

## DOCKETED

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<b>Project Title:</b>	Updates to the 2016 Residential Alternative Calculation Method Reference Manual and Software
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# PV Compliance Credit

Presenter: Larry Froess (Energy Commission)





## PV Compliance Credit Recap

1. CEC Staff worked with building industry during the 2016 Standards development period to establish a PV Compliance Credit (PVCC).
2. The PVCC is equivalent in magnitude to the TDV energy savings from the installation of High Performance Walls (HPW) and or High Performance Attics (HPA).
3. PVCC is not credit based on renewable generation.
4. A minimum PV system size of 2.0 kWdc is required to qualify for the credit...or more if the building is larger than 2,000 square feet, depending on the building size and the climate zone.



## PV Compliance Credit Recap

5. The PVCC is only available in climate zones where HPW and HPA are prescriptively required:  
(HPA = CZ 4, 8-16 and HPW = CZ 1-5 & 8-16).
6. It is an all-or-nothing credit.
7. The PVCC is flexible, meaning it can be used to offset other building measures such as water heaters and windows.
8. The PVCC will be available for the entire 2016 code cycle.
9. There will be training provided to builders on a regular basis.
10. It is anticipated that the insulation industry will develop new and cost effective ways to help builders incorporate HPA & HPW before the end of the 2016 code cycle.



# Analysis Input Tab

1StoryExample1Crawl\_2016

Project | Analysis | EDR | Notes | Building | Lighting | Appliances | IAQ | Cool Vent | People

Run Title: 2,100 ft2 Sample

Analysis Type: Proposed and Standard

Standards Base: CA2016

Standards Ver.: Compliance 2017

Generate Report(s):  PDF  Full (XML)

Simulation Speed Option: Compliance

DHW Calculation Method: CSE

PV System Compliance Credit  
Required minimum PV system size is 2.0 kWdc.

Report Inc File:

Analysis Report: Building Summary (csv)

Run Scope: Newly Constructed

Addition Alone project

Seasonal changeover: 60 °F

Fan vent lockout: 68 °F

OK



# Compliance Results Details

1StoryExample1Crawl\_2016

Energy Use Details | Summary | Energy Design Rating

Required minimum PV system size is 2.0 kWdc.

End Use	Standard Design Site (kWh)	Standard Design Site (therms)	Standard Design (kTDV/ft <sup>2</sup> -yr)	Proposed Design Site (kWh)	Proposed Design Site (therms)	Proposed Design (kTDV/ft <sup>2</sup> -yr)	Compliance Margin (kTDV/ft <sup>2</sup> -yr)
Space Heating	141	163.6	15.96	152	177.3	17.26	-1.30
Space Cooling	660		23.48	585		20.66	2.82
IAQ Ventilation	112		1.17	112		1.17	0.00
Other HVAC			0.00			0.00	0.00
Water Heating		121.2	9.63		121.2	9.63	0.00
<b>Photovoltaics</b>						<b>-11.66</b>	<b>11.66</b>
Compliance Total			50.24			37.06	13.18
Inside Lighting	1,045		11.48	1,045		11.48	26.2 %
Appl. & Cooking	958	52.5	14.23	958	52.5	14.23	Result: <b>PASS</b>
Plug Loads	2,206		23.37	2,206		23.37	
Exterior	117		1.12	117		1.12	
<b>TOTAL</b>	<b>5,238</b>	<b>337.4</b>	<b>100.44</b>	<b>5,175</b>	<b>351.0</b>	<b>87.26</b>	

Done