STEFFES

Sussex Rural Electric Cooperative, Inc.

IT'S NOT MAGIC, IT'S ETS:

How Sussex REC Uses Electric Thermal Storage to Drive Load Management, Member Savings, and Carbon-Free Goals

KEY TAKEAWAYS

- **7 MW** controllable heating load
- **$91,000/month** avoided demand charges in winter
- **Up to 50% savings** on members' heating bills
- **5M kWh** of ETS sales in 2024

DRIVING UTILITY GROWTH & MEMBER VALUE

FOR SUSSEX REC

- Predict overnight demand patterns for better system planning.
- Add new load without triggering costly infrastructure upgrades.
- Maintain competitive rates.
- Support an energy portfolio that's already 80% carbon-free.

FOR THEIR MEMBERS

- Costs stay consistent—no sudden jumps like with oil or propane.
- Full installation - electrical and ducting - at cost with no markup.
- Rebates, 0% financing, and referral bonuses make saying yes easy.
- Save ~50% on heating with off-peak rates.

On crisp winter mornings in rural New Jersey, members of Sussex Rural Electric Cooperative (Sussex REC) don't worry about the price of heating oil or the latest spike in propane costs. Their homes are warm, their heating bills are predictable, and their electricity is—most of the time—coming from carbon-free sources.

This comfort isn't magic. It's the result of a decades-long strategy built around a technology called Electric Thermal Storage, or ETS.

HUMBLE BEGINNINGS TO WHOLE-HOME COMFORT

Sussex REC's ETS journey began in the late 1980s. Back then, the cooperative installed simple room heating units in members' homes. The idea was straightforward: store heat during low-demand hours at night, then release it during the day—delivering increased comfort without adding strain to the electric grid during peak times.

Over the years, technology evolved, and so did Sussex REC's vision. Room heaters gave way to whole-home Steffes furnaces capable of delivering 25,000 to 30,000 kilowatt-hours of heat annually—about as much energy as two average homes use in a year. This shift wasn't just about comfort; it was about strategy.

WHY OFF-PEAK HEAT MATTERS

The cooperative's ETS program offers members a special rate—about half the cost of standard residential electricity—for heating during off-peak hours. That means members can heat their homes affordably, while the co-op keeps demand down during the most expensive hours of the day.

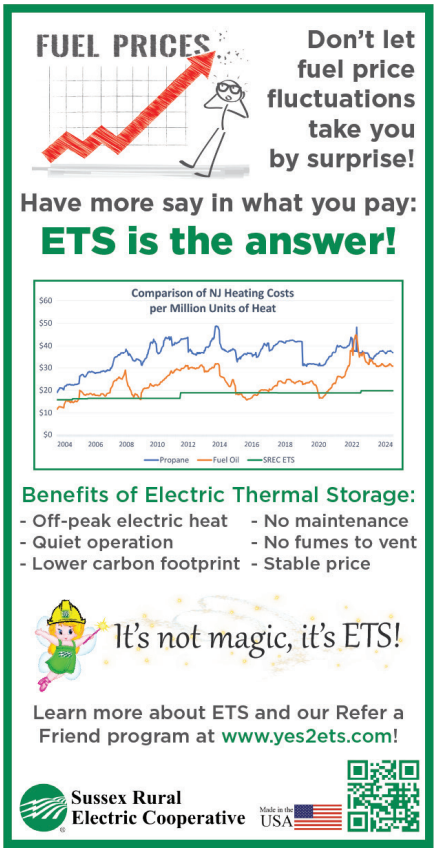
Controlling that load pays off. Today, Sussex can manage (or "turn off") 7 megawatts of ETS heating during peak times. That's the equivalent of avoiding roughly $91,000 each winter month in transmission demand charges. It's not just money saved—it's money that can be reinvested into keeping rates stable for all members.

And there's another win: that 7 MW of heating load happens at the right time—overnight, when demand is low. That means more electricity sales without adding strain to the grid. In 2024 alone, ETS sales totaled 5 million kWh.

MARKETING WITH A PERSONAL TOUCH

Sussex REC's approach to growing ETS participation isn't about flashy ad campaigns. It's about trust. The cooperative has built awareness through community newsletters, local events, and even an "ETS Fairy" that made appearances in the early days of the program.

Word-of-mouth has been the most powerful tool—helped along by a referral program that rewards both the referring member and the new participant. "It's not magic, it's ETS" has become a familiar line around Sussex territory—a playful reminder that the benefits are real, even if they feel magical.



NAVIGATING THE REGULATORY LANDSCAPE

New Jersey has set ambitious goals for 100% carbon-free electricity by 2035. While many investor-owned utilities in the state have struggled with rising market prices, Sussex REC has remained stable.

Why? The cooperative isn't regulated by the state's Board of Public Utilities and sources its power through Allegheny Electric Cooperative, Inc. in Harrisburg, Pennsylvania—limiting market exposure and keeping rates predictable. That stability has allowed Sussex to keep ETS running strong regardless of political or market swings.

RESULTS THAT SPEAK FOR THEMSELVES

Today, ETS accounts for 3–4% of Sussex's annual electricity sales. Each furnace installation doubles the average home's annual usage, creating measurable growth without peak demand penalties. The program continues to expand steadily, with a goal of 10–15 new installations each year.

Perhaps the most important result isn't measured in kilowatt-hours or dollars—it's measured in trust. Members know their co-op is looking out for them, offering solutions that are affordable, reliable, and sustainable.

MORE THAN A PRODUCT—A STRATEGY

For Sussex REC, ETS isn't just another heating appliance—it's a strategic tool for balancing the grid, keeping rates affordable, and advancing carbon goals. The cooperative's decades-long commitment proves that with the right vision and community connection, even small utilities can lead the way in innovation.

Because at Sussex REC, it's not magic. It's ETS.

LESSONS FROM SUSSEX

Success comes down to a few simple truths:

- Educate members with clear, simple messaging.
- Offer whole-home solutions to maximize benefits.
- Use incentives to lower implementation barriers.
- Lean on community trust and local engagement.

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