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June 24, 2014

Advice 2604-E-A/2294-G-A
(San Diego Gas & Electric Company - U902-M)

Advice 4646-A
(Southern California Gas Company – U 904-G)

Advice 3042-E-A
(Southern California Edison Company – U 338-E)

Advice 3475-G-A/4424-E-A
(Pacific Gas and Electric Company - U 39-M)

Public Utilities Commission of the State of California

SUBJECT: SUPPLEMENTAL DATA AND JUSTIFICATION ON THE INCENTIVE STRUCTURE CHANGES FOR THE CALIFORNIA ADVANCED HOME PROGRAM PROPOSED FOR SAN DIEGO GAS & ELECTRIC COMPANY, SOUTHERN CALIFORNIA GAS COMPANY, SOUTHERN CALIFORNIA EDISON COMPANY AND PACIFIC GAS AND ELECTRIC COMPANY

PURPOSE

San Diego Gas & Electric Company (SDG&E), on behalf of itself, Southern California Gas Company (SCG), Southern California Edison Company (SCE) and Pacific Gas and Electric Company (PG&E) (together the Investor-Owned Utilities (IOUs)), hereby submit for filing their supplement to SDG&E Advice Letter 2604-E/2294-G, SCG Advice Letter 4646, SCE Advice Letter 3042-E, and PG&E Advice Letter 3745-G/4424-E (AL 2604-E/2294-G, et. al.), filed May 21, 2014. This supplemental Advice Letter (AL) addresses questions from the Office of Ratepayer Advocates (ORA) late protest filed June 16, 2014 and the Energy Division's Advice Letter Suspension Notice, filed on June 17, 2014. ORA requested sufficient justification and detail for the IOUs' proposed changes. This supplemental AL is being filed at the Energy Division's request. The supplemental supporting information is attached hereto, as Attachments A and B.

BACKGROUND

In D.12-11-015, the Commission approved the IOUs' 2013-2014 Energy Efficiency (EE) program plans, including the California Advanced Home Program (CAHP) Residential New

Construction sub-program. This program was implemented by the IOUs following approval of their respective compliance advice letters, filed on January 14, 2013 and as supplemented.[1]

The CAHP incentives are currently structured as follows:

- The baseline entry level of the program is 15 percent above the 2008 Title 24 building code with the incentive payments based on the final 2008 T-24 reports created and signed by a Certified Energy Plans Examiner (CEPE) and verified by a third-party Home Energy Rating System (HERS) Rater.

- The incentives increase incrementally as the performance of the building increases.

- The current maximum incentive is attained once 45 percent better than 2008 Title 24 building code is achieved. At 15 percent above 2008 Title 24 building code a project is receiving $75/kW, $0.43/kWh & $1.72/therm.

- At the maximum incentive level on the scale (45 percent above 2008 building code) a project is receiving $225/kW, $1.29/kWh & $5.14/therm.

On May 21, 2014, the IOUs filed their AL and PIPs (AL 2604-E/2294-G, et. al) for program design and incentive level changes to the CAHP, the Residential New Construction subprogram of the California Statewide Program for Residential Energy Efficiency (CalSPREE).

On June 16, 2014, ORA filed a late protest, citing the IOUs' AL did not provide sufficient justification and detail for the proposed changes and therefore is deficient.

On June 17, 2014, the Energy Division suspended the IOUs AL citing the "Advice Letter Requires Staff Review".

SUPPLEMENTAL INFORMATION

Below, the IOUs provide supplemental information for each of the points made by ORA in their protest.

A. Joint IOU Advice Letter 2604-E/2295-G (SDG&E) et al, is deficient.

a. The IOUs do not justify, in their AL, why it is necessary to differentiate the incentive structures of single family and low-rise buildings versus high-rise multifamily buildings and further differentiate incentive levels between single family buildings and low-rise buildings. The original PIP provides for one incentive structure for all residential buildings.

[1] SDG&E AL 2448-E/2167-G, PG&E AL 3356-G-A&B/ 4176-E-A&B, SCE AL 2836-E; SoCalGas AL 4449-G.

IOU Response:

The IOUs crafted the new incentive structure to meet a number of sometimes conflicting goals. Multiple stakeholders were consulted in the incentive structure change process including builders, regulatory authorities, program implementation staff, HERS Raters, energy consultants and other departments within the utilities that work with residential energy efficiency. The objectives of this effort were as follows:

1. Incentives must be equitable across climates zones and building types.

2. Incentives must be high enough to drive builder participation - targeting 50 percent incremental builder costs, as directed by the CPUC.

3. Incentives and program implementation costs must be low enough to maintain similar levels of program cost effectiveness.

4. Incentives should be simple and transparent to communicate and implement.

Analysis for the new incentive structure show both single family and multifamily low-rise incentives to be, on aggregate, 32 percent higher than if the program had used the old incentive system. An incentive increase was deemed necessary and appropriate to continue to drive builder participation and to meet the 50 percent incremental builder cost target as directed by the CPUC. With the energy code upgrade, many of the most cost effective building measures that formerly could be used to show improvement above code are now included in the code standard. The remaining energy efficiency improvement measures are more expensive for the builders to implement.

Additionally, incentive differentiation between building types was necessary to meet the goals stated above. To create simplicity and transparency, the program is changing from awarding incentives relative to energy savings, to awarding per-living unit. Therefore, the program assigned lower incentive levels for multifamily low-rise buildings since they achieve lower per-unit savings. Both single family and multifamily low-rise incentives were crafted to match 50 percent incremental builder costs using cost-research specific to the building type. Additionally, the single family to multifamily low-rise incentive difference was set to match per-unit incentive differences from the 2008-code based program.

Multifamily high-rise employs energy savings calculations from a different energy code than low-rise and single family (commercial code for high-rise versus residential code for low-rise and single family). Program redesign researchers were unable to perform full analysis on high-rise prototypes due to significant delays in the implementation of the state's commercial-code energy simulation software. Therefore, expected energy savings could not be researched in advance to confirm that continuing the current per-savings incentives calculations would be sufficient to move the market. Initial assessments indicated that it would not be sufficient. Additionally, unlike single family and multifamily low-rise, there does not exist a multifamily high-rise whole building California HERS score framework. Therefore, the program could not apply the same CAHP-Score concept for this building sector. For this building sector, a simplified two-tier system was designed to match incentive levels from the current program so we could be confident incentives would move the market to participate for the remainder of this program cycle. This will provide adequate time to research and develop a long term solution that more closely matches the other building types in the program.

b. The AL does not sufficiently explain how the CAHP scoring for single family and low-rise buildings works (other than stating that it is derived from the California HERS Design Rating System), what it is based on, and how it compares to the original incentive structure in terms of output. Without an adequate explanation of the scoring system it is not possible to determine what level of savings corresponds to the various points in the new 'point system-based' incentive structure. This prevents the reader's ability to understand the impact of proposed changes on the levels of ratepayer investment and on incentive levels per unit savings. Furthermore, the program should be clear about how varying levels of efficiency correspond with varying incentive awards so that the market and builders in the market understand the system and can design their projects, accordingly.

IOU Response:

The CAHP scoring system is based upon the CA HERS whole-house design rating system which is a 'Miles-per-gallon' type of rating system that ranges from 250 to 0, representing its Time Dependent Valuation (TDV) energy use, normalizing relative to a reference home built to meet the Title 24 2008 prescriptive (Package D) requirements. The reference home has a score of exactly 100, while zero net energy (ZNE) is 0. The score is based on TDV Energy use including all energy end uses from both regulated and non-regulated loads and therefore directly supports California's regulatory goals. Additionally, the simulation protocols are nearly identical to those for Title 24 compliance. Additionally, since the reference building is static, the score framework can be maintained through 2020 and beyond. Therefore the CA HERS whole-house design rating was selected as the best option for CAHP. The CAHP Score is closely derived from the CA HERS design rating in intention and in mathematical construct. The CAHP Score will determine a home's incentive amount. A lower CAHP Score will yield a higher incentive. To facilitate calculation in approved single-family code-compliance software, the TDV energy use of the CAHP score's baseline reference building is side-calculated from the 2013 Energy Code Standard design results in an effort to approximate the appropriate 2008 Package D reference building. In addition, the large-home scale-back equation has been eliminated so that the efficiency program is inclusive of the entire new construction market. Additionally, the program eliminated design rating credit for installing solar photovoltaic energy. The IOUs will continue to coordinate with the California Energy Commission as the CA HERS design rating's rule set and technical standards are finalized.

c. The AL does not specify the minimum threshold of building efficiency that will trigger an incentive payment. Ratepayer funds should not be applied to buildings that do not achieve efficiency levels that are above the Title 24 standards that are applicable at the time. In other words, when the 2013 Title 24 standards go into effect in July of this year, incentives should only be given to buildings constructed above these new standards. Though the AL states that "these incentive changes [in the AL] will better align with changing building code," the AL does provide any evidence of how the proposed incentive structure, nor how other proposed changes in the AL, will do this. The IOUs should demonstrate how their proposed point system corresponds to levels of building efficiency in relation to the 2013 Title 24 code and should set a minimum threshold that would trigger an incentive payment at a level that is above the relevant building code at the time, or above the 2013 Title 24 standards.

IOU Response:

A CAHP score of 84 correlates with 10-20 percent above 2013 Title 24 code compliance with significant fluctuation by climate zones and building type. Projects that do not meet the 2013

Title 24 Standards (less than 0 percent better than code) will not be eligible for participation in the program.

d. The existing PIP details the percentage by which the incentive covers the builder's cost of achieving certain efficiency levels, specifically that the incentive covers 67percent of the incremental measure cost "at the 20% savings level". This is useful detail as it is important to track how much of the cost of efficiency is being subsidized by ratepayers. The ratio of incentive subsidy to customer cost should be declining over time if the program is successful in transforming the market and ensuring lasting savings at reasonable ratepayer cost. The AL does not provide details on how much of the incremental measure cost will be covered by the new incentive structure. This is a critical omission that the IOUs should rectify in its proposed changes to the current incentive structure.

IOU Response:

An incentive curve was developed to comprise 50 percent of the incremental builder cost on average across all climate zones based on an anticipated range of CAHP Scores. Since the cost curve increases exponentially relative to CAHP score, as is shown in the 2014 CAHP Incentive Structure Chart on page 4 of the May 21, 2014 AL, the incentive curve also has a built-in escalation to match.

e. The AL states that single family and low-rise building participants can receive additional point reductions in their CAHP score based on 'pre-determined energy efficiency measures not included in performance modeling', however, it does not detail what these predetermined EE measures are, nor does it provide sufficient information that justifies 'point reductions' in a manner that would enable the reader to determine the value of such an approach. Ratepayer dollars on incentives should not be spent unless the efficiency savings are cost-effectively procured and justified.

IOU Response:

The goal of the proposed point system is entice builders to exceed the Title 24 EE targets. CAHP has offered similar bonuses in the past for Energy Star, the Green Point Rating system, kW reduction and New Solar Homes Program (NSHP) Tier II. The CAHP bonus points are crafted in conjunction with Codes & Standards and Emerging Technologies to (1) Act as market softeners for future code measures, (2) Promote energy efficiency targets that get buildings ZNE Ready and (3) Promote other energy efficiency targets that are recognized as high performing nationwide. The specific measures are not defined in the IOUs AL but are clearly defined in the new Customer Handbook.

f. The AL states that the new CAHP Score will be easier to understand, but it does not explain how.

IOU Response:

The CAHP Score is easier to understand for several reasons.

1. The smaller the number the better the score (the closer you get to zero, the closer you are to zero energy).

2. The single score provides adequate information for a builder to understand their overall energy use in a fashion to which they are already accustomed (CA HERS Score).

3. It is a static scoring system that will be the same through 2020, which provides a steady target for our ZNE goals. A score of 100 equates to a 2008 Title 24 baseline home.

