Energy Conservation

- Performance based contract
- Program overview
- Program outcomes
- Lessons learned
Performance Contracting

Benefits Considered

- Strategic, design-build energy plan
- Self funded by virtue savings
- Performance guaranteed
- Built-in energy officer
- Recommendation for future efficiency and renewable energy measures
Performance Contracting

City of Flagstaff Energy Conservation Measures

kWh Reduction

Dollar Savings

Excess Annual Utility Savings

Capital Contribution and Rebates

Annual Utility Savings

Project Financing

APS energy SERVICES

City of Flagstaff Operating Expense Budget

3.38% 10 Year Term
Performance Contracting

Program Overview

- 2002 City of Flagstaff issued Request for Proposal
- January 2004 kick-off
- City-wide performance audit
- 26 facilities identified for upgrades
- Traffic signals and pedestrian walk signs identified for upgrade
Performance Contracting

Program Overview

- Comprehensive Lighting Retrofit
- Traffic Lights and Pedestrian Walk Signs
- Energy Management Control System
- Water Conservation
- Motors
- VendingMisers™
- HVAC/Controls
- Renewable energy
Performance Contracting

Program Overview

- The 15-Year Program Provides:
  - $3,120,001 in Facility Upgrades Funded from Reductions in Existing Operating Expenses
  - Annual Utility Cost Avoidance of $324,604
  - Projected Positive Cash Flow of $252,535 Over Ten Years
  - Projected Positive Cash Flow of $2,571,390 Over Fifteen Years
Performance Contracting

Program Overview

- Annual electric utility reductions
  - 7.6% / 2,642,866 kWh
  - $227,017

- Annual natural gas utility reductions
  - 28% / 102,351 therms
  - $78,012

- Annual water utility reductions
  - 802,000 gallons
  - $4,027
Performance Contracting

Renewable Energy
Performance Contracting

Lessons Learned

- Communication is essential
- Build internal capacity
  - Site/Facility manager
  - Contractor
  - Management
- Maintain working relationship
Performance Contracting

Future Opportunities

- Solar Generation Project Throughout City
- Landfill Gas Collection & Renewable Energy System
- Landfill Wind Study
- Solid Waste Reduction System
- Evaluate Additional Energy Savings Opportunities
  - Solar Thermal Systems
  - Street Lighting
Community Sustainability

Nicole A. Woodman
Sustainability Manager
City of Flagstaff

nwoodman@flagstaffaz.gov
www.flagstaff.az.gov/sustainable