



December 14, 2016

Planning and Sustainability Commissions

City of Palm Springs

STUDY SESSION:

RESIDENTIAL SOLAR STRATEGY

PALM SPRINGS GREENHOUSE GAS (GHG) REDUCTION GOALS



- ✘ 2007 General Plan sets out as policy goals requiring the use of energy-efficient and green building practices and requiring the use of green building techniques in the design and construction of public buildings and facilities.
- ✘ 2013 Climate Action Plan suggests that we advance the voluntary green building program to a mandatory green building requirement for residential buildings, with technical support services.
- ✘ 2016 Sustainability Plan calls on the City to develop strategies to reduce community-wide contributions to greenhouse gas emissions to 1990 levels by 2020 and 80% below 1990 by 2050, encourage the building or retrofitting of one million square feet of green buildings, reduce the total energy use by all buildings built before 2012 by 10%, reduce energy use and carbon use from new homes and buildings, and supply 50% of all energy from renewable sources by 2030.



WHY REQUIRE RESIDENTIAL SOLAR?

- ✘ New construction creates additional GHG emissions and accelerates climate change. Once emitted, these gases can remain in our atmosphere for hundreds of years.
- ✘ In Palm Springs, our last GHG audit (2010) revealed that 70% of our emissions come from the gas and electricity used to heat, light and cool our buildings.
- ✘ Increases supply of renewable energy to a Community Choice Aggregation program now being studied by Riverside County.
- ✘ New technology with solar-generating roof shingles expected to be available next year.
- ✘ Provides head start to Palm Springs architects and developers in planning for Zero Net Energy building standards expected starting in 2020.
- ✘ Reinforces Palm Springs branding as a Sustainable City that meets its stated goals.
- ✘ Good Starting point for considering broader renewable energy needs.

JURISDICTIONS WITH MANDATORY SOLAR ORDINANCES:

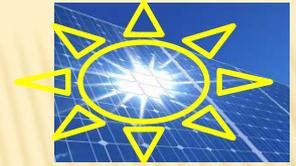


JURISDICTIONS WITH MANDATORY SOLAR ORDINANCES*

Jurisdiction	Requirement	Enacted	In Effect	Municipal Code	Ordinance	Cost Effectiveness Study
Culver City	1 kW solar per every 10,000 sq ft in MF and Commercial new construction or renovations over 10,000 sq ft	Mar-08	Spring 2008	http://library.amlegal.com/nxt/gateway.dll?f=jumpink&jumpink_x=Advanced&jumpink_vpc=first&jumpink_xsl=querylink_xsl&jumpink_sel=title;path;content-type;home-title;item-bookmark&jumpink_d=california/culverj&jumpink_q={field%20folio-destination-name:%2715.02.1000%27}&jumpink_md=target-id=JD_15.02.1000	http://www.culvercity.org/Home/ShowDocument?id=440	http://www.energy.ca.gov/title24/2005standards/ordinances/2007-06-20_CULVER_CITY.PDF
Lancaster	1 to 1.5 kW on lots over 7,000 sq ft. 1.5+ kW on lots over 100,000 sf ft. Builders can aggregate requirements of a subdivision and divide among some of the units. Builders can meet the requirement through the purchase of RECs.	Mar-13	Nov-13	https://www.municode.com/library/ca/lancaster/codes/code_of_ordinances?nodeid=TIT15BUCO_CH15.28ENCO_15.28.020IMSOENSY	http://www.energy.ca.gov/title24/2013standards/ordinances/lancaster/Lancaster_Submittal_to_California_Energy_Commission.pdf	http://www.energy.ca.gov/2013publications/CEC-400-2013-005/CEC-400-2013-005-D.pdf
Sebastopol	2 watts per sq ft of insulated building space, or 75% offset of electric load. If solar is infeasible, other alternative energy sources can be used, or builders can pay a fee.	May-13	Jul-13	http://www.codepublishing.com/CA/Sebastopol/#1/Sebastopol15/Sebastopol1572.html	http://www.publicceo.com/wp-content/uploads/2013/05/agenda_item_number_5_pv_ordinance.pdf	
San Francisco	Solar PV or solar thermal covering 15% of roof area on new buildings 10 stories or less. Installing a living roof is an alternative option.	Apr-16	Jan-17	http://library.amlegal.com/nxt/gateway.dll?f=templates&fn=default.htm&vid=amlegal:sanfrancisco_ca	http://www.sfbos.org/ftp/uploadedfiles/bdsupvrs/ordinances16/o0071-16.pdf	
Santa Monica	1.5 watts per sq ft of total residential building. 2 watts per sq ft of building footprint for MF & Commercial.	Apr-16	May-16	https://www.smgov.net/Departments/OSE/Categories/Green_Building/Code_Requirements.aspx	http://www.gcode.us/codes/santamonica/revisions/2513CCS.pdf	http://docketpublic.energy.ca.gov/PublicDocuments/15-BSTD-03/TN207723_20160119T163414_Ron_Takiguchi_Comments_Santa_Monica_Cost_Effectiveness_Analysis.pdf
San Mateo	New SF - at least a 1 kW MF 3-16 units - at least a 2 kW MF 17+ units - at least a 3 kW system Non-residential <10,000 sq ft - at least a 3 kW Non-residential 10,000+ sq ft - at least a 5 kW	May-16	Jan-17	http://gcode.us/codes/sanmateo/view.php?topic=23-23_24-23_24_030		

