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Tennessee Department of Environment and Conservation
Office of Energy Programs
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SACE Comments on Proposed Home Energy Rebate Programs

Dear TDEC OEP,

Thank you for the opportunity to comment on Tennessee's implementation of the federal Home Efficiency Rebate Program (HER) and Home Electrification and Appliance Rebate Program (HEAR).

For nearly 30 years, the Southern Alliance for Clean Energy (SACE) has promoted responsible energy choices to ensure clean, safe, and healthy communities throughout the Southeast United States, and we have a long track record working on energy efficiency policy in Tennessee.

SACE appreciates the work you are putting into developing the programs and for soliciting public input. We offer the following comments, explained in detail below, in response to the May 2024 public presentation:

1) the allocation for residents in multifamily housing should be increased to at least 30% of funding, which would roughly match the percentage of low-income Tennessee households living in multifamily housing;

2) multifamily program implementation should be competitively awarded to a single firm or organization with deep experience and specific expertise in energy efficiency retrofits for low-income, multifamily housing;

3) contractors and professionals should be able to apply for rebates on behalf of residents;

4) TDEC OEP should reexamine the proposed rebate structure for multifamily residents and buildings, which appears to exclude large portions of multifamily residents and make accessing rebates intended for low- and moderate income multifamily households more difficult or impossible;

5) ensure home energy rebate funds supplement—not supplant—other funding sources for energy efficiency;

6) ensure home energy rebate funds are not double counted with other energy efficiency programs;

7) provide broad multicultural access to the rebate programs;

8) TDEC OEP and its implementation partners should serve as a source of education and guidance on what funding and programs are available to help participants complete any pre-weatherization work that may be necessary before use of the home energy rebate programs;

9) TDEC OEP and its implementation partners should recruit contractors in rural and minority communities for the TVA Quality Contractor Network during their outreach efforts before program launch and during program implementation;

10) while 100% whole-home HER program rebates are appropriate for low-income households, TDEC OEP should use a tiered rebate structure that proportionally compensates for higher energy savings;

11) ensure that residents can easily access HEAR rebates sequentially, in particular encouraging rebates for wiring and electric panel upgrades to occur well in advance of eventual installation of a new heat pump HVAC system or water heater; and

12) consider a scaled HEAR rebate cap for moderate-income households.

1. The allocation for residents in multifamily housing should be increased to at least 30% of funding, which would roughly match the percentage of low-income Tennessee households living in multifamily housing.

Housing and demographic data in Tennessee illuminates both the need for and the advantage of investing in energy efficiency for multifamily housing.[1] For example, 94% of residents of multifamily homes of 2+ units in Tennessee rent their homes, and therefore face the conundrum of split incentives as a barrier to energy efficiency investment (explained below), while just 19% of residents of single family homes in Tennessee rent. Meanwhile, the average annual income of Tennessee multifamily households is about half that of single family households (roughly $46,000 compared to roughly $89,000), meaning that residents of multifamily housing are much more likely to face financial barriers to investing in home energy efficiency than single family residents. Therefore, focusing federal investment into the multifamily sector is sure to bring clean energy opportunities to families and communities that otherwise would not have market access.

[1] U.S. Department of Energy Office of State and Community Energy Programs (DOE SCEP). Low-income Energy Affordability Data (LEAD) Tool. https://www.energy.gov/scep/slsc/lead-tool, accessed November 2023.

Tennessee Statewide	All Households	Single Family	Multifamily (2+ Units)
Number of Households	2,639,451	1,942,774	477,936
Average Household Income	$77,921	$88,738	$46,448
Percentage Renters	33%	19%	94%
Percentage Low-Income (<80% area median income)	40%	33%	61%

Roughly 27% of low-income Tennessee households live in multifamily housing (and about 18% of Tennessee households across all income levels live in multifamily),[2] yet TDEC OEP proposes to allocate the minimum 10% required by DOE for residents in multifamily housing. TDEC OEP should increase the allocation to multifamily housing to at least 30% to roughly match the proportion of low-income households living in multifamily housing, and to harness the unique advantages of multifamily energy efficiency projects. Additionally, TDEC should clarify whether the multifamily allocation is for multifamily residents and buildings with low incomes or whether it is accessible to multifamily residents and buildings of any income level.

