

June 30, 2021

Robert Singlehurst
Equipment Division
Office of Energy Efficiency
Natural Resources Canada
930 Carling Avenue, Building 3, 1st Floor
Ottawa, Ontario
K1A 0Y3

RE: A17 to the Energy Efficiency Regulations - Appliances

Dear Mr. Singlehurst:

This letter constitutes the comments of Efficiency Canada and the Appliance Standards Awareness Project (ASAP) on the Natural Resources Canada (NRCan) May 2021 technical bulletin on amending the standards for appliances.

Efficiency Canada is the national voice for an energy efficient economy. We are a research and advocacy organization housed at Carleton University's Sustainable Energy Research Centre.

ASAP organizes and leads a broad-based U.S. coalition effort that works to advance, win, and defend new appliance, equipment, and lighting standards that deliver large energy and water savings, monetary savings, and environmental benefits. ASAP is led by a steering committee that includes representatives from energy and water efficiency organizations, the environmental community, consumer groups, utilities, and state government.

We support the proposed approach of adopting minimum energy performance standards (MEPS) that are equivalent to the ENERGY STAR efficiency criteria. In response to the December 13, 2019 Mandate Letter,¹ NRCan is considering amending the MEPS for clothes dryers, clothes washers, dishwashers, and refrigerators and freezers to the ENERGY STAR efficiency criteria that was in effect as of December 2019. NRCan's preliminary analysis shows that these updated standards would achieve net benefits of \$5.9 billion CAD through 2050 and reduce cumulative CO₂ emissions by 19 million metric tons.² Furthermore, the estimate of net benefits is likely to be conservative for at least three reasons: (1) NRCan's analysis is based on current product prices in the market, which may overstate the actual incremental cost of models that meet the ENERGY STAR performance levels since ENERGY STAR models are currently a premium product; (2) as NRCan noted during the June 16 webinars, while the analysis assumes that costs remain constant over time, in practice costs tend to decrease over time; and (3) NRCan's analysis does not monetize water savings, which can be significant for clothes washers and dishwashers.

The updated MEPS under consideration would harmonize with the higher tier of efficiency levels in the North American market. There are effectively two efficiency tiers of appliances in the North

¹ <https://pm.gc.ca/en/mandate-letters/2019/12/13/minister-natural-resources-mandate-letter>.

² May 20, 2021 pre-consultation webinar.

American market—those that just meet the MEPS and those that meet the ENERGY STAR performance levels. The ENERGY STAR levels represent established efficiency levels with high market penetration; for each of the four product categories (clothes dryers, clothes washers, dishwashers, and refrigerators and freezers), at least 50% of current shipments in Canada already meet the ENERGY STAR efficiency levels.³ The proposed amendments to the MEPS will thus harmonize with the higher tier of efficiency levels in the North American market.

It is appropriate for Canada to take the lead on MEPS for appliances as the U.S. has fallen behind. The Canadian MEPS are generally harmonized with U.S. standards. However, the U.S. is significantly behind schedule in updating efficiency standards for a wide range of products including home appliances. The U.S. Department of Energy (DOE) was required to publish proposed rules⁴ in 2017 to update the standards for clothes dryers and refrigerators and freezers and in 2018 and 2019 for clothes washers and dishwashers, respectively,⁵ but DOE is still at the preliminary stages for all these rulemakings and has yet to publish any proposed rules. Furthermore, for home appliances, the U.S. appliance standards law requires a 3-year lead time between publication of a final rule amending energy conservation standards and the compliance date.⁶ Therefore, it is appropriate for Canada to establish amended MEPS that can achieve significant greenhouse gas reductions and savings for Canadian consumers in the meantime as the U.S. works to catch up on missed deadlines for updating standards. Once the U.S. completes updates to the standards for home appliances, Canada can harmonize with any U.S. standards (and accompanying compliance dates) that are more stringent than the Canadian standards.

We support NRCan’s proposal to add gas clothes dryers as a regulated product. While the U.S. standards for clothes dryers apply to both electric and gas models, the current Canadian MEPS apply only to electric dryers. The addition of gas clothes dryers would harmonize the scope of the Canadian standards with the U.S. standards and achieve additional savings.

We urge NRCan to require that clothes dryers be tested using Appendix D2 (or equivalent provisions in CSA C361-16). In the May 2021 Technical Bulletin, NRCan proposes to allow clothes dryers to be tested to any of three testing standards for determining compliance with the MEPS: CSA C361-16 for electric clothes dryers, and Appendix D1 or Appendix D2⁷—which are the U.S. DOE test procedures for clothes dryers—for electric or gas dryers.⁸ We understand that CSA C361-16 includes provisions that are equivalent to those in Appendix D1 and Appendix D2.

