

## Appliance Standards Awareness Project

### 2023 State Appliance Standards Recommendations

#### Savings estimates for: Michigan

	Potential annual savings in 2030						Potential annual savings in 2040					
	Electricity (GWh)	Natural gas (BBtu)	Water (million gallons)	NO <sub>x</sub> (tons)	SO <sub>2</sub> (tons)	CO <sub>2</sub> (thous. MT)	Electricity (GWh)	Natural gas (BBtu)	Water (million gallons)	NO <sub>x</sub> (tons)	SO <sub>2</sub> (tons)	CO <sub>2</sub> (thous. MT)
Air purifiers	135.7	--	--	20.7	32.1	53.2	222.0	--	--	25.7	42.6	80.9
Commercial dishwashers	6.3	154	215	7.9	1.5	10.7	15.0	369	514	18.5	2.9	25.1
Commercial fryers	2.4	796	--	36.4	0.6	43.2	5.2	1,736	--	79.3	1.0	94.1
Commercial ovens	6.4	103	--	5.6	1.5	8.1	14.0	224	--	11.8	2.7	17.0
Commercial steam cookers	4.1	32	90	2.1	1.0	3.4	8.8	71	197	4.2	1.7	7.0
Electric vehicle supply equipment	12.9	--	--	2.0	3.0	5.0	85.5	--	--	9.9	16.4	31.2
Faucets	59.5	774	2,636	44.1	14.1	64.4	108.2	1,404	4,786	76.2	20.8	114.0
Gas fireplaces	--	127	--	5.8	--	6.8	--	348	--	15.8	--	18.5
High CRI fluorescent lamps	61.7	--	--	9.4	14.6	25.1	15.2	--	--	1.8	2.9	5.5
Portable electric spas	71.3	--	--	10.9	16.9	27.9	119.8	--	--	13.9	23.0	43.6
Residential ventilating fans	11.2	--	--	1.7	2.6	4.4	30.4	--	--	3.5	5.8	11.1
Showerheads	51.4	666	1,553	38.0	12.2	55.5	93.5	1,210	2,824	65.7	17.9	98.4
Spray sprinkler bodies	--	--	4,639	--	--	--	--	--	8,435	--	--	--
Toilets (water closets)	--	--	582	--	--	--	--	--	1,547	--	--	--
Urinals	--	--	110	--	--	--	--	--	239	--	--	--
Water coolers	21.0	--	--	3.2	5.0	8.5	38.1	--	--	4.4	7.3	13.9
<b>Total</b>	<b>444</b>	<b>2,652</b>	<b>9,825</b>	<b>188</b>	<b>105</b>	<b>316</b>	<b>756</b>	<b>5,362</b>	<b>18,543</b>	<b>331</b>	<b>145</b>	<b>560</b>

Assuming a compliance date of 2025 for all the recommended standards. Totals may not sum due to rounding. While we continue to recommend the adoption of state-level standards for commercial hot-food holding cabinets and computers and computer monitors, we have not estimated savings for these products due to insufficient data on the current market.

## Savings estimates for: Michigan

	Potential annual utility bill savings (million 2021\$)		Net present value savings (million 2021\$)	Benefit-cost ratio	Payback period (years)
	In 2030	In 2040			
Air purifiers	22.8	36.0	254.6	7.8	0.9
Commercial dishwashers	5.2	13.8	88.3	10.2	1.1
Commercial fryers	6.5	14.6	70.2	2.9	3.3
Commercial ovens	1.5	3.3	6.1	1.3	6.8
Commercial steam cookers	2.1	5.0	33.4	11.6	0.9
Electric vehicle supply equipment	2.2	13.9	85.7	no cost	0.0
Faucets	58.2	117.0	876.3	no cost	0.0
Gas fireplaces	1.2	3.3	20.5	9.2	1.3
High CRI fluorescent lamps	7.2	1.9	33.2	3.4	1.7
Portable electric spas	12.0	19.4	142.1	10.7	0.6
Residential ventilating fans	1.9	4.9	34.8	no cost	0.0
Showerheads	39.0	77.6	583.2	no cost	0.0
Spray sprinkler bodies	72.3	151.6	1033.9	13.4	0.7
Toilets (water closets)	9.1	27.8	238.4	no cost	0.0
Urinals	1.7	4.3	30.6	no cost	0.0
Water coolers	2.3	4.0	32.3	no cost	0.0
<b>Total</b>	<b>245</b>	<b>499</b>	<b>3,564</b>	<b>17.2</b>	<b>–</b>

Assuming a compliance date of 2025 for all the recommended standards. Net present value savings take into account both utility bill savings and estimated impacts on product costs for items sold between 2025 and 2040. Totals may not sum due to rounding. The total benefit-cost ratio is calculated as the present value of the total utility bill savings from products sold through 2040 for the package of recommended standards divided by the present value of the total additional costs. While we continue to recommend the adoption of state-level standards for commercial hot-food holding cabinets and computers and computer monitors, we have not estimated savings for these products due to insufficient data on the current market.

## Cumulative savings estimates for: Michigan

	Potential cumulative savings through 2040					
	Electricity (GWh)	Natural gas (TBtu)	Water (billion gallons)	NO <sub>x</sub> (tons)	SO <sub>2</sub> (tons)	CO <sub>2</sub> (thous. MT)
Air purifiers	2,553	--	--	320.6	531.7	952.4
Commercial dishwashers	141	3.5	4.8	175.1	29.1	239.7
Commercial fryers	52	17.4	--	793.1	10.7	942.3
Commercial ovens	140	2.2	--	118.9	28.8	173.4
Commercial steam cookers	88	0.7	2.0	43.0	18.2	72.0
Electric vehicle supply equipment	485	--	--	58.4	96.8	178.4
Faucets	1,190	15.5	52.7	849.2	246.8	1,264.1
Gas fireplaces	--	3.0	--	134.0	--	157.0
High CRI fluorescent lamps	611	--	--	82.3	137.1	255.4
Portable electric spas	1,360	--	--	171.0	284.0	507.6
Residential ventilating fans	259	--	--	32.0	53.1	96.0
Showerheads	1,028	13.3	31.1	732.1	213.3	1,090.4
Spray sprinkler bodies	--	--	92.8	--	--	--
Toilets (water closets)	--	--	13.3	--	--	--
Urinals	--	--	2.4	--	--	--
Water coolers	420	--	--	52.5	87.0	164.5
<b>Total</b>	<b>8,327</b>	<b>56</b>	<b>199</b>	<b>3,562</b>	<b>1,737</b>	<b>6,093</b>

Assuming a compliance date of 2025 for all the recommended standards. Totals may not sum due to rounding. While we continue to recommend the adoption of state-level standards for commercial hot-food holding cabinets and computers and computer monitors, we have not estimated savings for these products due to insufficient data on the current market.