*This spreadsheet was prepared by Rachel A. DiFranco, Sustainability Coordinator, City of Fremont, and is current as of Aug. 25, 2016





CURRENT AND PLANNED SOLAR DEVELOPMENTS IN PALM SPRINGS

- ✘ Alta Verde (Andreas Hills Neighborhood)
- ✘ Tuscany Heights (Little Tuscany Neighborhood)
- ✘ Serena Park (former site of Palm Springs Country Club, 350 new single and multifamily homes)
- ✘ Miralon (San Rafael Neighborhood, 1,150 new single and multifamily homes)
- ✘ Sunia Investments (Racquet Club West Neighborhood, 24 new condominium units in 6 buildings)



PROPOSED SOLAR ORDINANCE

KEY PROVISIONS

- ✘ Requires the installation of a solar electric photovoltaic (PV) system with a nameplate wattage 2.0 times or greater than the square footage of the home (2.0 watts per square foot).
- ✘ Applicable to all new construction of single and multifamily residential dwellings.
- ✘ Also applicable to any addition to an existing single-family residential building that increases the square footage by 25% or greater, provided that the increase is at least 500 square feet, and all single-family residential remodels, alterations or renovations that are made involving demolition, remodel or renovation of more than 50% of the structure.
- ✘ At the time of submittal of a building permit application for any residential dwelling or retrofit project meeting the thresholds, an applicant must submit plans and an application for the mandatory solar photovoltaic system.
- ✘ Retrofit requirements may be waived or reduced, by the minimum extent necessary, where production of electric energy from solar panels is technically infeasible due to lack of available and feasible un-shaded areas.



COST/SAVINGS ANALYSIS

- ✘ For a 4 kW system (based on 2,000 square foot house), estimated additional cost to homeowner net of 30% federal tax credit is \$9,660 for new construction and \$10,500 for a retrofit.
- ✘ Monthly additional cost of \$49 (assuming 4.25% 30-year fixed mortgage interest rate) for new construction and \$91 for a retrofit (assuming 8.5% 20-year PACE financing).
- ✘ Estimated monthly energy cost offset of \$137 in based on system generating 6,000 kWh annually and SCE default tariff for solar customers under Net Energy Metering Successor Tariff (NEM-ST) effective July 1, 2017.
- ✘ Estimated monthly savings of \$88 for new construction and \$46 for a retrofit.
- ✘ Connections under NEM-ST grandfathered for 20 years.



CURRENTLY AVAILABLE INCENTIVE PROGRAMS

- ✘ 30% Solar Investment Tax Credit through the end of 2019, then 26% in 2020 and 22% in 2021.
- ✘ New Solar Housing Program, incentive currently \$0.35/watt for market-rate housing projects.
- ✘ Single-Family Affordable Solar Housing rebate of \$3/watt for affordable housing projects.
- ✘ Property-assessed clean energy (PACE) loans. 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. Under certain conditions, both interest and principal payments may be deductible.
- ✘ A recent appraisal study of homes in the San Diego area confirmed recapture of the cost of installing a solar PV system upon resale.





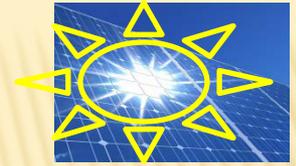
FOCUS QUESTIONS FOR STUDY SESSION

- ✘ Should city officials take a more active lead in the pursuit of solar energy? (Desert Sun, 7/18/75)
- ✘ Should multifamily homes be included in the solar mandate for new construction?
- ✘ Is 2.0 watts per square foot the right standard?
- ✘ Should solar be required for major retrofits?
- ✘ Are the retrofit thresholds appropriate?



NEXT STEPS AND STRATEGY

- ✘ Green Building / Solar Subcommittee to review feedback from this study session and make recommendation to full Planning and Sustainability Commissions.
- ✘ Planning and Sustainability Commissions to vote on recommendation to City Council.
- ✘ If adopted by Council on first reading, ordinance would need to be submitted to California Energy Commission (CEC) for approval, along with supporting analysis on how City of Palm Springs has determined that the proposed local standard will save more energy than the current provisions in the California Energy Code and its determination that the local standards are cost-effective.
- ✘ Adoption on second reading would follow CEC approval.
- ✘ Objective is for ordinance to be in effect on or about July 1, 2017.



DISCUSSION

- ✘ Presentations + Q & A from Commissioners by:
 1. Coachella Valley Association of Governments (CVAG)
(Katie Barrows / Benjamin Druyon)
 2. Ygrene (Victor Hunt)
 3. Southern California Edison (Erin Pulgar)
 4. Climate Action PS (Ellen Lockhert)
 5. Desert Valleys Builders Association
 6. (Gretchen Gutierrez / James Brownyard)
 7. GRID Alternatives (Bambi Tran)
 8. Perkins Coie (Christopher Parker)
- ✘ Public Comments
- ✘ Commissioner Comments & Staff Directions

