



Answers for Infrastructure

Performance Based Solutions for Orem City

Siemens Performance-based Experience

- ✓ Over 15 years of performance-based experience
- ✓ More than 1,300 successfully completed projects
- ✓ \$3 Billion in energy savings to our customers
- ✓ On-site Project Managers and Certified Energy Engineers
- ✓ Utah References
 - Farmington City
 - Salt Lake City Corporation
 - South Ogden City
 - Syracuse City
 - Washington City





Background and Highlights

- HB 116 was passed in 2010 and signed into law, enabling municipalities to complete projects through the ESPC process which must be:
 - Budget neutral
 - Cash flow positive
 - Paid for by savings
 - Guaranteed by Siemens
- As a result of legislation, State Procurement Office and State Energy Office developed process for ESPC (Energy Savings Performance Contracting) projects
- State Procurement Office pre-authorizes ESCO organizations on an on-going basis
- Siemens was selected by Orem City through an RFP process to develop an ESPC project defined in the RFP
- The project will be in compliance with Orem City procurement policies, procedures, and pre-established metrics

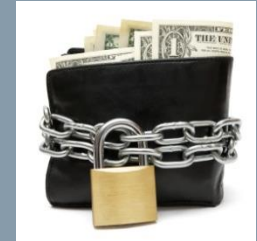
Your Challenges: Resources, Equipment, Infrastructure



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Resource Constraints

- Capital Budget Constraints
- Operating Budget Limitations
- Staff Reductions



Aging Infrastructure

- Aging infrastructure beyond life expectancy
- Equipment Failures
- Higher Energy and Repair Costs



Sustainability Goals

- Reduce Energy & CO₂
- LEED and Energy Star Certifications
- Voters' Efficiency Expectations

