

DOCKETED

Docket Number:	16-NSHP-01
Project Title:	Continuation of the New Solar Homes Partnership Program
TN #:	225858
Document Title:	NSHP Program 2017 Annual Report
Description:	New Solar Homes Partnership Program Annual Progress Report for January 1 - December 31, 2017
Filer:	Lucio Hernandez
Organization:	California Energy Commission
Submitter Role:	Commission Staff
Submission Date:	11/8/2018 11:25:08 AM
Docketed Date:	11/8/2018

California Energy Commission
STAFF REPORT

New Solar Homes Partnership Program 2017 Annual Progress Report

California Energy Commission
Edmund G. Brown Jr., Governor



November 2018 | CEC-300-2018-010

California Energy Commission

Elizabeth Hutchison
Kevin Wong
Lucio Hernandez
Victor Yakshin
Primary Authors

Sherrill Neidich
Program Supervisor

Natalie Lee
Deputy Director
RENEWABLE ENERGY DIVISION

Drew Bohan
Executive Director

DISCLAIMER

Staff members of the California Energy Commission prepared this report. As such, it does not necessarily represent the views of the Energy Commission, its employees, or the State of California. The Energy Commission, the State of California, its employees, contractors and subcontractors make no warrant, express or implied, and assume no legal liability for the information in this report; nor does any party represent that the uses of this information will not infringe upon privately owned rights. This report has not been approved or disapproved by the Energy Commission nor has the Commission passed upon the accuracy or adequacy of the information in this report.

ABSTRACT

The New Solar Homes Partnership (NSHP) Program contributes to California's continuing efforts to promote and develop clean, renewable electricity generation. This report provides an update on key NSHP program statistics for 2017. This report is produced as required by California Public Utilities Commission Decision 16-06-006, "Decision Funding Authorizations and Related Measures for Continuation of the New Solar Homes Partnership Program," approved June 9, 2016.

Keywords: New Solar Homes Partnership, NSHP, Energy Commission, California Public Utilities Commission, CPUC

Please use the following citation for this report:

Hutchison, Elizabeth, Wong, Kevin, Lucio Hernandez, Yakshin, Victor. 2018 *New Solar Homes Partnership Program Annual Report (January 1, 2017 - December 31, 2017)*. California Energy Commission. Publication Number: CEC-300-2018-010.

TABLE OF CONTENTS

	Page
Abstract	i
Table of Contents	iii
List of Figures	iii
List of TABLES	iv
Executive Summary.....	1
CHAPTER 1: 2017 Year in Review.....	3
Background.....	3
Program Progress	3
2017 Program Achievements.....	3
CHAPTER 2: 2017 Program Statistics	5
Reservation Applications.....	5
Payment Claims	6
Reservation Applications and Payment Claims Submitted and Approved 2017	7
Overall Progress Toward Meeting Program Goals.....	7
CHAPTER 3: Budget Reporting.....	9
CHAPTER 4: Conclusion and Outlook	10

LIST OF FIGURES

	Page
Figure 1: Progress Toward NSHP MW Goal (All Years).....	7
Figure 2:Cumulative Capacity Installed (All Years)	8
Figure 3:Cummulative Incentives Paid (All Years)	8

LIST OF TABLES

Table 1: Reservation Applications by Project Type Approved in 2017.....	6
Table 2: Payment Claims Approved in 2017.....	6
Table 3: Number of Reservations Applications and Payment Claims Submitted and Approved in 2017	7
Table 4: Current NSHP Funding (RRTF).....	9

EXECUTIVE SUMMARY

The New Solar Homes Partnership (NSHP) was created as part of a statewide solar program called the California Solar Initiative. The California Solar Initiative was established as a \$3.35 billion program created by Senate Bill 1 (Murray, Chapter 132) in 2006 to accomplish three goals: (1) install 3,000 megawatts (MW) of solar generating capacity, (2) establish a self-sufficient solar industry, and (3) install solar energy systems on 50 percent of new California homes by 2020. To reach these goals, the California Solar Initiative created three programs: the New Solar Homes Partnership, California Solar Initiative, and various publicly owned utility programs. The New Solar Homes Partnership began in January 2007 as a \$400 million program with the goal of installing 360 MW of rooftop photovoltaics (PV) on new homes in investor-owned utility (IOU) territories throughout California by the end of the program.

In 2017, the New Solar Homes Partnership received 479 reservation applications and 7,174 payments claims. Staff approved 527 reservation applications for 20,968 systems, representing 87.26 MW of solar capacity and nearly \$46 million in incentives. Staff also approved 7,989 payment claims representing more than 25 MW of solar capacity and more than \$19.4 million in incentives.

