

# The Gas Company's Residential New Construction Programs



## CABEC Presentation

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SoCalGas

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# Two Programs to Promote Energy Efficiency and Solar

## California Advanced Homes Program

- . Performance Based Energy Efficiency Incentive Program
- . Incentives are paid for building energy efficient New Homes

## New Solar Homes Partnership

- . Performance Based Renewable Incentive Program
- . Incentives are paid based upon the expected performance of installed solar electric (photovoltaic) systems on New Homes

Customers are encouraged to participate in both programs!



**We're here to help builders today for tomorrow's environment.**

Our California Advanced Homes Program highlights best practices in energy efficiency, green building and sustainability, and offers generous financial incentives to help builders and architects create environmentally friendly, energy-efficient communities for potential home buyers.



# Types of Construction

“ Single-family detached

“ Duplex

“ Multi-family

“ Apartments

“ Hi-rise Residential



# Program Components & Benefits



## Benefits: Why Builders Should Participate

" Incentives . Base Incentive, plus BonusKicker

" Independent 3<sup>rd</sup> Party Inspections for Quality Control

" Marketing Potential

" Optional ENERGY STAR participation receives EPA recognition through Energy Star campaigns

" Homebuyers save on utility bills

" New homes buyers enjoy comfortable, energy-efficient homes

- High-efficiency water heaters
- Proper home sealing
- Radiant barrier
- High-performance windows
- Energy Star appliances
- EE heating & cooling equipment
- Upgraded insulation
- Tightly sealed air ducts
- Maximum Cooling Capacity



# Program Overview



- “ New statewide program consistent across California’s Investor Owned Utilities (IOU)
- “ Calculated incentives based upon CEC approved compliance software (EnergyPro or Micropas)
- “ Open to all residential new construction projects/homes receiving electric and/or natural gas distribution from the local IOU
- “ Incentives based upon the 2008 Title 24 Energy Efficiency Standards

*For more program information, please see the CAHP Participant Handbook*

[illegible]

# Program Requirements

- “ Compliance achieved using a CEC approved computer method, (either EnergyPro 5 or Micropas 8)
- “ Requirements apply to all homes in the same project
- “ Payments are only made to owners, builders and developers named on the application
- “ Limited funds, first come first served
- “ No agreements accepted after 12/15/12 or after all funding has been reserved.





# Application Process

1. Select a Certified Energy Plans Examiner (CEPE) and a Home Energy Rating System (HERS) rater
2. Contact a utility representative for assistance in preparing your package for submission
3. Submit application and checklist and all required documents for plan check. Documents must be submitted prior to drywall
4. Design assistance is available according to guidelines that will be established soon
5. Meet with a utility representative to discuss the agreement and payment process after plan check approval



# Common General Plan Check Errors

- “ Wrong building orientation
- “ Energy calculations less than program requirements
- “ Compliance documents not completed by a Certified Energy Plans Examiner
- “ Missing electronic T24 input files
  - .bld or .mp8



