

Date: April 24, 2023

To: Chairman Meyer and the Members of the House Committee on Ways & Means

CC: Rep. Shawn Thierry, Rep. Angie Chen Button, Rep. Tom Craddick, Rep. Barbara Gervin-Hawkins, Rep. Cole Hefner, Rep. Sergio Muñoz, Jr., Rep. Candy Noble, Rep. Richard Peña Raymond, Rep. Hugh Shine, Rep. Chris Turner
Via hand delivery and by email.

From: Adrian Shelley, Public Citizen, ashelley@citizen.org, 512-477-1155

Re: HB 4950 – property tax exemption for energy efficiency – Public Citizen testimony in support

Dear Chairman Meyer and Members of the Committee:

Public Citizen appreciates the opportunity to testify in support of HB 4950 by Representative Barbara Gervin-Hawkins, relating to an exemption from ad valorem taxation of the amount of the appraised value of real property that arises from the installation in the property of certain energy efficiency-related improvements.

This bill will promote investment in energy efficiency, the cheapest form of energy.

HB 4950 offers a property tax break for the value of energy efficient upgrades to real property. Many of the eligible upgrades are included in a 2021 analysis by the American Council for an Energy-Efficient Economy that contemplates an investment of \$4.9 billion over five years in Texas.¹ This investment would achieve:

- 11,400 MW of winter peak load reduction,
- 7,650 MW of summer peak load reduction, and
- 9 million households worth of energy efficiency and demand response upgrades.

ACEEE estimates the cost of these residential energy efficiency programs to be just 5.6 cents/kWh. This means that energy efficiency investments are the cheapest form of energy available to Texas.

Eligible investments will lower energy bills and make homes more comfortable.

Each of the energy efficient upgrades eligible for a tax break in HB 4950 are discussed below. For the ones covered in the ACEEE report, the cost and opportunity achievable by year five of the five-year investment identified in the report are included. A summary table of this information from the report is included at the end of this testimony.

- **High-efficiency heating, ventilation, and air conditioning systems.** Modern HVAC systems can reduce energy use by 50% and save a homeowner up to 30% a

¹ “Energy Efficiency and Demand Response: Tools to Address Texas’s Reliability Challenges” American Council for an Energy-Efficient Economy (Oct. 2021), available at https://www.aceee.org/sites/default/files/pdfs/energy_efficiency_and_demand_response_for_texas_10-13-21_final_0.pdf.

year on their energy bill.² HVAC units more than ten years old should be considered for replacement.

- **Demand response in central air conditioning.** The American Council for an Energy-Efficient Economy (ACEEE) determined that Texas could save up to 3,010 MW of electricity during summer peaks by enrolling 2,877,255 homes in Texas in a central A/C demand response program at a cost of \$587 million.³ This is the largest single opportunity to reduce summer peak load through energy efficiency. These programs already exist in Austin and San Antonio. In ACEEE’s model, one third of participants would be cycled off at once. Participants would be paid a \$34 incentive each year, in addition to the energy savings they receive from less A/C use.
- **High-efficiency heat pumps.** ACEEE sees opportunity for 571,200 ENERGY STAR heat pump electric furnaces for a savings of 125 MW at summer peak and 6,130 MW at winter peak at a cost of \$571 million.⁴ This is the single largest opportunity to reduce winter peak load.
- **Attic insulation.** ACEEE evaluated this opportunity in conjunction with attic sealing. Although this program is the most expensive at \$3.127 billion, it provides the largest overall opportunity for energy savings. Peak savings would be 1,725 MW during summer peak and 2,079 MW during winter peak. This program also offers the distinct advantage of making homes more comfortable—cooler in the summer and warmer in the winter. This benefit persists even if a home loses electricity and would have helped millions of Texans during Winter Storm Uri.
- **Radiant barriers.** Radiant barriers are highly reflective materials, typically installed in the attic, that reflect heat rather than absorbing it. They can reduce energy costs from air conditioning by as much as 10%.⁵
- **Smart thermostats.** ACEEE identifies 2,031,004 households eligible for smart thermostats, with summer peak savings of 995 MW and winter peak savings of 2,225 MW. The program would cost \$152 million. The benefit of smart thermostats is that they can reduce energy use by raising temperatures during the day when most people are out of their homes. There is a separate opportunity for demand response via smart thermostats, but it must be employed via a program that fully informs participants about what enrollment means—that your energy provider can remotely raise your thermostat. In June 2021, a series of negative media stories spread across Texas after Texans who were not well informed about their own participation in

² See <https://rpsc.energy.gov/tech-solutions/hvac>.

