

# Using the Toolkit's Cost-Effectiveness Study



**B**efore a local government can implement a reach code, it must first obtain state approval by demonstrating the ordinance will be cost effective. A key benefit of the Bay Area Solar PV Ordinance is that its associated cost-effectiveness study, produced by Pacific Gas and Electric (PG&E) using ratepayer funds, has already been recognized by the CEC. Therefore, if a local jurisdiction adopts the Bay Area Solar PV Ordinance without modifications to the scope, the cost-effectiveness study in this Toolkit may be used to satisfy state requirements and the approval process will be streamlined.<sup>1</sup>

**First year utility bill savings range from \$688 to \$757 per single-family unit and \$361 to \$417 per multifamily unit.**

To determine cost-effectiveness, the study compared typical building prototypes—designed to meet the minimum California Energy Code requirements—to buildings that are 15-30 percent more energy efficient and include solar PV sized to meet 80 percent of the projected electricity load.<sup>2</sup> An excerpt from the study below shows cost, first-year savings, payback time, and greenhouse gas reductions associated with the ordinance in Bay Area climate zones, with an average 15-year payback for building owners. The upfront costs range from \$9,200 to \$12,300 per unit for single-family buildings and \$4,800 to \$6,000 per unit for multifamily units. First-year utility bill savings range from \$688 to \$757 per single-family unit and \$361 to \$417 per multifamily unit.

## Single-Family Dwelling Units

Climate Zone	Cost (\$)	First-year Savings (\$)	Payback (years)	GHG Reductions
1	12,301	719	17.1	30.4%
2	10,041	694	14.5	33.7%
3	10,448	732	14.3	42.5%
4	9,226	688	13.4	36.0%
12	11,894	757	15.7	40.4%
Median	10,448	719	14.5	36.0%

## Multifamily Dwelling Units

Climate Zone	Cost (\$)	First-year Savings (\$)	Payback (years)	GHG Reductions
1	5,951	361	16.5	35.5%
2	5,207	373	14.0	39.2%
3	5,579	361	15.5	46.6%
4	4,835	376	12.9	39.8%
12	5,579	417	13.4	41.1%
Median	5,579	373	15.0	39.8%

If the ordinance scope is expanded or altered, additional analysis may be needed to show the ordinance remains cost-effective. Local jurisdictions can undertake the analysis in-house, with a consultant, or by drawing from existing reports.

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## FOOTNOTES



<sup>1</sup> This study, commissioned by Pacific Gas & Electric using ratepayer-funds, is also cited by the California Energy Commission for their *Draft Model Local Solar Ordinance*.

<sup>2</sup> Solar production was capped at 80 percent to avoid potential electricity over-production.