



Provider of HERO

# Renovate America Bi-Annual Report

California  
HERO Program

Select Program activity between  
January 1, 2018 and June 30, 2018.



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Provider of HERO

## 1.0 Introduction

California's Senate Bill 242 (SB 242) contains data-reporting requirements for administrators of PACE programs. Data reporting provides transparency that is critical to better understanding the PACE product, how PACE operates in the home improvement industry, as well as the benefits of PACE programs.

SB 242 requires PACE administrators to publicly report biannually topics such as the performance of PACE, the environmental benefits of PACE, the demographics of PACE borrowers by city, state, zip code, county and age. Specifically, requirements include: number of, aggregate amount, average amount of PACE assessments by city, county, ZIP; category, percentage, number, and dollar amount of PACE improvements (energy, water, etc.) by city, county and zip code; average and median amount of PACE assessments, by city, county and zip code; total amount of delinquencies/defaults; number and dates of missed payments attributed to delinquencies/defaults; delinquencies and defaults broken down by city, county and zip code; for defaults specifically, the total number, percentage of total PACE by zip code, and years of default for each property; estimated energy/water savings, renewable production, jobs created, and GHG reduction; and the number and percentage of property owners over 60 by city, county and zip code.

This report is produced by Renovate America, the administrator of HERO, pursuant to the requirements of SB 242. PACE administrators are required to submit their reports on February 1 for the period of July 1-December 31 and on August 1 for the period of January 1-June 30. Information contained in this report is based on estimations. An informational overview is located in the Summary Report section on pages 4-6. The data in sections 3.1 through 3.3 are specific to the public agency for whom this report has been prepared. The data in Section 3.4 are statewide.

More detailed information, based on city, county, and zip code, is located within the attached appendices.

## 2.0 Executive Summary

During the period of January 1, 2018 to June 30, 2018, Renovate America's HERO Property Assessed Clean Energy program financed over \$181 million in home improvements across 7,328 assessments in the State of California.

Over 70 percent of the assessments covered energy-efficiency improvements that are projected to save homeowners over \$81 million on their utility bills over the expected lifetime of the products installed.

Over a quarter of the assessments funded renewable-energy improvements such as rooftop solar PV systems that are projected to save homeowners over \$134 million on electricity bills during the expected lifetime of the products installed.

Nearly 900 water-saving improvements were installed using HERO financing, which are projected to save over 811 million gallons of water over the expected lifetime of the products installed – enough to meet the hydration needs of all Californians for nearly six weeks.

The HERO-financed improvements during the reporting period are projected to reduce carbon emissions by nearly 300,000 tons over the lifetime of the products installed. This is equivalent to taking over 57,000 cars off the road for a year.

The home-improvement activity spurred by HERO financing during this period helped create an estimated 1,639 jobs and generated more than \$280 million in economic impact across the state.



## 3.0 Summary Report

### 3.1 Assessment Originations

Total Assessments	Total Amount Financed	Average Total Amount Financed	Median Total Amount Financed	Total Annual Assessment	Average Annual Assessment	Median Annual Assessment
7,328	\$181,889,142	\$24,821	\$20,673	\$19,591,999	\$2,674	\$2,225

### 3.2 Product Categories Financed [1]

	Energy Efficiency	Renewable Energy	Water Efficiency
% of Total Assessments	71.10%	29.37%	7.90%
% of Improvement Total Financed	58.49%	35.26%	6.25%

#### 3.2.1 Product Type Efficiency [2]

Product Type	Average Efficiency Rating	HERO Minimum Eligibility Requirement
<i>Air Sealing</i>	1088.27 Reduction Target	BPI, Energy Star or ASHRAE 62.2 Compliant
<i>Air Source Heat Pump</i>	15.77 SEER	>= 14 SEER
<i>Attic Insulation</i>	40.19 R-Value	>= 30 R-Value
<i>Boiler</i>	95.00 AFUE (%)	
<i>Central Air Conditioner</i>	15.82 SEER	>= 14 SEER
<i>Cool Roof - Prescriptive</i>	0.24 Aged Solar Reflectance	Aged Solar Reflectance: 0.15 (Steep); 0.5 (Low)
<i>Duct Replacement</i>	6.93 R-Value	>= 6 R-Value
<i>Electric Heat Pump Water Heater</i>	3.14 Energy Factor (EF)	>= 2.0 EF
<i>Evaporative Cooler</i>	4200.00 Air Flow (CFM)	CEC Approved
<i>Furnace</i>	83.46 AFUE (%)	Oil: AFUE >= 83%; Gas: AFUE >= 80%
<i>Gas Tankless Water Heater</i>	0.94 Energy Factor (EF)	>= 0.9 EF
<i>High-Efficiency Faucets</i>	1.50 GPM	<= 1.5 GPM
<i>High-Efficiency Showerhead</i>	2.00 GPM	<= 2.0 GPM
<i>High-Efficiency Toilet Fixtures</i>	1.28 GPF	<= 1.28 GPF
<i>Mini-Split Air Conditioner</i>	17.10 SEER	>= 14 SEER
<i>Mini-Split Heat Pump</i>	19.49 SEER	>= 14 SEER
<i>Natural Gas Storage Water Heater</i>	0.68 Energy Factor (EF)	>= 0.67 EF
<i>Under Floor Insulation</i>	21.47 R-Value	>= 19 R-Value
<i>Wall Insulation</i>	16.40 R-Value	>= 13 R-Value



