

ESTIMATED GAS SAVINGS

ThermWise® Appliance Rebates		
SINGLE FAMILY		
Measure	Annual Savings	Source
90% AFUE natural gas furnace	13.5 DTH/unit	2010 Deemed savings reduced by realization rate*
92% AFUE natural gas furnace	16.6 DTH/unit	PECI Energy Model (REM/Design v. 12.61)
95% AFUE natural gas furnace	20.5 DTH/unit	PECI Energy Model (REM/Design v. 12.61)
95% AFUE natural gas furnace with ECM motor	20.5 DTH/unit	PECI Energy Model (REM/Design v. 12.61)
Clothes Washer (2.6 MEF)	1.74 DTH/unit	6 th Power Plan (RTF)
> 85% < 95% AFUE natural gas boiler Tier 1	18.7 DTH/unit	PECI Energy Model (REM/Design v. 12.61)
> 95% AFUE natural gas boiler Tier 2	25.2 DTH/unit	PECI Energy Model (REM/Design v. 12.61)
Gas Water Heater Tier 1	1.71DTH/unit	2010 Deemed savings reduced by realization rate*
Gas Water Heater Tier 2	3.96DTH/unit	2010 Deemed savings reduced by realization rate*
Tankless Water Heater Tier 1	8.80 DTH/unit	PECI Energy Model (REM/Design v. 12.61)
Tankless Water Heater Tier 2	9.60 DTH/unit	PECI Energy Model (REM/Design v. 12.61)
.90 EF Condensing Storage Water Heater	9.20 DTH/unit	PECI Energy Model (REM/Design v. 12.61)
.90 EF Hybrid Water Heater	10.20 DTH/unit	PECI Energy Model (REM/Design v. 12.61)
Solar Assisted Gas Water Heating	17.50 DTH/unit	PECI Engineering Estimate
70% AFUE Direct-Vent natural gas fireplace	10.80 DTH/unit	PECI Energy Model (REM/Design v. 12.61)
MULTIFAMILY		
Measure	Annual Savings	Source
90% AFUE natural gas furnace	4.60 DTH/unit	PECI Energy Model (REM/Design v. 12.61)
92%-94% AFUE natural gas furnace	5.60 DTH/unit	PECI Energy Model (REM/Design v. 12.61)
95% AFUE natural gas furnace	6.50 DTH/unit	PECI Energy Model (REM/Design v. 12.61)
95% AFUE natural gas furnace with ECM motor	6.50 DTH/unit	PECI Energy Model (REM/Design v. 12.61)

*See Cadmus Phase II Evaluation

Clothes Washer (2.6 MEF)	1.74 DTH/unit	6 th Power Plan (RTF)
> 85% < 95% AFUE natural gas boiler Tier 1	12.08 DTH/unit	PECI Energy Model (REM/Design v. 12.61)
> 95% AFUE natural gas boiler Tier 2	16.11 DTH/unit	2010 Deemed savings reduced by realization rate*
Storage Water Heater Tier 1	1.71 DTH/unit	2010 Deemed savings reduced by realization rate*
Storage Water Heater Tier 2	3.96 DTH/unit	2010 Deemed savings reduced by realization rate*
.90 EF Condensing Storage Water Heater	9.20 DTH/unit	PECI Energy Model (REM/Design v. 12.61)
Tankless Water Heater Tier 1	8.80 DTH/unit	PECI Energy Model (REM/Design v. 12.61)
Tankless Water Heater Tier 2	9.60 DTH/unit	PECI Energy Model (REM/Design v. 12.61)
Solar Assisted Gas Water Heating	17.50 DTH/unit	PECI-Engineering Estimate
.90 EF Hybrid Water Heater	10.20 DTH/unit	PECI Energy Model (REM/Design v. 12.61)
70% AFUE Direct-Vent natural gas fireplace	4.10 DTH/unit	PECI Energy Model (REM/Design v. 12.61)
ThermWise® Business Rebates		
Measure	Annual Savings	Source
High-Efficiency Storage Gas Water Heater	1.23 DTH/unit	Calculation based upon difference between baseline and minimum efficiency energy factor
	3.70 DTH/unit	
	0.18 DTH/unit	
High-Efficiency Tankless Gas Water Heater	0.14 DTH/unit	ENERGY STAR Residential Water Heaters Specification as of 1/5/09 and Final Criteria Analysis
High-Efficiency Clothes Washer	1.74 DTH/unit	Energy Trust of Oregon 2006
	2.60 DTH/unit	ENERGY STAR Commercial Clothes Washer Calculator
Low Flow Pre-Rinse Spray Valve	33.60 DTH/unit	California Urban Water Conservation Council, Rinse & Save Program Evaluation 2005
High-Efficiency Gas Furnace	14.20 DTH/unit	ENERGY STAR Furnace Calculator
	16.2 DTH/unit	
	18.10 DTH/unit	