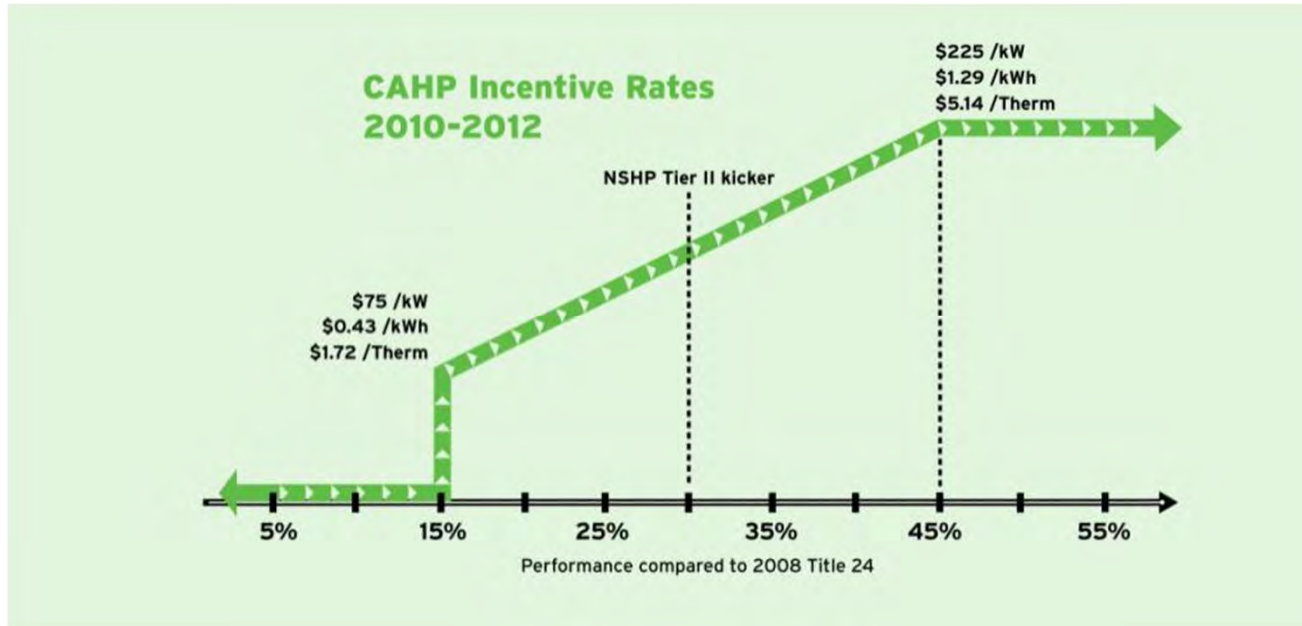
# After Inspections & Verifications

- “ Complete and submit the Request for Payment form by model
- “ The CF-4R uploaded by the HERS rater into the provider registry will be verified by the utility
- “ All inspection documents will be reviewed by the utility to ensure compliance and eligibility for incentive payments
- “ Incentives are paid

***Please note:*** Notify your utility of any project changes that will affect total energy use.



# CAHP Incentive Rates 2010-2012






- “ The baseline for financial incentives is 15% more efficient than the 2008 Title 24 standards
- “ Incentives increase incrementally as the performance of the structure increases
- “ A calculator is provided in the agreement



# Additional Financial Incentives ‘kickers’



- “ California ENERGY STAR® New Homes
  - “ 10% bonus incentive
- “ Green Home Certification
  - “ 10% bonus incentive
- “ Compact Home
  - “ 15% bonus incentive
- “ kW Reduction
  - “ Same \$/kW as baseline incentive for PV
- “ NSHP Tier II (30% better than 2008 Title 24)
  - “ \$1,000 for Single-Family, \$200 for Multi-Family (must install solar)
- “ Design Team Incentive
  - “ 50% of cost of design charrette up to \$5,000 (Project must be 10 or more units)

