



Efficient Appliances for People & the Planet

## Analyzing Multiple Policy Tiers with CLASP's Mepsy Appliance & Equipment Climate Impact Calculator

5 January 2022

### Introduction and Background

[CLASP's Mepsy Appliance & Equipment Climate Impact Calculator](#) allows researchers and policymakers around the world to quickly identify, prioritize and analyze the impacts of energy efficiency policies for common appliances. However, sometimes multiple tiered policies need to be analyzed, where a package of increasingly stringent policies is implemented over several years.

This document shows how to provide the right inputs for Mepsy to analyze a tiered policy scenario, as well as how to combine the results to calculate and visualize the impacts of the entire policy package.

### Policy Scenario

The tiered policy scenario is summarized in the table below. Successive policies that reduce the average unit energy consumption (UEC) of a product (for example a television) take effect every two years in 2023, 2025 and 2027.

SCENARIO	POLICY EFFECTIVE YEAR	UNIT ENERGY CONSUMPTION (UEC, KWH/YR)
<b>Business-as-usual (BAU)</b>	/	116
<b>Tier 1</b>	2023	105
<b>Tier 2</b>	2025	95
<b>Tier 3</b>	2027	86

As Mepsy can only evaluate one policy at a time, the tiers must be entered sequentially, starting with Tier 1 in 2023. Below are illustrations of the Mepsy inputs needed to correctly analyze this package.

#### Tier 1

To analyze Tier 1, enter it as though it were the only policy. BAU will be the average UEC in the absence of policy—in this example, 116 kWh/yr, which was the UEC of products for sale in 2021. The policy UEC is 105 kWh/yr.

To conduct the analysis, we start the analysis in 2005; the end year is 2030; the effective year of the policy is 2023 when Tier 1 takes effect.



① Scenario Assumptions (Click to Edit or Paste Table)

Scenario	Price (USD)	Unit Energy Consumption (kWh/yr)
Business As Usual (BAU)	/	116
Tier 1	/	105
/	/	/

① Policy Dates

Policy Effective Year:	Analysis Start Year:	Analysis End Year:
2023	2005	2030

## Tier 2

To analyze Tier 2, imagine that it is now 2025. The previous Tier 1 implemented in 2023 works well. The current market has achieved the 2023 goal. We want to add the next, more stringent tier and see how the new policy will impact the market.

The BAU is updated to the 2023 Tier 1 target UEC (105 kWh/yr), while the Tier 2 UEC (95 kWh/yr) becomes the new target.

Therefore, in the tier 2 analysis, the analysis year period starts from 2005 to 2030, and the effective year is 2025.

① Scenario Assumptions (Click to Edit or Paste Table)

Scenario	Price (USD)	Unit Energy Consumption (kWh/yr)
BAU (Tier 1 MEPS)	/	105
Tier 2 MEPS	/	95
/	/	/

① Policy Dates

Policy Effective Year:	Analysis Start Year:	Analysis End Year:
2025	2005	2030

## Tier 3

Finally, imagine it is now 2027. Again, we want to implement a new policy tier. Therefore, the previous Tier 2 target (95 kWh/yr) becomes the new BAU, the Tier 3 UEC (86 kWh/yr) becomes the new policy target, and the policy effective year is 2027 (same method as above).

① Scenario Assumptions (Click to Edit or Paste Table)

Scenario	Price (USD)	Unit Energy Consumption (kWh/yr)
BAU (Tier 2 MEPS)	/	95
Tier 3 MEPS	/	86
/	/	/

① Policy Dates

Policy Effective Year:	Analysis Start Year:	Analysis End Year:
2027	2005	2030



Below is a summary of the parameters to model each tier.

