

Recommendations for Multifamily Low Income Pilot Pilot Scope/Budget/Penetration Parameters

Pilot Scope and Budget Recommendations

Energy Savings Assistance Program (ESAP, formerly known as ESAP) staff and Energy Efficiency Program (EEP) staff at the Energy Division jointly recommend a penetration target for the Multi-Family (MF) whole building pilot of between 3-4% of the California ESAP population, or 18,000 - 24,000 units. We also recommend an IOU total budget range for the pilot of between \$34 Million - \$46 Million (Estimated EE Portion \$13 Million - \$17 Million; ESAP Portion \$21 Million - \$28 Million.)

The following is not intended as a prescriptive approach or requirement, but rather a starting point for discussion. Our recommendation is based on analysis with the assumptions and results provided below. While we have used these assumptions to build our analysis and make our recommendations, we caution the IOUs and involved stakeholders to diligently formulate their own assumptions for the actual pilot program design. We consider that the range of potential approaches to incentive design for this pilot are not yet fully understood, and that a range of approaches could be contemplated.

Recommended Budget and Penetration Target

1. Penetration Target- Between 3-4% ESAP Population, or 18,000 - 24,000 Units
2. Total Pilot Cost- \$34 Million – \$46 Million (estimated EE Portion \$13 Million - \$17 Million; ESAP Portion \$21 Million - \$28 Million)
3. ESAP Subsidy estimated at \$1200/Unit, remaining costs covered by EE and other leverage sources
4. Assumptions: Calculated based on EE Incentive Level of **25%** given at estimated total project cost of \$2900/Unit¹. With a program average ESAP subsidy of \$1200/unit plus an EE contribution of \$750 (which is 25% of the total estimated \$2900 project cost per unit) the ratepayer contribution will amount to \$1925/Unit (ESAP+EE).
5. ED anticipates that the remaining cost of the project will come from other sources.

Potential Lower Minimum Budget and Penetration Target (not recommended):

1. Penetration Target - Between 1-2% ESAP Population, or 6,000 - 12,000 Units
2. Total Pilot Cost - \$8 Million - \$16 Million
3. ESAP Subsidy estimated at \$1200/Unit, remaining costs covered by EE and other leverage sources
4. Assumptions: (Calculated based on EE Incentive Level of **5%** Incentive given at estimated cost of \$2900/Unit- ESAP Subsidy estimated at \$1200/Unit, with Average Budget per Unit - \$1,345/Unit (ESAP + EE))

Potential Higher Maximum Budget and Penetration Target (not recommended):

1. Penetration Target - Between 4-5% ESAP Population, or 24,000 - 30,000 Units

¹ The estimated cost of \$2900/Unit is from the Multifamily Subcommittee of the California Home Energy Coordinating Committee (MF HERCC) report (Table A- 1) dated October 2010:

http://www.builditgreen.org/files/Admin/HERCC/MF_HERCC_report_10152010.pdf

2. Total Pilot Cost - \$56 Million - \$70 Million
3. ESAP Subsidy estimated at \$1200/Unit, remaining costs covered by EE and other leverage sources
4. Assumptions: (Calculated based on EE Incentive Level of **40%** Incentive given at estimated cost of \$2900/Unit- ESAP Subsidy at \$1200/Unit, with Average Budget per Unit - \$2,360/Unit (ESAP + EE))

Table 1 summarizes how we assessed potential pilot budgets given a) different penetration targets, and b) different Energy Upgrade California(EUC)/EE Core contributed incentive levels. The ESAP contribution is fixed for all scenarios at \$1200, based on the current average per unit cost for the program. The bottom row indicates the combined ESAP and EUC/EE Core budget allocated per unit under the range of budget results.

Table 1:

# Homes	ESAP Penetration Target	Funding @ 5% Incentive	Funding @ 10% Incentive	Funding @ 20% Incentive	Funding @ 25% Incentive	Funding @ 30% Incentive	Funding @ 40% Incentive
5,912	1%	\$7,951,909	\$8,809,178	\$10,523,716	\$11,380,985	\$12,238,254	\$13,952,792
11,824	2%	\$15,903,818	\$17,618,356	\$21,047,432	\$22,761,970	\$24,476,508	\$27,905,584
17,737	3%	\$23,855,727	\$26,427,534	\$31,571,148	\$34,142,955	\$36,714,762	\$41,858,376
23,649	4%	\$31,807,636	\$35,236,712	\$42,094,864	\$45,523,940	\$48,953,016	\$55,811,168
29,561	5%	\$39,759,545	\$44,045,890	\$52,618,580	\$56,904,925	\$61,191,270	\$69,763,960
	EE	\$145	\$290	\$580	\$725	\$870	\$1,160
	ESAP	\$1,200	\$1,200	\$1,200	\$1,200	\$1,200	\$1,200
	\$/Unit (ESAP+ EE)	\$1,345	\$1,490	\$1,780	\$1,925	\$2,070	\$2,360

