Innovative Funding Approaches

Presented to
Clean Energy-Environment Technical Forum
January 18th, 2007
COA- AE Background

- 14 City departments
- 11 million square feet of facilities
- City Provides full range of services
  - Electric, Water & Wastewater, Solid Waste
  - Convention Center, Aviation
  - Police, Fire, EMS
  - Libraries, Parks, Health
  - Street and Bridge
- Municipal energy conservation program began in 1988
- Municipally-owned electric utility
Texas State Energy Office Partnership

- Successful Partnership with TX State Energy Office since 1994
- Received and repaid two LoanSTAR loans totaling $5.9 million
- One current Memorandum of Understanding for $5.0 million
- Total energy cost savings
  - Estimated at $2.2 million per year
  - 5 yr payback
- LoanSTAR funding most convenient & cost-effective alternative
- Energy management led by Austin Energy
- Repayments by City departments
LoanSTAR Project

- Began in 1996 - $2.9 M
- Completed lighting retrofit in 90% of facilities
- Funded quick payback on $700,000 of improvements to wastewater for water utility
- Funded critical maintenance projects
- City departments repaid through shared-savings agreements
- Loan Completely Repaid
LoanSTAR Project

- Municipal Energy Conservation Program
- Traffic Signal Conversion to LED
- 5,500 traffic signals

Existing incandescent lamps: 135 watts
New LED lamps: 15 watts
Energy savings per lamp: 120 watts

90% energy reduction
LoanSTAR Project

- Municipal Energy Conservation Program
- Pedestrian Crossing Signal Conversion

Existing incandescent lamps: 92 watts
New LED lamps: 7 watts
Energy savings per signal: 85 watts

90% energy reduction

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Energy Performance Contracting

- 2004 - $5 million
- Funding by SECO LoanSTAR
- Contracts with 3 National Energy Services Companies
- ESCOs identified $18 M in energy and water cost saving projects
- More opportunity exists than current funding of $5M LoanSTAR can support
- Guaranteed savings provided by ESCOs
- ESCO projects are convenient to implement
Parks Department Performance Contracting Project

- Performed energy audits of 17 Parks facilities
- Identified $1.2M in energy and water saving projects
- Projects include park irrigation, energy management controls and lighting
- Preliminary audit estimates payback is 5 years
City Performance Contracting
Project Status

- 5 Detailed Energy Audits Underway
  - Water Treatment
  - Parks and Recreation
  - Aviation
  - Building Services
  - Austin Energy
City Performance Contracting Project

- Type of projects being identified
  - Aeration Blower replacement
  - Bio Gas Reuse
  - Water Reuse (Irrigation)
  - Thermal Energy Storage, Chiller upgrades
  - Energy Management Controls
  - Lighting
Barriers to Energy Conservation Projects

- Energy management not centralized
- Awareness of energy consumption in City facilities
- Site-based responsibility
- Training on energy saving technologies
- Competing budget priorities
Addressing Barriers - Energy Performance Contracting

- Top-level commitment from City Manager
- AE leading project development and implementation
- Training during project implementation
- Funding provided by TX SECO
- Guaranteed savings