The NSHP continued its efforts to reach all Californians by implementing changes to encourage participation from affordable housing projects. Of the 527 reservations approved in 2017, 38 were for affordable housing projects, representing 91 systems, nearly 2,400 kilowatts (kW) of capacity, and more than \$3.5 million in incentives.

Through 2017, the capacity of systems in approved payment claims and pending approved reservations represents 78 percent of overall goals the New Solar Homes Partnership program.

CHAPTER 1: 2017 Year in Review

Background

Senate Bill 1 (Murray, Chapter 132, Statutes of 2006) established the California Solar Initiative (CSI) with three goals: (1) installing solar energy systems with a generating capacity equivalent to 3,000 megawatts (MW), (2) establishing a self-sufficient solar industry within 10 years, and (3) placing solar energy systems on 50 percent of new California homes by 2020. The CSI is being implemented by the California Energy Commission (Energy Commission), the California Public Utilities Commission (CPUC), and the state's local publicly owned electric utilities in different programs that share common goals.

The NSHP program is the Energy Commission's component of the CSI and is limited to new home construction in IOU service territories. Launched in January 2007, the program provides financial incentives for homeowners, builders, and developers to include solar energy systems on new, energy-efficient homes. The NSHP goal under the CSI is 360 MW of installed solar capacity by the end of the program.

Program Progress

During 2017, more than \$19 million in incentives were paid for almost 8,000 sites, supporting the installation of more than 25 MW of rooftop solar energy capacity. In addition, more than \$45 million was reserved for new projects, representing 87,260 kW of solar energy capacity and 20,968 sites. The high approval rate for payments and reservations was due in part to the NSHP's new streamlined payment review process. As of December 2017, the NSHP program has paid \$180 million in incentives supporting the installation of 110 MW of PV capacity.

2017 Program Achievements

In 2017, the NSHP program had the following significant successes.

- The payment claim and reservation application approval rate in 2017 exceeded the rate in 2016, which ultimately decreased the amount of time it took for applicants to receive their incentives. A revised staff review process and streamlining efforts that allowed for greater efficiency contributed to this program improvement.
- The NSHP program continues to play a significant role in meeting the overall CSI goals. In 2017, the NSHP paid incentives for more than 25 MW and reserved an additional 87 MW in reservation applications, which combined, contributed to nearly 31 percent of the 360 MW target.

- The NSHP continued its efforts to reach all Californians by implementing changes to encourage participation from affordable housing projects. Of the 527 reservations approved in 2017, 38 were for affordable housing projects, representing 91 systems, 2,391 kW of capacity, and more than \$3.5 million in incentives.

NSHP Guidebook

The Energy Commission adopted two updated program guidebooks in 2017.

The *NSHP Guidebook, Tenth Edition (Revised)*, adopted on May 10, 2017, included the following updates:

- Requirements for projects permitted under the *2016 Building Energy Efficiency Standards*.
- Revisions to the incentive structure to cap incentive drops at \$0.50/watt.
- Simplified affordable housing eligibility requirements.
- Increased incentive rates for affordable housing projects.
- Introduction of an additional incentive for affordable housing projects in disadvantaged communities.
- Adoption of the Flexible Installation (FI) Calculator to determine project incentives.
- Other updated incentive and eligibility requirements and general program changes.

The *NSHP Guidebook, Eleventh Edition*, adopted October 11, 2017, incorporated the following updates:

- Established program participation deadlines.
- Increased incentive rates for all claims subject to the *2016 Building Energy Efficiency Standards*.
- Updated energy efficiency requirements.
- Updated PV system verification requirements.
- Other general program changes.

CHAPTER 2: 2017 Program Statistics

Reservation Applications

Participation in the NSHP program is a two-step process in which applicants 1) reserve funding for a project in advance and 2) receive an incentive payment upon completion of the project. Once the reservation application is approved, applicants have the reservation period to finish construction, install the solar energy system, interconnect with the utility grid, complete third-party field verifications, and submit a payment claim package to the Energy Commission. A reservation application may cover a single site or multiple sites depending on the project.

The NSHP program has multiple project types including:

- Solar as Standard – defined as developments of six or more residential units with solar on 50 percent or more of the units.
- Solar Not as Standard – defined as projects where solar will be installed on fewer than 50 percent of the residential units.
- Small developments – defined as developments with less than six residential units.
- Custom Homes – projects that consist of a single residence.
- Affordable Housing projects that include residential units and common area of projects in which at least 20 percent of units are subject to the income restrictions set forth in a qualifying regulatory agreement.
 - Affordable Housing projects are often virtual-net-energy-metered and serve multiple units and/or common areas. The total number of systems is typically less than the number of residential units or areas served directly or indirectly by the solar energy system.
- Common areas projects are projects where the solar systems are installed on the nonresidential portions of market-rate residential developments.

