

Portfolio Decarbonization Planning Los Angeles Existing Municipal Building Decarbonization Workplan Report and Year 1 Workbook Package

Presentation to the:
Energy and Environment Committee



GLUMAC
March 2025



City of Los Angeles
Existing Municipal Building
Decarbonization Workplan
November 2024



ENGINEERING
CITY OF LOS ANGELES

Prepared by Glumac, a Tetra Tech Company

1



City of Los Angeles
Existing Municipal Building
Decarbonization Workplan
Year 1 Project Workbook - FY 2024-2025
November 2024



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City of Los Angeles

Existing Municipal Building
Decarbonization Workplan

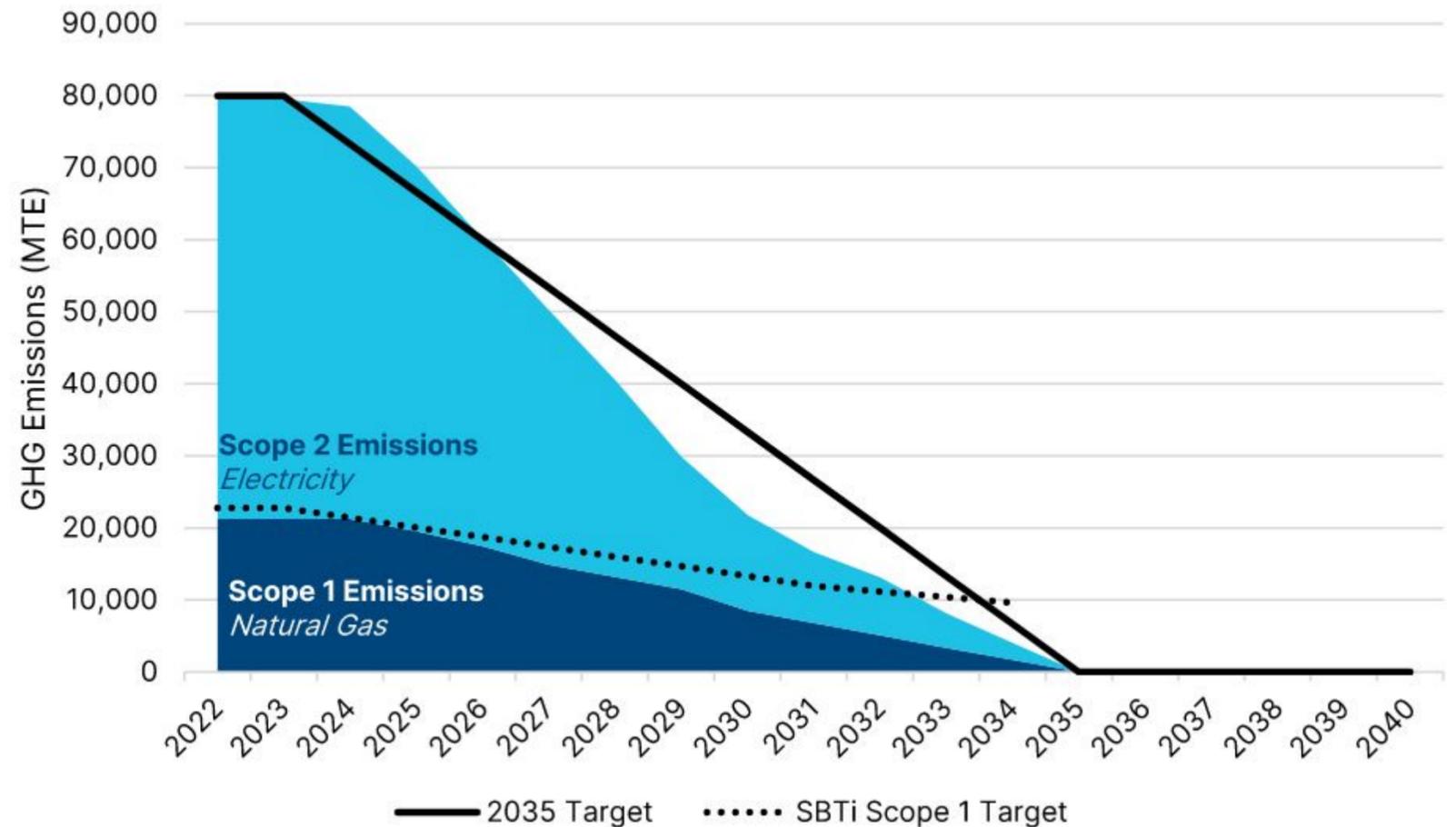
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Municipal Buildings GHG Emissions Forecasts

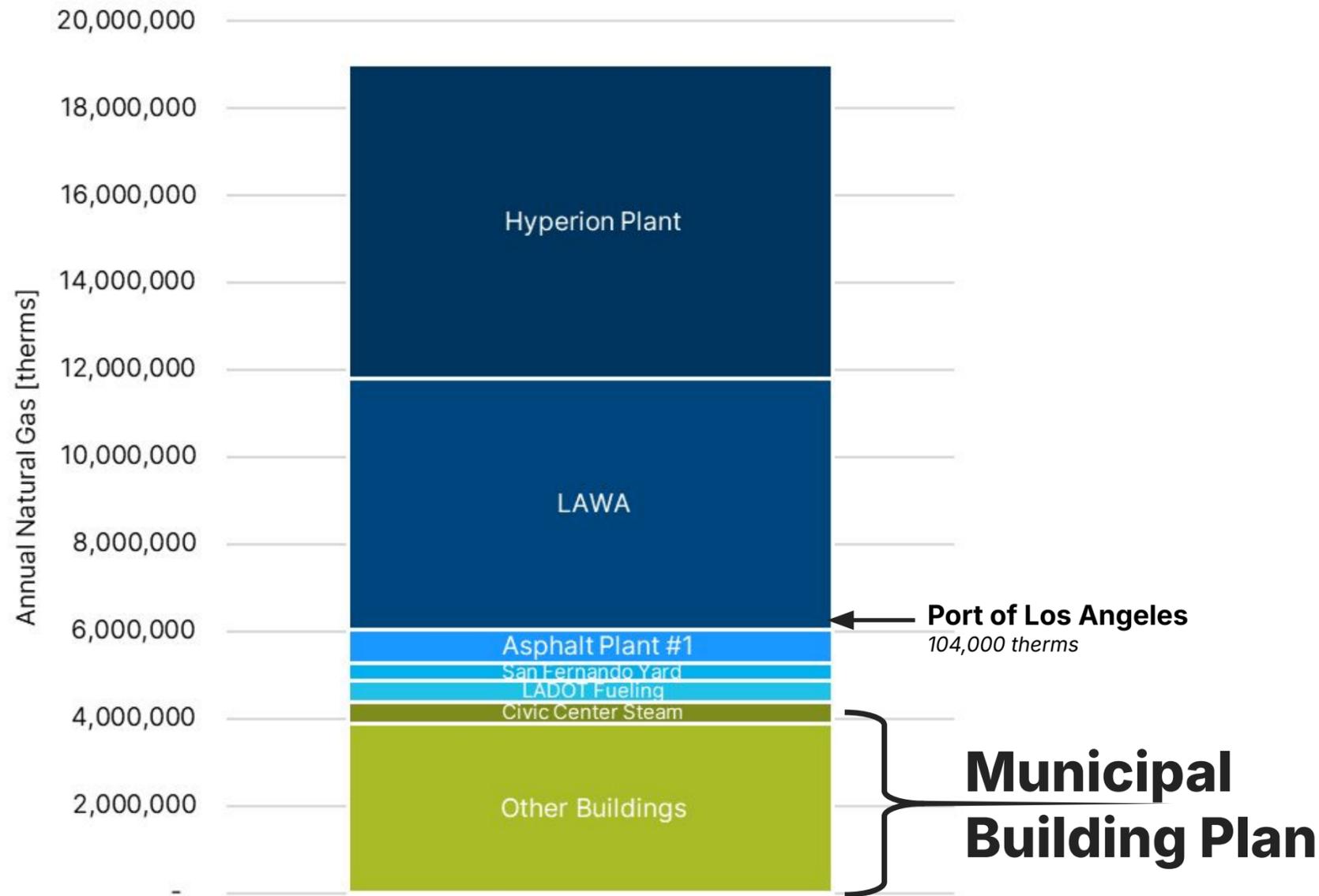
Pathway for the City of Los Angeles to decarbonize municipal building operations by 2035.



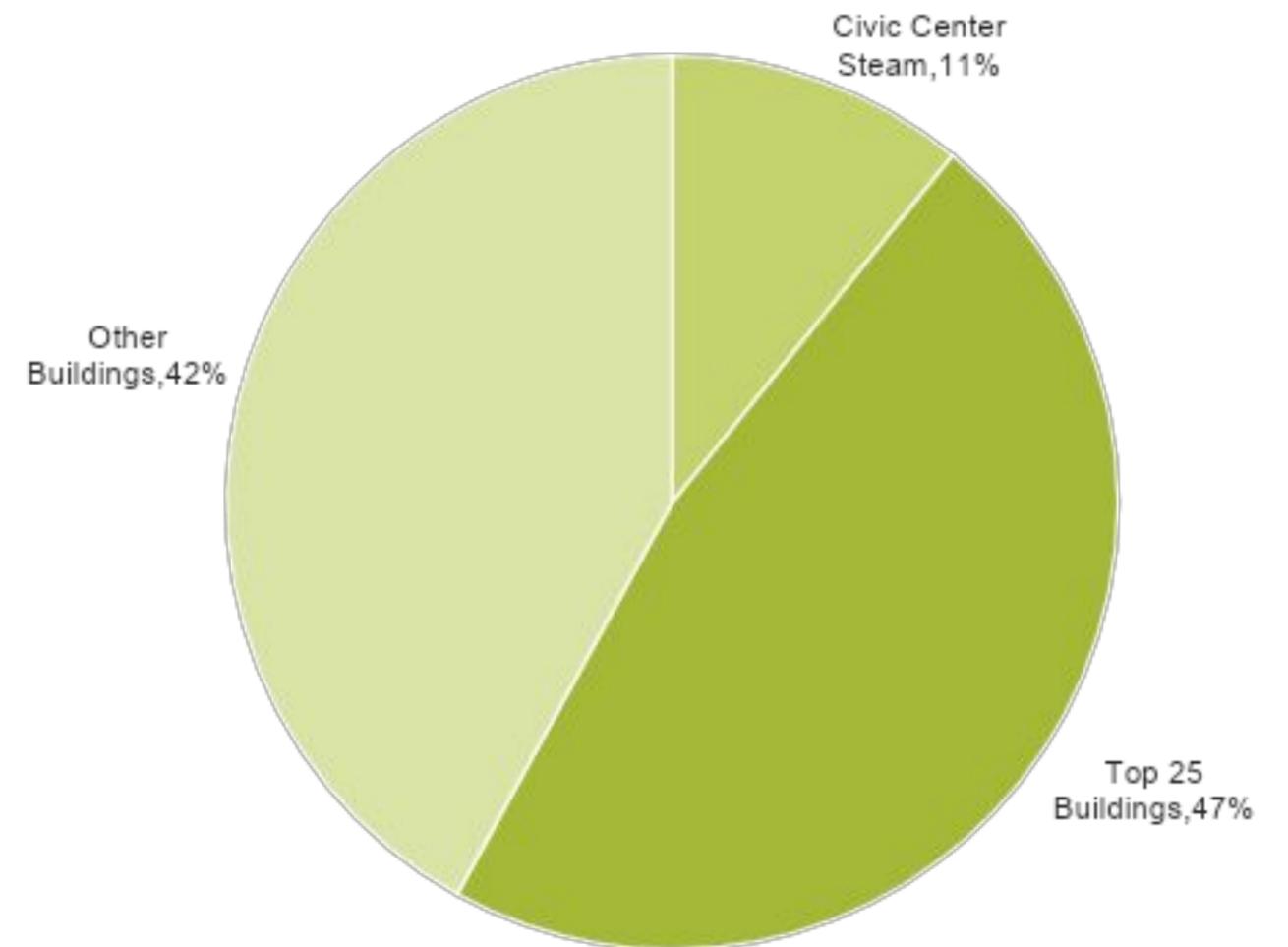
1. Emissions forecast is based on projects outlined in the Existing Building Decarbonization Workplan.
2. Municipal buildings includes all City owned facilities in non-proprietary departments. Excludes process operations including asphalt plants, wastewater treatment and CNG fueling.
3. Electricity emission factors based on LADWP's to provide 100% clean power by 2035 under LA1000. .

The Existing Building Decarbonization Workplan covers all non-proprietary buildings which use roughly 4 million therms of natural gas annually.

LASAN 2022 GHG Inventory



Municipal Existing Building Decarbonization Plan



The Municipal Building Decarbonization Workplan does not cover proprietary city departments including LAWA, POLA and LADWP. Natural gas for those departments are included above. Consumption for the Port of Los Angeles is ~100,000 Therms annually.

Municipal Existing Building Decarbonization Workplan Key Findings

1

Los Angeles has a pathway to achieve carbon-neutral municipal building operations by 2035.

