

New Construction- Residential California Advanced Homes Subprogram

	Mission	IOU Recommendations and Comments
SW Program: New Construction	The RNC subprogram supports transformation of California’s residential new construction consistent with the CEESP via incentive, education, outreach, marketing and training strategies aimed at the California building industry. The RNC subprogram consists of the California Advanced Home Partnership program (CAHP) coupled with Zero Net Energy Homes and an Energy Star Manufactured homes subprograms.	
SW Sub-program: California Advanced Homes Program	CAHP utilizes a pay-for-performance sliding scale incentive structure based on a whole building approach. CAHP will increase market demand for energy efficient homes by encouraging builders to exceed Title 24 energy efficiency standards by 15-45%. Performance Bonus adders, Design Team Incentives and some prescriptive measure incentives will be included to encourage green building initiatives, energy star appliances, compact homes and solar thermal and photovoltaic installations. Non-incentive customer services will be offered such as technical support to Energy Analysts and Design Teams, Design Team Assistance, economic modeling/measure selection support to builders, marketing support and DSM coordination for builders. The CAHP will, in addition, work with AMI teams to test and develop in-home displays.	

CA EESP Goals/Strategies Addressed by SW <u>Sub-program</u> :	CA EESP Ref. pp. #	IOU Recommendations and Comments
<u>Goal (1)</u> NC will reach ZNE performance (including clean, onsite distributed generation) for all new single and multi-family homes by 2020. A key element of this Goal is to develop ZNE example homes across the spectrum of housing options, including MF affordable housing in urban infill areas with access to public transportation.	p. 11 p. 16 p. 11 as	Comments: IOUs agree with the SP that these “goals are extremely aggressive” (p. 14) IOUs are not aware of a single existing N. American home that meets the ZNE definition.

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<p><u>Goal Results:</u> (a) 50% of new homes will surpass⁴ T24 2008 (previously 2005) standards by 20% (previously 35%) by 2012 (previously 2011) <u>Goal Results:</u> (b) 10% of new homes will surpass T24 2008 (previously 2005) standards by 40% (previously 55%) by 2012 (previously 2011)</p>	<p>updated by D0909047 p. 11 as updated by D0909047</p>	
<p><u>Strategy 1-1:</u> Drive continual advances in technologies in the building envelope, including building materials and systems, construction methods, distributed generation, and building design. <u>Milestones 1-1:</u> By 2012-2016, 90% of new homes exceed Title 24 by 35% and 40% of new homes exceed Title 24 by 55%; by 2016-2020, 100% of new homes exceed Title 24 by 35%, and 90% exceed Title 24 by 55%</p>	<p>p. 16 p. 16</p>	
<p><u>Strategy 1-5:</u> Encourage local, regional, and statewide leadership groups to support pilots and foster communication among pioneering homeowners and builders.</p>	<p>p. 18</p>	
<p><u>Goal (2)</u> Home buyers, owners and renovators will implement whole-house approach to energy consumption that will guide their purchase and use of existing and new homes, home equipment (e.g. HVAC systems, household appliance, lighting, and "plug loads" amenities.</p>	<p>p. 11</p>	
<p><u>Strategy 3-1</u> Drive continual advances in residential energy usage, including plug loads, home energy management systems, and appliances <u>Milestones 3-1</u> 10% reduction in plug loads by 2012-2016; 25% reduction in plug loads by 2016-2020</p>	<p>p. 21</p>	
<p><u>Goal 4:</u> Plug loads will be managed by developing consumer electronics and appliances that uses less energy and provide tools to enable customers to understand and manage their energy demand.</p>	<p>p. 11</p>	
<p><u>HVAC Strategy 3-1:</u> Aggressively promote whole building design concepts that improve the overall thermal integrity of new and existing structures <u>HVAC Milestones 3-1:</u> Include standard program offerings that emphasize HVAC-related elements to whole building approaches. Incorporate radiant cooling, ductless systems, ground source heat pumps, etc. into 25% of more of new and existing construction by 2015 and 50% of new and existing construction by 2020</p>	<p>p. 63 p. 63</p>	<p>Comments: CLTEESP's goals for ZNE conflict with its HVAC strategy of promoting particular technologies. Diverting funding to selected technologies at expense of others will result in lower savings and additional opportunity costs.</p>
<p><u>Strategic Lighting Plan:</u> Meet the lighting power density targets and best practices by 2020 by building type.</p>	<p>p. 23</p>	<p>Comments: RNC does not have LPDs and Title 24 has no performance (present) with which to encourage improvements over prescriptive requirements.</p>

