Minnesota Housing- Phase II EngergyScoreCards Pilot

Minnesota Housing

Special Achievement

HFA Staff Contact

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OVERVIEW

By providing more support to building owners and managers, can we reduce energy costs for multifamily properties around the state? Because of Minnesota Housing's Phase II EngergyScoreCards Pilot, the answer to that is yes! Luckily, our organization had a great foundation to build on because of Phase I of the EngergyScoreCards Pilot. Phase I studied the impacts of energy and water benchmarking paired with supportive technical and financial assistance. Phase II narrowed focus to 31 buildings and was conducted over a two-year period from 2016-2018. During the pilot, we offered quarterly check-in calls and building assessments. The pilot also helped navigating utility incentive and financing programs to facilitate the implementation of efficiency projects at multifamily properties across Minnesota. At the end of Phase II, 74% of properties implemented energy conservation projects and found, on average, a savings of roughly $1,160 in electric and $2,331 in water costs annually.

INNOVATION

Minnesota Housing became a partner in the EnergyScoreCards Minnesota program in 2012 through the Phase I pilot which studied 500+ multifamily properties. Of the 129 Minnesota Housing financed buildings in the first pilot, 33 (2,177 units) received an overall "C" or "D" grade in the online tool.

After the end of the Phase I EnergyScoreCards Minnesota pilot, we conducted in-person and phone interviews with the 13 owners or managers that represented these buildings. The purpose of these conversations was to understand the participants the challenge they faced implementing energy and water saving projects in their buildings. The common theme was, these owners and managers had many challenges with utilizing the program. Below are key findings from the post-pilot conversations.

- A lack of understanding about if and how their buildings compared to other buildings in the EnergyScoreCards tool.
- A lack of support to pinpoint the underlying issues that were causing poor scores in EnergyScoreCards and the associated improvement actions that should be taken.
- A lack of grant funding to implement energy savings projects.

As a result of these conversations, Minnesota Housing saw the opportunity to continue with the EnergyScoreCards service for owner-paid utilities for the 31 buildings. In addition, participants that were interviewed from the first pilot believed that additional incentives beyond access to the EnergyScoreCards tool were needed in order for these buildings to take action. As a result, Minnesota Housing planned the Phase II to pair with the existing EnergyScoreCards tool with even more in depth, personalized technical assistance program. A primary goal was to help determine financing options, including access to grants through Minnesota Housing. This subsequent pilot gave us the opportunity to add a more intentional focus on leveraging benchmarking data to identify and implement targeted energy and water investments in those buildings.

PROGRAM ACHEIVEMENT OF INTENDED RESULTS

Minnesota Housing created Phase II of this pilot program to build on the foundation of the original EnergyScoreCards Minnesota. Our current sustainability initiatives focus on asset management and

improving the energy and water efficiency of our existing portfolio through retrofits. The pilot's key objectives were to:

- **Reduce utility costs in targeted buildings**. In Minnesota, many owners pay the heating and water bills, while tenants pay the in-unit electric bills. Lower in-unit electric bills will provide a direct benefit to tenants, while lower heating and water bills for the owner will provide an indirect benefit to the tenants by lowering building operating costs, which will help the financial position of the property and decrease the need for future rent increases.
- **Compare the utility savings with the cost of monitoring and targeting the properties and financing the retrofits.** Assess whether providing access to EnergyScoreCards paired with energy audits, retrofit recommendations, and financing provides a positive return on investment.

Secondary objectives included:

- **Assess the usefulness of using owner-paid utility benchmarking to improve energy and water management.**
- **Assess the compatibility of utility incentive programs**, especially Xcel Energy and CenterPoint Energy's Multi-Family Building Efficiency Program with Minnesota Housing funding processes.

In Phase II, 52% of buildings participated in electric and natural gas utility incentive programs. Twenty-three buildings, owned/managed by eight pilot participants, implemented energy and water conservation projects over the course of the pilot. This is 74% of total participating buildings and 73% of participating owners/managers.

Phase II | Average Savings | Master-Metered Buildings

	Average Savings	Minimum	Maximum	Total*
Electric	$1,160	-$5,660	$6,135	$12,763
Natural Gas	-$301	-$9,079	$4,221	-$3,312
Water	$2,331	-$2,259	$12,532	$25,637

*For all buildings with a complete year of data for 2015 and 2018. Values are not normalized by square footage.

More than half (55%) of properties saw improvement in their overall energy grades by the end of the pilot. Phase II participants with master-metered buildings achieved a 5% reduction in site energy use after the end of Phase II. Master-metered buildings also saw an average water usage reduction of 3.5%.