Multifamily housing has some unique characteristics that enable well-designed programs to achieve greater cost efficiency than programs focused on single family housing. The nonprofit multifamily energy efficiency provider company ICAST estimates that twice as many multifamily homes can be retrofitted with energy efficiency for the same budget allocation as for single family homes. This is due to three primary reasons: 1) serving multiple units in one location lowers the cost per unit due to efficiencies in shared resources (i.e. improvements in shared HVAC, duct sealing, insulation, etc. benefit multiple households at once) and provides volume efficiencies, focusing construction crews at single work sites versus moving between locations; 2) multifamily-specific programs can leverage funding sources that single family homes cannot access, such as specific tax credits or philanthropic grants; and 3) multifamily-specific programs can leverage owner cost-share, which can often cover 60% of the project cost, thus allowing public money to go further.[3]

Yet despite the advantages of investing energy efficiency dollars into the multifamily affordable housing sector and the heightened need for energy efficiency investment in multifamily affordable housing, residents of multifamily housing are underserved by energy efficiency programs compared to single family housing, which is where most big efficiency programs focus.

Energy efficiency investments into the multifamily affordable housing sector make sense not only due to the cost-efficiencies and present lack of programs for the sector, but also due to the fact that the State of Tennessee has already built a solid foundation to work from, which will make additional dollars invested more effective. The State's commitment to serve the hard-to-reach income-qualified residents of multifamily housing via the $60 million allocation from the recent influx to the Weatherization Assistance Program is a large step in addressing the need, and while it will only serve a fraction of the families who could benefit from energy efficiency investment, it provides a

[2] DOE SCEP (2023). LEAD Tool.
[3] ICAST (2022). "Case for Using Weatherization Assistance Program Funding in Multifamily Affordable Housing" white paper.

foundation for a larger, more comprehensive program that can serve more residents. This foundation can be made stronger with dedicated application of the federal home energy rebate programs.

HER and HEAR investment into the multifamily affordable housing sector could bring solutions to overcome some of the largest barriers for multifamily residents that experts have identified.[4] These solutions could include: education for building owners' awareness, provision of project financing, a streamlined program experience for participants, program quality control, and more. Administering a statewide program that is attractive to multifamily building owners and residents could overcome the split incentive conundrum–the dynamic that the tenant pays the utility bills and realizes the savings of energy efficiency, but the building owner is the party who would be responsible for investing in the work–that prevents many thousands of Tennesseans from benefiting from home energy investments. Prioritizing investment into multifamily affordable housing for the home energy rebate programs would be a cost-effective and efficient way to bring about dramatic benefits for residents with great need.

2. Multifamily program implementation should be competitively awarded to a single firm or organization with deep experience and specific expertise in energy efficiency retrofits for low-income, multifamily housing.

Implementation of the multifamily program should be carried out by a single firm or organization with deep experience and specific expertise in energy efficiency retrofits for low-income, multifamily housing. The implementation contract should be awarded in a competitive procurement process, based on demonstration of past experience and expertise; overall number of units to be served; ability to serve statewide; and guarantees of quality work with reasonable verification of energy savings. If TDEC OEP contracts with TVA for overall implementation of the home energy rebate programs, the contract should stipulate that TVA will develop the competitive RFP for multifamily providers.

