



CITY OF PALM SPRINGS
DEPARTMENT OF PLANNING SERVICES
MEMORANDUM

Date: September 14, 2016
To: Planning Commission
From: Flinn Fagg, AICP
Director of Planning Services
Subject: Subcommittee Report – Mandatory Solar Program

Commissioner Middleton, as liaison to the Sustainability Commission, has been meeting with members of the Green Building/Solar Subcommittee to discuss costs and incentives for a mandatory solar program. The subcommittee has prepared an informational report (attached), which will be presented at the Planning Commission meeting of September 14, 2016. The report will be presented under the "*Planning Commission Reports, Requests and Comments*" portion of the agenda; Commissioner Freedman and Commissioner Otto from the Sustainability Commission will also be in attendance to answer questions about the report.



SUBCOMMITTEE REPORT

PRESENTED FOR COMMISSION MEETING DATE: 09/13/16	SUBMITTED BY: David Freedman
SUBCOMMITTEE NAME: Green Building / Solar (with Planning Commission liaison)	SUBMITTED DATE: 09/06/16
SUBCOMMITTEE MEETING DATES: 07/28/16 and 08/29/16	NEXT SUBCOMMITTEE MEETING DATE: 09/15/16

Subcommittee Meeting Goals:

Discuss costs and incentives for mandatory solar program for new construction and major renovations.

Summary:

Subcommittee members discussed costs and incentives for a mandatory solar program for new construction and major renovations applicable to residential buildings, as a follow-up to the discussion on this topic at the June 23, 2016, joint study session of the City Council and the Sustainability Commission. A more detailed report is attached.

Recommendation/Request

ACTION ITEMS REQUEST TO COMMISSION	Consider recommended solar ordinance once presented and discussed.
ACTION ITEMS REQUEST TO OFFICE OF SUSTAINABILITY	Arrange meetings with the relevant City staff; schedule study session with stakeholders, Planning Commission and City Council Sustainability Subcommittee (Mayor Moon, Councilmember Kors).
POTENTIAL FISCAL IMPACT/REQUEST IF ANY:	None determinable at this time.

Sustainability Commission Green Building / Solar Subcommittee Report On Costs and Available Incentives for a Palm Springs Solar Mandate

I. Introduction

The Sustainability Commission Green Building / Solar Subcommittee, together with Planning Commission liaison Lisa Middleton, met on July 28 and August 29, 2016, to follow up on the discussion of a possible solar mandate for Palm Springs at the June 23, 2016, joint study session of the City Council and the Sustainability Commission. In response to comments from members of City Council on availability of incentives and ensuring the affordability of housing, Subcommittee members have gathered information on costs and available incentives for a Palm Springs solar photovoltaic (PV) mandate, applicable to new construction and retrofits for single-family homes.

II. New residential construction

A. Cost analysis

1. Upfront costs

a. Construction costs

Based on a 2,000 square foot house using 15,000 kWh of power per year – the typical range is from 10,000 - 20,000 kWh per year for a 2,000 square foot energy-efficient home – the proposed mandatory solar installation is 2 watts per square foot – $2 \times 2000 = 4,000 = 4$ kW system. This system would produce 6,000 kilowatt hours (kWh) annually.

Based on a survey of local solar installers, the system cost concurrent with new construction on a single home would be \$15,000 (\$3.75 / watt) to the developer. See Attachment 1, page 2, for details. The developer could then add its customary 15% overhead, which would give a cost to the customer of \$17,250 and a profit to the developer of \$2,250.

The system cost concurrent with new construction on 10 or more homes would be \$12,000 to the developer. With the developer's 15% overhead, the cost to the customer would be \$13,800. See Attachment 1, page 1, for details. The developer would have a profit of \$18,000 per every 10 homes.

Under Section 2.23 of the 2016 Residential Alternative Calculation Method Reference Manual for the 2016 Building Energy Efficiency Standards that go into effect on January 1, 2017, installing a solar PV system will provide a developer of new construction with a compliance credit dependent on the climate zone and dwelling unit size. Palm Springs is in climate zone 15 out of 16, resulting in the next-to-highest level of credit.

The credit may be used to trade off any efficiency measure. In particular, the new energy efficiency standards will require more insulation on attics and roofs and an advance wall system. According to the California Building Industry Association, avoiding these new requirements by installing a solar PV system would result in hard cost savings (labor and materials) to the developer of approximately \$3,000, assuming a house of 2,400 square feet and a solar PV system of at least 2.75 kilowatts. Additional soft costs of redesigning models to comply with the wall standards in effect when the developer submits the permit application may also be avoidable, resulting in further savings to the developer.

b. Mortgage costs

In the period from August 1, 2015, to August 22, 2016, based on the data from the Multiple Listing Service (MLS), 50 new homes were sold in Palm Springs, including four in the Escena neighborhood with solar panels installed. The average size of the homes was 2,051 square feet, the average sales price of the homes was \$ 641,873, and the median sales price was \$638,523. The lowest price of all of the homes sold (in the Mountain Gate neighborhood) was \$460,000. All other sales were for amounts greater than \$500,000. See Attachment 2 for details.