Short and Long term (2010-2012) "SMART" Program Objectives:	Source	IOU Recommendations and Comments
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	(SP, AL, DR, PIP, or Staff)*	
Objective 1: Home builders of all production volumes in California will be encouraged to construct homes that exceed California's Title 24 energy-efficiency standards by at least 15%;	AL	
Objective 2: By 2012, 50% of new homes built in California will be 20% more efficient than 2008 Title 24 standards and 10% will be 40% more efficient;	AL, SP (as updated by D 0909047)	
Objective 3: Residential New Construction will work towards reaching "ZNE" performance for all single and multi family homes by 2020	AL	

Short-term (2010-2012) "SMART" <u>Sub-program</u> Objectives:	Source (SP, AL, DR, PIP, or Staff)*	IOU Recommendations and Comments
<p>Objective 1: By 2012, all participating home builders of all production volumes in California will construct homes that exceed California's Title 24 energy-efficiency standards by at least 15%- i.e. based on the below targets, 50% of participants will build to 15% above Title 24 (2008);</p> <p>(1a) 50% of CAHP participants will build homes that are 20% + more efficient than Title 24 (2008);</p> <p>(1b) This 50% includes 10% of CAHP participants that build homes that are 40% more efficient than Title 24 (2008)</p> <p>Note: PG&E & all IOUs like no-prejudging language as per this metric and the RRIM being included in Resolution.</p>	<p>PIP</p> <p>DR, Staff-modified</p> <p>SP</p> <p>DR, Staff-modified</p>	<p>Revise to:</p> <p>Objective 1: By Q4 2012, all CAHP participating homes will be committed at levels that exceed California's Title 24 energy-efficiency standards by at least 15%, based on the following distribution:</p> <p>70% of participant homes will exceed T24 (2008) by 15%-19%</p> <p>23% of participant homes will exceed T24 (2008) by 20%-29%</p> <p>5% of participant homes will exceed T24 (2008) by 30%-39%</p> <p>2% of participant homes will exceed T24 (2008) by 40+%</p> <p>Comments:</p> <p>This differs from the PIP for the following reasons: we now have the final version of 2008 T24, including the 2011 implementation of the CalGreen code in T24; the economic downturn has made homebuilders even more sensitive to cost increases even with IMC coverage; and practical program experience in the field suggests that the September 2008 Strategic Plan targets were aggressive.</p>

