COUNTY OF SAN DIEGO

Zero Carbon Portfolio Plan

2024 Amendment

~~90%~~ 80%

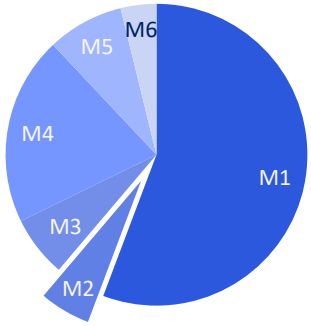
reduction in operational carbon emissions by

2030

Relative to 2008 Baseline

2024 Amendment Executive Summary

(original)



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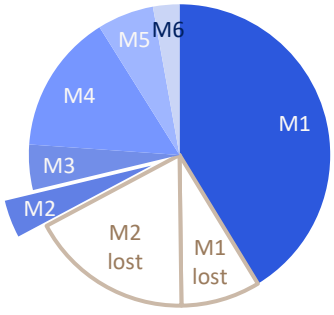


The County of San Diego originally published the Zero Carbon Portfolio Plan (ZCPP) in 2022. It presented a strategy based on six (6) specific measures that would result in a reduction in operational carbon emissions of 90% by 2030, relative to a 2008 Baseline. Those calculations were based on data and funding expectations available at the time. This amendment is provided to summarize the adjusted approach to Measure 2: Building Electrification that will consequently affect the overall impact of Measure 1: Green Energy Supply. The combination of these revisions is expected to decrease the reduction in carbon emissions in 2030 by 10%, from 90% reduction down to 80% reduction.

In the original ZCPP the County was prepared to take a progressive and advanced approach to Building Electrification by replacing gas-fired equipment in an accelerated fashion, before typical end of life. Due to the excessive costs and disruption of this Measure, the County adjusted the process for replacing gas-fired equipment by shifting to electrifying equipment when it is scheduled in the Major Maintenance Improvement Plan (MMIP). This change results in significantly less natural gas being removed from the County's GHG emissions by 2030.

Measures 1 and 2 are interconnected. The original impact of Measure 1: Green Energy Supply relied on shifting the newly electrified building electricity to 100% renewable sources which will now happen at a slower pace due to an extended reliance on natural gas. Details of the updated measures are described below in this Amendment. The Original ZCPP document has not been updated and there are no amendments to other Measures at this time.

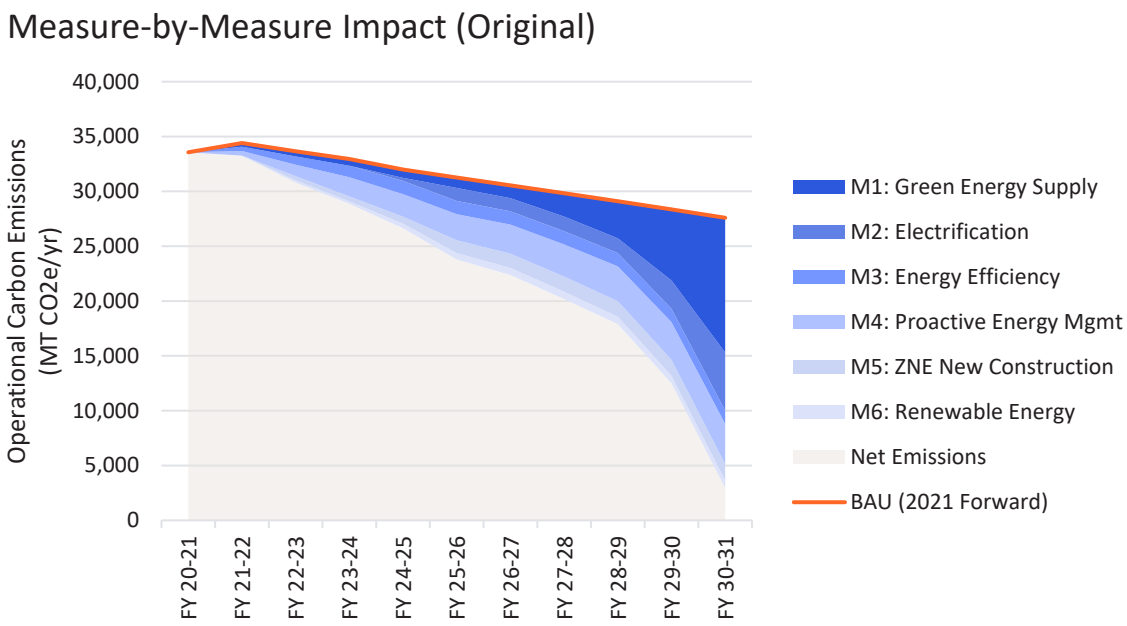


Figure 1: Measure-by-Measure Impact (Original). The expected contribution by Measure by year towards the overall targeted reduction in operational carbon footprint of the County's portfolio.

