

States Go First: How States Can Save Consumers Money, Reduce Energy and Water Waste, and Protect the Environment with New Appliance Standards (Full report at <https://appliance-standards.org/document/states-go-first>)

Savings estimates for: Minnesota

	Potential annual savings in 2025						Potential annual savings in 2035					
	Electricity (GWh)	Natural gas (BBtu)	Water (million gallons)	NO _x (tons)	SO ₂ (tons)	CO ₂ (thous. MT)	Electricity (GWh)	Natural gas (BBtu)	Water (million gallons)	NO _x (tons)	SO ₂ (tons)	CO ₂ (thous. MT)
Faucets	59.5	587	2,100	58.2	13.4	58.3	108.2	1,048	3,774	94.8	26.3	101.9
Showerheads	42.5	402	998	40.8	9.6	40.7	77.2	731	1,815	66.9	18.8	71.8
Lawn spray sprinklers	--	--	249	--	--	--	--	--	408	--	--	--
Toilets	--	--	517	--	--	--	--	--	1,402	--	--	--
Computers and monitors	135.3	--	--	71.6	30.5	62.4	151.5	--	--	65.9	36.9	64.2
High CRI fluorescent lamps	189.5	--	--	100.3	42.8	88.4	63.9	--	--	27.8	15.5	26.9
Air purifiers	39.1	--	--	20.7	8.8	17.8	64.1	--	--	27.9	15.6	27.4
Pool pump replacement motors	24.0	--	--	12.7	5.4	10.9	0.0	--	--	0.0	0.0	0.0
Commercial fryers	0.8	355	--	16.6	0.2	19.2	1.7	774	--	36.0	0.4	41.8
Commercial dishwashers	3.3	78	108	5.3	0.7	5.7	7.9	187	261	12.0	1.9	13.3
Commercial steam cookers	6.0	32	101	4.6	1.3	4.5	13.0	69	221	8.8	3.2	9.1
Portable air conditioners	20.5	--	--	10.9	4.6	9.4	39.2	--	--	17.0	9.5	16.8
Urinals	--	--	165	--	--	--	--	--	359	--	--	--
Audio/video equipment	23.0	--	--	12.2	5.2	10.5	23.0	--	--	10.0	5.6	9.8
Uninterruptible power supplies	23.7	--	--	12.5	5.4	11.0	26.3	--	--	11.4	6.4	11.1
Telephones	13.5	--	--	7.1	3.0	6.2	13.5	--	--	5.9	3.3	5.7
Water coolers	8.4	--	--	4.4	1.9	3.9	15.3	--	--	6.6	3.7	6.4
Ventilation fans	5.8	--	--	3.1	1.3	2.6	12.7	--	--	5.5	3.1	5.4
Portable electric spas	7.1	--	--	3.8	1.6	3.2	12.9	--	--	5.6	3.1	5.5
Hot food holding cabinets	4.0	--	--	2.1	0.9	1.9	8.6	--	--	3.8	2.1	3.6
Compressors	5.1	--	--	2.7	1.1	2.4	12.0	--	--	5.2	2.9	5.0
Total	611	1,453	4,239	389	138	359	651	2,809	8,240	411	158	426

Assuming a compliance date of 2020 for almost all of the recommended standards. Products are listed in order of potential national net present value savings. Totals may not sum due to rounding. Potential savings for pool pump replacement motors are zero in 2035 because we assume that the recommended standard would affect just seven years of product sales beginning in 2021.

	Potential annual utility bill savings (million 2016\$)		Net present value savings (million 2016\$)	Benefit-cost ratio	Payback period (years)
	In 2025	In 2035			
Faucets	35.0	69.9	523.2	no cost	0.0
Showerheads	19.4	38.8	291.1	no cost	0.0
Lawn spray sprinklers	2.7	5.1	33.1	7.8	1.1
Toilets	5.6	17.4	152.5	no cost	0.0
Computers and monitors	13.6	15.1	60.7	1.9	2.6
High CRI fluorescent lamps	16.9	5.9	36.5	1.4	3.4
Air purifiers	4.5	7.2	31.1	2.2	3.4
Pool pump replacement motors	2.7	0.0	14.4	6.6	0.9
Commercial fryers	3.2	7.6	30.8	2.3	4.3
Commercial dishwashers	2.1	5.7	35.9	9.0	1.2
Commercial steam cookers	1.9	4.5	29.5	10.0	1.0
Portable air conditioners	2.3	4.4	21.4	2.7	3.1
Urinals	1.8	4.5	31.8	no cost	0.0
Audio/video equipment	2.6	2.6	22.5	no cost	0.0
Uninterruptible power supplies	2.2	2.4	11.1	2.2	2.4
Telephones	1.3	1.3	11.1	no cost	0.0
Water coolers	0.7	1.3	10.4	no cost	0.0
Ventilation fans	0.7	1.4	10.6	no cost	0.0
Portable electric spas	0.8	1.5	11.3	no cost	0.0
Hot food holding cabinets	0.3	0.8	3.6	2.8	3.3
Compressors	0.3	0.8	4.0	3.0	3.4
Total	121	198	1,377	6.7	-

Assuming a compliance date of 2020 for almost all of the recommended standards. Products are listed in order of potential national net present value savings. Net present value savings take into account both utility bill savings and estimated impacts on product costs for items sold between 2020 and 2035. 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 2035 for the package of 21 recommended standards divided by the present value of the total additional costs.

Cumulative savings estimates for: **Minnesota**

	Potential cumulative savings through 2035					
	Electricity (GWh)	Natural gas (TBtu)	Water (billion gallons)	NO _x (tons)	SO ₂ (tons)	CO ₂ (thous. MT)
Faucets	1,190	11.6	41.7	1,096.2	249.7	1,133.0
Showerheads	849	8.0	20.0	771.2	178.1	795.6
Lawn spray sprinklers	--	--	4.7	--	--	--
Toilets	--	--	11.9	--	--	--
Computers and monitors	1,960	--	--	949.9	416.3	880.7
High CRI fluorescent lamps	1,981	--	--	1,012.2	437.9	966.2
Air purifiers	737	--	--	352.6	154.9	320.2
Pool pump replacement motors	243	--	--	121.2	51.7	107.3
Commercial fryers	17	7.7	--	360.6	3.6	418.9
Commercial dishwashers	74	1.8	2.4	115.1	15.5	126.7
Commercial steam cookers	130	0.7	2.2	93.2	27.2	95.3
Portable air conditioners	422	--	--	200.9	88.4	183.0
Urinals	--	--	3.6	--	--	--
Audio/video equipment	306	--	--	149.0	65.3	134.2
Uninterruptible power supplies	340	--	--	165.1	72.3	155.7
Telephones	180	--	--	87.7	38.4	82.1
Water coolers	168	--	--	80.2	35.3	76.2
Ventilation fans	127	--	--	60.1	26.5	54.8
Portable electric spas	142	--	--	67.7	29.8	61.6
Hot food holding cabinets	86	--	--	41.0	18.1	39.0
Compressors	114	--	--	54.0	23.9	51.3
Total	9,066	30	87	5,778	1,933	5,682

Assuming a compliance date of 2020 for almost all of the recommended standards. Products are listed in order of potential national net present value savings. Totals may not sum due to rounding.