Based on ads published in the September 4, 2016, issue of The Desert Sun, prices for new homes currently on sale in Palm Springs range from the low \$500,000s (the Vallera development in the Baristo neighborhood) to the high \$1,400,000s (the SKYE development in the Historic Tennis Club neighborhood). See Attachment 3 for details. Houses in the new Tuscany Heights development in the Little Tuscany neighborhood, where prices are from the low \$1 millions, include 5.03 kW solar panels.

We have calculated mortgage costs based on a base purchase price of \$500,000 and an additional cost to the homeowner of \$13,800 (assuming a project of 10 houses or more). We have used a pro forma 30-year fixed mortgage rate of 4%. The additional monthly cost of the solar installation is \$46 (including the federal tax credit discussed below, but not including the possible deductibility of the mortgage interest). See Attachment 1, page 1, for details.

Based on a discussion with a mortgage broker in Palm Springs, the mortgage industry does not include utility bill payments of any kind in calculating a buyer's monthly debt and ability to repay a mortgage, so the increased mortgage payment resulting from the higher purchase price is not offset by lower electricity bills in calculating home purchase capacity.

2. Cost recovery

a. Electricity savings

As noted above, a 4 kW system will produce 6,000 kWh per year. This would offset approximately \$1,375 of annual electrical cost (\$115 / month) at the current Southern California Edison (SCE) tier 2 price of \$0.229 per kWh. Assuming a 6% annual growth in electricity rates, which is consistent with past increases, the offset would be approximately \$1,925 of annual electrical cost (\$163 / month) in year 5 and \$2,625 of annual electrical cost (\$218 / month) in year 10. After deducting the \$46 / month additional mortgage cost noted above, the monthly cost savings would be \$69 in year 1, \$117 in year 5 and \$172 in year 10. See Attachment 1, page 3, for details.

b. Federal tax credit

Legislation extending the Solar Investment Tax Credit (ITC) was signed into law on December 18, 2015. The bill extends the 30% Solar Investment Tax Credits for both residential and commercial projects through the end of 2019, and then drops the credit to 26% in 2020, and 22% in 2021 before dropping permanently to 10% for commercial projects and 0% for residential projects. In addition, the bill included language allowing owners

who commence construction on their projects before the end of 2021 to claim the larger credit once their project is placed in service, as long as that project is placed in service before the end of 2023.

c. Resale recapture

Solar PV installations on some US homes still receive no value during an appraisal because comparable home sales are lacking. The Winter 2016 issue of The Appraisal Journal published an analysis of solar home paired sales across six states, including the San Diego Metro Area. This first-of-its-kind study uses appraisal methods to evaluate sale price premiums for owned PV systems on single-unit detached houses across six states that were also evaluated in a large statistical study. The results provide strong, appraisal-based evidence of PV premiums in all the states studied, and the results support use of cost- and income-based PV premium estimates when paired sales analysis is impossible. This study includes sales mostly occurring between 2011 and 2013.

All paired sales in the San Diego metro area show a price premium for homes with PV systems. The average premium is \$17,127, which is 3.37% of the sale price or \$4.31 per watt (W) of the installed PV system. The per-watt premium is considerably lower than the average gross cost estimate of \$5.96/W but similar to the average net cost (\$4.00/W) and average income (\$3.67/W) estimates. In other words, the homeowner recovered the upfront net cost of the solar installation entirely upon resale and indeed even made a small profit on it.

Based on informal survey by an appraiser in Palm Springs, the extent of Coachella Valley solar PV system installations is too limited and the manner in which they are described in Valley MLS too varied to provide any reliable basis for statistical analysis to indicate if they are a value factor. See Attachment 4 for details.

On July 19, 2016, the White House announced the Administration's Clean Energy Savings for All Americans Initiative. Through this Initiative, the Administration will work to ensure that every household has options to choose to go solar and put in place additional measures to promote energy efficiency. Among these measures, the Department of Energy (DOE) has made in a critical partnership with industry, including a formal partnership with the Appraisal Foundation to develop guidance on valuation of energy efficiency in residential and commercial buildings that was launched in 2011. DOE is also partnering with the Appraisal Institute to integrate energy efficiency into appraisals and real estate transactions and deliver education and training to appraisers through the Better Buildings Home Energy Information Accelerator, where they have enlisted the support of the Real Estate Standards Organization, the Council of MLS, Homes.com, and National Association of Realtors. As a result, there may be more data on the appraisal value of solar PV systems in the future.