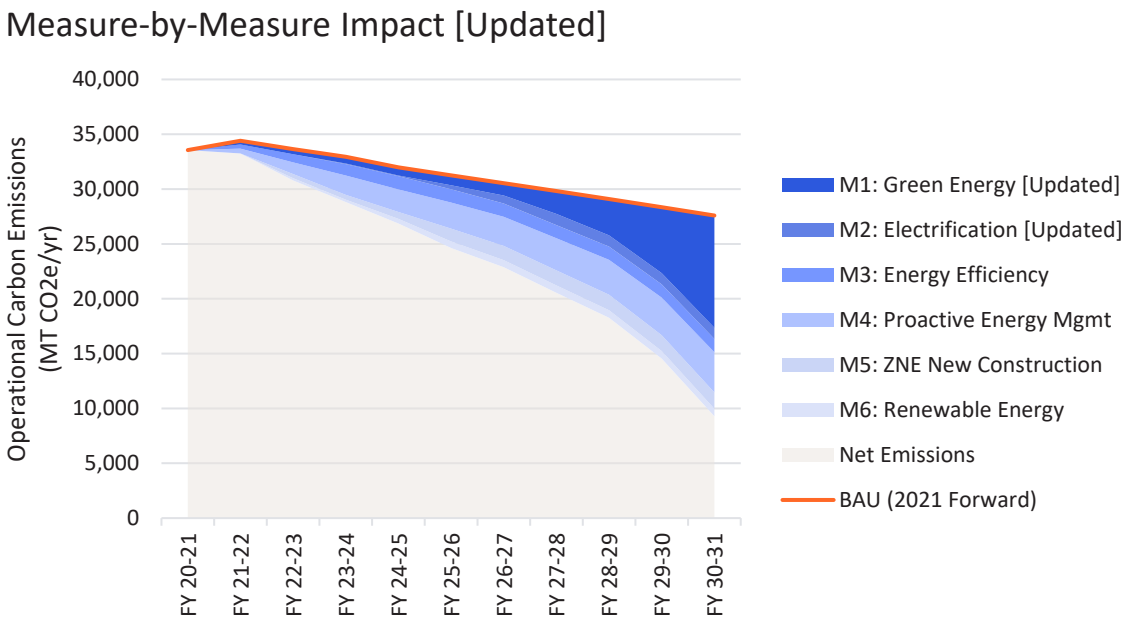


Figure 2: Measure-by-Measure Impact [Updated]. The expected contribution by Measure by year towards the overall targeted reduction in operational carbon footprint of the County's portfolio.

Measure	Description	Estimated Carbon Reduction in 2030 (MT CO2e/yr)	Cumulative Carbon Reduction, FY21-22 through 2030 (MT CO2e/yr)
M1: Green Energy Supply	Commit to purchasing increasingly renewable-sourced electricity from Community Choice Aggregation (CCA) programs and Direct Access (DA) agreements.	~~12,500~~ 10,200	~~29,000~~ 25,800
M2: Building Electrification	Reduce on-site combustion of fossil fuel by replacing fossil fuel burning equipment in existing buildings with electric equipment.	~~5,300~~ 1,000	~~13,200~~ 5,300
M3: Energy Efficiency Projects	Reduce energy consumption at existing County-owned and occupied facilities through implementation of energy efficiency measures (EEMs). Increasing efficiency of existing building stock will be critical to meeting overall GHG goals.	1,200	10,700
M4: Proactive Energy Management	Reduce energy consumption by implementing ongoing monitoring of energy performance at all existing County facilities and performing retro-commissioning (RCx) and Monitoring-Based Commissioning (MBCx) where applicable.	3,700	23,500
M5: Zero Net Energy Building	Require all-electric, Zero Net Energy for all new construction capital projects.	1,500	9,600
M6: Renewable Energy	Install photovoltaic (PV) systems on existing County properties.	700	4,800
	Total	**~~24,900~~ 18,300**	**~~90,800~~ 79,700**

Measure 1 [Updated 2024]

Green Energy Supply

Summary:

Commit to purchasing increasingly renewable-sourced electricity from Community Choice Aggregation (CCA) programs and Direct Access (DA) agreements.

