

# Innovative Funding Approaches

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# 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	<u>15 watts</u>
Energy savings per lamp	<b>120</b> 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



# 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