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Boiler (hot water)	0.18 DTH/unit	ENERGY STAR Boiler Calculator
	0.34 DTH/unit	
Boiler (steam)	0.18 DTH/unit	ENERGY STAR Boiler Calculator
	0.07 DTH/unit	
Direct Contact Water Heater	0.23 DTH/unit	PG&E -CPUC 2004-2005 / Single Family Rebate Program
High-Efficiency Condensing Gas Water Heater	9.2 DTH/unit	PECI Energy Model (REM/Design v. 12.61)
Hybrid Gas Water Heater	10.20	PECI Energy Model (REM/Design v. 12.61)
High-Efficiency Unit Heater (Condensing / NonCondensing)	0.17 DTH/unit	PG&E 2004 and ACEEE 2003 Reports
	0.06 DTH/unit	
High Efficiency Gas Pack Roof-top Unit	0.06 DTH/unit	Nexant 2011 Engineering Calculation
Infrared Heating System	0.48 DTH/system	1) Gas Networks Savings Estimates 2) GDS Report 3) ASHRAE Research #4643
Boiler Outside Air Reset Control	74.10 DTH/unit	GDS Report 2004 CA Statewide Gas Potential Study Kema-Xenergy 2003
Boiler Tune-up	48.86 DTH/unit	
Food Service – Gas Fryer	40.40 DTH/unit	ENERGY STAR® Gas Fryer Calculator
Food Service – Steam Cooker	35.30 DTH/unit	ENERGY STAR Steam Cooker Calculator
Food Service – High Efficiency Convection Oven	32.30 DTH/unit	PG&E -CPUC 2006-2008 / Single Family Rebate Program
Food Service – High Efficiency Combination Oven	40.30 DTH/unit	PG&E -CPUC 2006-2008 / Single Family Rebate Program
Food Service – High Efficiency Griddle	8.80 DTH/unit	PG&E -CPUC 2006-2008 / Single Family Rebate Program
Building Shell – Attic Insulation (new construction)	0.0013 DTH/sq. ft.	DOE-2 modeling against ASHRAE 90.1-2004 Baseline
Building Shell – Attic Insulation (retrofit)	0.0031 DTH/sq. ft.	DOE-2 modeling against ASHRAE 90.1-2004 Baseline
Building Shell – Wall Insulation (new construction)	0.0006 DTH/sq. ft.	DOE-2 modeling against ASHRAE 90.1-2004 Baseline