2024 Update:

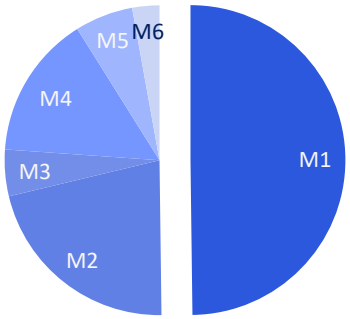
The switch to 100% renewable electricity will occur at a slower pace than anticipated due to the changes in Measure 2: Building Electrification resulting in prolonged reliance on natural gas.

Estimated Impact:

10,200 MT CO2e/yr reduction in 2030 (vs. BAU)
[from 12,500 MT CO2e/yr – 22% reduction]

25,800 MT CO2e cumulative reduction by 2030
[reduced from 29,000 MT CO2e/yr – 21% reduction]

(original)



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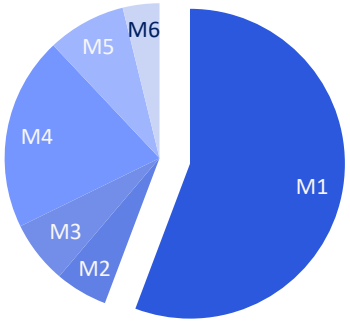


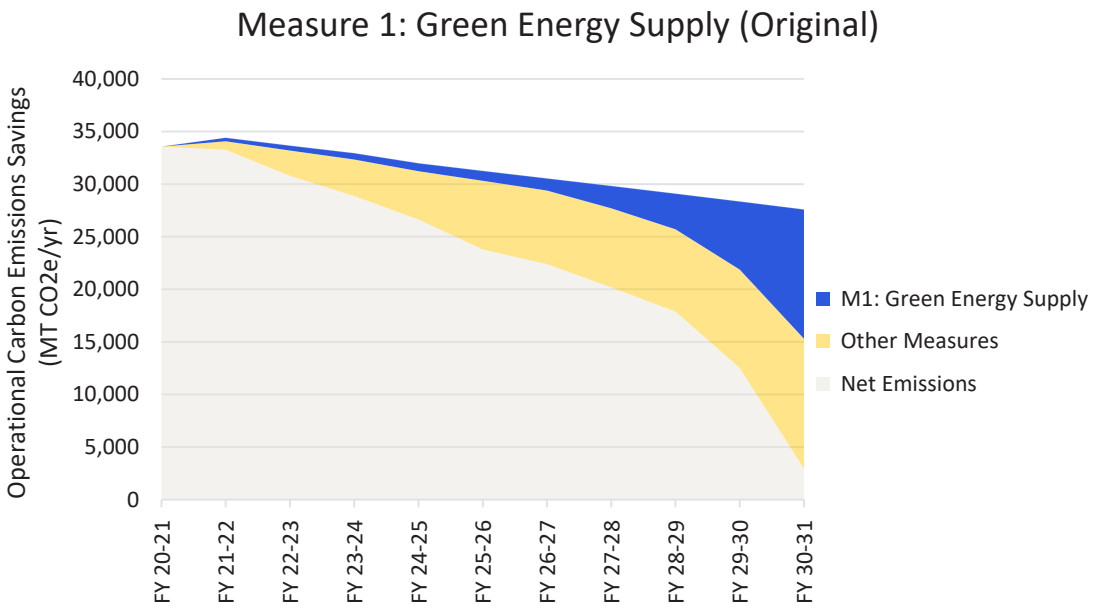


Figure 3: Annual targeted emissions savings from Measure 1, Green Energy Supply (Original)