- Prioritize building electrification and cost-effective energy efficiency and solar projects.
- Target buildings with the largest natural gas use – 25 sites account for 50% of annual use.
- Establish science-based reduction targets, with interim reduction commitments.

2

Achieving the 2035 commitment requires significantly scaling and accelerating implementation

- Requires electrifying 80 buildings annually starting in FY24-25, every year the City waits annual requirement increases by 10%.
- Decarbonization workplan will require additional staff, resources and funding, and new project delivery methods.
- Workplan recommends establishing a dedicated BOE Building Decarbonization Program Team.
- Success will still require significant coordinate and collaboration between multiple City departments.

3

A financially sustainable program aligns with existing buildings needs and can leverage external source.

- Align decarbonization projects with deferred maintenance and infrastructure needs, avoid early equipment retirement.
- Pursue all available grants, leverage new financing mechanisms and consider building decarbonization/resilience bond.
- Implement Energy Savings Performance Contracts (ESPC) projects – CAO to determine financing approach.

4

Municipal building decarbonization will provide important community benefits.

- Enhanced resilience of community cooling centers, emergency services and other critical operations.
- Lead the way and spur investment in the private sector.
- Create new local jobs in the green economy.



City of Los Angeles Building Portfolio

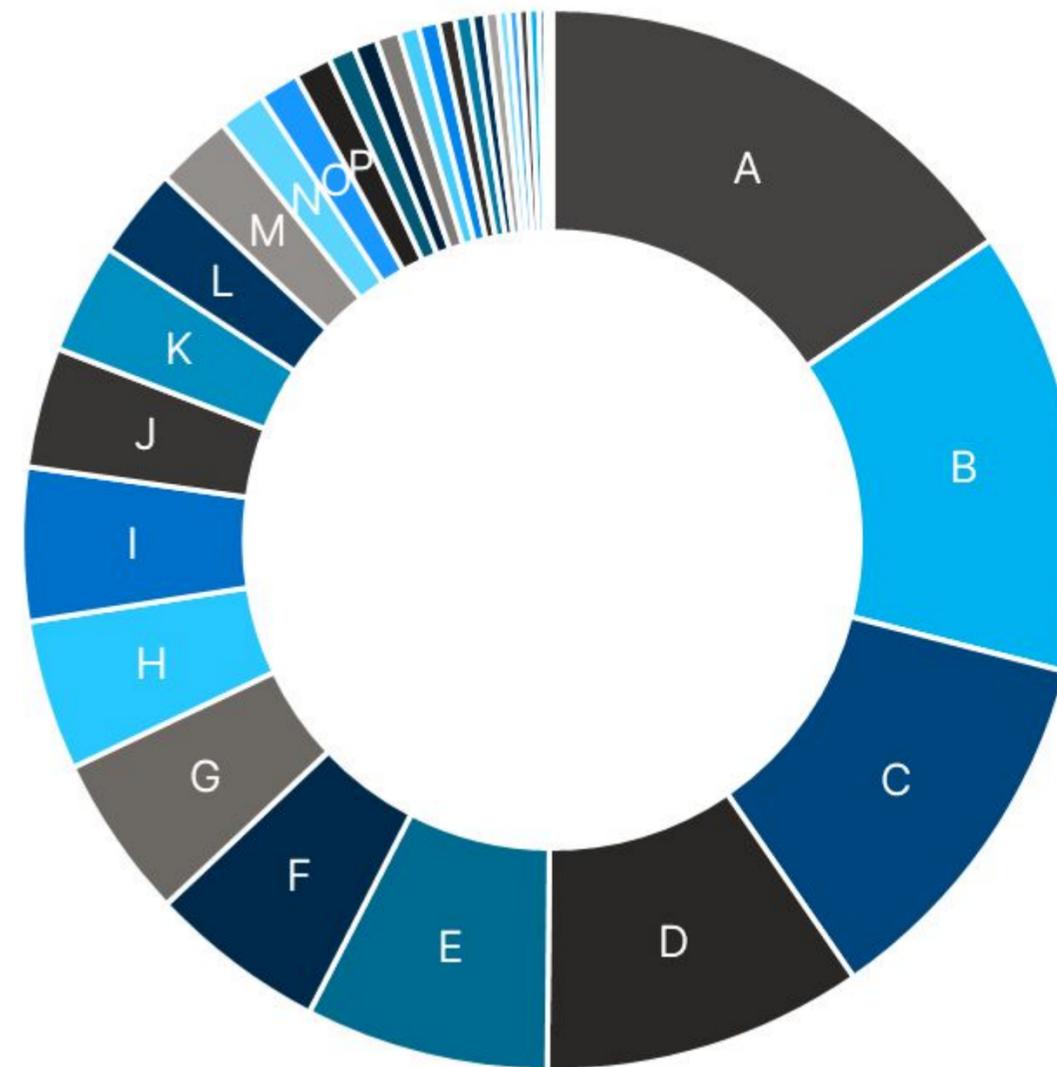
980
Buildings

21M
Square Feet

\$68M
Annual Utility Cost

Key Takeaways

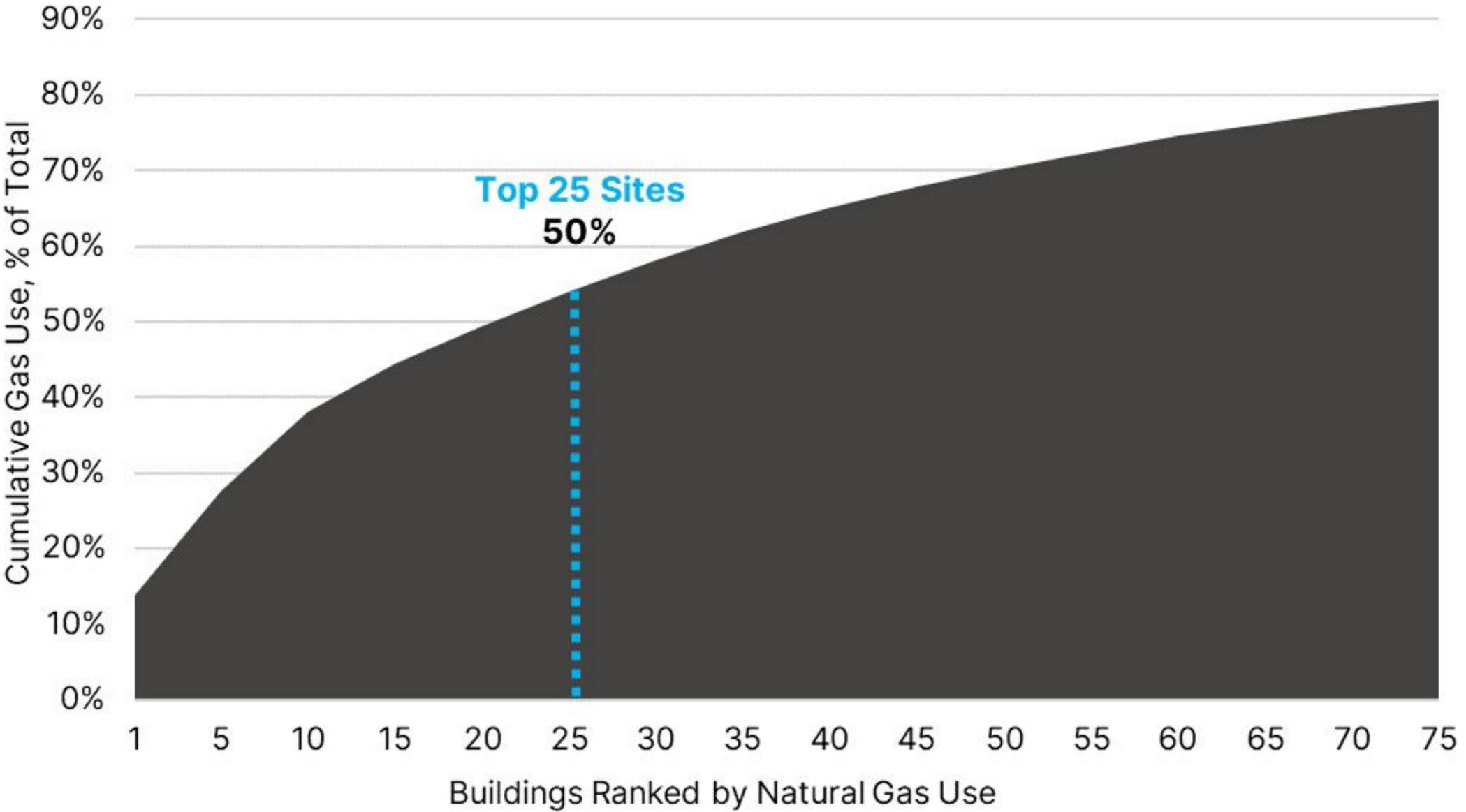
1. City operates a **diverse portfolio of existing buildings** providing various critical services.
2. Buildings account for **34% of municipal emissions** - 100,000 MTE in 2022.
3. Electrification is critical – LADWP to provide **100% clean power by 2035**.
4. **25 sites use 50% of natural gas** use for all municipal buildings.
5. Scope 1 emissions reduction targets in line with **science-based target**



■ A - RECREATION CENTER, 152
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■ BB - PLANT, 3
■ CC - RESTAURANT, 3
■ DD - AQUARIUM, 2
■ EE - CHURCH, 1
■ FF - DETENTION, 1

Existing Building Portfolio by Building Type

Los Angeles will prioritize decarbonizing the top 25 sites which account for over 50% of annual natural gas use from all municipal buildings.



Excludes sites with process gas use including Asphalt Plant #1 (776,083 therms), LADOT CNG Fueling (493,303 therms), San Fernando Street Maintenance (393,986 therms) and Southwestern District Steet Maintenance (187,957 therms).

