

ESC Market Transformation Conference
City of Fort Worth
Resource Conservation Program

Presentation by:

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Fort Worth BBC Advisory Committee Co-Chair

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Sustainability Programming

Current Program History & Drivers

➤ Primary Drivers

- ✓ **State Legislation:** *Texas Emissions Reduction Program (TERP) Target*
(Senate Bill/Legislature: 5/77th/2001, 12/80th/2007, & 898/82nd/2011)
- ✓ **City Policy:** Mayor & Council *Strategic Goals*
(Public Safety, Mobility/Air Quality, Clean/Attractive City,
Economic Base/Education/Quality Jobs, Orderly/Sustainable Development)

➤ City Response

- ✓ Hire a *Conservation Specialist* for Energy Management
- ✓ Competitive Selection of an *Energy Services Company (ESCO)*
- ✓ Authorize an *Energy Savings Performance Contract (ESPC)*

➤ Current Objective

- ✓ **TERP Goal** (with *State Energy Conservation Office (SECO)* Reporting)
(5%/yr. Electricity Consumption Reduction, now extended through 2021)



Sustainability Programming

Program Development Interests

- Implement City Facility Improvements that:
 - ✓ Reduce Energy & Water Demand & Consumption
 - ✓ Reduce Operations & Maintenance Costs
 - ✓ Support Community Sustainability (People>Planet>Profits)
- Identify Creative Project Financing from:
 - ✓ Low-Interest Loan Agreements (SECO *LoanSTAR*)
 - ✓ Equipment Lease-Purchase Agreements (Municipal)
 - ✓ Federal-, State-, & other-Grant Agreements (US.DOE/EECBG)
- Provide Turn-key Project Implementation through:
 - ✓ Schematic & Design Development
 - ✓ Procurement & Construction
 - ✓ Performance Measurement & Verification



Sustainability Programming

Program Development & Projects

- Resource Conservation Program
 - ✓ Implementation: Development > Construction > Performance
 - ✓ Delivery Methods: ESCo/ESPC & Design-Build Contracts
 - ✓ Selection: RFQ w/Competitive, Best-Value Selection of Contractor
 - ✓ Current Snapshot: 12-Projects (2-Dev't. + 1-Const. + 9-Perf.)
- 1-ESPC (9-Projects: Original Contract w/8-Amendments)
 - ✓ Over 220-City-Owned & -Operated Buildings (5.7M-sq.ft.)
 - ✓ Improve Buildings: Lighting/HVAC/Controls/Water/Electrical
 - ✓ Improve Processes: Basins/Digesters/Turbines/Steam/Ancillaries
- 1-Design-Build Contract (Traffic Services/Contractor Team)
 - ✓ Over 570-City Traffic Signals (~17k-signal lamps & ~3,500-“PEDs”)
 - ✓ Improve Transportation: LED- & “Hand/Man”-Signal Conversion



Resource Conservation Program

Project Approvals (beginning FY2003)

City of Fort Worth		Approval		Projection		
Resource Conservation		Mayor & Council Communication (M&C)		Construction Cost	First-Year Savings	Simple Payback
Dept.	Project Name	Date	Ref. No.	\$	\$/Year	No. Years
Property	ESPC Phase 1	2-Sep-2003	C-19739	\$ 3,063,090	\$ 397,247	7.7
	ESPC Phase 2	7-Feb-2006	C-21289	\$ 2,395,659	\$ 342,854	7.0
	ESPC Phase 3	26-Sep-2006	C-21737	\$ 5,198,937	\$ 711,324	7.3
	ESPC Phase 4	17-Jun-2008	C-22868	\$ 9,248,307	\$ 944,814	9.8
	ESPC Phase 6, Part B	25-Jan-2011	C-24718	\$ 3,363,841	\$ 173,793	19
	ESPC Phase 7	21-May-2013	C-26273	\$ 10,955,452	\$ 565,268	19
T/PW	LED Traffic Signals	17-Apr-2007	C-22063	\$ 1,959,678	\$ 536,624	3.7
Water	ESPC Phase 5, Sec.1	2-Feb-2010	C-24070	\$ 13,577,350	\$ 949,275	14
	ESPC Phase 5, Sec.2	20-Jul-2010	C-24360	\$ 17,889,397	\$ 1,643,221	11
	ESPC Phase 6, Part A	17-Aug-2010	C-24406	\$ 1,815,526	\$ 211,387	8.6
Totals		FY02-FY13	Various	\$ 69,467,237	\$ 6,475,807	11



Resource Conservation Program

Program Performance (ending FY2014)

City of Fort Worth	Project Performance - Financial				
Resource Conservation	Guarantee Period	Performance Period	Guaranteed Savings	Reported Savings	Pos./ (Neg.) Variance
City Dept.-Project(s)	Start-date	End-date	\$-to-date	\$-to-date	Delta-\$
Property-ESPC (6-Phases)	Oct-2004	Sep-2014	\$ 15,342,489	\$ 17,930,228	\$ 2,587,739
T/PW-LED Traffic Signals	Oct-2007		\$ 3,756,368	\$ 3,756,368	\$ -
Water-ESPC (3-Phases)	Oct-2010		\$ 4,065,521	\$ 7,032,336	\$ 2,966,815
Total Program	Oct-2004	Sep-2014	\$ 23,164,378	\$ 28,718,932	\$ 5,554,554
Note: ESPC is the common acronym for the <i>Energy Savings Performance Contract</i> construction method.					