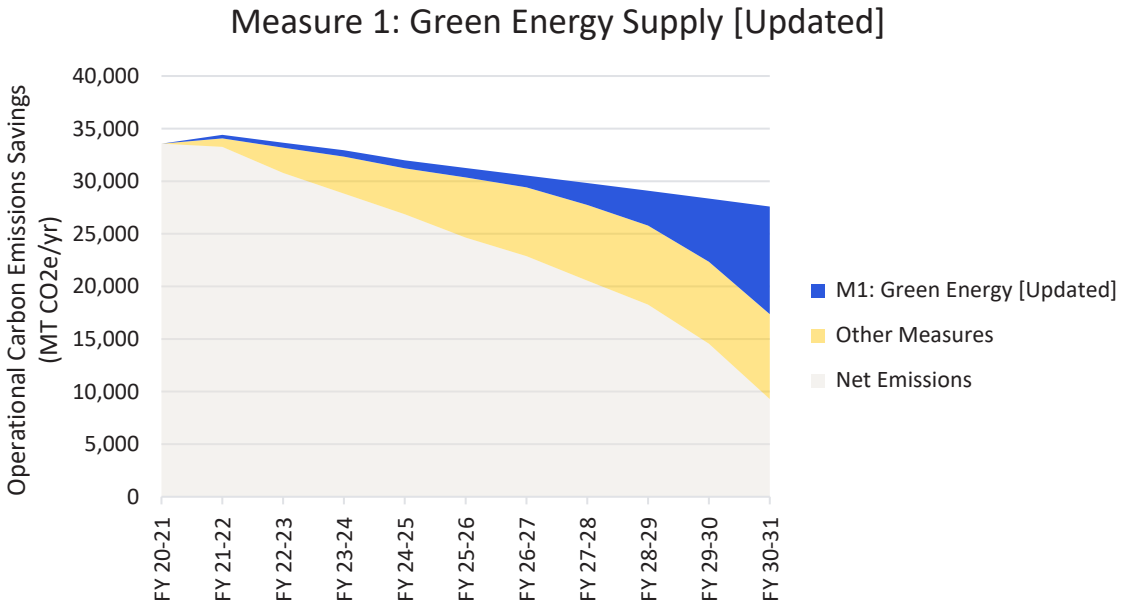


Figure 4: Annual targeted emissions savings from Measure 1, Green Energy Supply [Updated]

Measure 2 [Updated 2024]

Building Electrification, Delayed

Summary:

Eliminate on-site combustion of fossil fuel by replacing fossil fuel burning equipment in existing buildings with electric equipment.

2024 Update:

Rollout of electrification projects will occur at a slower pace than anticipated in the original ZCPP due to cost impact and funding availability.

Estimated Impact:

1,000 MT CO2e/yr reduction in 2030 (vs. BAU)
[from 5,300 MT CO2e/yr – 81% reduction]

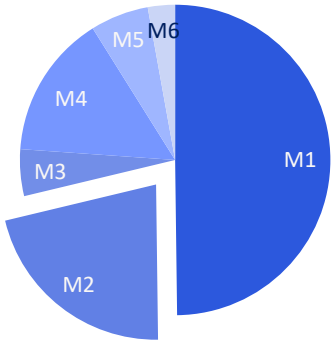
5,300 MT CO2e cumulative reduction by 2030
[reduced from 13,200 MT CO2e/yr – 60% reduction]

Estimated Impact (When Combined with the related benefits of Measure 1, Green Energy Supply):

1,600 MT CO2e/yr reduction in 2030 (vs. BAU)
[from 8,000 MT CO2e/yr – 80% reduction]

6,500 MT CO2e cumulative reduction by 2030
[reduced from 17,300 MT CO2e/yr – 62% reduction]

(original)



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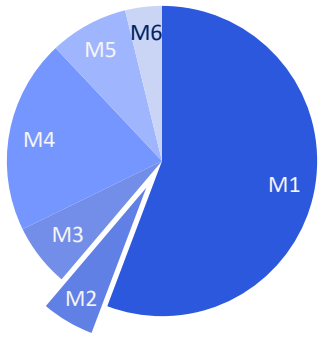

