

# Energy Efficiency will Benefit Ohioans

## *EE is worth hundreds of millions to Ohio's energy customers*

### Summary

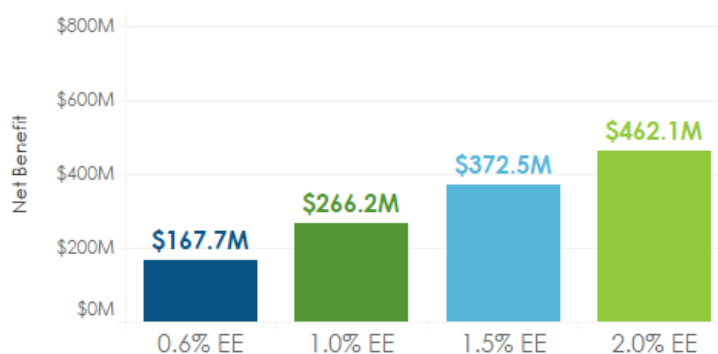
To look at the near-term benefits from energy efficiency for Ohio's electric customers, MEEA used public data to create a forecast of future EE scenarios and modeled the benefits that achieving those savings levels would create. The results show that even relatively low levels of statewide energy efficiency could provide almost \$170 million in annual net value for the utility system in Ohio in 2021, reaching \$240 million if non-energy benefits are included. As energy efficiency electricity savings scale up, even with a higher cost of achieving those savings, the value to the system also increases, to over \$700M if achieving 2% savings and including non-energy benefits.

### Savings Results

We assumed for this analysis that the net benefits that AEP Ohio projected in its proposed voluntary energy efficiency portfolio<sup>1</sup> would hold true statewide. This is a simplifying assumption, since no utility service territory is the same, but AEP's proposal provided the most accessible and useful public data to serve as a proxy value for statewide analysis. We increased the cost of savings as the percent of EE increased, up to 1.75% cost increase over the AEP costs for EE reaching 2.0% (see Appendix). We also used the AEP Ohio proposal as a minimum baseline for energy efficiency that utilities could be achieving statewide in Ohio in the near term.

In 2021, if Ohio's electric IOUs all achieved only the 0.6% savings level that AEP Ohio has proposed in their voluntary energy efficiency plan filing, the utility system benefits in that single year would be \$167.7 million. Increased electricity savings, even with a higher cost of saved energy, would provide additional net benefits, up to \$462.1 million if energy efficiency savings reached 2.0%. (Figure 1)

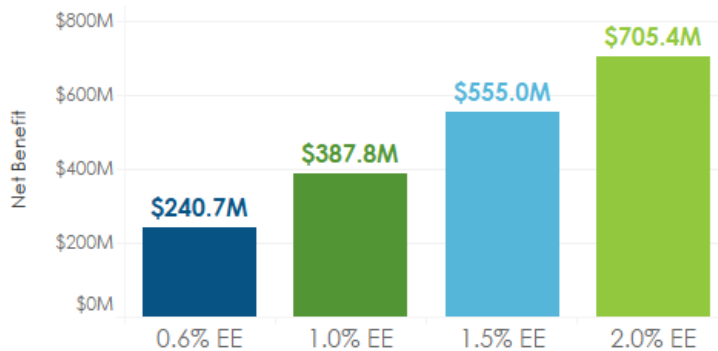
**Figure 1: Statewide Utility System Net Benefits in Ohio from EE Scenarios in 2021**



If we include non-energy benefits which are benefits that accrue to customers from energy efficiency additional to utility system benefits, the net benefit calculation shows even higher value for Ohioans. In 2021, achieving just 0.6% electricity saving from energy efficiency statewide would provide \$240.7M in customer net benefits. If savings increased to 2.0%, EE would increase that to \$705.4M (Figure 2).