UTILITY INCENTIVE WORKSHEET				UTIL-1R																																																																																	
Project Name <b>Example 1</b>			Date <b>1/22/2010</b>																																																																																		
<b>Step 1 ANNUAL TDV ENERGY USE (kBtu/sqft-yr)</b>																																																																																					
<b>ENERGY COMPONENT</b>	<b>Standard</b>	<b>Proposed</b>	<b>Margin</b>																																																																																		
Space Heating	5.20	3.03	1.30																																																																																		
Space Cooling	3.05	2.40	1.47																																																																																		
Indoor Fans	1.91	1.40	0.41																																																																																		
Domestic Hot Water	10.44	12.38	4.07																																																																																		
Pumps	0.00	0.00	0.00																																																																																		
<b>TOTALS:</b>	<b>27.50</b>	<b>20.20</b>	<b>7.30</b>																																																																																		
<b>Step 2 PERCENT BELOW TITLE 24</b>																																																																																					
<b>Margin</b>	<b>Standard</b>	<b>% Below</b>																																																																																			
7.30	27.50	20.5 %																																																																																			
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1.47	3.05	37.1 %																																																																																			
<b>Incentive Eligibility</b>			<b>Yes</b>	<b>No</b>																																																																																	
Owner Incentive (>=15%)			<input checked="" type="checkbox"/>	<input type="checkbox"/>																																																																																	
NSHP Incentive (>=30%)			<input type="checkbox"/>	<input checked="" type="checkbox"/>																																																																																	
Conditioned Floor Area =			2,500.0 ft²																																																																																		
Number of Bedrooms =			3																																																																																		
<b>Step 3 ANNUAL SITE ENERGY USE</b>																																																																																					
<i>Single Orientation</i>																																																																																					
Average 2pm - 5pm Peak Demand (kW)	Standard 1.3	Proposed 1.0	Margin 0.3																																																																																		
<b>ENERGY COMPONENT</b>	<b>Standard</b>	<b>Proposed</b>	<b>Margin</b>																																																																																		
	Electricity (kWh)	Natural Gas (therms)	Electricity (kWh)	Natural Gas (therms)	Margin																																																																																
Space Heating	0	84	0	02	21																																																																																
Space Cooling	415	0	202	153	0																																																																																
Indoor Fans	200	0	221	45	0																																																																																
Domestic Hot Water	0	277	0	00	00																																																																																
Pumps	0	0	0	0	0																																																																																
<b>TOTALS:</b>	<b>681</b>	<b>361</b>	<b>483</b>	<b>271</b>	<b>90</b>																																																																																
<b>Step 4 POTENTIAL OWNER INCENTIVE CALCULATION</b>																																																																																					
<p>Potential incentives indicated on this report are available only through the California Advanced Homes Program for new construction and are NOT GUARANTEED. Projects must meet all other program requirements to qualify. Potential incentives are subject to program limitations.</p>																																																																																					
<table border="0"> <tr> <td>Electricity (kWh)</td> <td>26.5 %</td> <td>→</td> <td>Incentive Rate 0.70 \$/kWh</td> <td>x</td> <td>Savings (from Step 3) 198 kWh</td> <td>=</td> <td>Subtotal \$151</td> </tr> <tr> <td>Electricity (kW)</td> <td>26.5 %</td> <td>→</td> <td>132 \$/kW</td> <td>x</td> <td>0.3 kW</td> <td>=</td> <td>\$40</td> </tr> <tr> <td>Natural Gas</td> <td>26.5 %</td> <td>→</td> <td>3.03 \$/therm</td> <td>x</td> <td>90 therm</td> <td>=</td> <td>\$273</td> </tr> <tr> <td colspan="7">Base Incentive</td> <td>= \$404</td> </tr> <tr> <td>Energy Star Incentive</td> <td>n/a</td> <td>x</td> <td>10%</td> <td colspan="4">= n/a</td> </tr> <tr> <td>Green Home Incentive</td> <td>n/a</td> <td>x</td> <td>10%</td> <td colspan="4">= n/a</td> </tr> <tr> <td>Compact Home Incentive</td> <td>n/a</td> <td>x</td> <td>15%</td> <td colspan="4">= n/a</td> </tr> <tr> <td>Photovoltaic Incentive</td> <td>n/a</td> <td>x</td> <td>n/a DC Rating kW</td> <td colspan="4">= n/a</td> </tr> <tr> <td colspan="7">NSHP</td> <td>= n/a</td> </tr> <tr> <td colspan="7"><b>Total</b></td> <td><b>= \$464</b></td> </tr> </table>						Electricity (kWh)	26.5 %	→	Incentive Rate 0.70 \$/kWh	x	Savings (from Step 3) 198 kWh	=	Subtotal \$151	Electricity (kW)	26.5 %	→	132 \$/kW	x	0.3 kW	=	\$40	Natural Gas	26.5 %	→	3.03 \$/therm	x	90 therm	=	\$273	Base Incentive							= \$404	Energy Star Incentive	n/a	x	10%	= n/a				Green Home Incentive	n/a	x	10%	= n/a				Compact Home Incentive	n/a	x	15%	= n/a				Photovoltaic Incentive	n/a	x	n/a DC Rating kW	= n/a				NSHP							= n/a	<b>Total</b>							<b>= \$464</b>
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<small>*% Below in this equation is limited to 45%.</small>																																																																																					

# Utility Incentive Worksheet

“ Generated by the compliance software

“ Provides estimated savings and incentives

# Energy Analysis Report – Example #1

Building Energy Analysis Report		
	North	East
% Better than T-24	44%	40%
Base Incentive	\$2357	\$1957
Energy Star Bonus	\$236	\$196
Compact Home Bonus	\$354	\$294
Total Incentive	\$2946	\$2446

