

City of Key West City Hall and Police Station



Prepared by:

Lance Frank

Scout Solar

lfrank@scoutsolar.com

480.547.4586



TABLE OF CONTENTS

Section 1

Company Qualifications and Experience

Section 2

Project Elements

Section 3

Financial Analysis

Section 4

Scout Solar's Portfolio





Section 1: Company Qualifications and Experience

Solar Company Experience

Scout Solar, established in 2009, is a privately-owned solar project integrator based in Tempe, Arizona. The two principals bring backgrounds of investment banking and tax credit/incentives consulting to the company. Other members on the management team provide expertise in engineering, project management, customer support, procurement, solar installation and electrical troubleshooting.

Scout Solar's team currently includes 21 full-time professionals. Our team has installed and consulted on over 200 commercial systems which represent approximately 70 Megawatts (MW) of installed capacity. To date, Scout Solar has installed shade structures in dozens of parking lots dating back to October 2011. Many of our clients, including the YMCA and the City of El Mirage, initially hired Scout Solar for a specific project and subsequently asked us to install solar arrays at all available locations.

Scout Solar places a great deal of value on training our employees. Because of this, our installation crew participates in OSHA 10 and OSHA 30 certification along with forklift safety training.

Chief System Designer, Armando Grijalva, has obtained the following certifications from NABCEP:

- NABCEP Certified Solar PV Installer, License 051112-74
- NABCEP Certified Solar PV Technical Sales, License PVTS081112-27
- NABCEP Certified Solar Heating Installer, License SH-101913-002847



Section 2 - Project Elements

PV Array Placement and Sizing Considerations

For the City of Key West's City Hall and Police Station, our engineering team has recommended a 366 kW system.

Most equipment (inverters, combiner boxes, etc.) will be integrated and attached to the solar structures where applicable. The rest of the equipment will be located at the service entrance and, to the degree possible, positioned or screened from normal pedestrian view.

Integrated Design and Construction

All structural design and electrical engineering is done in-house, allowing us to have full control of the development process.

Permitting and Construction Plan

Scout Solar will handle every aspect of City permitting, engineering review, and utility interconnection application paperwork. Minimizing disruption to your location is a high priority. We will work closely with the City ensuring municipal statutes regarding construction and in order to attain required permits in a timely manner. Early on, we will also interface with your utility provider to ensure our electrical design is in compliance with all current guidelines.



Commissioning, Monitoring, and Operations & Maintenance (O&M)

Scout Solar has an experienced team of technicians who perform comprehensive inspections and testing of equipment before the system is commissioned (energized). The system will then be monitored remotely using the Internet, and customized applications; In the event of a problem, Scout Solar will assess the issue within 48 hours. If the issue is unable to be resolved remotely, Scout will send a technician to the site to remedy the issue. Typically, as solar systems require very little maintenance, a bi-annual site check will be performed.

Warranties, Certifications, Licenses, and Guarantees

In the event of a solar system failure, there will be no loss of power since the City of Key West is always connected to the electrical grid through the utility company. If the utility grid goes down for whatever reason, the solar equipment will automatically shut itself off to ensure any electrical line workers are not at risk of encountering electricity being back-fed onto a grid. Scout will be automatically notified and send a crew out to repair the system, immediately.

Scout Solar is fully licensed, bonded, and insured and has an electrical contracting license: ROC 264927 CR11.

The City of Key West has no maintenance requirements/responsibilities.



Agreements and Obligations

- Scout Solar will handle all permitting, engineering, construction, and maintenance of the system as defined in the final agreement.
- Throughout the engineering and construction process, the City of Key West will be called on periodically to review, approve, and sign off on City and Utility documentation and solar system placement. The City of Key West will have the opportunity to review and approve all design elements.

Section 3 – Financial Analysis

- The City of Key West's current energy rates average approximately \$0.101/kWh (without including demand and fixed charges). These figures are based on 12 months of billing statements/interval data provided.
- 3.00% escalator is equal to the average electricity cost increases over the last 12 years.
- The City of Key West's savings over the life of the agreement are estimated to be:

Average savings/year:

\$13,505

Total savings:

\$337,624



City of Key West
Solar Cost Savings Parameters

System size*	Annual Sun Hours (NREL)	System Production Year 1	Annual system degradation
366 kW	1600	585,600 kWh	0.50%
Effective Base Utility Rate	Projected Annual Utility Increase	Proposed Rate	Lease Escalation Rate
\$0.101/kWh	3.00%	\$0.095/kWh	2.00%

Total Savings: \$337,624

Note: The Effective Base Utility Rate is a weighted average, without demand and fixed charges.