³ ACEEE report at p. ix.

⁴ *Id.*

⁵ See <https://www.energy.gov/energysaver/radiant-barriers>.

smart thermostat programs objected.⁶ Negative publicity like this must be avoided by fully information demand response participants.

- **High-efficiency water heaters.** ACEEE calculates the opportunity for installation of heat pump water heaters at 119,471 homes for savings of 37 MW of summer peak and 41 MW of winter peak at a cost of \$117 million.⁷
- **Electric vehicle charging demand response technology.** There are two opportunities for owners of electric vehicles. Time-of-use charging is available to any EV owner—it means simply charging your vehicle when energy demand, and prices, are low, such as overnight. One survey estimated that 72% of EV owners would like to do this.⁸ Demand response, or managed charging, is possible when an EV owner allows their electric provider to determine when their vehicle charges, reducing its demand during times of high load. CPS Energy in San Antonio offers this now. ACEEE identifies the opportunity for demand response EV charging at 606,572 customers for 896 MW of summer peak and 52 MW of winter peak savings at a cost of \$120 million.
- **High-efficiency windows.** Temperature exchange through windows is responsible for 25-30% of residential heating and cooling energy use.⁹ New home construction should use high-efficiency windows, and some existing homes may be candidates for window replacement. In many homes, the best option maybe updates to existing windows such as leak sealing and window coverings.
- **Sealing or resealing of doors, windows, or other openings.** Air leakage is responsible for 25-40% of the energy used for heating and cooling in a home.¹⁰ The best time to seal a home is when it is being constructed. Existing homes can undertake a “blower door” test to determine the source of leaks. Leaks can be sealed with caulk, weatherstripping, door sweeps, and other technologies.

Energy efficiency can stabilize the Texas grid.

Energy efficiency is the cheapest way to stabilize Texas’ energy grid. “Stabilizing the grid” can be thought of as balancing an equation, with demand on one side equaling supply on the other. Every megawatt of energy we do not use is a megawatt of energy we do not have to produce.

So far in Texas, all of the serious discuss has been about increasing energy supply. We now know that the Senate Bill 6 plan to build 10 gigawatts of state-owned gas capacity will cost Texas ratepayers \$18 billion.¹¹ The ACEEE plan to invest in Texas homes will cost only \$4.9 billion and will save us 11.4 GW of energy during winter peak and 7.65 GW during

⁶ See, e.g., <https://spectrumlocalnews.com/tx/south-texas-el-paso/news/2021/06/21/heat-is-on-texas-residents-find-their-thermostats-remotely-adjusted-by-power-companies>.

⁷ ACEEE report at p. ix.

⁸ ACEEE report at p. 16.

⁹ See <https://www.energy.gov/energysaver/update-or-replace-windows>.

¹⁰ See https://www.energystar.gov/ia/home_improvement/home_sealing/AirSealingFS_2005.pdf.

¹¹ See <https://www.texastribune.org/2023/04/13/texas-power-natural-gas-cost-senate-bill-6/>.

summer peak. It is obviously in Texans’ interest to make the investment in savings first. It will save us money on our energy bills, make our homes more comfortable, and stabilize the grid.

Support HB 4950 and help Texans invest in energy efficiency.

We ask you to support HB 4950 because it will incentivize energy efficiency. Doing so will reduce energy use, reduce the pollution associated with energy generation, save money on energy bills, make homes more comfortable, and stabilize the grid.

From ACEEE’s report, “Energy Efficiency and Demand Response: Tools to Address Texas’s Reliability Challenges”:

Table ES-1. Estimated five-year costs, savings, and households served for seven residential energy efficiency and demand response programs targeting peak demand reductions

Program	Households served	Peak savings in year 5 (MW)		Energy savings (GWh)	Costs (millions)
		Summer	Winter		
<u>Efficiency</u>					
Replace electric furnaces with ENERGY STAR HP	571,200	125	6,130	774	\$571
Attic insulation/sealing and duct sealing	2,097,051	1,725	2,079	4146	\$3,127
Smart thermostats	2,031,004	995	2,225	1831	\$152
Heat pump water heaters	119,471	37	41	259	\$117
Subtotal	4,818,726*	2,882	10,476	7008	\$3,968
<u>Demand response</u>					
Central AC demand response	2,877,255	3,010	-		\$587
Water heater demand response	1,553,120	876	876		\$202
EV charging demand response	606,572	896	64		\$120
Subtotal	5,036,947*	4,781	940		\$909
TOTAL	9,855,673*	7,664	11,416		\$4,877
Add 16% reserve margin		8,990	13,242		

*These totals include some households that participate in more than one program.