EFFECTIVE DATE

The IOUs designate this filing as a Tier 2 Advice Letter subject to Energy Division disposition (effective after disposition) pursuant to GO 96-B. The IOUs respectfully request that this filing be approved and become effective on July 24, 2014, which is 30 calendar days after the date of filing.

PROTEST

Anyone may protest this Advice Letter to the California Public Utilities Commission. The protest must state the grounds upon which it is based, including such items as financial and service impact, and should be submitted expeditiously. The protest must be made in writing and must be received no later than July 14, 2014, which is 20 days of the date this Advice Letter was filed with the Commission. There is no restriction on who may file a protest. The address for mailing or delivering a protest to the Commission is:

CPUC Energy Division
Attention: Tariff Unit
505 Van Ness Avenue
San Francisco, CA 94102

Copies of the protest should also be sent via e-mail to the attention of the Energy Division at EDTariffUnit@cpuc.ca.gov. A copy of the protest should also be sent via both e-mail and facsimile to the IOUs at the addresses shown below on the same date it is mailed or delivered to the Commission.

For SDG&E:

Megan Caulson
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8330 Century Park Court, Room 32C
San Diego, CA 92123-1548
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Brian K. Cherry
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NOTICE

A copy of this filing has been served on the utilities and interested parties shown on the attached list, including interested parties in R.09-11-014 and A.12-07-001 et. al., by providing them a copy hereof either electronically or via the U.S. mail, properly stamped and addressed. Address changes should be directed to the emails or facsimile numbers above.

CLAY FABER
Director – Regulatory Affairs

CALIFORNIA PUBLIC UTILITIES COMMISSION

ADVICE LETTER FILING SUMMARY
ENERGY UTILITY

MUST BE COMPLETED BY UTILITY (Attach additional pages as needed)

Company name/CPUC Utility No. **SAN DIEGO GAS & ELECTRIC (U 902)**

Utility type:
☒ ELC ☒ GAS
☐ PLC ☐ HEAT ☐ WATER

Contact Person: Christina Sondrini
Phone #: (858) 636-5736
E-mail: csondrini@semprautilities.com

EXPLANATION OF UTILITY TYPE
ELC = Electric GAS = Gas
PLC = Pipeline HEAT = Heat WATER = Water

(Date Filed/ Received Stamp by CPUC)

Advice Letter (AL) #: 2604-E-A/2294-G-A, et. al.

Subject of AL: Supplemental - Data and Justification on the Incentive Structure Changes for the California Advanced Home Program Proposed for SDG&E, SoCalGas, SCE and PG&E

Keywords (choose from CPUC listing): Compliance, Energy Efficiency

AL filing type: ☐ Monthly ☐ Quarterly ☐ Annual ☒ One-Time ☐ Other

If AL filed in compliance with a Commission order, indicate relevant Decision/Resolution #:
D.12-11-015

Does AL replace a withdrawn or rejected AL? If so, identify the prior AL N/A

Summarize differences between the AL and the prior withdrawn or rejected AL[1]: N/A

Does AL request confidential treatment? If so, provide explanation: N/A

Resolution Required? ☐ Yes ☒ No

Tier Designation: ☐ 1 ☒ 2 ☐ 3

Requested effective date: 7/24/14

No. of tariff sheets: 0

Estimated system annual revenue effect: (%): N/A

Estimated system average rate effect (%): N/A

When rates are affected by AL, include attachment in AL showing average rate effects on customer classes (residential, small commercial, large C/I, agricultural, lighting).

Tariff schedules affected: N/A

Service affected and changes proposed[1]: N/A

Pending advice letters that revise the same tariff sheets: N/A

Protests and all other correspondence regarding this AL are due no later than 20 days after the date of this filing, unless otherwise authorized by the Commission, and shall be sent to:

CPUC, Energy Division
Attention: Tariff Unit
505 Van Ness Ave.,
San Francisco, CA 94102
EDTariffUnit@cpuc.ca.gov

San Diego Gas & Electric
Attention: Megan Caulson
8330 Century Park Ct, Room 32C
San Diego, CA 92123
mcaulson@semprautilities.com

[1] Discuss in AL if more space is needed.

General Order No. 96-B
ADVICE LETTER FILING MAILING LIST

cc: (w/enclosures)

Public Utilities Commission
DRA
S. Cauchois
R. Pocta
W. Scott
Energy Division
P. Clanon
S. Gallagher
D. Lafrenz
M. Salinas
CA. Energy Commission
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R. Tavares
Alcantar & Kahl LLP
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American Energy Institute
C. King
APS Energy Services
J. Schenk
BP Energy Company
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B. Barkovich
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California Farm Bureau Federation
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California Wind Energy
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V. Gan
CP Kelco
A. Friedl
Davis Wright Tremaine, LLP
E. O'Neill
J. Pau
Dept. of General Services
H. Nanjo
M. Clark
Douglass & Liddell
D. Douglass
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G. Klatt
Duke Energy North America
M. Gillette
Dynegy, Inc.
J. Paul
Ellison Schneider & Harris LLP
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Energy Policy Initiatives Center (USD)
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Energy Price Solutions
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M. Scanlan
Goodin, MacBride, Squeri, Ritchie & Day
B. Cragg
J. Heather Patrick
J. Squeri
Goodrich Aerostructures Group
M. Harrington
Hanna and Morton LLP
N. Pedersen
Itsa-North America
L. Belew
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J. Nahigian
Luce, Forward, Hamilton & Scripps LLP
J. Leslie
Manatt, Phelps & Phillips LLP
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R. Keen
Matthew V. Brady & Associates
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Shute, Mihaly & Weinberger LLP
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Solar Turbines
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Southern California Edison Co.
M. Alexander
K. Cini
K. Gansecki
H. Romero
TransCanada
R. Hunter
D. White
TURN
M. Hawiger
UCAN
D. Kelly
U.S. Dept. of the Navy
K. Davoodi
N. Furuta
L. DeLacruz
Utility Specialists, Southwest, Inc.
D. Koser
Western Manufactured Housing
Communities Association
S. Dey
White & Case LLP
L. Cottle
Interested Parties In:
R.09-11-014
A.12-07-001
A.12-07-002
A.12-07-003
A.12-07-004

Attachment A

Moving beyond ‘Better than Code’: New Market Transforming Zero Net Energy Aligned Residential New Construction Programs

Moving beyond 'Better than Code': New Market Transforming Zero Net Energy Aligned Residential New Construction Programs

Matthew Christie, TRC Energy Services
Conrad Asper, Pacific Gas and Electric
John Morton, Southern California Edison
Chuck Berry, San Diego Gas and Electric
Darrell Brand, Southern California Gas Company

ABSTRACT

Zero Net Energy (ZNE) goals necessitate a new paradigm for residential new construction efficiency programs. The traditional program framework provides incentives for the difference in energy use between a designed building and a minimally code compliant building. In most cases the assessment only includes certain portions of a building's total energy use – those regulated by building and appliance standards. Programs aligned with ZNE goals must evolve their core metrics and methods such that all building end uses are addressed and energy efficiency is no longer measured by how far energy use is below the ceiling (code), but instead how close it is to the floor (zero net energy use). Additional care must be taken to maintain equity between climate zones with significantly varied heating and cooling demands. Finally, for a program to have a powerful impact on the market it must be simple to implement and simply in which to participate.

Residential new construction programs administered by the four investor-owned utilities in California have recently made this pivot with a groundbreaking program redesign effort for 2014. The new program uses an adapted version of the CA HERS Index as the basis of its eligibility criteria and incentive scale, supplemented by incentive bonuses based on low total energy use.

This paper will discuss the analysis performed to determine this structure as well as other bells and whistles included in the new program design.

Introduction

The California Advanced Homes Program (CAHP) is the most recent of a long history of utility run residential new construction energy efficiency programs in California. In operation since January, 2010 it has performed admirably to transform the market, to push builders to deeper energy savings, and to support the state's Codes and Standards effort. CAHP is operated by each of the four California investor owned utilities; Pacific Gas and Electric (PG&E), San Diego Gas and Electric (SDG&E), Southern California Edison (SCE), and the Southern California Gas Company (SoCalGas).

Submitted June 5, 2014 to the American Council for an Energy-Efficient Economy (ACEEE), for presentation on August 21, 2014 at the ACEEE Summer Study on Energy Efficiency in Buildings, Pacific Grove, CA.

The residential new construction market is integral to California's energy reduction strategies. Homes built today will have an impact on energy use for 50 to 100 years. Furthermore it is significantly more cost effective to design and build energy efficient homes from the start, than to retrofit improvements down the road. The California Public Utility Commission (CPUC) recognizes this by designating residential new construction programs as part of the utilities' core portfolio. The primary means of improving residential new construction efficiency in the state is through an aggressive Codes and Standards (C&S) effort. California's Title 24, Part 6 is the states building energy code. Energy efficiency incentive programs complement C&S by advancing the market ahead of the code. The programs shepherd efficiency measures and design practices to market, bringing down the cost of advanced buildings. This helps Codes & Standards meet the rigorous cost effectiveness criteria required of code mandates.

Program History

Residential new construction programs in California have been available since the late 90's. Early program designs awarded prescriptive incentives for whole house performance and/or specific energy efficiency measures. "Percent better than code" was established as the primary metric for program participation. Homes with modeled energy use 15% less than a minimally code compliant building were awarded a base incentive. This percentage energy reduction is also referred to as the compliance percent. Eventually, a second tier of incentives was offered to drive builders to produce deeper savings. In 2010, the CAHP program was launched with continuously escalating incentives based on the energy savings and percent better than code, as shown in Figure 1 from the program's handbook. The program entry was still tied to 15% better than code. Homes that met this minimal criteria received $75 per kW saved, $0.43 per kWh saved and $1.72 per therm saved. Homes that demonstrated code compliance better than 15% received higher incentives per energy commodity. These commodity rates scaled up to their maximum rates at 45% better than code. A home with a compliance percent of 45% or more would receive $225 per kW saved $1.29 per kWh saved and $5.14 per therm saved. In addition, the program paid bonus incentives for meeting other criteria such as enrolling in the New Solar Homes Partnership Tier II program.

Submitted June 5, 2014 to the American Council for an Energy-Efficient Economy (ACEEE), for presentation on August 21, 2014 at the ACEEE Summer Study on Energy Efficiency in Buildings, Pacific Grove, CA.

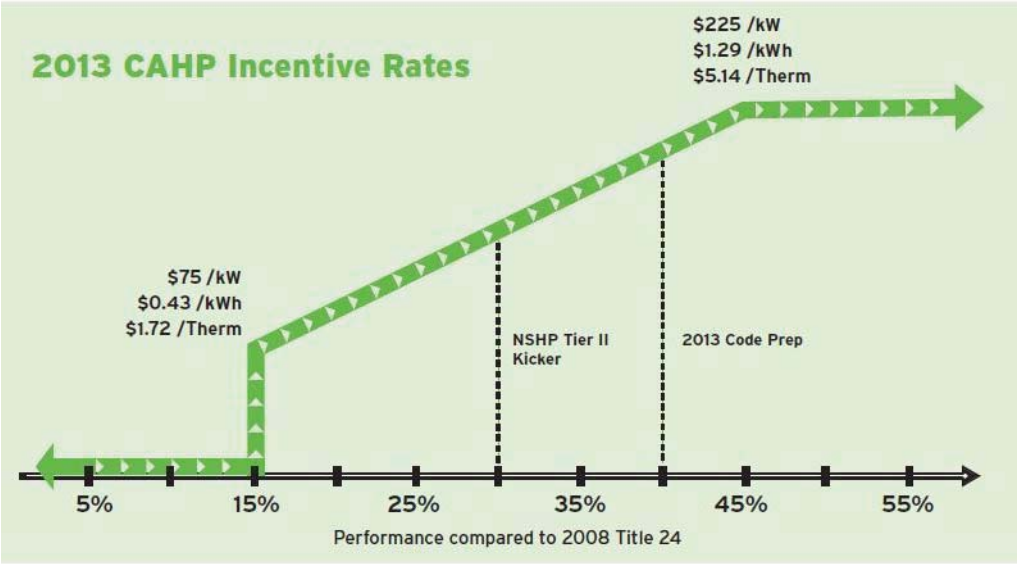

Figure 1: CAHP incentive rates for the 2008 Energy code based program.