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Building Shell – Wall Insulation (retrofit)	0.004 DTH/sq. ft.	DOE-2 modeling against ASHRAE 90.1-2004 Baseline
Building Shell – Windows site built (new construction)	0.0124 DTH/sq. ft.	DOE-2 modeling against ASHRAE 90.1-2004 Baseline
Building Shell – Windows pre fab (new construction)	0.0208 DTH/sq. ft.	DOE-2 modeling against ASHRAE 90.1-2004 Baseline
Building Shell – Windows site built (retrofit)	0.0267 DTH/sq. ft.	DOE-2 modeling against ASHRAE 90.1-2004 Baseline
Building Shell – Windows prefab (retrofit)	0.0344 DTH/sq. ft.	DOE-2 modeling against ASHRAE 90.1-2004 Baseline
ThermWise® Builder Rebates		
SINGLE FAMILY		
Measure	Annual Savings	Source
ThermWise Builder Option Package 1 – ENERGY STAR 2.5	29.20 DTH/unit	2010 Deemed savings reduced by realization rate*
ThermWise Builder Option Package 2 – ENERGY STAR 3.0	30.60 DTH/unit	PECI Energy Model (REM/Design v. 12.61)
High Performance Home	43.20 DTH/unit	PECI Energy Model (REM/Design v. 12.61)
IECC 2009 Code – (Builder Cert.)	17.10 DTH/unit	PECI Energy Model (REM/Design v. 12.61)
IECC 2009 Code – (Rater Cert.)	21.4 DTH/unit	PECI Energy Model (REM/Design v. 12.61)
2X6 R-20 Walls	12.8 DTH/unit	PECI Energy Model (REM/Design v. 12.61)
90% AFUE natural gas furnace	8.19 DTH/unit	2010 Deemed savings reduced by realization rate*
92% AFUE natural gas furnace	9.48 DTH/unit	Scaled off 90% furnace
95% AFUE natural gas furnace	11.47 DTH/unit	Scaled off 90% furnace
Residential natural gas boiler Tier 1	12.08 DTH/unit	2010 Deemed savings reduced by realization rate*
Residential natural gas boiler Tier 2	16.11 DTH/unit	2010 Deemed savings reduced by realization rate*
Gas Water Heater Tier 1	1.71 DTH/unit	2010 Deemed savings reduced by realization rate*
Gas Water Heater Tier 2	3.96 DTH/unit	2010 Deemed savings reduced by realization rate*

*See Cadmus Phase II Evaluation

Tankless Water Heater Tier 1	8.80 DTH/unit	PECI Energy Model (REM/Design v. 12.61)
Tankless Water Heater Tier 2	9.60 DTH/unit	PECI Energy Model (REM/Design v. 12.61)
.90 EF Condensing Storage Water Heater	9.20 DTH/unit	PECI Energy Model (REM/Design v. 12.61)
.90 EF Hybrid Water Heater	10.20 DTH/unit	PECI Energy Model (REM/Design v. 12.61)
Solar Assisted Gas Water Heating	17.50 DTH/unit	PECI Engineering Estimate
Windows R-5	0.03 DTH/unit	PECI Energy Model (REM/Design v. 12.61)
MULTIFAMILY		
Measure	Annual Savings	Source
ThermWise Builder Option Package 1 – ENERGY STAR 2.5	14.3 DTH/unit	PECI Energy Model (REM/Design v. 12.61)
ThermWise Builder Option Package 2 – ENERGY STAR 3.0	14.7 DTH/unit	PECI Energy Model (REM/Design v. 12.61)
High Performance Home	20.70 DTH/unit	PECI Energy Model (REM/Design v. 12.61)
IECC 2009 Code – (Builder Cert.)	6.50 DTH/unit	PECI Energy Model (REM/Design v. 12.61)
IECC 2009 Code – (Rater Cert.)	8.30 DTH/unit	PECI Energy Model (REM/Design v. 12.61)
2X6 R-20 Walls	4.00 DTH/unit	PECI Energy Model (REM/Design v. 12.61)
90% AFUE natural gas furnace	4.60 DTH/unit	PECI Energy Model (REM/Design v. 12.61)
92%-94% AFUE natural gas furnace	5.60 DTH/unit	PECI Energy Model (REM/Design v. 12.61)
95% AFUE natural gas furnace	6.50 DTH/unit	PECI Energy Model (REM/Design v. 12.61)
Residential natural gas boiler Tier 1	12.08 DTH/unit	2010 Deemed savings reduced by realization rate*
Residential natural gas boiler Tier 2	16.11 DTH/unit	2010 Deemed savings reduced by realization rate*
Storage Water Heater Tier 1	1.71 DTH/unit	2010 Deemed savings reduced by realization rate*
Storage Water Heater Tier 2	3.96 DTH/unit	2010 Deemed savings reduced by realization rate*
.90 EF Condensing Storage Water Heater	9.20 DTH/unit	PECI Energy Model (REM/Design v. 12.61)
Tankless Water Heater Tier 1	8.80 DTH/unit	PECI Energy Model (REM/Design v. 12.61)
Tankless Water Heater Tier 2	9.60 DTH/unit	PECI Energy Model (REM/Design v. 12.61)
Solar Assisted Gas Water Heating	17.50 DTH/unit	PECI-Engineering Estimate

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.90 EF Hybrid Water Heater	10.20 DTH/unit	PECI Energy Model (REM/Design v. 12.61)
Windows R-5	0.02 DTH/unit	PECI Energy Model (REM/Design v. 12.61)