B. Incentive programs

1. Market rate housing

In addition to the federal tax credit mentioned above, the California New Solar Homes Partnership (NSHP) provides financial incentives and other support for installing eligible solar energy systems on newly constructed residential buildings

that receive electricity from investor-owned utilities, including Southern California Edison (SCE), which serves Palm Springs. The primary goal of the NSHP is to help create a self-sustaining market for energy efficient, new solar homes. Additional goals include home builders incorporating high levels of energy efficiency with high performing solar systems as standard features, and home buyers demanding energy efficient, solar homes. The NSHP encourages new home builders to install solar energy systems prior to it becoming mandatory in 2020 for all new residential construction under the zero net energy (ZNE) goals of the California Energy Commission (CEC) and the California Public Utilities Commission (CPUC).

The CEC implements the NSHP in coordination with the CPUC as part of the overall California Solar Initiative (CSI). As of August 4, 2016, NSHP had \$41 million in available funding. On June 9, 2016, the CEC authorized additional funding of \$111.78 million (of which \$45.95 million is for the SCE service area) to provide for continuing financial incentives for homeowners, builders, and developers to install solar energy systems on new, energy efficient residential dwellings under provisions of the NSHP Program.

The NSHP program provides two incentive structures: one for conventional or market-rate housing, affordable housing common area projects, and affordable housing residential projects with systems owned by non-tax-exempt entities; and another for affordable housing residential projects with systems owned by tax-exempt entities. For market-rate housing, affordable housing common area projects, and affordable housing residential projects with systems owned by non-tax-exempt entities, the incentive rate for the project is determined by the energy efficiency level that the newly constructed residential building(s) meets.

To be eligible for NSHP incentives, a solar PV system must be installed in conjunction with the construction of a new residential building that is permanently fixed to its foundation. The Alta Verde development and several other new home developments in Palm Springs have already benefitted from NSHP incentives.

The NSHP Guidebook describes the requirements to receive incentives for constructing energy-efficient solar homes under the NSHP. Solar energy systems that service the following newly constructed residential buildings where the entire building meets the energy efficiency requirements described in the Guidebook qualify for NSHP incentives:

- Single-family homes
- Duplexes
- Triplexes
- Condominiums
- Multifamily buildings (including market-rate and affordable housing projects)
- Mixed-use buildings
- Common areas in single- and multifamily developments that are shown to be for the primary benefit of the residential occupants

To be eligible for NSHP incentives, a solar energy system must be installed in conjunction with the construction of a new residential building that is permanently fixed to its foundation. The Alta Verde development in the Andreas Hills neighborhood and several other new home developments in Palm Springs have already benefitted from NSHP incentives.

The incentive levels are based on energy efficiency requirements:

- Code-Compliant: The building complies with the 2013 Building Energy Efficiency Standards.
- Tier I: Residential buildings that exceed the Building Energy Efficiency Standards in effect on the date the building permit is applied for by at least 15%.
- Tier II: Residential buildings that exceed the Building Energy Efficiency Standards in effect on the date the building permit is applied for by at least 30%.

The current incentive levels are as follows:

- \$1.50/watt for affordable housing residential units with tax-exempt system owners meeting Code-Compliant energy efficiency requirements,
- \$1.85/watt for affordable housing residential units with tax-exempt system owners meeting Tier I or Tier II energy efficiency requirements,
- \$0.50/watt for market-rate housing projects, affordable housing common areas, or affordable housing projects with a non-tax-exempt system owner meeting Code-Compliant energy efficiency requirements,
- \$0.75/watt for market-rate housing projects, affordable housing common areas, or affordable housing projects with non-tax-exempt system owners meeting Tier I energy efficiency requirements, or
- \$1.25/watt for market-rate housing projects, affordable housing common areas, or affordable housing projects with non-tax-exempt system owners meeting Tier II energy efficiency requirements.

Based on the 4 kW system we have used in our calculations, the developer could receive a rebate of up to \$2,000 (\$0.50/watt) at the current levels.

On July 8, 2016, the CEC staff held a workshop to re-assess program incentive levels in light of the 2016 Building Energy Efficiency Standards that go into effect on January 1, 2017, and consider other possible changes to the NSHP. The CEC expects to issue a draft of the new version of the Guidebook by mid-October, conduct another workshop and then adopt it at its November or December 2016 business meeting; however, this timeframe is subject to change. The Green Building / Solar Subcommittee will monitor developments on the NSHP.

2. Affordable housing

As noted above, the NSHP includes a structure for affordable housing residential projects. The NSHP offers a higher incentive to affordable housing residential projects with systems owned by tax-exempt entities because the affordable housing industry often faces more difficulties in the financing and incorporation of solar energy systems in its developments than do conventional housing developments. To be eligible for the NSHP rebates, the housing authority must submit a regulatory agreement with the property owner, which must provide for income-restricted occupancy of at least 20% of units for at least 10 years. The CEC is currently working to simplify participation requirements for affordable housing projects. This will be discussed in the next Guidebook revision.