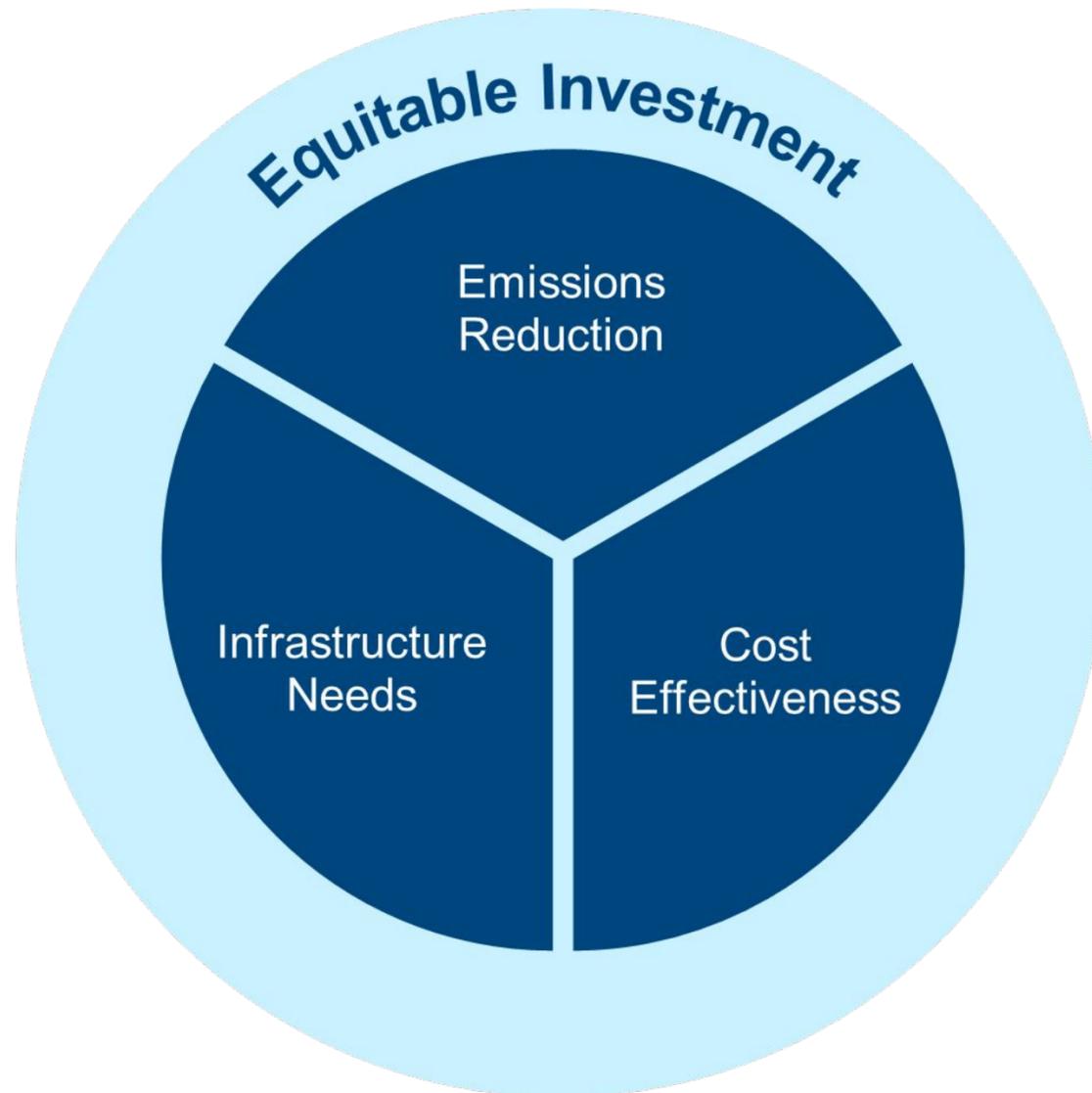


A.7. TOP 25 SITES BY NATURAL GAS

Table 28: City of Los Angeles - Top 25 Sites by Natural Gas Use

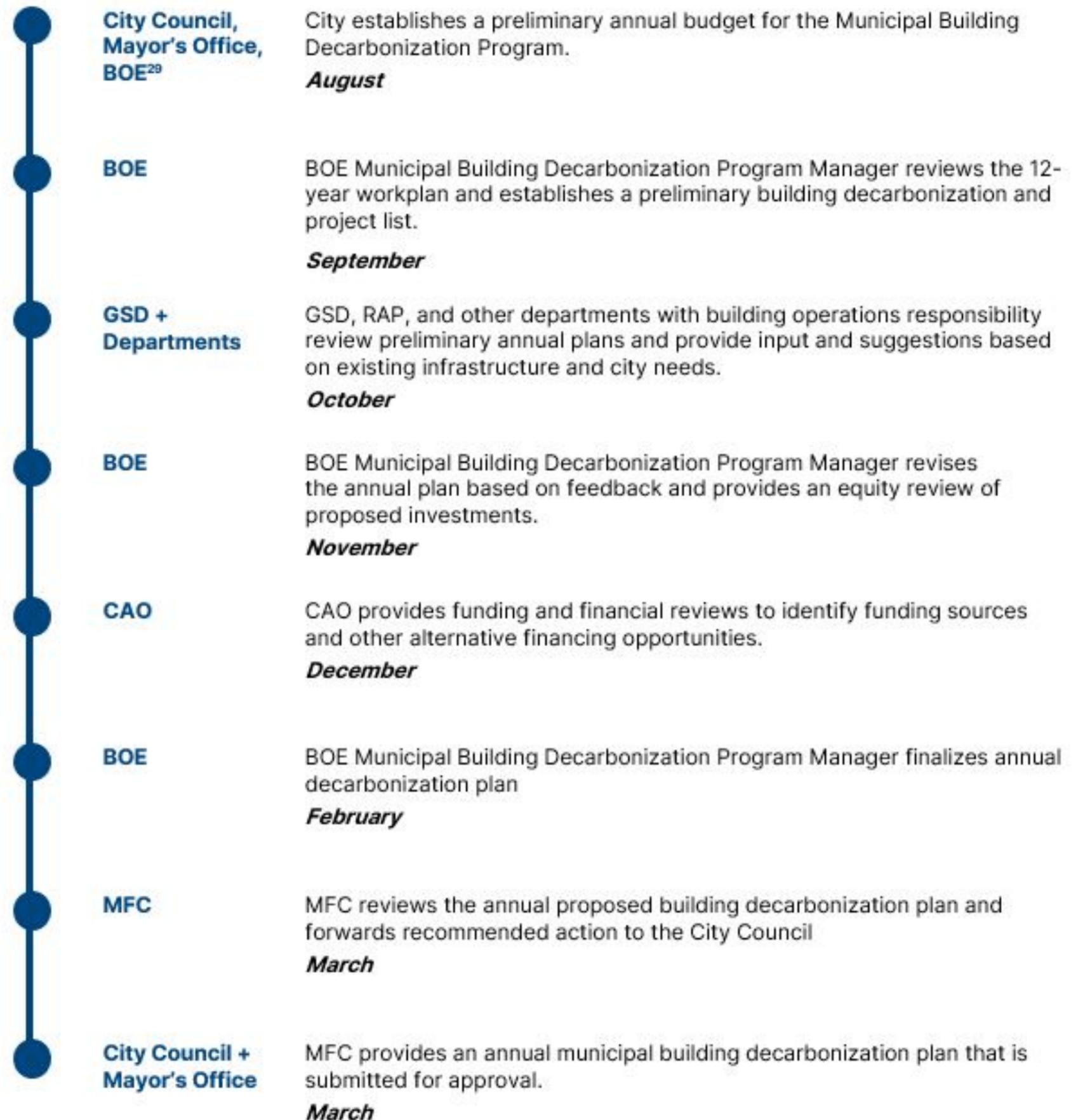
#	Site Name	Council District	Primary Department	Building Maintenance	Infrastructure Priority	Target Funding Year	ROM Cost (2023) ¹	Funding Requirements ²	2022 Gas Usage (Therms)
1	CIVIC CENTER STEAM PLANT – PH. 1 (CITY HALL / METRO DETENTION CENTER)	14	GSD	GSD	High	FY 25-26	\$30,000,000	\$45,000,000	491,100
	CIVIC CENTER STEAM PLANT – PH. 2 (CITY HALL EAST / CITY HALL SOUTH)³	14	GSD	GSD	High	FY 28-29	\$35,000,000	\$70,000,000	
2	POLICE ADMINISTRATION BUILDING (PAB)	14	LAPD	GSD	Medium	FY 30-31	\$12,873,965	\$30,000,000	181,700
3	HYPERION TREATMENT PLANT BUILDINGS	11	LASAN	LASAN		FY 27-28	\$9,000,000	\$17,000,000	153,500
4	EXPO CENTER	09	RAP	RAP		FY 25-26	\$8,686,894	\$15,000,000	140,700
5	LOS ANGELES ZOO	04	ZOO	ZOO		FY 27-28	\$5,000,000	\$10,000,000	84,900
6	VAN NUYS SHERMAN OAKS PARK AND POOL	04	RAP	RAP	Low	FY 31-32	\$1,933,930	\$4,500,000	81,400
7	CENTRAL LIBRARY	14	LAPL	GSD	Low	FY 32-33	\$31,737,276	\$75,000,000	81,300
8	NORTH HOLLYWOOD FLEET SERVICE REPAIR FACILITY	02	GSD	GSD	High	FY 27-28	\$3,200,000	\$6,500,000	78,300
9	C ERWIN PIPER TECHNICAL CENTER (PIPER TECH)	14	GSD	GSD	High	FY 26-27	\$49,000,000	\$90,000,000	72,300
10	EAST VALLEY SOLID WASTE RESOURCES FACILITY	06	GSD	GSD	Low	FY 33-34	\$4,500,000	\$12,000,000	71,900
11	VAN NUYS COMMUNITY POLICE STATION	06	LAPD	GSD	High	FY 25-26	\$4,500,000	\$8,000,000	68,900
12	LOS ANGELES CONVENTION CENTER	09	LACC	Vendor	Medium	FY 29-30	\$30,000,000	\$65,000,000	63,900
13	7TH ST CONSOLIDATED FACILITY	14	GSD	GSD	High	FY 25-26	\$5,700,000	\$10,000,000	55,200
14	ECHO PARK DEEP POOL	14	RAP	RAP	Medium	FY 31-32	\$4,567,341	\$10,500,000	52,300
15	GLASSELL PARK AND POOL	15	RAP	RAP	Medium	FY 30-31	\$1,511,816	\$5,000,000	51,900
16	AHMANSON RECRUIT TRAINING CENTER (ARTC)	11	LAPD	GSD	High	FY 27-28	\$13,713,439	\$26,000,000	46,000
17	LINCOLN PARK AND POOL	14	RAP	RAP	Medium	FY 28-29	\$4,605,644	\$10,500,000	41,800
18	VAN NESS REC CENTER	18	RAP	RAP		FY 31-32	\$2,038,950	\$5,000,000	39,500
19	WEST VALLEY SOLID RESOURCES COLLECTION YARD	12	GSD	GSD		FY 31-32	\$2,000,000	\$5,000,000	38,600
20	YOSEMITE POOL AND REC CENTER	14	RAP	RAP	High	FY 26-27	\$1,450,750	\$3,000,000	38,500
21	CENTRAL REFUSE EQUIPMENT REPAIR YARD	14	GSD	GSD	High	FY 25-26	\$2,000,000	\$3,500,000	37,600
22	ROOSEVELT POOL	14	RAP	RAP	High	FY 24-25	\$1,395,540	\$2,000,000	37,000
23	ELYSIAN PARK POLICE ACADEMY (LAPD POLICE ACADEMY)	01	LAPD	GSD ⁴		FY 31-32	\$4,905,339	\$11,500,000	36,800
24	WESTWOOD PARK AND POOL	05	RAP	RAP		FY 30-31	\$12,173,784	\$26,000,000	36,000
25	CAMP SEELY	04	RAP	RAP	High	FY 33-34	\$2,000,000	\$5,000,000	35,100
Total							\$280,000,000	\$565,000,000	2,165,886

Prioritization framework will support decision making to develop impactful annual project portfolios.



Prioritization Criteria	Outcomes & Impact	Tactics
Emissions Reduction Prioritize projects with largest GHG emissions reduction potential.	<i>Carbon neutrality municipal building operations by 2035. Leading by example for the private sector.</i>	A. Electrify all buildings B. Complete LED lighting retrofits C. Pursue cost-effective energy and solar D. Procure 100% carbon free electricity
Infrastructure Needs Prioritize buildings with the greatest building infrastructure issues and deferred maintenance.	<i>Improved reliability of public services and emergency operations. Greater community resilience.</i>	A. Prioritize based on existing infrastructure B. Invest in cooling centers C. Create microgrids at and critical facilities
Cost Effectiveness Prioritize cost effective decarbonization projects, leverage external funding & financing, and reinvest savings.	<i>Reduced operational costs for municipal building utilities and maintenance.</i>	A. Pursue available incentives, rebates, credits B. Leverage alternative funding and financing C. Submit projects for federal and state grants
Equitable Investment Equitably invest across Los Angeles, prioritizing buildings serving disadvantaged communities.	<i>Investment in facilities that support disadvantaged communities. Economic support for local green jobs.</i>	A. Invest in disadvantaged communities – City’s Equity Mapping and Justice 40 B. Program transparency

Proposed Process for Approval of Annual Workbook



The Existing Building Decarbonization Workplan will leverage multiple project delivery methods to scale implementation efforts. All electrification project delivery methods assume equipment replacement at the end of their useful life.

<p>1 Capital Improvement</p>	<p>2 End of Life Equipment (RAP-GSD)</p>	<p>3 Performance Contracts (ESPC)¹</p>	<p>4 Portfolio Solar Procurement</p>
<p>Complex engineering projects that require planning and engineering design.</p> <ul style="list-style-type: none"> • Boilers • Steam • Pool Heating • Large Water Heaters <p>Delivery Approach: BOE led projects run through existing capital improvement projects processes.</p>	<p>Replacement of smaller natural gas equipment that has reached the end of life.</p> <ul style="list-style-type: none"> • Rooftop Units • Small Water Heaters • Gas Dryers • Ovens & Ranges <p>Delivery Approach: GSD/RAP led project with technical support from BOE. Vendor provides</p>	<p>Full building upgrades at simpler facilities (fire station, library, rec center, etc).</p> <ul style="list-style-type: none"> • HVAC Systems • Water Heaters • LED Lighting <p>Delivery Approach: ESPCs are design-building projects with guaranteed savings. BOE managed projects.</p>	<p>Combine solar PV projects across multiple sites for more competitive pricing.</p> <ul style="list-style-type: none"> • Rooftop Solar • Carport Solar <p>Delivery Approach: Design-build project delivery leveraging existing on-call solar contractors list.</p>

¹ Additional information provided for Energy Savings Performance Contracts (ESPC) later in presentation

Custom building decarbonization tracking tool will allow the City to monitor progress towards carbon neutrality.