*See Cadmus Phase II Evaluation

ThermWise® Home Energy Audits		
Measure	Annual Savings	Source
Kitchen Sink Aerator	1.32 Dth/unit	2010 Nexant Engineering Calculation
Pipe Insulation	1.40 DTH/ system	DOE Rebuild America Reenergize Energy Efficiency Guidebook
Faucet Aerator	0.44 DTH/unit	DOE Rebuild America Reenergize Energy Efficiency Guidebook
Low Flow Shower Head	5.79 DTH/unit	Nexant 2006 Market Study Report
ThermWise® Weatherization Rebates		
SINGLE FAMILY		
Measure	Annual Savings	Source
Windows	0.0412	Nexant 2011 Engineering Calculation
Windows – R-5	0.0698 DTH/ sq. ft.	2010 Deemed savings reduced by realization rate*
Wall Insulation	0.0053 DTH/ sq. ft.	2010 Deemed savings reduced by realization rate*
Attic Insulation Tier 1	0.0053 DTH/ sq. ft.	2010 Deemed savings reduced by realization rate*
Attic Insulation Tier 2	0.0013 DTH/ sq. ft.	2010 Deemed savings reduced by realization rate*
Floor Insulation	0.0068 DTH/ sq. ft.	2010 Deemed savings reduced by realization rate*
Duct Sealing & Duct Insulation	13.48 DTH/ system	2010 Deemed savings reduced by realization rate*
Air Sealing	0.0048 DTH/system	Nexant 2011 Engineering Calculation

*See Cadmus Phase II Evaluation

Programmable Thermostat	2.66 DTH/unit	20% persistence assumption
MULTIFAMILY		
Measure	Annual Savings	Source
Windows	0.041 DTH/ sq. ft.	2010 Deemed savings reduced by realization rate*
Wall Insulation	0.0053 DTH/ sq. ft.	2010 Deemed savings reduced by realization rate*
Attic Insulation Tier 1	0.0053 DTH/ sq. ft.	2010 Deemed savings reduced by realization rate*
Attic Insulation Tier 2	0.0013 DTH/ sq. ft.	2010 Deemed savings reduced by realization rate*
Floor Insulation	0.0068 DTH/ sq. ft.	2010 Deemed savings reduced by realization rate*
Duct Sealing & Duct Insulation	8 DTH/ system	Nexant
Low Income Weatherization Program		
Measure	Annual Savings	Source
High-Efficiency Gas Furnace	13.50 DTH/unit	2010 Deemed savings reduced by realization rate*
ThermWise® Business Custom Rebates		
Measure	Annual Savings	Source
Program Measures	750DTH/project	Extrapolated from GDS Report 2004 and weighted for anticipated participant mix from 2006 commercial GS usage.

*See Cadmus Phase II Evaluation

MEASURE LIFE

ThermWise® Appliance Rebates		
SINGLE FAMILY		
Measure	Lifetime	Source
Clothes Washer	14	PECI
Gas Water Heater Tiers 1 & 2	13	PECI
Tankless Water Heater Tiers 1 & 2	20	PECI
High-Efficiency Furnace	18	PECI
Residential Gas Boiler	20	PECI
Solar Assisted Gas Water Heating	20	PECI
Condensing Storage Water Heater	13	PECI
Hybrid Water Heater	15	PECI
Direct Vent Natural Gas Fireplace	20	PECI
MULTIFAMILY		
Measure	Lifetime	Source
Clothes Washer Tier 2	14	PECI
Gas Water Heater Tiers 1 & 2	13	PECI
Tankless Water Heater Tiers 1 & 2	20	PECI
High-Efficiency Furnace	18	PECI
Residential Gas Boiler	20	PECI
Solar Assisted Gas Water Heating	20	PECI
Condensing Storage Water Heater	13	PECI
Hybrid Water Heater	15	PECI

