

June 22, 2023

Ann Bailey, Director
ENERGY STAR Labeling Branch
U.S. Environmental Protection Agency (EPA)
1201 Constitution Ave NW
Washington, DC 20004
Submitted via email to HVAC@energystar.gov

Re: Proposed Sunset of ENERGY STAR Label for Residential Furnaces and Central Air Conditioners

Dear Director Bailey,

Thank you for the opportunity to comment on the proposed sunset of the ENERGY STAR label for residential furnaces and central air conditioners. The undersigned organizations — experts and advocates in building efficiency, electrification, and health — wholeheartedly support the ENERGY STAR proposal and applaud EPA for continuing to identify the most efficient appliances available to consumers. We urge EPA to finalize the proposal expeditiously.

ENERGY STAR has long guided consumers, businesses, and industry toward products that reduce energy consumption, improve energy security, and reduce pollution. It is also a voluntary program: even after residential furnaces and central air conditioners no longer qualify for the ENERGY STAR label, consumers will still be able to purchase those products and any others available on the market. However, this proposal will provide consumers who *choose* to purchase best-in-class, maximally efficient appliances with the information they need to do so.

In its proposal to sunset the ENERGY STAR label for residential furnaces and central air conditioners, EPA also calls out the market-transforming incentives included for heat pumps and other electric technologies in the Inflation Reduction Act. These incentives — including a \$2,000 (or greater, for ground-source heat pumps) tax credit and an income-qualified \$8,000 rebate for heat pump installations — will make efficient, electric appliances more accessible than ever before. As such, ENERGY STAR is right to evolve its portfolio of certified products and remain at the vanguard of appliance efficiency.

By reserving the ENERGY STAR label for heat pumps and other technologies that support the beneficial electrification of residential space conditioning, EPA can guide consumers and businesses to products that:

- Increase efficiency: The most efficient air-source heat pump currently on the market is over four times more efficient than the most efficient condensing gas furnace, and ground-source heat pumps can provide even greater efficiency gains.¹
- Lower utility bills: Several studies have shown that full electrification (e.g. swapping a residential furnace for a heat pump) can result in net present savings and, in many cases, reduced operating costs.² Replacing all central air conditioners with heat pumps, meanwhile, can save American consumers over \$13 billion in heating costs.³
- Reduce air pollution and improve health: Electric heat pumps and other electric appliances emit no direct air pollution. Residential combustion appliances, on the other hand, are linked to poor indoor and outdoor air quality, which can worsen asthma symptoms and reduce lung function in children, particularly in the absence of ventilation.⁴ Gas appliances emitted over 320,000 tons of nitrogen oxide pollution in 2017 — more than twice as much as gas power plants, despite consuming less gas overall.⁵ This pollution contributes to the formation of ozone and particle pollution and led to an estimated 4,639 premature deaths in 2017.⁶ More efficient gas appliances may incrementally reduce this pollution, but they cannot eliminate the inherent health impacts of burning fossil fuels in our homes and buildings.
- Reduce greenhouse gas emissions: Replacing or displacing residential furnaces with electric heat pumps significantly reduces lifetime climate emissions in every U.S. region, even after accounting for upstream emissions from electricity generation.⁷ Electric appliances are also appreciating climate assets — their emissions impact decreases as the grid decarbonizes —

¹ As of 2021, the most efficient furnace achieved an Annual Fuel Utilization Efficiency (AFUE) of 98.7%. The most efficient air source heat pump achieved a Heating Seasonal Performance Factor of 14.2, which can be converted to a Coefficient of Performance of 4.16. This is 4.2 times more efficient than a 98.7% AFUE furnace.

² RMI, *Economics of Electrifying Buildings* (2022), <https://rmi.org/economics-of-electrifying-buildings/>; Neil Veilleux et al., *Residential ccASHP Building Electrification Study*, CADMUS (June 3, 2022), https://cadmusgroup.com/wp-content/uploads/2022/06/Residential-ccASHP-Building-Electrification-Study_Cadmus_Final_060322_Public.pdf.

³ Matt Malinowski et al., *Combating High Fuel Prices with Hybrid Heating*, CLASP & RAP (July 2022), <https://www.clasp.ngo/research/all/ac-to-heat-pumps/>.

⁴ Sathya Swarup Aithal et al., *The Effects of Household Air Pollution (HAP) on Lung Function in Children: A Systematic Review*. *Int J Environ Res Public Health*, 18(22) (Nov. 15, 2021), <https://doi.org/10.3390/ijerph182211973>.

⁵ RMI & Sierra Club, *Fact Sheet: Why EPA Must Address Appliance Pollution* 1-2 (June 24, 2021), https://rmi.org/wp-content/uploads/2021/04/rmi_factsheet_appliance_pollution.pdf.

⁶ Based on RMI analysis using median estimates from the results of three reduced complexity models used in: Jonathan J. Buonocore (Harvard T.H. Chan School of Public Health) et al., *A Decade of the U.S. Energy Mix Transitioning Away from Coal: Historical Reconstruction of the Reductions in the Public Health Burden of Energy*, 2021 *Environ. Res. Lett.* 16 054030 (May 5, 2021), <https://doi.org/10.1088/1748-9326/abe74c>.

