



AGENDA
WATAUGA CITY COUNCIL
WORKSHOP MEETING
MONDAY, MARCH 8, 2021
CITY HALL COUNCIL CHAMBER, 7105 WHITLEY ROAD
5:30 PM

This notice is posted pursuant to the Texas Open Meetings Act. Notice is hereby given that a **City Council Workshop Meeting** of the City of Watauga, Texas will be held at which time the following subjects will be discussed and may be acted upon.

COVID-19 PRECAUTIONS

Although the Statewide mask order will no longer be effective on March 10, 2021, The City of Watauga believes it is important that masks are worn in public spaces until more Texans have access to the COVID-19 vaccine. Therefore, the following social distancing rules apply to the public attending this meeting:

1. Any member of the public attending the meeting shall maintain a six-foot distance from others (except for those you live in the same household). City Staff and City Officials shall practice social distancing to the extent able without interfering in the ability to carry out the essential governmental functions to be conducted at this meeting.
2. To enter City Hall to attend this meeting all persons must wear a face covering (i.e. a cloth mask that effectively covers the mouth and nose with more than one layer of fabric) or equivalent device.
3. Attendance in the Council Chamber will be limited to allow for the public in attendance to practice social distancing. Seating may be assigned.
4. Coughs and sneezes must be covered with a cloth or tissue, which should then be properly disposed of or washed, and shall not be exposed to others.
5. Public courtesies such as handshakes or other greetings shall be respectfully avoided.
6. Any member of the public approaching city representatives, whether they be city staff or elected or appointed officials must maintain six-foot social distancing.

Any person who fails to comply with the COVID-19 Precautions may be removed from the meeting.

CALL TO ORDER (Council Members, City Staff, Members of the Public - when speaking during the meeting please speak directly into the microphones on the dais or podium)

ROLL CALL

PRESENTATIONS

1. Presentation and discussion on Strategic Carbon Reduction Plan for the City of Watauga
Andrea Gardner, City Manager

ADJOURNMENT

Meeting Notices and Reservation of Rights

The City Council may retire to executive session any time between the meeting's opening and adjournment for the purpose of consultation with legal counsel pursuant to Chapter 551.071 of the Texas Government Code; discussion of personnel matters pursuant to Chapter 551.074 of the Texas Government Code if the requisite information is otherwise posted; deliberation regarding real property pursuant to Chapter 551.072 of the Texas Government Code; deliberation regarding economic development negotiations pursuant to Chapter 551.087 of the Texas Government Code; and/or deliberation regarding the deployment, or specific occasions for implementation of security personnel or devices pursuant to Chapter 551.076 of the Texas Government Code (as applicable) when determined necessary by the to address a subject matter on the agenda. Action, if any, will be taken in open session.

This agenda has been reviewed and approved by the City's legal counsel and the presence of any subject in any Executive Session portion of the agenda constitutes a written interpretation of Texas Government Code Chapter 551 by legal counsel for the governmental body and constitutes an opinion by the attorney that the items discussed therein may be legally discussed in the closed portion of the meeting considering available opinions of a court of record and opinions of the Texas Attorney General known to the attorney. This provision has been added to this agenda with the intent to meet all elements necessary to satisfy Texas Government Code Chapter 551.144(c) and the meeting is conducted by all participants in reliance on this opinion.

Attendance by Other Elected or Appointed Officials: It is anticipated that members of other governmental bodies, and/or city council, boards, commissions and/or committees may attend the meeting in numbers that may constitute a quorum of the body, board, commission and/or committee. Notice is hereby given that the meeting, to the extent required by law, is also noticed as a possible meeting of the other body, board, commission and/or committee, whose members may be in attendance, if such numbers constitute a quorum. The members of the city council, boards, commissions and/or committees may be permitted to participate in discussions on the same items listed on the agenda, which occur at the meeting, but no action will be taken by such in attendance unless such item and action is specifically provided for on an agenda for that city council, body, board, commission or committee subject to the Texas Open Meetings Act.

NOTICE

THIS FACILITY IS WHEELCHAIR ACCESSIBLE AND ACCESSIBLE PARKING SPACES ARE AVAILABLE. REQUESTS FOR ACCOMMODATIONS OR INTERPRETIVE SERVICES MUST BE MADE 48 HOURS PRIOR TO THIS MEETING. PLEASE CONTACT THE CITY SECRETARY'S OFFICE AT (817) 514-5825, OR FAX (817) 514-3625.

I, Andrea Gardner, City Secretary for the City of Watauga, hereby certify that this agenda was posted on the bulletin boards at City Hall, 7105 Whitley Road, Watauga, Texas, on Friday, March 5, 2021, before 5:00 p.m., in accordance with Chapter 551 of the Texas Government Code.



Andrea Gardner, City Secretary





AGENDA MEMORANDUM

DATE: March 5, 2021
TO: Honorable City Council Members
FROM: Andrea Gardner, City Manager
THROUGH:
SUBJECT: Presentation and discussion on Strategic Carbon Reduction Plan for the City of Watauga

BACKGROUND/INFORMATION:

FINANCIAL IMPLICATIONS:

N/A

RECOMMENDATION/ACTION DESIRED:

City staff respectfully recommends the City Council consider the presentation contents and provide direction to the City Manager.

ATTACHMENTS/ SUPPORTING DOCUMENTATION:

1. City of Watauga_Strategic Carbon Plan_PUA 3.8.21

REVIEWED BY:

Andrea Gardner, City Manager
Raquel Guajardo, Deputy City Secretary
Approved as to form for inclusion on Agenda

Approved - 3/5/2021
Final Approval - 3/5/2021



Objectives



- ✓ Introduce PSI
- ✓ Review City of Watauga carbon reduction goals
- ✓ Understand current carbon footprint
- ✓ Discuss reduction strategies
- ✓ Preliminary Financials
- ✓ Summary



PSI Overview

- ✓ Established in 1998
- ✓ **Guaranteed** Energy Savings Contracts and Design-Build Public Sector Projects
- ✓ Vendor Neutral
- ✓ 500+ projects (\$1.7B+) completed
- ✓ 140+ Energy Star® certified buildings
- ✓ 190+ Employees



Project References



✓ **Planning Issue: Strengthen future planning**

Item 8. Improve the carbon footprint in the City within 10 years.

Item 11. Evaluate the transition to hybrid or electric vehicles within ten years.

✓ **Planning Issue: Improve the City Brand**

Item 1. Develop a marketing strategy prior to October 2023.

✓ **Planning Issue: Expand public safety through non-enforcement efforts**

Item 1. Evaluate lighting options that will create improvements in safety for Watauga residents and visitors within ten years.

NTX Cities and Sustainability

CITY OF DENTON

SIMPLY SUSTAINABLE

A Fram Future

NEWS > ENVIRONMENT

Dallas City Council unanimously approves city's first climate action plan

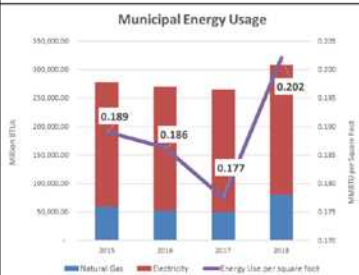
With more than 90 action items, the plan addresses eight issues: energy-efficient and climate-resilient buildings; renewable and affordable energy; transportation; waste; water resources; green spaces; food; and clean air.