## Project Information:

"Climate Zone 10

"Single-family detached

"2232 Sq Feet

"5 bedrooms

"Date prepared: 4/26/10



## Example 1: How did they get there?

- " R30 Attic
- " Radiant Barrier
- " Tested Ducts
- " Tankless Water .94 Efficiency
- " Blower Door Test
- " R19 Walls (2x6)
- " HERS Refrigerant Charge Test
- " Quality Installation of Insulation (QII)
- " HERS Air Flow Test
- " Windows U factor .31; SHGC .26
- " Heating System .92% AFUE
- " Air Conditioning 14.5 SEER



# Energy Analysis Report – Example #2

Building Energy Analysis Report		
	North (best)	East (worst)
% Better than T-24	24.1%	15.7%
Base Incentive	\$356	\$151
Compact Home Bonus	\$53	\$23
Green Program Bonus	\$36	\$15
Total Incentive	\$445	\$189

## Project Information:

"Climate Zone 7

"Single-family detached

"2151 Sq Feet

"4 bedrooms

"Date prepared: 6/18/10

## Example 2: How did they get there?

" R13 Walls

" R38 Attic

" Tested Ducts

" R-6 Ducts

" Heating System .80% AFUE

" Water heater .62 EF

" Radiant Barrier

" Cool Roof

" Quality Installation of Insulation (QII)

