Transforming Heat Burden into Cooling Equity

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ABSTRACT

In response to extreme weather events creating increased health risks for Oregonians, in 2022 the Oregon State Legislature passed Senate Bill 1536, which established a number of initiatives to increase access to cooling across the state during extreme weather events. One initiative set out to create community cooling spaces to expand access to safe indoor cooling for tenants in multifamily housing. Once this legislation was passed, Energy Trust of Oregon, as the designated implementer, was tasked with designing and launching this new offer on a rapid timeline to address urgent public health needs following unprecedented heat events.

Standing up a new program under these conditions required balancing legislative intent with the realities of property owner participation, contractor engagement, and tenant protections. With limited time to design and implement, Energy Trust focused initial design on establishing outreach and incentive structures and coordinating closely with the Oregon Department of Energy and implementation contractors to reach vulnerable tenants quickly. Energy Trust then leveraged a continuous improvement approach to assess and improve the program design over time.

The Landlord Provided Cooling Spaces program ran from June 2022 through September 2025 and has delivered meaningful relief to households at risk of heat-related illness while also surfacing challenges in program delivery, such as ensuring long-term comfort through weatherization and complementary measures. This paper summarizes the program's results and lessons learned, highlighting how legislative intent intersects with practical implementation when addressing urgent climate and public health needs.

Background

In June 2021, the Pacific Northwest experienced an unprecedented heat wave with temperatures reaching triple digits (up to 116º F) for three days and little cooling at night. This heat wave resulted in more than 500 deaths in Oregon, Washington, Idaho, and Canada (Samayoa 2022). Oregon had at least 100 deaths and it was described as "the second worst natural disaster in our state's recorded history" (Oregon Senate Democrats 2022, 1). Analysis of these heat-related deaths found that lack of air conditioning was the primary driver in mortality; the majority of individuals who passed away were older, lived alone, and did not have air conditioning in their residence. More than half of deaths occurred in multifamily dwellings (Multnomah County 2021).

Oregon created emergency heat relief legislation aimed at protecting the state's most vulnerable populations in response to this catastrophic event. Known as the "Tenant Right to Cooling" bill, Senate Bill1536 was passed in March 2022 (Oregon Legislative Assembly 2022) and was targeted at creating access to cooling through a variety of mechanisms, including direct

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grant and rebate programs, new building and property owner requirements, access to information, and new research. Components of the bill included:

- Provide new limitations on the restrictions landlords were allowed to place on the use of portable cooling devices in rental housing units.
- Create a program to provide free air conditioning units to eligible individuals to be delivered by Oregon Health Authority.
- Establish additional requirements for new residential construction rental units permitted after April 2024 to include adequate cooling.
- Provide rebates for the purchase and installation of heat pumps in residential housing.
- Expand access to Oregon Health Authority's Health Homes Grant Program to include Indian health centers and manufactured home co-ops.
- Conduct a Cooling Needs Study to better understand the prevalence and needs for cooling access across the state (Oregon Department of Energy 2023).
- Establish mechanisms for Oregon Health Authority and the Department of Human Services to introduce a grant program that enables local governments to establish warming and cooling shelters.
- Launch a website on Oregon Housing and Community Services with information on extreme heat events, programs, and services available to streamline access to cooling programs, including available rebates from federal, state, and local entities.
- Create a Community Cooling Spaces program.

The legislation stated the Community Cooling Spaces program would be created through an Oregon Department of Energy grant to Energy Trust to design and implement a program that would "assist landlords in creating or operating, whenever there is an extreme heat event … community cooling spaces available to the landlord's tenants during the extreme heat event" (Oregon Legislative Assembly 2022).

