City of Dallas

Solar Siting Study Town Hall

February 21, 2024

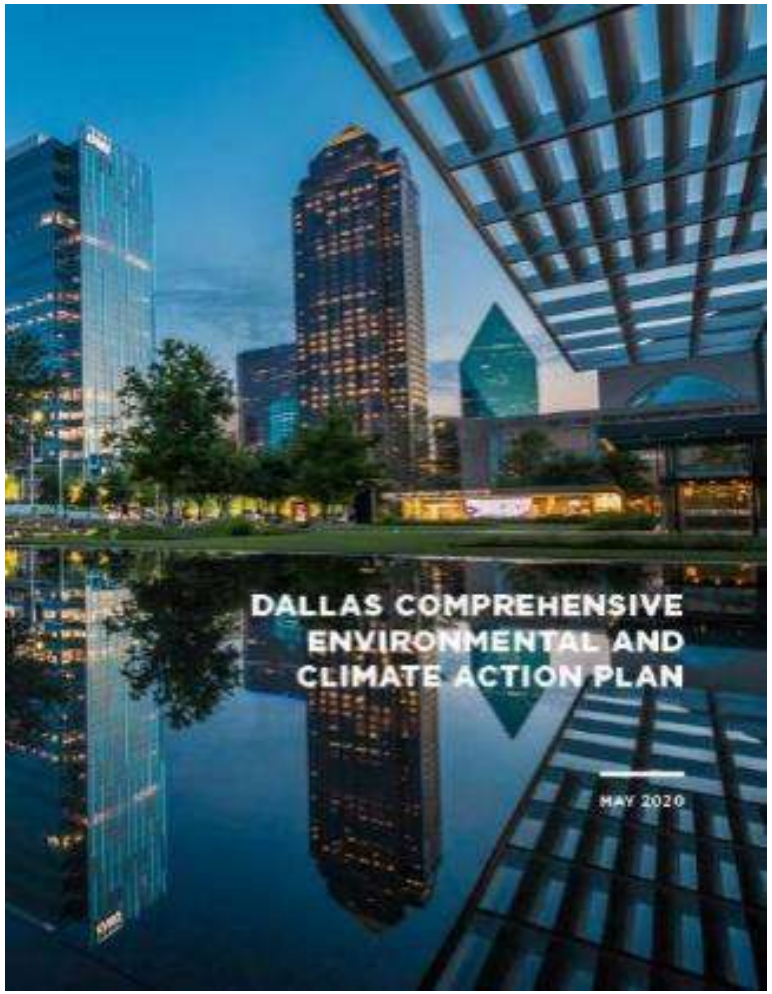
Office of Environmental
Quality & Sustainability
City of Dallas

Presentation Overview

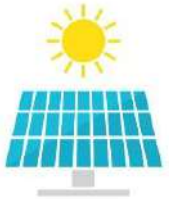
- Welcome & Introductions
- Warm Up: Solar Association
- Study Overview
- Priority Sites for Solar Energy
- Q&A
- Prioritization Poll
- Closing & Next Steps

Solar panels at Fretz Recreation Center

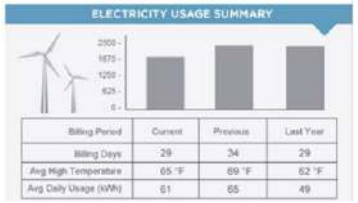
Why Solar For City Properties?



2030

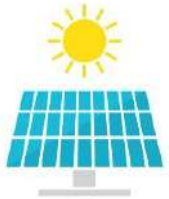


739 MW
of solar power installed

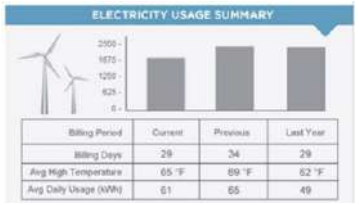


20% of residents + businesses
enrolled in a renewable electricity plan

2050



3,695 MW
of solar power installed



50% of residents + businesses
enrolled in a renewable electricity plan

Why Solar For City Properties?

SELECT ANY ACTION TO SKIP DIRECTLY TO THAT PAGE

02 | Dallas generates and uses renewable, reliable, and affordable energy.

Maintain a high degree of reliability during extreme weather events.

- Maintain a high degree of reliability in the electric delivery grid through cooperative actions between the City and Public Utility Companies.
- Evaluate the potential for the City to make investments in energy storage technologies for both resilience and renewable energy development purposes.
- Educate commercial power users about power savings associated with demand side management.

Encourage investment in, and greater use of, renewable energy.

- Continue partnership with Public Utility Companies on an intensive education program on renewable energy options.
- Invest in programs through local community colleges to train and establish a local workforce that is focused on renewable energy technologies.
- Build a regional strategic partnership to promote adoption of renewable energy.
- Establish and invest in renewable energy hubs through partnerships with private sector.
- **Extend City efforts to develop more renewable energy projects on City facilities.**
- Continue to implement Green Energy policy for City facilities.

Ensure affordable access to renewable electricity.

- Extend partnership with organizations like PACE and other Public Utility Companies to provide further incentives for renewable energy.
- Advocate for Renewable Energy Policies at the State and Federal levels.

Consultant Team Introductions

- Project lead, technical/financial analysis, system design
- Environmental analysis + GIS
- Equity analysis + community engagement
- Community solar analysis

Solar Siting Study Scope

Initial Assessment Factors:

- Large City-owned properties near low- and moderate-income (LMI) communities
- Available space + amenable site conditions
- Maximize offset of building electricity use
- Cost-neutral to City
- Preserve tree canopy and open space
- No impact to protected species
- Preference to minimize solar parking canopies (carports)
- Ability to pilot newer technologies
- Community solar program potential

Adjustments Based on Feedback:

- Considered entire City of Dallas portfolio
- Sites eliminated based on department's future use plans and 2024 bond
- Preserve sites for housing
- For ground mount solar, adequate setback from trails to protect views
- Select solar carports ok
- Refined economic success criteria and constraints (e.g., City's low cost of electricity)

Solar Development Options

Building-Serving Solar Sites

- Solar panels installed onsite that directly serves the building's energy needs
- Can be rooftop, ground mount, or carport
- Avoids use of grid electricity in real time
- Can result in lower electricity costs (but it's complicated)

Community-Serving Solar Sites

- Solar panels that do not directly serve a nearby building but instead generate electricity for others to purchase through subscriptions
- Can be rooftop, ground mount, or carport
- Are typically larger than Building Serving Solar
- Typically run by a program administrator and facilitated by supportive policy

Solar Development Options (cont.)