- Building Database
- Project Database
- Equity Matrix
- Facility Tracking
- Portfolio Tracking
- Scenario Planning

Facility Overview and Tracking

Facility Name
ALPINE RECREATION CENTER

Key Performance Indicators

1,840

Annual Natural Gas Savings (Therms)

35,890

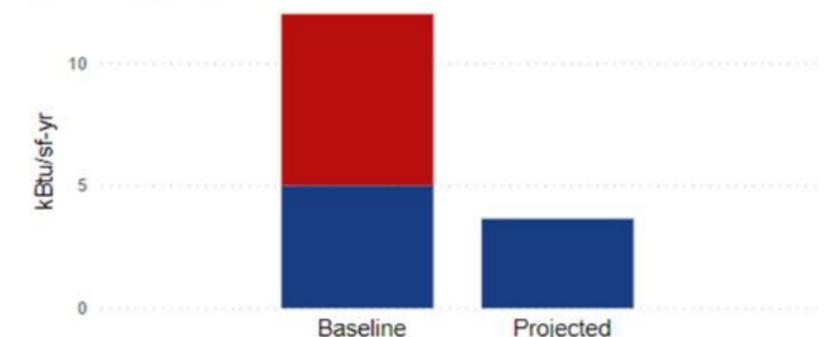
Annual Electricity Savings (kWh)

19.6

Annual Emissions Reduc

Baseline and Project Energy Use Intensity (EUI)

● Electricity ● Natural Gas



Project ID	Target Year	Project Name	Status	LADWP Incentive	Project Cost
000001786		Alpine Recreation Center - LED Retrofit	NOT-STARTED	\$9,160	\$158,000
000001787		Alpine Recreation Center - Retro-commissioning	NOT-STARTED		\$26,000
000001785		Alpine Recreation Center - RTU Electrification	NOT-STARTED	\$3,870	\$1,069,000
000001788		Alpine Recreation Center - Water Heating Electrification	NOT-STARTED	\$2,830	\$22,000
Total				\$15,860	\$1,275,000

Scenario Analysis

Facility
ALISO-PICO RECREATION CENTER

Project
All

Electricity Rate (\$/kWh)

0.00

Natural Gas Rate (\$/therm)

1.00

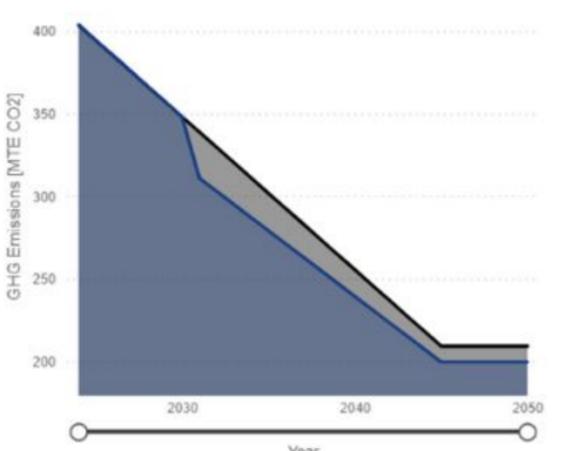
Operational Period

2

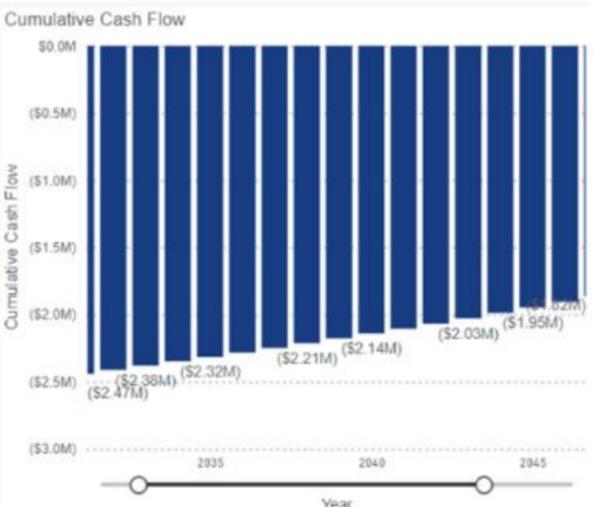
Implementation Year

2030

— Baseline Emissions — Proposed Emissions



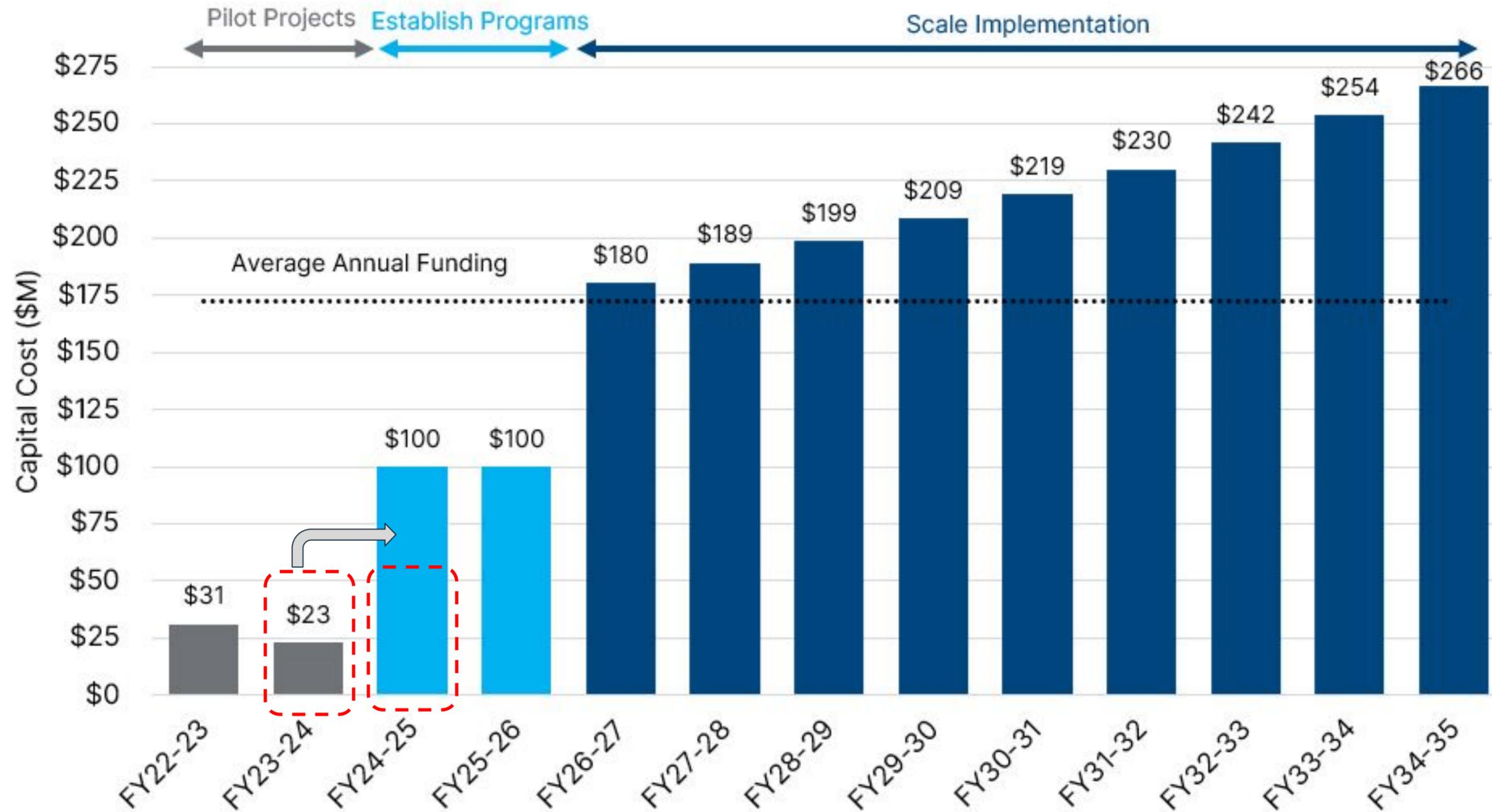
Cumulative Cash Flow





- Building Database
- Project Database
- Equity Matrix
- Facility Tracking
- Portfolio Tracking
- Scenario Planning

Phased decarbonization program will provide a scalable implementation framework for the City to accelerate investments through 2035.



Building Decarbonization Workplan Estimated Annual Funding

\$2.4B
Total Program Cost
Present Value \$1.3B

\$1.90B
* New Electrified Equipment

\$275M
Energy Efficiency Upgrades

\$150M
Renewable Energy & Storage

\$1.35B
* Business as usual with New Gas Equipment

10-Year Existing Municipal Building Decarbonization Program Summary

980
Existing Municipal Buildings

\$2.4B
Total Program Cost
Present Value **\$1.3B**

80,000
Emissions Savings
(Metric Tons of CO2e)

1,162
Overall Employment Gain

21M
Total Gross Area
Square Feet

\$1.90B
* New Electrified
Equipment

\$275M
Energy Efficiency
Upgrades

4,000,000
Natural Gas Savings
Therms

600
New
Green Jobs

32
Unique Building
Types

\$1.35B
* Business as usual
with New Gas
Equipment

\$150M
Renewable Energy &
Storage

212,000
Electricity Savings
Megawatt-hours

2
Fossil Fuel
Jobs Lost

**Building
Portfolio**

**Investment
Required**

**Emission
Reduction**

**Jobs
Impact**

Year 1 Workbook Package



Griffith Park Pool

City of Los Angeles

Existing Municipal Building
Decarbonization Workplan
Year 1 Project Workbook – FY 2024-2025

November 2024

Prepared by Glumac, a Tetra Tech Company



ENGINEERING



Year 1 Workbook Package

Workbook also prioritizes projects to replace equipment at end of useful life.

1. **Capital Improvement:** 3 sites + city hall (planning)
2. **Equipment Replacement:** Pilot 7 sites
3. **Portfolio Design Build:** Pilot 36 sites
4. **Portfolio Solar PV:** Pilot 9 sites

Budget Breakdown

\$61.1 M Total Year 1 City Project Budget
over 1.5-4 yrs

\$16.5 M Solar Construction Cost

\$44.6 M Equipment Electrification Cost

\$26.3 M Business as Usual New Natural Gas (non-electric) Equipment³

\$18.3M Additional to Electrify⁴

Year 1 Workbook End-of-Life Recommended Projects

Facility	Council District	Building Area (SF)	City Budget (\$)	Business as Usual ³ (\$)	Annual Natural Gas Savings (Therm)
1. Capital Improvement Projects (\$13.0M) (Scope: Electrification + LED Lighting upgrade; Duration: 2-3 years)					
Civic Center Steam Plant - Planning & Design*	14		\$1,500,000	-	-
West Valley Police Station Pilot Phase 2	3	32,670	\$5,500,000	\$4,000,000	16,589
Griffith Park Pool	4	4,400	\$3,000,000	\$350,000	377
Roosevelt Pool*	14	4,418	\$3,000,000	\$350,000	37,032
2. RAP/GSD Equipment Replacement Projects (\$4.15M) (Scope: Electrification; Project Duration 1-1.5 yrs)					
3x RAP Facilities	Multiple	34,000	\$1,750,000	\$1,400,000	4,424
4x GSD Facilities	Multiple	65,500	\$2,400,000	\$2,000,000	7,250
3. Portfolio Design-Build Energy Projects¹ (\$24.5M) (Scope: Electrification + Potential LED Lighting; Project Duration: 4 yrs)					
11x Libraries	Multiple	96,000	\$5,550,000	\$4,150,000	6,628
7x Fire Stations	Multiple	80,700	\$4,250,000	\$3,200,000	22,269
11x Community/Office Buildings	Multiple	249,950	\$8,150,000	\$6,000,000	31,612
7x Rec Centers/Senior Centers	Multiple	92,540	\$6,550,000	\$4,800,000	7,940
Sub-total Electrification Budget			\$41,650,000	\$26,250,000	134,121
4. Solar Projects² (\$16.5M) (Scope: Solar PV; Project Duration: 1-1.5 yrs)					
9x Solar Projects	Multiple		\$16,500,000	-	-
Sub-total Solar Budget			\$16,500,000		
PROGRAM CONTINGENCY 5%			\$2,900,000	\$1,300,000	-
TOTAL YEAR 1 WORKBOOK BUDGET			\$61,050,000	\$27,550,000	

1. Portfolio Design-Build Energy Projects can be delivered through the Energy Savings Performance Contract (ESPC) delivery method or another internally managed project delivery method. ESPC can leverage private funding.

2. Solar PV project budget is the net cost assuming the City is able to meet the requirements of the ITC. ITC can provide up to 50% can be paid out after installation. Solar projects can leverage private financing.