*System Size subject to change depending on land and building availability.

Financial Analysis



Based on an estimated three percent (3.0%) annual increase in the price per kWh of electricity, when fixed charges and demand are removed completely from the equation, the potential benefits to the facility over the twenty-five-year period will be **\$337,624**.

Scout Solar Advisors Rate Proposal for City of Key West - City Hall and Police Station

	Total Bill without Solar	Total Bill Minus Demand	Portion of Bill Affected by Solar	Annual Solar Lease Payments*	Estimated Annual Savings	Total Estimated Annual Payment Minus Demand*	Estimated Total Payment**	Estimated Annual Savings Without Demand*	Estimated Annual Savings if only 10% of Demand is Affected*
Year 1	\$ 159,342	\$ 122,990	\$ 58,900	\$ 55,632	\$ 3,268	\$ 119,722	\$ 156,075	\$ 3,268	\$ 7,230
Year 2	\$ 163,302	\$ 126,046	\$ 60,364	\$ 56,461	\$ 3,903	\$ 122,143	\$ 159,399	\$ 3,903	\$ 8,019
Year 3	\$ 167,360	\$ 129,178	\$ 61,864	\$ 57,302	\$ 4,561	\$ 124,617	\$ 162,799	\$ 4,561	\$ 8,836
Year 4	\$ 171,519	\$ 132,389	\$ 63,401	\$ 58,156	\$ 5,245	\$ 127,144	\$ 166,274	\$ 5,245	\$ 9,683
Year 5	\$ 175,781	\$ 135,678	\$ 64,976	\$ 59,023	\$ 5,954	\$ 129,724	\$ 169,827	\$ 5,954	\$ 10,560
Year 6	\$ 180,150	\$ 139,050	\$ 66,591	\$ 59,902	\$ 6,689	\$ 132,361	\$ 173,460	\$ 6,689	\$ 11,468
Year 7	\$ 184,626	\$ 142,505	\$ 68,246	\$ 60,794	\$ 7,451	\$ 135,054	\$ 177,175	\$ 7,451	\$ 12,409
Year 8	\$ 189,214	\$ 146,047	\$ 69,942	\$ 61,700	\$ 8,242	\$ 137,805	\$ 180,973	\$ 8,242	\$ 13,382
Year 9	\$ 193,916	\$ 149,676	\$ 71,680	\$ 62,620	\$ 9,060	\$ 140,616	\$ 184,856	\$ 9,060	\$ 14,390
Year 10	\$ 198,735	\$ 153,395	\$ 73,461	\$ 63,553	\$ 9,908	\$ 143,487	\$ 188,827	\$ 9,908	\$ 15,433
Year 11	\$ 203,674	\$ 157,207	\$ 75,287	\$ 64,500	\$ 10,787	\$ 146,420	\$ 192,887	\$ 10,787	\$ 16,512
Year 12	\$ 208,735	\$ 161,114	\$ 77,158	\$ 65,461	\$ 11,697	\$ 149,417	\$ 197,038	\$ 11,697	\$ 17,629
Year 13	\$ 213,922	\$ 165,117	\$ 79,075	\$ 66,436	\$ 12,639	\$ 152,479	\$ 201,283	\$ 12,639	\$ 18,783
Year 14	\$ 219,238	\$ 169,221	\$ 81,040	\$ 67,426	\$ 13,614	\$ 155,607	\$ 205,624	\$ 13,614	\$ 19,977
Year 15	\$ 224,686	\$ 173,426	\$ 83,054	\$ 68,431	\$ 14,623	\$ 158,803	\$ 210,063	\$ 14,623	\$ 21,212
Year 16	\$ 230,269	\$ 177,735	\$ 85,118	\$ 69,450	\$ 15,667	\$ 162,068	\$ 214,602	\$ 15,667	\$ 22,488
Year 17	\$ 235,992	\$ 182,152	\$ 87,233	\$ 70,485	\$ 16,748	\$ 165,404	\$ 219,244	\$ 16,748	\$ 23,807
Year 18	\$ 241,856	\$ 186,679	\$ 89,401	\$ 71,535	\$ 17,865	\$ 168,813	\$ 223,991	\$ 17,865	\$ 25,170
Year 19	\$ 247,866	\$ 191,318	\$ 91,622	\$ 72,601	\$ 19,021	\$ 172,297	\$ 228,845	\$ 19,021	\$ 26,578
Year 20	\$ 254,026	\$ 196,072	\$ 93,899	\$ 73,683	\$ 20,216	\$ 175,856	\$ 233,809	\$ 20,216	\$ 28,033
Year 21	\$ 260,338	\$ 200,944	\$ 96,232	\$ 74,781	\$ 21,452	\$ 179,493	\$ 238,886	\$ 21,452	\$ 29,536
Year 22	\$ 266,807	\$ 205,938	\$ 98,624	\$ 75,895	\$ 22,729	\$ 183,209	\$ 244,079	\$ 22,729	\$ 31,089
Year 23	\$ 273,438	\$ 211,055	\$ 101,075	\$ 77,026	\$ 24,049	\$ 187,006	\$ 249,389	\$ 24,049	\$ 32,692
Year 24	\$ 280,233	\$ 216,300	\$ 103,586	\$ 78,173	\$ 25,413	\$ 190,887	\$ 254,820	\$ 25,413	\$ 34,347
Year 25	\$ 287,196	\$ 221,675	\$ 106,160	\$ 79,338	\$ 26,822	\$ 194,853	\$ 260,374	\$ 26,822	\$ 36,056
Total								\$ 337,624	\$ 495,317