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<p>Objective2: By 2012, <u>30%-50%</u> of new housing units of all production types (SF/MF/affordable) participate in the program across California</p>	<p>PIP, DR, ED-IOU discussion s, Staff</p>	<p>Revise to: Objective 2: By 2012, at least <u>30%</u> of new housing units of all production types (SF/MF) commit to participate in the program across California, includes all committed IOU programs units and all new residential units.</p> <p>Comments: Because IOUs cannot enroll builders outside their territory, a 30% penetration of all residential units with just IOU participation would require even higher penetration to account for non-IOU territory builders. A 30% market penetration is possible, but based on historical experience of the IOU programs, 50% (doubling of penetration rates) is not reasonable in a 3-year period.)</p> <p>Distinguishing between SF and MF makes sense, but not “Affordable” housing. This data is currently not available.</p>
<p>Objective 3: A steadily increasing number (xx%) every year of CAHP program homes utilize incentives contributing to whole house approach including <i>each</i> of the following: (a) 30% above Title 24 NSHP \$1000 SF (TBD/MF) bonus; (b) Green Homes incentive; (c) kW reduction incentive (peak kW PV reduction); (d) compact home incentives; (e) Prescriptive measures added to plans, including CAHP-increased incentives for high efficiency appliances; IHD, PCT could be added, dependent on policy decisions in DR proceeding. (f) Energy Star kicker</p>	<p>PIP, Staff</p>	<p>Delete</p> <p>Comments: All program participant homes must use a whole house approach to qualify for the program, with or without kickers. To imply that increasing usage of kickers increases homes using whole house approach is inaccurate. As the kickers result in no additional savings, achieving higher level of efficiencies without them will result in lower costs to ratepayers. IOUs will track items a –</p> <p>For PG&E these kickers are not available in the MF program. For item (e) the IOUs have dropped appliance/deemed incentives at the time being, and given other pending policy decisions regarding AMI and PCTs, we are unable to offer those items at this time. IOUs are exploring various measures to add and can clarify</p>
<p>Objective 4: By 2012, an increasing number of participant homes are located in high energy use areas; 4b) and areas with low code compliance</p>	<p>Staff</p>	<p>Delete</p> <p>Comments: In concept, this seems well-intentioned, but we have several concerns. First, in order to measure, clear definitions of “high energy use areas” and “areas with low code compliance” would</p>

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		<p>necessary. Second, because the programs and the Strategic Plan t ALL new homes in California, this objective is inconsistent with goals. Third, the 2010-2012 graduated program incentives energy) already provides significantly larger incentives for h built in more energy intensive climates, so encouraging grea participation is built-in to the incentive design. Fourth, the N programs have no influence over where developers choose Fifth, determining low code compliance areas would likely re extensive EM&V, which is outside the scope of type-2 metri</p>
<p>Objective 5: By 2012, incorporate radiant cooling, ductless systems, ground source heat pumps, etc into 5% of participating CAHP homes</p>	<p>SP, p. 63 (also applies to existing constructi on)</p>	<p>Delete</p> <p>Comments: While we agree that ducts in attics have some inherent inefficiencies, the Strategic Plan goes too far in selecting sp solutions of radiant cooling, ductless systems, ground source pumps and thermal energy storage technologies. Other mo effective solutions are available, such as better sealed and ducts, cool roofing materials, radiant barrier, and locating du conditioned spaces, to name a few. However, the program designed to be technology neutral. To do otherwise risks fa certain industries or vendors over others, which would harm credibility in the market as a neutral third party. To support “whole building” design approach, the IOUs must allow desi and builders the freedom to choose the best combination of and efficiency measures at least cost to achieve maximum efficiency.</p> <p>CLTEESP’s goals for ZNE conflict with its HVAC strategy of promoting particular technologies. Diverting funding to selec technologies at expense of others will result in lower saving additional opportunity costs.</p>

