



# Municipal Energy Update

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# Strategic Process Alignment

## Goal 8: Nurture + Promote a Healthy, Sustainable Community

8.4 Reduce operational energy consumption: **Create and implement the Urban Energy Plan** and identify state and federal legislative and funding opportunities.



# Urban Energy Plan CFT

ROLES, RESPONSIBILITIES + DUTIES

The Urban Energy Plan is a comprehensive, community wide strategy to achieve results in the following areas:

**Education ,  
Outreach +  
Advocacy**

**Lead Strategic  
Partnerships  
Office; ESD**

**Municipal  
Energy**

**Lead SAM; CID;  
Sun Metro;  
Airport**

**Industry  
Development**

**Lead ED**

**Renewable  
Energy  
Infrastructure**

**Lead C+HD; P&I**

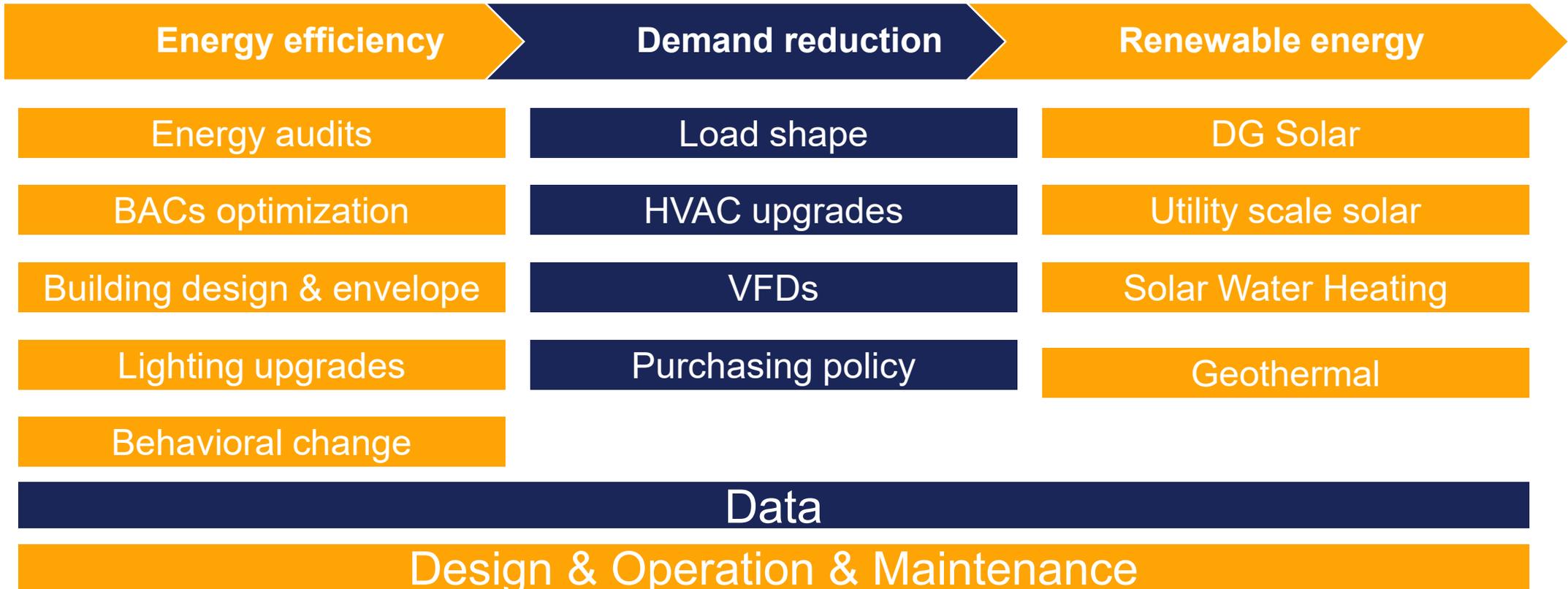
# Process **Timeline**

8.4 Reduce operational energy consumption: **Create and implement the Urban Energy Plan** and identify state and federal legislative and funding opportunities.



