Episode 56SH March 27, 2024. Comment to Public Service Commission of Wisconsin.

Re: Inflation Reduction Act – Home Efficiency Rebates (HOMES) 9716-FG-2023 Inflation Reduction Act - Home Electrification Appliance Rebates (HEAR) 9717-FG-2023

Hello Public Service Commission (PSC) of Wisconsin, I have gone through the document package the PSC sent me, searching on the words “wood” and “Heat Pumps”. Table 3 shows that 3% of housing units, or 78,901 housing units in Wisconsin use wood for primary heating. Table 9 shows the Low-Income Home Energy Assistance Program (LIHEAP) is the first Recognized Program for Categorical Eligibility. I am the President of Residents Against Wood Smoke Emission Particulates, a 501c3 nonprofit organization (RAWSEPresidents), and I own a home in Madison, Wisconsin that uses natural gas heating. I am naturally interested in your Heat Pump rebate program. RAWSEPresidents represents the near neighbors of indoor residential wood burners, whose wood smoke enters the near neighbor’s yards and homes and sickens them. If a near neighbor centric approach is taken to solving the problem of air pollution from indoor residential wood burning, the air pollution problem can be solved. There should be laws (local ordinances, state laws or federal laws) using a complaint-based system, that allow the evidence of PM2.5 emissions from indoor residential wood burning above safe limits, using data from near neighbor’s resident-owned PurpleAir PM2.5 monitors, to be used to shut down indoor residential wood burning appliances, one by one if necessary. RAWSEPresidents view indoor residential wood burning as a problem causing unnecessary harm to a community, and society in general, just as drunk driving does. There are breathalyzer tests for suspected drunk drivers that enable the drunk drivers to be taken off the road. There are PurpleAir PM2.5 monitors that could do the same for indoor residential wood burners and their toxic emissions. If the focus on this air pollution problem continues to be only appeals to wood burners to stop, the problem may very well never be solved. Many wood burners are not actually indigent and many wood burners, like my indoor residential wood burning neighbor, are hooked up to natural gas and in my neighbor’s case, spend more than I do on natural gas heating, $135 per year for my neighbor on average, and $105 per average for me. I have considered buying solar panels, but the Canadian wildfire incursion into the United States in June 2023 showed that in a statewide solar network in New York state, efficiency of solar panels dipped by 50%. The instructions by Health Authorities during the United States June 2023 incident were for people to stay inside sealed homes and operate multiple air purifiers. That is how near neighbors of indoor residential wood burners live day to day, dealing with preventable air pollution, if only wood were not chosen to be burned for home heating in the first place. So this swap of wood burning appliances for Heat Pumps that work down to 40 degrees below zero should not be done only for the benefit of the indoor wood burners themselves, but for the near neighbors of these indoor residential wood burners. Besides the health effects of PM2.5 pollution from indoor residential wood burning, the PM2.5 and CO2 percentages from indoor residential wood burning are 2.8 times the emissions of coal burning. The PM2.5 emissions from wood burning are 450 times those of natural gas burning. Those are conservative estimates, using statistics of emissions from the most clean wood burning appliances, EcoStoves in the United Kingdom and the cleanest burning (called high-efficiency) wood stoves in the United States. There is also a lawsuit led by Attorney Generals from 10 United States against the EPA, asking for action to improve the Wood Stove Certification program, which the Office of the Inspector General (O IG), watchdog of the EPA described in a February 2023 report as a failed program, allowing most if not all indoor residential wood stoves certified by the EPA to be highly polluting, not even meeting the lax pollution standards of the EPA. The EPA preliminarily replied in 2023 that no improvements could be made to the wood stove certification program until 2027 at the earliest. Based on these scientific facts RAWSEPresidents takes issue with any idea that wood stoves should be exchanged for other wood stoves, since all wood stoves are inherently highly polluting, hastening climate change as well as threatening human health. I am attaching excerpts from the PSC documentation at pages 13, 23, and 25. At page 13 you, the PSC, state, “Previous research in Wisconsin has identified certain types of households that may experience the greatest bill reduction as a result of electrification of space heating” and lists among delivered fuels, “wood”. On page 23 you, the PSC state “Sub-alternative A: Existing single family and multifamily households whose primary heating source is delivered fuels (i.e., propane, fuel oil, wood)”.