ASSUMPTIONS: Estimate based on 40 unit building built before 1980 to 20% savings levels and a MFHERCC Estimate of \$2900/Unit (with ESAP budget of \$1200/unit and assuming the above mentioned EE incentive cost reimbursement level.)

In our analysis, for a **25%** incentive funding scheme, we assumed that the existing EE EUC core IOU program would pay 25% (\$725) of the MFHERCC \$2900/Unit estimate for 20% energy savings/unit. We combined this with a ESAP contribution of \$1200/Unit (the highest ESAP average cost/unit of all four IOUs) to estimate a theoretical total cost per unit. Table 2 shows the ranges of total funding commitments by program, and by penetration rate, with our recommended budget levels indicated in red:

Table 2:

MFHERCC Estimate of \$2900/Unit @ 25% Incentive (by ESAP and EUC / EE Core Funds)

# Homes	ESAP Penetration Target	ESAP Funds at \$1200/Unit	EE Funds at \$ 725/unit	Total
5,912	1%	\$ 7,094,640.00	\$ 4,286,345.00	\$ 11,380,985.00
11,824	2%	\$ 14,189,280.00	\$ 8,572,690.00	\$ 22,761,970.00
17,737	3%	\$ 21,283,920.00	\$ 12,859,035.00	\$ 34,142,955.00
23,649	4%	\$ 28,378,560.00	\$ 17,145,380.00	\$ 45,523,940.00
29,561	5%	\$ 35,473,200.00	\$ 21,431,725.00	\$ 56,904,925.00
Estimated \$/Unit (\$1200 ESAP+ EE)				\$ 1,925

According to the MFHERCC data, projected energy savings vary by climate zone. Table 3 shows approximate energy savings per ratepayer dollar based on the different funding levels for the pilot (and by climate zone.). The cost/unit of energy saved is notably high.

Staff recommends that Energy Division management consider this issue when considering the Energy Division’s recommended funding level for the ESAP MF Whole Building Pilot. We also recommend that management use this as a signal that additional work is needed to analyze current and planned whole house/building programs and pilots, develop a stronger theoretical foundation, and articulate a longer term (up to ten years) funding vision for these programs.

Table 3:

Total Funding Matrix (ESAP + EUC/EE Core Funds by Gas/Electric)										
	15% Incentive		20% Incentive		25% Incentive		30% Incentive		40% Incentive	
	kwh Savings/ Dollar	Therm savings/ Dollar	kwh Savings/ Dollar	Therm savings/ Dollar	kwh Savings/ Dollar	Therm savings/ Dollar	kwh Savings/ Dollar	Therm savings/ Dollar	kwh Savings/ Dollar	Therm savings/ Dollar
CZ 3	68.33	2.33	62.76	2.14	58.04	1.98	53.97	1.84	47.34	1.62
CZ 8	39.52	20.02	36.30	1.24	33.57	1.15	31.22	0.93	31.22	0.93
CZ 10	62.35	2.13	57.27	1.95	52.96	1.81	49.25	1.47	43.20	1.47
CZ 12	103.49	3.53	95.06	3.24	87.90	3.00	81.74	2.79	71.70	2.45

Summary

In sum, the pilot’s treated home goals could range from 5,912 to 29,561 MF units without factoring outside leveraging sources with an average per unit cost ranging from \$1,345-\$2,360. Projected pilot costs could range from \$7.9 Million to \$69.8 Million

CHPC Proposal

The original CHPC pilot proposal asked to treat 24,000 units (about 4% of the ESAP eligible population) with a ceiling of \$10,000/Unit. The maximum cost of that proposal in ratepayer dollars would be \$240 Million.

Staff Proposal

Aim to treat 18,000- 24,000 multi-family units with a funding request level between \$34 Million to \$46 Million. This figure consists of ESAP Portion \$21 Million - \$28 Million and Energy Upgrade California Portion of \$13 Million - \$17 Million.