Resource Conservation Program

Environmental Impact (ending FY2014)

City of Fort Worth	Project Performance - Environmental					
Resource Conservation	Avoided Usage/Period		Greenhouse Gas Equivalencies/Period			
	Electricity	Natural Gas	CO2-eq. Metric Tons	GHG-eq./yr Vehicle Miles	CO2 Emissions Lbs. of Coal	Carbon Sequest. Acres of Forest
City Dept.-Project(s)	kWh	therms				
Property-ESPC (6-Phases)	181,668,374	2,518,493	138,623	330,053,950	148,896,519	113,625
T/PW-LED Traffic Signals	46,518,631	-	32,077	76,373,735	34,454,316	26,293
Water-ESPC (3-Phases)	83,665,540	-	57,692	137,361,088	61,967,408	47,288
Total Program	311,852,545	2,518,493	228,392	543,788,773	245,318,243	187,206
Source: <i>Greenhouse Gas Equivalencies Calculator</i> (http://www.epa.gov/cleanenergy/energy-resources/calculator.html)						



The Fort Worth Better Buildings Challenge

- Federal Better Buildings Initiative (U.S.DOE)
- *Community Partner Agreement* (US.DOE-City, 2012)
- Focus: Energy *and* Water Reductions
- Structure: Local Partner-Ally Network
 - ✓ Partners: City Building Property Owners
 - ✓ Allies: Utilities & Professional Organizations





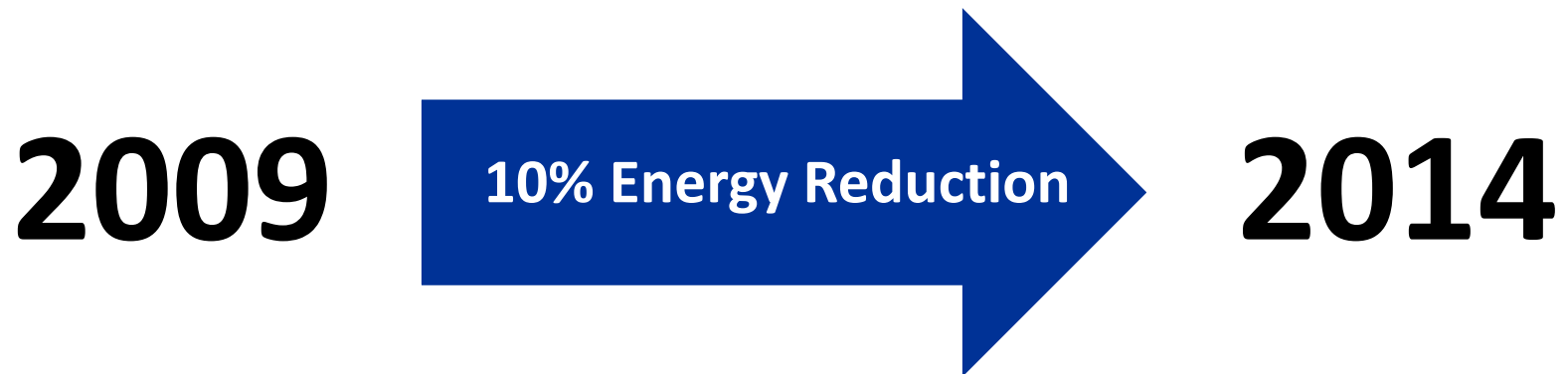
The Fort Worth BBC Advisory Committee

- Local Governance
 - ✓ Co-Chairs: City- & Fort Worth Chamber-Representatives
 - ✓ Subcommittees: Audit, Water, Finance, & Communication
- Approach/Process
 1. Introduce BBC Network
 2. Data Benchmarking (Portfolio Manager®)
 3. Opportunity Assessment (Schematic > Design Development)
 4. Build Project Support
 5. Project Implementation (Construction > Performance)