### 3.2.2 Energy Efficiency [3]

	Energy Star	Other	Grand Total
<i>Improvements</i>	2,746	7,450	10,196
<i>Est. Annual Energy Savings</i>	17,970,181 kWh	25,728,630 kWh	43,698,811 kWh
<i>Est. Lifetime Energy Savings</i>	276,660,150 kWh	444,550,587 kWh	721,210,737 kWh
<i>Est. Annual Energy Bill Savings</i>	\$1,217,214	\$2,156,475	\$3,373,690
<i>Est. Lifetime Energy Bill Savings</i>	\$26,010,632	\$55,352,634	\$81,363,266

### 3.2.3 Water Efficiency [4]

	WaterSense	Other	Grand Total
<i>Improvements</i>	147	751	898
<i>Est. Annual Water Savings</i>	1,239,350 gal	45,694,171 gal	46,933,521 gal
<i>Est. Lifetime Water Savings</i>	25,248,000 gal	786,629,585 gal	811,877,585 gal
<i>Est. Annual Water Bill Savings</i>	\$5,577	\$206,035	\$211,612
<i>Est. Lifetime Water Bill Savings</i>	\$310,597	\$7,791,197	\$8,101,795

### 3.2.4 Renewable Energy [5]

Improvements	Average Solar PV System Size	Median Solar PV System Size	Est. Annual Energy Produced	Est. Annual Energy Bill Savings	Est. Lifetime Energy Bill Savings
4,352	6.2 kW	5.7 kW	20,396,886 kWh	\$4,992,017	\$134,124,567

### 3.2.5 Greenhouse Gas [6]

Est. Annual Emission Reduction	Est. Lifetime Emission Reduction
16,568 tons CO <sub>2</sub>	298,990 tons CO <sub>2</sub>

### 3.3 Economic Benefits [7]

Est. Jobs Created	Est. Economic Impact
1,639	\$280,735,395



### 3.4 Defaulted & Delinquent Assessments in California [8]

#### Defaulted Assessments

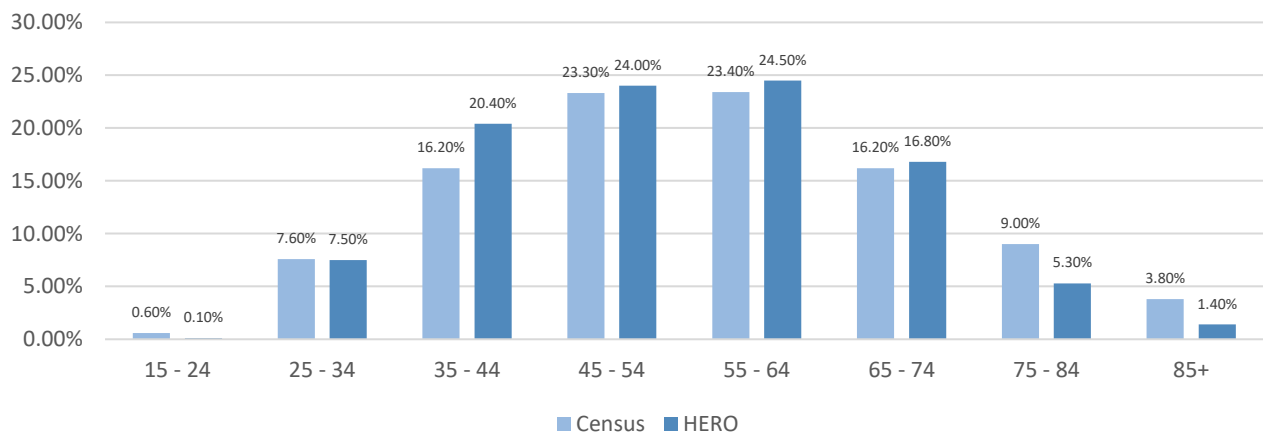
Tax Year	Reporting Start Date (Approx. January 1, 2018)			Reporting End Date (Approx. June 30, 2018)		
	Defaulted Assessments	Defaulted Rate	Defaulted Amount	Defaulted Assessments	Defaulted Rate	Defaulted Amount
2015 - 2016	17	0.23%	\$61,309	14	0.19%	\$48,288
2016 - 2017	264	0.64%	\$774,924	193	0.47%	\$593,175