Short-term <u>Sub-program</u> PPMs:	Source (SP, AL, DR, PIP, or Staff)*	Metric Type (2a or 2b)**	Baseline Study Required (Y/N)	IOU Recommendations and Comments
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<p>PPM 1: Number and percentage of CAHP participant homes committed (applied and accepted) with IOUs as exceeding 2008 T24 units (SF and MF) by 15%-19%, by 20%-39%, 40+%</p>	<p>DR</p>	<p>2a</p>	<p>N</p>	<p>Revise to: PPM 1: Number and percentage of committed CAHP participant homes (applied and accepted) with modeled, ex ante savings exceeding 2008 T24 units (SF and MF) by 15%-19%, by 20%-39%, 40+%</p> <p>Comments: All % are ex ante modeled.</p>
<p>PPM 2: Number and percentage of CAHP participant homes committed (applied and accepted) incentives contributing to whole house approach including <i>each</i> of the following: (a) 30% above Title 24 NSHP \$1000/SF (TBD for MF) bonus; (b) Green Homes incentive; (c) kW reduction incentive (peak kW PV reduction); (d) compact home incentives; (e) IHD and PCT and other prescriptive measures added to plan, including CAHP-increased incentives for high efficiency appliances and lighting (repeat edits as above in objectives) (f) Energy Star kicker</p>	<p>DR, Staff</p>	<p>2a</p>	<p>N</p>	<p>Delete</p> <p>Comments: All program participant homes must use a whole house approach to qualify for the program, with or without kickers. To imply that increasing usage of kickers increases homes using whole house approach is inaccurate. As the kickers result in no additional savings, achieving higher level of efficiencies without them result in lower costs to ratepayers. IOUs will track items a -</p> <p>For PG&E these kickers are not available in the MF program. For item (e) the IOUs have dropped appliance/deemed incentives for the time being, and given other pending policy decisions regarding AMI and PCTs, we are unable to offer those items for the time. The IOUs are exploring various prescriptive measures and will clarify at a later date via an AL.</p>
<p>PPM 3: Percentage in IOU service territories of new housing permits of all market rates (SF/MF/affordable-note that data not currently collected) estimated as participating in program PPM 3a) Percentage of built participant homes compared to housing completions in IOU service territories (disagreement on whether this requires evaluation or simply better tracking within IOUs)</p>	<p>DR</p>	<p>2a 2b</p>	<p>N</p>	<p>Revise to: PPM 3: Market penetration in IOU service territories of program participants.</p> <p>PPM 3a) Percentage of (current year SF CAHP program participants) / (2009 SF building permits within service territories)</p> <p>PPM 3b) Percentage of (current year MF CAHP program participants) / (2009 MF building permits within service territories)</p> <p>Comments: The IOUs agree with the idea that a market penetration measure is useful, but ratio needs to be of two easily and clearly defined numbers. Numerators are clearly defined and available in</p>

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				<p>tracking data. Denominators are available through non-IOU CA sources, although may need to be adjusted to reflect IOU service territories. Reason for using previous year's permits is to accommodate delay in construction.</p> <p>This PPM is not perfect, but should give an approximate id market penetration over time. Note that metric will consistently underestimate true program penetration because denominator not adjusted for permitted homes that are not built. Recommend process evaluation to optimize metric versus data available</p>
<p>PPM 4: Number and percentage of program homes in high usage areas and low compliance jurisdictions</p>	<p>Staff (EM&V results)</p>	<p>2a</p>	<p>N</p>	<p>Delete</p> <p>Comments: In concept, this seems well-intentioned, but there are several issues. First, in order to measure, clear definitions of "high use areas" and "areas with low code compliance" would be necessary. Second, because the programs and the Strategy targets ALL new homes in California, this objective is inconsistent with those goals. Third, the 2010-2012 graduated program incentives (\$/unit of energy) already provides significantly larger incentives for homes built in more energy intensive climates encouraging greater participation is built-in to the incentive. Fourth, the NC programs have no influence over where developers choose to build. Fifth, determining low code compliance areas would likely require extensive EM&V, which is outside the scope of type-2 metrics.</p>
<p>PPM 5: Number and percentage of CAHP participant new homes: a) installed; and, b) <u>verified</u>, -metered as built exceeding Title 24 (SF and MF) by 15%-19%; 20%-29%; 30%-39%; 40%-70% Tracking attrition rate valuable?</p>	<p>DR, Staff</p>	<p>a) 2b- install ed b) 2b- evalu ated</p>	<p>N</p>	<p>Revise to: PPM 5: Number and percentage of <u>installed</u>, participant, CA units exceeding Title 24 (SF and MF) by 15%-19%; 20%-29%; 30%-39%; 40%+</p> <p>Comments: IOUs can only report on installed. Item (b) was deleted, (re-metered savings) as it will require an EM&V study is inconsistent with definition of 2b.</p> <p>(In response to ED comment) Tracking attrition rate is valuable something the IOUs should pursue via a separate process improvement study.</p>

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PPM 6: Average lighting power density of participating SF and MF homes	Strategic Lighting Plan	2b	N	<p>Delete</p> <p>Comments: RNC does not have LPDs and Title 24 has no performance (present) with which to encourage improvements over prescriptive requirements.</p> <p>Could be a type 3 metric. Will require a baseline study to establish typical LPD.</p>
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*SP=Strategic Plan, AL=Advice Letter, DR=Data Request Response, PIP=program plans, Staff=ED proposed. [Include page reference when applicable.]