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Direct Vent Natural Gas Fireplace	20	PECI
ThermWise® Business Rebates		
Measure	Lifetime	Source
High-Efficiency Storage Gas Water Heaters	15	Calculation based upon difference between baseline and minimum efficiency energy factor
High-Efficiency Tankless Gas Water Heater	15	ENERGY STAR Residential Water Heaters Specification as of 1/5/09 and Final Criteria Analysis
High-Efficiency Clothes Washers	10	ENERGY STAR Commercial Clothes Washer Calculator
Low Flow Pre-Rinse Spray Valve	5	California Urban Water Conservation Council, Rinse & Save Program Evaluation 2005
High-Efficiency Gas Furnace	20	ENERGY STAR Furnace Calculator
	20	
	20	
Boilers (hot water)	20	ENERGY STAR Boiler Calculator
Boilers (steam)	20	ENERGY STAR Boiler Calculator
Direct Contact Water Heater	20	PG&E -CPUC 2004-2005 / Single Family Rebate Program
High-Efficiency Condensing Gas Water Heater	15	PECI Energy Model (REM/Design v. 12.61)
Hybrid Gas Water Heater	15	PECI Energy Model (REM/Design v. 12.61)
High-Efficiency Unit Heaters	18	PG&E 2004 and ACEEE 2003 Reports
High Efficiency Gas Pack Roof-top Unit	20	Nexant 2011 Engineering Calculation
Infrared Heating System	17	1) Gas Networks Savings Estimates 2) GDS Report 3) ASHRAE Research #4643
Boiler Outside Air Reset Control	20	GDS Report 2004 CA Statewide Gas Potential Study Kema-Xenergy 2003
Boiler Tune-up	2	GDS Report 2004 CA Statewide Gas Potential Study Kema-Xenergy 2003
Food Service – Gas Fryer	8	ENERGY STAR® Gas Fryer Calculator
Food Service – Steam Cooker	10	ENERGY STAR® Steam Cooker Calculator
Food Service – High Efficiency Convection Oven	12	PG&E -CPUC 2006-2008 / Single Family Rebate Program
Food Service – High Efficiency Combination Oven	12	PG&E -CPUC 2006-2008 / Single Family Rebate Program
Food Service – High	12	PG&E -CPUC 2006-2008 / Single Family Rebate Program

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Efficiency Griddle		
Building Shell – Windows	35	DOE-2 modeling against ASHRAE 90.1-2004 Baseline
Building Shell – Wall Insulation	35	DOE-2 modeling against ASHRAE 90.1-2004 Baseline
Building Shell – Attic Insulation	20	DOE-2 modeling against ASHRAE 90.1-2004 Baseline
ThermWise® Builder Rebates		
SINGLE FAMILY		
Measure	Lifetime	Source
ThermWise Builder Option Package 1 – ENERGY STAR 2.5	35	PECI
ThermWise Builder Option Package 2 – ENERGY STAR 3.0	35	PECI
Thermwise High Performance	35	PECI
IECC 2009 Code – (Builder Cert.)	35	PECI
IECC 2009 Code – (Rater Cert.)	35	PECI
2X6 R-20 Walls	35	PECI
Gas Water Heater Tiers 1 & 2	15	PECI
Tankless Water Heater	20	PECI
High-Efficiency Furnace	18	PECI
Residential Gas Boiler	20	PECI
Solar Assisted Gas Water Heating	15	PECI
.90 EF Condensing Storage Water Heater	13	PECI
.90 EF Hybrid Water Heater	15	PECI
Windows – R-5	30	PECI
MULTIFAMILY		
Measure	Lifetime	Source
ThermWise Builder Option Package 1 – ENERGY STAR 2.5	30	PECI
ThermWise Builder Option Package 2 – ENERGY STAR 3.0	30	PECI
IECC 2009 Code – (Builder Cert.)	35	PECI
IECC 2009 Code – (Rater Cert.)	35	PECI

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2X6 R-20 Walls	35	PECI
Gas Water Heater Tiers 1 & 2	15	PECI
Tankless Water Heater	20	PECI
High-Efficiency Furnace	18	PECI
Residential Gas Boiler	20	PECI
Solar Assisted Gas Water Heating	15	PECI
.90 EF Condensing Storage Water Heater	13	PECI
.90 EF Hybrid Water Heater	15	PECI
Windows – R-5	30	PECI
2X6 R-20 Walls	35	PECI