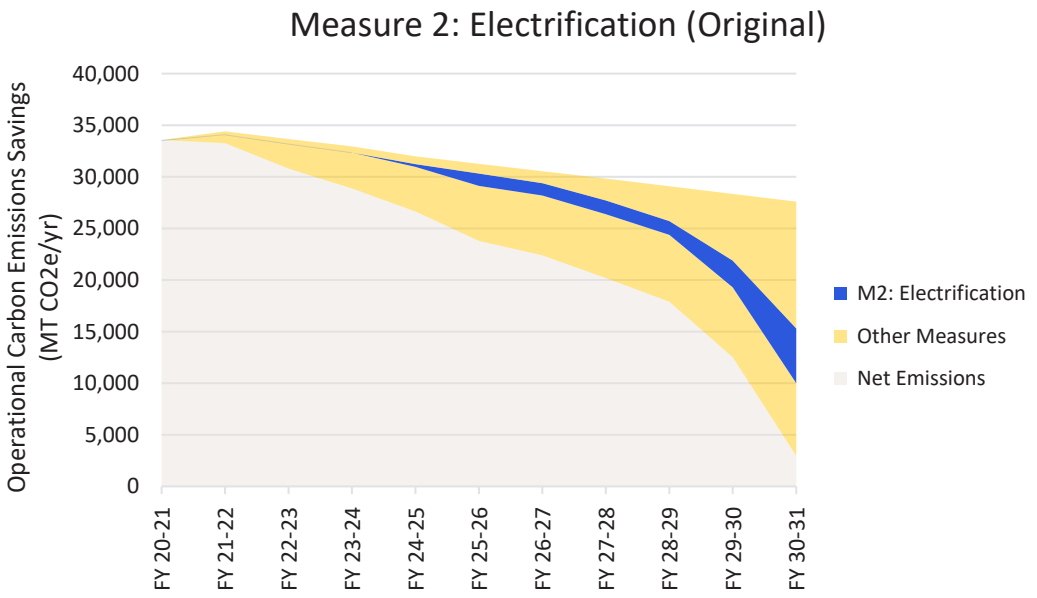

Figure 5: Annual targeted emissions savings from Measure 2, Electrification (Original)

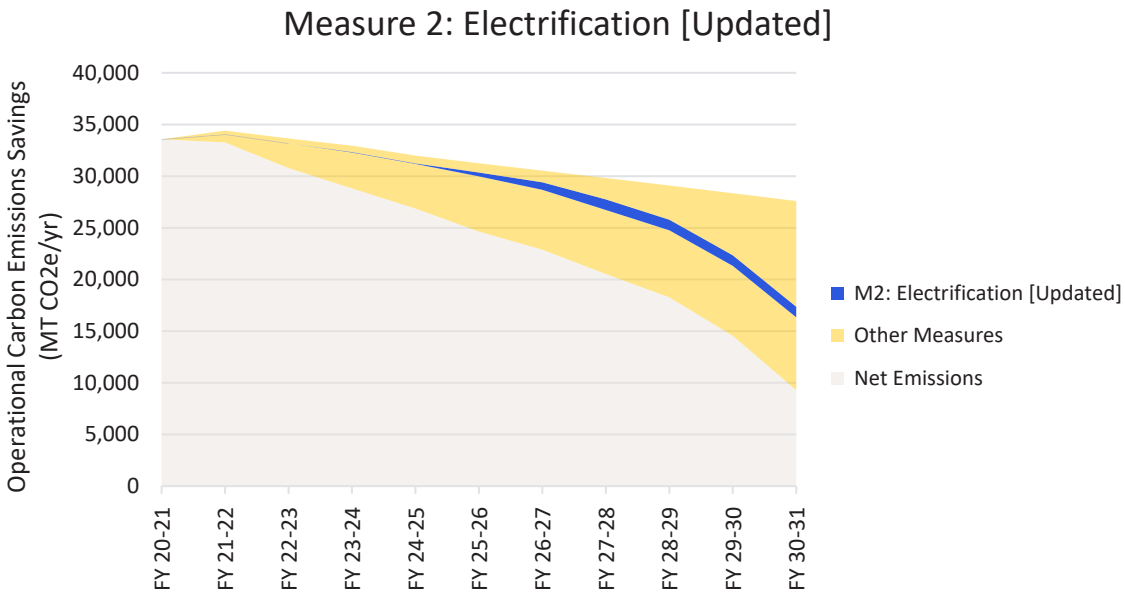

Figure 6: Annual targeted emissions savings from Measure 2, Electrification [Updated]

Further Description of Measure 2 Changes:

The top fifteen (15) natural gas users in the County's portfolio account for 90% of the total natural gas use. Six (6) of those top fifteen gas users accounted for a significant portion of the planned electrification opportunity (see graph below) and the original plan targeted them early to achieve the greatest impact. Due to the complicated nature of those facilities, size of equipment and cost impact the County determined in 2023 that the rollout of Building Electrification would need to be approached in a more measured fashion. The chart below illustrates the potential Natural Gas reduction of the Original ZCPP compared to the reduction expected through this new approach.

