

Update to “States Go First: How States Can Save Consumers Money, Reduce Energy and Water Waste, and Protect the Environment with New Appliance Standards”

Appliance Standards Awareness Project November 2021

In our 2017 report, “States Go First,”¹ we estimated state-by-state potential savings from 21 recommended state-level appliance standards. Since 2017, we have updated that analysis every year for our state appliance standards recommendations. Here we describe our most recent analysis for our state appliance standards recommendations for 2022.

For 2022, we are recommending that states adopt standards for the following 19 products:

- Air purifiers
- Commercial dishwashers
- Commercial fryers
- Commercial hot-food holding cabinets²
- Commercial ovens
- Commercial steam cookers
- Computers and computer monitors³
- Electric vehicle supply equipment
- Faucets
- Gas fireplaces
- High CRI, impact-resistant, and cold temperature fluorescent lamps
- Portable electric spas
- Residential ventilating fans
- Showerheads
- Spray sprinkler bodies
- State-regulated general service lamps
- Toilets (water closets)
- Urinals
- Water coolers

As described below, our new analysis reflects the following:

- Updated information on annual shipments and current market penetration; and
- Updated assumptions for energy prices and emissions factors.

We assumed a compliance date of 2024 for all the standards, and we estimated savings from sales through 2040. Our updated analysis uses 2020\$ for costs and utility bill savings.

¹ <https://appliance-standards.org/sites/default/files/States%20Go%20First.pdf>.

² While we continue to recommend the adoption of state-level standards for commercial hot-food holding cabinets, we have not estimated savings for these products due to insufficient data on the current market.

³ While we continue to recommend the adoption of state-level standards for computers and computer monitors, we have not estimated savings for these products due to insufficient data on the current market.

Product scope and standard levels

Our recommended standard levels for all products are the same as those in our analysis for 2021.

Annual shipments and current market penetration

For our analysis for 2022 we used up-to-date estimates of annual shipments for the assumed compliance date of 2024. For products with an ENERGY STAR specification, we updated shipment estimates using the ENERGY STAR Unit Shipment Report for 2020.⁴ The other sources we used for estimates of annual shipments are the same as those we used for our analysis for 2021.

We also incorporated the most recent data on the estimated market share of products already meeting our recommended standard levels. For products with an ENERGY STAR specification, we used data on market penetration from the ENERGY STAR Unit Shipment Report for 2020. For air purifiers, EPA reported that 2020 market penetration data was not available due to dramatic changes in the market which were inconsistent with previous market trends.⁵ For our analysis for 2022, we estimated market penetration using the share of products listed as meeting the ENERGY STAR specification in the Association of Home Appliance Manufacturers (AHAM) Directory of Certified Room Air Cleaners.⁶ For the plumbing products (faucets, showerheads, toilets, and urinals), we used data from the DOE Compliance Certification Database.⁷ For gas fireplaces, we used compliance rate data from the CEC analysis for the proposed standards in California.⁸ For the remaining products (portable electric spas and spray sprinkler bodies), the market penetration estimates in our analysis for 2021 represent the most recent available data.

Incremental costs

For commercial kitchen equipment, we used data on incremental costs from ENERGY STAR's updated savings calculator for Commercial Food Service Products.⁹ For all the other products, the sources for incremental costs are the same as those used in our analysis for 2021.

Per-unit savings

For commercial kitchen equipment, we used data on per-unit annual energy and water savings from ENERGY STAR's updated savings calculator for Commercial Food Service Products.¹⁰ For all the other products, the methods used to estimate per-unit annual energy and/or water savings are the same as those used in our analysis for 2021.

⁴ <https://www.energystar.gov/sites/default/files/asset/document/2020%20USD%20Summary%20Report.pdf>.

⁵ Ibid.

⁶ <https://www.ahamdir.com/room-air-cleaners/>.

⁷ https://www.regulations.doe.gov/certification-data/#q=Product_Group_s%3A*.

⁸ <https://efiling.energy.ca.gov/GetDocument.aspx?tn=228253&DocumentContentId=59439>.

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https://www.energystar.gov/sites/default/files/asset/document/commercial_kitchen_equipment_calculator.xlsx.

¹⁰ Ibid.

Energy prices and emissions factors

We updated our assumptions for electricity and natural gas prices based on state-by-state prices for 2019 and EIA's energy price projections in AEO 2021.¹¹

For emissions factors for NO_x, SO₂, and CO₂, we used EIA's projections for each of the updated NERC regions from AEO 2021.

¹¹ <https://www.eia.gov/outlooks/aeo/>.