

MINNEAPOLIS PUBLIC HOUSING AUTHORITY'S RESIDENT ENGAGEMENT STRATEGIES MAXIMIZE ENERGY SAVINGS AND INDOOR AIR QUALITY

SOLUTION OVERVIEW

Minneapolis Public Housing Authority (MPHA) implemented an Energy Performance Contract (EPC) to meet Minneapolis' benchmarking requirements and implement utility saving improvements. In addition to energy and water efficiency upgrades and increased utility data monitoring, the effort highlighted the importance of engagement strategies to educate residents about the benefits of energy and water efficiency upgrades and encourage residents to do their part to maintain the effectiveness of utility upgrade measures. Since residents in the high-rises do not pay utility costs, there is no financial incentive for tenants to participate in efficiency strategies. Previously, some residents had removed water-saving devices because of reduced water pressure, resulting in excess water consumption. Residents also sometimes used door socks to help reduce noise and block pests, which inhibits proper ventilation. In response, MPHA undertook the following interventions: incorporation of efficiency language into lease agreements, educational presentations about energy and water efficiency at resident and staff meetings, increased resident input about utility upgrades at Resident Advisory Board meetings, and fines for removing low-flow showerheads and aerators.

ORGANIZATION TYPE

Public Housing Authority

BARRIER

Lack of resident engagement and buy-in for energy upgrades and retrofits.

SOLUTION

MPHA incorporated efficiency language into lease forms, provided educational presentations, gathered resident input at Resident Advisory Board meetings, and implemented fines for tampering with efficiency equipment.

OUTCOME

Increased participation by residents and increased vigilance around efficiency equipment maintenance by staff performing routine building checks.

POLICIES

The City of Minneapolis' [benchmarking ordinance](#) requires multifamily property managers to report annual consumption of their portfolios' buildings by an annual deadline of June 1. MPHA partners with Honeywell International to benchmark energy data, which also helps track savings from energy and water efficiency upgrades.

PROCESS

MPHA implemented an Energy Performance Contract (EPC), a financing technique that uses cost savings from reduced energy consumption to repay the initial investment in energy conservation measures. Through the EPC, MPHA installed ENERGY STAR® appliances, high-efficiency boilers, low-flush toilets, faucet aerators, and low-flow shower heads. MPHA also replaced burned-out ballasts and lamps in lighting fixtures. MPHA contracted with Honeywell to implement these measures and track gas, electricity, and water usage across MPHA's portfolio of master-metered high-rise properties.

During this process, MPHA discovered that some actions being taken by residents were reducing the effectiveness of energy and water efficiency upgrades. For example, some residents had removed low-flow aerators of kitchen and bathroom faucets or low-flow showerheads, due to reduced water pressure and slowness to fill pots of water.

Residents also sometimes used door socks to cover the gaps beneath doors to reduce noise and block pests, which has the unintended effect of impeding proper ventilation and creating an extra energy burden on air conditioning systems; this can ultimately compromise occupant comfort and health by attracting mold and pests from lack of fresh air. To help ensure proper ventilation, MPHA staff use and regularly clean Constant Airflow Regulators that are replaced as needed when they get older. Door socks can also cause a fire hazard because they get in the way of emergency door closers.

To maximize the energy and water savings benefits of their EPC, MPHA employed multiple resident and staff education strategies.

OUTREACH

MPHA set up a series of initiatives to educate residents and staff on the importance of energy and water efficiency measures.

- MPHA property managers held quarterly meetings with residents to explain the purpose of energy and water efficiency measures, demonstrate how the technology works, and discourage people from tampering with water aerators and mechanical airflow. MPHA created [flyers](#) and [slideshows](#) about utility efficiency strategies (see "Tools & Resources" section below) and presented them during meetings with residents.
- To involve residents in MPHA's energy savings goals, MPHA meets with a Resident Advisory Board (RAB) to inform resident advisors of proposed capital projects, including proposed energy and water upgrades. Each member of the RAB votes on whether to support the measures. The RAB consist of eight members, one representative from each

community, elected every other year to a 2-year term.

- Staff also regularly remind residents of energy efficiency strategies and requirements as part of the lease signing process.

MPHA also adopted a policy of levying fines against residents who repeatedly tamper with or remove faucet aerators or low-flow devices or use door socks. The fine was \$20 in 2020. The fine is mentioned during move-in orientation and in the lease. However, MPHA mainly relies on verbal warnings and, after around 2-3 warnings, provides written warnings from the property manager.

TOOLS AND RESOURCES

- To increase tenant cooperation and participation, MPHA incorporated the following standardized language into its lease agreement form:

Conservation and Recycling.

1) *Tenant shall reasonably use and conserve utilities and utility equipment including heat, air conditioning, water, and electricity.*

2) *Tenant shall not remove any energy or utility conservation equipment including aerators, shower heads, low-flow toilet devices or other devices or misuse water fixtures, electric lights, heating, or air-conditioning.*

3) *When replacing a bulb in an MPHA fixture, Tenant shall replace it with a florescent bulb.*

- Resident education flyer on implications of using door socks
- Training presentation on air flow in high-rise apartments

MEASURING SUCCESS

MPHA's goal in implementing these measures was more involvement in energy and water efficiency efforts by both staff and tenants, and resulting improvements in indoor air quality and water savings.

OUTCOMES

MPHA's resident and staff engagement strategies have resulted in noticeably fewer removals of faucet aerators and low-flow showerheads by residents, decreased use of door socks, and greater resident awareness of efficiency strategies. Property managers and facilities staff have become more aware of energy and water saving efforts and are more vigilant in checking the upgrades during routine inspections.

MPHA successfully meets annual benchmarking requirements for the City of Minneapolis; in 2020 they realized energy upgrade cost savings of \$739,700 and water upgrade cost savings of more than \$1,778,000.