As a commenter for RAWSEPresidents I support this emphasis on outreach and appeal to indoor residential wood burners to turn to Heat Pumps, a clean energy appliance. However, on page 25 you, the PSC state "Proposal for offering high-efficiency wood stoves as a back-up heat source for low-income families". What is the outcome, the health outcome, you are working towards in offering Heat Pump rebates, the second most popular offering to Wisconsin residents? Are you considering the health effects of wood burning on not just the indoor residential wood burners themselves, but on the near neighbors, as well as populations in general affected when PM2.5 levels rise through unnecessary use of wood burning in a modern United States were clean alternatives are getting lower in price year by year? Also consider that Enviva, a wood pellet supplier based in the United States went bankrupt in the last few weeks, despite the huge subsidies from the United States government that had kept it afloat since Enviva's inception. Wood burning is proven by numerous medical studies to cause many types of cancer and to cause asthma. Heat Pumps are clean energy, and that is why they are 2nd in your surveys in popularity. This is a comment on the Heat Pump rebate for the State of Wisconsin, which I believe will begin by September 2024. I am a homeowner in Madison, Wisconsin living 60 feet away from an indoor residential wood burner whose wood smoke enters my yard and sickens me. The wood smoke also infiltrates my sealed home inevitably when doors and windows have to be opened and I use multiple air purifiers in order to live with breathable air. I put two PurpleAir PM2.5 monitors under the eaves of my home in August 2021 and have downloaded data for the years 2021, 2022 and 2023 which shows annual PM2.5 averages for those years above Environmental Protection Agency National Ambient Air Quality Standards (EPA NAAQS) for 2021 (41 micrograms per cubic meter annual average), 2022 (35 micrograms per cubic meter annual average) and 2023 (36 micrograms per cubic meter annual average). The EPA NAAQS "safe limits" for PM2.5 in 2024 are 9 micrograms per cubic meter annually and 35 micrograms per cubic meter in a 24-hour period. Recordings from my Ring camera pointed at the wood burning stack of my indoor residential wood burning neighbor shows (not violating my neighbor's privacy because no human activity is recorded) that visible smoke emission times match the 10-minute periods when PM2.5 levels in my yard are the highest. I am the President of Residents Against Wood Smoke Emission Particulates, a 501c3 nonprofit organization that has a website https://rawsepresidents.com with PDFs and PowerPoints about wood burning pollution and its health effects, and news about movements against indoor residential wood burning around the world, and Excel files of PurpleAir PM2.5 data downloads and analysis. The powerpoint information is also available in the form of over 860 Youtube videos and Spotify podcasts. RAWSEPresidents is currently writing a grant with the help of Expert Match at the Department of Energy to 1)hand out a PurpleAir PM2.5 monitor to any near neighbor of an indoor residential wood burner whose wood smoke enters the near neighbor's yard and sickens the near neighbor. The second aim of the grant is to 2)provide a subsidy for a Heat Pump that works down to 40 degrees below zero (the Fahrenheit and Centrigrade temperature scales briefly converge at 40 degrees below zero), which are intended to supplement the Wisconsin Heat Pump rebates of up to $8,000 on a sliding scale based on income. Information on the Cold Weather Heat Pump challenge is also on the website and in videos and podcasts. These two grant project aims are to serve as demonstration projects rather than helping all near neighbors and also help indigent wood stove owners who use wood burning for heat solely because of indigence. 3)A third, idealistic, but hopefully acceptable aim of the grant project is to hand out supplemental Heat Pump subsidies to near neighbors who report that the wood smoke of an indoor residential wood burner enters their yards and sickens them, in order to create clean communities. Since this RAWSEPresidents grant proposal is only a pilot or demonstration project, and may not be funded, it would be more direct help for near neighbors of indoor residential wood burners, for the government to hand out PurpleAir monitors and subsidize Heat Pumps even for near neighbors of Indoor residential wood burners who are not indigent, but are of moderate income. Homeowners who feel that they own property of such value that they are not willing to move to escape even unhealthy air pollution probably are not indigent. Many are senior citizens who have already paid off their mortgages and need to have the air quality in their neighborhoods improved in order to avoid predictable statistics of developing cancers or asthma from the conditions they continue to live in.