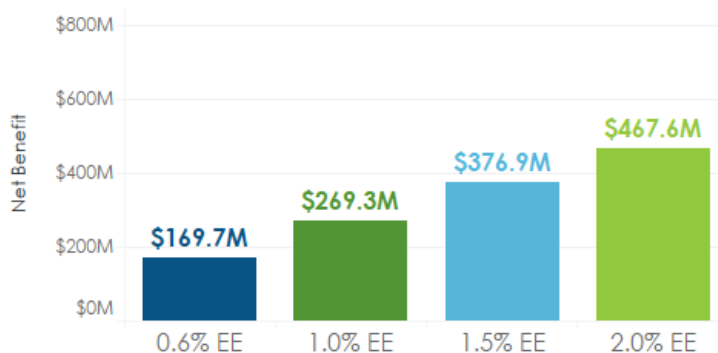
<sup>1</sup> Testimony of Jon Williams in Docket 20-585-EL-AIR

**Figure 2: Statewide Utility System and Non-Energy Net Benefits in Ohio from EE Scenarios in 2021**



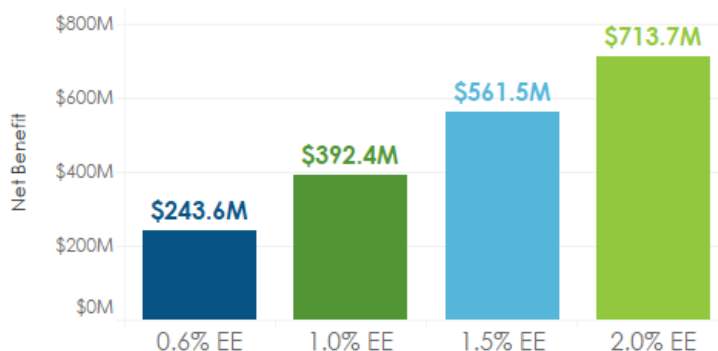
By 2025, the utility system net benefits under a 0.6% scenario increase to \$169.7M, and to \$467.6M if EE reaches 2.0%. (Figure 3)

**Figure 3: Statewide Utility System Net Benefits in Ohio from EE Scenarios in 2025**



The net benefits including non-energy impacts in 2025 increase to \$243.6M for 0.6% EE, and to \$713.7M for 2.0% EE. (Figure 4)

**Figure 4: Statewide Utility System and Non-Energy Net Benefits in Ohio from EE Scenarios in 2025**



These results clearly demonstrate that there is a high value to Ohio's electric customers from energy efficiency. The benefits far exceed the cost that the customers pay for energy efficiency, even at higher levels of energy efficiency that cost more to obtain.

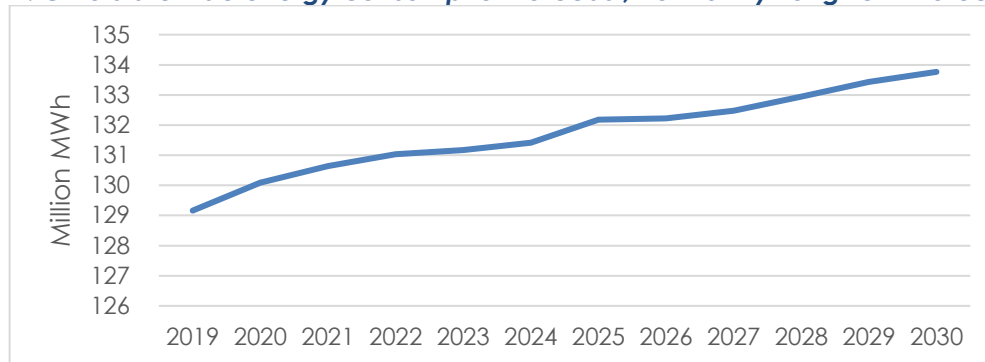
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## Appendix – Methodology

We used the most recent Long-Term Forecast Reports<sup>1</sup> filed by Ohio's electric investor-owned utilities (IOUs) to create a statewide IOU electric consumption forecast. The forecast customer energy consumption in Ohio from 2019-2030 is shown in Figure A1.

**Figure A1: Ohio statewide energy consumption forecast, from utility Long Term Forecast Reports**



From that consumption forecast, we calculated the amount of statewide energy savings needed to meet the following levels of energy efficiency:

- 0.6% (the amount of EE proposed by AEP-Ohio in their voluntary EE filing<sup>2</sup>)
- 1.0%
- 1.5%
- 2.0% (the amount of EE that would have been required in 2021 prior to HB6)

We were interested in looking at the value of energy efficiency for Ohio with all customers participating, so we modeled the efficiency scenarios both with and without the inclusion of the large commercial and industrial customers who had previously opted-out of energy efficiency portfolio participation under the EERS that existed before HB6. In the 2019 energy efficiency portfolios, a total of 20,191,708 MWh opted out of energy efficiency participation.<sup>3</sup> For the analysis results shown, we used the scenarios that included all customers.

