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Please receive my testimony and data concerning current housing and demographics, the lack of trained workforce and regressive nature of the " Clean Heat Standard". This testimony was given to the House Committee on Energy and the Environment. Thank You.

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Testimony Relating S.5 to Current and Projected Housing and Weatherization, Available Workforce Data and Economically Disadvantaged Vermonters

My name is Perry Parker and I am a 6th and 7 generation Vermonter. My family was a manufacturer or retailer of building materials for 128 years, beginning in 1890. I was an educator for 31 years, teaching high school science. During summers I built and renovated, and upon completing my educational career, I have run a remodeling and renovation company for the last decade. While I am not entirely certain why I was asked to testify, I am motivated to testify on two issues; the current workforce available in the trades for new construction and weatherization of old construction, and the impacts this workforce, or the lack thereof, will have on the economically disadvantaged, who are disproportionately vulnerable under this bill. I have also been motivated emotionally by the appallingly callous remarks made by my State Senator during Senate Hearings about this segment of Vermonters concerning this bill.

While I have well developed opinions concerning the precision and accuracy of the data generated by the Cadmus Report and the Vermont Climate Council, I will specify my data to address some of the specific requirements demanded of this bill directed at the construction sector and how it will impact poorer Vermonters.

Current housing demographics show 647,064 Vt. residents with a median income of \$67647 (1). There are 331,106 total homes available, however only 262,767 are occupied households. Unoccupied households are seasonal/vacation/second homes, an overall percentage of 17 to 19% of the overall housing stock. This is currently the second highest in the nation. Over the last decade, the majority of new housing fall into this category(2). There are 186,310 owner occupied homes, or 74% of the overall housing stock, with the median age of construction of 1974(2). There are 80,462 rental buildings comprising 25% of the current housing stock with a median age of construction a decade older, 1964 (2). 60% of the occupied homes have been built before 1980, 25 % built before 1939 (2). While the data surrounding just how many economically disadvantaged Vermonters live in these homes is not clear, the data does show that these are the most affordable homes to rent or purchase, and thus it is safe to assume that this is where the majority reside. There are 20,691 mobile homes(2), the majority manufactured before 1974. It is doubtful that these homes can be weatherized to the point of passing an energy audit determining thermal efficiency standards for heat pump installation. The latest data shows alarming increases in the median price to buy an existing home in Vermont, with a current median price of \$310,000(3,4). The median price to construct a new home now has an astounding median price of \$555,264 (3,4). Our current workforce constructs +/- 2100 new homes a year, however this is offset by the projected loss of homes, 2639 homes by 2025, to bring a net of <800(2). Pre 2010, primary home construction increased by an average of roughly 1% annually. Current projections show that by 2025 this will fall over 80% to a fraction of that,

virtual stagnation in the new home building sector in Vermont(2). Vermont is the 8th most expensive state to live in.

The workforce data in the trades for all construction, new or older renovations, in 1989 show 18,069 employed in all the trades. Pre- pandemic show +/-15000 workers, and in 2021, there were 11,300(5). This is down 11% from 2019, and our current workforce has an average age of 45, with 30% of this force leaving or retiring in the next 3 years(5). There are currently +/-900 Vermont certified HVAC (heating, ventilating, air conditioning) mechanics and installers. There are 1040 licensed electricians(5). It is unknown how many apprentices are in this trade. Efficiency Vermont lists 138 Vermont based certified residential heat pump installation companies on their website along with a handful from New York and New Hampshire, with +/-50 energy auditors.

Considering housing statistics and compromised homes, there are 19,054 homes that have "serious quality issues"(2). These issues are defined as one or more of the following: lack of heat, lack of a complete kitchen, lack of a complete bathroom, a home having a value formless than \$75,000, older homes lacking insulation, or older mobile homes(2).

90,000 Vermont homeowners or renters(36%)are "burdened by their housing costs"(2). This is defined as the total cost of rent/ mortgage, insurance, taxes, and utilities being greater than 30% of their gross income. 39,000 Vermont homeowners or renters (15%) spend more than 50% of their gross total income on housing costs(2).

If we narrow the data parameters to just the segment of Vermonters who fall into the category of "serious quality issues" and make the assumption that most of the population who own or rent these are economically burdened, the current workforce involved utilizing the main available program to weatherize these structures is small. While historically there have been several short term weatherization efforts in our State, there is currently one that is addressing the needs of this segment of our population. The WAP program(Weatherization Assistance Program) has existed since 2010 and has averaged 176 homes weatherized per year, with 1056 homes weatherized from 2015 to 2023(7).The average cost of weatherization of homes that qualify for WAP funding in all housing segments is \$10,000 for a family of four(7). At the current rate of weatherization, with the current segment of our workforce involved, if you do the math, 19,000 " serious quality issue" homes will be weatherized in just over 100 years. The WAP process installs insulation, sealing and other efforts that tighten up a home by an average of 40% saving energy costs(7). However, the WAP program is not designed to bring a home up to the efficiency standards where a heat pump could become the sole or primary means of heating and cooling a house.