Rooftop

Ground Mount

Carport

Study Approach

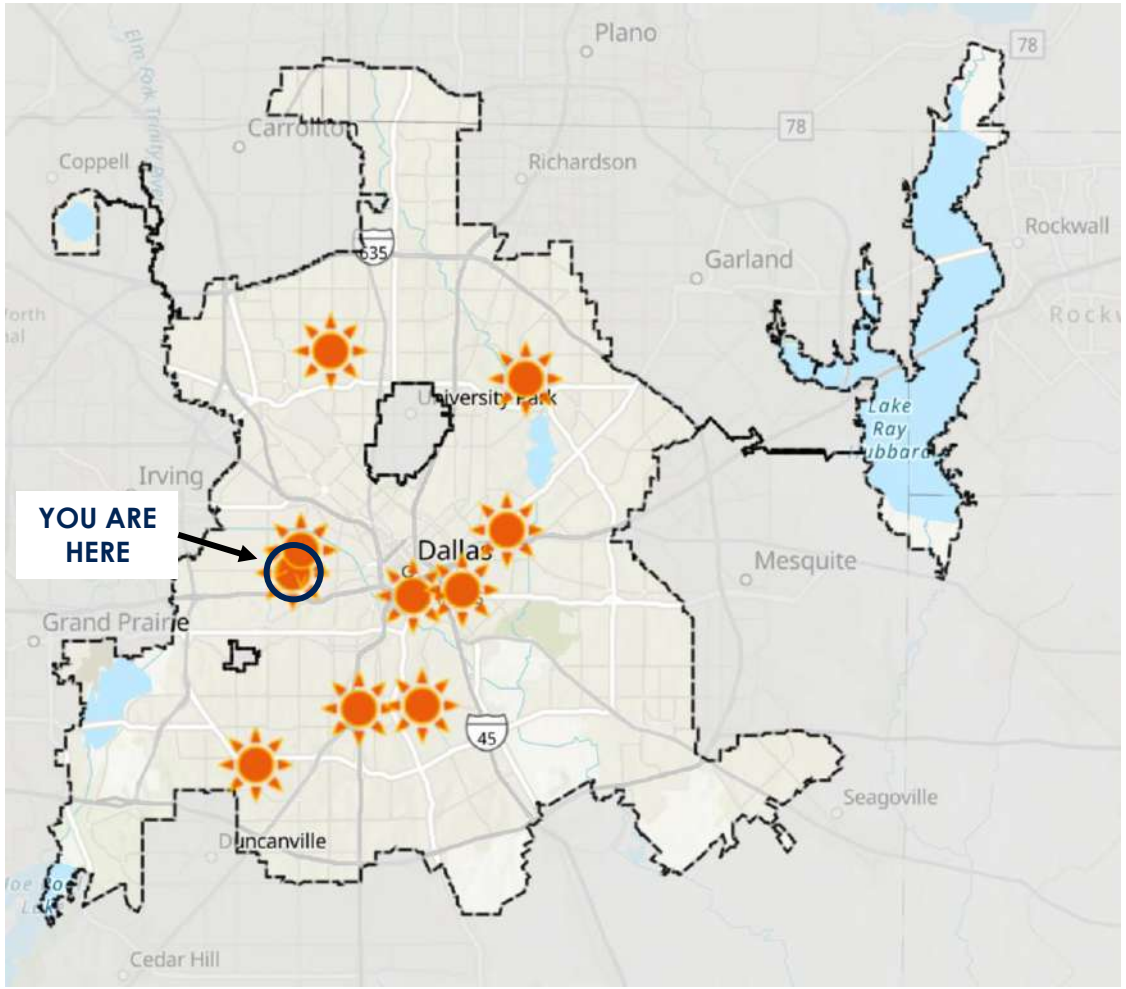
Technical
- How much solar energy can this site produce?
- Is there a good place to put solar panels at this site?
- For community-serving solar, is there a large enough area to support a community-scale system?

Financial
- How much will it cost to put solar panels at this site?
- How much can the City save on utility costs from solar panels at this site?
- How long will it take to break even (pay back) the solar panel installation costs?

Environmental
- Would trees or other desirable vegetation have to be removed? Would any protected species be affected?
- Is there a more desirable use than solar for this site?
- Would there be any water quality impacts?

Equity
- Does the presence of solar panels at this site affect the users of the site and/or surrounding community?
- Are there job creation and/or job training opportunities from putting solar panels at this site?
- For community-serving solar, could community members—especially those with low incomes—benefit from a solar subscription?

Priority City of Dallas Sites for Solar Development

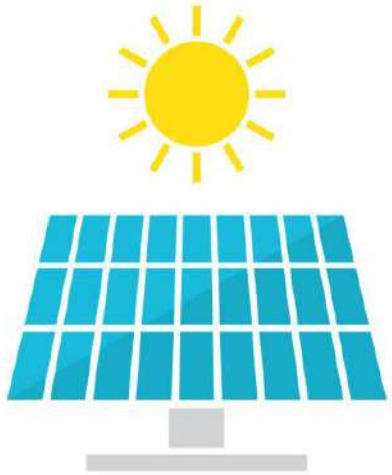


1. **Martin Luther King, Jr. Community Center*** (1,088 kW, rooftop + carport)
2. **Southwest Transfer Station*** (961 kW, ground mount)
3. **Paul Laurence Dunbar Lancaster-Kiest Branch Library** (265 kW, ground mount)
4. **Beckley-Saner Recreation Center** (253 kW, rooftop + carport)
5. **Walnut Hill Recreation Center** (220 kW, rooftop + carport)
6. **Nash-Davis Recreation Center** (187 kW, rooftop + carport)
7. **West Dallas Multipurpose Center** (169 kW, rooftop)
8. **Samuell-Grand Recreation Center** (167 kW, rooftop + carport)
9. **Northeast Service Center** (165 kW, rooftop)
10. **Quarter Master** (148 kW, rooftop)