City of Plano Sustainability Snapshot

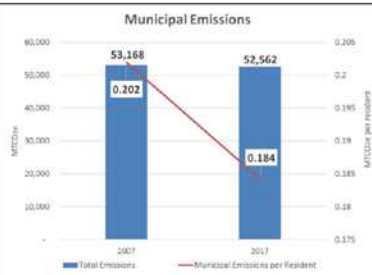


The City of Plano works to integrate sustainability into daily operations in order to achieve long term goals set forth in the Sustainability Implementation Plan. This snapshot of selected indicators provides a high-level overview of the City's sustainability progress.



Goal: Reduce municipal energy usage from 2015 levels

Status: In progress



Goal: Reduce municipal emissions from 2007 levels

Status: Goal met

City News

Posted on: June 12, 2020

FUTURE: City Council approves solar installations for three City facilities



FBTX ~ Taking a giant green step forward, the Farmers Branch City Council has unanimously approved the installation of solar panels on three City facilities, expected to generate more than 850,000 kilowatt hours of electricity annually.

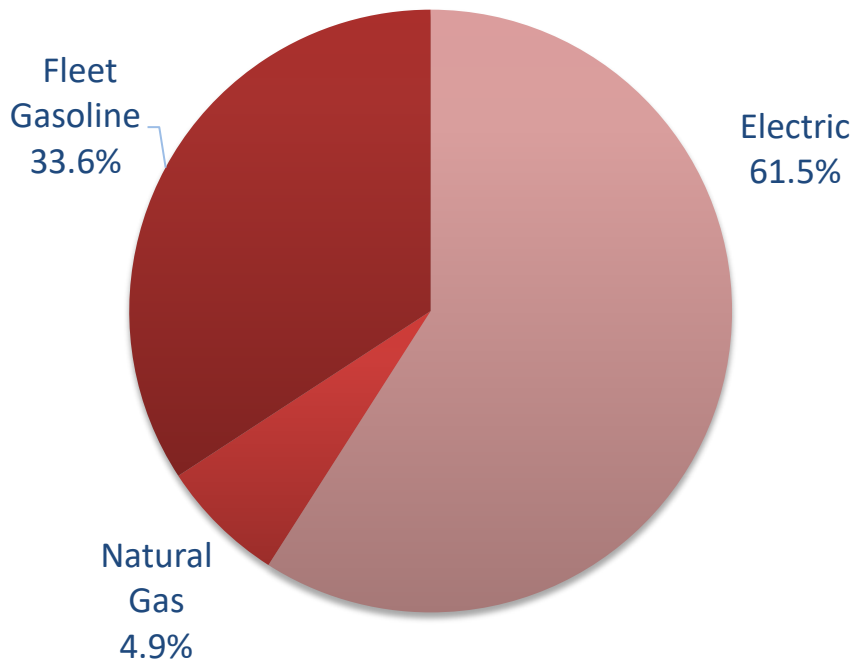
Under the plan, solar panels will be installed on the roofs of the Manske Library, the Community Recreation Center and new Fire Station No. 2. Between the three facilities, 859,280 kilowatt hours of electricity are expected to be recovered. Officials said that total equates to reducing emissions from 1.5 million miles driven by an average passenger vehicle, 68,363 gallons of gasoline and 1,407 barrels of oil.

The project is expected to pay for its slightly more than \$1 million price tag by year nine of the 30-year project (after about \$267,000 in ONCOR incentives). During the three-decade term of the project, the solar panels are expected save the City nearly \$2.8 million in energy costs. All figures are estimates, subject to the fluctuation of future electrical markets. The panels are expected to be installed on each of the three facilities by November 30.



Current Carbon Footprint

Carbon Breakdown



Source	Metric Tons Co2
Electric	1,093 ¹
Natural Gas	87
Gasoline (Fleet)	596
TOTAL	1,776

¹ - Source: [U.S. Energy Information Administration](#)
– [Texas State Profile](#)



Current Carbon Footprint

So...what does that mean?



Source: [EPA Greenhouse Gas Equivalencies Calculator](#)

Reduction Strategies

1

Energy Efficiency

Reduce electric and gas consumption by investing in efficient LED lighting and replacing aging HVAC systems

2

Fleet Efficiency

Upgrade fleet vehicles to more efficient models, including Electric Vehicles (EV) and/or Hybrids

3

On-Site Renewable

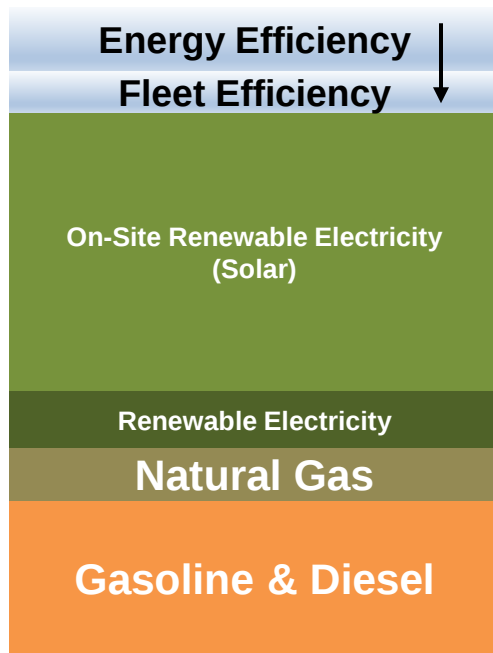
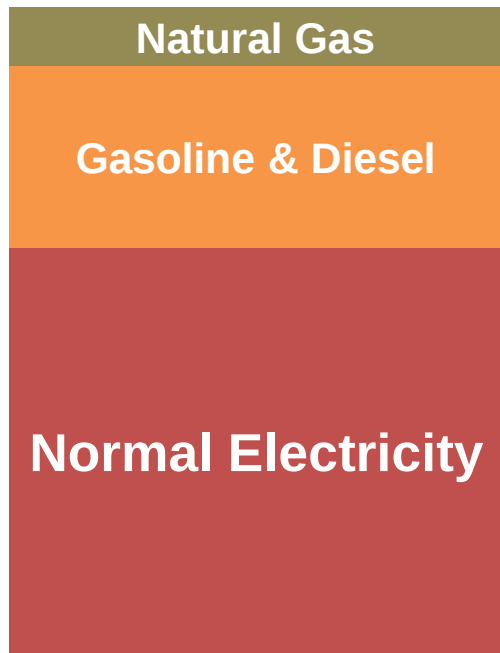
Install on-site solar to generate carbon free power for the City

4

Renewable Energy Credits

Procure RECs to offset carbon emissions on electricity usage

Reduction Strategies



1. Reduce consumption through efficiency & Electric Vehicles
2. Produce carbon free power on-site (solar)
3. Source green power (RECs) for remaining electricity

Energy Efficiency

Energy Efficiency

Why Energy Efficiency?