The awarded multifamily implementation provider should meet the following guidelines and assurances:

- bidder will provide a one-stop shop experience for building owners, including all aspects of project development;
- retrofits must achieve, on average, 35% energy savings;
- retrofits must include implementation of an efficient building thermal envelope;
- retrofits must result in all included housing units having efficient conditioned space and water heating, with replacement of such equipment when appropriate;
- retrofits may include conversion from natural gas to electric;
- bidder shall provide reasonable evaluation of baseline and post-retrofit energy usage

[4] Stefen Samarripas, Dan York, and Lauren Ross; ACEEE (2017). More Savings for More Residents: Progress in Multifamily Housing Energy Efficiency.

3. Contractors and professionals should be able to apply for rebates on behalf of residents.

TDEC OEP proposes to give customers the responsibility of applying for rebates. Putting the initiative on the end-user makes it more difficult to access the program and serves as a barrier to program utilization. Contractors and professionals, who implement multiple retrofit projects for a living, are more likely to be familiar with the rebate programs and be better positioned than end-use customers to be able to navigate the rebate application process. This is especially true for households whose members may have difficulties applying, such as those who aren't fluent in English or other languages the program materials will be available in, and those for whom applying online or through the mail would be difficult or burdensome.

In the multifamily housing sector, it is essential that individual unit residents not be required to complete the application process, as that is better done by the building owner, who can apply for multiple units at once, or better yet the building owner's contractor. DOE program guidance specifically underscores the importance of program access to multifamily building owners: "Building owners of single-family and multifamily rental dwellings may seek access to Home Efficiency Rebates and verify income eligibility of their tenants"[5] and "The owner of an income-qualified multifamily building may access rebates on behalf of **all or any portion** of units occupied by eligible households."[6]

4. TDEC OEP should reexamine the proposed rebate structure for multifamily residents and buildings, which appears to exclude large portions of multifamily residents and make accessing rebates intended for low- and moderate income multifamily households more difficult or impossible.

In creating the home energy rebate programs in the Inflation Reduction Act (IRA), Congress established that owners or representatives of multifamily buildings are able to receive rebates on behalf of building residents. This approach facilitates residents receiving the benefits of the programs in an efficient wholesale manner. In the IRA, the amount of rebate the building owner or representative qualifies for is determined by the income of the majority of residents. Specifically, for the HER program, if *at least half* of the building's occupants make less than 80% area median income, the entire building qualifies for the rebate intended for residents with low income. Conversely, if *at least half* of the building's occupants make more than 80% area median income, the entire building qualifies for the lower rebate intended for residents with moderate or high income. For the HEAR program, which is limited to just low- and moderate income households, if *at least half* of the building's occupants make less than 80% area median income, the entire building qualifies for

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[5] U.S. Department of Energy State and Community Energy Programs (DOE SCEIP) (2023). Inflation Reduction Act Home Energy Rebates Program Requirements & Application Instructions.

[6] U.S. Department of Energy State and Community Energy Programs (DOE SCEIP). "Home Energy Rebates Frequently Asked Questions" webpage. https://www.energy.gov/scep/home-energy-rebates-frequently-asked-questions, accessed May 2024.

the increased rebate intended for residents with low income, and if at least half of the building's occupants make between 80% and 150% of area median income, then the entire building qualifies for the rebate intended for moderate income households.

TDEC OEP's proposed program materials appear to dramatically restructure the IRA eligibility structure for multifamily buildings in both the HER and HEAR programs.

In the HER program, TDEC OEP appears to propose that the only multifamily residents or buildings that would qualify for rebates would be where *every single household* in the building makes less than 80% AMI and provides proof of income, or pre-identified buildings that meet still-to-be-determined categorical criteria. The proposal does not appear to allow building-wide rebates for majority low-income or majority moderate-to-high income households, unless they meet the undetermined categorical criteria. It is unclear if TDEC OEP intends that individual households living in multifamily buildings that cannot meet the low-income threshold would be eligible to apply through the single family pathway. TDEC OEP should clarify this.