* Potential community serving sites

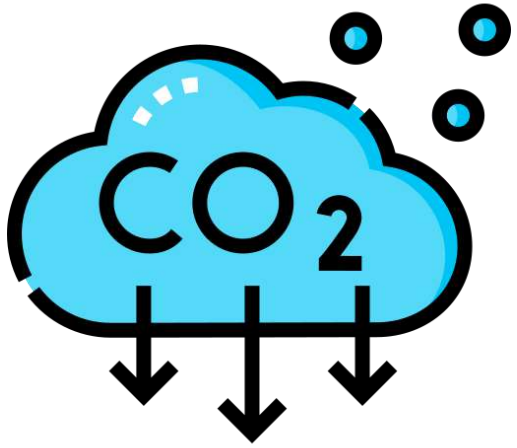
POTENTIAL IMPACT

10 sites = 3.6 MW installed solar



Produce 5.4 million kWh per year

Enough to power 420 Texas homes for a year



Avoid 2,945 $MTCO_2e$ /yr
69,378 $MTCO_2e$ by 2050

Priority Sites Overview

Building Serving Sites	System Details		Financial Overview				Environmental Impact	
Site Name	Solar System Size (kWdc)	Annual Production (kWh)	Installation Price	Year 1 Utility Bill Savings	Payback (Year)	Return on Investment	Annual GHG Emissions Avoided ($MTCO_2e$)	GHG Emissions Avoided by 2050 ($MTCO_2e$)
Martin Luther King, Jr. Community Center	1,088	1,602,630	$4,317,584	$152,777	14	126.1%	872	20,534
Paul Laurence Dunbar Lancaster-Kiest Branch Library	265	417,926	$1,298,386	$46,382	13	140.3%	227	5,355
Beckley-Saner Recreation Center	253	375,448	$1,239,255	$32,405	16	77.8%	204	4,811
Walnut Hill Recreation Center	220	331,140	$1,114,871	$30,326	16	84.8%	180	4,243
Nash-Davis Recreation Center	187	272,475	$1,012,373	$28,565	15	91.8%	148	3,491
West Dallas Multipurpose Center	169	253,190	$740,690	$24,233	13	120.5%	138	3,244
Samuell-Grand Recreation Center	167	241,838	$961,953	$21,809	17	61.0%	132	3,099
Northeast Service Center	165	247,409	$763,523	$27,733	12	141.1%	135	3,170
Quarter Master	148	215,928	$709,719	$24,480	13	130.2%	117	2,767
Building Serving Portfolio Total	**2,662**	**3,957,984**	**$12,158,354**	**$388,710**	**14**	**111.7%**	**2,153**	**50,714**

Community Serving Sites	System Details				Environmental Impact	
Site Name	Solar System Size (kWdc)	Annual Production (kWh)	Installation Price	# of Community Solar Subscriptions	Annual GHG Emissions Avoided ($MTCO_2e$)	GHG Emissions Avoided by 2050 ($MTCO_2e$)
Martin Luther King, Jr. Community Center	1,088	1,602,630	$4,620,273	119	872	20,534
Southwest Transfer Station	961	1,456,699	$4,099,586	108	792	18,664

Martin Luther King, Jr. Community Center

Use: Building serving or community serving

Type: Rooftop + carport

Size: 1,088 kW

Estimated Cost: $4.3 Million

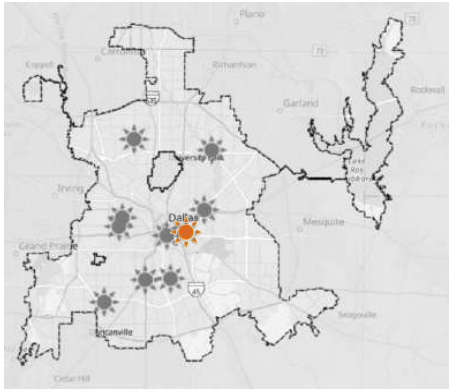
Year 1 Savings: $152,777

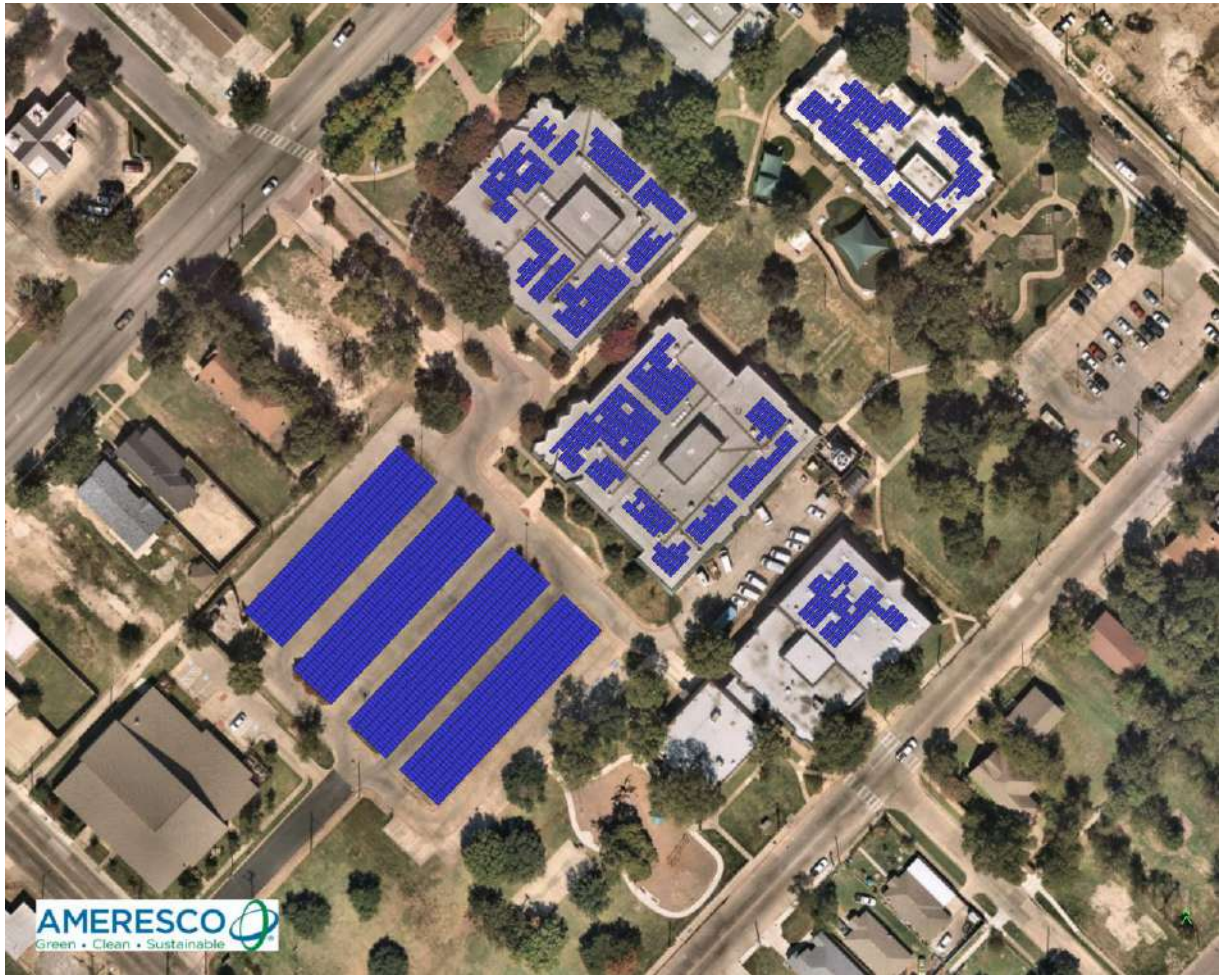
Payback (Yr): 14

Production: 1.6 million kWh
- 82% of site consumption
- Equivalent to 119 homes' annual consumption