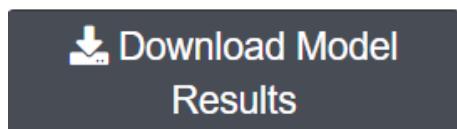
SCENARIO	POLICY EFFECTIVE YEAR	ANALYSIS START YEAR	ANALYSIS END YEAR	BAU UEC (KWH/YR)	MEPS UEC (KWH/YR)
<b>TIER 1 (1/1/2023 – 12/31/2024)</b>	2023	2005	2030	116	105
<b>TIER 2 (1/1/2025 - 12/31/2026)</b>	2025	2005	2030	105	95
<b>TIER 3 (1/1/2027 - 12/31/2030)</b>	2027	2005	2030	95	86

## Analysis Tips

- Start the analysis in an earlier year:** If using custom shipments data, start the analysis as early as possible even if the policies start later. Starting the analysis early (e.g., in 2005) allows the calculator to add the custom shipments data provided into the stock, providing the most accurate count of the number of appliances in use.
- Do not limit the end year:** For each scenario, the analysis end year needs to be the final year for assessing impacts or the maximum year available in Mepsy. Every time a new policy is implemented, it will take a while for the surviving stocks to retire from the market. Setting the end year at 2030 will accumulate as much energy savings from the existing products in the market for each Tier as possible.
- The BAU needs to reflect the CURRENT market situation:** When selecting BAU for each scenario, always set the previous Tier's target UEC as the new BAU UEC. For example, when analyzing Tier 2, the “current” market in 2025 has already been affected by the Tier 1 policy implemented in 2023. Therefore, the Tier 1 2023 target UEC will become the BAU UEC for the 2025 Tier 2 analysis. (Assume the target has already been achieved). Same for the Tier 3 scenario.

## Combining the Outputs

At the end of each Tier analysis in Mepsy, press the “Download Model Results” button, which will download a record of the input parameters and modeling results.



After downloading and extracting data from the Report\_Results.csv files, energy consumption and CO<sub>2</sub> emission results need to be compiled into a new spreadsheet or the [template](#) provided by CLASP. This combining step will be repeated for each subsequent tier analysis. All the data compiled from the energy consumption and CO<sub>2</sub> emission reports are listed in the table below:

Multiple Tiers Policy Analysis Compiled Results from Mepsy – Energy Consumption								
Year	Tier 1 (1/1/2023 – 12/31/2024)		Tier 2 (1/1/2025 -12/31/2026)			Tier 3 (1/1/2027 -12/31/2030)		
	Business As Usual Final Energy Consumption (TWh)	Tier 1 Final Energy Consumption (TWh)	Tier 1 Annual Final Energy Reductions (calculated) (TWh)*	Business As Usual Final Energy Consumption (TWh)	Tier 2 Final Energy Consumption (TWh)	Tier 2 Annual Final Energy Reductions (calculated) (TWh)*	Business As Usual Final Energy Consumption (TWh)	Tier 3 Final Energy Consumption (TWh)
2005	0.196	0.196	0.000	0.178	0.178	0.000	0.161	0.161
2006	0.321	0.321	0.000	0.290	0.290	0.000	0.263	0.263
2007	0.444	0.444	0.000	0.402	0.402	0.000	0.363	0.363
2008	0.563	0.563	0.000	0.509	0.509	0.000	0.461	0.461
2009	0.676	0.676	0.000	0.612	0.612	0.000	0.554	0.554
2010	0.784	0.784	0.000	0.710	0.710	0.000	0.642	0.642
2011	0.885	0.885	0.000	0.801	0.801	0.000	0.725	0.725
2012	0.978	0.978	0.000	0.885	0.885	0.000	0.801	0.801
2013	1.063	1.063	0.000	0.962	0.962	0.000	0.871	0.871
2014	1.140	1.140	0.000	1.032	1.032	0.000	0.934	0.934
2015	1.210	1.210	0.000	1.095	1.095	0.000	0.991	0.991
2016	1.271	1.271	0.000	1.150	1.150	0.000	1.041	1.041
2017	1.325	1.325	0.000	1.199	1.199	0.000	1.085	1.085
2018	1.372	1.372	0.000	1.242	1.242	0.000	1.123	1.123
2019	1.412	1.412	0.000	1.278	1.278	0.000	1.156	1.156
2020	1.446	1.446	0.000	1.309	1.309	0.000	1.185	1.185
2021	1.475	1.475	0.000	1.335	1.335	0.000	1.208	1.208
2022	1.500	1.500	0.000	1.357	1.357	0.000	1.228	1.228
2023	1.520	1.520	0.000	1.376	1.376	0.000	1.245	1.245
2024	1.536	1.523	0.013	1.390	1.390	0.000	1.258	1.258
2025	1.549	1.523	0.026	1.402	1.402	0.000	1.269	1.269
2026	1.560	1.521	0.039	1.412	1.400	0.012	1.277	1.277
2027	1.568	1.517	0.051	1.419	1.395	0.024	1.284	1.284
2028	1.574	1.511	0.063	1.425	1.389	0.035	1.289	1.278
2029	1.579	1.505	0.074	1.429	1.383	0.047	1.293	1.271
2030	1.582	1.498	0.084	1.432	1.375	0.057	1.296	1.264
Cumulative Energy Savings of Each Tier		0.35			0.17			0.06
<b>Three Tier Total Energy Savings</b>								<b>0.589</b>