#### Delinquent Assessments

Tax Year	Reporting Start Date (Approx. January 1, 2018)			Reporting End Date (Approx. June 30, 2018)		
	Delinquent Assessments	Delinquency Rate	Delinquent Amount	Delinquent Assessments	Delinquency Rate	Delinquent Amount
2017 - 2018	1,699	2.62%	\$2,862,157	1,568	2.24%	\$4,149,411

Delinquencies refer to late payments during a given tax year. At the end of the tax year, property tax bills are still delinquent are considered to be in default. Delinquency rates are typically higher than default rates, because property owners whose tax payments are delinquent often make late payments prior to the point at which a default occurs. For example, property-tax tracking provider Lereta reported property-tax delinquency rates in California of 3.0%, 2.5% and 3.3% in 2013, 2014, and 2015, respectively. By comparison, the California State Controller's Office reported effective property-tax default rates in California of 1.6%, 1.3%, 1.2%, 1.1% and 1.1% in 2012/2013, 2013/2014, 2014/2015, 2015/2016 and 2016/2017, respectively. Similarly, delinquency rates and default rates each tend to decline over time as back taxes are paid.

### 3.5 Age Distributions of Homeowners [9]



HERO data represent all homeowners who financed an assessment within the reporting period and participating communities. Census data are based on the 2015 5-year American Community Survey and represent the entire state of California.



## Appendix: Overview of Methodology for Calculating HERO Impacts

[1] “% of Total Assessments” Column sums to over 100% because some assessments fall into multiple Improvement Categories.

[2] The Product Type Efficiency table reflects only product types with defined efficiency ratings.

[3] Energy savings and utility bill savings estimates are modeled for each home energy efficiency improvement project using calculation methodologies derived primarily from the U.S. Department of Energy (DOE) and the U.S. Energy Information Administration. Savings estimates are customized to each project based on various inputs that are either specific to the property or predicted based on analysis of public survey data (including the California Energy Commission Residential Appliance Saturation Survey (RASS), U.S. EIA Residential Energy Consumption Survey (RECS), and the U.S. Census Bureau American Community Housing Survey), including: Climate Zone; Year Built; Conditioned Square Footage; Number of Occupants; Number of Stories; Roof Type; Wall/Floor/Attic Insulation Levels; Air Leakage Levels; Window & Door Types; Heating & Cooling Type/Efficiency; Duct Insulation/Leakage Level; Water Heating Type/Efficiency; Utility Retail Electric Rates; Historical Electric Rate Inflation; Utility Retail Natural Gas Rates; Historical Natural Gas Rate Inflation; Product Lifespan.

[4] Water savings and utility bills savings estimates are modeled for each indoor and outdoor water improvement project using calculation methodologies derived primarily from the U.S. Environmental Protection Agency WaterSense program, California Department of Water Resources, and the California Institute for Public Policy. Savings estimates are customized to each project based on various inputs that are specific to each project, including: Property Location; Home Vintage; Number of Fixtures Replaced; Area of Lawn Replaced; Utility Retail Water Rate; Historical Electric Rate Inflation; Product Lifespan.

[5] Renewable energy generation and utility bill savings estimates are modeled for each solar photovoltaic installation project using calculation methodologies derived from the National Renewable Energy Laboratory’s PV Watts® Calculator. Savings estimates are customized to each project based on the various inputs that are specific to each project, including: Property Location; System Size; Mounting Type; Module Type/Efficiency; Inverter Type/Efficiency; Utility Retail Electric Rates; Historical Electric Rate Inflation; Product Lifespan.

[6] Greenhouse gas (GHG) emission reductions are estimated for the resulting energy savings of energy efficiency and renewable energy projects using calculation methodologies derived from the U.S. Environmental Protection Agency’s eGRID Power Profiler and GHG Equivalency Calculator tools. Savings estimates are customized to each project based on the following model inputs that are specific to the project: Property Location; Electric kWh Savings/Generation; Natural Gas Therms Savings; Product Lifespan.

[7] The estimates of the number of jobs created and overall economic impact are derived by applying RIMS II multipliers for the residential home improvement industry to the total funded amount. RIMS II (Regional Input-Output Modeling System) is a regional economic model developed by the Bureau of Economic Analysis. The model is used to measure the regional impact of industry-specific economic activity.

[8] Delinquency and default data provided in this report were obtained by David Taussig & Associates from publicly available sources. These data reflect delinquencies and defaults as of the approximate start and end dates of the reporting period, which runs from January 1, 2018 through June 30, 2018, and correspond to assessments originated between March 2015 and September 2017, the entire historical period for which HERO data are available. As reflected in this report, “delinquent” refers to an assessment installment that has not been paid by December 10 or April 10, as applicable, and “default” refers to one or more assessment installments that have not been paid by June 30. Delinquency and default data contained in the Summary Report section include HERO assessments across all public agencies participating in HERO statewide.

[9] During the reporting period, 2,447 property owners over the age of 60 obtained HERO financing statewide.