Avoided GHG: 872 $MTCO_2e$ per year
20,534 $MTCO_2e$ by 2050

Location:





2922 Martin Luther King Jr Blvd, 75215

Paul Laurence Dunbar Lancaster-Kiest Branch Library

Use: Building serving

Type: Ground mount

Size: 265 kW

Estimated Cost: $1.3 Million

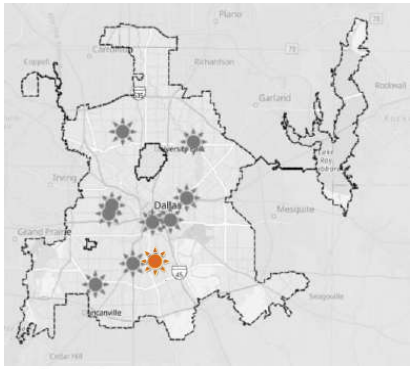
Year 1 Savings: $46,382

Payback (Yr): 13

Production: 417,926 kWh
- 98% of site consumption
- Equivalent to 31 homes' annual consumption

Avoided GHG: 227 $MTCO_2e$ per year
5,355 $MTCO_2e$ by 2050

Location:



2008 E Kiest Blvd, 75216

Beckley-Saner Recreation Center

Use: Building serving

Type: Rooftop + carport

Size: 253 kW

Estimated Cost: $1.24 Million

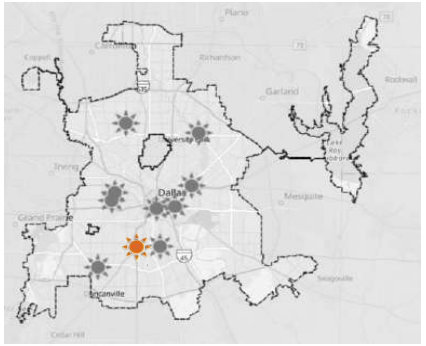
Year 1 Savings: $32,405

Payback (Yr): 16

Production: 375,448 kWh
- 84% of site consumption
- Equivalent to 28 homes' annual consumption

Avoided GHG: 204 $MTCO_2e$ per year
4,811 $MTCO_2e$ by 2050

Location:



114 W Hobson Ave, 75224

Walnut Hill Recreation Center

Use: Building serving

Type: Rooftop + carport

Size: 220 kW

Estimated Cost: $1.11 Million

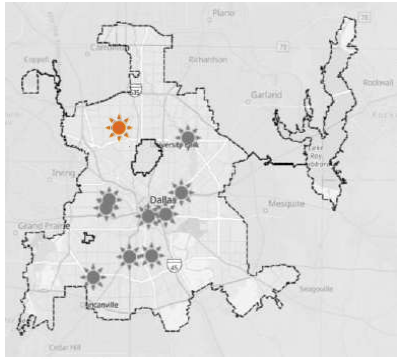
Year 1 Savings: $30,326

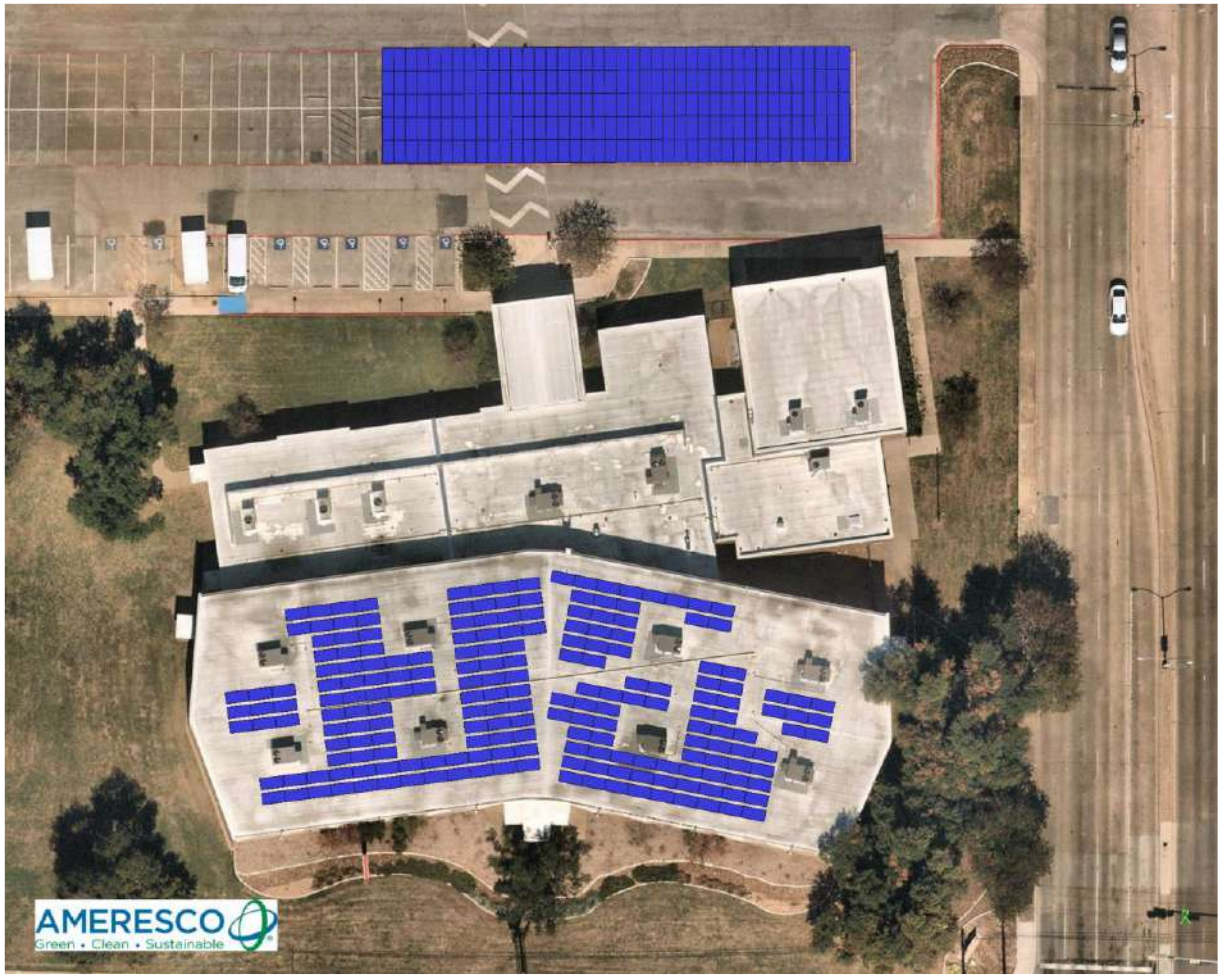
Payback (Yr): 16

Production: 331,140 kWh
- 99% of site consumption
- Equivalent to 25 homes' annual consumption