\*Tier 1 Annual Final Energy Reductions = Business As Usual Final Energy Consumption (of Tier 1) - Tier 1 Final Energy Consumption, the same calculation method is applied to the Tier 2 and Tier 3 analysis

Multiple Tiers Policy Analysis Compiled Results from Mepsy – CO <sub>2</sub> Emissions									
Year	Tier 1			Tier 2			Tier 3		
	(1/1/2023 – 12/31/2024)			(1/1/2025 -12/31/2026)			(1/1/2027 -12/31/2030)		
	Business As Usual CO <sub>2</sub> Emissions (Mt)	Tier 1 CO <sub>2</sub> Emissions (Mt)	Tier 1 Annual CO <sub>2</sub> Reductions (calculated) (Mt) *	Business As Usual CO <sub>2</sub> Emissions (Mt)	Tier 2 CO <sub>2</sub> Emissions (Mt)	Tier 2 Annual CO <sub>2</sub> Reductions (calculated) (Mt) *	Business As Usual CO <sub>2</sub> Emissions (Mt)	Tier 3 CO <sub>2</sub> Emissions (Mt)	Tier 3 Annual CO <sub>2</sub> Reductions (calculated) (Mt) *
2005	0.079	0.079	0.000	0.072	0.072	0.000	0.065	0.065	0.000
2006	0.130	0.130	0.000	0.118	0.118	0.000	0.106	0.106	0.000
2007	0.180	0.180	0.000	0.163	0.163	0.000	0.147	0.147	0.000
2008	0.228	0.228	0.000	0.206	0.206	0.000	0.186	0.186	0.000
2009	0.274	0.274	0.000	0.248	0.248	0.000	0.224	0.224	0.000
2010	0.317	0.317	0.000	0.287	0.287	0.000	0.260	0.260	0.000
2011	0.358	0.358	0.000	0.324	0.324	0.000	0.293	0.293	0.000
2012	0.396	0.396	0.000	0.358	0.358	0.000	0.324	0.324	0.000
2013	0.430	0.430	0.000	0.389	0.389	0.000	0.352	0.352	0.000
2014	0.462	0.462	0.000	0.418	0.418	0.000	0.378	0.378	0.000
2015	0.489	0.489	0.000	0.443	0.443	0.000	0.401	0.401	0.000
2016	0.514	0.514	0.000	0.466	0.466	0.000	0.421	0.421	0.000
2017	0.536	0.536	0.000	0.485	0.485	0.000	0.439	0.439	0.000
2018	0.555	0.555	0.000	0.502	0.502	0.000	0.455	0.455	0.000
2019	0.571	0.571	0.000	0.517	0.517	0.000	0.468	0.468	0.000
2020	0.585	0.585	0.000	0.530	0.530	0.000	0.479	0.479	0.000
2021	0.597	0.597	0.000	0.540	0.540	0.000	0.489	0.489	0.000
2022	0.607	0.607	0.000	0.549	0.549	0.000	0.497	0.497	0.000
2023	0.615	0.615	0.000	0.557	0.557	0.000	0.504	0.504	0.000
2024	0.622	0.616	0.005	0.563	0.563	0.000	0.509	0.509	0.000
2025	0.627	0.616	0.011	0.567	0.567	0.000	0.513	0.513	0.000
2026	0.631	0.615	0.016	0.571	0.566	0.005	0.517	0.517	0.000
2027	0.634	0.614	0.021	0.574	0.565	0.010	0.520	0.520	0.000
2028	0.637	0.612	0.025	0.577	0.562	0.014	0.522	0.517	0.004
2029	0.639	0.609	0.030	0.578	0.560	0.019	0.523	0.515	0.009
2030	0.640	0.606	0.034	0.580	0.557	0.023	0.524	0.512	0.013
Cumulative CO <sub>2</sub> Reductions of Each Tier		0.14				0.07			0.03
Three Tier Total CO <sub>2</sub> Reductions								0.24	