The purpose of the escalating incentives was to incent builders for small incremental improvements over time, and therefore raise the overall compliance percent above the entry threshold of 15%. By this metric, the program has been successful. In PG&E territory, average program compliance is 25% above code. The escalating incentives have been shown to drive deeper savings from participating builders. Incremental measures costs in many cases have reduced dramatically, partly as a result of this program. For instance, in some markets the cost for quality insulation installation has been reduced from a price premium of $600 per home to a standard insulation practice that demands no additional costs to the builder.

The program has also seen success by leveraging existing energy code compliance infrastructure. Energy models and HERS registrations which are required by the state to show code compliance are also used by the program to verify incentives and energy savings. This has made participation relatively easy for builders.

However, despite these successes the program has some elements that need to improve or change for it to continue to serve its function. The custom incentive calculation for this program is complex and difficult for a builder to quickly gauge what their incentives will be. Two homes that perform to the same compliance percent can have significantly different incentive levels, even within the same development and climate zone. This is due to the fact that homes of different size and design will demonstrate different total energy savings, even if they have the same compliance percent. Additionally, since the program savings and incentives are based entirely on Title 24, Part 6 performance energy modeling (California's energy code), the program is slow to respond to new energy measures or technology. Until new modeling methodologies can be studied, tested and approved by the California Energy Commission (CEC) for code compliance, a builder is given no credit for those new measures by the program. In this way, CAHP cannot truly drive advanced homes, despite its namesake. Instead it is limited to

incenting only marginally improved homes under the Title 24 performance modeling rules. Additionally, as a code based program, only the code regulated energy loads of heating, cooling, ventilation and domestic hot water are addressed.

Program Redesign

The four utilities that operate CAHP recognized a clear need to redesign the program to coincide with the launch of a new, more rigorous energy code. The 2013 Title 24, Part 6 energy code is scheduled for implementation starting July 1st, 2014. At the same time, California's 2020 ZNE residential goals[1] are approaching swiftly with only two code cycles remaining before the goal needs to be met. For CAHP to continue to serve its role in the advancement of code, it needed to be redesigned. The goals of the redesigned program were to:

- Create a program that explicitly drives towards ZNE
- Include all energy end-uses within the building's envelope
- Equitably drive advanced buildings in all climate zones
- Create a program that can adapt to new technologies and energy measures
- Create a program that is simple for builders to participate, and simple for utilities to implement
- Continue to support and use California's energy efficiency regulatory infrastructure

The research and redesign initiative described in this paper only addresses single-family construction. Research for the multi-family program was also conducted with similar methods and conclusions. However, that effort is not addressed directly in this paper.

Program Metrics

The first task was to determine a new energy efficiency metric that could be used by the CAHP program as a long-standing basis to define energy efficiency. The existing metric, percent above code, is fundamentally flawed to serve this long-term purpose. First, it's not truly whole - building (at least in California). The Title 24, Part 6 energy code baseline only includes the regulated loads of heating, cooling, ventilation and domestic hot water. Lighting, appliance, behavior, and plug loads are omitted. This means that percent above code cannot be used in context with ZNE. In some mild climate zones such as those on the coast, as little as 25% of a typical home's energy use would be included. For ZNE to be achieved, a truly whole-building metric is necessary.

Second, the metric is upside down in relation to ZNE. The program metric should be able to simply and directly communicate the intent of promoting home energy use closer to zero, with a metric that runs in that same direction. Percent above code references the improvement a home has made relative to the code baseline (the ceiling; a maximum amount of energy the home can

[1] California's state goal is that all residential new construction be zero net energy (ZNE) by 2020

be shown to use to meet code). A ZNE-based metric necessarily references how close a home is to zero energy use (the floor; zero net energy use). What's more, in this analogy, the ceiling height changes from home to home based on climate zone, building size, surface area, and the HVAC and water heating technologies selected. Percent above code can't be used to accurately compare the efficiency of two different buildings.

Finally, as the code baseline shrinks after each code update, the denominator of the percent above code equation shrinks as well. This leads to perverse results. In some climate zones minor efficiency improvements that yield small energy savings can result in spectacularly high percentages above code. Preliminary analysis of buildings using the 2013 energy code showed that simply taking credit for quality insulation installation (QII) can yield upwards of 15% above code in some climate zones. With rigorous efficiency standards, percent above code can no longer be used as a central and fair descriptor of energy efficiency. An example is illustrated below in figure 2.

Building Location	**San Diego (CZ 7)**	**Fresno (CZ 13)**
Building Type	2,100 default	2,100 default
Energy Efficiency Measures	2013 Prescriptive Plus:	2013 Prescriptive Plus:
Envelope	Quality Insulation Installation (QII)	QII U30/S22 windows R-21 wall cavity
HVAC	-	SEER 15, EER 13 92% AFUE
DHW	0.82 EF tankless heater	0.82 EF tankless heater all pipes insulated
Other	-	R-8 ducts
Annual Code Savings (kWh)	13 kWh	607 kWh
Annual Code Savings (therms)	98 therms	149 therms
Annual kTDV use	123,000	218,000
2013 T24 Compliance %	**45%**	**32%**

Figure 2: Energy efficiency comparison of two buildings.

The Fresno building employs a long list of efficiency measures, and saves considerably more kWh and therms than its San Diego counterpart. However, looking at percent above code only, the Fresno home is significantly worse.

New CAHP Energy Efficiency Metric Research

The research investigated a number of options to replace percent above code as the core CAHP program metric (listed below). The selections were constrained to energy use intensity (EUI) metrics that drove towards zero as the building's efficiency improved.

- Time Dependant Valuation (TDV) Energy (kTDV/sf/yr)
- Site Energy (kBtu/sf/yr)
- RESNET HERS Index Score
- California HERS whole-house design rating

The concept of Time Dependent Valuation (TDV) was incorporated into California's Title 24, Part 6, Building Efficiency Standards in 2005 as means to appropriately assign value to energy savings based on the time of day and year it is saved, as well as its source (electricity or natural gas). As a metric TDV addresses the important issue of peak demand in California and

serves to encourage and reward measures that save energy when it is most valuable on a statewide basis.

TDV is a purely analytical and economic tool, and is not reflected in nor directly relevant to the energy use and corresponding utility bills of a building. TDV Energy is not representative of expected consumer energy use or costs, but rather represents the value of its energy use (and savings) to the state. TDV is a well-established and accepted means of assigning value to time of energy use in California. The energy industry, though not consumers, are highly familiar with it. TDV energy is central to the CEC's definition of code ZNE and therefore its use would support statewide regulatory goals. However this metric was not selected by CAHP due to its confusing complexity to consumers and builders amongst other reasons.

Site energy does not value or account for the time value of California energy use (and savings). It is attractive as a more 'pure' energy number; however, as it is likely less opaque and more readily understandable by builders and homeowners who do not regularly encounter TDV. In a march toward zero, a CAHP site energy metric would help indicate to these market players how a particular home contributes towards California's ZNE goal. However this metric was not selected as it does not directly support California's energy efficiency regulatory structure.

The RESNET HERS index score is a nationally recognized and well established energy use index administered by the non-profit Residential Energy Services Network. The score can be calculated by approved software, most commonly REM/Rate. It includes all energy end uses of the house normalized to a score from 150 to 0. The score does not incorporate TDV values so does not align with California's specific regulatory goals, and therefore was not selected.

The CA HERS whole-house design rating is similar to the RESNET HERS index. It's a 'Miles-per-gallon' rating that runs from 250 to 0, representing its TDV energy use, normalized relative to a reference home built to meet the Title 24 2008 prescriptive (Package D) requirements. The reference home has a score of exactly 100, while ZNE is 0. The score is based on TDV Energy use including all energy end uses from both regulated and non-regulated loads and therefore directly supports California's regulatory goals. Additionally, the simulation protocols are nearly identical to those for Title 24 compliance; therefore, the use of the metric would not require extra modeling. Additionally, since the reference building is static, the score framework could be maintained from now until 2020 ZNE goals and beyond.

Therefore the CA HERS whole-house design rating was selected as the best option for CAHP. However, there are a few deficiencies that have added challenge to designing and launching an efficiency program based on this metric. First, it is not yet well established in the market. While the score has been calculable under the 2008 Title 24 energy code, very few market participants were doing so. Most participants were calculating the whole-house HERS Index for existing homes rather than a design rating developed for new construction. Some nuances of the metric have therefore not been tested or vetted for widespread use in the new construction industry. This includes a large-home scale back equation that increases a home's rating for homes over 2,500 square feet as well as severely limited options to show improvements to lighting, appliances and plug loads. Additionally, while the metric is defined and documented relative to the 2008 code, final rule-set definitions have not yet been established

for the 2013 code. Therefore CA HERS design rating calculations haven't yet been embedded into compliance software.

The CAHP Score

In light of these limitations (and other factors), the redesigned program instead is using what is being called a CAHP Score. The CAHP Score is closely derived from the CA HERS design rating in intention and in mathematical construct. The CAHP Score will determine a home's incentive amount. A lower CAHP Score will yield a higher incentive.

To facilitate calculation in approved compliance software, the TDV energy use of the CAHP score's baseline reference building is side-calculated from the 2013 Energy code Standard design results in an effort to approximate the appropriate 2008 Package D reference building. Furthermore, the large-home scale back equation has been eliminated so that the efficiency program is more able to serve the entirety of the new construction market. Additionally, as an efficiency program, the program eliminated design rating credit for installing solar PV energy. It is the intention to continue to coordinate with the Energy Commission as the CA HERS design rating's rule set and technical standards are finalized.

Of note: though the selection of the CAHP Score metric was made with the statewide zero net energy goals explicitly in mind, and in coordination with the state's ZNE action plan, CAHP does not intend on using the ZNE term in its marketing materials or program collateral. ZNE as a term garners remarkable enthusiasm and passion amongst builders and the public. However, it is vital to recognize that the lay-understanding of ZNE to homeowners that drives this passion will be zero net energy bills or zero net energy metering. A CAHP ZNE or ZNE-ready building will be neither. It will be based on TDV energy, a metric entirely different and complicated to understand. In order to reduce confusion, and so as not to taint the ZNE term in the public mind, CAHP's ZNE based program will refrain from branding itself as such. In this way, the program will be better able to meet its long term goal of promoting advanced energy efficient residential homes.

CAHP Points

In order to meet the goal of having a metric responsive to new technologies and program goals the program has introduced CAHP Points. CAHP Points reduce the CAHP Score and increase the building's incentive. They were developed and will be awarded for energy efficiency measures and concepts not included in current modeling software. Four initial CAHP point opportunities will be available when the program launches, with more under development.