Avoided GHG: 180 $MTCO_2e$ per year
4,243 $MTCO_2e$ by 2050

Location:





10011 Midway Rd, 75229

Nash-Davis Recreation Center

Use: Building serving

Type: Rooftop + carport

Size: 187 kW

Estimated Cost: $1.01 Million

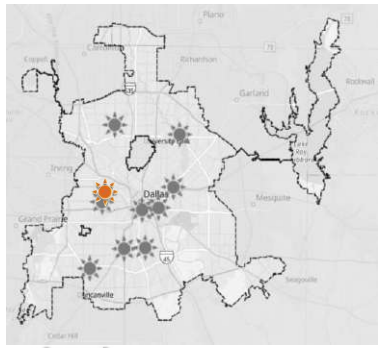
Year 1 Savings: $28,565

Payback (Yr): 15

Production: 272,475 kWh
- 92% of site consumption
- Equivalent to 20 homes' annual consumption

Avoided GHG: 148 $MTCO_2e$ per year
3,491 $MTCO_2e$ by 2050

Location:



3712 N Hampton Rd, 75212

West Dallas Multipurpose Center

Use: Building serving

Type: Rooftop

Size: 169 kW

Estimated Cost: $740,690

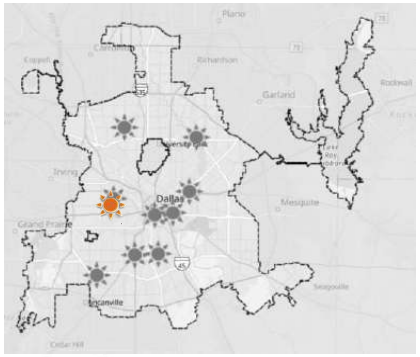
Year 1 Savings: $24,233

Payback (Yr): 13

Production: 253,190 kWh
- 65% of site consumption
- Equivalent to 19 homes' annual consumption

Avoided GHG: 138 $MTCO_2e$ per year
3,244 $MTCO_2e$ by 2050

Location:



2828 Fish Trap Rd, 75212

Samuell-Grand Recreation Center

Use: Building serving

Type: Rooftop + carport

Size: 167 kW

Estimated Cost: $961,953

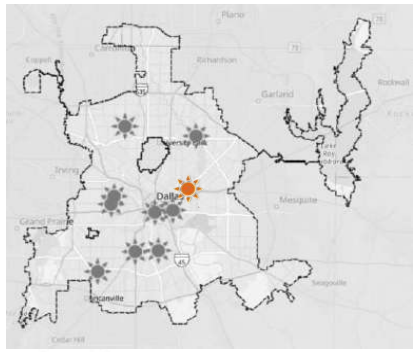
Year 1 Savings: $21,809

Payback (Yr): 17

Production: 241,838 kWh
- 94% of site consumption
- Equivalent to 18 homes' annual consumption

Avoided GHG: 132 $MTCO_2e$ per year
3,099 $MTCO_2e$ by 2050

Location:



6200 E Grand Ave, 75223

Northeast Service Center

Use: Building serving

Type: Rooftop

Size: 165 kW

Estimated Cost: $763,535

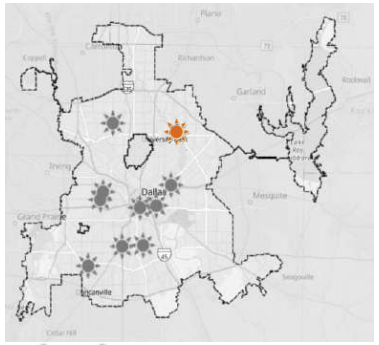
Year 1 Savings: $27,733

Payback (Yr): 12

Production: 247,409 kWh
- 92% of site consumption
- Equivalent to 18 homes' annual consumption

Avoided GHG: 135 $MTCO_2e$ per year
3,170 $MTCO_2e$ y 2050

Location:



8935 Adlora Ln, 75238

Quarter Master

Use: Building serving

Type: Rooftop

Size: 148 kW

Estimated Cost: $709,719

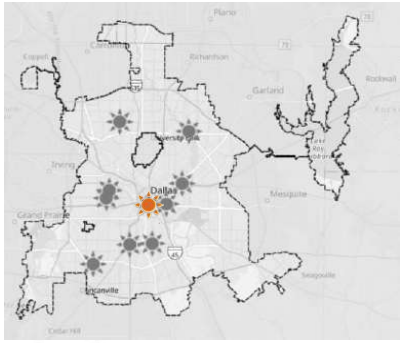
Year 1 Savings: $24,480

Payback (Yr): 13

Production: 215,928 kWh
- 89% of site consumption
- Equivalent to 16 homes' annual consumption

Avoided GHG: 117 $MTCO_2e$ per year
2,767 $MTCO_2e$ by 2050

Location:



1600 Botham Jean Blvd, 75215

Southwest Transfer Station

Use: Community serving

Type: Ground mount

Size: 961 kW

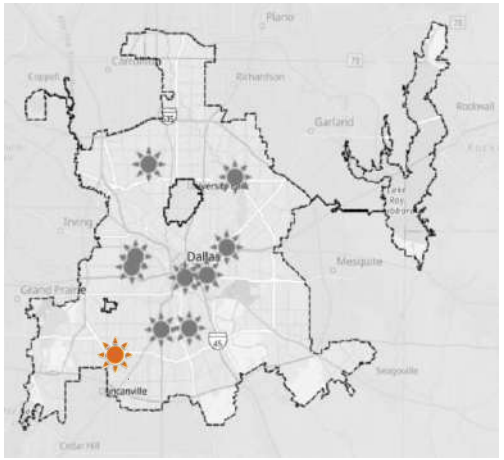
Estimated Cost: $4.1 Million

Production: 1.5 million kWh

- Able to support approximately 100 residential subscriptions

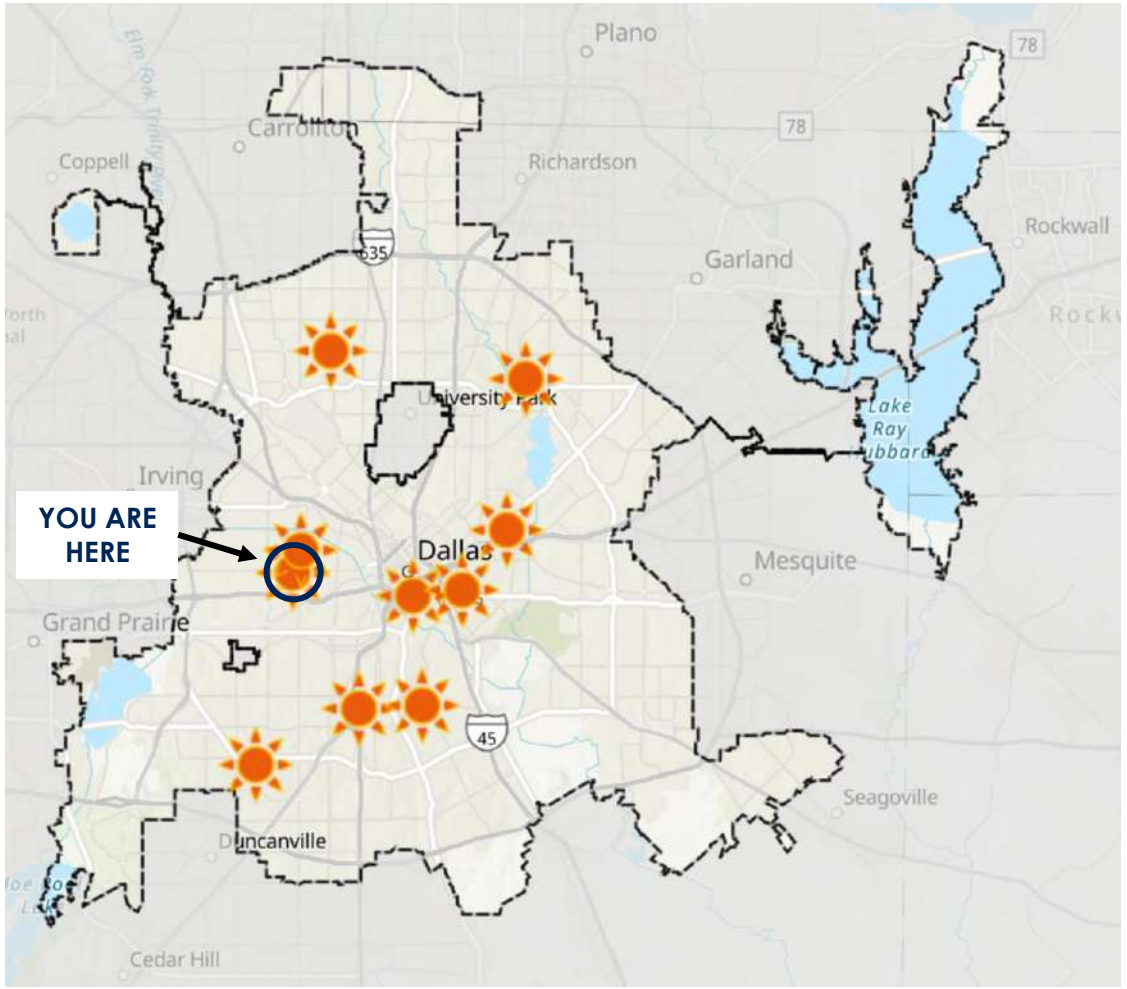
Avoided GHG: 792 $MTCO_2e$ per year
18,664 $MTCO_2e$ by 2050

Location:



4610 S Westmoreland Rd, 75237

Priority City of Dallas Sites for Solar Development



Priority Site Map

City of Dallas

bitly

Link: bit.ly/CODSolarSiteMap

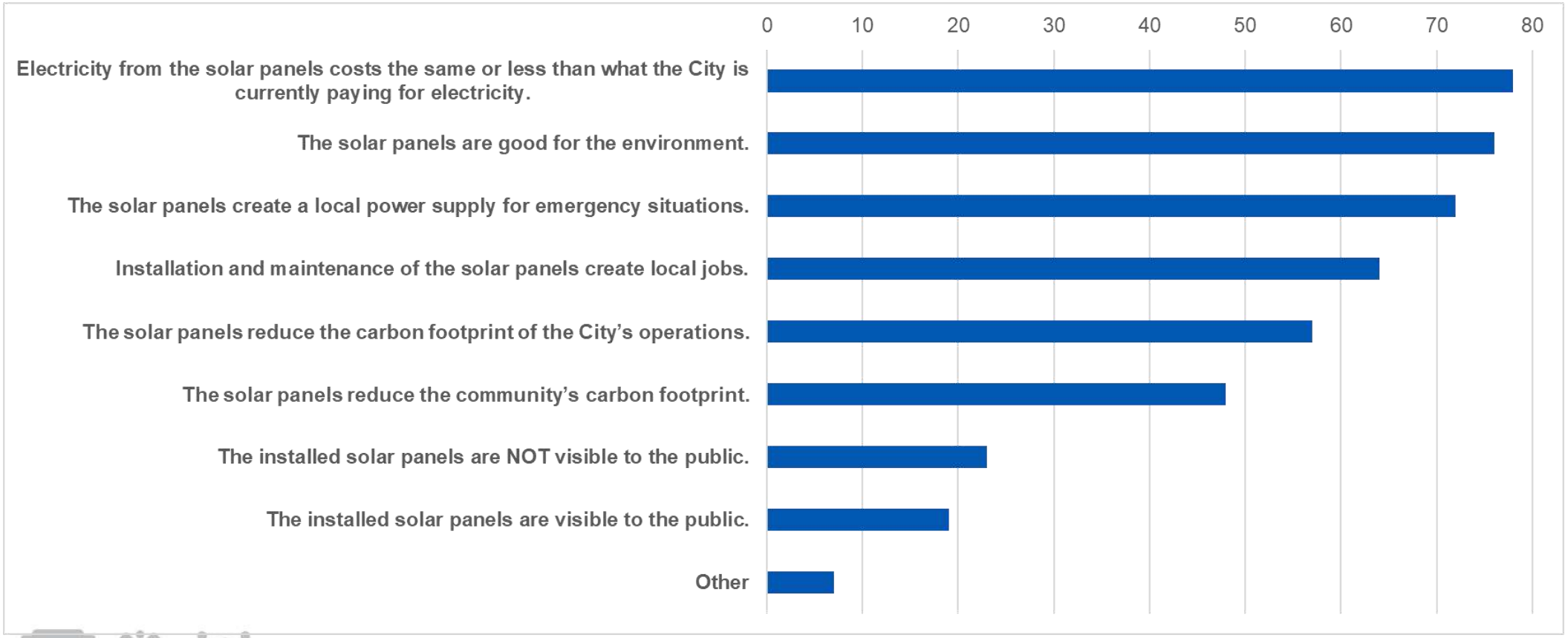
Stakeholder Feedback

- Community Feedback: Survey + Town Halls
- City Departments
- Environmental Commission
- Upcoming: City Council Parks, Trails, & the Environment Committee