ThermWise® Home Energy Audits

Measure	Lifetime	Source
Kitchen Sink Aerator	10	DOE Rebuild America Reenergize Energy Efficiency Guidebook
Pipe Insulation	10	DOE Rebuild America Reenergize Energy Efficiency Guidebook
Faucet Aerator	10	DOE Rebuild America Reenergize Energy Efficiency Guidebook
Low Flow Shower Head	10	Nexant 2006 Market Study Report

ThermWise® Weatherization Rebates

SINGLE FAMILY

Measure	Lifetime	Source
Windows	25	RMP Home Energy Savings Program Filing 2006
Windows – R-5	30	Nexant 2011 Engineering Calculation
Wall Insulation	35	RMP Home Energy Savings Program Filing 2006
Attic Insulation	35	RMP Home Energy Savings Program Filing 2006
Floor Insulation	35	RMP Home Energy Savings Program Filing 2006

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Duct Sealing & Duct Insulation	20	RMP Home Energy Savings Program Filing 2006
Air Sealing	20	Nexant 2011 Engineering Calculation
Programmable Thermostat	15	Nexant 2006 Market Study Report
MULTIFAMILY		
Measure	Lifetime	Source
Windows	25	RMP Home Energy Savings Program Filing 2006
Wall Insulation	35	RMP Home Energy Savings Program Filing 2006
Attic Insulation	35	RMP Home Energy Savings Program Filing 2006
Floor Insulation	35	RMP Home Energy Savings Program Filing 2006
Duct Sealing & Duct Insulation	10	RMP Home Energy Savings Program Filing 2006
Low Income Weatherization Program		
Measure	Lifetime	Source
High-Efficiency Furnace	20	GDS Report 2004
ThermWise® Business Custom Rebates		
Measure	Lifetime	Source
Program Measures	15	Database for Energy Efficient Resources, Revised/Updated EULs Based on Retention and Persistence Studies Results, SERA July 2005

*See Cadmus Phase II Evaluation

ThermWise® Appliance Rebates		
SINGLE FAMILY		
Measure	Incremental Cost	Source
90% AFUE natural gas furnace	\$520/unit	PECI
92% AFUE natural gas furnace	\$520/unit	PECI
95% AFUE natural gas furnace	\$956/unit	PECI
95% AFUE natural gas furnace with ECM motor	\$350/unit	PECI
Clothes Washer (2.6 MEF)	\$100/unit	PECI
> 85% < 95% AFUE natural gas boiler Tier 1	\$1,550/unit	PECI
> 95% AFUE natural gas boiler Tier 2	\$1,550/unit	PECI
Gas Water Heater Tier 1	\$100/unit	PECI
Gas Water Heater Tier 2	\$400/unit	PECI
Tankless Water Heater Tier 1	\$750/unit	PECI
Tankless Water Heater Tier 2	\$1,345/unit	PECI
.90 EF Condensing Storage Water Heater	\$1,150/unit	PECI
.90 EF Hybrid Water Heater	\$1,238/unit	PECI
Solar Assisted Gas Water Heating	\$4,500/unit	PECI
70% AFUE Direct-Vent natural gas fireplace	\$500/unit	PECI
MULTIFAMILY		
Measure	Incremental Cost	Source
90%-91% AFUE natural gas furnace	\$290/unit	PECI
92%-94% AFUE natural gas furnace	\$300/unit	PECI
95% AFUE natural gas furnace	\$350/unit	PECI
Clothes Washer (2.6 MEF)	\$100/unit	PECI
> 85% < 95% AFUE natural gas boiler Tier 1	\$1,550/unit	PECI
> 95% AFUE natural gas boiler Tier 2	\$1,550/unit	PECI