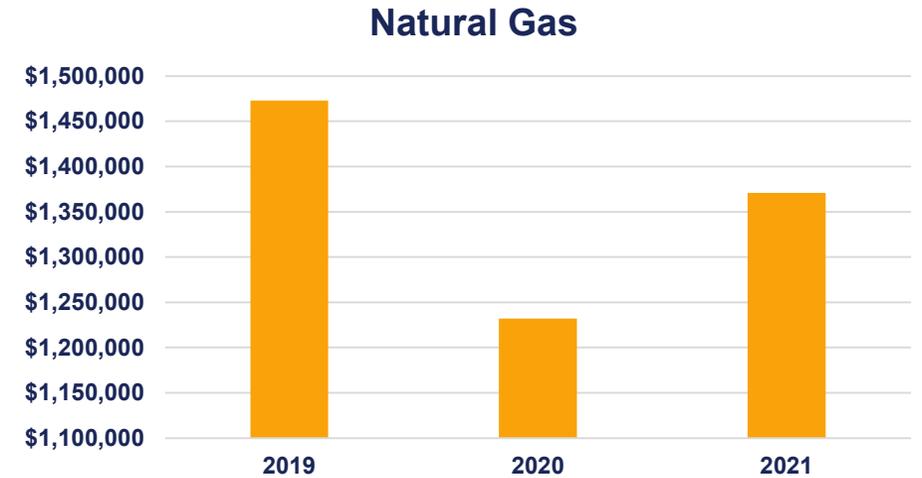
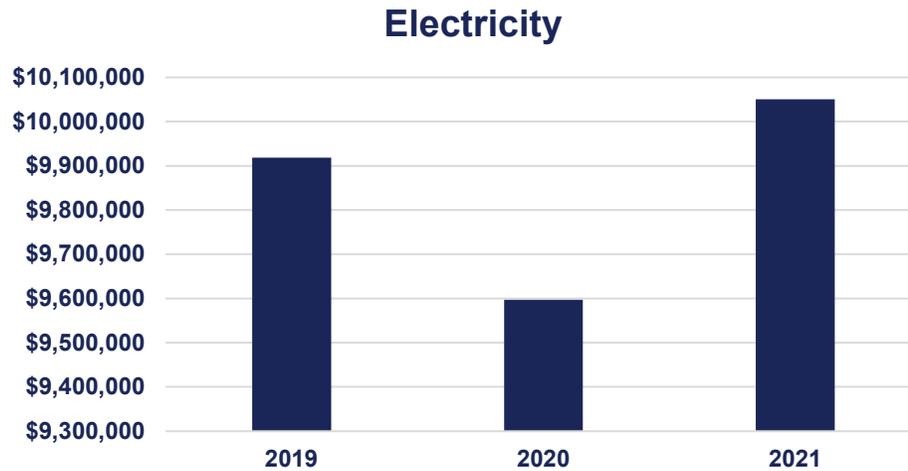
# El Paso's **energy** priorities

## Path forward



# El Paso's **energy** budget and accounts

## Budget



## # Accounts

	Electricity	Natural Gas
Aviation	49	19
International Bridges	5	2
Sun Metro	41	16
Public Health	18	14
SAM	764	134
<b>Total</b>	<b>877</b>	<b>185</b>
	<b>1,062</b>	

**1062** accounts and  
**233** Structural Assets

# Energy in El Paso

## What we have done

- **Energy management:**

- BACs installed in all large facilities
- 113 large facilities tracked on EPA's software

- **Solar:**

- Municipal Service Center – 167 KW
- Main Library – 25 KW
- Animal Shelter – 25 KW

- **Building design:**

- Sustainable Development Design Standards, July 2012

## What we need to do

- **Energy management:**

- LSS project to digitalize energy bills
- Energy manager
- Facilities maintenance engineer

- **Solar:**

- Goals 2.1 and 2.3 from RREAC's plan
- Behind the meter PPA feasibility study
- 3 MW+ 2 MW installation at the Airport

- **Building design:**

- Maximize Energy Efficient Design

# Energy Management

## Scope of duties needed for successful implementation

- **Bill tracking:** more than 1,000 energy accounts.
- **Identification** of new energy efficiency and solar projects.
- **M&V:** monitoring and verification of expected saving from energy related projects.
- **BACs:** manage building controls to guarantee an optimal performance of the facilities.