PROGRAM BENEFITS THAT OUTWEIGH THE COSTS

The cost of the Phase II EnergyScoreCards program for Minnesota Housing over two years was $143,780. The cost includes: the contracts with *Bright Power* and Center for Energy and Environment to provide benchmarking and technical assistance to pilot participants; cost of grant reimbursement for approved energy and water efficiency projects; and the direct and indirect cost staff time spent actively managing this pilot program. Additional pilot participant cost not reimbursed by Minnesota Housing to implement energy and water savings projects was $122,009. This cost does not factor in staff time or indirect costs of the pilot participants. The total cost for the pilot program was $265,789.

The total ongoing annual cost savings based on the last 12 months of utility consumption was approximately $50,840 per year or about 3% of the 2015 utility costs. Utility data for part of 2018 was available for 30 out of the 31 buildings. Dividing this cost savings by the total units for these 30 buildings gives an average cost savings per unit of approximately $37. However, not all of the participants experienced a cost savings. This is a conservative estimate because almost 50% of the projects done by participants in this Phase were completed in 2018. As a result, the cost savings may not appear in the metrics calculated here since the savings was calculated by comparing the 2018 and 2015 utility bills.

Comparing the full cost of the program for Minnesota Housing to the ongoing conservative cost savings, the payback period for Minnesota Housing is two years and 10 months. If project costs for pilot participants are included, the payback period is five years and two months.

RESPONSE TO AN INMPORTANT STATE HOUSING NEED

Owners and managers of subsidized affordable multifamily properties find it difficult to implement energy and water saving projects. The lack of staff capacity to monitor utility usage along with a lack of resources, both technical and financial, often makes it difficult to plan and implement projects. When pilot participants were asked in the final interview about how they planned and prioritized projects, project urgency (e.g. what is broken or unsafe) and upfront costs versus potential future energy savings were the top two considerations when choosing a project.

Of the eight participants that implemented projects, only one participant stated affirmatively that they would have still proceeded with the projects even had they not participated in the pilot. Conversely, five participants specifically called out the fact that these projects would not have taken place at all or would not have taken place as quickly if they had not participated in this pilot.

At the end of the pilot, most participants found participating in the pilot to have been helpful in implementing energy and water savings projects. Specifically, participants mentioned that they liked having access to a single point of contact that was able to provide both technical and financial support to help implement energy and water saving projects.

VISUAL AIDS – Final Building Report

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December 3rd, 2018

[redacted]
Saint Paul, MN 55102

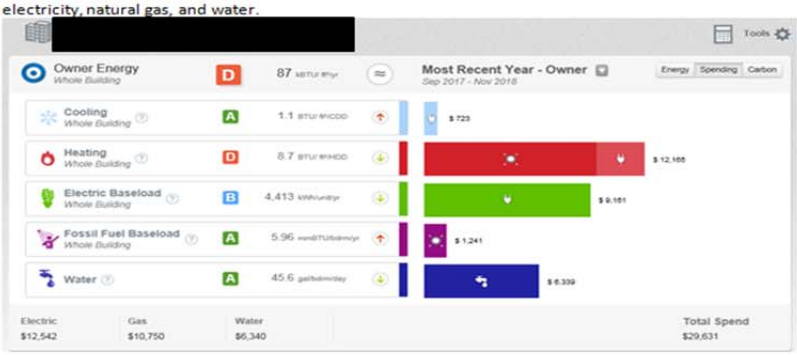
RE: EnergyScoreCards Minnesota – Final report for [redacted]

Dear [redacted],

Please find below the final report for [redacted].

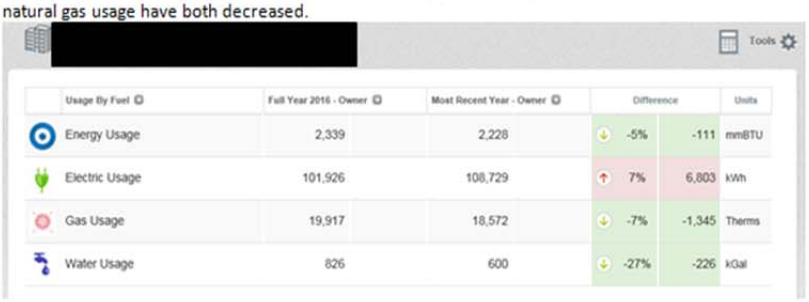
Overall Usage:

[redacted] is currently scoring a "D" overall and is spending $29,631 annually on electricity, natural gas, and water.