Design and Launch

Energy Trust designed a program intended to deliver benefits for environmental justice communities, with relatively limited legislative guidance on the program design. Energy Trust was directed by the Oregon Department of Energy to consider efficient technology based on national standards for cooling technology such as ceiling fans, heat pumps and portable air conditioning or heat pump units. The legislation included the following characteristics for a "community cooling space":

- Accommodate at least five individuals
- Operate during extreme heat events
- Be on or near the premises
- Maintain a temperature no higher than 80 degrees Fahrenheit

The Landlord Provided Cooling Spaces offer was initially launched in June 2022, just three months after the legislation passed. Energy Trust partnered with its existing implementation firm delivering multifamily services to leverage relationships with its Trade Ally Network allowing it

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to move swiftly and put an offer in place in advance of the coming cooling season. The program design prioritized the following goals:

- Help property owners create and operate private community cooling spaces available to tenants that are on or near the premises.
- Prioritize environmental justice communities, particularly tenants experiencing low incomes, seniors, and people living with disabilities or medical conditions, as beneficiaries of the program and its incentives. These customers are referred to as "priority customers." The program aligned with the State of Oregon's adopted definition of environmental justice communities which includes communities of color, communities experiencing lower incomes, tribal communities, rural communities, coastal communities, communities with limited infrastructure and other communities traditionally underrepresented in public processes and adversely harmed by environmental and health hazards, including seniors, youth and persons with disabilities (Oregon Legislative Assembly 2022).
- Provide program support to address barriers facing property owners serving priority customers.
- Minimize the added electricity use, climate impact, and operating cost of these cooling spaces by recommending more energy-efficient cooling equipment and providing guidance on how to appropriately size and operate the cooling space to maximize energy efficiency and tenant comfort.
- Address barriers to creating community cooling spaces by providing:
    - Financial incentives for property owners to create or operate community cooling spaces that will accommodate at least five individuals.
    - Technical support with cooling space siting, sizing, and operations, as well as referrals to local Energy Trust trade ally installers.
    - Information on private and government programs that may be used to create or operate community cooling spaces.

Implementation Lessons Learned, and Continuous Improvements

The Landlord Provided Cooling Spaces program launched in 2022 and made improvements over time to increase program uptake by addressing participation barriers and redesigning program elements.

Early Learnings and Continuous Improvements

The program launched in June 2022 and had significantly slower uptake than anticipated in its first 18 months in the market. Staff observed several ways the program was not operating as anticipated, including the types of rooms and equipment being utilized to create cooling spaces, the types of customers who were and were not opting to participate, and level of time needed to identify suitable customers/spaces.

Energy Trust adapted program approaches throughout early implementation, such as tracking and developing pathways for exceptions, expanding flexibility for eligible equipment types and installation, and increasing direct outreach and marketing. In response to lessons learned, the program implemented continuous improvements over time, driving increased program uptake in the latter half of 2023. Some examples of program refinements include:

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- **Enhanced marketing tactics:** In response to low program awareness, the program employed a small range of marketing tactics, resulting in increased activity in the second half of 2023. The program also revised website content to be clearer and more accessible.
- **Targeted outreach support:** Outreach became more targeted as field staff learned which customers were best suited for the program and as additional data and analytics were layered in over time.
- **Combined equipment solution:** To overcome barriers associated with oversizing equipment, the program created an option to install a combination of hard-wired and plug-in solutions based on total tonnage requirements needed to adequately cool the space during extreme heat events. This approach optimized equipment sizing for year-round performance while allowing additional cooling during extreme heat events through supplemental plug-in cooling units. This solution supported several sites which would not have participated otherwise.
- **Instant incentives:** To support customers with up-front cost barriers, the program incorporated an option to assign payment to their contractors, allowing trade allies to provide the incentive amount as an instant discount to customers. This also enabled contractors to leverage instant discounts as a selling point for the program, which in turn drove additional uptake.
- **Streamlined exceptions:** The program developed a clear process for program staff to support eligible customers to request exceptions based on unique customer circumstances and characteristics. This pathway supported several customers to access incentives, resulting in the creation of cooling spaces which otherwise would not have been completed.