Two of the initial four CAHP Point offerings are designed to combat one of the key deficiencies of the CAHP Score as a ZNE Metric. The CAHP score is by definition, a *relative* energy use metric. The score is derived relative to a reference building of the same size and in the same climate zone. However, ZNE is by definition an *absolute* energy use metric. A ZNE home uses a specified absolute quantity of energy annually, which is then offset by onsite

renewables. A specific and program-consistent CAHP Score cannot be used to define ZNE or ZNE-ready due to high variability between climate zone, house sizes, and design choices. Figure 3 illustrates this point:

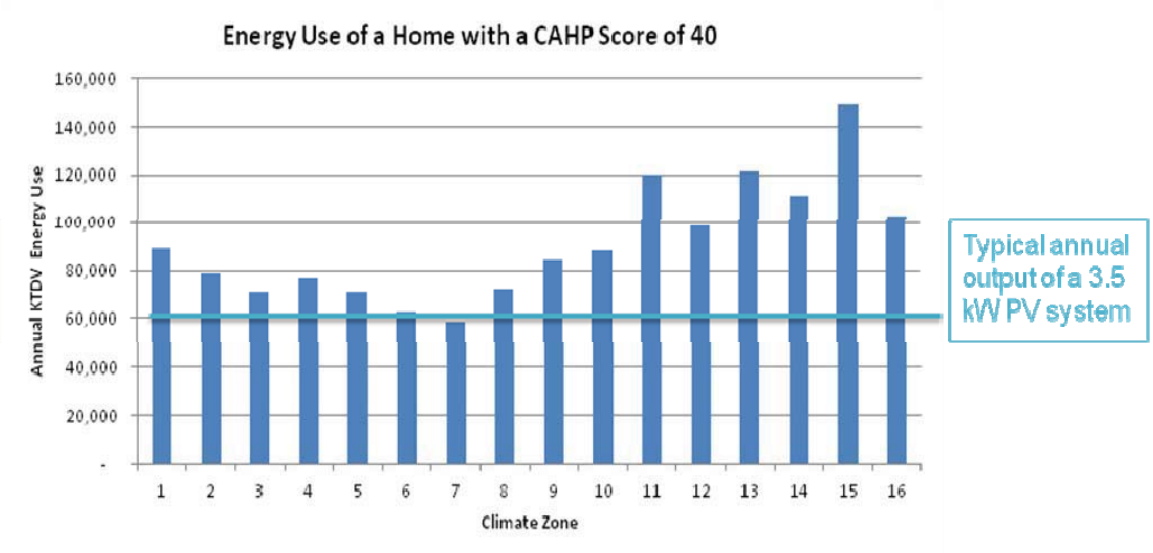

Figure 3: Energy use of a home with a CAHP Score of 40 across all 16 CA climate zones.

To reach ZNE goals, the program needs to promote reduction of energy use in both absolute, and relative terms. As shown in the Figure 3, the annual energy use of homes with the same CAHP score varies from under 60,000 annual kTDV to over 150,000 kTDV. On an absolute basis, this representative highly efficient home design could only be considered ZNE-ready in a handful of locations. However, on a relative energy basis, all 16 can safely be referenced as being efficient. In practice, having a relative metric is necessary for the program to be equitable across the wildly diverse climate zones. For instance, the energy use required to keep a home comfortable in the central valley of California is significantly higher than what is required on the coasts. Therefore, builders in the central valley need to be rewarded along the long spectrum of incremental improvements from the baseline building to an efficient building. The CAHP score does this admirably. However, in coastal regions, a builder will reach an absolute energy use that has achieved the target of ZNE-ready at a much higher CAHP Score than an inland counterpart. Therefore, to give credit to advanced buildings that reach, or get close to reaching the program's goal, CAHP points will be awarded to homes that are shown to meet low absolute annual energy use targets. Homes that use less than 100,000 kTDV/year will be awarded 5 CAHP Points (subtracted from the homes initial CAHP Score). Homes that use less than 60,000 kTDV/year will be awarded an additional 5 CAHP Points.

The first level has been determined to be attainable by small production homes that are considerably energy efficient. The deeper level is calibrated to coincide with the energy use of a

typical 3.5 kW residential solar panel, and will not be easily met, but is a target point for a truly ZNE-Ready home.

Other CAHP Points will be designed and awarded to fulfill certain goals that the CAHP Score itself cannot incent. Such as:

- Support of the efficiency measures targeted by the utilities Codes and Standards and Emerging Technologies departments
- Improved energy efficiency design principles that will be necessary to reach ZNE goals
- Energy efficiency technologies that cannot currently be modeled in code software
- Energy efficiency technologies that impact the non-regulated loads of lighting, appliances and plug loads

One initial CAHP point offering is specific to support Codes & Standards. 5 CAHP Points will be awarded to homes that meet the 2016 Title 24 Energy code (or a proxy of that code) early.

Other CAHP point options may be introduced to push the market towards better design strategies. The first such offering is 3 CAHP Points for homes that take part in DOE's Zero Energy Ready Home program. Builders that take part in this program will learn the value of an integrated energy efficiency design strategy, as well as to learn the value of intensive installation verifications as required by the Challenge Home Program.

Additional CAHP Points will be awarded for energy technologies that either cannot be modeled in code, or impact non-regulated loads. Due to research scope limitations, the initial program launching in July, 2014 will not include any such offerings. However some preliminary concepts that are being explored for future use are:

- Home energy management systems
- 100% high efficacy lighting
- ENERGY STAR® appliances standard
- Solar thermal space heating
- Groundwater radiant cooling systems
- Domestic hot water heat recovery systems

In addition, the program will build a customized CAHP Point option for new technologies that show promise from preliminary engineering calculations. In order to be eligible, the home(s) using the technology must agree to energy use monitoring. The monitoring results will assist the energy efficiency industry in determining what technologies to continue to improve and install. Technologies that are confirmed to save energy can then be woven into eventual code updates. Measures that don't meet their expectations can be weeded out based on actual use data. This 'Pay first, ask questions later' mentality will spur innovation that will be necessary to bring the market to its technical ZNE potential.

Program Specifics – Entry Threshold & Incentives

Considerable research was conducted to turn the program concept, as outlined above, into a functional program offering. First, it was necessary to determine a CAHP Score that could serve as a program entry threshold. Next, incentive levels that were enticing to builders relative to incremental building costs, and also cost effective for program operations, needed to be set.

Program Entry Threshold

The program has traditionally used 15% above code as the entry threshold to differentiate efficient buildings deserving of incentives. An appropriate CAHP Score that could be used for the same purpose was determined by running over 600 energy models in the 2013 Energy code's beta software. Two different prototype buildings were run in all 16 climate zones using 14 different design packages. To keep the program relatively consistent to prior program offerings, it was desired to use a CAHP score that correlated roughly with 15% above code. Figure 4 below shows a sample of the data.

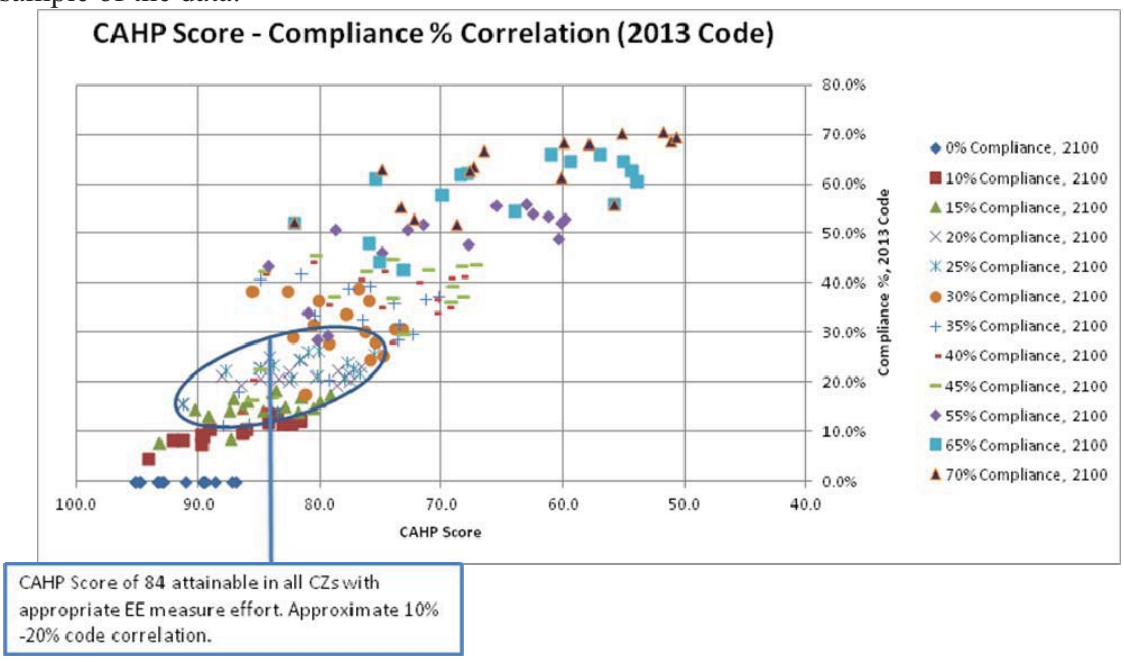

Figure 4: CAHP Score to compliance percent correlation scatter chart.

Each scatter point represents the CAHP Score and percent above code results of a building simulation. Each distinct point style represents a particular design strategy. The data shows considerable variation between climate zones. In particular, climate zones with low heating and cooling loads yielded low CAHP Score reductions from the design improvements relative to high use climates. This is explained by the high fraction of non-regulated load-use compared to the total whole-building energy budget of those buildings. The research explored the option of splitting the program into two or three sub programs, designed to serve groups of

climate zones based on their energy use. It was determined that such a design may be more equitable across the state. However, it would also add considerable complexity and confusion to the program design, and therefore the idea was dismissed.

A CAHP Score of 84 was determined as a fair entry point, accessible in all climate zones, and aggressive enough to require efficiency design strategies from builders in all climate zones. A CAHP Score of 84 correlates roughly to 10%-20% code compliance. Due to the nature of the new metric, there may be specific designs, particularly in hot climates that reach a CAHP Score of 84 with minimal improvement over code. The benefit of having a single entry point statewide was sufficient to dismiss this program design concern.

CAHP Incentives

The program's incentive amounts were set to fulfill a set of goals that in some cases conflict with each other:

- Target approximately 50% of incremental builder cost program wide
- Be high enough to entice builders to participate
- Be cost effective to implement for the utility
- Be simple to communicate and understand
- Be predictable to builders

Incremental builder costs are a central component to the incentive determination. However, accurate and applicable builder cost data was not readily available. The most comprehensive data available was compiled in 2008 and was based on improvements to the 2008 energy code. Much of the data was obsolete due to reductions in cost since the data were compiled, or due to changes in the cost baseline with the energy code upgrade. To improve on the available data, six program participants were interviewed including three builders, two Title 24 consultants and one HVAC specialist. They were asked for high and low estimates of each measure used to create the design packages, relative to a prescriptive code baseline. For some interview subjects, the measures selected were not familiar, or the baseline reference didn't match the subject's knowledge base. Therefore the ranges of answers for some measures were significant, lowering confidence in the final results considerably. The responses were evaluated, taking into account the confidence and knowledge base of each respondent and assigned incremental cost values to each measure. These were applied to the measure packages used in the CAHP Score correlation modeling. This yielded an approximate cost-to-CAHP score relationship. This cost curve varied by climate type as expected.

Additionally, two competing factors reduced confidence in the final estimates. First, the measure packages selected for research were not intentionally chosen with cost effectiveness in mind. A savvy builder would be able to find lower cost methods to reach a certain CAHP score. From this assessment, estimates were likely elevated. Second, the real baseline for a builder is almost certainly not the prescriptive code baseline. Each builder will have a unique baseline that likely uses most of the low cost, highly effective energy efficiency measures and does not use higher cost prescriptive measures. Therefore, to reach above code program thresholds, the

builder will be left with higher cost measures than this assessment assumed. By this logic, cost estimates were likely low. However, the cost estimates from this research were the best available data source to set incentive levels against.

An incentive curve was developed to comprise 50% of the incremental builder cost on average across all climate zones based on an anticipated range of CAHP Scores. Since the cost curve increases exponentially relative to CAHP score, the incentive curve also has a built in escalation to match. The final incentives reward $300 to a home with a CAHP Score of 84. Each reduction in CAHP score achieved from 84 to 75 yields the builder an additional $100 while reductions below 75 yield $200 per point. The incentive curve is shown in figure 5.