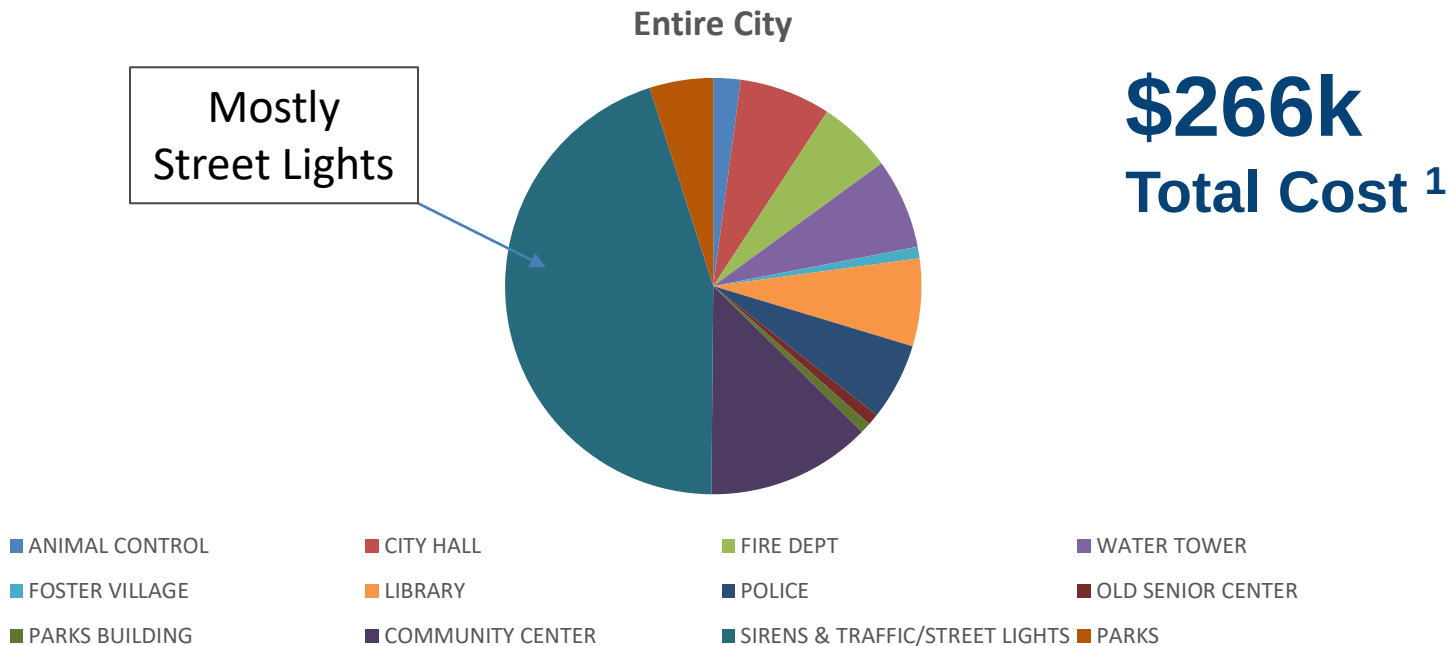
- Reduction > Offset
- Improves Facilities & Lighting
- Strong Return on Investment (ROI)



“Energy efficiency represents around 40 percent of the greenhouse gas reduction potential that can be realized.”

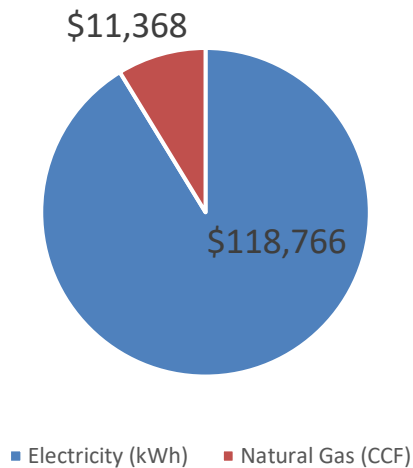
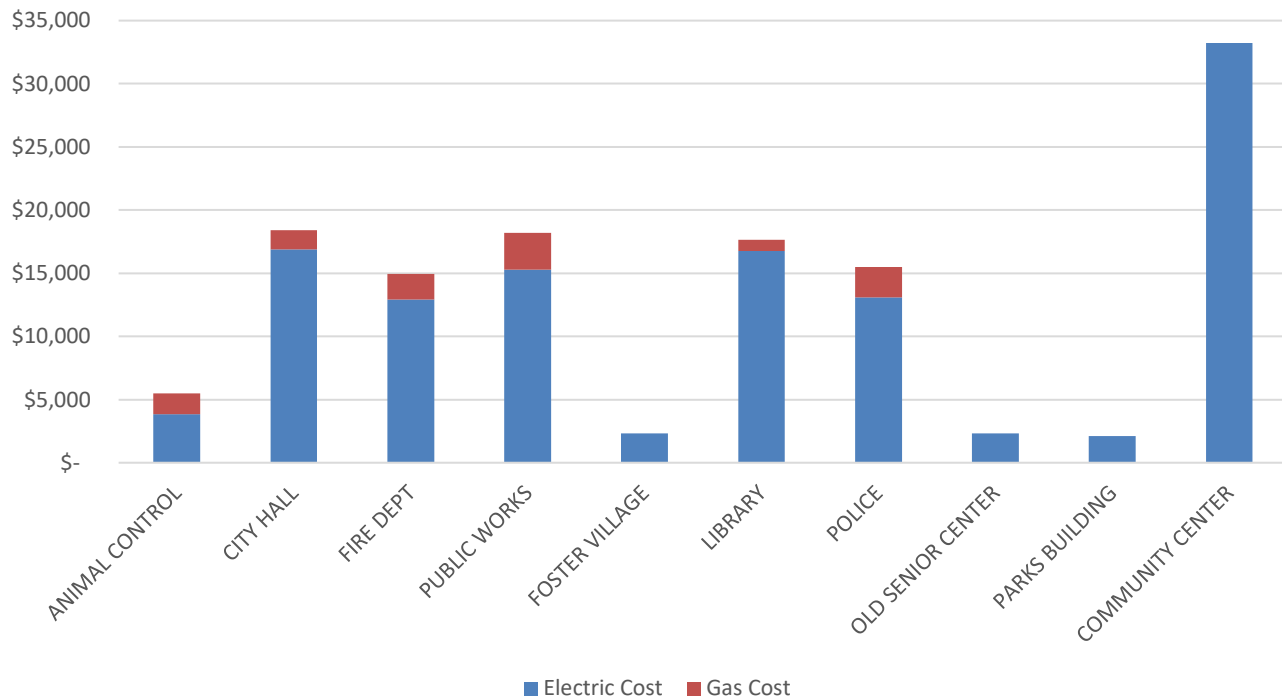
- Pathways to a Low-Carbon Economy: Version 2 of the
Global Greenhouse Gas Abatement Cost Curve