" Windows U factor .34; SHGC .32

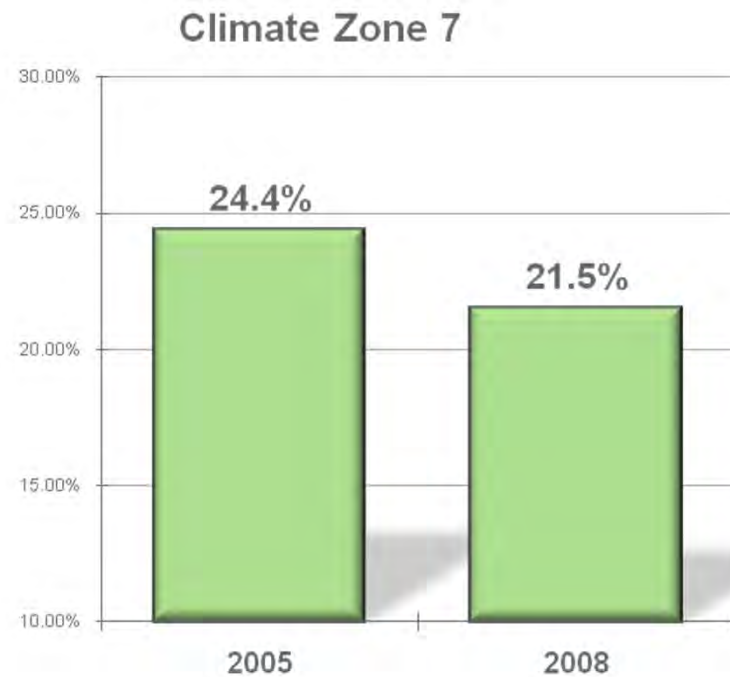
" Air Conditioning 13 SEER

" 11.0 EER

# California Advanced Homes Program



## “ 2008 Title 24 Effect Example Two - 1,962 SQFT Townhome



**Incentive: \$150**

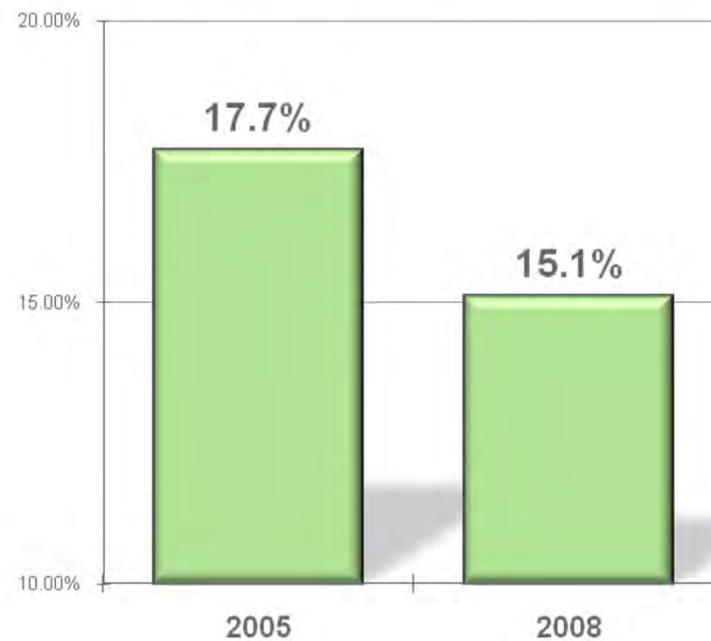
**\$201**

# California Advanced Homes Program



## “ 2008 Title 24 Effect Example Two - 1,962 SQFT Townhome

### Climate Zone 10



**Incentive: \$200**

**\$312**



# California Advanced Homes Program



## CAHP as of 10/11

- “ SCG/SCE partnering on program enrollments in joint service territory
- “ SCG Muni Projects . therm incentives only
- “ SDG&E . program suspended, call for details
- “ PG&E . program available, call for details

# New Solar Homes Partnership



# NSHP Guidebook

- “ 3<sup>rd</sup> Edition adopted by the CEC on January, 2010
- “ All new applications must comply with the new guidebook
- “ All projects with valid, reserved applications will comply with the previous version of the guidebook
- “ Incomplete pending applications are governed by the old guidebook, but the applicant may opt to complete the reservation process under the new requirements (written request must be submitted to utility)
- “ The most recent version of the guidebook can be found at:

<http://www.energy.ca.gov/2010publications/CEC-300-2010-001/CEC-300-2010-001-CMD.PDF>

# These have now expired

NSHP offers generous financial incentives:

## Market Rate Housing

- " \$2.50/watt  
base incentive
- " \$2.60/watt  
solar as standard incentive

## Affordable Housing

- " \$3.30/watt  
common areas
- " \$3.50/watt  
dwelling units
- " Incentive depends on the Expected  
Performance Based Incentive  
calculation (CEC PV Calculator)





# New Incentive Levels

Check with the Solar Companies for Update

All Program Activity

Currently Under Review

20.02 MW

Level	Megawatt Goal	Solar as Standard Incentive	Base Incentive	Megawatt Approved	30-Day Notice Sent	Level Expires
1	15 MW	\$2.60	\$2.50	36.49 MW	8/13/2011	9/12/2011
2	18 MW	\$2.35	\$2.25			
3	22 MW	\$2.10	\$2.00			
4	25 MW	\$1.85	\$1.75			
5	30 MW	\$1.60	\$1.50			
6	35 MW	\$1.35	\$1.25			
7	40 MW	\$1.10	\$1.00			
8	50 MW	\$0.85	\$0.75			
9	75 MW	\$0.60	\$0.50			
10	90 MW	\$0.35	\$0.25			

# Online Resources

- “ Southern California Gas Company, New Construction Team:  
[www.socalgas.com/construction](http://www.socalgas.com/construction)
- “ Go Solar California: [www.gosolarcalifornia.ca.gov](http://www.gosolarcalifornia.ca.gov)
- “ California Association of Building Energy Consultants (CABEC):  
[www.cabec.org](http://www.cabec.org)
- “ California Home Energy Efficiency Rating Services (CHEERS):  
[www.cheers.org](http://www.cheers.org)
- “ California Certified Energy Rating & Testing Services (CalCERTS):  
[www.calcerts.com](http://www.calcerts.com)
- “ Energy Star: [www.energystar.gov](http://www.energystar.gov)



# Thank You

*For more information, contact our Account Executive team*



[NewHomes@socalgas.com](mailto:NewHomes@socalgas.com)

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# California Advanced Homes Program



*How can we  
help you?*



**We're here to help builders today for tomorrow's environment.**

This program is funded by California utility customers and administered by Southern California Gas Company under the auspices of the California Public Utilities Commission. This program may be modified or terminated without prior notice, and is provided to qualified customers on a first-come, first-served basis until the program funds are no longer available.  
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