Similarly, in the proposed HEAR program, TDEC OEP proposes that the only buildings that would qualify in a wholesale manner for the rebates intended for low-income residents would be where *every single household* in the building makes less than 80% AMI and provides proof of income, or pre-identified buildings that meet still-to-be-determined categorical criteria. Further, TDEC OEP appears to disallow Congress' intention to allow owners or representatives of multifamily buildings occupied mostly by households with moderate income to access HEAR rebates for the entire building.

These proposed thresholds are needlessly overly exclusive and may serve as large barriers or outright exclusions for multifamily housing residents of all income levels. TDEC OEP should stick to the guidelines established in the IRA and ensure that broad categories of multifamily residents aren't needlessly shut out of the programs.

5. Ensure home energy rebate funds supplement—not supplant—other funding sources for energy efficiency.

TDEC OEP should ensure that residents can easily access the HER and HEAR programs alongside utility rebates in a streamlined process, and that the multiple sources of funds are not treated as mutually exclusive of each other, even if each covers the same project.

DOE's program guidance states, "*By leveraging existing programs through resource braiding, co-funding, and financing, State programs may support deeper and broader energy, cost, and carbon savings among participating households. While following all home energy rebates requirements, States are* ***strongly encouraged*** *to design their rebate programs in ways that allow for effective combinations of various funding sources, including through integration with existing programs*."[7]

[7] DOE SCEP (2023). Program Requirements

SACE agrees that Tennessee residents will be best served when multiple sources of funds for home energy efficiency improvements can be leveraged with each other. TVA has a long record of administering the Home Uplift program and has recently launched a residential energy efficiency incentive program for many of the same measures that the HER and HEAR program incentivize. Through the new TVA program, residential customers in TVA's service territory can be eligible to receive rebates of $1,500 for heat pump HVAC equipment, $300 for duct sealing and repair, $800 for a heat pump water heater, $300 for envelope air sealing, $500 for attic insulation, $300 for wall insulation, $100 for floor insulation, and more.

Utility energy efficiency programs like TVA's are precisely the type of programs that DOE encourages states to use to co-fund energy efficiency projects alongside the HER and HEAR programs. DOE states that utility funds "*Can co-fund any remaining costs for the same 'single upgrade' or 'QEP' above the value of the Home Energy Rebate […] Utility incentive provides additional funding toward remaining upgrade costs after rebate has been applied*."[8]

6. Ensure home energy rebate funds are not double counted with other energy efficiency programs.

With TVA as the program implementer for the HER and HEAR programs as proposed, as well as their own EnergyRight programs, it is important that Tennessee residents have transparency about which dollars spent come from each different source, and that dollars spent are not double counted between multiple funding streams.

7. Provide broad multicultural access to the rebate programs.

SACE has been made aware by groups representing immigrants and refugees that there is concern that the IRA home energy rebate programs being implemented across the country could be exclusionary and leave out immigrants and refugees. These households face unique barriers to participation in some existing energy efficiency programs, including language barriers, exclusion by immigration status, and a lack of culturally competent outreach and education efforts. TDEC OEP should structure the rebate programs to ensure access for immigrant and refugee households. To that end, SACE urges TDEC to implement the "Recommendations for Immigrant and Refugee Inclusion in State Home Energy Rebate Programs" developed by the Just Solutions Collective and the National Partnership for New Americans, available in full with the link in the footnote below.[9] In brief, these recommendations include: 1) creating a language access plan; 2) funding and working with community organizations throughout home energy rebate program implementation; 3) providing a

[8] U.S. Department of Energy State and Community Energy Programs (2024). "Guidelines for Leveraging Other Funding Sources with Home Energy Rebates" One-Pager. https://www.energy.gov/sites/default/files/2024-01/Guidelines%20for%20Leveraging%20Other%20Funding%20Sources%20with%20Home%20Energy%20Rebates_final%20for%20Rebates%20Website_1.10.24.pdf, accessed May 2024.