The Coachella Valley Housing Coalition (CVHC) is among the affordable housing providers that are committed to install solar PV systems. The CVHC's policy is to install these systems in all of its projects in the SCE service area, particularly in cases where the projects result in a utility allowance where a certain percentage (e.g., 50%) of the energy savings go back to the resident. CVHC is currently having high-level, preliminary discussions with the City of Palm Springs on building new affordable housing units on City-owned properties. Should those discussions

progress to a more concrete level, CVHC will seek to install solar PV systems on these properties and will pursue NSHP and all other available incentives to reduce the costs to it and the residents.

III. Retrofits

A. Cost analysis

1. Upfront costs

a. Construction costs

As noted above, based on a survey of local solar installers, the system cost for a retrofit adding a 4 kW system to a single home would be \$15,000 (\$3.75 / watt). See Attachment 1, page 2, for details.

The Building Department issued 381 permits for single family additions / remodels in fiscal year 2015-16. The majority of these permits were for kitchen and bath remodels, with a permit value typically around \$ 25,000.

b. PACE costs

For market-rate residential housing retrofits, in addition to the federal tax credit and avoided costs of electricity mentioned above, homeowners are eligible to apply for property-assessed clean energy (PACE) loans to finance the cost of a solar installation. PACE financing is also available for energy efficiency and water conservation projects (such as desert landscaping and artificial turf), and the projects can be grouped together. An assessment is placed on the property and repaid through property tax bills. If the property is sold, including through foreclosure, the remaining PACE assessment may stay with the more energy efficient property and the next owner becomes responsible for the remaining PACE assessment, if this is accepted by the next owner and the bank providing the purchase mortgage.

Currently, three PACE programs are offered in Palm Springs: Ygrene, HERO and, most recently, CaliforniaFirst. The minimum amount that can be financed is \$5,000. The maximum financing amount is 15% of the property value, with a limit under certain of the programs of \$200,000. Homeowners can obtain up to a 30-year payback term under one of the programs and are eligible to deduct the interest portion of the PACE payments from their taxes, if they itemize their deductions. The interest rates are fixed and increase as the length of the loan increases. Based on the interest rates provided in mid-August by the three authorized PACE providers, the rates range from approximately 6.5% for a five-year loan to 8.5% for a 30 year-loan. One of the PACE providers also provides financing under the Mello-Roos Act, where both interest and principal of the PACE loan may be tax deductible, as determined by the homeowner's tax accountant. The PACE providers also charge upfront closing costs of 3% to 6% of the loan value, plus fixed costs of approximately \$1,000, which are included in the financed amount.

2. Cost recovery

a. Electricity savings

As noted above for new home construction, a 4 KW system would offset approximately \$1,375 of annual electrical cost (\$115 / month) in year 1, \$1,925 of annual electrical cost (\$163 / month) in year 5 and \$2,625 of annual electrical cost (\$218 / month) in year 10. Assuming the federal tax credit discussed below (but not including any deductibility of all or a portion of the loan), a 20-year loan from PACE or other funding sources at 8% would cost \$88 / month (funding from other sources may be available at lower rates). The monthly cost savings would be \$27 in year 1, \$75 in year 5 and \$130 in year 10. See Attachment 1, page 3, for details.

b. Federal tax credit

As noted above, federal tax credits have recently been extended through 2021. The credits are also available for new solar PV installations on existing houses.

c. Resale recapture

As noted above, a recent appraisal study of homes in the San Diego area confirmed recapture of the cost of installing a solar PV system upon resale.

In addition, as part of the Administration's Clean Energy Savings for All Americans Initiative announced in July, the US Department of Housing and Urban Development (HUD) and the Department of Veterans Affairs (VA) released new guidance to unlock residential PACE financing by outlining how properties with PACE assessments can be purchased and refinanced with Federal Housing Administration (FHA) mortgage insurance and by welcoming the use of PACE financing for Veterans Affairs (VA)-insured mortgages. The key requirements outlined in FHA's guidance are: the PACE assessment does not take first lien position ahead of the mortgage and the assessment transfers from one property owner to the next, including through a foreclosure sale. The guidance also requires that where energy and other PACE-allowed improvements have been made to the property through a PACE program, and the PACE obligation will remain outstanding, the appraiser must analyze and report the impact on the value of the property, whether positive or negative, of the PACE - related improvements and any additional obligation (i.e., the PACE special assessment).

B. Incentive programs

1. Market rate housing

As part of the City's continued effort to promote energy efficiency and encourage residents to protect the environment, the Office of Sustainability plans to offer a rebate program for property owners who participate in the CVAG Green for Life Green Building Program. The installation of solar PV system is among the projects that may qualify for an incentive if it generates at least 20 points under the CVAG program. The size of the incentive depends on the number of points under the CVAG program and can include an energy audit rebate up to \$200, a building

permit rebate up to \$500, and a home improvement or hardware store gift card up to \$500.