Community Survey Feedback

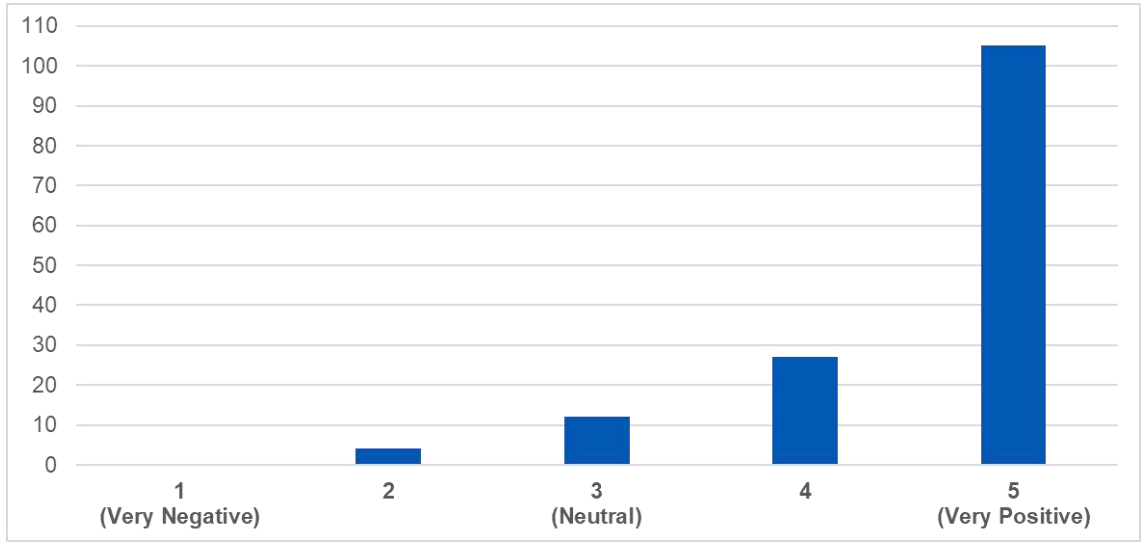
Which of the following would be most important to you for the City of Dallas to consider when installing solar panels at City properties?

Please select your top three (3) priorities from the list below.

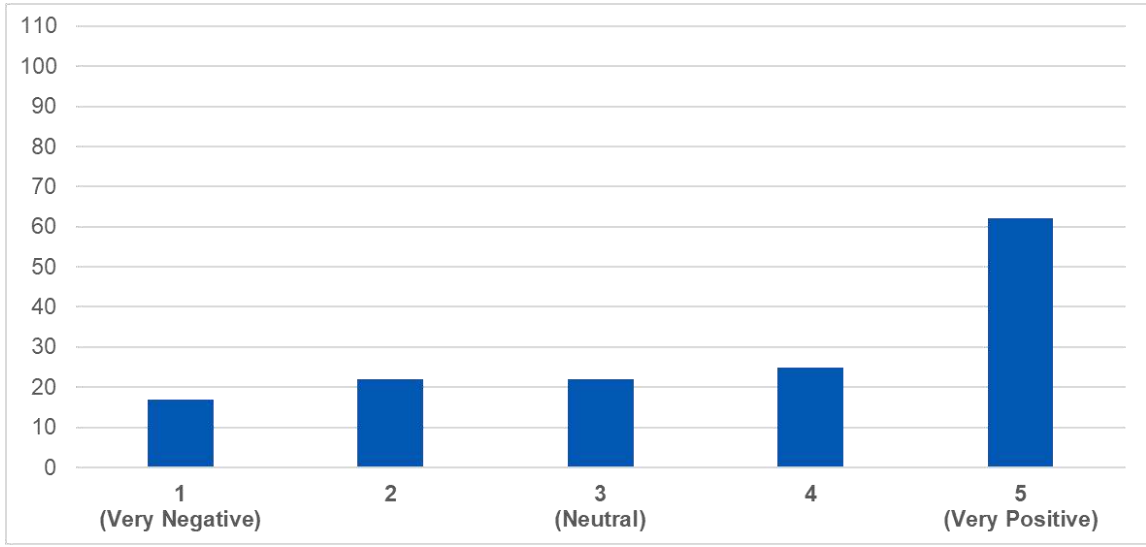


Community Survey Feedback (cont.)

How would you feel about solar panels being installed on City of Dallas buildings like City Hall, libraries, and recreation centers?