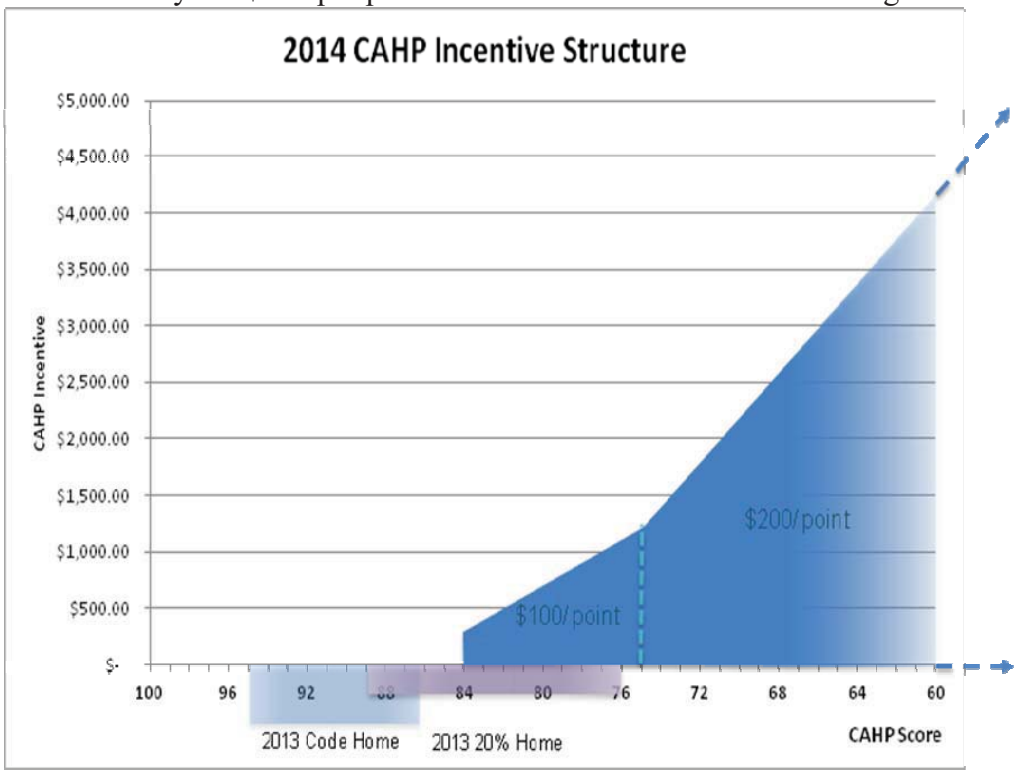

Figure 5: 2014 CAHP Incentive structure.

Conclusions

The redesigned program will launch on July 1st, 2014 at the same time the new energy code goes into effect. The design successfully met the primary program goals. The core efficiency metric drives conceptually to ZNE and includes all energy end-uses within the home's envelope. The program will continue to rely on the state's existing energy efficiency infrastructure such as TDV energy values, HERS verifications and Title 14 energy modeling. The program is equitable to all climate zones with base incentives derived from the relative

CAHP Score metric, but with bonuses awarded for meeting aggressive absolute low energy use targets. The built in CAHP points give the program a nimble mechanism to increase incentives for particular program goals such as pushing innovation and integrated design strategies. Finally, the program is relatively simple to understand, participate in and implement.

This program will run as designed for at least six months, at which time incentive levels may be reconsidered due to the uncertainty in the cost curve and therefore the incentive values. Additional program design edits may also be considered based on participant feedback over the initial six months.

Attachment B

California Advanced Homes Program Redesign

June 24, 2014

California Advanced Homes Program Redesign

Pacific Gas and Electric Company®

SOUTHERN CALIFORNIA EDISON®
An EDISON INTERNATIONAL® Company

SDGE
A Sempra Energy utility®

Southern California Gas Company
A Sempra Energy utility®

2014 Program Redesign Goals

Why redesign?

- Align with statewide 2020 Zero Net Energy (ZNE) Residential Goal
- Coordinate with 2013 Energy Code adoption on July 1, 2014
- Enhance coordination among CA ZNE stakeholders:
  - ZNE Residential Action Plan
  - California Energy Commission
  - Codes and Standards
  - Emerging technologies programs

Goals of redesign:

- Establish CAHP as a vehicle for ZNE market transformation in the California building industry
- Include all energy end-uses within the home's envelope
- Create a program that can adapt to new technologies
- Encourage advanced building in all climate zones
- Simple for builders to participate, simple for utilities to implement

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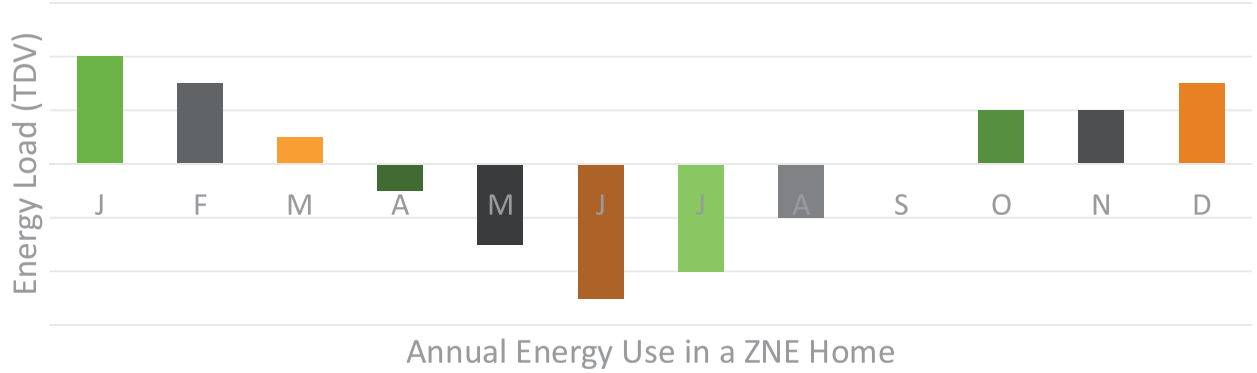
Zero Net Energy (ZNE) Concept

ZNE, generally understood

– Energy used is less than or equal to renewable energy generated.



Code ZNE:

– "The societal value of energy consumed by the building annually is less than or equal to the societal value of the renewable energy generated at the project level."

– Societal value, or TDV, includes energy costs (e.g., generation, grid maintenance, consumption) and externalities (e.g., CO2 emissions).

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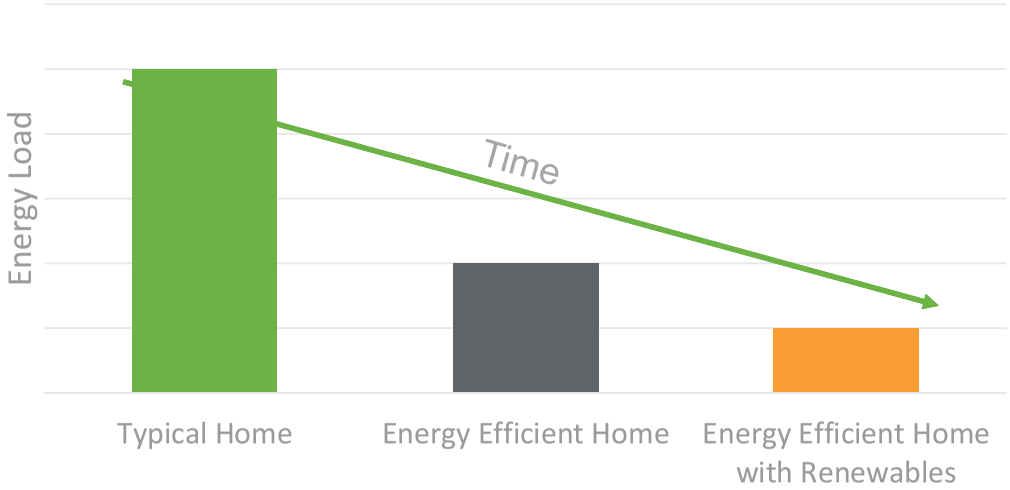
Percent Better than Code - a Flawed Metric

1) It does not align with ZNE.

- ZNE Goals: To reduce energy use towards zero.
  - What percent better than code is ZNE?
- *Percent Better than Code Goal:* To reduce use relative to a code-permitted allotment.

A successful energy-efficiency metric should be modeled after the ZNE goal.



Zero means Zero.

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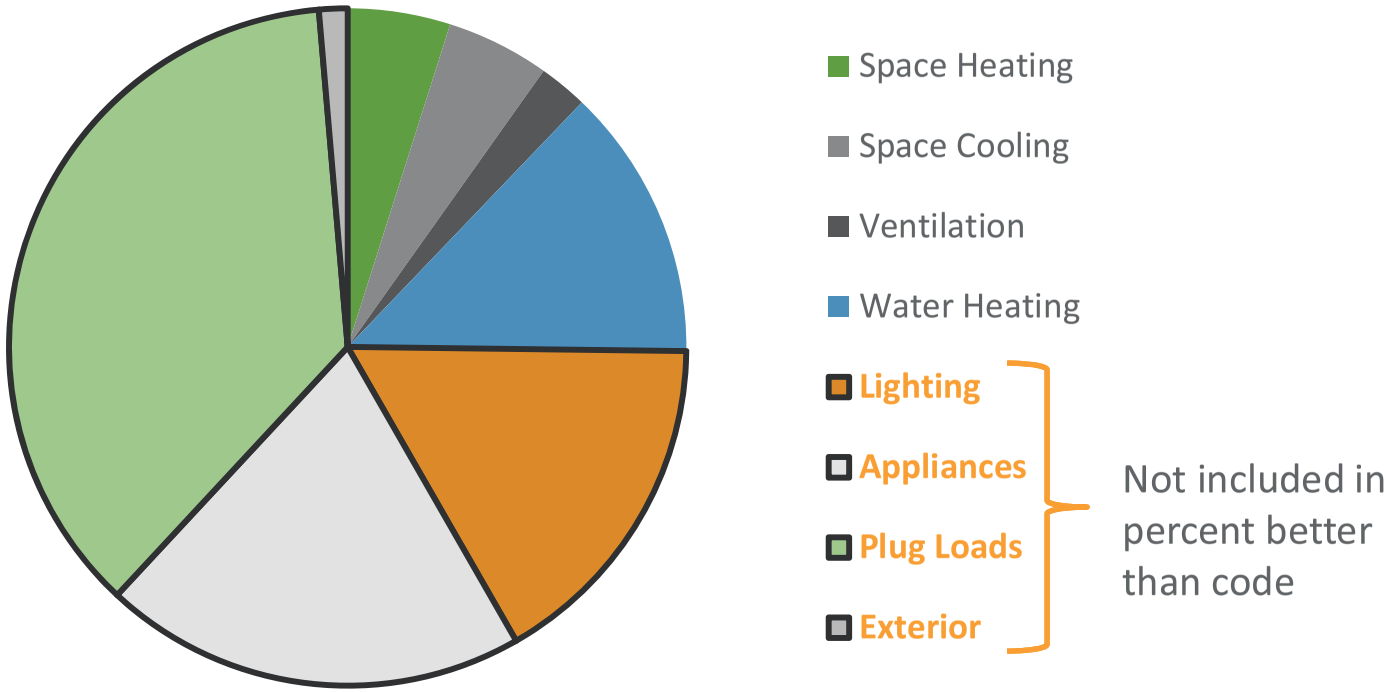
Percent Better than Code - a Flawed Metric

2) It is not a whole building approach

– Percent better than code includes only 25-70 % of a home's energy use.