Energy Cost Profile



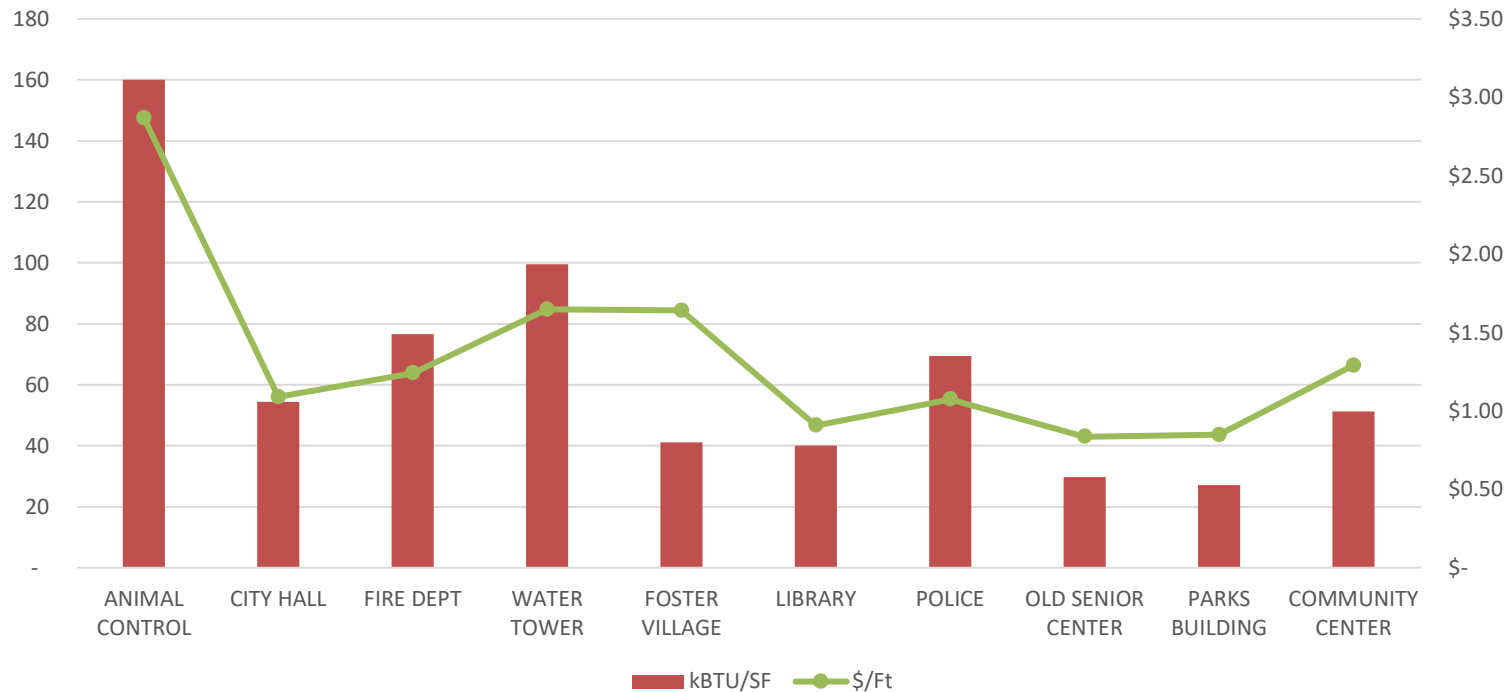
Energy Cost Profile

Facilities Only



Benchmarked Energy

Energy Usage & Cost (per Square Foot)



Energy Efficiency

Convert to LED Lighting in and around Facilities

Upgrade existing interior and exterior lighting to LED to improve energy efficiency and reduce maintenance cost.

This will also improve lighting quality and public safety around facilities.



Energy Efficiency

Convert Streetlights to LED

Acquire streetlights from Oncor and convert to LED, lowering ongoing energy and maintenance cost.



Energy Efficiency

Upgrade Aging HVAC

Replace ~24 HVAC units at or beyond useful life (15 years) with higher efficiency units. Remove R-22 refrigerant.

Also increase remote scheduling capability where needed for reduced runtime and check over all units to ensure proper ventilation and operation.



Fleet Efficiency

Fleet Efficiency

Why Fleet Efficiency?

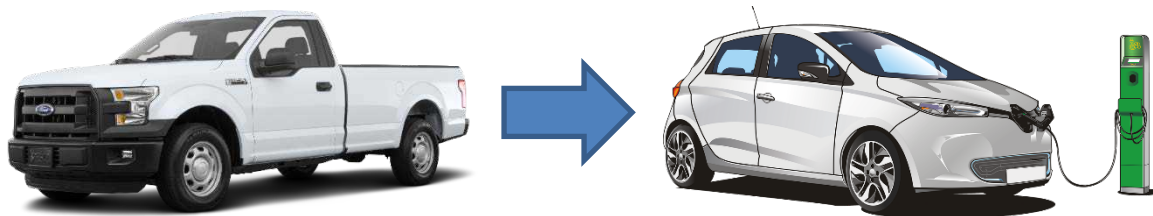
- Gasoline/Diesel Emissions hard to Offset
- Highly Visible
- Provides Community Benefits



Fleet Efficiency

Hybrid or Electric Vehicle Conversion

Three (3) F-150 code compliance trucks could be converted to EV's without impacting function



0.6%
Co2e

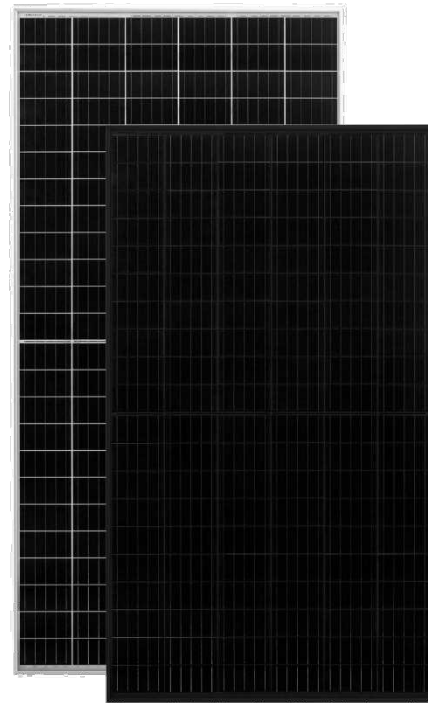
¹ – Approximately 1,000 gallons of gasoline will be saved, but some of this savings is offset by the increased electricity usage for the EVs. This has been accounted for in net calculations.

On-Site Renewable

On-Site Renewable

Why On-Site Renewable?

- High Impact
- High Visibility
- Easy to Understand
- Still rare in NTX Cities



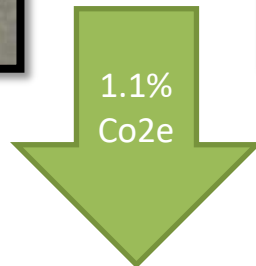
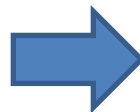
“The future is green energy,
sustainability, renewable energy.”

– Arnold Schwarzenegger

On-Site Renewable

Library Solar

Add 86 solar panels to Library expansion to generate 34.4KW of on-site renewable power. This represents ~17% of the Library's current electric consumption.



On-Site Renewable

Ground Mount Solar

Add 1MW of solar panels to land at 6050 Brownwood to generate 1,600,000 kWh of on-site renewable power. This is ~2/3 of current electricity use.

Multiple options for structuring contract (PPA, land lease, etc.)