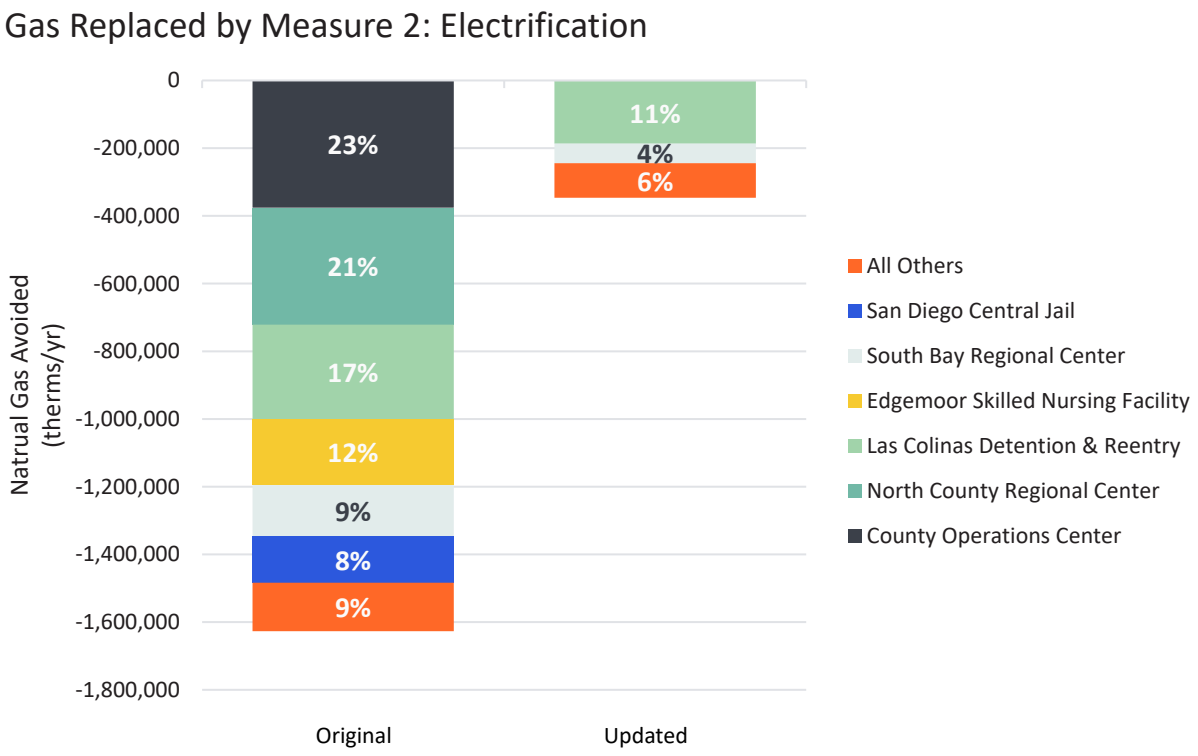

Figure 7: Annual gas savings by FY 30-31 from Measure 2, Electrification

Projection of Annual Measure 2 Carbon Savings

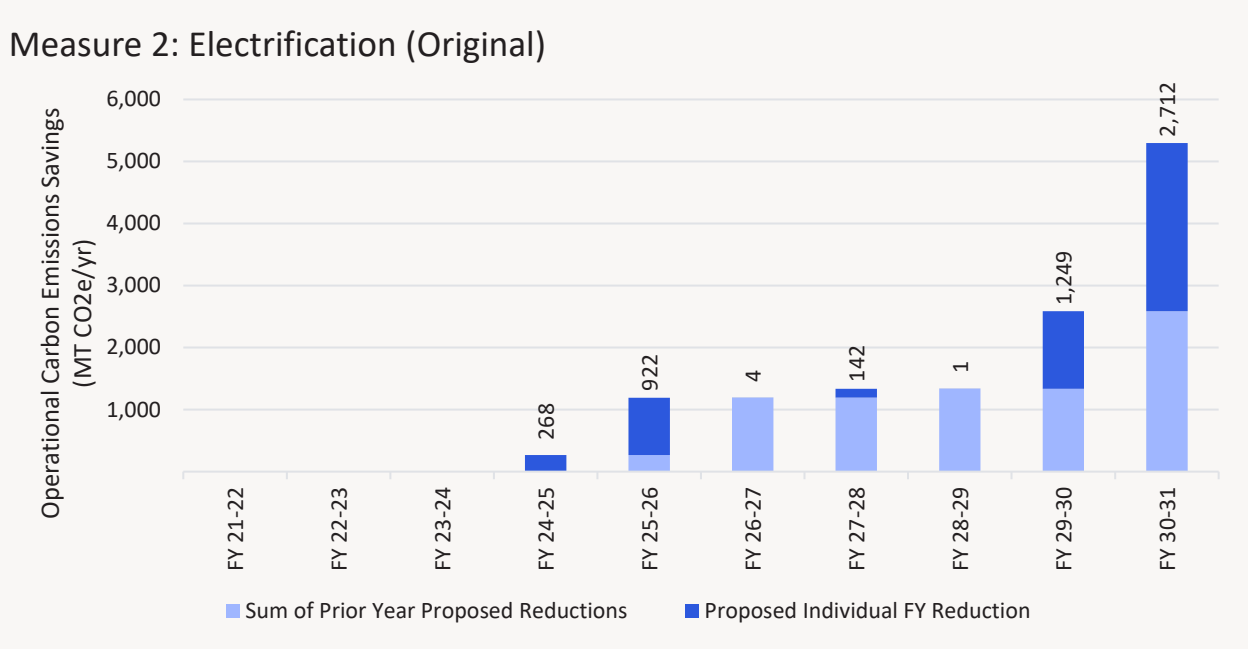