\*Tier 1 Annual CO<sub>2</sub> Emission Reductions = Business As Usual CO<sub>2</sub> Emission (of Tier 1) - Tier 1 CO<sub>2</sub> Emission, the same calculation method is applied to the Tier 2 and Tier 3 analysis

From the two tables above, we know that the cumulative energy saving of three Tier are 0.35 TWh, 0.174 TWh and 0.064 TWh, and the three-tier total energy saving is 0.589 TWh. For the CO<sub>2</sub> emission, the cumulative emission reductions for three Tier are 0.14 Mt, 0.07 Mt and 0.03 Mt. The total CO<sub>2</sub> emission reductions is 0.24 Mt.

## Correcting for a Limitation of the Analysis Method (Using energy consumption results as an example)

The method used for different tier policy analysis here has a limitation due to the way Mepsy back-casts the BAU. As mentioned before, during the Tier 2 analysis, the BAU UEC should equal the Tier 1 policy UEC. However, Mepsy back-casts the BAU UEC for all years before the Tier 2 policy implementation, including before the implementation of Tier 1. As a result, the BAU energy consumption and CO<sub>2</sub> emissions for Tier 2 and Tier 3 in the table now is smaller than it should be.

Considering we will use the same correcting methods for energy consumption and CO<sub>2</sub> emissions, the following calculation using the energy consumption results as the example to re-normalizes the BAU. After the correction, BAU before implementing the policy will remain the same for all three tiers, allowing them to be graphed together.

While **annual savings remain the same** for each scenario, we need to manually shift annual energy consumption under Tier 2 and Tier 3, taking in the previous tier. In other words, the Tier 2 national BAU energy consumption should equal the results from the Tier 1 policy case; and the Tier 3 national BAU energy consumption should equal the results from the Tier 2 policy case. This is illustrated in the table below, with the **red numbers** drawn from the previous policy tiers and the **blue numbers** manually recalculated while keeping the savings constant.

For example, when the Tier 2 BAU in 2026 is replaced with the Tier 1 final energy consumption (**1.521 TWh**), the Tier 2 final energy consumption becomes **1.521 - 0.012 = 1.509 TWh**. This process is illustrated for all the years in the table below.

↓      ↓      ↓

Multiple Tiers Policy Analysis Compiled Results Re-normalize the BAU – Energy Consumption (example)								
Year	Tier 1		Tier 2			Tier 3		
	(1/1/2023 – 12/31/2024)	(1/1/2025 -12/31/2026)	(1/1/2027 -12/31/2030)	Business As Usual Final Energy Consumption (TWh)	Tier 1 Annual Final Energy Consumption (TWh)	Tier 2 Final Energy Consumption (recalculated) (TWh)	Tier 2 Annual Final Energy Reductions (TWh)	Business As Usual Final Energy Consumption (recalculated) (TWh)
2005	0.196	0.196	0.000	0.178 <b>0.196</b>	0.178 <b>0.196</b>	0.000	0.161 <b>0.196</b>	0.161 <b>0.196</b>
2006	0.321	0.321	0.000	0.290 <b>0.321</b>	0.290 <b>0.321</b>	0.000	0.263 <b>0.321</b>	0.263 <b>0.321</b>
2007	0.444	0.444	0.000	0.402 <b>0.444</b>	0.402 <b>0.444</b>	0.000	0.363 <b>0.444</b>	0.363 <b>0.444</b>
2008	0.563	0.563	0.000	0.509 <b>0.563</b>	0.509 <b>0.563</b>	0.000	0.461 <b>0.563</b>	0.461 <b>0.563</b>