Barriers to Participation

Despite continuous improvements made over the course of early implementation, program activity remained significantly lower than anticipated. Toward the end of 2023, Energy Trust staff conducted a deeper analysis of barriers and identified continuous improvement opportunities to increase access and participation.

Energy Trust staff gained valuable insights into some of the barriers to participation through listening sessions with teams working across various aspects of the program—including field staff working directly with customers, trade ally staff working with installing contractors, engineering staff reviewing cooling space designs, and marketing and operations staff familiar with the behind-the-scenes inner workings of the program. The primary barriers identified fell into the following categories:

- **Cost**: The program employed a tiered incentive structure, which covered up to 100% cost for sites serving priority communities and 60% for sites that did not meet these criteria, with not-to-exceed caps based on assumed average project costs. In nearly all cases, customers who did not qualify for the higher tier incentives opted not to participate in the program.
    - Notably, total project costs may have exceeded the maximum incentive amount, leaving out-of-pocket expenses even for customers who qualified for the highest tier of incentives.

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    - Even when incentives covered 100% of project costs, some customers could not pay the project cost up front and wait for reimbursement.
    - Customers often did not have funds for the remaining cost.
    - Some trade allies opted to offer the "option to assign payment" and provide an up-front discount, which helped in many cases.
- **Program complexity**: A combination of factors contributed to the complexity of the original program design, which resulted in customer confusion, prolonged timelines, and some customers and contractors choosing not to engage or to drop out of the pipeline before completing projects.
    - Despite efforts to employ clear messaging, the program observed frequent customer confusion on program definitions and requirements. Most commonly, customers requested clarification on whether they qualified as serving priority populations to be eligible for the higher tier of incentives. The program also received numerous inquiries on what a community cooling space was, whether their property or space type met the criteria, and how to participate in the program.
    - Qualifying customers for the program—particularly determining whether customers served priority populations—proved to be more involved than anticipated. Many customers sought clarification on whether they were eligible for the highest tier of incentives, which was often their determining factor for moving forward with a project.
    - For larger spaces (defined by the program as spaces over 400 square feet)—which represented the majority of projects—customers often experienced a lengthy process when combining technical reviews or requesting customized solutions or accommodations based on the unique needs of their space. These projects often involved extensive back and forth between customers, contractors, and the program to resolve questions or concerns before an installation could proceed. Several projects fell out of the pipeline as a result.
    - In some cases, customer characteristics and site configurations differed from those assumed in the program design, but still aligned with program objectives. Many of these sites received approved exceptions, however this required additional time and steps in the process.
- **Marketing and outreach**: The program was originally assumed to require minimal proactive marketing or advertising. This was tied to several core assumptions: most projects would utilize low-cost (plug-in) equipment, incentives would often cover the full project cost, and there would be increased market acknowledgment of the need for cooling in multifamily properties. When participation rates were low, it became clear that more robust marketing activities and data analytics were needed to build awareness of the program, especially for priority populations.
    - The program was initially designed without dedicated budget for marketing beyond staff hours, which limited marketing tactics the program could employ to raise awareness of this new offer in the market.
    - Outreach and program staff were tasked to find customers who were good fits for the program, particularly those serving priority populations. Outreach time and effort to find customers to participate was higher than expected.

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- **Suitable spaces**: The program encountered a number of challenges in identifying rooms or spaces suitable for creating community cooling spaces, which led to a different distribution of projects than anticipated.
    - Many sites did not have a suitable space on-site that could be used or converted into a shared community cooling space. While customers could seek off-site spaces nearby to partner with, this pathway was met with little to no interest due to limited time or motivation to pursue this option.
    - The program found very few spaces that could be served through portable equipment. When properties had suitable spaces on-site, these were almost always larger than 400 square feet, requiring installed equipment to create a cooling space.
    - Some property owners expressed limited interest or motivation in creating a community cooling space because it was not required. Some customers also expressed that residents did not want to gather in communal spaces, with a strong preference to "shelter in place" whenever possible.
- **Technical requirements**: Originally, program requirements prescribed oversizing equipment by 25% above standard sizing for each space, based on assumptions of extreme heat events at 115º F. This oversizing requirement resulted in numerous challenges, including contractor concerns related to diverging from industry best practices, risk of equipment performance issues outside of extreme heat events, and increased project costs, which caused customer and contractor frustration. This led to a number of projects falling out of the pipeline and some contractors engaging less with the program.