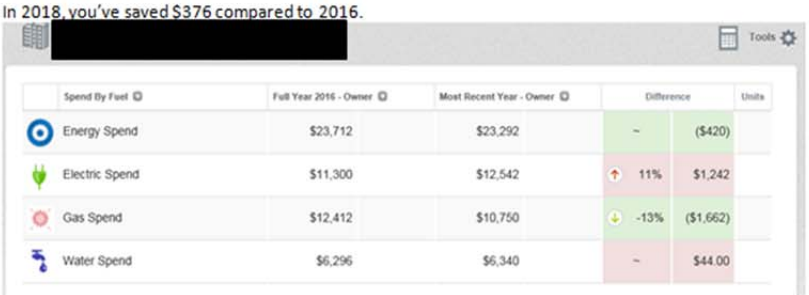


Usage and Spending by Fuel:

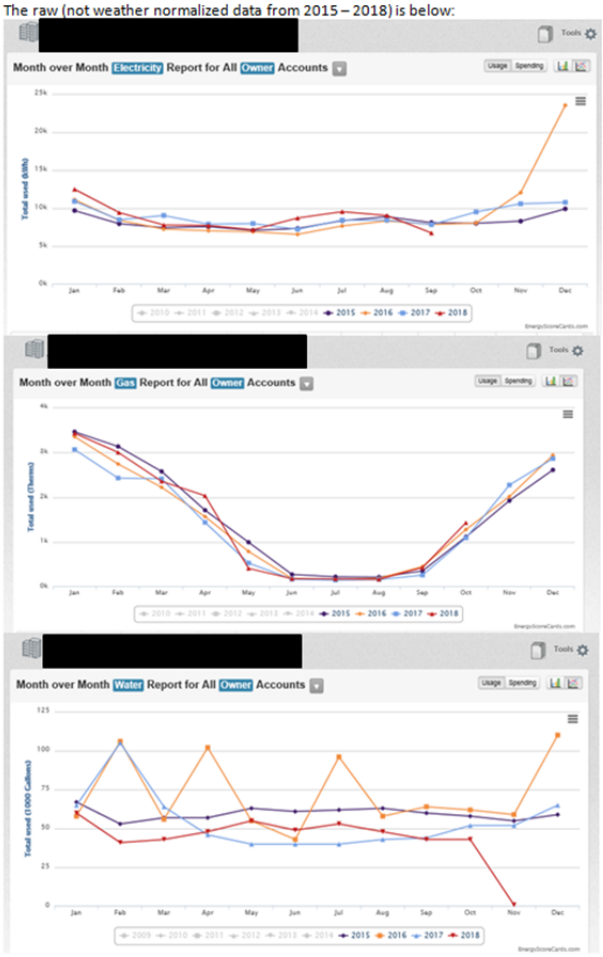
Comparing weather normalized data from 2016 to 2018, electric usage has increased 7%. Water and natural gas usage have both decreased.



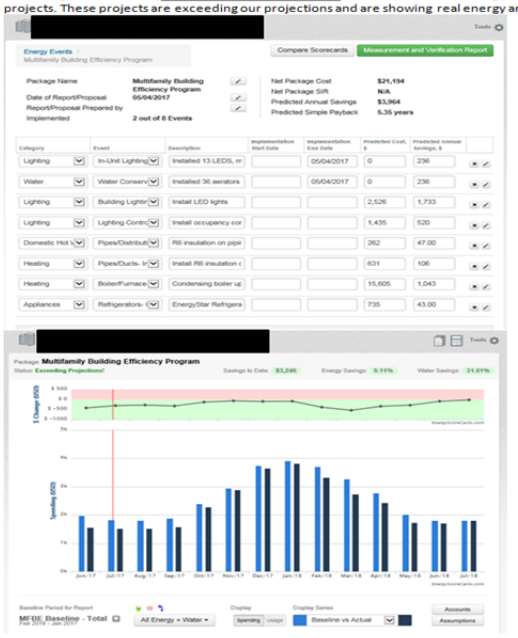
In 2018, you've saved $376 compared to 2016.



Comparing 2015 – 2018 data:
The raw (not weather normalized data from 2015 – 2018) is below:



Projet Performance:
According to our records, [redacted] has completed two energy and water savings projects. These projects are exceeding our projections and are showing real energy and water savings.



Conclusion:
[redacted] has project reimbursement of $3,845 available for work that is completed on or prior to December 31, 2018. [redacted] may request reimbursement for the installation of LED lighting, occupancy or daylight harvesting senors, pipe insulation, or a high efficiency boiler. Reimbursement requests must be received by December 31, 2018. Please reference the signed grant agreement for additional details.

Your access to the online EnergyScoreCards webplatform is available through December 31, 2018. If you have any questions, concerns, or suggestions please do not hesitate to reach out to me. A final report documenting the findings from the two-year pilot will be completed in the spring of 2019.

Sincerely,

Katherine Teiken
Energy Efficiency Fellow