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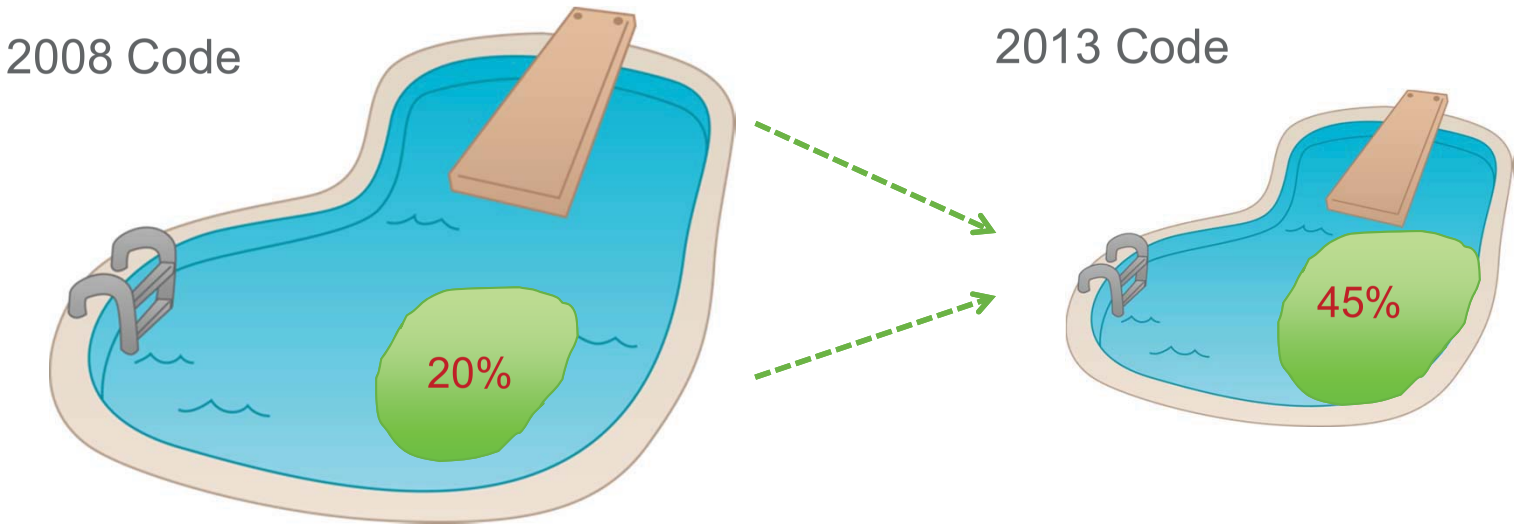
Percent Better than Code - a Flawed Metric

3) The baseline is getting too small as code improves

– Small energy savings can yield arbitrary “percent above code” results.



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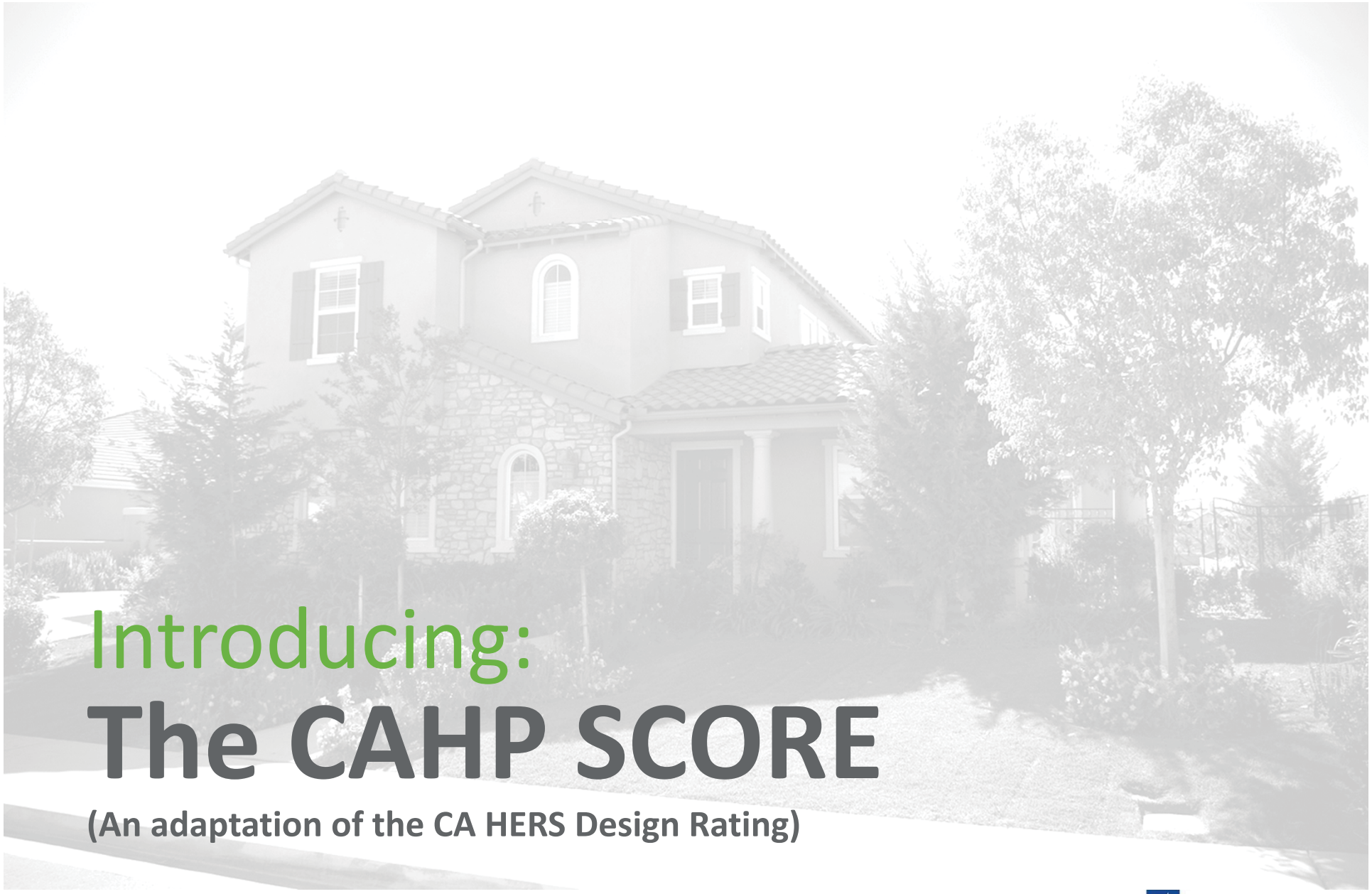


Introducing:
The CAHP SCORE

(An adaptation of the CA HERS Design Rating)

Pacific Gas and Electric Company®

SOUTHERN CALIFORNIA EDISON®
An EDISON INTERNATIONAL® Company

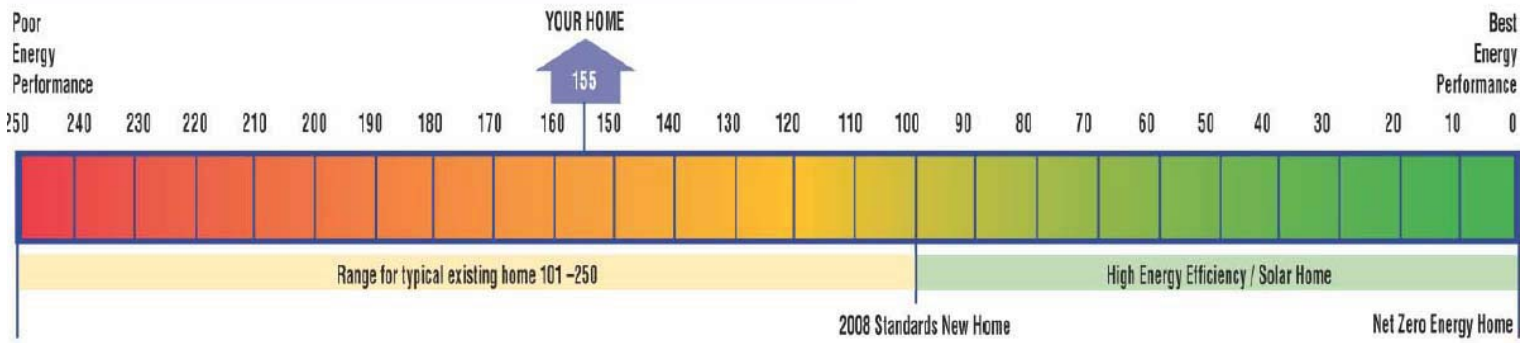
SDGE
A Sempra Energy utility®

Southern California Gas Company
A Sempra Energy utility®

What is the CAHP Score?

"Miles-per-gallon" style rating on a home's energy use

- Includes all energy end uses within home's envelope:
  - Heating
  - Cooling
  - Hot water
  - Fans
  - Lighting *(New)*
  - Appliances *(New)*
  - Plug loads *(New)*



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What is the CAHP Score?

Derived from the CA HERS Design Rating

- 2014 CAHP entry threshold = 84 (or lower)
- Calculated within Title 24 energy modeling software

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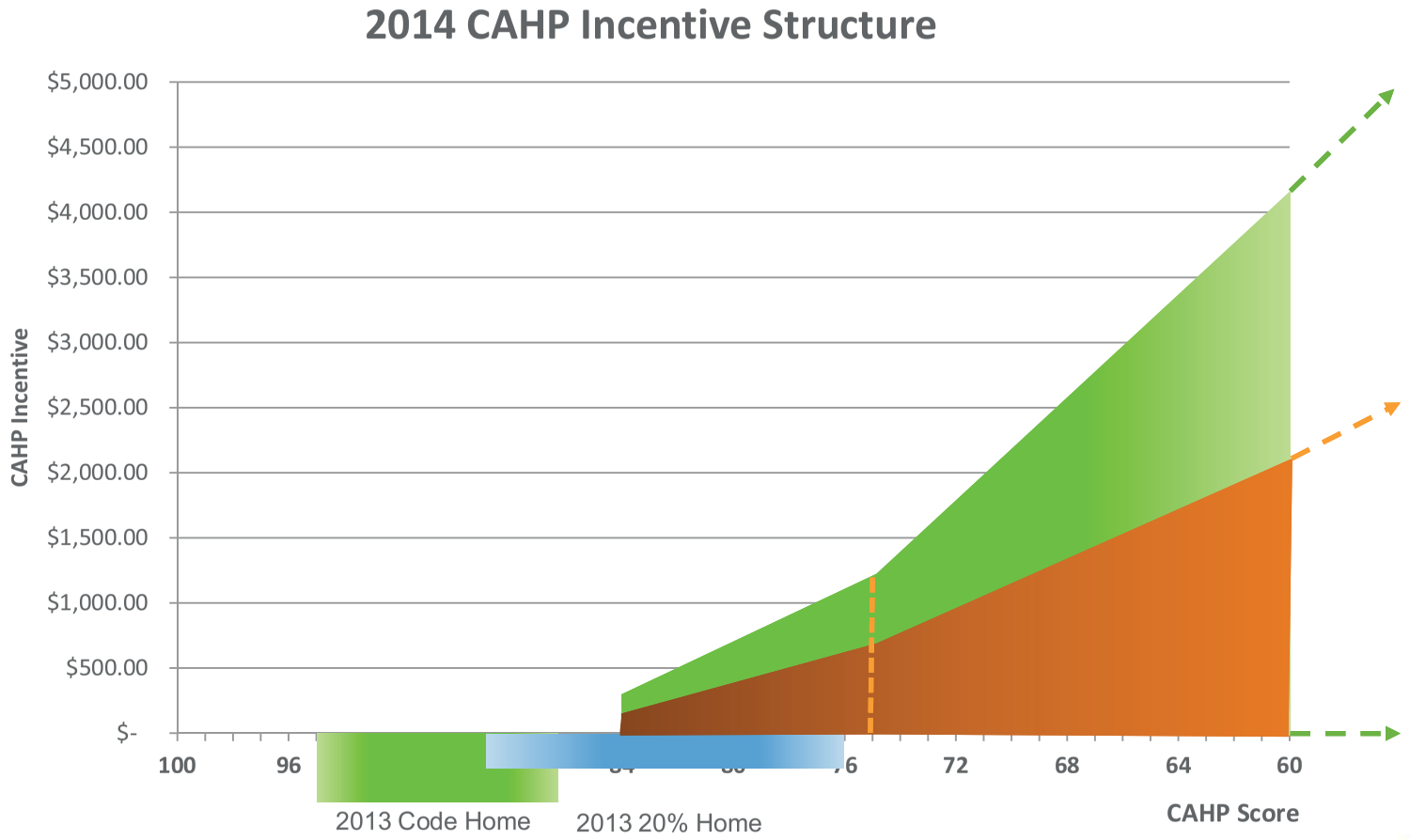
Proposed 2014 CMFNH vs CAHP-SF Incentive Structures