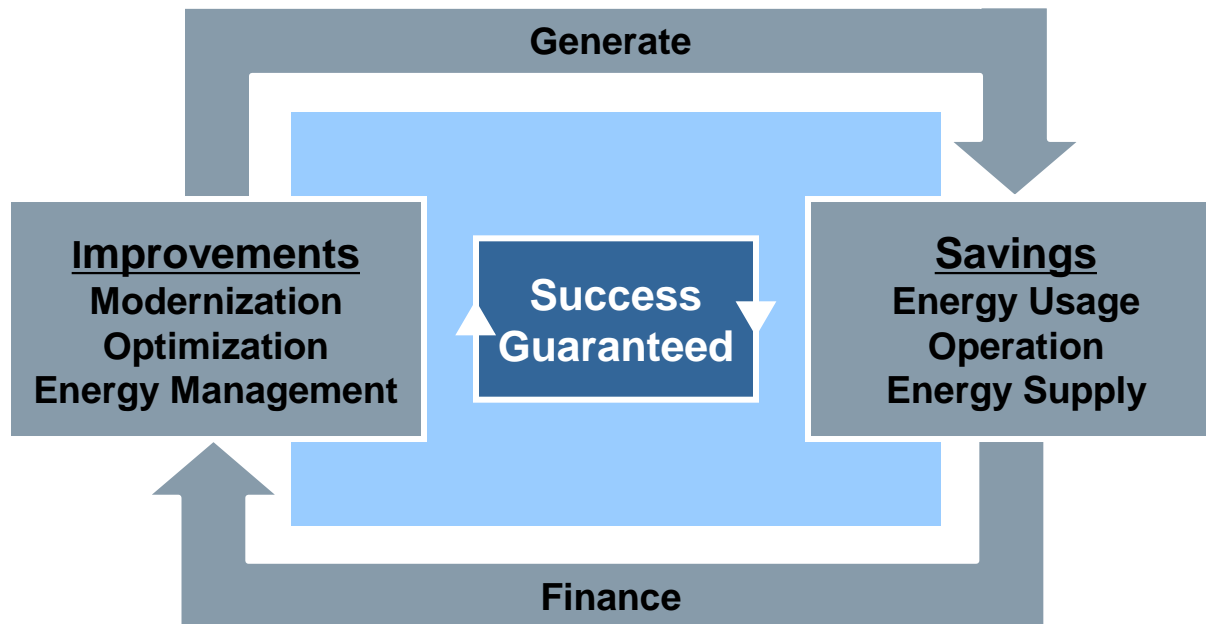


Guaranteed Performance-based Solutions – Address Your Challenges



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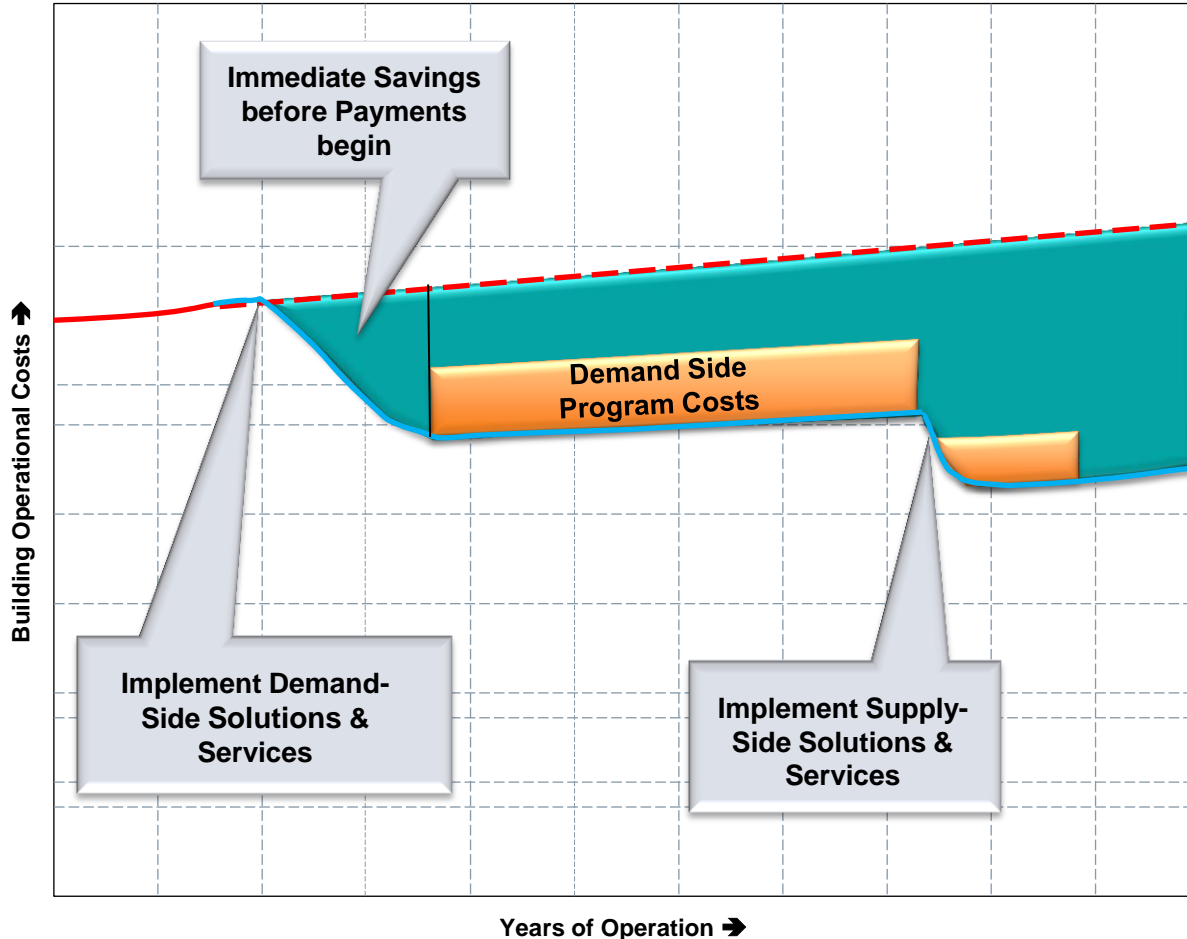
- Make facility & infrastructure improvements
- Reduce energy use and associated expenses
- Your energy savings finance your improvements
- Siemens guarantees savings



