A decentralized approach to heating yields 25 percent energy savings



Dawn Homes Management had a problem at Grant Village Apartments, its Syracuse, NY complex: **The 520 apartments in 45 buildings were relying on three dated, failing atmospheric boilers for heat.**

The underground distribution pipes also leaked heat—enough to melt snow, leaving odd pathways between Grant Village's buildings each winter.

For Dawn Homes, since heat and hot water are included in tenants' rent, the wasted heat equaled wasted money.

With assistance from the New York State Energy Research and Development Authority (NYSERDA), Dawn Homes arrived at an ideal solution. **Instead of replacing Grant**

Village's three existing central boilers, they installed new boilers in over half of the buildings in the complex. This approach, recommended by their MPP Performance Partner, represented an increase in upfront costs, but eliminated the wasteful practice of piping steam from centralized boilers to unconnected buildings.

In combination with other upgrades, Dawn Homes' decision cut Grant Village's energy use by 25 percent—for an annual savings of \$293,643 in electricity and natural gas costs.

About NYSERDA's Programs for Multifamily Buildings

New York State Energy
Research and Development
Authority (NYSERDA) offers
a portfolio of programs and
incentives for owners, facility
managers, developers and
condo/co-op boards of
multifamily buildings with five
or more units. Our initiatives
make it easier to assess,
fund, implement and measure
energy efficiency upgrades that
improve building performance
and your bottom line.





Melted snow tells the story

Back when the apartments at Grant Village were built, energy costs were low. Three central boilers distributing heat and hot water through underground pipes—an inefficient practice in any era—were economical enough to be included in the rent.

Years later, owner and operator Dawn Homes Management struggled with problems. To push steam to the farthest buildings, the boilers had to run at peak capacity. The boilers couldn't keep up with demand and were on the verge of failure.

Replacing the boilers wouldn't really solve the problem, as the distribution pipes leaked heat, leaving far units chilly. "Heat and hot water included" is an important part of Grant Village's marketability among its budget-conscious college student tenant base. Maintaining the inherently wasteful distribution cost meant that Dawn Homes would have to absorb the rising cost of unused energy.

A smarter, more energy-efficient solution

Dawn Homes connected with PEACE, Inc., a Partner in NYSERDA's Multifamily Performance Program (MPP). PEACE helped Dawn Homes assess Grant Village's energy challenges and select a contractor to address them, taking advantage of MPP incentives. The contractor recommended installing separate boilers in 27 of the 45 buildings.

"We wouldn't have even considered this approach without guidance from the contractor. But it was the best approach, and it solved a lot of problems."

-Jessie Albert, VP of Operations, Dawn Homes Management

Larger upfront investment yields greater energy and cost savings

Dawn Homes took the contractor's advice, even though the project was more expensive than initially planned. "Incentives from NYSERDA made it worthwhile. Plus, the 25 percent energy improvement was compelling," Albert said. The project cost approximately \$1,375,000, and of that, NYSERDA paid \$941,400—67 percent of the cost. The new boilers, along with upgrades in attic insulation, low-flow showerheads and in-unit lighting, have yielded a first year savings of \$293,643 in energy costs.

Background & Challenges

- Three outdated central boilers serving 45 buildings in an apartment complex
- Inefficient underground system for energy distribution
- Opportunities for upgrades in attic insulation, lighting and water use

Solution

- Separate boilers for 27 of the 45 buildings, eliminating the need for underground distribution of heat and hot water
- · Attic insulation in each building
- Low-flow showerheads and aerators, and ENERGY STAR® qualified CFL bulbs for all 520 units

Benefits

- Annual energy savings of \$293,643 in heating and electricity costs
- Reduced amounts of wasted energy moving heat and hot water underground to multiple buildings
- Seamless upgrades for tenants

Owner Number of Units	Dawn Homes Management, Albany 520
Total Investment	\$1,374,566
NYSERDA Incentives	\$941,400
Actual Energy Savings Annual Gas Savings	163,449 therms
Annual Electricity Savings	247,482 kWh
Total Annual Savings	\$293,643
Project Lifecycle Savings	\$3,053,231
Simple Payback	4.7 years
Savings to Investment Ratio	3.1

The project was more expensive than we planned, but NYSERDA incentives made it worthwhile. Plus, the 25 percent improvement in energy use was compelling.

-Jessie Albert

Opportunity's knocking! Call 1-877-NY-SMART or visit nyserda.ny.gov/multifamily



Participate in NYSERDA's Multifamily Performance Program and take advantage of funding for whole-building energy assessments and low-cost financing for energy upgrades through Green Jobs – Green NY. Green Jobs – Green NY is a statewide effort to strengthen our communities through energy efficiency. It enables New Yorkers to make a significant difference in our homes, businesses and neighborhoods—making them more comfortable, more sustainable, and more economically sound. Green Jobs – Green NY is administered by NYSERDA and made available by the Green Jobs – Green New York Act of 2009.



About NYSERDA

New York State Energy Research and Development Authority (NYSERDA), a public benefit corporation, offers objective information and analysis, innovative programs, technical expertise and funding to help New Yorkers increase energy efficiency, save money, use renewable energy, and reduce their reliance on fossil fuels. NYSERDA professionals work to protect our environment and create clean-energy jobs. NYSERDA has been developing partnerships to advance innovative energy solutions in New York since 1975.