3. Cost for like-for-like replacements with new gas equipment.

4. Cost difference for building electrification.

5. \$38M Max. Potential 3rd party investment

Year 1 Electrification Decarbonization Projects

LIBRARIES - 11

- NORTHRIDGE BRANCH LIBRARY (PILOT PH. II) (CD12)
- CAHUENGA BRANCH LIBRARY (CD13)
- LINCOLN HEIGHTS BRANCH LIBRARY (CD1)
- JEFFERSON - VASSIE D WRIGHT MEMORIAL BRANCH LIBRARY (CD10)
- FELIPE DE NEVE BRANCH LIBRARY (CD10)
- MALABAR BRANCH LIBRARY (CD14)
- ROBERT LOUIS STEVENSON BRANCH LIBRARY (CD14)
- WILSHIRE BRANCH LIBRARY (CD13)
- JOHN C FREMONT BRANCH LIBRARY (CD5)
- ANGELES MESA BRANCH LIBRARY (CD8)
- ASCOT BRANCH LIBRARY (CD9)

MUNICIPAL/OFFICE BUILDINGS - 14

- YUCCA COMMUNITY CENTER (CD13)
- WILMINGTON MUNICIPAL BUILDING (CD15)
- EAGLE ROCK CITY HALL (CD14)
- CD 9 FIELD OFFICE (OLD JUNIPERO SERRA LIBRARY) (CD9)
- BOYLE HEIGHTS NEIGHBORHOOD CITY HALL (CD14)
- SAN PEDRO MUNICIPAL BUILDING (CD15)
- VAN NUYS MUNICIPAL BUILDING (CD6)
- CANOGA-OWENSMOUTH COMMUNITY CENTER (CD3)
- SOLEDAD ENRICHMENT CENTER AND COUNCIL DISTRICT (CD14)
- WATTS MUNICIPAL BUILDING (CD15)
- WEST VALLEY MUNICIPAL BUILDING (PILOT PH. II) (CD3)
- **YOUTH ARTS CENTER- OLD PAC BELL BLDG**
- **BOYLE HEIGHTS YOUTH TECH (CD14)**
- **CIVIC CENTER STEAM PLANT- PLANNING & DESIGN (CD14)**

MAINTENANCE & OPERATIONS - 2

- **FLEET HEADQUARTERS**
- **STREET LIGHTING FIELD OPERATIONS**

FIRE STATIONS - 7

- FIRE STATION #79 (CD15)
- FIRE STATION #01 (CD1)
- FIRE STATION #21 (CD9)
- FIRE STATION #63 (CD11)
- FIRE STATION #37 (CD5)
- FIRE STATION #71 (CD5)
- FIRE STATION #38 (CD15)

POLICE - 1

- **WEST VALLEY POLICE STATION (PILOT PH. II) (CD3)**

AQUATICS CENTERS - 2

- **GRIFFITH PARK POOL (CD4)**
- **ROOSEVELT POOL (CD14)**

RECREATION CENTERS - 10

- RITCHIE VALENS RECREATION CENTER (PILOT PH. II) (CD7)
- EVERGREEN RECREATION CENTER (PILOT PH. II) (CD14)
- LAKE VIEW TERRACE RECREATION CENTER (CD7)
- STONEHURST RECREATION CENTER (CD7)
- MONTECITO HEIGHTS RECREATION CENTER (CD1)
- VAN NUYS SHERMAN OAKS RECREATION CENTER (CD4)
- VAN NUYS SHERMAN OAKS SENIOR CENTER (CD4)
- **RAMONA RECREATION CENTER**
- **HUBERT HUMPHREY RECREATION CENTER**
- **SUNLAND SENIOR CITIZEN CENTER**

Delivery Method (47)

- **Capital Improvement (4)**
- **GSD RAP End of Life (7)**
- Portfolio Design Build (36)

Year 1 Building Solar Projects

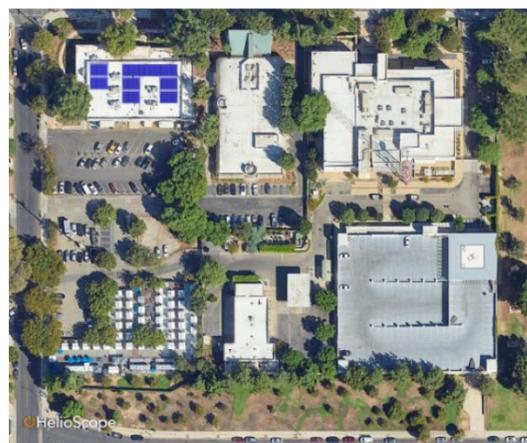
Site Name	Site Address	Building Type	LA Database Site Consumption (kWh)	System Size Modeled (kW DC)	Yearly Solar Generation (kWh)	Energy Use Offset
West Valley Library / Police Station / Municipal Building	19036 Vanowen St, Reseda, CA 91335	Multiple	1,791,989	804.7	1,400,500	78%
Emergency Operations Center / Fire Station #04	500 E Temple St, Los Angeles, CA 90012	Multiple	4,438,839	231.6	393,900	9%
Van Nuys Civic Center	6262 Van Nuys Blvd, Van Nuys, CA 91401	Office	2,265,284	224.4	395,500	17%
Topanga Community Police Station	21501 Schoenborn St, Canoga Park, CA 91304	Police	999,022	526.9	922,900	92%
7th St Facility	2310 E 7th St, Los Angeles, CA 90023	Warehouse	410,661	223.3	382,200	93%
Wilshire Community Police Station	4861 Venice Blvd., Los Angeles, CA 90019	Police	820,098	148.5	257,400	31%
Personnel Department	700 E Temple St, Los Angeles, CA 90012	Office	773,641	333.3	567,400	73%
Hollywood Community Police Station	1358 Wilcox Ave, Los Angeles, CA 90028	Police	742,386	141.9	249,000	34%
Balboa Sports Center	17017 Burbank Blvd, Encino, CA 91316	Recreation Center	365,880	114.4	202,000	55%
Total			9,725,301	2,749.0	4,770,800	49%

Portfolio Solar Procurement

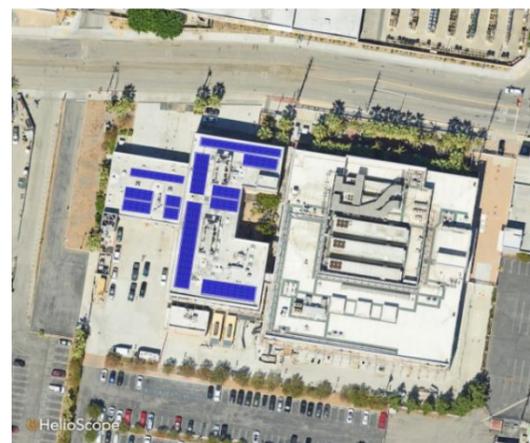
- 2.75 MW of solar PV across nine locations
- Variety of building types
- Annual solar generation of 4.7 MWh (49% offset)
- \$7.3M cumulative savings over 20 years



West Valley Library (CD 3)



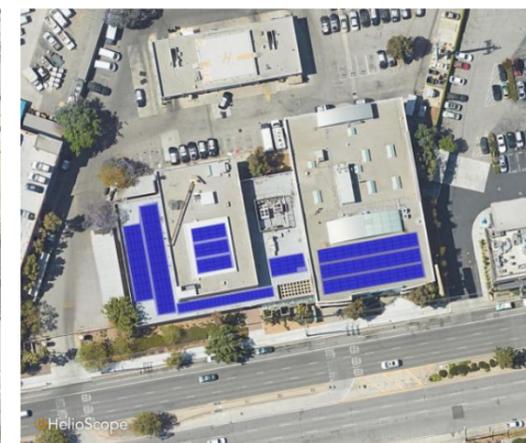
West Valley Municipal Building (CD 3)



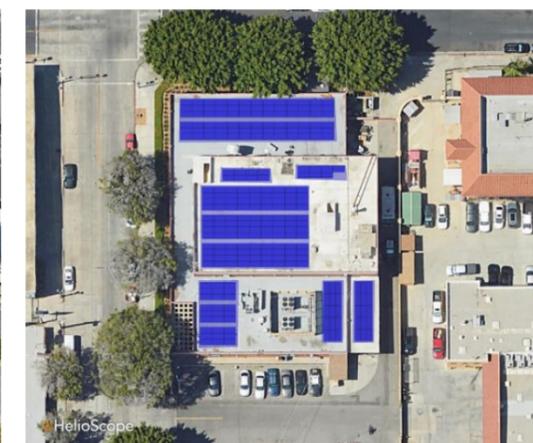
Fire Station #04 (CD 14)



Topanga Police Station (CD3)



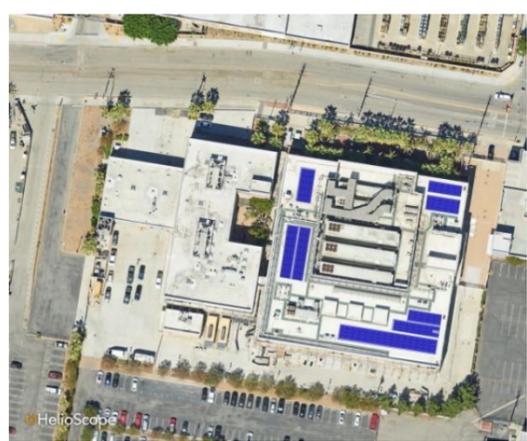
Wilshire Police Station (CD10)



Hollywood Wilcox Police Station (CD6)



West Valley Police Station (CD 3)



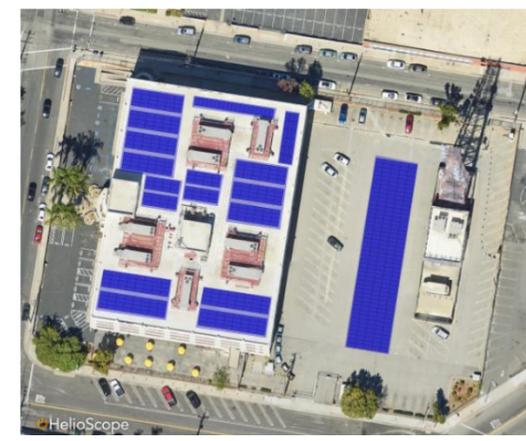
Emergency Operations Center (CD14)



Van Nuys Civic Center (CD 6)



7th St Maintenance Facility (CD 14)



Personnel Department (CD14)



Balboa Sports Center (CD 6)