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Storage Water Heater Tier 1	\$175/unit	PECI
Storage Water Heater Tier 2	\$400/unit	PECI
.90 EF Condensing Storage Water Heater	\$1,150/unit	PECI
Tankless Water Heater Tier 1	\$750/unit	PECI
Tankless Water Heater Tier 2	\$1,345/unit	PECI
Solar Assisted Gas Water Heating	\$4,500/unit	PECI
.90 EF Hybrid Water Heater	\$1,238/unit	PECI
70% AFUE Direct-Vent natural gas fireplace	\$500/unit	PECI
ThermWise® Business Rebates		
Measure	Incremental Cost	Source
High-Efficiency Storage Gas Water Heater	\$100/unit	GDS Report 2004
	\$400/unit	ENERGY STAR Residential Water Heaters Specification as of 1/5/09 and Final Criteria Analysis
	\$6.78/kBTU	PG&E -CPUC 2004-2005 / Single Family Rebate Program
High-Efficiency Tankless Gas Water Heater	\$4.24/kBTU	CA Statewide Gas Potential Study (Kema-Xenergy, 2003)
High-Efficiency Clothes Washers	\$120.21/unit	Aligned w/ Res Program
	\$300/unit	Energy Star Commercial Clothes Washer Calculator, confirmed with CEE
Low Flow Pre-Rinse Spray Valve	\$50/unit	California Urban Water Conservation Council, Rinse & Save Program Evaluation, 2005
High-Efficiency Gas Furnace	\$675/unit	2004-2005 California DEER Database
	\$777/unit	
	\$876/unit	
Boilers (hot water)	\$5.08/kBTU	CA Statewide Gas Potential Study (Kema-Xenergy, 2003)
	\$6.50/kBTU	
Boilers (steam)	\$5.08/kBTU	CA Statewide Gas Potential Study (Kema-Xenergy, 2003)
Direct Contact Water Heater	\$2.17/kBTU	PG&E -CPUC 2004-2005 / Single Family Rebate Program
High-Efficiency Condensing Gas Water Heater	\$1,150/unit	PECI Energy Model (REM/Design v. 12.61)
Hybrid Gas Water Heater	\$1,238/unit	PECI Energy Model (REM/Design v. 12.61)
High-Efficiency Unit Heaters (Condensing / Non Condensing)	\$12.00/kBTU	Analysis of Standard Options for Unit Heaters and Duct Furnaces (PG&E 2004)
	\$2.50/kBTU	
High Efficiency Gas Pack Roof-top Unit	\$11.00/kBTU	Nexant 2011 Engineering Calculation

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Infrared Heating System	\$11.43/kBTU	Cost review based upon Vendor Costs (Grainger)
Boiler Outside Air Reset Control	\$835/unit	2004-2005 California DEER Database
Boiler Tune-up	\$600	CA Statewide Gas Potential Study (Kema-Xenergy, 2003)
Food Service – Gas Fryer	\$3,796/unit	ENERGY STAR® Gas Fryer Calculator
Food Service – Steam Cooker	\$6,221/unit	ENERGY STAR Steam Cooker Calculator
Food Service – High Efficiency Convection Oven	\$3,144/unit	PG&E -CPUC 2006-2008 / Single Family Rebate Program
Food Service – High Efficiency Combination Oven	\$21,797/unit	PG&E -CPUC 2006-2008 / Single Family Rebate Program
Food Service – High Efficiency Griddle	\$4,575/unit	PG&E -CPUC 2006-2008 / Single Family Rebate Program
Building Shell – Windows	\$0.55 sq. ft.	GDS 2004
Building Shell – Wall Insulation (new construction & retrofit)	\$0.06 sq. ft.	Database for Energy Efficient Resources (DEER), California Energy Commission (CEC), and California Public Utilities Commission (CPUC). 2006.
	\$0.64 sq. ft.	
Building Shell – Attic Insulation (new construction & retrofit)	\$0.07 sq. ft.	Database for Energy Efficient Resources (DEER), California Energy Commission (CEC), and California Public Utilities Commission (CPUC). 2006.
	\$0.34 sq. ft.	
ThermWise® Builder Rebates		
SINGLE FAMILY		
Measure	Incremental Cost	Source
ThermWise Builder Option Package 1 – ENERGY STAR 2.5	\$2,435/unit	PECI
ThermWise Builder Option Package 2 – ENERGY STAR 3.0	\$2,700/unit	PECI
Thermwise High Performance	\$5,180/unit	PECI
IECC 2009 Code – (Builder Cert.)	\$800/unit	PECI Energy Model (REM/Design v. 12.61)
IECC 2009 Code – (Rater Cert.)	\$1,000/unit	PECI Energy Model (REM/Design v. 12.61)
2X6 R-20 Walls	\$1,000/unit	PECI Energy Model (REM/Design v. 12.61)
Gas Water Heater Tiers 1 & 2	\$175/unit	PECI
	\$400/unit	
Tankless Water Heater Tiers 1 & 2	\$750/unit	PECI
	\$1,345/unit	