[9] Just Solutions Collective and the National Partnership for New Americans (2024). "Recommendations for Immigrant and Refugee Inclusion in State Home Energy Rebate Programs." https://drive.google.com/file/d/1Hh0gZgCtGeIDAqiaPTO1b151RQLAbhWr/view, accessed May 2024.

variety of methods for eligibility verification including self attestation; 4) not requiring social security numbers or taking other steps that would discriminate based on national origin and immigration status; and 5) tracking and publishing language and cultural competencies of qualified contractors.

8. TDEC OEP and its implementation partners should serve as a source of education and guidance on what funding and programs are available to help participants complete any pre-weatherization work that may be necessary before use of the home energy rebate programs.

9. TDEC OEP and its implementation partners should recruit contractors in rural and minority communities for the TVA Quality Contractor Network during their outreach efforts before program launch and during program implementation.

10. While 100% whole-home HER program rebates are appropriate for low-income households, TDEC OEP should use a tiered rebate structure that proportionally compensates for higher energy savings.

SACE supports TDEC OEP using the flexibility provided by Congress to increase rebate levels to low-income households beyond the guidelines established in the IRA. Providing rebate levels at 100% will help ensure that the benefits of the rebate programs flow to those who can benefit the most from the programs. However, we are concerned that TDEC OEP is proposing to do away with the tiered incentive structure in the IRA guidelines that is supposed to direct more money to homes in which there is more need for efficiency improvements and more opportunity to lower energy costs. Such an approach could cause unnecessarily high price tags for project implementation, while leaving valuable energy savings on the table for low-income residents who could benefit the most from energy bill reductions.

IRA guidelines suggest that state HER programs offer rebates for low-income households of 80% of project costs up to $4,000 for projects that achieve 20% modeled energy savings, and 80% of project costs up to $8,000 for projects that achieve 35% or more modeled energy savings. TDEC OEP proposes to provide 100% of project costs up to $16,000 for achieving 20% modeled energy savings, and no additional rebate for achieving energy savings levels higher than 20%. This high level of rebate, paired with a modest target for energy savings risks wasting millions of program dollars on projects that won’t necessarily benefit residents with commensurate energy savings and bill reductions.

We encourage TDEC OEP to evaluate implementing the HER rebate program for low-income households with a two-tier structure that incentivizes achieving higher energy savings, with Tier 1 corresponding to building envelope measures such as air sealing, insulation, duct sealing, plus cost-effective lower cost measures such as LED lighting and faucet aerators, and Tier 2 corresponding to additional higher-cost measures with substantial energy savings, such as HVAC and heat pump water heaters. To be clear, it is not the cap of $16,000 that causes us concern, but rather that it is paired with a modest energy savings goal. $16,000 or more may be appropriate to offset the costs for more ambitious projects that achieve 35% energy savings for low-income homes.

Generally speaking, it should not take $16,000, on average, to achieve 20% energy savings. For example, TVA's Home Uplift program states on its website that the program averages achieving 25% energy savings for low-income Tennessee households at a cost of about $10,000 per household.[10] A concern with allowing $16,000 rebates covering 100% of project costs for projects that save 20% of energy use is that many projects would be able to meet the 20% threshold at a cost well under $16,000, allowing contractors to add additional measures, such as window, door, or refrigerator replacement, that do not save much energy. Program funds would be better spent by targeting core building thermal envelope measures for the first tier of funding and reserving a higher, second tier for projects that additionally include the replacement or installation of major equipment such as HVAC or heat pump hot water heaters.

We believe the federal guidance providing a lower tier of rebates for 20% modeled energy savings roughly corresponds to energy savings that are achievable with air sealing, insulating, and some other low-cost, high-yield measures such as duct sealing and lighting replacement, while the 35% energy savings level roughly corresponds to the previously mentioned measures, plus HVAC or water heater replacement. Further supporting the concern about overpaying for the 20% energy savings level, we note that the Home Uplift program, which exceeds a 20% average energy savings at $10,000 per home, often includes high-cost but high-return measures such as HVAC equipment replacement.