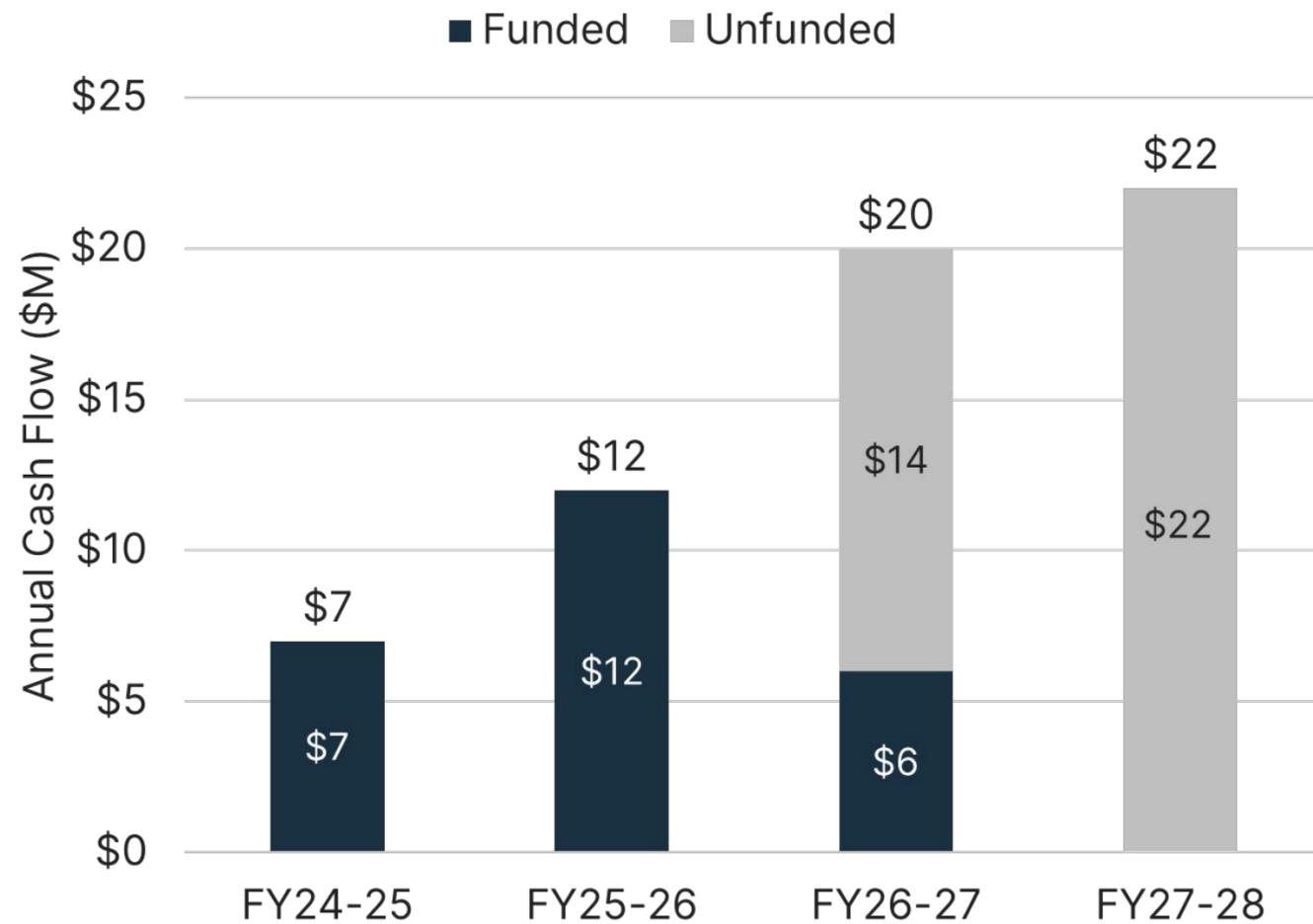
Year 1 Workbook Detailed Cost Estimate

Project Work Description	Unit Price/ Multiplier	Quantity/ Amount	Units/ Mult. Desc.	Land Acquisition	Design Services	Construction Costs	Construction Services	Total Line Cost
LAND ACQUISITION								
L1 Land Purchase Amount (Priced at 1.0 Acres)	\$0	0	sf (Site)	\$0	-	-	-	\$0
L2 Relocation [1]	0.00%	\$0	Land Acq.	\$0	-	-	-	\$0
Subtotal Land Acquisition				\$0				\$0
DESIGN SERVICES								
D1 Design Services	12.00%	\$37,220,000	Project Cost	-	\$4,466,400	-	-	\$4,466,400
D2 Program / Project Management [2]	2.00%	\$37,220,000	Project Cost	-	\$744,400	-	-	\$744,400
D3 Design Support Services [3]	1.00%	\$37,220,000	Project Cost	-	\$372,200	-	-	\$372,200
D4 Client & Other City Departments [4]	1.00%	\$37,220,000	Project Cost	-	\$372,200	-	-	\$372,200
D5 Permits & Fees	4.00%	\$37,220,000	Project Cost	-	\$1,488,800	-	-	\$1,488,800
Subtotal Design Services					\$7,444,000			\$7,444,000
CONSTRUCTION COST								
C1 Capital Improvement Projects		\$8,253,826	Project Cost	-	-	\$8,253,826	-	\$8,253,826
C2 RAP/GSD Equipment Replacement Projects		\$2,634,875	Project Cost	-	-	\$2,634,875	-	\$2,634,875
C3 Portfolio Design-Build Energy Projects		\$15,555,288	Project Cost	-	-	\$15,555,288	-	\$15,555,288
C4 Solar Projects		\$10,476,010	Project Cost	-	-	\$10,776,010	-	\$10,776,010
Subtotal Construction Cost			Project Cost			\$37,220,000		\$37,220,000
FIXED FURNITURE AND COMMUNICATIONS								
O1 Communications [5]	0.00%	\$37,220,000	Const Cost	-	-	\$0	-	\$0
O2 Fixed Furniture	\$0.00	0	sf Bldg Area	-	-	\$0	-	\$0
Subtotal Fixed Furniture and Communications						\$0		\$0
INSPECTION/CONSTRUCTION SERVICES								
S1 Construction Inspection [6]	5.00%	\$37,220,000	Project Cost	-	-	-	\$1,861,000	\$1,861,000
S2 Construction Management [7]	5.00%	\$37,220,000	Project Cost	-	-	-	\$1,861,000	\$1,861,000
S3 Program / Project Management [2]	4.00%	\$37,220,000	Project Cost	-	-	-	\$1,488,800	\$1,488,800
S4 Construction Support Services [3]	0.00%	\$37,220,000	Project Cost	-	-	-	\$0	\$0
S5 Client & Other City Dept's [4]	2.00%	\$37,220,000	Project Cost	-	-	-	\$744,400	\$744,400
S6 Phasing / Relocation Costs	0.00%	0	\$/SF per month	-	-	-	\$0	\$0
Subtotal Inspection/Construction Services							\$5,955,200	\$5,955,200
SUBTOTAL				\$0	\$7,444,000	\$37,220,000	\$5,955,200	\$50,619,200
CONTINGENCIES (Project Contingency, Art Allowance) [8 & 10]	6.00%			\$0	\$446,640	\$2,233,200	\$357,312	\$3,037,152
SUBTOTAL - October 2024 TOTAL COST				\$0	\$7,890,640	\$39,453,200	\$6,312,512	\$53,656,352
ESCALATION								
E1 Number of Years of Escalation (from Cost Base)		1/1/2024	Cost Base	0	1	2	3	
E2 Annual Escalation Percentage				0.00%	3.00%	8.00%	3.00%	
E3 Total Compounded Escalation Percentage				0.00%	3.00%	16.64%	9.27%	
E4 Total Escalation Amount				\$0	\$236,719	\$6,565,012	\$585,170	\$7,386,902
PROJECTED TOTAL COST				\$0	\$8,127,359	\$46,018,212	\$6,897,682	\$61,043,254

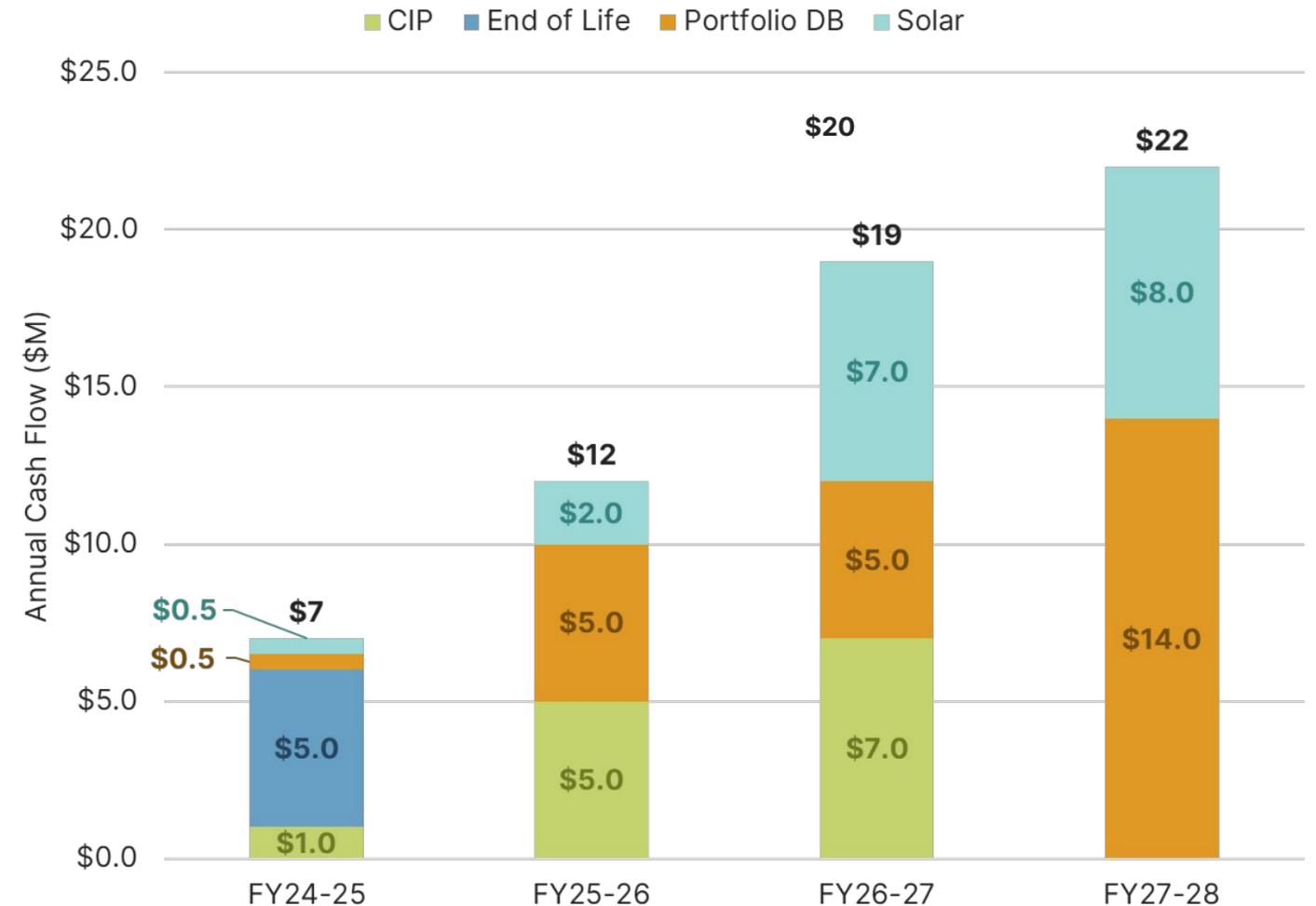
Total Available Funding- \$25M

Previously allocated From Phase II Pilot Projects: \$22.6M

Energy Conservation Block Grant (Pending final award): \$2.4M



Year 1 Workbook Expenditure Plan



Expenditure Plan for Each Project Delivery Method

Year-1 Workbook Package Program Summary

POTENTIAL SAVINGS AND REBATES

REBATES

\$1-1.5M

Estimated
LADWP Rebates
From Completed
Year-1 Projects

\$5M

Estimated IRA Direct
Pay Rebates
From Completed
Year-1 Projects

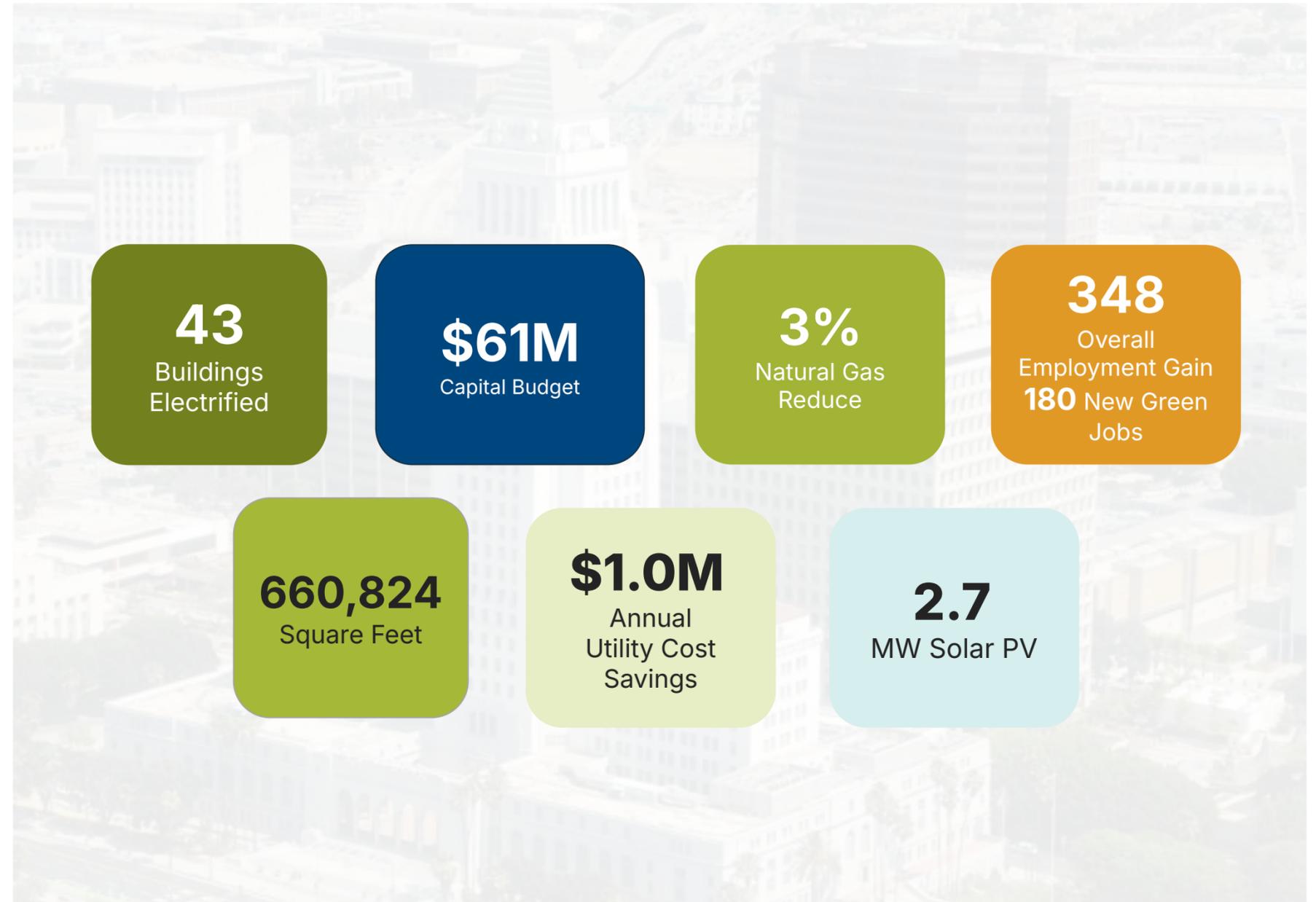
SAVINGS

\$1.0M

Annual
Utility Cost Savings
From Completed
Year-1 Projects

3%

Portfolio
Natural Gas Savings
From Year-1 project
completion



Summary of All Decarbonization and Related Funds Allocated to BOE

Summary of All Decarbonization-Related Funds Allocated to BOE

Council File	Date Approved	Description	Funds Allocated by Council	Status
21-1039	05/03/22	Decarbonization Workplan TOS 65	\$500,000	100% work completed
21-1039	05/03/22	Phase I Decarbonization Pilot Project Funds	\$26,990,000	
		<i>Balboa Sports Complex Decarbonization</i>	<i>\$2,100,000</i>	<i>In Bid&Awards</i>
		<i>Benjamin Franklin Library Decarbonization</i>	<i>\$2,200,000</i>	<i>In Design</i>
		<i>Cypress Park Branch Library Decarbonization</i>	<i>\$3,150,000</i>	<i>In Construction</i>
		<i>Fire Station No. 39 Decarbonization</i>	<i>\$1,800,000</i>	<i>In Construction</i>
		<i>Lankershim Art Center Decarbonization</i>	<i>\$1,600,000</i>	<i>In Design</i>
		<i>Las Palmas Senior Citizen Center Decarbonization</i>	<i>\$3,500,000</i>	<i>In Design</i>
		<i>Silverlake Branch Library Decarbonization</i>	<i>\$1,040,000</i>	<i>In Construction</i>
		<i>Valley Plaza Recreation Center Decarbonization</i>	<i>\$3,600,000</i>	<i>In Bid&Awards</i>
		<i>LA Zoo Solar PV System Decarbonization</i>	<i>\$8,000,000</i>	<i>In Bid&Awards</i>
21-1039	05/03/22	Other Building Decarb Workplan Costs Including 1% for Art, BOE Staff Costs, and Program Contingency	\$1,599,000	
21-1039	11/23/22	Decarb Project Construction Cost Escalation	\$2,407,965	
21-1039	11/23/22	Database Maintenance	\$250,000	In- Progress
21-1039-S2	12/01/22	Analyze existing & future City-owned sites to be net-zero projects that maximize solar & energy storage on-site	\$50,000	In-Progress
22-0530	11/23/22	Grid Impact Study	\$100,000	In-Progress