Program Redesign

Energy Trust and the Oregon Department of Energy leveraged these insights and determined a path forward to extend the program with a revised program design, incorporating additional improvements to maximize customer access and benefits for the remainder of the program. The redesigned program launched in June 2024, incorporating the following adjustments:

- **Removed the tiered incentive structure and offered a single incentive that covered up to full cost for all customers.** The program centralized the incentive structure to a single amount to allow coverage of full costs for customers, removing many of the barriers to participation and other challenges the program had encountered previously. This change simplified and improved program messaging, customer eligibility, requirements, participation, outreach, and processing.
- **Maintained a focus on serving priority populations and continued to leverage targeted marketing and outreach efforts, as well as, diligently track which sites are serving environmental justice communities.** In the first 18 months, over 85% of projects served priority populations, surpassing the original goal of 50%. In the new design, the program maintained a goal of at least 50% of projects serving priority populations.
- **Built in additional, dedicated budget for enhanced marketing tactics.** Dedicated marketing budget and tactics proved critical to the early success of the program redesign. The revised program design and budget included a strategic marketing plan which

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leveraged low-cost and previously proven tactics from existing energy efficiency programs to build program momentum and raise awareness of program changes.
- **Added flexibility in equipment sizing and solutions.** The program continued to support flexible solutions based on unique space and equipment needs, leveraging technical expertise of trade ally contractors, and ensuring that projects still met the intention of the program.

Final Results

The Landlord Provided Cooling Spaces program ran from June 2022 through September 2025. Over the course of implementation, the program provided 49 technical consultations and supported the creation of 92 community cooling spaces with 130 pieces of equipment at 85 locations across Oregon.

Almost all cooling spaces created installed hard-wired cooling equipment such as ductless heat pumps, central air conditioning (A/C) or central heat pumps; many of these also installed supplementary plug-in devices for extreme heat events (Table 1). The majority of participating sites were affordable multifamily housing, with notable participation from market-rate housing and manufactured housing parks (Table 2). The percentage of sites serving environmental justice communities was particularly high at 89% (Table 3). Annual project volume increased year-over-year throughout the program's implementation period, demonstrating effectiveness of continuous improvements instituted throughout.

Table 1. Equipment Types

Measure Installed	Site Count	Percentage
Packaged terminal air conditioner	1	<1%
Window A/C	1	<1%
Central A/C	6	5%
Central heat pump	7	5%
Portable A/C	41	32%
Ductless heat pump	74	57%
Total	130	100%

Table 2. Property Types Served

Property Type	Site Count	Percentage
Affordable multifamily housing	52	63%
Market-rate multifamily housing	15	18%
Manufactured housing park	11	13%
Other: • Meeting hall / community center (2) • Agricultural housing (1) • Campus living (1) • Place of worship (1)	5	6%
Total	83	100%

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Table 3. Environmental Justice Communities Reached

Environmental Justice Communities Reached	Site count	Percentage
Black, Indigenous, people of color (BIPOC)	16	19%
Coastal	4	5%
Disabled	23	27%
Low income	71	84%
Rural	17	20%
Senior	27	32%
Tribal	3	4%
None indicated	9	11%
Sites serving at least 1 environmental justice community	76	89%
Total sites served	85	100%

Table 4. Participation Over Time

Year	2022	2023	2024	2025
Technical consultation	3	11	18	17
Cooling spaces created	6	24	31	41
Sites served	6	22	31	37

Evaluation Findings and Recommendations

Findings

In 2025, Energy Trust contracted with Unrooz Solutions to conduct a process evaluation of the Landlord Provided Cooling Spaces initiative. Unrooz analyzed the program data, interviewed staff and participant and near-participant property owners, surveyed and interviewed tenants, and surveyed contractors.

