



## MEMORANDUM

To: Jennifer Barnes  
 From: Ingrid Rohmund  
 CC: Kelly Marrin, Maggie Buffum  
 Date: May 31, 2022  
 Re: State of Hawaii Market Potential Study Update

### Background

Over the past six months, AEG has been supporting HECO with its integrated resource planning (IRP) effort. As the EEM and Commission know, we have been using the Hawaii Market Potential Study as the basis for the supply curves we developed for HECO. In responding to a data request in from HECO in late March, AEG discovered an error in how savings for a subset of non-equipment measures included in the potential study (see Table 1). AEG corrected the measure-savings calculations and ran the models for Oahu to assess the impacts. The revised Oahu results showed savings that were about 5% higher for this subset of measures. At this point, we communicated our findings to the EEM along with our recommendation that AEG rerun the models for all the islands. This memo presents the results of this analysis.

Figure 1: Affected Measures

Residential Sector	Commercial Sector
Advanced New Construction Design - Zero Net Energy*	Behavioral Programs - Small Business Submetering
Advanced Power Strips - IR Sensing*	Commissioning
Advanced Power Strips - Load or Occupancy	Distribution Transformers - High Efficiency
Behavioral Programs - Peer Group Comparison	Office Equipment - Advanced Power Strips
Behavioral Programs - Whole Home Metering	Office Equipment - Power Management
Connected Home Control System*	Retrocommissioning
Electronics - Switch Plug	Strategic Energy Management
ENERGY STAR Home Design	Uninterrupted Power Supply (UPS)
ENERGY STAR Soundbar	
Water Heater - Solar System - Tune-Up	

\*Measures ranked in the top 20 for each sector

### Summary

The overall cumulative impact of the change in savings across the affected measures is an increase of half a percent (.5%) or less in the two achievable potential cases in 2030 and 2040 (see Table 2). Figure 1 shows results by sector.



Table 2: Overall Impact on Cumulative Savings

**Change from 2020 to 2022**

**All Islands Achievable Potential Summary (GWh), All Sectors**

Segment	2030	2040
<b>Cumulative Savings (GWh)</b>		
Achievable Potential - BAU	31	48
Achievable Potential - High	33	56
Economic Potential	58	89
Technical Potential	43	61
<b>Energy Savings (% of Reference Baseline)</b>		
Achievable Potential - BAU	0.3%	0.4%
Achievable Potential - High	0.3%	0.5%
Economic Potential	0.6%	0.8%
Technical Potential	0.4%	0.6%

Figure 1: Comparison of Savings by Sector – High Achievable Case

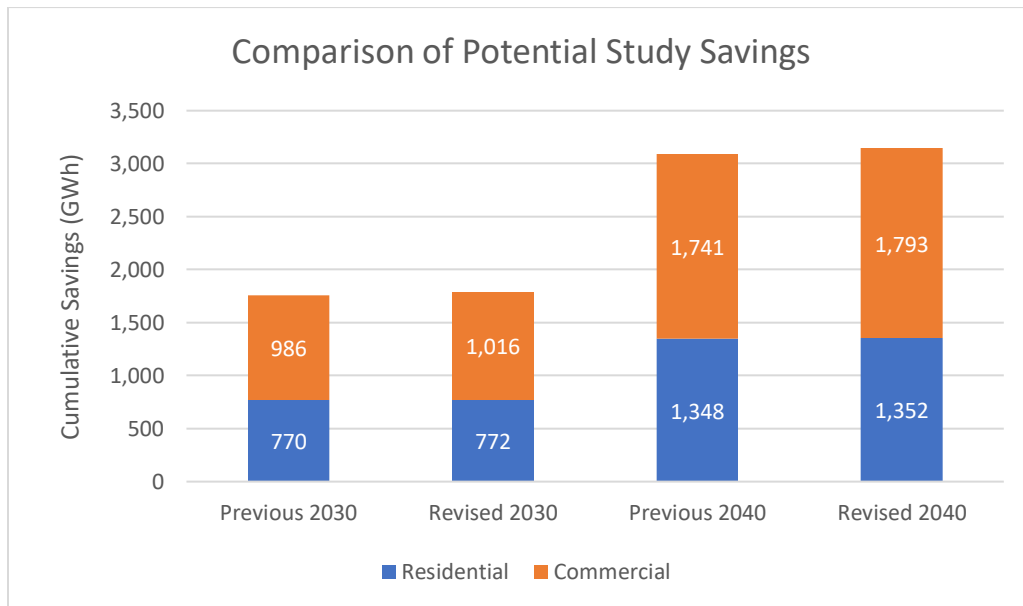




Table 3 below presents the high-level results from the original 2020 Study and the revised 2022 results.

Table 3: Summary of Original 2020 and Revised 2022 Savings

**2020 Study**

**All Islands Achievable Potential Summary (GWh), All Sectors**

Segment	2020	2021	2022	2025	2030	2040
<b>Reference Baseline (GWh)</b>	9,790	9,837	9,873	9,982	10,132	10,955
<b>Cumulative Savings (GWh)</b>						
Achievable Potential - BAU	150	295	406	737	1,329	2,262
Achievable Potential - High	150	316	468	963	1,755	3,089
Economic Potential	455	849	1,161	1,951	3,014	4,125
Technical Potential	563	1,031	1,415	2,399	3,695	5,088
<b>Energy Savings (% of Reference Baseline)</b>						
Achievable Potential - BAU	1.5%	3.0%	4.1%	7.4%	13.1%	20.6%
Achievable Potential - High	1.5%	3.2%	4.7%	9.6%	17.3%	28.2%
Economic Potential	4.6%	8.6%	11.8%	19.5%	29.8%	37.7%
Technical Potential	5.7%	10.5%	14.3%	24.0%	36.5%	46.4%

**2022 Revision**

**All Islands Achievable Potential Summary (GWh), All Sectors**

Segment	2020	2021	2022	2025	2030	2040
<b>Reference Baseline (GWh)</b>	9,790	9,837	9,873	9,982	10,132	10,955
<b>Cumulative Savings (GWh)</b>						
Achievable Potential - BAU	153	301	415	754	1,360	2,310
Achievable Potential - High	153	322	476	979	1,788	3,145
Economic Potential	461	860	1,177	1,986	3,072	4,213
Technical Potential	568	1,040	1,429	2,426	3,738	5,148
<b>Energy Savings (% of Reference Baseline)</b>						
Achievable Potential - BAU	1.6%	3.1%	4.2%	7.6%	13.4%	21.1%
Achievable Potential - High	1.6%	3.3%	4.8%	9.8%	17.6%	28.7%
Economic Potential	4.7%	8.7%	11.9%	19.9%	30.3%	38.5%
Technical Potential	5.8%	10.6%	14.5%	24.3%	36.9%	47.0%