Understanding the Performance Contract Cash Flow



Existing Buildings



Value Proposition

- Operational costs naturally escalate
- Demand-side solutions lower costs
- Supply-side solutions further lower costs
 - The costs are always a fraction of the value added
- Some Savings are realized before payments are made

■ One-time Project Fees ■ On-going Service Fees

Our Process – Road Map to Success



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Siemens Guaranteed Performance-based Solutions

Our experts structure a comprehensive plan tailored to meet your strategic and technical business goals



- Determines your energy use
- Identifies areas to maximize energy savings

- Determines improvements that maximize impact
- Finalize the costs and savings of the selected improvements

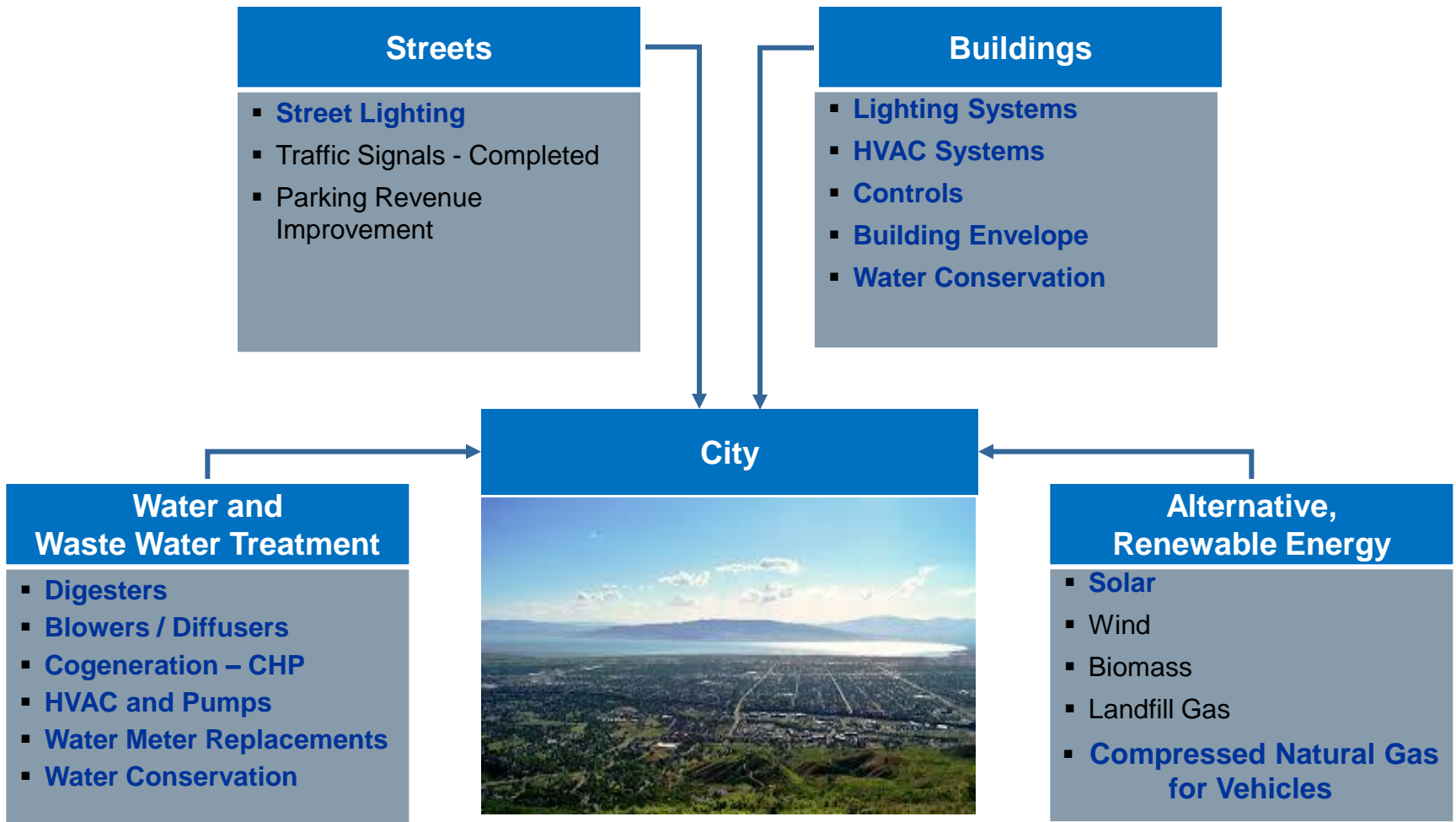
- Install new equipment
- Implement Facility Improvement Measures (FIMs)