2009	0.676	0.676	0.000	0.612 <b>0.676</b>	0.612 <b>0.676</b>	0.000	0.554 <b>0.676</b>	0.554 <b>0.676</b>	0.000
2010	0.784	0.784	0.000	0.740 <b>0.784</b>	0.740 <b>0.784</b>	0.000	0.642 <b>0.784</b>	0.642 <b>0.784</b>	0.000
2011	0.885	0.885	0.000	0.801 <b>0.885</b>	0.801 <b>0.885</b>	0.000	0.725 <b>0.885</b>	0.725 <b>0.885</b>	0.000
2012	0.978	0.978	0.000	0.885 <b>0.978</b>	0.885 <b>0.978</b>	0.000	0.801 <b>0.978</b>	0.801 <b>0.978</b>	0.000
2013	1.063	1.063	0.000	0.962 <b>1.063</b>	0.962 <b>1.063</b>	0.000	0.871 <b>1.063</b>	0.871 <b>1.063</b>	0.000
2014	1.140	1.140	0.000	1.032 <b>1.140</b>	1.032 <b>1.140</b>	0.000	0.934 <b>1.140</b>	0.934 <b>1.140</b>	0.000
2015	1.210	1.210	0.000	1.095 <b>1.210</b>	1.095 <b>1.210</b>	0.000	0.991 <b>1.210</b>	0.991 <b>1.210</b>	0.000
2016	1.271	1.271	0.000	1.150 <b>1.271</b>	1.150 <b>1.271</b>	0.000	1.041 <b>1.271</b>	1.041 <b>1.271</b>	0.000
2017	1.325	1.325	0.000	1.199 <b>1.325</b>	1.199 <b>1.325</b>	0.000	1.085 <b>1.325</b>	1.085 <b>1.325</b>	0.000
2018	1.372	1.372	0.000	1.242 <b>1.372</b>	1.242 <b>1.372</b>	0.000	1.123 <b>1.372</b>	1.123 <b>1.372</b>	0.000
2019	1.412	1.412	0.000	1.278 <b>1.412</b>	1.278 <b>1.412</b>	0.000	1.156 <b>1.412</b>	1.156 <b>1.412</b>	0.000
2020	1.446	1.446	0.000	1.309 <b>1.446</b>	1.309 <b>1.446</b>	0.000	1.185 <b>1.446</b>	1.185 <b>1.446</b>	0.000
2021	1.475	1.475	0.000	1.335 <b>1.475</b>	1.335 <b>1.475</b>	0.000	1.208 <b>1.475</b>	1.208 <b>1.475</b>	0.000
2022	1.500	1.500	0.000	1.357 <b>1.500</b>	1.357 <b>1.500</b>	0.000	1.228 <b>1.500</b>	1.228 <b>1.500</b>	0.000
2023	1.520	1.520	0.000	1.376 <b>1.520</b>	1.376 <b>1.520</b>	0.000	1.245 <b>1.520</b>	1.245 <b>1.520</b>	0.000
2024	1.536	1.523	0.013	1.390 <b>1.523</b>	1.390 <b>1.523</b>	0.00	1.258 <b>1.523</b>	1.258 <b>1.523</b>	0.000
2025	1.549	1.523	0.026	1.402 <b>1.523</b>	1.402 <b>1.523</b>	0.00	1.269 <b>1.523</b>	1.269 <b>1.523</b>	0.000
2026	1.560	1.521	0.039	1.412 <b>1.521</b>	1.400 <b>1.509</b>	0.012	1.277 <b>1.509</b>	1.28 <b>1.509</b>	0.000
2027	1.568	1.517	0.051	1.419 <b>1.517</b>	1.395 <b>1.493</b>	0.024	1.284 <b>1.493</b>	1.28 <b>1.493</b>	0.000
2028	1.574	1.511	0.063	1.425 <b>1.511</b>	1.389 <b>1.476</b>	0.035	1.289 <b>1.476</b>	1.28 <b>1.465</b>	0.011
2029	1.579	1.505	0.074	1.429 <b>1.505</b>	1.383 <b>1.459</b>	0.047	1.293 <b>1.459</b>	1.27 <b>1.437</b>	0.021
2030	1.582	1.498	0.084	1.432 <b>1.498</b>	1.375 <b>1.441</b>	0.057	1.296 <b>1.441</b>	1.26 <b>1.410</b>	0.032
Cumulative Energy Savings of Each Tier			0.35	1.509 = 1.521 - 0.012			0.17		
<b>Three Tier Total Energy Savings</b>									<b>0.589</b>