The importance of keeping a two-tier rebate structure is underscored by the fact that residents also may access the HEAR rebate programs for HVAC and water heater replacement if these measures cannot fit into HER rebate caps.

TDEC OEP stated in the May 3 public presentation that the proposed $16,000 figure factors in inflation since the program may run through 2031. It is a good idea to incorporate flexibility for rising costs as TDEC OEP proposes, however SACE encourages TDEC OEP to consider an alternative way to account for escalating costs, such as an incremental yearly increase in the rebate cap or an adjustment mid-way through the program implementation period, to avoid participants utilizing the maximum rebate allowed with 2031 in mind for achieving 20% energy savings in 2025.

11. Ensure that residents can easily access HEAR rebates sequentially, in particular encouraging rebates for wiring and electric panel upgrades to occur well in advance of eventual installation of a new heat pump HVAC system or water heater.

In the May 3 presentation, TDEC OEP notes that HEAR rebates for wiring and electric load service centers must be associated with the installation of a qualified electrification project. We urge TDEC to ensure that residents are easily able to access wiring and electric panel rebates well ahead of the

[10] TVA. EnergyRight webpage. https://energyright.com/residential/home-uplift/, accessed May 2024.

eventual need to replace an appliance so that consumers are not stuck in the position of having their HVAC system or gas water heater fail, and not be able to quickly install a heat pump replacement for lack of the adequate electrical infrastructure. Rather, consumers should be made aware of their ability to access the rebates to proactively upgrade their electrical systems in advance of their appliances failing. When the air conditioning goes out in the middle of summer or the heat goes out in the middle of winter, residents demand a replacement fast. If they don't have adequate electrical infrastructure already in place, then the delay caused by getting that electrical work done first may likely persuade the resident to get a like-for-like gas replacement instead of a more efficient heat pump.

12. Consider a scaled HEAR rebate cap for moderate-income households.

While Congress authorized in the IRA rebates of up to $14,000 for moderate-income households (making between 80% and 150% or area median income) for the HEAR program, TDEC OEP proposes to limit the rebate cap to half of the allowable amount at $7,000. SACE supports prioritizing home energy rebate funds to households with lower incomes—people who could most benefit from the programs—but we don't want to see moderate income families get left behind.

Under TDEC OEP's proposed home energy rebate programs, a household making $68,000 in income could potentially be eligible for $30,000 of HER and HEAR rebates, while a household making $70,000 in income could be eligible for just $11,000 in rebates.

	Proposed HER Rebate Eligibility	Proposed HEAR Rebate Eligibility	Proposed Total Rebate Eligibility
Illustrative household with $68,000 income (79% of state median family income) [11]	$16,000	$14,000	$30,000
Illustrative household with $70,000 income ($81% of state median family income)	$4,000	$7,000	$11,000

With this approach, households making just over 80% AMI could be harshly left behind even though their need for the rebate programs is not substantially different than that of someone making slightly less money than them.

Instead, TDEC OEP should consider a scaled rebate cap for moderate income households, such as the following:

[11] U.S. Department of Housing and Urban Development's Office of Policy Development and Research (2024). FY 2024 State Income Limits. https://www.huduser.gov/portal/datasets/il/il2024/2024summary.odn?inputname=STTLT*4799999999%2BTennessee&selection_type=county&stname=Tennessee&statefp=47.0&year=2024, accessed May 2024

Household Income as percent of Area Median Income	HEAR Program Rebate Cap
80-90%	$13,000
90-100%	$12,000
100-110%	$11,000
110-120%	$10,000
120-130%	$9,000
130-140%	$8,000
140-150%	$7,000

Thank you for considering our comments.

Sincerely,

Christopher S. Carnevale

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