The current efficiency standards for clothes dryers in the U.S. were developed based on performance according to Appendix D1, although manufacturers can certify clothes dryer models as meeting the DOE standards using either Appendix D1 or Appendix D2. The significant difference between Appendix D1 and Appendix D2 is that Appendix D1 fails to capture the impact of automatic termination controls. For dryers with automatic termination controls, Appendix D1 requires the test technician to stop the drying

³ Ibid.

⁴ By law, DOE must review each national appliance standard every six years and publish either a proposed rule to update the standard or a determination that no change is warranted (i.e., a “negative determination”). If DOE publishes a proposed update, a final rule is due two years later.

⁵ https://appliance-standards.org/sites/default/files/Missed_deadlines_as_of_March_2021.pdf.

⁶ 42 U.S.C. 6295(m)(4)(A)(i).

⁷ Appendix D1 or Appendix D2 to Subpart B, Part 430 of Title 10 to the United States Code of Federal Regulations.

⁸ <https://www.nrcan.gc.ca/energy-efficiency/energy-efficiency-regulations/planning-and-reporting/household-clothes-dryers/23608>.

cycle when the remaining moisture content (RMC) of the test load is between 2 and 5 percent.⁹ In contrast, Appendix D2 requires that the dryer be operated until it automatically shuts off.¹⁰ DOE's testing has found that many dryers have poor automatic termination controls that result in significant overdrying of the clothes and corresponding wasted energy. Yet this wasted energy use is not captured in Appendix D1. For example, while the current minimum Combined Energy Factor (CEF) standard for vented standard electric clothes dryers is 3.73 lb/kWh (1.69 kg/kWh), the least-efficient model in DOE's test sample based on testing according to Appendix D2 had a CEF of just 2.20 lb/kWh.¹¹

The U.S. is already moving towards requiring testing according to Appendix D2. While manufacturers can certify clothes dryer models as meeting the DOE standards using either Appendix D1 or Appendix D2, EPA requires that Appendix D2 be used to determine ENERGY STAR qualification.¹² Furthermore, DOE has indicated in their recently published preliminary analysis for clothes dryers that the next U.S. standards will be based on the Appendix D2 test procedure (i.e., that manufacturers will be required to test to Appendix D2 for determining compliance with future standards).¹³

The May 2021 Technical Bulletin states that the new standards under consideration "would reduce the energy use of household clothes dryers sold in Canada by approximately 25%,"¹⁴ which is consistent with our understanding of typical savings from dryers meeting the ENERGY STAR specification. However, importantly, most of these savings come not from the higher CEF levels compared to the minimum standards, but rather the required use of Appendix D2. For example, for vented standard electric dryers, the minimum standard is 1.69 kg/kWh and the new MEPS under consideration is 1.78 kg/kWh, which, based on testing to the same test procedure, represents energy savings of about 5 percent.¹⁵ But while ENERGY STAR certified clothes dryers are tested to Appendix D2, typical baseline clothes dryers just meeting the minimum standards are tested to Appendix D1 and perform significantly less efficiently when tested to Appendix D2. Therefore, we urge NRCAN to specify that clothes dryers must be tested using Appendix D2 (or equivalent provisions in CSA C361-16) in order to ensure that the expected savings from the ENERGY STAR performance levels are realized.

Thank you for considering these comments.

Sincerely,

⁹ https://www.ecfr.gov/cgi-bin/text-idx?SID=ec3a23bd0349285002d21cad06fca081&mc=true&node=ap10.3.430_127.d1&rgn=div9. Section 3.3.

¹⁰ https://www.ecfr.gov/cgi-bin/text-idx?SID=ec3a23bd0349285002d21cad06fca081&mc=true&node=ap10.3.430_127.d2&rgn=div9. Section 3.3.2.

¹¹ <https://www.regulations.gov/document/EERE-2014-BT-STD-0058-0016>. p. 5-20.

¹²

https://www.energystar.gov/sites/default/files/ENERGY%20STAR%20Final%20Version%201.1%20Clothes%20Dryers%20Specification%20-%20Program%20Commitment%20Criteria%20and%20Eligibility%20Criteria_0.pdf. p. 7.

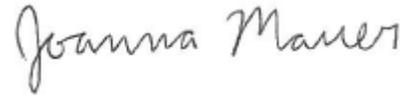
¹³ <https://www.regulations.gov/document/EERE-2014-BT-STD-0058-0016>. p. 3-5.

¹⁴ <https://www.nrcan.gc.ca/energy-efficiency/energy-efficiency-regulations/planning-and-reporting/household-clothes-dryers/23608>.

¹⁵ (1.78 – 1.69) / 1.78.



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