37%
Co2e

Renewable Energy Credits

On-Site Renewable

Why RECs?

- Relatively Low Cost
- Easy Procurement through TCAP
- Allows for “100% Renewable”

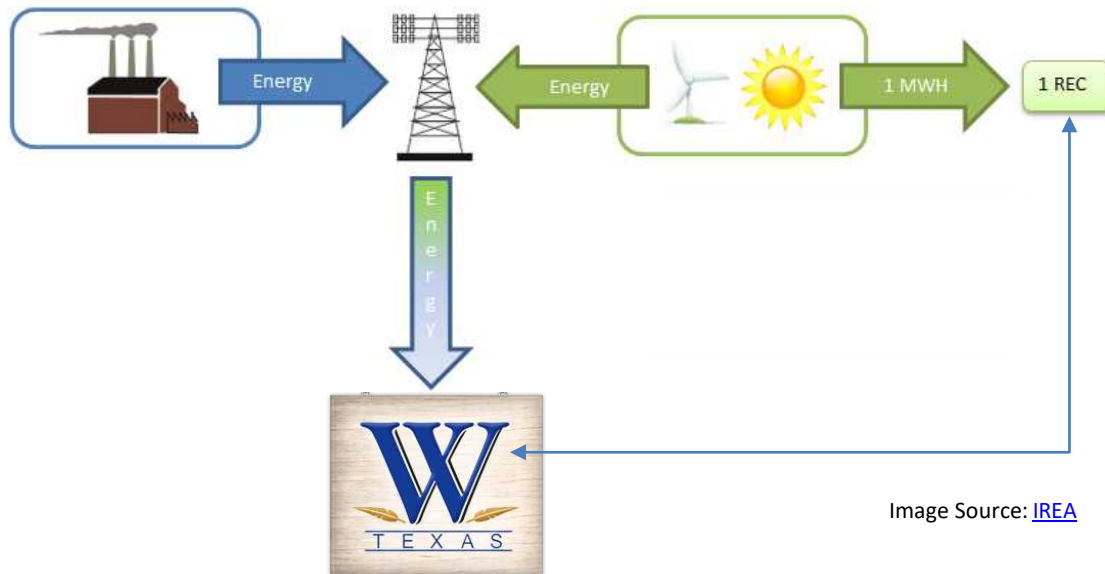
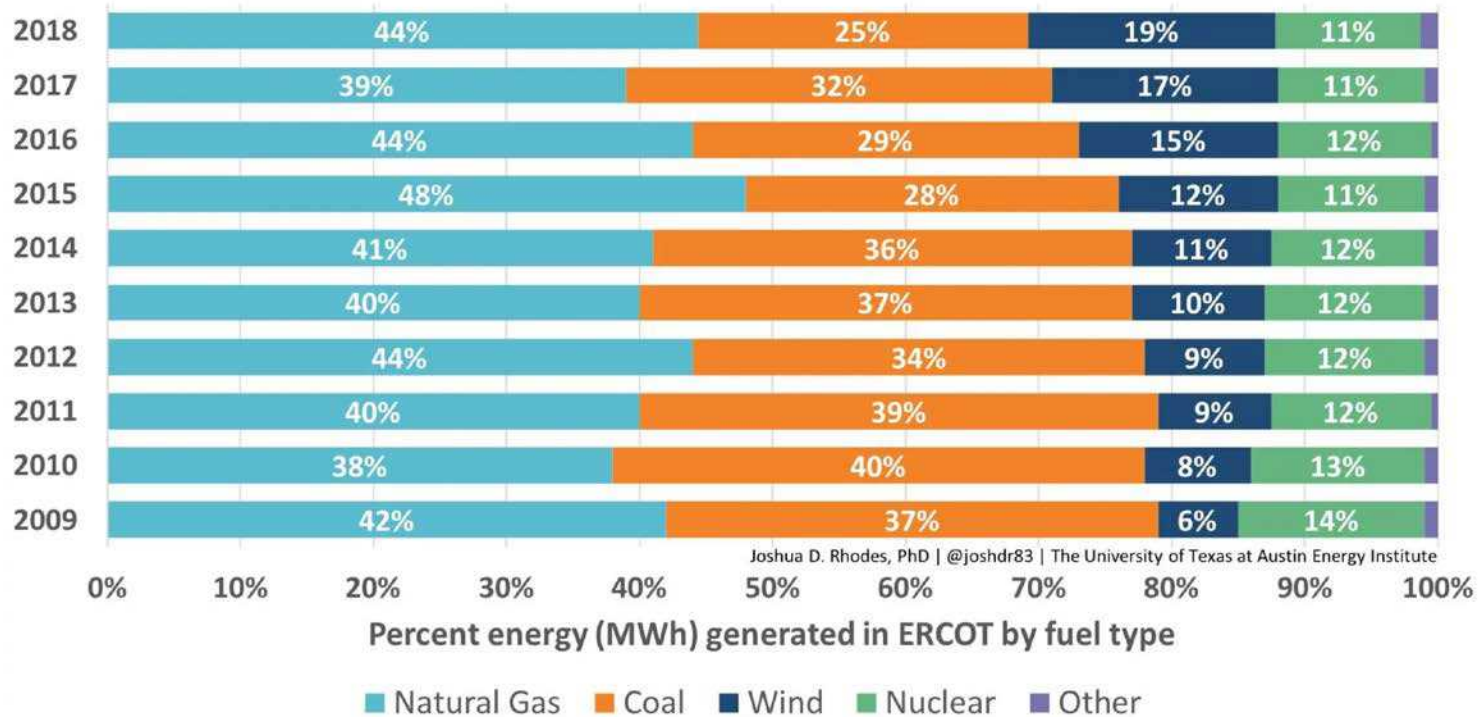


Image Source: [IREA](#)

Renewable Energy Credits

A decade of ERCOT fuel mixes

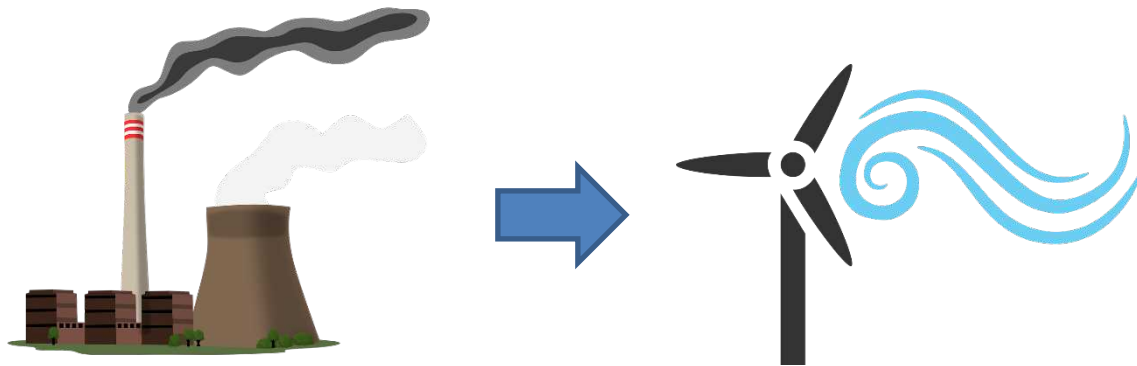


Renewable Energy Credits

Offsite Electric Use with RECs

Starting in 2023, the TCAP power sourced by the City will be 100% carbon free through Renewable Energy Credits (RECs).