**1,062 accounts and 233 structural assets**

**99 streetlights accounts and 35,423 lamps**

Site ID	Site Name	General Site Type (Roof, Land, or Parking Lot)	Usable Space for Solar [m <sup>2</sup> ]	PV System Sized to Usable		
				Size [kW]	Annual Generation [kWh] (optional)	Annual Site Electrical Load [kWh] (optional)
1	MSC/Admin Svcs	Roof	280	42.2	76,730	349,520
2	Fire Maintenance	Roof	210	31.6	56,213	628,500
4	Rec Center/Pool/Sr - Pat O'Rourke	Roof	325	49.0	87,853	627,680
6	City1	Roof	930	140.1	251,009	1,000,500
7	City 3	Roof	217	32.7	59,166	701,400
8	City 3 - Parking lot	Parking Lot	1,130	170.3	304,797	12,746
10	Library - Esperanza Moreno	Roof	257	38.7	71,973	329,520
11	Museum - Art	Roof	500	75.3	134,469	1,519,000
12	Museum - History	Roof	278	41.9	75,303	642,240
13	Rec Center - Don Haskins	Roof	736	110.9	200,056	365,200
14	Rec Center - Marty Robins	Roof	666	100.4	183,505	268,400
16	Senior Center - Hilos de Plata	Roof	221	33.3	59,487	179,440
17	Pool - Delta	Roof	222	33.5	59,487	184,840
18	Rec Center - Acosta	Roof	488	73.5	134,826	134,440
19	Pool - Armijo	Roof	1,113	167.7	301,211	749,700
20	Rec Center - Armijo	Roof	239	36.0	64,545	324,780
21	Library - Armijo	Roof	231	34.8	62,752	148,680
22	Pool - Hawkins	Roof	527	79.4	143,315	253,028
23	Rec Center - Pavo Real	Roof	400	60.3	109,272	162,400
25	Senior Center - Pavo Real	Roof	194	29.2	52,815	135,000
26	Pool - Marty Robbins	Roof	514	77.5	141,298	315,244
27	Pool - Natatorium	Roof	1,723	259.6	468,066	1,829,200
32	Senior Center - Happiness	Roof	280	42.2	76,988	301,500
33	Rec Center - Officer David Ortiz	Roof	280	42.2	76,988	301,500
35	Senior Center - South El Paso	Roof	350	52.7	95,025	239,300
36	Senior Center - Wellington Chew	Roof	264	39.8	72,705	121,006
37	Pool - Veterans	Roof	281	42.3	76,957	151,814
38	Senior Center - Memorial	Roof	242	36.5	65,098	91,940
41	Pool - William W. Cowan	Roof	404	60.9	111,198	181,200
42	Pool - Memorial	Roof	215	32.4	57,865	266,322
44	Rec Center/Pool - Multipurpose	Roof	314	47.3	85,264	233,440
59	FS#11	Roof	410	61.8	111,161	162,000
64	FS#16	Roof	196	29.5	54,548	59,006
65	FS#17	Roof	166	25.0	45,598	65,675
66	FS#18	Roof	203	30.6	56,634	75,352
72	FS#24	Roof	181	27.3	49,315	83,560
79	FS#31	Roof	167	25.2	45,128	90,015
80	FS#33	Roof	171	25.8	47,734	108,667
81	FS#34	Roof	225	33.9	60,959	71,369
82	FS#35	Roof	237	35.7	65,947	112,680
84	Airport - Parking lot	Parking Lot	9,438	1,422.3	2,569,530	22,327,693
85	Sun Metro - Transit Operations Center	Roof	7,200	1,085.0	1,973,604	4,856,200
86	East Regional Command-Design	Parking Lot	3,656	550.9	1,007,050	
87	CASE 1 - Airport - Parking lot	Parking Lot	4,070	613.3	1,107,681	22,327,693
88	CASE 2 - Airport - Parking lot	Parking Lot	6,848	1,032.0	1,864,807	22,327,693
89	CASE 3 - Airport - Parking lot	Parking Lot	10,029	1,511.3	2,730,352	22,327,693

- **Screening: 85 facilities. 43** may be candidates for Solar Photovoltaic

- Up to **4.6 MW** of new Distributed generation capacity (Current 0.22 MW)



- Up to 8.4 MWh saved\*
- 18% of consumption covered by PV solar\*
- Up to \$750,000/year potential savings and/or cost avoidance\*

• **Airport: 3 MW + 2MW**

• **Next steps:**

- **Pre-feasibility assessment** including technical, economic and ownership considerations for solar PV and battery storage; SWH for aquatic facilities and Dedicated Solar Plus Program.

- **RFP for Power Purchase Agreement (PPA), City-owned and mixed options.**

# Building design: Performance standard

A **Building Performance Standard (BPS)** establishes energy intensity goals (i.e. kBtu/ft<sup>2</sup>) to achieve a desired building performance while addressing carbon reduction, energy efficiency and demand reduction.

**Existing BPSs:** Washington, D.C.; NYC; St. Louis; and Washington State.

<https://doee.dc.gov/service/building-energy-performance-standards-beps>

**Next BPSs:** Philadelphia; Boston; Cambridge; Montgomery Co.

- **Study to determine minimum performance standards and pathway for Municipal Buildings**
- **Municipal Net Zero Buildings**

## Enhanced building performance pathway

### Municipal

### Community



# Immediate Actions

**Facilities Engineer**

**Building Performance Standard for Municipal Facilities**

**Solar Airport**

**Feasibility of a PPA**

**Federal Advocacy**



## Mission

Deliver exceptional services to support a high quality of life and place for our community



## Vision

Develop a vibrant regional economy, safe and beautiful neighborhoods and exceptional recreational, cultural and educational opportunities powered by a high performing government



## Values

Integrity, Respect, Excellence, Accountability, People



Thank you!