- Ensures savings goals are maximized

Our Proficiencies – Broad Range of Innovative Solutions



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Items shown in **bold** letters indicate they are being evaluated



Facilities Reviewed

- ✓ City Center/Library
- ✓ Public Safety Building
- ✓ Senior Friendship Center
- ✓ Fitness Center
- ✓ Public Works Building
- ✓ Orem Water Reclamation Facility and Lift Stations
- ✓ Fire Stations
- ✓ Wells
- ✓ Parks
- ✓ Scera Pool
- ✓ Street Lighting

Note: Extensive data collection for each building and system has been performed



Overview of Improvements



✓ Street Lighting – City-wide replacement

- 5,000 locations
- Change to LED technology
- 50-60% potential annual energy savings
- Significantly reduced maintenance costs
- Extended material warranty

✓ Water Meters – City wide replacement

- 22,000 locations
- Enhanced data collection and billing accuracy
- Meter replacement happens in months vs. years

✓ Compressed Natural Gas in select fleet vehicles

- 300+ potential vehicles
- Target replacement miles 80k-100k depending on vehicle type
- Average age of fleet vehicles is 10.5 years and increasing year over year

✓ HVAC improvements

✓ Controls Upgrades and Expansion

✓ Building Lighting

✓ Automation on pump and VFD control

✓ Weatherization – Building envelope

Measures included in Financial Summary



City of Orem, Utah		
FIM ID	Building	Facility Improvement Measures (FIM)
1.1	CC	Elevator Upgrades
1.2	FS2	Increased Cooling Capacity
1.3	SC	Replace Boiler
1.4	CL	Solar Shading, roller shades
1.5	RC	Boiler Room Air Barrier
2.1	All	Expand Alerion BAS
3.1	RC	Liquid Pool Cover
3.2	RC	Increase Pool Area RHP%
3.3	RC	Reduce Circ. Pump Flow
3.4	RC, SCERA	OSHG
3.6	RC	Pool Pump Switches
4.1	CC	Replace CRAC unit
4.2	CC	Hot aisle containment
6.1	City Parks	Irrigation Controls / ET
7.1	RC, SC, CL	CV to VV pumping
8.1	RC, SC	Fan Speed VFD Control
10.1	All	Bldg Lighting Upgrades
11.1	Street Lights	Lamp/Fixtures Upgrades
12.1	WWTP	Compressor Replacement
13.1	All	Building Envelope
14.1	All	Re-Commissioning
16.1	RC	De-Stratification Fans
18.1	CL, SC, RC, WWTP	Motor Replacements

Abbreviation	Description
CC	City Center
FS2	Fire Station 2
SC	Senior Center
RC	Recreation Center
CL	Children's Library
All	All Buildings
WWTP	Orem Water Reclamation Facility

Items reviewed but not currently recommended as outlined



FIM's Considered but not Recommended	Reason
Infrared heater Controls	Staff does not work with overhead doors open
Air source heat pump (alt to solar thermal)	Less attractive alternate than solar thermal option
Boiler Flue Stack Economizers	Space Constrains
WWTP Process Improvements	Very Efficient facility, no major opportunities currently
Domestic Water Conservation	Water billed on flat rate
Solar Thermal	Poor SPB and potential implementation challenges
Roof Repairs at City Center (wishlist item)	Repairs are already underway
Solar PV	SPB at 31 yrs, upcoming incentives could make it a phase 2 possibility
Water Meters	Being considered as a separate implementation
Exhaust Heat Recovery Re-Cx	System is operating correctly
PC Power Mgmt	SPB is high.
Fleet Vehicle CNG	Poor SPB, many implementation obstacles to overcome

