - Commercial Customer (15,000 KWh/month)
    - 162,000 lbs less of CO$_2$ per year
    - $7,000 more per year
Challenge: Climate Change - Carbon Regulation

- Tallahassee vs. FL Large Utility Average
  - Very large customer (230 GWh per year)
    - 104,000 tons less CO$_2$ per year -
      equal to parking > 14,000 cars per year
    - $8.9$ million more per year
Issue: Renewable Portfolio

- Tallahassee Renewable Resources
  - 11 MW Hydro
  - 50 KW Utility owned PV
  - 200 KW Customer owned PV
  - Schools on Solar
  - Contracts for energy from 2 Biomass Facilities (75MW)
Challenge: Renewable Portfolio

Load Duration vs. Base Load Resources

- Load w/ EE
- Hydro
- PEF
- P8 Min
- H2 Min @ 70
- BG&E
- GPS

Hours

MW
Challenge: Renewable Portfolio

- Cost
- Availability
- Siting
- Reliability
- Impact on Dispatch
Tallahassee 20 year DSM Plan projected to provide significant benefits:
- Demand savings of 167 MW (21% of 2026 peak)
- Energy savings of 561 GWh (14% of 2026 sales)
- Eliminates need to add resources until 2016 based on latest load forecast
Issue: Energy Efficiency and Demand Side Management

21% reduction versus 2026 peak demand without DSM
Issue: Energy Efficiency and Demand Side Management

- Electric Peak Reduction: 59 MW (year 5)
- Energy Savings: 146,000 MWh (year 5)
- Annual Spending: $10 million/yr (avg.)
- Fuel Savings: >$10 million (year 5)
- CO₂ Reduction: 125,000 Tons (year 5)
Challenge: Energy Efficiency and Demand Side Management

- **Cost**
  - Smart Metering - $35 million
  - 20 year DSM program cost ~ $150 million NPV

- **Customer Acceptance**

- **Technology Availability & Support**
Representative Tallahassee
Sustainability Programs

- Hopkins Generating Station Unit 2 Repowering Project
- C.H. Corn Hydroelectric Generating Station
- Smart Metering
- Biodiesel Fleet Fuel Processing Plant
- CFL Distribution and Retail Discount Programs
- Mayors' Energy Conservation Challenge
- Schools on Solar
- Tallahassee Neighborhood Energy Challenge
- Building Efficiency and Demand-Side Management
- SmartBill
Tallahassee Sustainability Awards

- U.S. Environmental Protection Agency’s First Excellence in Site Reuse Award
- U.S. Green Building Coalition’s Leadership in Energy and Environmental Design Award
- Florida Green Building Coalition’s First Green City Gold Certification
- Sustainable Florida’s Best Practice Award (Government)
- Recycle Florida Today’s Waste Reduction Awards (Government & Partnership)
Top 10 Green Cities in the U. S. Utility CP₂ Emission Rates

Source: National Geographic “Green Guide” 2006; and CARMA – Carbon Monitoring for Action Website
Questions?