CAHP-SF

- $300 for program entry CAHP Score of 84
- $100 for each point up to 75
- $200 for each point thereafter

CAHP-MF Proposed (half of CAHP SF)

- $150 for program entry CAHP Score of 84
- $50 for each point up to 75
- $100 for each point thereafter



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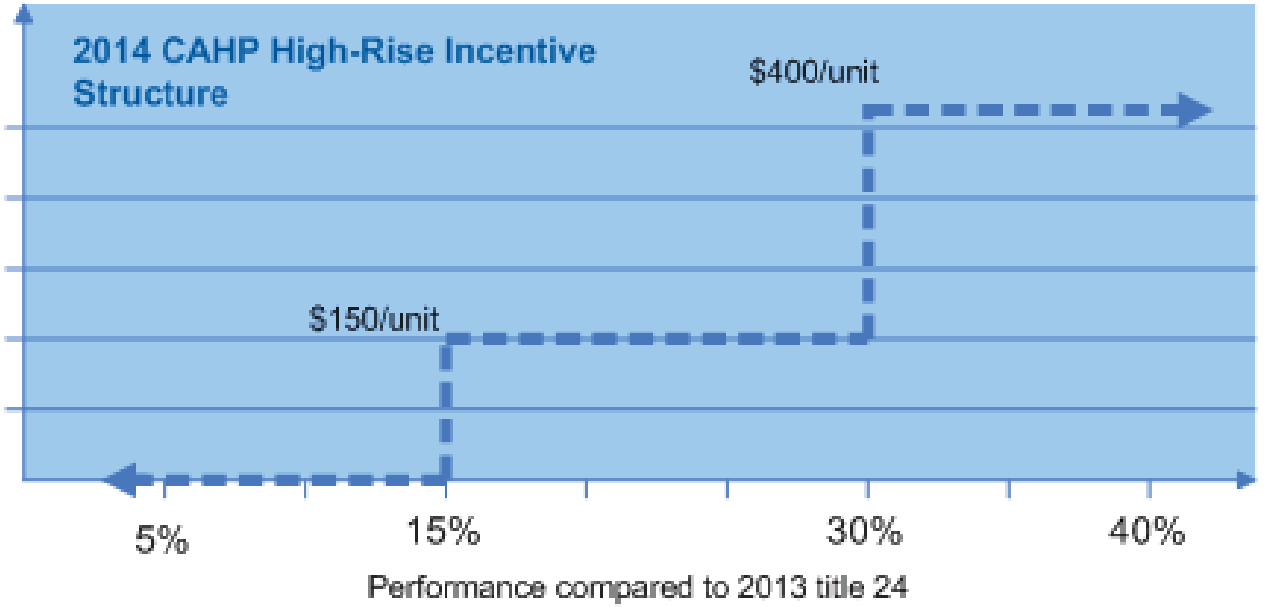
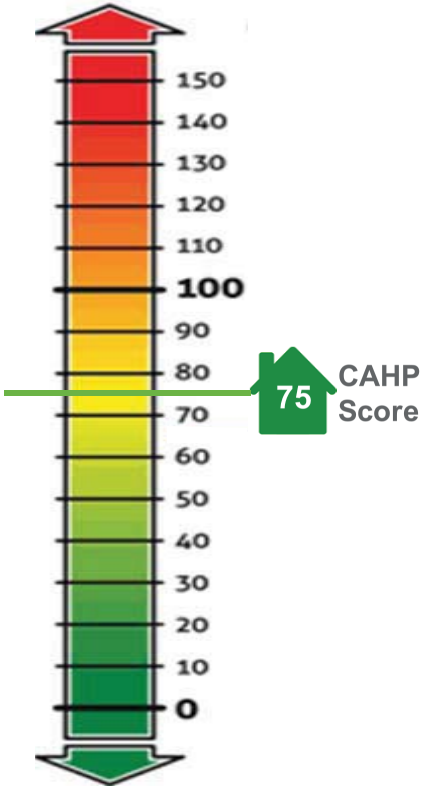
Proposed 2014 High Rise Residential Incentive Structure



How do I generate my CAHP Score?



1. **Have your energy consultant run your Title 24 compliance energy model simulations as normal**
   - CBECC-Res
   - Energy Pro 6

2. **Run the same model to produce the CAHP Incentive Report, which shows your CAHP Score, incentive, and energy-use data of the home**

   – ***Note**: This functionality will be available soon.*
   – *In the meantime, use the **CAHP Score and Incentive Estimate Tool** on our PGE CAHP website to generate a CAHP score estimate for your project.)*

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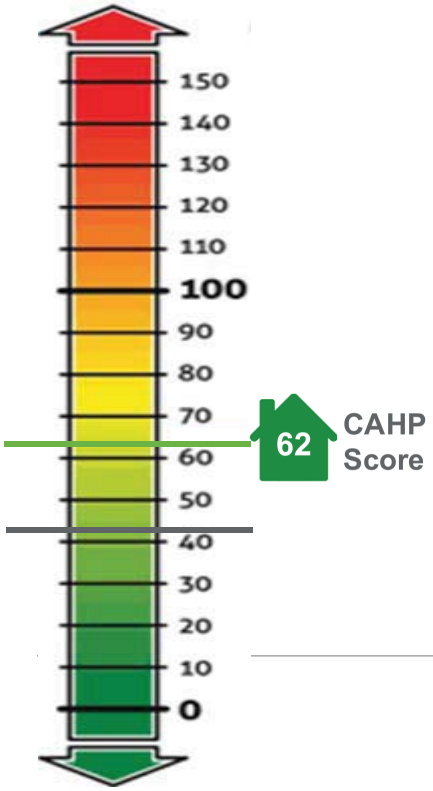
Sample 2014 CAHP Incentive Report

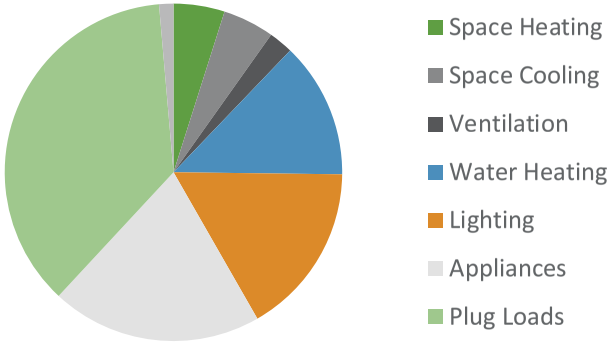
Use CBECC-res or EnergyPro to generate program data

2014 CAHP Incentive Worksheet

Plan 4 1,422 sq.ft. Climate Zone 8 Fullerton Date: 7/30/2014 North – 98,175 kTDV



Energy Use (kTDV/ft2-yr)			
	Standard	Proposed	Margin
Heating	8.22	3.38	4.84
Cooling	11.78	3.4	8.38
Ventilation	1.61	1.61	0
Water Heating	18.78	9	9.78
Lighting	11.41	11.41	0
Appliances	13.95	13.95	0
Plug Loads	25.35	25.35	0
Exterior	0.94	0.94	0
Total	92.04	69.04	23



CAHP Points Awarded:
Low-Energy Use Bonus- 5 points

Program Savings			
	Standard	Proposed	Margin
kW	4.3	3.2	1.1
kWh	3,698	3,503	195
Therms	268	148	120
Compliance %	92.04	57%	23

CAHP Score
Low-Energy Use Bonus
Ultra Low-Energy Bonus

CAHP Score; 62 = **$3,800**

CAHP Points – A new way to include incentive bonuses

CAHP Points reduce your **CAHP Score** and increase your incentive. The program developed and awards CAHP points for energy efficiency measures not included in current modeling software. CAHP Points are included in the Title 24 compliance software and are shown on the CAHP Incentive Report.

5 CAHP Points – Future Code Preparation Measures

- High R-value Walls R-21 + 4 and 2x6 (0.051 U-value or better)
- Heating and Cooling Distribution Efficiency
  - Ducts and Air-handler in conditioned space (DCS)/Ductless, or see your utility for other options
- High Performance Water Heating
  - Tankless gas or Condensing gas storage water heater, or see your utility for other options
- Quality Insulation Installation (QII)
- ACH3 at 50Pa (IECC minimum)

3 CAHP Points – DOE Zero Energy Ready Home (formally known as DOE Challenge Home)

5 CAHP Points – Low Energy Use bonus (100,000 kTDV/year)

- Production Market attainable absolute energy goal

5 CAHP Points – Ultra Low Energy Use bonus (60,000 kTDV/year)

- Correlated to the approx. energy output of a 3.5 kW PV panel

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CAHP Points – New incentive bonuses

CAHP Points reduce your CAHP Score and increase your incentive.

- Awarded for energy efficiency measures not included in modeling software
- Included in the Title 24 compliance software, shown on the CAHP Incentive Report

CAHP Points Allotted	Category
5	**Future Code Preparation measures** *High R-Value Walls*
3	**DOE Challenge Home**
5	**Low Energy Use bonus (100,000 kTDV/year)** Production Market attainable absolute energy goal
5	**Ultra Low Energy Use bonus (60,000 kTDV/year)** Correlated to the approx. energy output of a 3.5 kW PV panel

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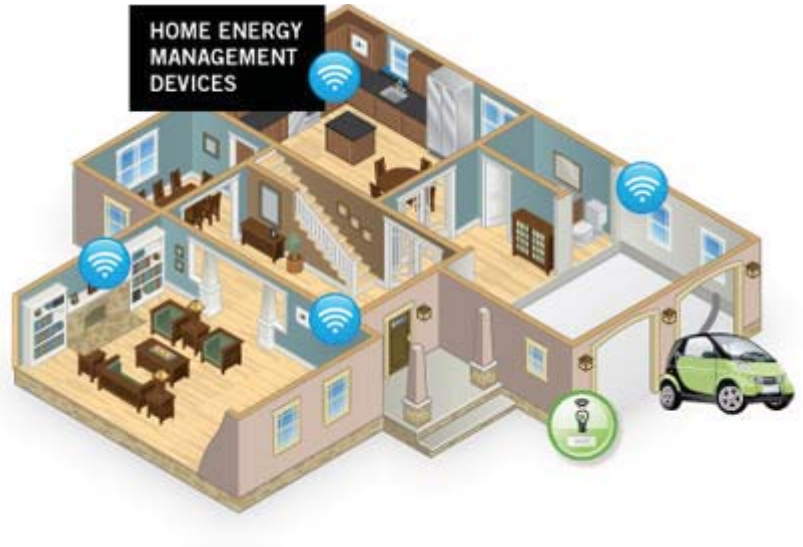
CAHP Points – New incentive bonuses

Additional CAHP Points under development, including:

- 100% high efficacy lighting
- ENERGY STAR Appliances Package standard
- Home energy management system
- New Technologies