The incentive program will continue until rebate funds are no longer available. Customers are required to submit a completed rebate application during the timeframe of the campaign to be eligible for the rebate from the City. Once the applications are reviewed and approved, approximately 8-10 weeks, the customer will receive the rebate from the City. The Sustainability fund includes \$25,000 in fiscal year 2016-17 for this program.

2. Affordable housing

As part of CSI, the CEC has solar energy incentive programs for both single-family and multifamily affordable housing, under the Single-Family Affordable Solar Housing (SASH) and Multifamily Affordable Solar Housing (MASH) programs. These programs have current sunset dates of December 31, 2021. GRID Alternatives is the program manager for the SASH program.

CVHC has used MASH to help finance a solar PV system for the common areas of the Coyote Run affordable housing project in Palm Springs. CVHC has also used SASH for homes in Desert Hot Springs. CVHC will continue to seek available funds under MASH and SASH for its projects.

The SASH program has a budget of \$54 million, of which \$21 million in incentives is for the SCE service area. It provides a rebate of \$3 / watt-AC. As this rebate does not cover the full cost of installing the solar equipment, GRID Alternatives looks to other sources of funding, such as under the California cap and trade program, to cover the gap of approximately \$2,000 - \$ 6,000 per house.

To be eligible for SASH, the household annual income must not exceed 80% of area median income, currently \$53,600 for a family of four in Riverside County. The home must also meet PUC 2852 definition of affordable housing. There are a number of ways to meet this requirement, including 1) having an existing deed restriction on the property to ensure that it can only be resold to a purchaser meeting this income requirement, and 2) being located in a HUD defined Qualified Census Tract (QCT).

GRID Alternatives looks to equip houses with solar panels to cover 50% - 75% of the energy needs based on historical usage. It has done approximately 120 solar retrofits in Desert Hot Springs, 95 in Cathedral City, 95 in Palm Desert, and 3 in Palm Springs. GRID Alternatives has also done about a dozen projects in the Imperial Irrigation District (IID) service area and is looking to continue that work in light of IID's new net billing tariff, which will reduce the cost savings to approximately 30% - 60%.

In addition to providing low-income homeowners with reduced electricity bills, GRID Alternatives benefits the communities it serves by leveraging local green-job training and workforce development programs to assist with installing the solar systems. GRID Alternatives also does educational programs to assist low income families in identifying energy efficiency measures they can take and incentives to cover some of those costs. GRID Alternatives is available to come to Palm Springs to present its programs to the Sustainability Commission and do a community workshop, if there would be interest.

IV. Conclusion

As noted above, there is a large number of federal, state and city incentive programs to reduce the upfront costs of installing a solar PV system on residential housing and recover those costs via tax credits, lower electricity bills and an increased home resale price. As shown in the calculations in Attachment 1, a solar mandate will be cost effective, which is a requirement for a local jurisdiction to adopt an energy efficiency standard stricter than the statewide standards that go into effect on January 1, 2017.

As noted above, solar PV system installation is expected to be mandatory for all new residential construction by 2020 under the ZNE goals. The incentives encourage developers not to wait for ZNE but rather act as market leaders. Adopting a solar mandate in Palm Springs would also benefit its residents with lower bills and higher home resale values and advance the City's GHG reduction goals set out in its newly adopted Sustainability Plan. The solar industry responds quickly to regulatory and market changes, and the Green Building / Solar Subcommittee will recommend updates to any adopted mandate in light of evolving circumstances and industry best practices.

Attachments:

Attachment 1: Solar Cost Calculations

Attachment 2: New Single Family Homes Sold in Palm Springs in Past 12 Months

Attachment 3: New Single Family Home Developments for Sale in Palm Springs

Attachment 4: Value Factor of Solar PV Systems in Coachella Valley Appraisal Practice

Attachment 1

Solar Cost Calculations

Solar Impact on Mortgage

	<u>4 kW Solar Install Retrofit</u>	<u>4 kW Solar Install New Construction</u>
System Cost	\$15,000	\$12,000 (\$10,000 with NSHP Rebate)*
GC 15% mark up	\$0.00	\$1,800
Total	\$15,000	\$13,800
<u>Minus 30% FTC</u>	<u>(\$4,500)</u>	<u>(\$4,140)</u>
Net Cost to Home Owner	\$10,500	\$9,660
Monthly cost if added to mortgage (30 years @ 4%)	N/A	\$46.00 per month
Monthly cost with traditional solar financing (20 years @ 8%)	\$88.00 per month	N/A
Monthly cost of \$500,000 mortgage (30 years @ 4%)	\$2,387.00	
Monthly cost of \$509,660 mortgage and solar	\$2,433.00	

* Developer may be eligible for further rebates of up to \$0.50 per watt (\$2,000.00 for 4kW) Depending on NSHP available funds



Company	Rating
GRB Energy	★★★★★ (4)
Solar Max	★★★★★ (5)
SunPower	★★★★★ (5)
SunVest	★★★★★ (5)
Solar Union	★★★★★ (5)
ANS for XP	★★★★★ (1)

