

# City of Calistoga

## Staff Report

**TO:** Honorable Mayor and City Council  
**FROM:** Dylan Feik, City Manager  
**DATE:** December 6, 2016  
**SUBJECT:** Consideration of Solar Array at Dunaweal Wastewater Treatment Plant

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APPROVAL FOR FORWARDING:



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Dylan Feik, City Manager

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1 **ISSUE:** Should the City Council consider pursuing a solar energy project near  
2 the Dunaweal Wastewater Treatment Plant and authorize the city manager to  
3 enter into a professional services agreement to begin preliminary work related  
4 thereto.

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6 **RECOMMENDATION:** The Council has several options, including:

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- 8 1. Direct staff to pursue a solar energy project near the Dunaweal  
9 Wastewater Treatment Plant and authorize the city manager to enter into  
10 a professional services agreement to begin preliminary work related  
11 thereto.
  - 12 2. Direct staff not to pursue a project at this time.
  - 13 3. Direct staff accordingly.
- 14

15 **BACKGROUND:** In September 2016, the city manager began researching  
16 alternative energy sources which could be used by the City. Specifically, could  
17 the City install a solar power system to offset operational energy costs of  
18 expensive facilities including the Dunaweal Wastewater Treatment Plant, Kimball

19 Water Treatment Plant, Calistoga Community Pool, City Hall, Fire Station and  
20 various other facilities. The city manager focused on the following Goals and  
21 Objectives set forth by the City Council for Fiscal Year 2016-17 to guide the  
22 research –

- 23 1. **Goal 1, Objective 3.** Increase the Water and Wastewater Fund reserves to  
24 a minimum of 20% within two fiscal years and increase the CIP and  
25 Equipment Replacement Fund reserves to meet anticipated needs over the  
26 next three fiscal years.
- 27 • **Goal 1, Objective 4.** Provide optimal City services in a sustainable  
28 manner
  - 29 • **Goal 4, Objective 1.** Implement “green” environmental sustainability  
30 policies and initiatives
  - 31 • **Goal 4, Priority Project 1.** Implement the GHG Emissions Reductions  
32 Measures included in the Climate Action Plan
  - 33 • **Goal 6, Objective 5.** Develop a plan to achieve year-round use of the  
34 Community Pool
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36 Staff also compiled historical energy data for the previous 5 years to guide  
37 decision-makers towards prioritizing the most cost-efficient projects. This data  
38 has been provided to many interested parties to determine the feasibility of  
39 projects.

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41 **DISCUSSION:** The City has 31 electricity meters and is a customer to both  
42 PG&E and Marin Clean Energy (MCE). The City uses approximately 2,140,753  
43 kilowatt hours (kWh) of electricity each year which costs approx. \$350,567. The  
44 Dunaweal Wastewater Treatment Plant is the largest energy consumer of all City  
45 accounts and uses approximately 65% of all electricity. The Calistoga  
46 Community Pool is the 2<sup>nd</sup> largest electricity user. It represents 152,164 kWh of  
47 usage each year, or approximately 7%.

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49 If the City were to focus efforts on a solar project, the largest user is undoubtedly  
50 the Dunaweal Wastewater Treatment Plant.

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52 **PRESENTATION AND POTENTIAL COURSES OF ACTION:** Using the 5-year  
53 historical data, staff requested Gopal Shanker or Recolte Energy to review City  
54 data and provide guidance into possible projects/solutions for a project. The  
55 presentation provided to Council this evening will go into detail on the analysis,  
56 potential savings and energy reduction targets, and possible financing solutions  
57 including: a power purchase agreement (P3); direct loans; or financing through  
58 cash, grants and loans.

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60 Preliminary findings indicate the City could install one photovoltaic (PV) system,  
61 or solar system, to offset the costs of the Dunaweal Wastewater Treatment Plant.  
62 Using what is called “net metering,” this PV system would also take advantage of  
63 “banking” solar-produced energy and using it for other City accounts. The City

64 could also choose to include battery storage which would allow the City to  
65 “sellback” unused electricity to Marin Clean Energy. It is estimated that a PV  
66 system would provide, conservatively, approx. \$234,266 annually in costs  
67 savings. Without including a rate increase for electricity, this equates to  
68 \$4,685,320 in savings over the next 20 years. These findings provide the City  
69 with a project that is not only viable, but presents a significant return on  
70 investment. The annual savings from the project can be used to fund a project.

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72 Should the Council wish to proceed, staff recommends approving a services and  
73 fees agreement with a firm which serves to represent the City as a client. The  
74 agreement would include different milestones/tasks which must be completed  
75 and would be split into multiple phases so that the City would only be paying for  
76 the scope of work as it progresses through the project. The scope of work is  
77 outlined below:

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79	• Feasibility Study	\$10,000
80	• Project Prequalification	\$10,000
81	<b>Subtotal</b>	<b>\$20,000</b>

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83 Return to City Council for direction

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85	• Photovoltaic (PV) Request for	
86	Qualifications Development	\$20,000
87	• PV Vendor Selection	\$20,000
88	• Construction	\$20,000
89	• Interconnection	<u>\$10,000</u>
90	<b>Subtotal</b>	<b>\$70,000</b>

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92 **Total** **\$90,000**

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94 A full copy of the agreement is included as an attachment.

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96 Once the City and consultant complete the project feasibility study and project  
97 prequalification, this item will return to City Council for direction.

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99 **FISCAL IMPACT:** To complete the project feasibility study and prequalification  
100 criteria, staff would spend \$20,000; funds to come from General Fund, under  
101 Account #01-5546-4901 to prepare the project and present options to City  
102 Council for future consideration. Tonight’s decision authorizes up to the \$20,000.  
103 If Council decides to pursue a project, a contract amendment would be provided  
104 to Council that would address future costs for professional services. The  
105 maximum contract amount would be \$90,000.

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107 Capital Costs. Final capital project costs are unknown at this time and will vary  
108 depending on which option Council will consider. For example, if the Council

109 desires to enter into a power purchase agreement, the City may have zero  
110 capital costs in the project. However, should the Council desire to fund the entire  
111 project through a grant/loan, then the City Council would be obligated to  
112 authorize additional funding at a later date.

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114 **ATTACHMENT:**

- 115 1. City of Calistoga – 12/06/16 Presentation, Recolte Energy
- 116 2. Cash Flow Analysis
- 117 3. Services and Fees Agreement – Recolte Energy

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