If the previously opted-out customers are excluded from this analysis, the net benefits decrease rather dramatically – by almost \$26M of lost utility system benefits in the 0.6% scenario shown in Figure 1 of the analysis, up to \$71M in lost benefits in the 2.0% scenario. Including the non-energy benefits, as shown in Figure 2, the net benefits lost because of the opt-out would be \$37M under a 0.6% scenario and \$109 at 2.0% EE.

We wanted to use forward-looking values that reflected utility thinking post-HB6 for this analysis, so we used AEP-Ohio's voluntary energy efficiency proposal as the basis for our

<sup>1</sup> Filings in Dockets 20-0375-EL-FOR, 20-0501-EL-FOR, 20-0657-EL-FOR & 20-0768-EL-FOR

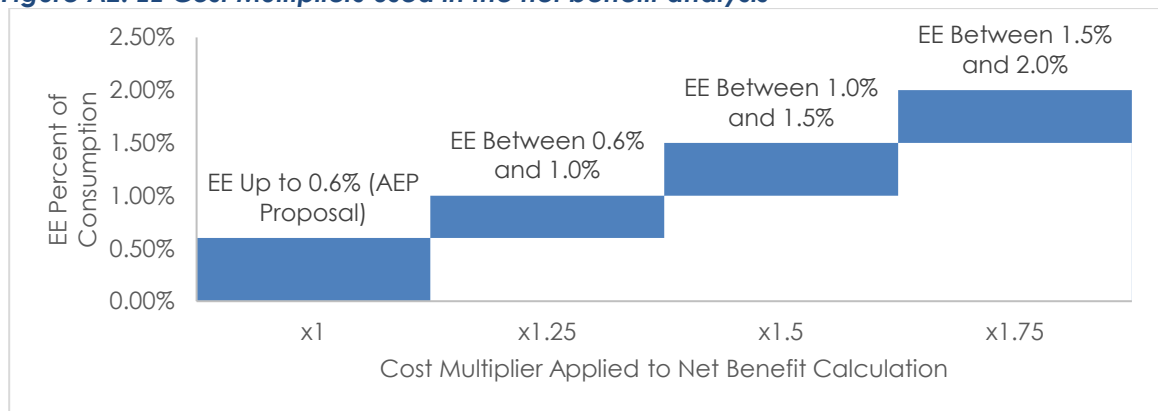
<sup>2</sup> Testimony of Jon Williams in Docket 20-585-EL-AIR

<sup>3</sup> Annual report filings in Dockets 20-0612-EL-EEC, 20-0724-EL-EEC, 20-0916-EL-POR & 20-1042-EL-EEC

net benefit calculations. We looked at the net benefits from both of the cost-effectiveness perspectives considered by AEP-Ohio, a utility cost test (UCT) that reflects the costs and benefits to the utility system and a resource value test (RVT)<sup>4</sup> that incorporates additional monetizable non-energy impacts that accrue to utility customers. Both of these perspectives are useful ways to look at the future net benefits to customers – one that looks specifically at the energy system costs and another that also shows the well-documented additional value that customers receive from energy efficiency.

As the amount of energy efficiency that is delivered increases, so do the costs of reaching those deeper savings. To reflect that cost increase, we used a cost multiplier to increase the cost of incremental efficiency improvements, as shown in Figure A2. In any scenario, EE up to 0.6% of the forecast had costs matching the AEP proposal, and for each increment above that, the cost of those savings was increased. These cost multipliers for increasing EE are consistent with the costs of energy efficiency that we have seen in other Midwest states with higher levels of EE, such as Illinois and Michigan.

**Figure A2: EE Cost Multipliers used in the net benefit analysis**



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<sup>4</sup> The National Standard Practice Manual for Benefit-Cost Analysis of Distributed Energy Resources (NSPM for DERs) (2020) renames the RVT to the “jurisdiction specific test” (JST) to better reflect its purpose and use.