Council File	Date Approved	Description	Funds Allocated by Council	Status
21-1039	01/26/24	Phase II Decarbonization Pilot Project Funds	\$22,609,938	Moved to Year-1 Workplan
		<i>West Valley Municipal Building</i>	<i>\$2,400,000</i>	<i>Moved to Year-1 Workplan</i>
		<i>West Valley Police Station, Parking & Repair Garage Bldgs.</i>	<i>\$8,000,000</i>	<i>Moved to Year-1 Workplan</i>
		<i>Ritchie Valens Recreation Center</i>	<i>\$2,200,000</i>	<i>Moved to Year-1 Workplan</i>
		<i>Evergreen Recreation Center</i>	<i>\$5,800,000</i>	<i>Moved to Year-1 Workplan</i>
		<i>Northridge Branch Library</i>	<i>\$3,100,000</i>	<i>Moved to Year-1 Workplan</i>
		<i>Other Building Decarbonization Work Plan Costs, Including 1% for Art, and Program Contingency</i>	<i>\$1,109,938</i>	<i>Moved to Year-1 Workplan</i>

Other Related Updates:

COUNCIL FILE NOS. 21-1039-S2:

Status: Due to the overlapping nature of work, the same Workplan consultant, Tetra Tech, was contracted. BOE issued a Notice to Proceed (NTP) on October 3, 2024, to analyze the impact of new energy standards and the ability to maximize onsite solar and storage resources for existing and future city facilities. The consultant is now working with GSD and LADWP and has completed 10% of this new work.

COUNCIL FILE NOS. 22-0530:

Status: BOE issued a Notice to Proceed (NTP) to Tetra Tech/Glumac on October 3, 2024, to conduct an analysis on the electrical load and upgrades needed for the municipal buildings, excluding proprietary departments. The consultant is working with GSD and LADWP and has completed 10% of this work.

Status of Phase I Pilot Projects

Phase I Pilot Project Status				
	Facility/Project Name	Scope of Work	Lead Agency	Current Status
CD 6	Balboa Sports Complex 17015 Burbank Blvd	Electrification + Solar + Energy Storage	BOE	Design Complete. 27% Bid and Award
CD 14	Benjamin Franklin Branch Library 2200 East 1st St	Partial Electrification + Solar + Energy Storage	BOE	60% Design
CD 1	Cypress Park Branch Library 1150 Cypress Ave	Electrification + Solar + Energy Storage + Energy Upgrade	BOE	60% Construction
CD 6	Old Fire Station No. 39 14415 Sylvan St	Electrification + Solar + Energy Storage + Energy Upgrade	BOE	30% Construction
CD 9	¹ Lankershim Art Center Phase III Theater & Decarbonization 5108 N Lankershim Blvd	Electrification + Solar + Energy Storage	BOE	Pre-Design
CD 13	Las Palmas Senior Citizen Center 1820 N Las Palmas Ave	Electrification + Solar + Energy Storage	BOE	91% Design
CD 13	Silverlake Branch Library 2411 Glendale Blvd	Electrification	BOE	10% Construction
CD 2	Valley Plaza Recreation Center 12240 Archwood St	Electrification + Solar + Energy Storage	BOE/ LADWP	Design Complete. 20% Bid and Award
CD 4	LA Zoo Solar PV System 5333 Zoo Drive	Solar + Energy Storage	BOE/ LADWP	Design-Build project. Pre-design complete. 60% Bid and Award phase



Department of Water and Power Investment Towards 100% Renewable Target

CD	Project Name	Solar (kW)	Feasible D.E.R Potential	D.E.R Potential Cost
CD 6	Balboa Sports Complex	3000	Yes, approvals in progress	\$ 30,600,000.00
CD13	Silverlake Branch Library	15	No, LADWP installed solar already installed	N/A
CD2	Valley Plaza Rec Center	300	Yes, approvals in progress	\$ 5,300,000.00
CD4	LA Zoo PV	4000	Yes, design in progress	\$ 50,000,000.00
CD3	West Valley Police Station	1000	Yes, under analysis	\$ 8,800,000.00
CD3	West Valley Muni Building	500	Yes, under analysis	\$ 4,900,000.00
CD 7	Ritchie Valens Rec Center	500	Yes, under analysis	\$ 6,300,000.00
		9315 kW (9.3 MW)		\$105,900,000

Questions?



Year 1 Workbook Package Summary

Workbook prioritizes projects to electrify gas equipment at end of useful life that will require investment for continued operation and will pilot new portfolio scale project delivery methods.

- **Capital Improvement:** 3 sites + city hall (planning)
- **Equipment Replacement:** Pilot 11 sites
- **Portfolio Design Build:** Pilot 46 sites
- **Portfolio Solar PV:** Pilot 9 sites

Funds Available

\$25M Total Fund Available

\$22.6M From Pilot Project Phase II

\$2.4M Energy Efficiency & Conservation Block Grant (EECBG)

Budget Breakdown

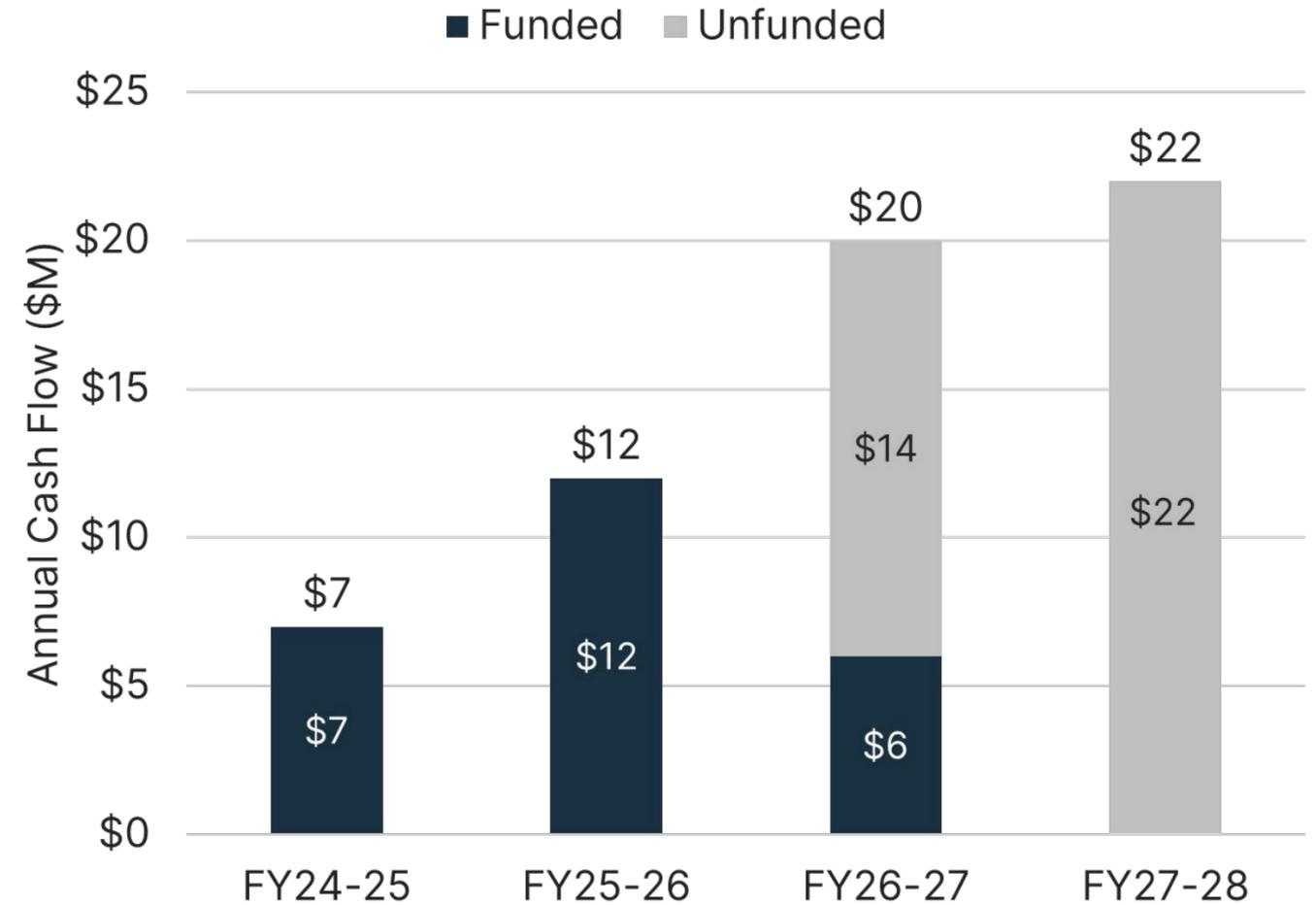
\$61.1 M Total Year 1 City Project Budget over 1.5-4 yrs

\$16.5 M Solar Construction Cost

\$44.6 M Equipment Electrification Cost

\$26.3 M Business as Usual New Natural Gas (non-electric) Equipment³

\$18.3M Additional to Electrify⁴



Year 1 Workbook Expenditure Plan

Cost Breakdown of Year 1 Workbook

Project Phase	Capital Improvement Projects	RAP/GSD Equipment Replacement Projects	Portfolio Design Build (ESPC)	Portfolio Solar PV
Design Services	\$4,300,000	\$575,000	\$2,000,000	\$1,100,000
Construction Cost	\$8,000,000	\$3,000,000	\$21,000,000	\$14,800,000
Construction Services	\$700,000	\$425,000	\$1,500,000	\$600,000
ITC Rebate ¹	-	-	-	-\$5,000,000
Total Budget	\$13,000,000	\$4,000,000	\$24,500,000	\$11,500,000

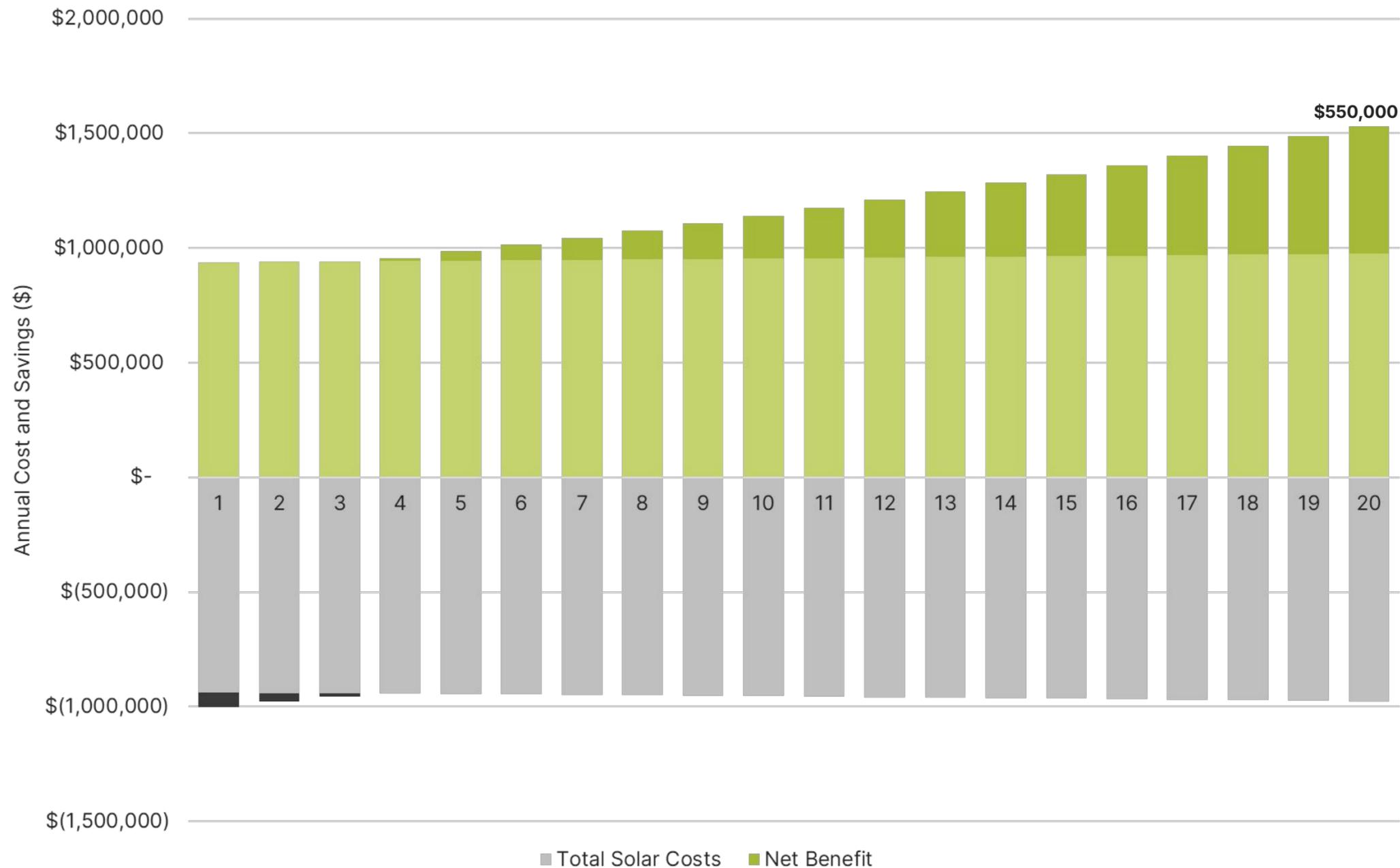
Estimated ITC Rebate: \$5,000,000

Estimated LADWP Rebate²: \$1,000,000 to \$1,500,000

1. Solar PV project budget is the net cost assuming the City is able to meet the requirements of the ITC. ITC can provide up to 50% rebate. Current estimates are based on the City receiving a 30% rebate. This is paid out after construction once system is operational - bridging financing and ITC payout insurance is available to mitigate risk.
2. Estimated rebates are based on LADWP Business Offerings for Sustainable Solutions (BOSS) Program which provide an incentive of \$0.65/kWh for all-electric heating systems.