Project Summary	Low	High
Yearly Savings	\$596,021	\$739,450
Project (Aggregate) Size	\$7,829,765	\$9,394,429
Aggregate Simple Payback (Years)	10.6	15.8

Escalation	Rate
Electric	3.5%
Gas	3.5%
Operational	3.5%
Service	3.0%



Financial Summary Ranges

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Service	3.0%

Estimated finance rate is <3%



City Staff Project Development

- Jamie Davidson
- Brenn Bybee
- Steven Earl
- Richard Manning
- Brandon Nelson
- Bill Bell
- Sam Kelly
- Taggart Bowen
- Charlie Powell
- Justin Skillings
- Chris Tschirki
- Keith Larsen
- Justin Gaines
- Neal Winterton
- Lawrence Burton
- Lane Gray
- Tyler Peay
- Ernesto Lazalde
- Tom Phelps
- Roger Dunn

Our Promise – Guaranteed Success



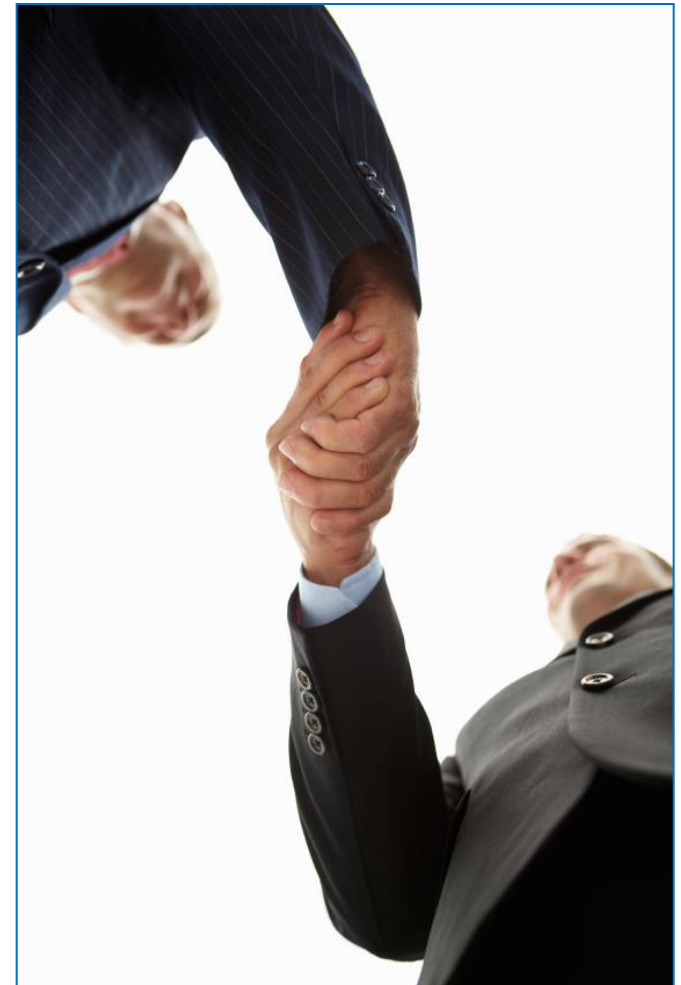
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Savings Guaranteed by a multi-billion dollar corporation with a track record of meeting or exceeding its guarantee 99.3% of the time.

Results Achieved

- Infrastructure Improved
- Operating Costs Reduced
- Revenue Enhanced
- Sustainability Goals Achieved
- Workforce Productivity Leveraged

With a focused, single-source partner in a
Budget Neutral Manner!





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