

## Appliance Standards Awareness Project

### 2023 State Appliance Standards Recommendations

#### Savings estimates for: Minnesota

	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	75.3	--	--	24.7	16.9	29.0	123.2	--	--	37.2	24.2	47.2
Commercial dishwashers	3.6	87	122	5.1	0.8	5.9	8.5	209	291	12.1	1.7	14.3
Commercial fryers	1.3	450	--	20.9	0.3	24.4	2.9	983	--	45.4	0.6	53.3
Commercial ovens	3.6	58	--	3.8	0.8	4.4	7.9	127	--	8.1	1.6	9.7
Commercial steam cookers	2.3	18	51	1.6	0.5	1.8	5.0	40	112	3.3	1.0	4.0
Electric vehicle supply equipment	7.1	--	--	2.3	1.6	2.7	47.4	--	--	14.3	9.3	18.2
Faucets	44.2	374	1,480	31.4	10.0	36.9	80.4	678	2,687	55.0	15.8	66.9
Gas fireplaces	--	136	--	6.2	--	7.2	--	372	--	16.8	--	19.7
High CRI fluorescent lamps	29.1	--	--	9.5	6.6	10.4	7.6	--	--	2.3	1.5	2.9
Portable electric spas	36.8	--	--	12.1	8.3	14.1	61.8	--	--	18.7	12.2	23.7
Residential ventilating fans	6.2	--	--	2.0	1.4	2.4	16.9	--	--	5.1	3.3	6.5
Showerheads	38.2	322	872	27.1	8.6	31.8	69.5	585	1,586	47.5	13.7	57.7
Spray sprinkler bodies	--	--	491	--	--	--	--	--	893	--	--	--
Toilets (water closets)	--	--	327	--	--	--	--	--	870	--	--	--
Urinals	--	--	62	--	--	--	--	--	135	--	--	--
Water coolers	12.7	--	--	4.2	2.9	4.5	23.1	--	--	7.0	4.6	8.8
<b>Total</b>	<b>260</b>	<b>1,446</b>	<b>3,406</b>	<b>151</b>	<b>59</b>	<b>175</b>	<b>454</b>	<b>2,994</b>	<b>6,575</b>	<b>273</b>	<b>89</b>	<b>333</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: Minnesota

	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	9.4	15.1	100.6	5.8	1.2
Commercial dishwashers	3.0	7.8	49.9	10.2	1.1
Commercial fryers	3.9	8.9	44.1	3.1	3.2
Commercial ovens	0.8	1.8	3.0	1.3	7.3
Commercial steam cookers	1.2	2.8	18.5	11.4	0.9
Electric vehicle supply equipment	0.9	5.8	35.6	no cost	0.0
Faucets	32.4	65.3	488.2	no cost	0.0
Gas fireplaces	1.4	3.9	24.2	10.0	1.2
High CRI fluorescent lamps	2.8	0.8	11.9	2.8	2.2
Portable electric spas	4.6	7.6	53.4	8.4	0.8
Residential ventilating fans	0.8	2.1	14.4	no cost	0.0
Showerheads	21.6	43.2	324.1	no cost	0.0
Spray sprinkler bodies	7.7	16.1	109.5	13.4	0.7
Toilets (water closets)	5.1	15.6	134.0	no cost	0.0
Urinals	1.0	2.4	17.3	no cost	0.0
Water coolers	1.2	2.1	16.5	no cost	0.0
<b>Total</b>	<b>97</b>	<b>201</b>	<b>1,445</b>	<b>18.1</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: Minnesota

	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	1,416	--	--	441.4	288.6	538.3
Commercial dishwashers	80	2.0	2.7	114.1	16.3	135.1
Commercial fryers	29	9.8	--	454.6	6.0	533.3
Commercial ovens	79	1.3	--	82.1	16.1	97.5
Commercial steam cookers	50	0.4	1.1	33.7	10.2	40.3
Electric vehicle supply equipment	269	--	--	83.2	54.2	102.7
Faucets	884	7.5	29.6	614.1	179.9	733.1
Gas fireplaces	--	3.2	--	143.2	--	167.8
High CRI fluorescent lamps	291	--	--	90.9	60.3	110.4
Portable electric spas	702	--	--	218.5	142.9	266.6
Residential ventilating fans	143	--	--	44.6	29.1	54.6
Showerheads	764	6.4	17.4	529.7	155.5	632.3
Spray sprinkler bodies	--	--	9.8	--	--	--
Toilets (water closets)	--	--	7.5	--	--	--
Urinals	--	--	1.4	--	--	--
Water coolers	254	--	--	79.3	51.8	96.8
<b>Total</b>	<b>4,963</b>	<b>31</b>	<b>70</b>	<b>2,929</b>	<b>1,011</b>	<b>3,509</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.