The evaluation found that the program was largely successful in meeting its intended goals (Unrooz 2026). The program reached its priority customer groups, with almost 90% of projects serving at least one environmental justice community. Residents reported occasional use of the cooling spaces, along with heat relief, air filtration, improved mood, and an increased sense of safety. Residents also noted social benefits, including inviting nonresident friends and family to the space so they could also benefit from the cooling. The program provided additional HVAC-related benefits to residents, enabling property owners to install efficient heating systems and pilot the use of heat pumps before incorporating them into other renovation projects. The most significant barrier to using the cooling space was a lack of awareness, with 25% of surveyed residents unaware that the cooling space existed.

The process evaluation found that continuous improvements over time increased enrollment, while expanding eligible building types and system configurations broadened the program's reach. However, designing and approving these systems was complex and time-consuming.

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Recommendations

Based on its findings, Unrooz provided recommendations across several aspects of the program. While the Landlord Provided Cooling Space initiative has concluded, these recommendations remain valuable for informing future program design.

- **Program design, customer needs, and marketing:** Involve the right marketing and technical experts early in the design process, and partner with subject-matter experts in health, safety, and emergency preparedness to ensure effective program design. Support contractors and suppliers in conducting customer outreach, and empower tenants to recommend their buildings for participation. Provide alternative pathways for applicants who do not qualify for the program to access other energy efficiency upgrades.
- **Cooling space design and locations:** Identify repeatable standard designs for larger cooling spaces to simplify and expedite participant enrollment. Update project requirements to improve and streamline the process for requesting customer data needed to design customized cooling spaces. Explain design requirements and engineering decisions in clear, transparent language to potential participants.
- **Cooling space benefits:** Communicate heating, air filtration, and social benefits in tenant marketing materials. Engage new heat pump users to better understand their experiences and identify additional energy efficiency opportunities in their buildings.
- **Cooling space barriers:** Provide communication materials and reminders to property owners and managers to raise tenant awareness of their cooling space. Encourage emergency backup power sources for the cooling spaces, provide guidance on improving accessibility, require signage explaining the purpose and hours of operation of each cooling space, and audit a sample of cooling spaces one year after installation.
- **Reaching priority communities:** Continue expanding access to community cooling for Oregon's most vulnerable populations, and provide flexibility to exceed incentive caps when needed to better serve priority communities.

Conclusion

The Landlord Provided Cooling Spaces initiative was developed and implemented rapidly in response to health-related legislation following extreme heat events in Oregon. The program ultimately achieved its intended goals of expanding cooling access for vulnerable and priority populations, while also providing valuable lessons for Energy Trust and other program stakeholders.

The implementation process highlighted several key findings for future cooling and energy efficiency efforts:

- Program design should be simple, and eligibility requirements should be clear.
- Program marketing and targeted outreach are essential for reaching eligible customers.
- Technical requirements should balance program goals with industry practice.
- Shared cooling spaces should complement broader building and in-unit cooling strategies.

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- Program design should remain flexible and iterative when implementing legislatively mandated programs under compressed timelines.
- Clear communication with tenants is essential for program success.

While this paper focuses on the Landlord Provided Cooling Spaces program in Oregon, the lessons identified have broader relevance for utilities and policymakers addressing extreme heat nationwide. Energy Trust is already incorporating these findings into its multifamily program and using them to inform program design and measure development. If a similar program is implemented in the future, early engagement with marketing and technical experts, standardized program delivery, broader outreach emphasizing resident benefits, and stronger support for property owners in communicating with tenants would improve implementation from the outset.

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