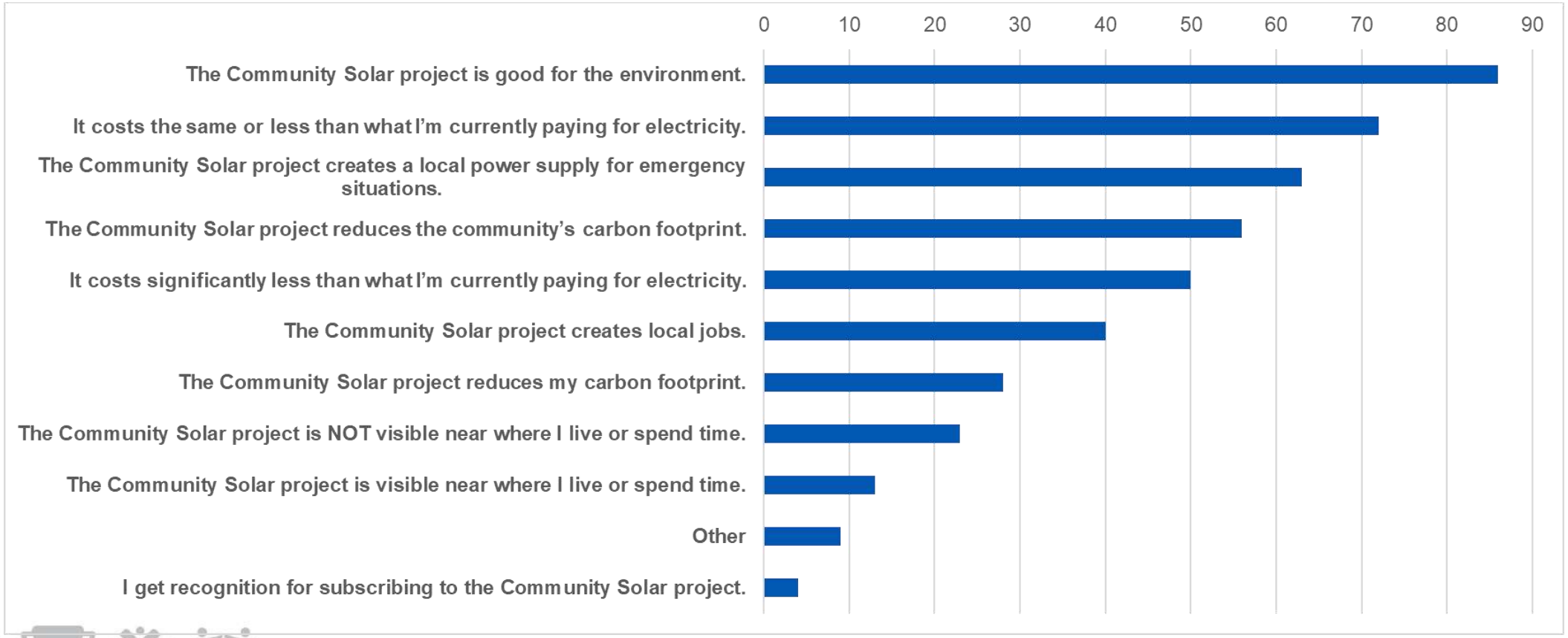
How would you feel about solar panels being installed on City of Dallas parks and other open spaces?

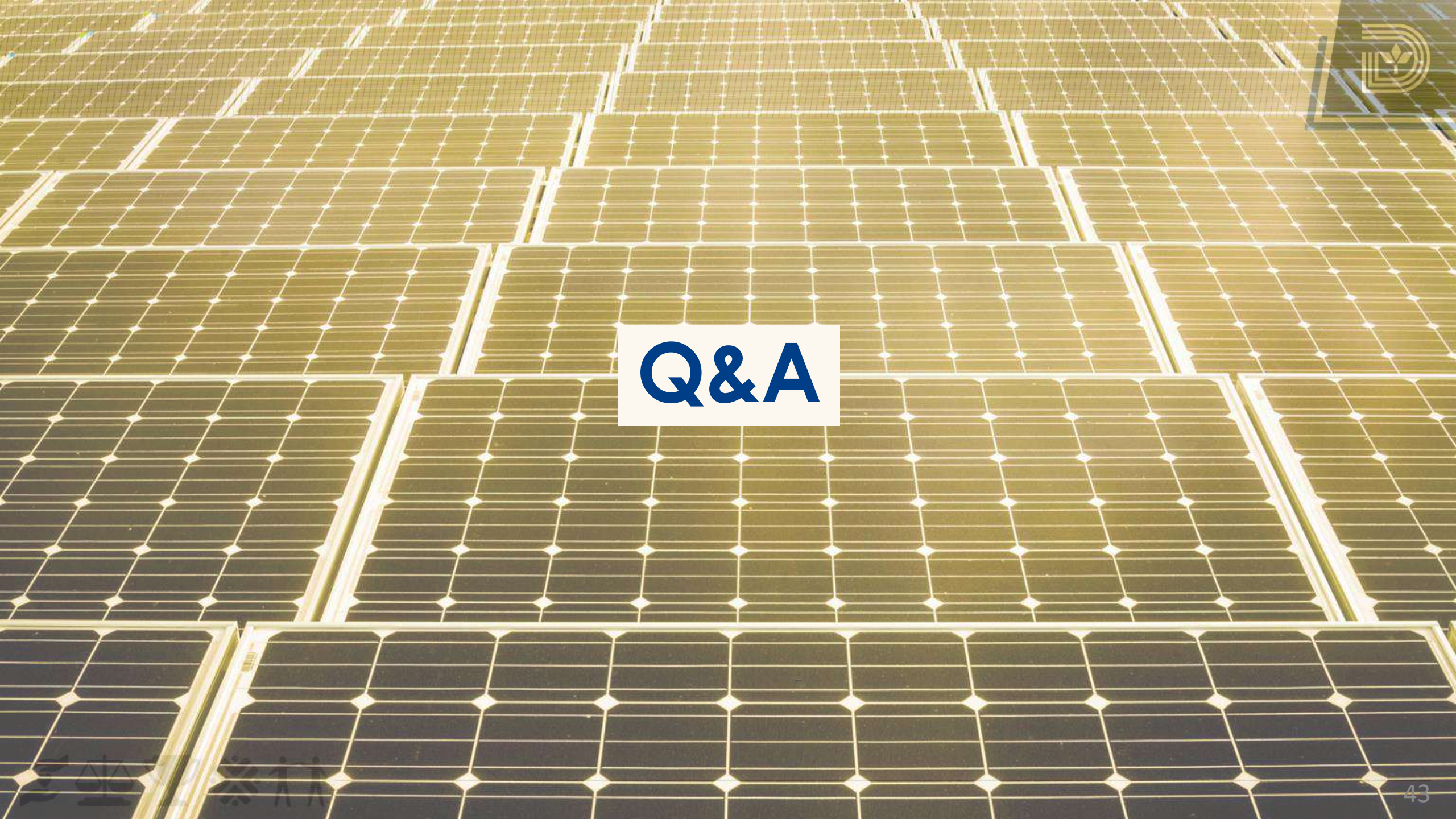


Community Survey Feedback (cont.)

Which of the following would be most important to you in deciding whether to subscribe to a Community Solar project?

Please select your top three (3) priorities from the list below.




Q&A

Help us prioritize!

Cast your vote for the TOP 3 sites you'd like the City of Dallas to prioritize for solar.

https://www.menti.com/alp46q5483vh

Code: 73 00 68 3

Solar Switch Dallas

www.solarswitch.com/dallas

Closing & Next Steps

- Mar. 4 – City Council Parks, Trails, & the Environment Committee
- Consultant team will integrate community feedback in the final report.
- OEQS will use the report findings to seek funding and issue solicitation documents for priority sites.

City of Dallas

Solar Siting Study Town Hall

February 21, 2024

Office of Environmental
Quality & Sustainability
City of Dallas