**Metric type: 2a = reported annually, 2b = reported by end of cycle.

Notes: PG&E rejects ~ 50% of applications. Attrition rate high in economic downturn, with construction delays.

Long-Term (2013-2020) "SMART" <u>Sub-program</u> Objectives:	Source (SP, AL, DR, PIP, or Staff)*	IOU Recommendations and Comments
Objective 1: By 2013-2016, 90% of new homes participating in program exceed Title 24 (2008) by 35% and 40% of new homes participating in program exceed Title 24 by 55%; by 2016-2020, 100% of new homes participating in program exceed Title 24 by 35%, and 90% of new homes participating in program exceed Title 24 (2008) by 55%	SP, Staff, p. 16	<p>Revise to: Objective 1: By 2013-2016, 90% of new homes participating in program exceed Title 24 (2008) by 35% and 40% of new homes participating in program exceed Title 24 by 55%; by 2016-2020, 100% of new homes participating in program exceed Title 24 by 35%, and 90% of new homes participating in program exceed Title 24 (2008) by 55%</p> <p>Comments: if code proceeds on schedule and at 15% incremental improvements/iteration (2013, 2016, 2019 implementation years)</p>
Objective 2: By 2013-2016, homes participating in program achieve a 10% reduction in plug loads; by 2016-2020, homes participating in program achieve a 25% reduction in plug loads	SP, Staff, p. 21	<p>Delete</p> <p>Comments: No influence in either current program design or T24 on plug loads</p>

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		<p>Consider allowing CAHP to claim savings from plug load partner with Consumer Electronics program.</p>
<p>Objective 3: By 2015, CAHP standard program offerings emphasize HVAC-related elements to whole building approaches such that radiant cooling, ductless systems, ground source heat pumps, etc. are incorporated into 25% or more of participating homes; by 2020, 50% of participating homes incorporate HVAC-related whole house elements such that radiant cooling, ductless systems, ground source heat pumps, etc.</p>	<p>SP, Staff, p. 63</p>	<p>Delete</p> <p>Comments: While we agree that ducts in attics have some inherent inefficiencies, the Strategic Plan goes too far in selecting specific solutions of radiant cooling, ductless systems, ground source heat pumps and thermal energy storage technologies. Other more cost-effective solutions are available, such as better sealed and insulated ducts, cool roofing materials, radiant barrier, and locating ducts in conditioned spaces, to name a few. However, the program is designed to be technology neutral. To do otherwise risks favoring certain industries or vendors over others, which would harm the credibility in the market as a neutral third party. To support a true “whole building” design approach, the IOUs must give designers and builders the freedom to choose the best combination of design and efficiency measures at least to achieve maximum efficiency.</p> <p>CLTEESP’s goals for ZNE conflict with its HVAC strategy promoting particular technologies. Diverting funding to selected technologies at expense of others will result in savings and additional opportunity costs.</p>
<p>Objective 4: CAHP program participant homes meet the lighting power density targets and best practices by 2020 by building type.</p>	<p>SP, Staff, Strategic Lighting Plan</p>	<p>Delete</p> <p>Comments: Code and program don’t address LPD in RNC. Will require baseline study to establish typical LPD.</p>
<p>Objective 5: Program is designed to support declining average costs for homes exceeding Title 24 and ZNE homes</p>	<p>SP, Staff</p>	<p>Delete</p> <p>Comments: The IOUs hope to achieve this, but cost reductions are a product of volume production, not program design. It is clear that Program Incentives do result in lower IMCs</p>