Figure 8: Annual and cumulative targeted emissions savings from Measure 2, Electrification (Original)

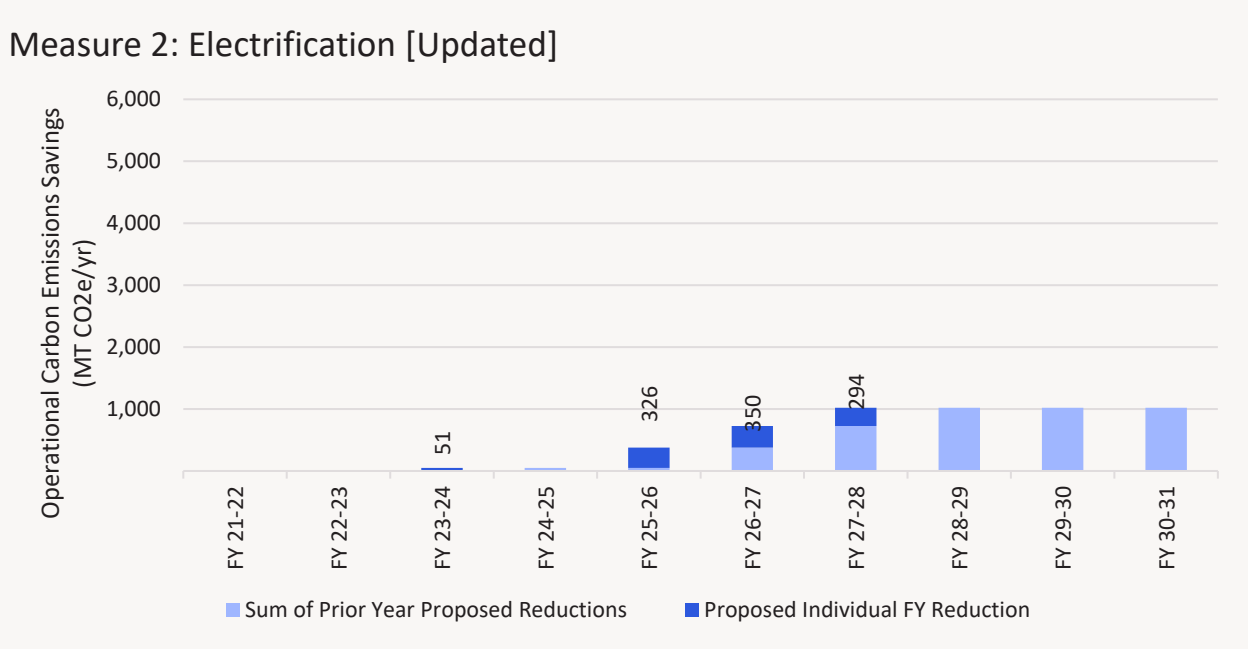

Figure 9: Annual and cumulative targeted emissions savings from Measure 2, Electrification [Updated]