Reservation applications are approved based on the date they were submitted, and funding is reserved for an 18- or 36-month reservation period, depending on the project type:

- Projects that qualify for a 36-month reservation include solar as standard, affordable housing, and virtual-net-metered.¹
- Projects that qualify for an 18-month reservation include custom homes, small developments, solar not as standard, and common areas.

Table 1 below shows reservations approved during 2017 by project type.

Table 1: Reservation Applications by Project Type Approved in 2017

Project Type	# of Systems	Encumbrances	Capacity (kW)
Solar as Standard	20,251	\$40,416,543	81,691
Affordable Housing	91	\$3,582,375	2,391
Custom Homes	169	\$699,901	1,315
Other²	457	\$1,198,592	1,862
Totals	20,968	\$45,897,411	87,260

Source: California Energy Commission

Payment Claims

For a project with an approved reservation to receive the NSHP incentive payment, the solar energy system must be installed, interconnected to the grid, and verified by a third party. In addition, the newly constructed building must comply with the energy efficiency specifications proposed in the applicant's reservation. Table 2 below provides information on payment claims approved in 2017 by project type.

Table 2: Payment Claims Approved in 2017

Project Type	# of Systems	Incentive Amount	Capacity (kW)
Solar as Standard	7,462	\$15,728,046	21,207.80
Affordable Housing	103	\$2,112,643	1,520.78
Custom Home	184	\$885,536	1,374.11
Other	240	\$739,580	948.10
Totals	7,989	\$19,465,805	25,050.79

Source: California Energy Commission

¹ *Virtual net energy metering* is a tariff arrangement that allows a property owner to allocate credits from a single solar energy system to multiple units, in which each has an electric meter.

² "Other" includes common area systems, small housing developments, and solar not as standard projects.

Reservation Applications and Payment Claims Submitted and Approved 2017

Table 3 shows the total number of reservation applications and payment claims submitted and approved from January 1 through December 31, 2017.

Table 3: Number of Reservations Applications and Payment Claims Submitted and Approved in 2017

	Applications Submitted	Approved
Reservation Applications	479	527
Payment Claims	7,174	7,989

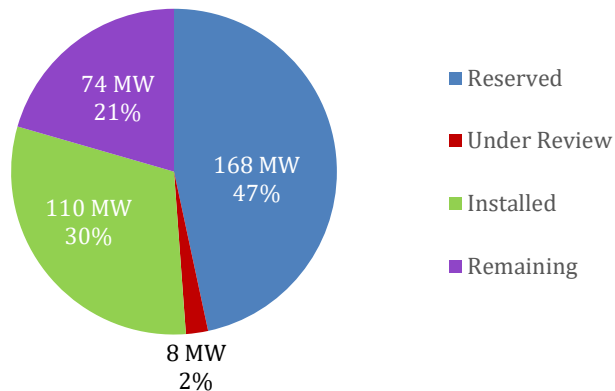
Source: California Energy Commission

Overall Progress Toward Meeting Program Goals

The overall NSHP program goal is to install 360 MW of solar energy capacity on new housing by the end of the program. As of December 31, 2017, approved NSHP payment claims had supported the installation of nearly 110 MW.

As shown in Figure 1, considering both capacity installed, nearly 110 MW, and capacity represented in approved NSHP reservations, about 168 MW, the program has reached 77 percent of the total capacity goal. In addition, applications under review by the Energy Commission represent about 8 MW, equal to roughly 2 percent of the overall capacity goal

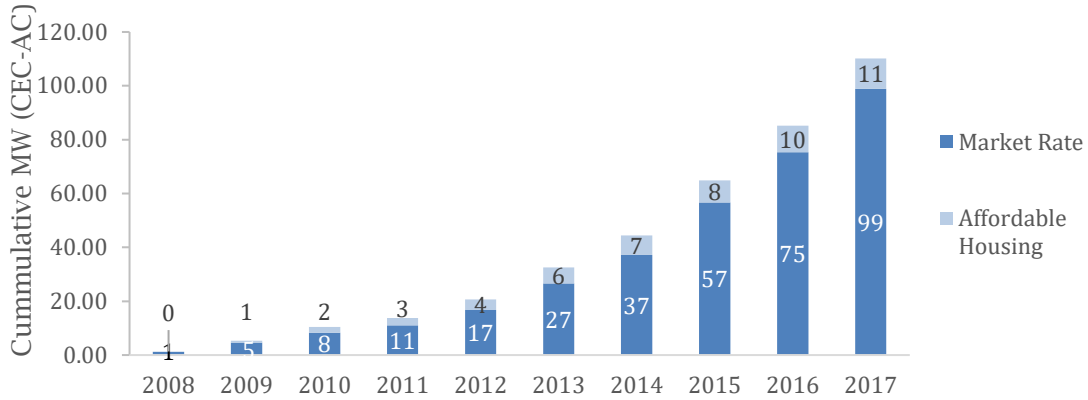
Figure 1: Progress Toward NSHP MW Goal (All Years)



Source: California Energy Commission

Figure 2 shows the cumulative capacity installed for all projects receiving NSHP incentives by the portions associated with market rate³ and affordable housing. Of the 110 MW of capacity installed by the end of 2017, more than 11 MW was installed on affordable housing projects, representing roughly 10 percent of all installed capacity.