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		<p>time.</p> <p>New construction IMCs are difficult to calculate and cost reductions are likewise difficult to measure in the field due to the whole-building nature of CAHP.</p>
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Long-Term Sub-program MT Indicators:	Source (SP, AL, DR, PIP, or Staff)*	Metric Type (3)**	Baseline Study Required (Y/N)	IOU Recommendations and Comments
<p>MT Indicator 1: Total number/percentage of new homes of all production types (SF, MF, affordable) 15-40% above T24 (2008) code in California (includes participants and non-participants); for all indicators suggested, baseline year would be years data for baseline study drawn from. Note; that evaluation would need to reflect "current" code to 2020</p>	SP	3	Y	<p>Revise to: MT Indicator 1: Total number/percentage of California-wide, homes of all production types (SF, MF), modeled 15-19%, 20-29%, 30-39%, 40+% above T24 (2008) code. Includes participants and non-participants; for all indicators suggested, baseline year would be years from which data for baseline study is drawn.</p> <p>Comments: Deleted affordable – we don't have a reliable way to track the Objective is to know how California new housing stock is improving in efficiency in 2010-2020.</p> <p>This evaluation would need to reflect 2008 code baseline version code in effect through 2020. This is a significant evaluation involving ongoing new construction statewide baseline study. Probably more directly relevant to Codes & Standards work.</p>
<p>MT Indicator 2: Number/percentage of ZNE, zero peak and highly efficient (45% above Title 24 code) new homes of all production types (SF, MF, affordable) in California (includes participants and non-participants)</p>	SP	3 or 2b?	Y or N if 2b	<p>Revise to: MT Indicator 2: Number/percentage of ZNE, and zero peak homes of all production types (SF, MF) in California (includes participants and non-participants)</p> <p>Comments: Removed high performance homes at 40+%, as it is covered by Indicator 1</p>

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				Zero Peak is a preferred goal to ZNE because of the regulatory rate implications to an IOU from significant adoption of ZNE
MT Indicator 3: Average cost of new homes more efficient than Title 24 (2008) (and subsequent code levels) by: 15%-19%; 20%-40%; 45%; ZNE and zero peak homes	SP	3	Y	<p>Revise to: MT Indicator 3: Average cost of new homes more efficient than Title 24 (2008) (and subsequent code levels) by: 15%-19%; 20%-40%; 45%; ZNE and zero peak homes</p> <p>Comments: Although we recommend deletion of this item in objective 5, IOUs wish to clarify that this is because cost reductions are indirect byproduct of <i>program</i> intervention. However, cost reductions are an important metric for long-term <i>market transformation</i>.</p> <p>While the program wishes to achieve this, cost reductions are a product of volume production, not program design. It is not that Program Incentives do result in lower IMCs over time.</p> <p>New construction IMCs are difficult to calculate and cost reductions are likewise difficult to measure in the field given the whole-house nature of CAHP. Would be a separate study from MT 1, 2,</p>
MT Indicator 4: Average electricity and energy use levels of California new homes (kwh and KW/ft2/year; BTU/ft2/year)	SP	3	Y	<p>Revise to: MT Indicator 4: Average electricity and energy use levels of California new residential units (KW/ft2; KBTU/ft2/year)</p> <p>Comments: Although the IOUs recommend deletion of this item in objective 5, this is an important metric for long-term <i>market transformation</i> toward ZNE. Nevertheless, overall energy intensity reductions could exceed the current program design which only covers the H and DHW.</p> <p>Current T24 for new residential units does not cover include lighting, plug loads, and appliances. MT Indicator 4 covers T24-performance-based (HVAC) as well as non-T24 performance-based: lighting, appliances, and plug loads. Only T24 performance-based measures and some appliances* are included in CAHP (*Anticipated 2011). This could be combined in one study with MT 1 and 2.</p>

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***Metric type: 3 = data collection, tracking, and reporting [by IOUs, CPUC staff, and/or other entities] to be determined later.*

New Construction - Residential ENERGY STAR® Manufactured Housing Subprogram

	Mission	IOU Recommendations and Comments
SW Program: New Construction	The RNC subprogram supports transformation of California's residential new construction consistent with the CEESP via incentive, education, outreach, marketing and training strategies aimed at the California building industry. The RNC subprogram consists of the California Advanced Home Partnership program (CAHP) coupled with Zero Net Energy Homes and an Energy Star Manufactured homes subprograms.	
SW Sub-program: ENERGY STAR® Manufactured Housing Subprogram	The ENERGY STAR® Manufactured Homes Program promotes the construction of new manufactured homes that comply with ENERGY STAR® energy efficiency standards by encouraging manufacturers to go beyond HUD specifications to install high efficiency and right size HVAC systems. It also works to increase the efficiency of the whole home, moving the industry towards zero net energy.	Comments: This program is tied to the EPA E'STAR standard over which the California IOUs have little if any influence. While E'STAR currently aligns with the mission, given our experience in the Single Family sector, that may change any time.