This will offset remaining electricity's carbon footprint making the City nearly carbon neutral ¹



Putting it All Together

Scope Matrix

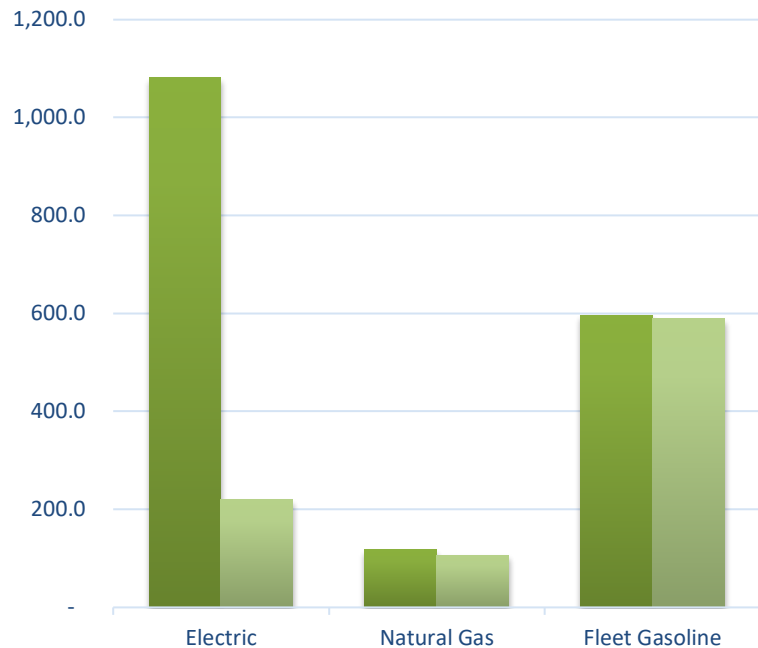
Utility Cost Reduction Measures				
SITE	Facility Lighting LED Upgrade	Street Lighting LED Upgrade	HVAC & Controls Upgrades	Solar PV Panels
ANIMAL CONTROL	•		•	
CITY HALL	•			
FIRE DEPT	•			
FLEET SHOP	•		•	
PUBLIC WORKS	•			
FOSTER VILLAGE	•			
LIBRARY	•		•	•
POLICE	•			
OLD SENIOR CENTER	•			
PARKS BUILDING	•			
COMMUNITY CENTER	•		•	
STREETS/PARKS		•		
WATER CUSTOMERS				
LAND				•



- **3 Hybrid or Electric Vehicles and 3 EV Chargers**

Carbon Reductions

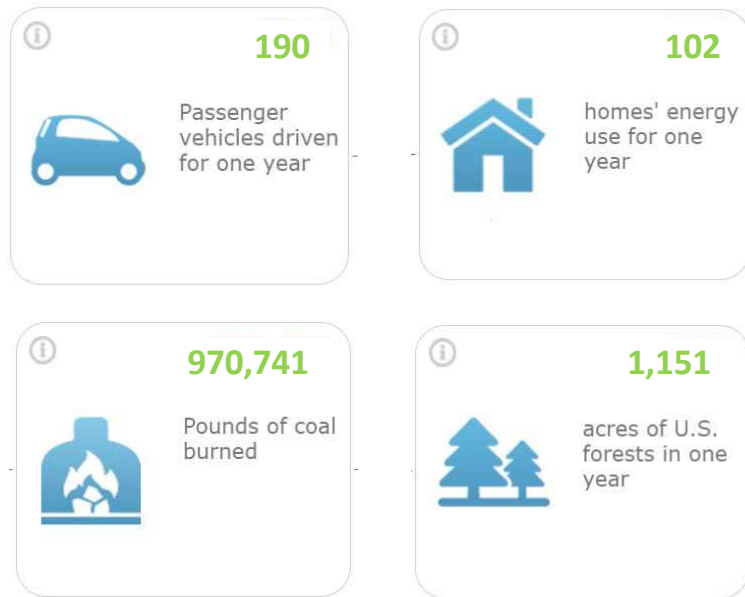
Carbon Before/After



Source	Co2 Reduction – (Tons)	Co2 Reduction – (%)
Electric	862	80%
Natural Gas	11	9%
Gasoline	8	1%
TOTAL	881	49%

Carbon Reductions

In other words....



Source: [EPA Greenhouse Gas Equivalencies Calculator](#)

Preliminary Financials

City of Watauga										
URCMs	Est. Cost	Electric Savings (kWh)	kW Savings	NG Savings (MMBTU)	Water/Sewer (CCF)	Gasoline Savings (Gal)	Carbon Savings (MT Co2e)	Utility Svgs (\$/Yr)	O&M Savings (\$/Yr)	Payback (Yrs)
Facility Lighting LED Upgrade	\$222,000	156,000	0	-200			60	\$11,800	\$4,000	14.1
Street Lighting LED Upgrade	\$358,000	181,900	0	0			80	\$14,000	\$25,000	9.2
HVAC & Controls Upgrades	\$596,000	97,900	0	400			60	\$7,700	\$6,600	41.7
Solar PV Panels	\$1,770,000	1,486,700	0	0			670	\$101,500	\$0	17.4
Electric/Hybrid Vehicles & EV Chargers	\$130,000	-5,000	0	0		900	10	\$1,400	\$750	60.5
TOTALS	\$3,076,000	1,917,500	0	200	0	900	880	\$136,400	\$36,350	17.8

Summary

- ✓ Reduces Carbon Emissions by 49%
- ✓ Positions Watauga as a leader in sustainable North Texas cities and aligns with strategic plan
- ✓ Provides tangible benefits to Watauga citizens
- ✓ Repurposes O&M and utility expenses to fund facility and lighting improvements
- ✓ Hedges against future energy cost increases and provides net positive cash flow over project life
- ✓ Good step toward larger future initiatives (e.g. Advanced Metering Infrastructure, facility replacements)