Company	Rating
GRB Energy	★★★★★ (4)
Solar Max	★★★★★ (5)
SunPower	★★★★★ (5)
SunVest	★★★★★ (5)
Solar Union	★★★★★ (5)
ANS for XP	★★★★★ (1)

Company	Rating
GRB Energy	★★★★★ (4)
Solar Max	★★★★★ (5)
SunPower	★★★★★ (5)
SunVest	★★★★★ (5)
Solar Union	★★★★★ (5)
ANS for XP	★★★★★ (1)

Company	Rating
GRB Energy	★★★★★ (4)
Solar Max	★★★★★ (5)
SunPower	★★★★★ (5)
SunVest	★★★★★ (5)
Solar Union	★★★★★ (5)
ANS for XP	★★★★★ (1)

Company	Rating
GRB Energy	★★★★★ (4)
Solar Max	★★★★★ (5)
SunPower	★★★★★ (5)
SunVest	★★★★★ (5)
Solar Union	★★★★★ (5)
ANS for XP	★★★★★ (1)

First year, first month electricity cost calculated by Energi-Sage...

Current

Rate Tiers	Tier 1	Tier 2	Tier 3	Tier 4
	15.1¢	20.9¢	24.3¢	30.2¢

New

Rate Tiers	Tier 1	Tier 2	Tier 3
	15.7¢	22.9¢	29.2¢

Retrofit Install

New Construction

Net Monthly Financed Cost

SCE cost offset	\$115.00	\$115.00
Monthly solar cost	(\$88.00)	(\$46.00)
Year 1 monthly savings	\$27.00	\$69.00
Year 5 monthly savings	\$75.00	\$117.00
Year 10 monthly savings (assuming a 6% annual utility increase)	\$130.00	\$172.00

* Monthly solar cost based on 8% fixed interest rate for retrofit install and 4% for new construction
* SCE cost offset based on 6,000 kWh of annual production @ Tier 2 price of \$0.229
* 6000 x 0.229 = \$1,374 annual savings. \$1,374 / 12 = \$114.50 Monthly savings

Attachment 2

New Single Family Homes Sold in Palm Springs in Past 12 Months

CMA Report

Status: Sold Sold Date: 08/01/2015 to Areas: (331) Palm Springs North End -- (332) Palm Springs Central -- (334) Palm Springs South
 End Year Built: 2014 to