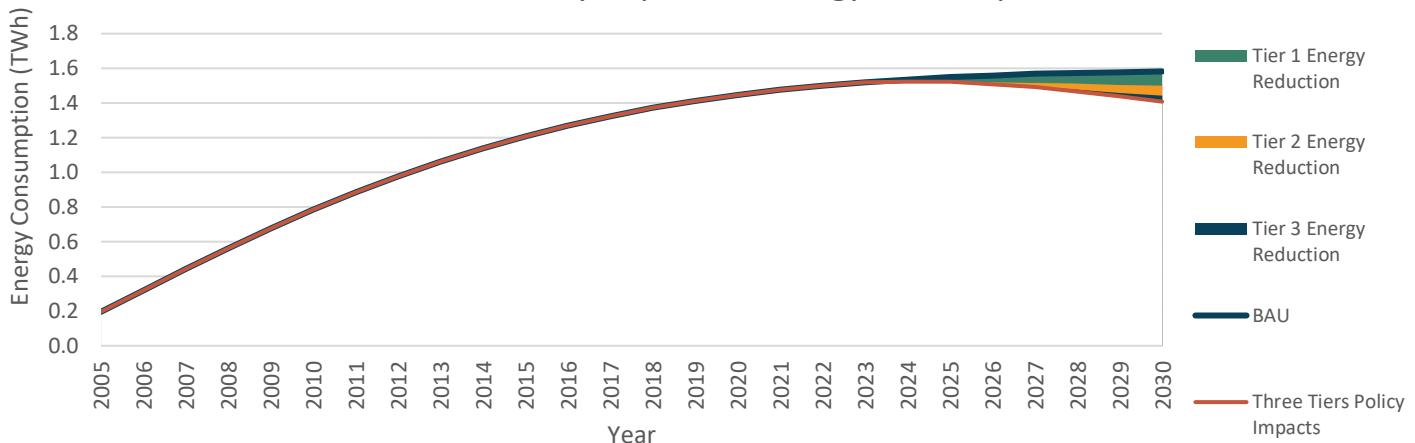
Applying the same method explained above, the CO<sub>2</sub> emission results will be re-normalized as well.

The final clean datasets of energy consumption and CO<sub>2</sub> emission are listed below. Two charts are created based on the new results.