CA EESP Goals/Strategies Addressed by SW <u>Sub-program</u> :	CA EESP Ref. pp. #	IOU Recommendations and Comments
<u>Goal (1)</u> NC will reach ZNE performance (including clean, onsite distributed generation) for all new single and multi-family homes by 2020 Key element : develop ZNE example homes across the spectrum of housing options, including MF affordable housing in urban infill areas with access to public transportation.	p. 11 p. 16	
<u>Strategy 1-1:</u> Drive continual advances in technologies in the building envelope, including building materials and systems, construction methods, distributed generation, and building design.	p. 16	
<u>Strategy 1-5:</u> Encourage local, regional, and statewide leadership groups to support pilots and foster communication among pioneering homeowners and builders.	p. 18	
<u>Goal (2)</u> Home buyers, owners and renovators will implement whole-house approach to energy consumption that will guide their purchase and use of existing and new homes, home equipment (e.g. HVAC systems, household appliance, lighting, and "plug load" amenities.	p. 11	

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Short and Long term (2010-2012) “SMART” <u>Program Objectives:</u>	Source (SP, AL, DR, PIP, or Staff)*	IOU Recommendations and Comments
Objective 1: Home builders of all production volumes in California will be encouraged to construct homes that exceed California’s Title 24 energy-efficiency standards by at least 15%;	AL, SP	Delete
Objective 2: By 2012, 50% of new homes built in California will be 20% more efficient than 2008 Title 24 standards and 10% will be 40% more efficient;	AL, (SP, as updated by D 0909047)	Delete
Objective 3: Residential New Construction will work towards reaching “ZNE” performance for all single and multi family homes by 2020 _ in redline version, IOUs requested to delete	AL	Delete

Short-term (2010-2012) “SMART” <u>Sub-program Objectives:</u>	Source (SP, AL, DR, PIP, or Staff)*	IOU Recommendations and Comments
Objective 1: To transform the marketplace by significantly increasing each year the penetration rates of ENERGY STAR® qualified manufactured homes as compared to homes that meet the existing HUD qualification	PIP	Comments: This program is tied to the EPA E’STAR standard over which the California IOUs have little if any influence. While E’STAR current with the CAHP mission, given our experience in the Single Family that may change at any time.
Objective 2: To consistently increase the number/percentage of manufactured home retailers participating in the program each year with a goal of xx% offering ENERGY STAR® qualified homes by 2012; and yy% by 2016. Note that SCE/Sempra is focusing on retailers; PG&E is focusing on manufacturers	Modification of AL proposal, Staff	Revise to: Objective 2: To consistently increase the number/percentage of manufactured home retailers/manufacturers participating in the p each year. Comments: <u>Will need a baseline</u>
Objective 3: Participating manufacturers increasingly produce zero energy or zero peak homes (including AMI, when available as per DR proceeding)		Deleted Comments: Not a 2010-2012 objective