Residential Single Family - Sold

Listing#	Address	Bd	Br	Sq Ft	Lot Sz	Year	Date	\$/Sf	DOM	Orig Price	List Price	Sale Price	Sp%Lp
15-932373PS	444 LIMESTONE FLATS	3	3	2,185	3,400	2015	01/28/16	242.71	95	500,990	500,990	530,314	105.85
15-932455PS	448 LIMESTONE FLATS	3	3	2,185	3,400	2015	02/16/16	246.90	62	500,990	500,990	539,468	107.68
15-932489PS	464 LIMESTONE FLATS	3	3	2,185	3,400	2015	12/29/15	235.33	88	500,990	500,990	514,195	102.64
15-932509PS	468 LIMESTONE FLATS	3	3	2,185	3,400	2015	01/28/16	232.05	111	505,990	505,990	507,040	100.21
16-979219PS	4280 REX CT	3	3	2,060	5,663	2015	08/05/16	252.43	142	579,990	524,990	520,000	99.05
SW15073298M	4270 Rex CT	3	3	1,972	5,250	2015	10/15/15	289.05	145	580,615	599,990	570,000	95.00
14-814851PS	4131 Arbor LN	2	2	1,984	5,663	2015	02/24/16	357.98	200	589,995	599,995	710,223	118.37
16-105330PS	4260 Paladino ST	2	3	1,972	6,171	2015	05/20/16	301.72	20	624,990	624,990	595,000	95.20
15-926049PS	4209 Indigo ST	2	3	1,975	5,227	2015	06/30/16	307.41	288	605,995	625,995	607,136	96.99
14-814763PS	4219 Indigo ST	2	3	1,964	5,227	2015	07/22/16	327.14	476	655,995	639,995	642,495	100.39
16-122274PS	4201 Odcon CT	3	4	2,318	9,583	2016	06/24/16	291.48	0	671,990	671,990	675,647	100.54
15-922045PS	4229 Indigo ST	3	3	2,105	5,663	2015	08/24/15	314.73	5	699,995	699,995	662,500	94.64
16-105290PS	699 EQUINOX WAY	3	3	2,537	7,413	2015	04/25/16	288.53	3	739,700	739,700	732,000	98.96
16-103396PS	624 Bliss WAY	3	3	2,649	6,825	2018	05/02/16	304.91	8	769,700	769,700	807,703	104.94
15-966459PS	680 EQUINOX WAY	3	3	2,552	6,970	2015	03/18/16	305.64	49	824,500	824,500	780,000	94.60
15-895543PS	4188 Indigo ST	2	3	2,561	6,534	2015	09/10/15	345.33	90	829,995	829,995	884,397	106.55
16-110294PS	1132 Vista Sol	3	3	1,907	7,553	2016	05/01/16	241.22	29	459,990	459,990	460,000	100.00
216008688DA	2101 W Acacia Road	3	3	2,189	10,454	2016	06/10/16	237.51	92	569,000	519,900	519,900	100.00
MC14211726M	430 W Santa Catalina RD	4	4	2,438	11,514	2015	03/09/16	237.90	468	679,900	599,897	590,000	96.68
IV16018331MR	2010 N Sunrise WAY	3	3	2,250	12,197	2016	06/17/16	266.67	88	648,000	618,000	600,000	97.09
16-979269PS	2614 ISABELLA WAY	3	3	2,436	10,454	2015	04/22/16	253.28	35	619,990	619,990	616,990	99.52
SW14240038M	2798 Isabella WAY	3	3	2,485	12,993	2014	08/24/15	255.93	201	683,990	635,990	635,990	100.00
SW15097614M	2506 Isabella WAY	3	3	2,485	11,758	2014	08/12/15	257.54	41	639,990	639,990	639,990	100.00
OC15229136M	1702 Sienna CT	3	3	2,485	12,678	2015	12/29/15	253.92	19	642,990	642,990	631,000	98.14
16-979285PS	1574 AVA CT	3	3	2,485	10,454	2015	03/31/16	255.53	19	675,000	649,990	635,000	97.69
15-937921PS	2461 N Junipero	3	2	2,142	12,500	2015	01/07/16	310.46	81	698,990	675,000	665,000	98.52
15-945003	2895 E VENETIA RD	3	3	2,268	8,712	2015	01/21/16	283.29	118	880,000	680,000	642,500	94.49
16-125000PS	1660 SAVVY CT	3	3	2,500	10,454	2015	06/30/16	264.00	30	689,000	689,000	666,000	95.79
15-939169PS	2740 N Farrell	4	4	2,400	15,212	2015	11/17/15	312.50	23	749,900	749,900	755,000	100.01
16-983719PS	344 Goleta WAY	2	3	1,530	2,970	2016	04/22/16	377.31	0	549,000	549,000	577,287	105.15
16-983125PS	350 Goleta WAY	2	3	1,772	2,961	2016	02/26/16	345.27	0	579,000	579,000	611,811	105.67
16-983709PS	328 Goleta WAY	2	3	1,530	2,988	2016	04/19/16	378.90	0	579,000	579,000	579,710	100.12
16-983119PS	316 Goleta WAY	2	3	1,772	3,303	2016	02/26/16	346.22	0	589,000	589,000	613,500	104.16
14-817223PS	773 E Twin Palms DR	3	2	1,793	5,115	2015	09/18/15	357.30	239	599,000	599,000	640,635	106.95
14-817339PS	779 E Twin Palms DR	3	2	1,793	5,115	2015	09/17/15	347.22	234	599,000	599,000	622,574	103.94
15-818107PS	791 E Twin palms DR	3	2	1,793	5,115	2015	10/15/15	338.49	16	599,000	599,000	606,917	101.32
15-818115PS	785 E Twin palms DR	3	2	1,793	5,115	2015	09/25/15	358.44	228	599,000	599,000	642,675	107.29
15-965253PS	797 E Twin Palms DR	3	2	1,793	5,115	2015	07/11/16	347.80	420	599,000	599,900	623,613	103.95
15-826673PS	761 E Twin Palms DR	3	2	1,793	5,015	2015	03/23/16	355.30	321	614,000	614,000	637,055	103.75
15-877203PS	767 E Twin Palms DR	3	2	1,793	5,115	2015	03/25/16	369.83	245	614,000	614,000	663,100	108.00
15-877053PS	749 E Twin Palms DR	3	2	1,793	5,115	2015	05/24/16	365.95	359	609,000	622,575	656,155	105.39
14-817077PS	799 E Twin Palms	3	2	1,793	8,250	2015	10/09/15	361.84	1	639,000	639,000	648,776	101.53
16-981159PS	305 Coleta	2	3	1,530	3,054	2016	06/13/16	405.23	117	649,000	649,000	620,000	95.53
15-949759PS	317 Goleta	2	3	1,772	3,150	2015	05/05/16	382.98	116	659,000	659,000	678,635	102.98
16-981593PS	329 Goleta WAY	2	3	1,772	3,843	2016	02/14/16	405.19	1	669,000	669,000	717,994	107.32
16-972093	769 S CALIFORNIA AVE	3	3	1,644	5,663	2015	03/21/16	410.58	68	670,000	670,000	675,000	99.41
16-983725PS	1129 Iris LN	2	3	1,530	4,332	2016	04/05/16	474.03	0	689,000	689,000	725,273	105.26
16-983695PS	1135 Iris LN	2	3	1,772	4,185	2016	05/06/16	411.67	0	699,000	699,000	729,475	104.36
16-981117PS	1000 Surrey	2	3	1,772	3,253	2015	03/23/16	376.10	0	710,000	710,000	670,000	94.37
216019499DA	1510 E Sunny Dunes Road	4	4	2,159	10,019	2014	08/10/16	388.61	25	839,000	839,000	839,000	100.00