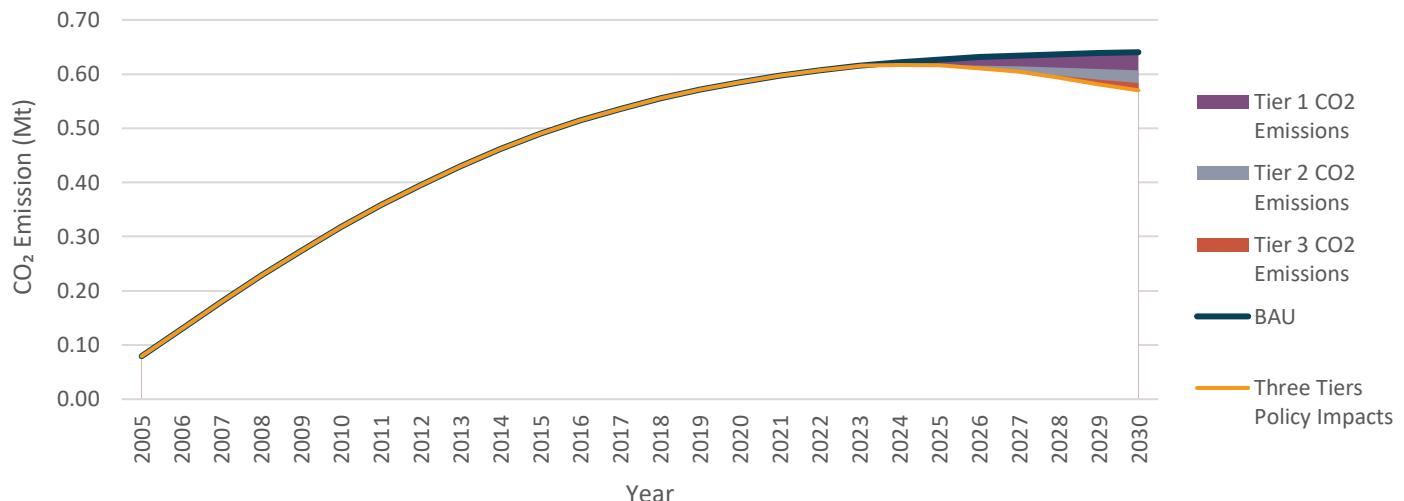
New Results of Multiple Tiers Policy Analysis – Energy Consumption									
Year	Tier 1 (1/1/2023 – 12/31/2024)			Tier 2 (1/1/2025 -12/31/2026)			Tier 3 (1/1/2027 -12/31/2030)		
	Business As Usual Final Energy Consumption (TWh)	Tier 1 Final Energy Consumption (TWh)	Tier 1 Annual Final Energy Reductions (TWh)	Business As Usual Final Energy Consumption (TWh)	Tier 2 Final Energy Consumption (TWh)	Tier 2 Annual Final Energy Reductions (TWh)	Business As Usual Final Energy Consumption (TWh)	Tier 3 Final Energy Consumption (TWh)	Tier 3 Annual Final Energy Reductions (TWh)
2005	0.196	0.196	0.000	0.196	0.196	0.000	0.196	0.196	0.000
2006	0.321	0.321	0.000	0.321	0.321	0.000	0.321	0.321	0.000
2007	0.444	0.444	0.000	0.444	0.444	0.000	0.444	0.444	0.000
2008	0.563	0.563	0.000	0.563	0.563	0.000	0.563	0.563	0.000
2009	0.676	0.676	0.000	0.676	0.676	0.000	0.676	0.676	0.000
2010	0.784	0.784	0.000	0.784	0.784	0.000	0.784	0.784	0.000
2011	0.885	0.885	0.000	0.885	0.885	0.000	0.885	0.885	0.000
2012	0.978	0.978	0.000	0.978	0.978	0.000	0.978	0.978	0.000
2013	1.063	1.063	0.000	1.063	1.063	0.000	1.063	1.063	0.000
2014	1.140	1.140	0.000	1.140	1.140	0.000	1.140	1.140	0.000
2015	1.210	1.210	0.000	1.210	1.210	0.000	1.210	1.210	0.000
2016	1.271	1.271	0.000	1.271	1.271	0.000	1.271	1.271	0.000
2017	1.325	1.325	0.000	1.325	1.325	0.000	1.325	1.325	0.000
2018	1.372	1.372	0.000	1.372	1.372	0.000	1.372	1.372	0.000
2019	1.412	1.412	0.000	1.412	1.412	0.000	1.412	1.412	0.000
2020	1.446	1.446	0.000	1.446	1.446	0.000	1.446	1.446	0.000
2021	1.475	1.475	0.000	1.475	1.475	0.000	1.475	1.475	0.000
2022	1.500	1.500	0.000	1.500	1.500	0.000	1.500	1.500	0.000
2023	1.520	1.520	0.000	1.520	1.520	0.000	1.520	1.520	0.000
2024	1.536	1.523	0.013	1.523	1.523	0.000	1.523	1.523	0.000
2025	1.549	1.523	0.026	1.523	1.523	0.000	1.523	1.523	0.000
2026	1.560	1.521	0.039	1.521	1.509	0.012	1.509	1.509	0.000
2027	1.568	1.517	0.051	1.517	1.493	0.024	1.493	1.493	0.000
2028	1.574	1.511	0.063	1.511	1.476	0.035	1.476	1.465	0.011
2029	1.579	1.505	0.074	1.505	1.459	0.047	1.459	1.437	0.021
2030	1.582	1.498	0.084	1.498	1.441	0.057	1.441	1.410	0.032