⁷ Theresa Pistochini, *Greenhouse Gas Emission Forecasts for Electrification of Space Heating in Residential Homes in the United States*, UC Davis Western Cooling Efficiency Center (Apr. 20, 2021), <https://ucdavis.app.box.com/s/dqja4itdlh1wwicyjh6wag5yswwf97tc>; Rachel Golden & Cara Bottorff, *New Analysis: Heat Pumps Slow Climate Change in Every Corner of the Country*, Sierra Club (Apr. 23, 2020), <https://www.sierraclub.org/articles/2020/04/new-analysis-heat-pumps-slow-climate-change-every-corner-country>.

while fossil-fuel appliances lock in greenhouse gas emissions for two or more decades.⁸ Because the Biden Administration has committed to achieving a carbon-free electricity sector by 2035, electric appliances installed today will be completely pollution-free by the end of their useful lives.⁹

- Deliver better performance: Heat pumps can perform effectively even in cold climates (-13°F and below),¹⁰ and they offer benefits over traditional gas furnaces and central air conditioners including two-in-one heating and cooling, precise temperature control and stability, and lower maintenance costs.

Given the benefits listed above, and in accordance with ENERGY STAR's own mission and mandate, we support ENERGY STAR's proposal to sunset its label for residential furnaces and central air conditioners. The proposal is consistent with countless requests and support from a variety of stakeholders, including leading governors and states in the U.S. Climate Alliance, who, this year, called for the federal government to "Accelerate the adoption of energy-efficiency standards for appliances and equipment to reduce emissions and improve public health, particularly in disadvantaged communities."¹¹

For similar reasons, we encourage EPA to expeditiously propose and finalize sunsets for gas and oil boilers, dryers, and commercial package boilers. We also appreciate ENERGY STAR's intention — as expressed in its Version 5.0 Residential Water Heater Specification — to sunset criteria for gas water heaters, and we encourage EPA to implement this sunset in its next published specification.

Thank you for considering these comments. We look forward to continuing to work with ENERGY STAR to realize the efficient, electrified future that our health and climate goals demand.

Sincerely,

⁸ For this statement to be untrue, gas appliances would have to be converted to run on zero-emitting fuels like green hydrogen. Claims that zero-emitting pipeline fuels will ever be widely available for use in buildings are highly speculative, and many analyses indicate this approach will be prohibitively expensive. See, e.g., California Energy Commission, *The Challenge of Retail Gas in California's Low-Carbon Future* (Apr. 2020) (finding that "building electrification is likely to be a lower-cost, lower-risk long-term strategy compared to renewable natural gas (RNG, defined as biomethane, hydrogen and synthetic natural gas, methane produced by combining hydrogen and carbon)"), <https://www.energy.ca.gov/sites/default/files/2021-06/CEC-500-2019-055-F.pdf>.

⁹ Exec. Order 14,008, *Tackling the Climate Crisis at Home and Abroad* § 205(b)(i) (Jan. 27, 2021), <https://www.federalregister.gov/documents/2021/02/01/2021-02177/tackling-the-climate-crisis-at-home-and-abroad>.

¹⁰ Christie Amero et al., *Winter is Coming: Is the Northeast Ready for Residential Electrification?* CADMUS (2022), https://cadmusgroup.com/wp-content/uploads/2022/09/1-0613_0868_000166-AMERO.pdf.

¹¹ United States Climate Alliance, *Federal Action Recommendations on Climate* (Feb. 9, 2023), https://static1.squarespace.com/static/5a4cfbfe18b27d4da21c9361/t/63e40c659379eb37e91542e7/1675889766130/U.S.+Climate+Alliance+Letter_President+Biden_Federal+Action+Recommendations_2.9.23.pdf.

350 Bay Area Action
350 Seattle
Acadia Center
Alliance of Nurses for Healthy Environments
American Lung Association
Cabanne District CDC
Citizens Utility Board of Illinois
CLASP
Climate + Energy Project
Climate Psychiatry Alliance
Concerned Health Professionals of New York
Dandelion Energy
Dayton Energy Collaborative
Design AVEnues LLC
Earthjustice
Eco-Environmental Solutions
Ecotope Inc.
Electrify DC
Elevate
Environment America
Evergreen Action
Forward Dining Solutions LLC
Fresh Energy
Friends Meeting of Washington Committee on Peace & Social Concerns
Green & Healthy Homes Initiative
GreenHome Institute
Healthy Climate Wisconsin
Hoffer
Indiana Environmental Clean Energy J40
Institute for Market Transformation
Interfaith Power & Light (DC, MD, Nova)
Medical Society Consortium on Climate and Health
Michigan Clinicians for Climate Action
Middletown for Clean Energy
Midwest Building Decarbonization Coalition
Minnesota Divestment Coalition
National Center for Healthy Housing
Native Sun Community Power Development
Nevada Conservation League
New York Clinicians for Climate Action

New York Geothermal Energy Organization (NY-GEO)
New Yorkers for Clean Power
NJ 50x30 Building Electrification
NJ Sierra Club, Central Group
QuitCarbon
RE Sources
Rewiring America
RMI
San Francisco Bay Physicians for Social Responsibility
Sealed
Shift Zero
Sierra Club
Stand.earth
Sustainable Community Farms
U.S. PIRG
Unitarian Fellowship of Sussex County NJ
Vector Green Power LLC
WE ACT for Environmental Justice
Western Resource Advocates
Wisconsin NAACP
Wisdom's Well LLC
ZeroCarbonMA