Listing Count 50	Avg	2,051	319.59	108	643,581	634,318	641,873	101.32
	High	884,397	Low	460,000	Median	638,523		

Summary (Residential Single Family)

Property Type Count: 50

Avg SF: 2,051

Avg LP/SF \$: 315.19

Avg DOM: 108

Avg Orig Price \$: 643,581

Avg Price \$: 634,318

Avg Sale Price \$: 641,873

Avg SP/SF \$: 319.59

Broker/Agent does not guarantee the accuracy of the square footage, lot size or other information concerning the conditions or features of the property provided by the seller or obtained from Public Records or other sources. Buyer is advised to independently verify the accuracy of all information through personal inspection and with appropriate professionals. MLSPLUS™ Copyright © 2016 by TheMLS™. Information deemed reliable but not guaranteed. Presented by Jim & Tammy Franklin CalBRE#

Attachment 3

New Single Family Home Developments for Sale in Palm Springs

NEW HOME DEVELOPMENTS

Visit desertsun.com/realestate to view much more information on each development

New Home Television
Sacasa Starts Fall 2016



made possible by:
The Desert Sun



BEHIND DUNES

Experience the exciting new Plan 3 Furniture Modern...
 • 2,000 sq. ft. of modern furniture...
 • 100% natural materials...
 • Free delivery and assembly...

GENERAL DUTY

Experience the exciting new Plan 3 Furniture Modern...
 • 2,000 sq. ft. of modern furniture...
 • 100% natural materials...
 • Free delivery and assembly...

DESERT HOT SPRINGS

PALEO VINTAGE - GATED COMMUNITY - GOLFERS
 IN THE MID 1900S a 216-acre single story home...
 • 2,100 sq. ft. of modern furniture...
 • 100% natural materials...
 • Free delivery and assembly...

LA QUINTA

THE DRIVE AT THE COUNTRY
 Experience the exciting new Plan 3 Furniture Modern...
 • 2,000 sq. ft. of modern furniture...
 • 100% natural materials...
 • Free delivery and assembly...

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NORTH INDI

MADE SIMPLE
 This beautiful club at POA WEST...
 • 2,000 sq. ft. of modern furniture...
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PALM DESERT

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PALM SPRINGS cont.

NATIONAL HOME
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 • 2,000 sq. ft. of modern furniture...
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 • Free delivery and assembly...

PALM SPRINGS cont.

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 • Free delivery and assembly...

PALM SPRINGS cont.

WARRIORS AT ESCAPE
 Warriors at Escape...
 • 2,000 sq. ft. of modern furniture...
 • 100% natural materials...
 • Free delivery and assembly...

PALM SPRINGS cont.

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Attachment 4

Value Factor of Solar PV Systems in Coachella Valley Appraisal Practice

Michael Howard
Real Estate Appraiser
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760-323-1050
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5 September 2016

David Freedman
Email: dfreedman2@dc.rr.com

Regarding: The value factor of solar electric systems in one-unit residential appraisal practice in the Coachella Valley.

Thank you for your inquiry. In addition to my own professional practice I am the facilitator of an informal association of real estate appraisers in the Coachella Valley. In response to your inquiry, I took opportunity to broadcast an e-mail to my professional colleagues asking about their experience in identifying market value for installed solar electric systems on one-unit residential properties. In sum, the responses were that solar electric systems are not uniformly a significant value factor in one-unit residential appraisal practice for the following reasons:

- The extent of Coachella Valley solar electric system installations is too limited and the manner in which they are described in Valley MLS (Realtors Multiple Listing Service) systems too varied to provide any reliable basis for statistical analysis to indicate if they are a value factor.
- Leased systems are not a positive value factor and may be a negative factor in marketability.
- Data for the capacity, quality, and age of individual installations is often unavailable.
- Market knowledge, and hence perception, of the actual benefit, system cost versus electricity usage savings, is often uncertain.
- Though affixed to the property, sellers and buyers may view an owned system as personal property that is not necessarily conveyed in a sale and may be removed.

In my own practice, a solar electric system may be a value factor in a specific appraisal assignment based on the available market data for the subject type property in its location as of the date of the appraisal based on inquiry responses of the respective listing and selling agents of comparable sales and listings with stated solar electric system installations.

It is important to be aware that value factors in real estate appraisal are identified both by cost and by market perception; often, the two do not correspond.

Michael Howard