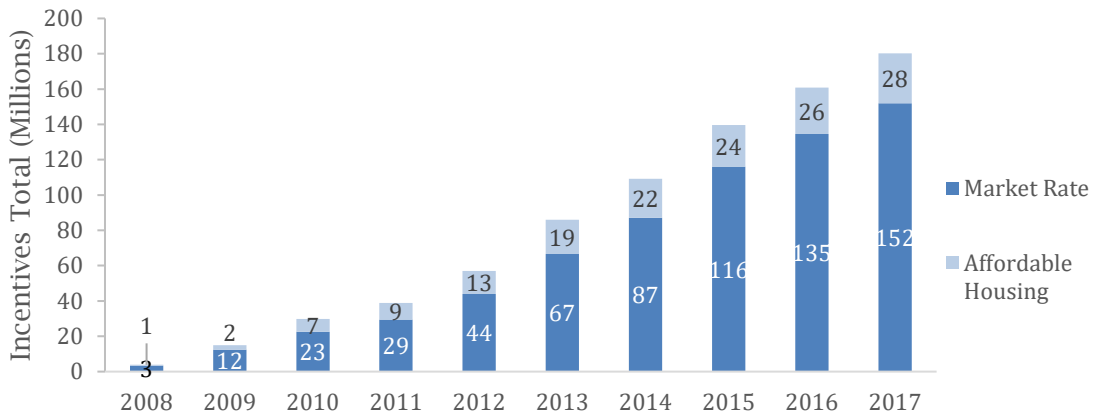
Figure 2: Cumulative Capacity Installed (All Years)



Source: California Energy Commission

Figure 3 below shows the total of NSHP incentives paid over the term of the program. As of December 31, 2017, nearly \$180 million in incentives have been paid, \$28 million of which have funded affordable housing projects.

Figure 3: Cumulative Incentives Paid (All Years)



Source: California Energy Commission

³ Market rate refers to all projects that are not eligible to receive the affordable housing incentive rate.

CHAPTER 3:

Budget Reporting

As of December 31, 2017, \$12.6 million remains from the initial \$282 million allocation of Renewable Resource Trust Fund (RRTF) monies to the NSHP program. Reservation applications under review represent an additional \$7.7 million, leaving about \$4.9 million available for new reservations under the initial program funding. The available funding may vary over time due to disencumbrances from previously reserved projects that expire or are withdrawn from the program.

In 2015, Senate Bill 83 (Committee on Budget and Fiscal Review, Chapter 24) extended the term of the NSHP allowing reservations for the program to be granted until June 1, 2018, and incentives to be paid until December 31, 2021. Although SB 1 established the NSHP as a \$400 million program under the CSI, the NSHP relied on available monies in the Renewable Resource Trust Fund (RRTF) totaling about \$282 million. The CPUC issued Decision 16-06-006 in June 2016, authorizing \$111.78 million to continue the NSHP. In future reporting periods, the NSHP budget reporting will reflect the availability, encumbrance, and disbursement of additional funds authorized by CPUC Decision 16-06-006, as appropriate.

Table 4: Current NSHP Funding (RRTF)

	\$ (Millions)	MW (AC)
Available Funding	12.6	
Under Review	7.7	7.9
Remaining Funding	4.9	

Source: California Energy Commission

CHAPTER 4: Conclusion and Outlook

The NSHP program saw significant program activity during 2017, with 479 reservation applications submitted. During this period, the program approved reservations for \$45.9 million in funding for more than 87 MW of new solar capacity. In addition, more than \$19.4 million in incentives were paid in 2017 supporting the installation of more than 25 MW of solar capacity.

Senate Bill 83 establishes an NSHP Program encumbrance deadline of June 1, 2018, and a payment disbursement deadline of December 31, 2021. The *NSHP Guidebook* was updated in 2017 to establish deadlines for program participation. The deadline to submit new reservation applications with a guarantee of review before the encumbrance deadline is April 1, 2018. Applications received after this date are not guaranteed review before the June 1, 2018 encumbrance deadline and, as a result, may not receive approval for participation in NSHP. Once a reservation is granted, projects must submit a complete payment claim before August 31, 2021, to ensure payment by the statutory payment disbursement deadline of December 31, 2021.