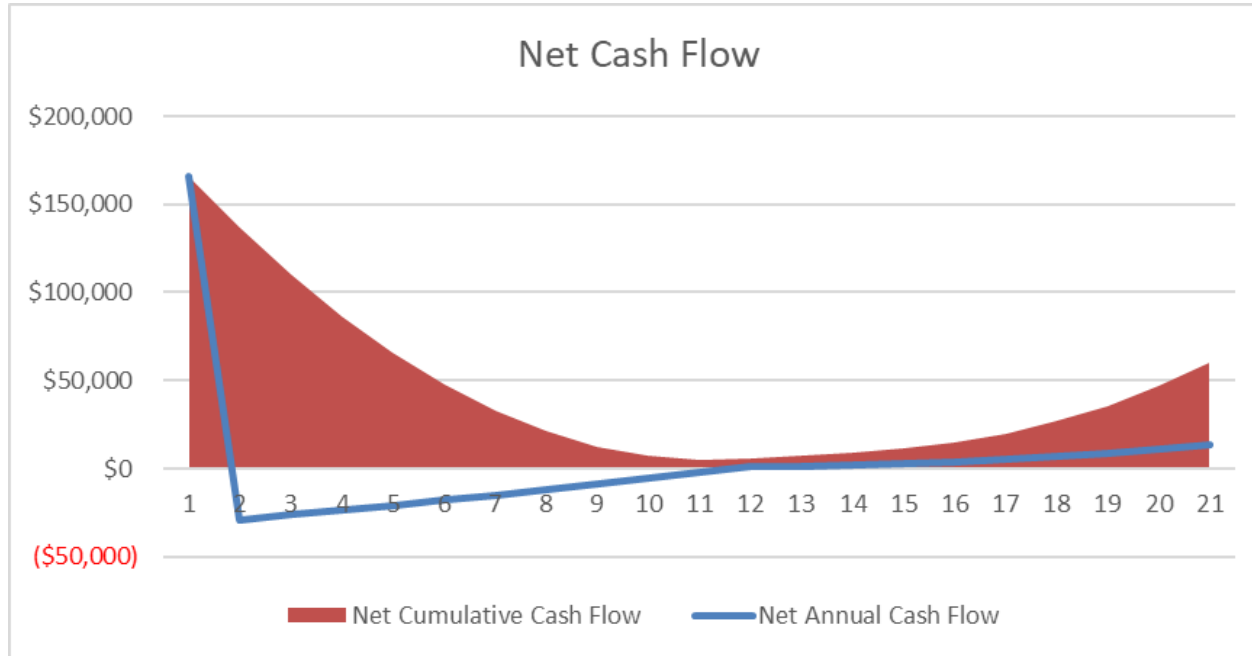


Preliminary Cash Flow

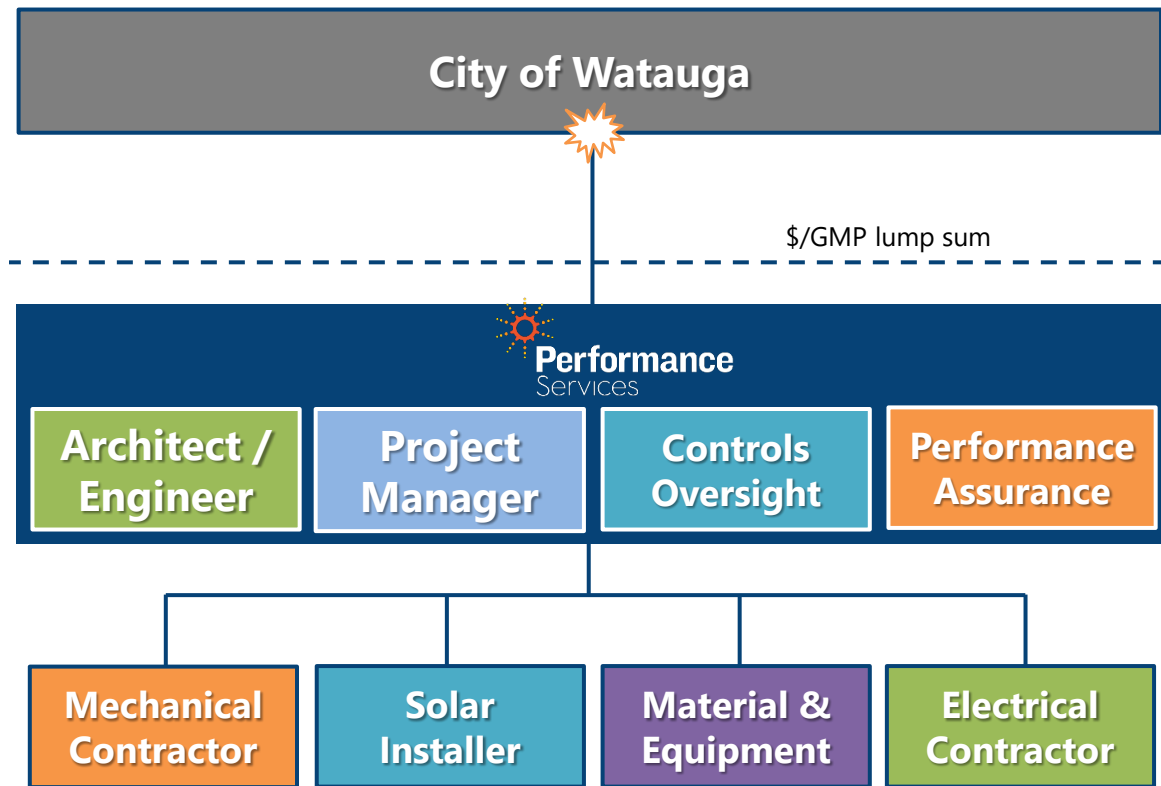
City of Watauga									
Total Construction Cost						\$	3,076,000		
Investment Grade Audit (included in project cost)						\$	30,760		
3rd Party Review						\$	7,500		
Construction Period (Months)							12.0		
Estimated Utility Rebate (Included in M&O Savings Column)						\$	68,200		
Total Construction amount including incidental expenses						\$	3,083,500		
Term of Financing: 20 years									
TOTAL AMOUNT FINANCED USING					INTEREST RATE:	2.50%	\$	3,083,500	
Savings					Payments			Cash Flow	
Year	Utility Savings	M&O Savings and Est. Rebate	Capital Cost Avoidance	Total	Annual Debt Service	Optional M&V Services	Total Annual Payments	Net Cash Flow \$	Cumulative Cash Flow \$
1	2	3	4	5	6	7	8	9	10
Construction	\$68,200	\$97,280	\$0	\$165,480	\$0	\$0	\$0	\$165,480	\$165,480
1	\$136,400	\$36,350	\$0	\$172,750	\$197,798	\$4,000	\$201,798	(\$29,048)	\$136,432
2	\$139,128	\$36,350	\$0	\$175,478	\$197,798	\$4,000	\$201,798	(\$26,320)	\$110,113
3	\$141,911	\$36,350	\$0	\$178,261	\$197,798	\$4,000	\$201,798	(\$23,537)	\$86,576
4	\$144,749	\$36,350	\$0	\$181,099	\$197,798	\$4,000	\$201,798	(\$20,699)	\$65,877
5	\$147,644	\$36,350	\$0	\$183,994	\$197,798	\$4,000	\$201,798	(\$17,804)	\$48,073
6	\$150,597	\$36,350	\$0	\$186,947	\$197,798	\$4,000	\$201,798	(\$14,851)	\$33,222
7	\$153,609	\$36,350	\$0	\$189,959	\$197,798	\$4,000	\$201,798	(\$11,839)	\$21,383
8	\$156,681	\$36,350	\$0	\$193,031	\$197,798	\$4,000	\$201,798	(\$8,767)	\$12,616
9	\$159,814	\$36,350	\$0	\$196,164	\$197,798	\$4,000	\$201,798	(\$5,633)	\$6,982
10	\$163,011	\$36,350	\$0	\$199,361	\$197,798	\$4,000	\$201,798	(\$2,437)	\$4,545
11	\$166,271	\$32,715	\$0	\$198,986	\$197,798		\$197,798	\$1,188	\$5,733
12	\$169,596	\$29,444	\$0	\$199,040	\$197,798		\$197,798	\$1,242	\$6,975
13	\$172,988	\$26,499	\$0	\$199,487	\$197,798		\$197,798	\$1,690	\$8,665
14	\$176,448	\$23,849	\$0	\$200,297	\$197,798		\$197,798	\$2,500	\$11,165
15	\$179,977	\$21,464	\$0	\$201,441	\$197,798		\$197,798	\$3,644	\$14,808
16	\$183,576	\$19,318	\$0	\$202,894	\$197,798		\$197,798	\$5,097	\$19,905
17	\$187,248	\$17,386	\$0	\$204,634	\$197,798		\$197,798	\$6,836	\$26,741
18	\$190,993	\$15,647	\$0	\$206,640	\$197,798		\$197,798	\$8,843	\$35,584
19	\$194,813	\$14,083	\$0	\$208,896	\$197,798		\$197,798	\$11,098	\$46,682
20	\$198,709	\$12,674	\$0	\$211,384	\$197,798		\$197,798	\$13,586	\$60,268
Total	\$3,382,361	\$673,860	\$0	\$4,056,221	\$0	\$40,000	\$3,995,953	\$60,268	\$60,268