Let's expand the data pool to homes constructed before 1939, as mentioned roughly 25%of our housing stock. While there have been many houses professionally renovated to near modern standards, it is safe to assume that a significant portion of this stock does not meet those standards, and that they are among the more affordable for low medium and low

income housing, whether owned or rented. This author has chosen a very conservative 50% of that sector to base these calculation on. The program is open to all, but focused on middle and low income Vermonters is the WRAP program(Weatherization Reimbursement Assistance Program) which does the same as the WAP program, but must be paid back. This is a pilot program, 2 years old, in its infancy, but hopes to be able to weatherize 600 homes annually(8). Using this rate, and 50% of the homes built before 1939 , it will take 51 years to weatherize these homes. While some of these homes may be brought up to the energy audit standards that indicate that a heat pump could be installed economically, there is no data yet to support any meaningful measurable quantity. The largest and earliest use of this program started 2 years ago in the City of Burlington, Vermont, which did an initial identification of 103 rental properties that needed to be improved. To date, only a handful have completed the weatherization process and there is a current backlog of just energy audits for these properties which now stretch to November(9). This is our most populous urban area, containing the largest segment of the construction population available in the Sate, particularly the important sectors of electrical, HVAC, and thermal engineering.

To date most of these programs have concentrated on more urban rental pressures as most lower income residents rent. The Vermont Housing Conservation Board lists these Towns as receiving the most funds through these programs: Putney, Monkton, St. Albans, Williston, Bennington, Essex, and St. Johnsbury. St. Johnsbury is the only Town listed where the majority of our lower income population live; in the Counties of the Northeast Kingdom.

Some of the conclusions on the workforce that can be drawn from this data is stark.

The current workforce available across all the construction trades in Vermont barely can replace lost housing stock.

The workforce losses will not be replaced at the current rates of entry.

The current workforce employed in weatherization and remediation of older homes does so at a very low rate.

The projected workforce to construct the 20,000 to 30,000 new homes in the immediate future does not exist, and would require a more than quadrupling of the size of the current workforce, not including current weatherization.

Workforce will not increase due to immigration of construction personnel from beyond our borders.

The Vermont Talent Pipeline Management Survey has recognized the 7 most critical areas in the Vermont construction today. The needs listed are carpenter, project engineer, site supervisor, estimator, crew leader and project manager(10). It is unknown if project engineer encompasses any of the thermal sector.

The low income conclusions are also stark.

Low income households have the least flexibility to adjust to higher housing costs(2).

Most rent or own inefficient homes that will not be weatherized at a high rate.

Most of these homes will not be weatherized to the point of electrical efficiency for heat pump installation as the average weatherization investment is \$10,000, a drop in the bucket for home improvement.

Most will have to continue to rely on fossil, bio or solid fuels for their primary heating. Even with weatherization reducing the volume of these fuels, if this bill becomes law, the artificial raising of fossil fuel beyond normal market fluctuations ensures that the gain in weatherization is offset financially. They will pay the same or more by using less.

Because the weatherization rates are so low, lower income housing will continue to use fossil fuels for the foreseeable future, consuming a disproportionate portion of their income annually, making this bill extremely regressive.

When I was an educator, I learned to temper my decisions and actions carefully. I tried to adopt the overriding tenet of the Hippocratic oath; " Do no harm". My actions, either consciously or unconsciously did not always live up to this, but when I recognized my error, I tried to correct it. If you support this bill, the semantics you use to ease your conscience; transition, incentivize, etc., the chances that impactful economic outcomes will be imposed, may be harmful.

1. U.S. Census, current
2. VHFA Housing Needs Assessment 2020-2024
3. VHFA New Data Shows Unprecedented Jump in Median House Price. Feb. 16, 2023
4. Vermont Digger" Vermont a Perfect Storm": Statewide Data Shows Record Spike in Housing, Feb. 16, 2023
5. Vermont Department of Labor, Licensing
6. Efficiency Vermont
7. Office of State and Community Weatherization Programs, Project Map, Wap Program
8. Current WRAP website
9. "City of Burlington Dealing With Weatherization Backlog" ,WCAX, April 1. , 2023
10. Vermont Talent Pipeline Survey