*See Cadmus Phase II Evaluation

High-Efficiency Furnace Tiers 1, 2 & 3	\$520/unit	PECI
	\$520/unit	
	\$956/unit	
Residential Gas Boiler Tier 1 & Tier 2	\$1,550/unit	PECI
Solar Assisted Gas Water Heating	\$4,500/unit	PECI
.90 EF Condensing Storage Water Heater	\$1,150/unit	PECI
.90 EF Hybrid Water Heater	\$1,238/unit	PECI
Windows – R-5	\$6/ sq. ft.	PECI
MULTIFAMILY		
Measure	Incremental Cost	Source
ThermWise Builder Option Package 1 – ENERGY STAR 2.5	\$2,435/unit	PECI
ThermWise Builder Option Package 2 – ENERGY STAR 3.0	\$2,700/unit	PECI
High Performance Home	\$4,600/unit	PECI
IECC 2009 Code – (Builder Cert.)	\$450/unit	PECI
IECC 2009 Code – (Rater Cert.)	\$550/unit	PECI
2X6 R-20 Walls	\$600/unit	PECI
Gas Water Heater Tiers 1 & 2	\$175/unit	PECI
	\$400/unit	
Tankless Water Heater Tiers 1 & w	\$750/unit	PECI
	\$1,345/unit	
High-Efficiency Furnace Tiers 1, 2 & 3	\$520/unit	PECI
	\$520/unit	
	\$956/unit	
Residential Gas Boiler Tier 1 & Tier 2	\$550/unit	PECI

*See Cadmus Phase II Evaluation

Solar Assisted Gas Water Heating	\$4,500/unit	PECI
.90 EF Condensing Storage Water Heater	\$1,150/unit	PECI
.90 EF Hybrid Water Heater	\$1,238/unit	PECI
Windows – R-5	\$6/ sq. ft.	Nexant 2011 Engineering Calculation
ThermWise® Home Energy Audits		
Measure	Incremental Cost	Source
Pipe Insulation	\$4/unit	US Department of Energy's Rebuild America Reenergize Energy Efficiency Guidebook
Faucet Aerator	\$3/unit	Niagara Conservation
Low Flow Shower Head	\$6/unit	Nexant 2006 Market Study Report
ThermWise® Weatherization Rebates		
SINGLE FAMILY		
Measure	Incremental Cost	Source
Windows	\$1.30/sq.ft.	RMP Home Energy Savings Program Filing 1
Windows – R-5	\$6.00/sq.ft.	?
Wall Insulation	\$0.64/sq.ft .	RMP Home Energy Savings Program Filing 1
Attic Insulation	Tier 1 - \$0.34/sq.ft .	2009 Weatherization Participant Data and Insulation Vendor Estimates
	Tier 2 - \$0.11/sq.ft.	
Floor Insulation	\$0.42/sq.ft.	RMP Home Energy Savings Program Filing 1
Duct Sealing & Duct Insulation	\$657.39/unit	RMP Home Energy Savings Program Filing 1 & Lawrence Berkeley National Laboratory Home Energy Saver (Salt Lake City)
Programmable Thermostat	\$39/unit	Nexant 2006 Market Study Report
MULTIFAMILY		
Measure	Incremental Cost	Source
Windows	\$1.30/sq.ft.	RMP Home Energy Savings Program Filing 1
Wall Insulation	\$0.64/sq.ft.	RMP Home Energy Savings Program Filing 1
Attic Insulation	Tier 1 - \$0.34/sq.ft.	2009 Weatherization Participant Data and Insulation Vendor Estimates
	Tier 2 - \$0.11/sq.ft.	
Floor Insulation	\$0.42/sq.ft.	RMP Home Energy Savings Program Filing 1
Duct Sealing & Duct	\$272.85/unit	RMP Home Energy Savings Program Filing 1 & Lawrence

*See Cadmus Phase II Evaluation

Insulation		Berkeley National Laboratory Home Energy Saver (Salt Lake City)
ThermWise® Business Custom Rebates		
Measure	Incremental Cost	Source
Program Measures	\$8,167/project	Nexant estimate extrapolated from GDS Report 2004

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