20 Million Square Feet





The Fort Worth BBC Partner-Ally Network

Allies

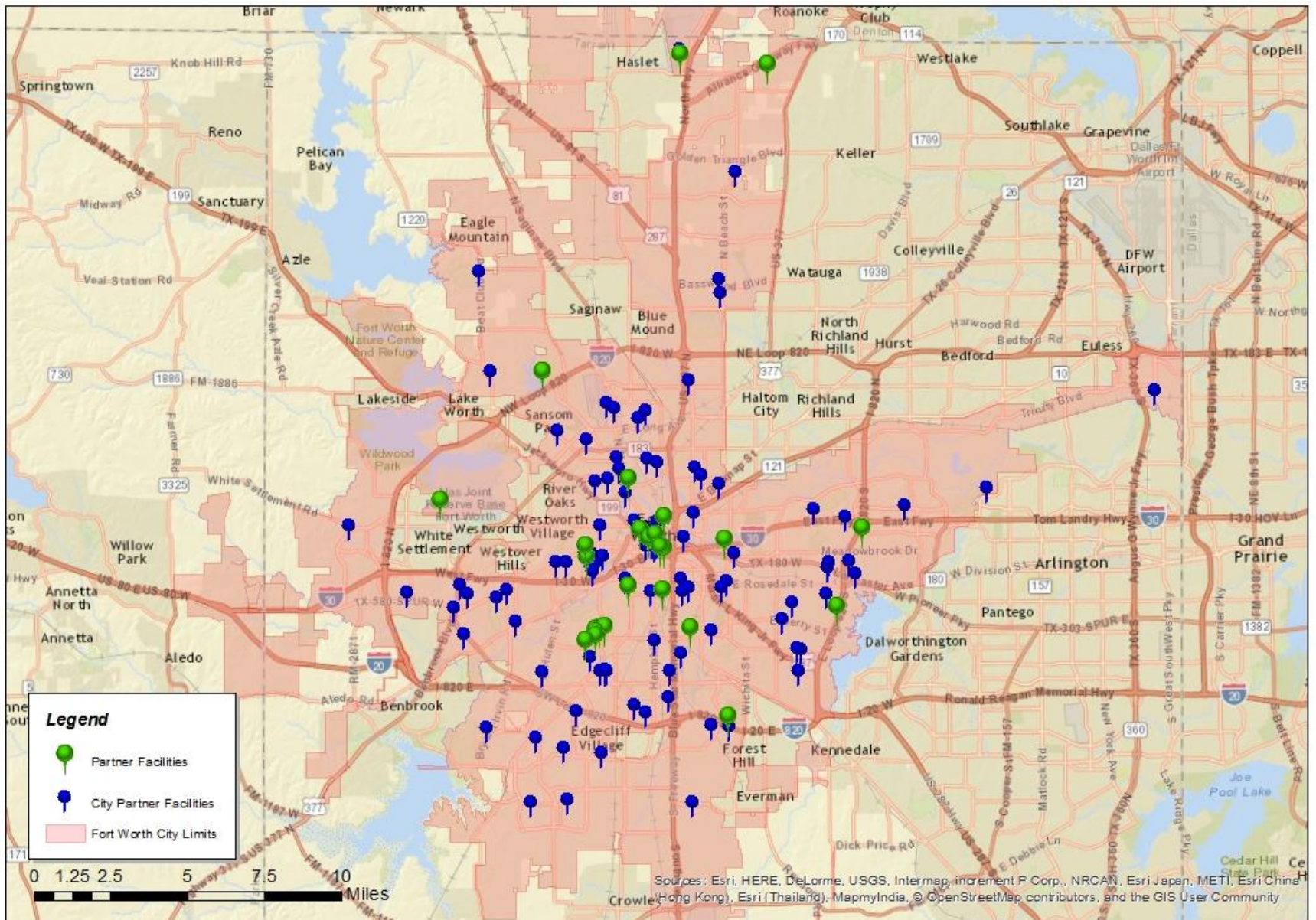
- Downtown Fort Worth, Inc.
- Fort Worth South, Inc.
- Fort Worth Chamber of Commerce
- AIA Fort Worth
- ASHRAE Fort Worth Chapter
- Botanical Research Institute of Texas
- BOMA Fort Worth
- North Texas AEE
- North Texas Green Council (USGBC)
- Atmos Energy Corporation
- Oncor Electric Delivery Company
- City of Fort Worth, Water Department
- U.S. Department of Energy

Partners

- Lockheed Martin Corp., Aeronautics Division
- McKesson Corporation, Specialty Health
- Titan Alliance Property Management, LLC
- Red Oak Realty, LLC
- Tarrant County College District
- Texas Christian University
- University of North Texas, Health Science Center
- University of Texas-Arlington, Fort Worth Center
- Fort Worth Museum of Science & History
- Baylor Scott & White, Baylor All Saints Med.Ctr.
- JPS Health Network, John Peter Smith Hospital
- Courtyard by Marriott, Fort Worth-Blackstone
- Hope Baptist Church of Fort Worth, Inc.
- General Service Administration
- City of Fort Worth, Property & Water Facilities



Fort Worth Better Buildings Partner Network





NORTH TEXAS



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NORTH TEXAS





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