Table 3 shows the number of Wisconsin households by primary heating fuel as reported by the U.S. Environmental Protection Agency (U.S. EPA).[21]

Table 3. Wisconsin Households Primary Heating Fuel

Primary Heating Fuel Use	Housing Units	% of Housing Units
Natural Gas	1,552,370	65%
Electricity	387,271	16%
Propane	276,989	12%
Wood	78,901	3%
Fuel Oil, Kerosene	44,254	2%
Other	21,727	1%
No Fuel	15,080	1%
Solar	839	0.04%
Coal and Coke	504	0.02%
Total	**2,377,935**	**100%**

Table 9: Recognized Programs for Categorical Eligibility

Recognized Program	Eligible for Higher Level of Home Efficiency Rebates	Accessible to IRA HER Programs via DEHCR
Low Income Home Energy Assistance Program (LIHEAP)	X	X
Medicaid	X	X
Supplemental Nutrition Assistance Program (SNAP)	X	X
Head Start	X	
Lifeline Support for Affordable Communications (Lifeline)	X	
Food Distribution Program on Indian Reservations (FDPIR)	X	
National School Lunch Program – Free (NSLP)	X	
Housing Improvement Program (HIP)	X	
Housing Opportunities for Persons with AIDS	X	
Supplemental Security Income (SSI)	X	X
Weatherization Assistance Program (WAP)	X	X
Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)	X	
Verified government or non-profit program serving Asset Limited Income Constrained Employed (ALICE) persons or households	X	
Public Housing (housing owned and operated by Public Housing Authorities)	X	

	A	B	C	D	E	F	G	H	I	J	K
1	DateTime	Chetek 2 A	Chetek 2 B	Chetek 3 A	Chetek 3 B	Elinor and	Elinor and	LaFollette	LaFollette High School B		
2	1/1/2020 0:00	36	41	29	29						
3	1/1/2021 0:00	36	62	32	34	41	41				
4	1/1/2022 0:00	198	38	23	25	35	34	21	22		
5	1/1/2023 0:00	162	38	31	33	36	34	17	23		
6											

[21] US EPA Home Heating Fuel Use by Census Tract. https://epa.maps.arcgis.com/apps/webappviewer/index.html?id=044e6d58b4f045bf9059cba0a76d059b.

In addition to a state's ability to establish the types of upgrades eligible for HEAR and their corresponding rebate amounts, the U.S. DOE's guidance affords states the flexibility to narrow the scope of the program to particular household types.[16] Previous research in Wisconsin has identified certain types of households that may experience the greatest bill reduction impacts as a result of electrification of space heating, including households whose primary heating source is delivered fuels (i.e., propane, fuel oil, and wood) and households whose primary heating

[16] *Ibid*, FAQ #65.

Alternative One would affirm all participants are eligible, and may be appropriate if the Commission does not wish to narrow the scope of program eligibility for heat pump rebates and ensure rebates are available as broadly as possible. Alternative Two may be appropriate should the Commission wish to consider narrowing the scope for HEAR program heat pump rebates to those households in the state that will experience the greatest bill reduction impacts as a result of electrification of space heating: households whose primary heating source is delivered fuels (i.e., propane, fuel oil, and wood) and households whose primary heating source is electric resistance heat. The Commission may select one or both types of households from the sub-alternatives under Alternative Two based on its priorities for the program. Sub-alternatives are also provided to select households heating with natural gas and single family and multifamily new construction as eligible for heat pump rebates, to reflect the other priorities identified in Slipstream's research. Alternative Three may be appropriate if the Commission wishes to narrow the scope of eligibility for HEAR heat pump rebates based on different priority considerations beyond the offered sub-

alternatives. Alternative Four may be appropriate if the Commission needs additional information necessary to inform its decision and wishes to direct staff to follow-up at a later date.

Alternative One: The State of Wisconsin shall make HEAR program rebates for heat pumps for space heating and cooling available to all eligible households.

Alternative Two: Only the following types of households shall be eligible for rebates for heat pumps for space heating and cooling under Wisconsin's HEAR program (one or multiple options may be selected):

Sub-Alternative A: Existing single family and multifamily households whose primary heating source is delivered fuels (i.e., propane, fuel oil, wood).

- Proposal for offering high-efficiency wood-burning stoves as a backup heat source for low-income families.
- **Requests for assistance for non-computer users in learning about rebate programs.**
- Concerns about the timing of replacing major systems like furnaces and AC units due to potential cost increases from waiting for rebates.
- Question about the meaning of "IRA" in the program's context.