New Results of Multiple Tiers Policy Analysis – CO <sub>2</sub> Emissions									
	Tier 3 (1/1/2023 – 12/31/2024)			Tier 2 (1/1/2025 -12/31/2026)			Tier 3 (1/1/2027 -12/31/2030)		
	Business As Usual CO <sub>2</sub> Emissions (Mt)	Tier 1 CO <sub>2</sub> Emissions (Mt)	Tier 1 Annual CO <sub>2</sub> Reductions (Mt)	Business As Usual CO <sub>2</sub> Emissions (Mt)	Tier 2 CO <sub>2</sub> Emissions (Mt)	Tier 2 Annual CO <sub>2</sub> Reductions (Mt)	Business As Usual CO <sub>2</sub> Emissions (Mt)	Tier 3 CO <sub>2</sub> Emissions (Mt)	Tier 3 Annual CO <sub>2</sub> Reductions (Mt)
	2005	0.079	0.079	0.000	0.079	0.079	0.079	0.079	0.000
2006	0.130	0.130	0.000	0.130	0.130	0.000	0.130	0.130	0.000
2007	0.180	0.180	0.000	0.180	0.180	0.000	0.180	0.180	0.000
2008	0.228	0.228	0.000	0.228	0.228	0.000	0.228	0.228	0.000
2009	0.274	0.274	0.000	0.274	0.274	0.000	0.274	0.274	0.000
2010	0.317	0.317	0.000	0.317	0.317	0.000	0.317	0.317	0.000
2011	0.358	0.358	0.000	0.358	0.358	0.000	0.358	0.358	0.000
2012	0.396	0.396	0.000	0.396	0.396	0.000	0.396	0.396	0.000
2013	0.430	0.430	0.000	0.430	0.430	0.000	0.430	0.430	0.000
2014	0.462	0.462	0.000	0.462	0.462	0.000	0.462	0.462	0.000
2015	0.489	0.489	0.000	0.489	0.489	0.000	0.489	0.489	0.000
2016	0.514	0.514	0.000	0.514	0.514	0.000	0.514	0.514	0.000
2017	0.536	0.536	0.000	0.536	0.536	0.000	0.536	0.536	0.000
2018	0.555	0.555	0.000	0.555	0.555	0.000	0.555	0.555	0.000
2019	0.571	0.571	0.000	0.571	0.571	0.000	0.571	0.571	0.000
2020	0.585	0.585	0.000	0.585	0.585	0.000	0.585	0.585	0.000
2021	0.597	0.597	0.000	0.597	0.597	0.000	0.597	0.597	0.000
2022	0.607	0.607	0.000	0.607	0.607	0.000	0.607	0.607	0.000
2023	0.615	0.615	0.000	0.615	0.615	0.000	0.615	0.615	0.000
2024	0.622	0.616	0.005	0.616	0.616	0.000	0.616	0.616	0.000
2025	0.627	0.616	0.011	0.616	0.616	0.000	0.616	0.616	0.000
2026	0.631	0.615	0.016	0.615	0.611	0.005	0.611	0.611	0.000
2027	0.634	0.614	0.021	0.614	0.604	0.010	0.604	0.604	0.000
2028	0.637	0.612	0.025	0.612	0.597	0.014	0.597	0.593	0.004
2029	0.639	0.609	0.030	0.609	0.590	0.019	0.590	0.582	0.009
2030	0.640	0.606	0.034	0.606	0.583	0.023	0.583	0.570	0.013

### Three Tiers Policy Impact on Energy Consumption



### Three Tiers Policy Impact on CO<sub>2</sub> Emissions



CLASP improves the energy and environmental performance of the appliances & equipment we use every day, accelerating our transition to a more sustainable world.

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