Year 1 Building Solar Projects **Recommended**

Cash Flow of Recommended Solar Projects with External Financing



\$4.3M
20-Year
Cost Savings

Portfolio Solar Procurement

- 2.75 MW of solar PV across nine locations
- Variety of building types
- Annual solar generation of 4.7 MWh (49% offset)
- \$4.3M cumulative savings over 20 years

Financial Model Assumptions

- \$6,000/kW system cost
- 30% Investment Tax Credit (ITC)
- 20-Year Financing Period at 4.5% Interest
- 3.5% utility escalation
- \$18.5/kW maintenance with 3.5% escalation
- 0.5% Annual Solar Degradation

Energy Saving Performance Contract (ESPC)

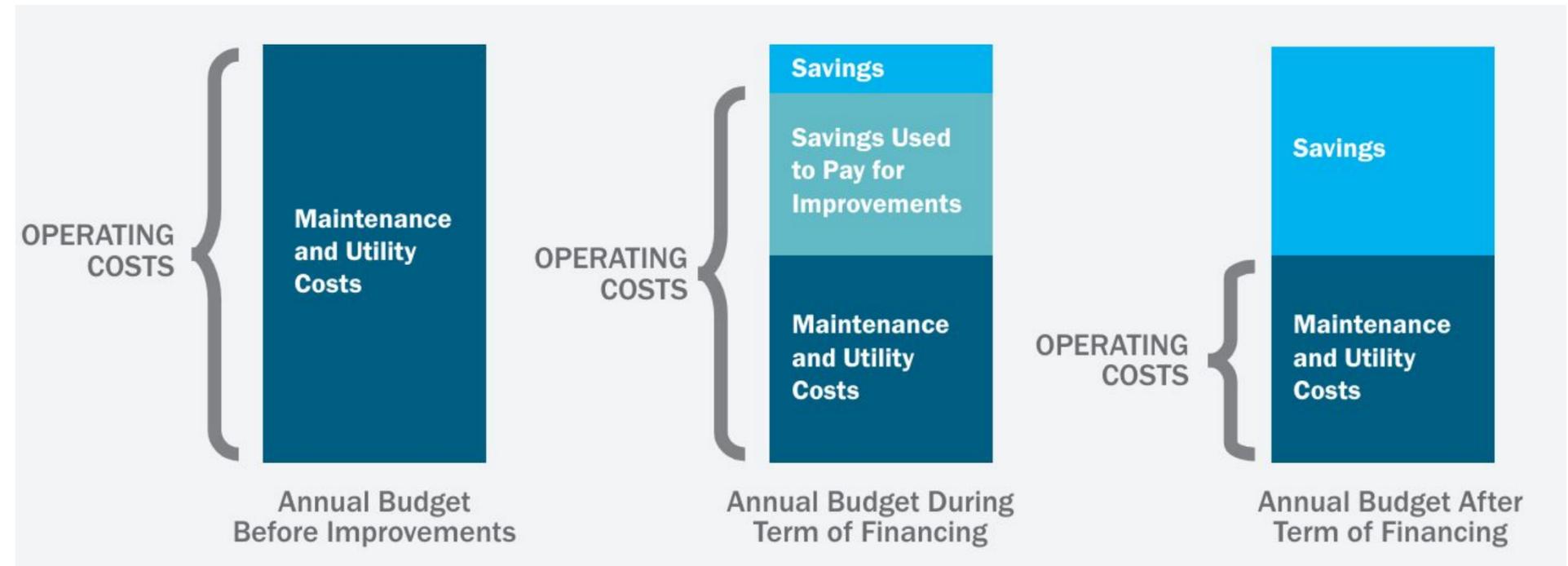
ESPC Definitions

Energy Savings Performance Contract (ESPC)

Contracting and project delivery process used to identify and install energy and utility improvements in existing facilities. Construction costs are repaid with cost savings from the upgrades.

Energy Services Company (ESCO)

Full-service energy engineering and construction firms that develop and implement energy savings plans for a building or portfolio of buildings, install energy-efficiency and clean-energy upgrades, and provide system maintenance and monitoring through the life of service agreements.



Consideration

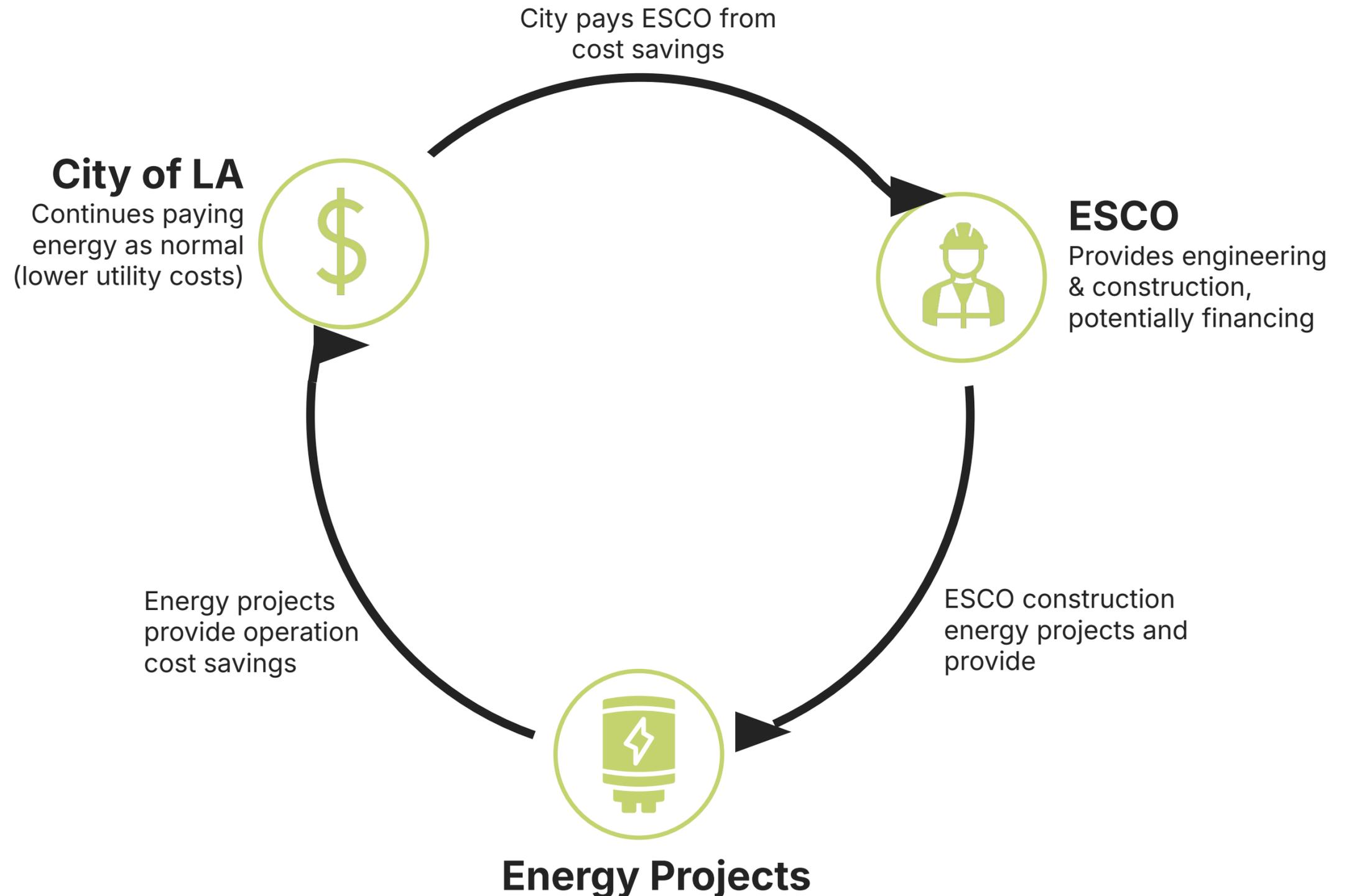
- Proven contracting, project delivery and financing method for the public sector to supports energy, water, renewable and deferred maintenance upgrades
- ESCO guarantees the energy savings, making up any shortfall
- Projects can be funded and/or financed by customer and repaid with cost savings

ESPC Summary

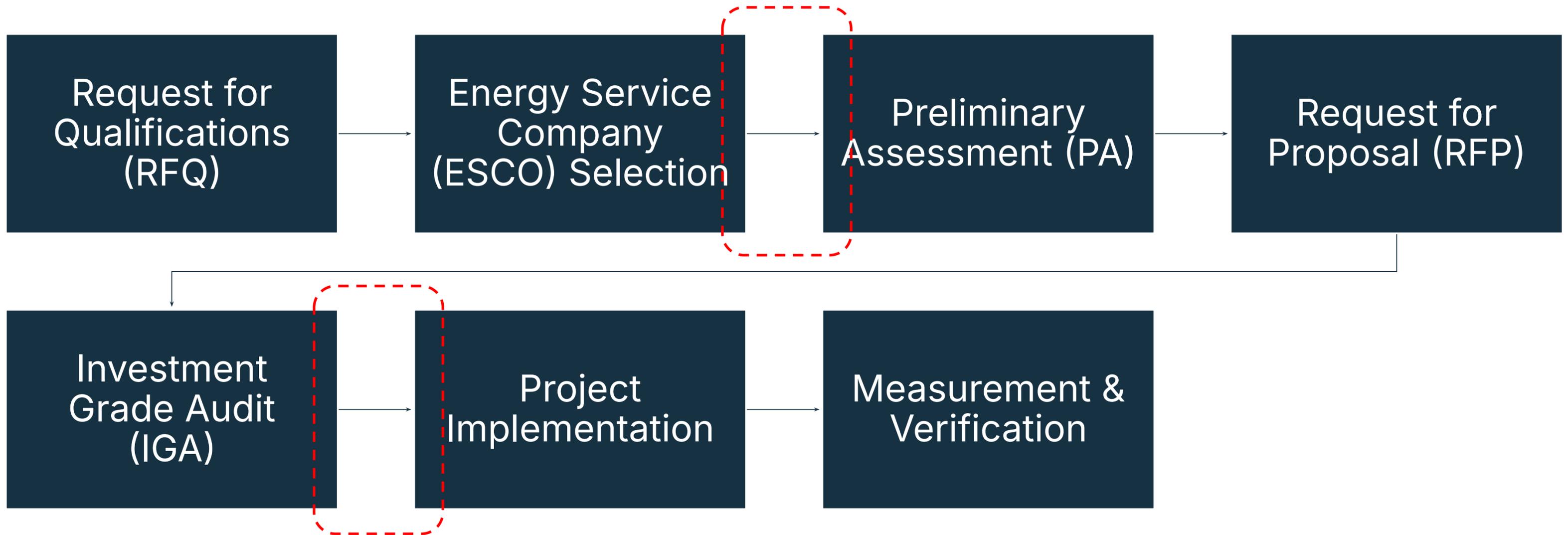
ESPC are a design-building project delivery method that are commonly leveraged by public agencies.

Advantages:

1. Quicker implementation than traditional delivery
2. Ability to scale building decarbonize efforts across a portfolio of buildings through a single contract
3. Comprehensive upgrades including multiple aspects such as lighting, HVAC, and envelope improvements.
4. Ability to finance projects through energy savings and reduce funding from City general fund.
5. ESCO assumes financial and performance risks if energy savings fall short of projections.



ESPC Project Delivery Process



End of Slides