

DOCKETED

Docket Number:	19-BSTD-06
Project Title:	Local Ordinances Exceeding the 2019 Energy Code
TN #:	236872-6
Document Title:	Piedmont 2019 - Overview of the Cost Effectiveness Studies
Description:	Plain text overview document describing the Cost Effectiveness Studies supporting the Local Ordinance application.
Filer:	Danuta Drozdowicz
Organization:	California Energy Commission
Submitter Role:	Commission Staff
Submission Date:	2/22/2021 2:03:14 PM
Docketed Date:	2/22/2021

OVERVIEW OF SUPPORTING COST EFFECTIVENESS STUDIES

REFERENCE STUDIES:

1. Title: Cost-effectiveness Study: Low-Rise Residential
Prepared For: Kelly Cunningham, Codes and Standards Program, Pacific Gas and Electric Company
Prepared By: Frontier Energy, Inc., Misti Bruceri & Associates, LLC
Last Modified: March 15, 2019
Findings: The proposed all-electric new construction amendment to the Building Energy Efficiency Standards are found to be cost-effective.
2. Title: 2019 Cost-Effectiveness Study: Existing Low-rise Residential Building Efficiency Upgrade
Prepared For: Kelly Cunningham, Codes and Standards Program, Pacific Gas and Electric Company
Prepared By: Frontier Energy, Inc., Misti Bruceri & Associates, LLC
Last Modified: February 6, 2020
Findings: The proposed list items related to insulation are found to be cost effective. This study also found that a requirement for non-high efficacy internal lights be replaced with high efficacy internal lights, with motion sensors, was cost-effective.
3. Title: 2019 Cost Effectiveness Study Low-Rise Residential Addendum – Cost Effectiveness Study for the City of Piedmont Requiring Photovoltaic (PV) Systems and Exterior Lighting Controls on Residential Additions
Prepared For: Kelly Cunningham, Codes and Standards Program, Pacific Gas and Electric Company
Prepared By: Frontier Energy, Inc., Misti Bruceri & Associates, LLC
Last Modified: June 19, 2020
Findings: The proposed solar installation requirement, and the proposed external lighting element to the lighting electrification list item, were also found to be cost-effective.

PROPOSED REQUIREMENTS

SUMMARY – ALL-ELECTRIC REQUIRED

All newly constructed low-rise residential buildings, including new detached accessory dwelling units (ADUs), shall be an all-electric building or all electric design, defined as a building that uses a permanent supply of electricity as the only source of energy for space conditioning (including heating and cooling), water heating (including pools and spas), cooking appliances, and has no natural gas or propane plumbing installed. A renovation of a low-rise residential building, with a stated project value of \$25,000 or more, is required to include one item from a list of energy efficient measures. A housing renovation of a low-rise residential building with a state project value of \$100,000 or more shall require the inclusion of two items from the list of energy efficient measures. Some exceptions are allowed, as summarized in the table below.

Att. 5a Overview of cost effectiveness studies

Proposed Reach Code	Building Electrification	Solar PV	Reference Study
New Low-Rise Residential Building Construction	All electric;	Not Applicable – Solar already required by Energy Code.	Refer to Reference Study 1: Title: 2019 Cost-effectiveness Study: Low-Rise Residential Construction
Existing Low-Rise Residential Building Renovations	<p>Energy efficiency upgrades;</p> <p>Exception if a Home Energy Score Report for the low-rise building is completed within 5 years, demonstrating a minimum score of 7 or greater.</p> <p>Exception if the unique features of the construction of the low-rise residential structure are not configured for conversion to forced air systems.</p> <p>Exception if the installation of the measures is not commensurate with the project’s scope and budget because the measures would exceed 20% of total project cost or require substantial construction in areas that would otherwise not be part of the project.</p>	<p>Solar required for projects adding an entirely new upper level or that increase the building’s roof area by 30% or more.</p> <p>Exceptions for buildings with limited solar access.</p>	<p>Refer to Reference Study 2: Title: 2019 Cost-effectiveness Study: Existing Low-Rise Residential Building Efficiency Upgrade</p> <p>And</p> <p>Refer to Reference Study 3: 2019 Cost Effectiveness Study Low-Rise Residential Addendum – Cost Effectiveness Study</p>