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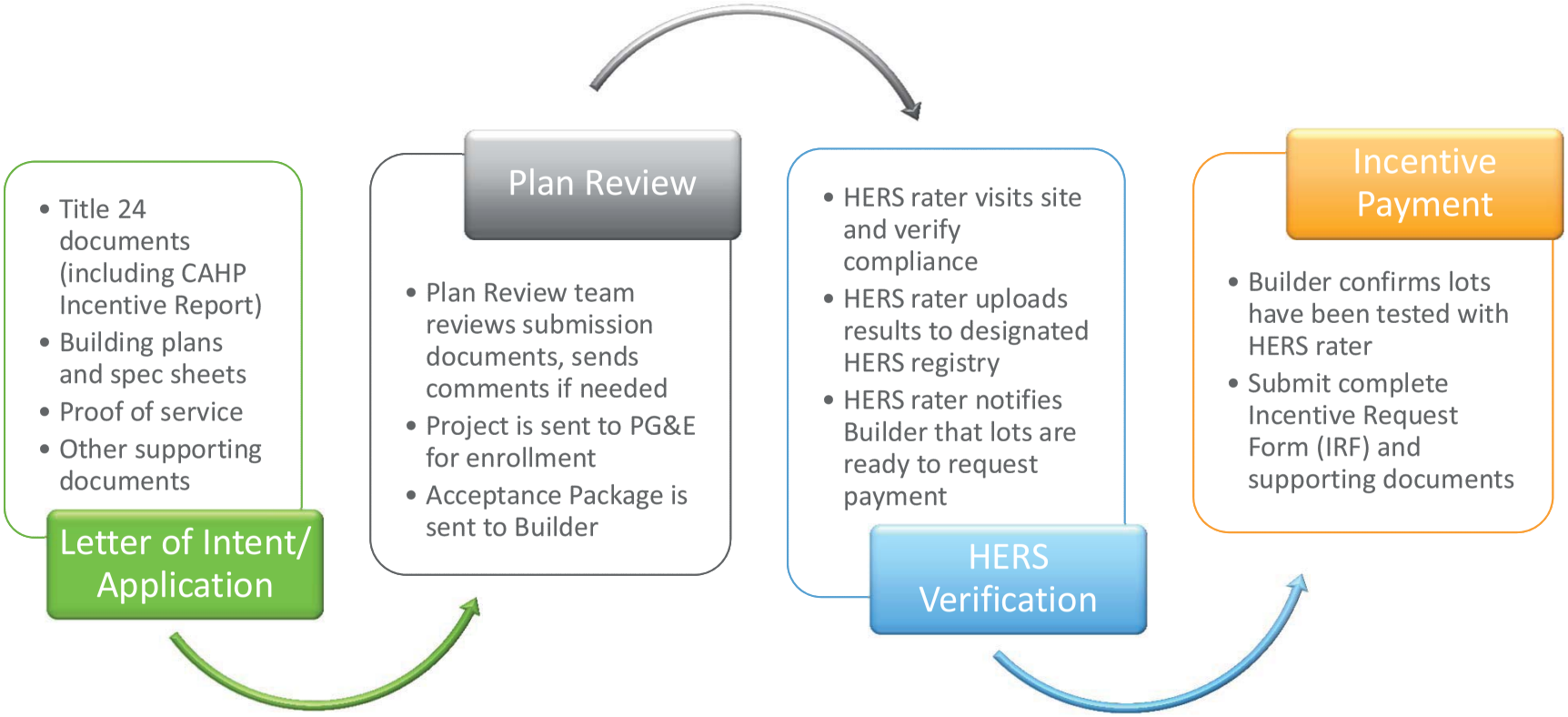
2014 CAHP Participant Examples

Location	San Jose (CZ 4)	Riverside (CZ 10)	San Diego (CZ 7)	Fresno (CZ 13)
Building Type	2,100 default	2,100 default	2,100 default	2,100 default
CAHP Score	**81**	**69**	**80**	**55**
Annual Energy Use (kTDV)	154,749	152,712	116,970	165,858
EE Measures	2013 Prescriptive, Plus:	2013 Prescriptive, Plus:	2013 Prescriptive, Plus:	2013 Prescriptive, Plus:
Envelope	• QII	• QII • R-21 wall cavities, • U28/S22 Windows • 3.0 ACH50 blower door • Cool Roof (0.90 emit.)	• QII	• QII • R-21 wall cavities • R-8 ext wall ins. • R-10 24" Slab edge ins • 24" OC stud spacing • R-13 roof deck ins • U28/S22 Windows • 1.0 ACH50 blower door • Cool Roof (0.90 emit.)
HVAC	• SEER 14/EER 12, 84% AFUE	• SEER 14/EER 12, 84% AFUE	-	• SEER 18/EER 14, 95% AFUE
DHW	• 0.82 EF Tankless	-	• 0.97 EF Tankless • All pipes insulated	• 0.97 EF Tankless • All pipes insulated
Other	-	• R-8 ducts	-	• R-8 ducts • Ducts in conditioned space
Incentive*	**$500**	**$2,300**	**$600**	**$5,100**

**Individual results may vary considerably*

2014 CAHP Participation Process

The CAHP process will remain the same



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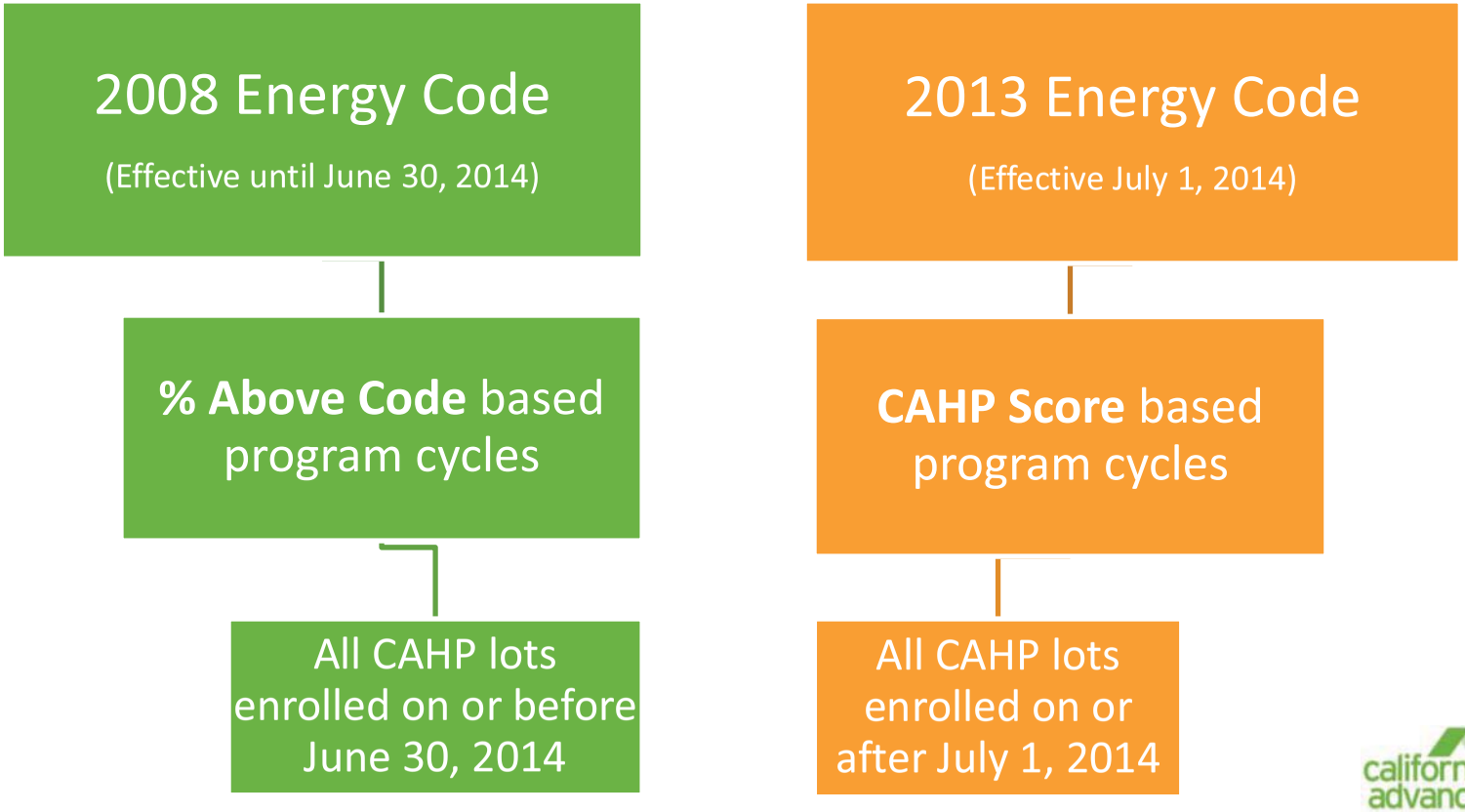
CAHP Permit-to-Program Rules

CAHP cycles run in parallel with the Energy Code.

- The building permit you pull must correspond to the appropriate CAHP cycle in order to be eligible for incentives.



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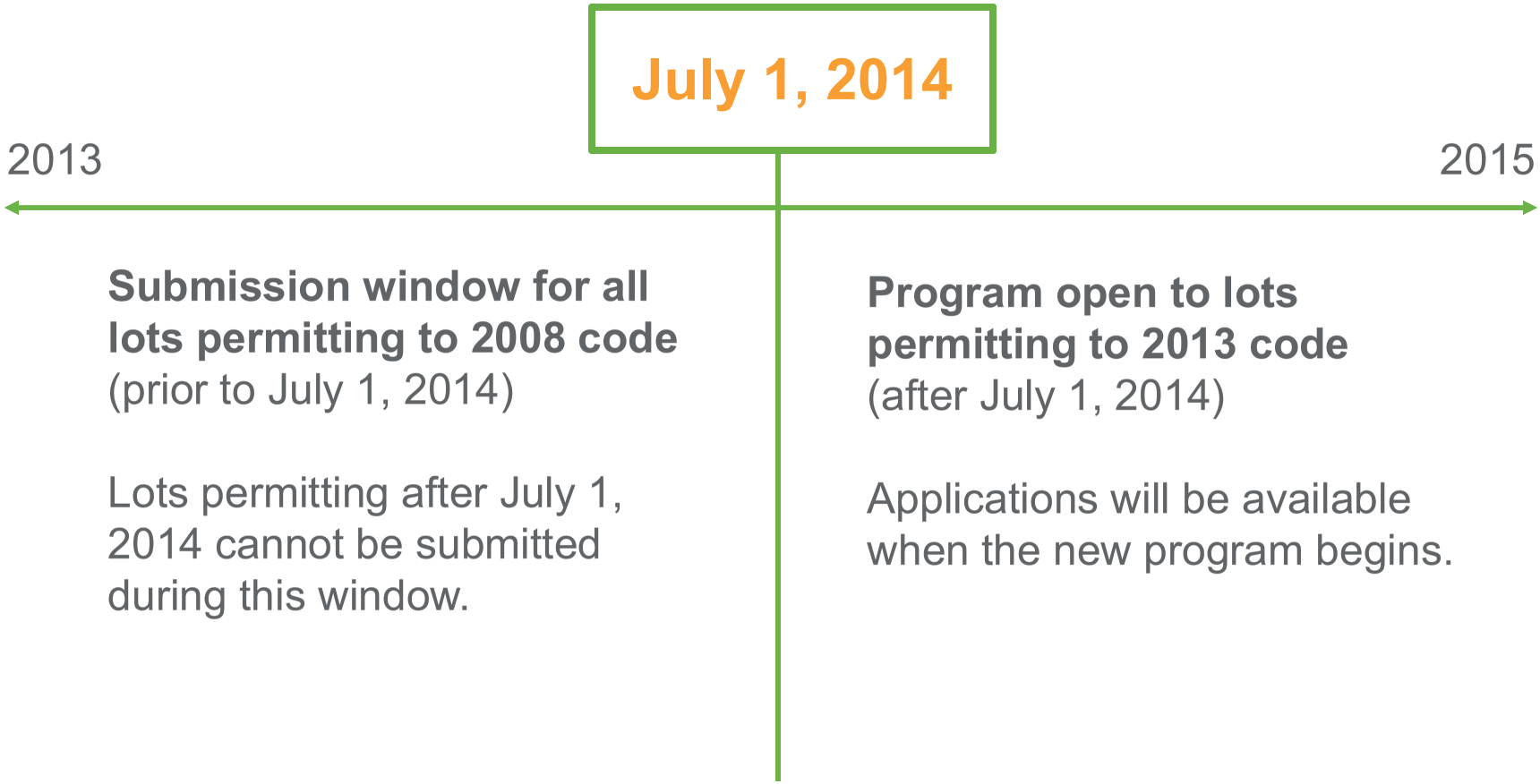
Submitting Projects to CAHP: Next Steps



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