City of Key West

The sum of the greenhouse gas emissions reduced **per year** by the proposed PV system for City of Key West is equivalent to:



628,810

Miles driven by an average passenger vehicle.



87.7

Tons of waste recycled instead of landfilled.



28,505

Gallons of gasoline consumed.



9,601

Incandescent lamps switched to LEDs.



49.3

Homes' electricity use for one year.



300

Acres of U.S. forests in one year.



Scout Solar

Projects portfolio.

City of El Mirage Police Station

Covered parking spaces

After completion of the Fire Station parking structures and solar systems, The City awarded Scout with their Police Stations and City Hall. Scout builds relationships and pays special attention to the needs of each client. Lasting partnerships require attentive partners.

Address: 112401 W Cinnabar Ave,
El Mirage, AZ 85335

Size: 141.12 kW

Year: 2014





City of El Mirage City Hall

Covered parking spaces



Address: 10000 N El Mirage Rd, El Mirage, AZ 85335

Size: 100.8 kW

Year: 2017

El Mirage Gateway Park

Covered parking spaces

Address: 10100 N El Mirage Rd, El
Mirage, AZ 85335
Size: 96.39 kW
Year: 2016



Northwest Valley Family YMCA

Covered parking spaces

Address: 12450 W Cinnabar Ave, El
Mirage, AZ 85335
Size: 192.15 kW
Year: 2015



Roman Catholic Diocese of Phoenix

Over 1 MW built across the State of Arizona



Address: 400 E Monroe St,
Phoenix, AZ 85004.

Since: 2013

The systems for the Roman Catholic Diocese of Phoenix were designed specifically for each location maximizing shade needs for parking, playgrounds and basketball courts.

The solar system, coupled with high efficiency, low resource demand equipment and fixtures, provide for the needs of the various facilities.

Presidio Residents Club

Covered parking spaces.



Address: 18209 W Calistoga Dr, Goodyear, AZ 85338.

Size: 211.86 kW

Year: 2019

The canopies located at the Presidio Residents Club provides shade to the residents vehicles and generates electricity with no carbon emissions.

These structures, coupled with high efficiency equipment, provide for the needs of the facility.

Two rows of carports support a DC system of 211.86 kW.

All of this interconnected to the electrical system generates a total of 350,000 kWh of energy annually.

Other representative projects



First Methodist Baptist

Address: 5510 N Central Ave,
Phoenix, AZ 85013
Size: 71.28 kW
Year: 2019

Shadow Rock Church

Address: 12861 N 8th Ave, Phoenix,
AZ 85029
Size: 90 kW
Year: 2016

American Heritage Academy

Address: 2030 E Cherry St,
Cottonwood, AZ 86326
Size: 33.80 kW
Year: 2017



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