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Short-term <u>Sub-program</u> PPMs:	Source (SP, AL, DR, PIP, or Staff)*	Metric Type (2a or 2b)**	Baseline Study Required (Y/N)	IOU Recommendations and Comments
<p>PPM1: Percentage and number of manufactured housing IOU service territory retailers and/or manufacturers selling to California market (emphasis varies by IOU) participating in program.</p> <p>In updated PIP to be provided to ED, IOUs need to clarify program foci differences; ALSO should be clarified in objectives section above.</p> <p>Some ED interest in tracking/reporting units as well IOUs requested to investigate additional costs of reporting at unit level and include tracking/reporting at unit level if possible.</p>	Modification of AL proposal, Staff	2a	N	<p>Revise to: PPM1: Number of manufactured housing units installed in service territories (via retailers and/or manufacturers) participating in program.</p> <p>Comments: In revised PIP, IOUs will clarify different approaches</p> <p>Removed "Market Penetration" because BSRA said that unable to provide data that is needed to determine this.</p>
<p>PPM 2: Number /percentage of participating projects utilizing: (a) whole house incentive for gas heat; (b) whole house incentive for electric heat; C and D deleted, but ED would expect IOUs to indicate change in PIP as required per final PIP-altering rules agreed upon.</p>	Based on PIP, Staff	2a	N – tracking study	<p>Revise to: PPM 2: Number /percentage of participating projects utilizing: (a) whole house incentive for gas heat; (b) whole house incentive for electric heat.</p> <p>Comments: C and D deleted, IOUs will indicate change as required per revised PIP.</p>
no resources to implement well; moved to objective but will not be tracked.	Based on PIP, Staff	2b- EM&V study	N	<p>Deleted</p> <p>Comments: No resources to implement well; moved to objective but will not be tracked.</p>

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**Metric type: 2a = reported annually, 2b = reported by end of cycle.

Long-Term (2013-2020) "SMART" <u>Sub-program</u> Objectives:	Source (SP, AL,	IOU Recommendations and Comments
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	DR, PIP, or Staff)*	
Objective 1: To support the initiation of and increase over time the sales of zero net energy and zero peak manufactured homes in California, including coordinated DSM and AMI	PIP, Staff	Comments: Long term is fine as objective
Objective 2: To achieve increasing levels of energy savings per home in the California manufactured homes market in the most cost effective manner possible for customers	Staff	Comments: Need performance-based tool and methodology in order to increase above E'STAR. Title-24 does not cover manufactured housing. Currently E'STAR is a pass-fail, prescriptive standard.

*SP=Strategic Plan, AL=Advice Letter, DR=Data Request Response, PIP=program plans, Staff=ED proposed. [Include page reference when applicable.]

IOUs requested in redline version to prioritize these and/or edit into 1-2 succinct MT metrics for which data could be gathered in one study.

Long-Term Sub-program MT Indicators:	Source (SP, AL, DR, PIP, or Staff)*	Metric Type (3)**	Baseline Study Required (Y/N)	IOU Recommendations and Comments
MT Indicator 1: Penetration rates of ENERGY STAR® manufactured homes in California as compared to homes meeting HUD specifications	Based on PIP, Staff	3	Y	
MT Indicator 2: Incremental cost – Price premium? (needs definition- to consumer, is suggested definition) of ENERGY STAR® manufactured homes (single wide, doublewide etc) as compared to homes meeting HUD specifications	Staff	3	Y	Revise to: MT Indicator 2: Incremental cost – Price premium? of ENERGY STAR® manufactured as compared to homes meeting HUD specifications Comments: Define as customer IMC, if available. IMCs are difficult to calculate given the whole-building nature of Manufactured Housing.
MT Indicator 3: Average energy savings of ENERGY STAR® manufactured homes as compared to baseline (homes meeting HUD specifications in X year)	Based on PIP, Staff	3	Y	Comments: Market penetration: data should be available – can confirm with Systems Building Research Alliance(SBRA), trade association for Manufactured Housing.
MT Indicator 4: Percentage and number of retailers that market ENERGY STAR® homes as their “standard home” This term needs definition: Top listed home? Primary home displayed on site? Advertise selves as “Energy Star retailer?” Sells over 50% of units as ENERGY STAR?	Based on PIP, Staff	3	Y	Revise to: MT Indicator 4: Percentage and number of retailers that market ENERGY STAR® homes as their “standard home” Comments: Definition of “standard home:” recommend retailer sales c

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				than 50%, but data may be difficult to obtain
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***Metric type: 3 = data collection, tracking, and reporting [by IOUs, CPUC staff, and/or other entities] to be determined later.*