Preliminary Cash Flow



Delivery Method



- Vendor Neutral & Open Book
- Competitive Quotes for All Trades & Major Equipment
- City Involvement in Contractor/Equipment Selection
- Reduction in Compounding Markup = Lower Cost
- Procurement through TIPS
- No Change Orders

Next Steps

Four Stages of Energy Savings Performance Contracting

Preliminary Utility Audit

- Identify Existing Conditions
- Establish EUIs
- Preliminary UCRM (utility cost reduction measure)
- Preliminary Project Economics

✓ Engineering

Investment Grade Audit

- Define Existing Conditions
- Establish Utility Baselines
- UCRM List
- Final Pricing
- Project Economics
- M&V Plan

✓ Engineering
✓ HUB Partners
✓ M&V Team
✓ Construction

Implementation

- Subcontracting
- Project Schedule
- Project Management
- Closeout & Commissioning
- Training
- Begin M&V

✓ Construction
✓ Sub-contractors
✓ Engineering
✓ M&V Team

M&V

- Monitoring
- Measurement and Verification
- M&V Reporting
- Energy Manager
- City Staff Training

✓ M&V Team
✓ Engineering

Recap



Vendor neutral,
quality products



Licensed P.E.
developed
solutions



Industry leading
open book pricing



Cash Flow
Positive Within
M&O Budget



Integrated Design
& Delivery with No
Change Orders

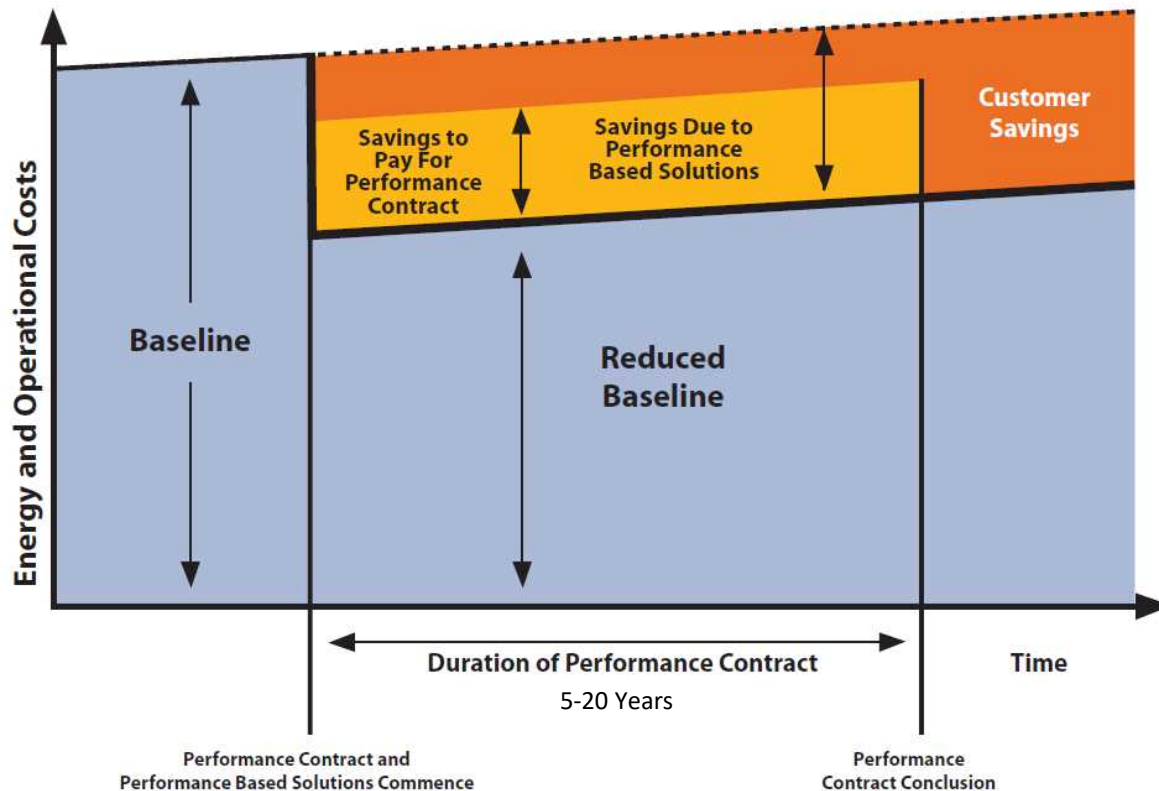


Reduction in
Compounding
Markup



Guaranteed
Savings &
Performance

ESPC Financial Structure



ESPC Terms

Savings Sources

- Utility Savings (Electricity/Gas/Water)
- Reduced Non-Revenue Water
- Operational Savings
- Operational Cost Avoidance
- Utility Incentives

Scope of Work

- HVAC
- Lighting (interior, exterior, athletic)
- Controls (Lighting & HVAC)
- Water Meters (AMI)
- Water Efficiency/ Conservation
- Building Envelope-Roofs/Windows
- Electrical Systems
- Photovoltaic Solar

Terms

- Up to 20 Years
- Payment via:
 - fund balance
 - GO bonds
 - Certificates of Obligation
 - Utility funds
 - Tax-exempt Lease Purchase (TELP)
- 3rd party or ESCO provided financing

Cash Flow Assumptions

1	The projections reflect the economic benefits over a 20 year term and during the construction period (12 months).
2	Total energy and water cost savings. Assumes an annual increase in energy costs of
3	Includes Lighting Material, HVAC break/fix, etc. Savings reduced after year 10 to allow for repairs on aging equipment out of warranty
4	Cost that was to be incurred due to capital improvements needed regardless of this project
5	Sum of Savings
6	Annual estimated debt service. Paid annually after Commencement Date (construction completion) of project based on financing at rate shown in table.
7	Annual cost to monitor and guarantee savings. Assumes an annual increase for inflation of 0%
8	Total projected annual payments
9	Represents net annual cash flow
10	Represents cumulative cash flow