



SSAFE CASE STUDY REPORT

Peak Energy Day Pilot Project

Kendal: Collington

Location: Mitchellville, MD

Recorder: Katie Thompson

Date Submitted: 10/11/2023

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Summary:

Conduct a pilot program to engage Independent Living residents in reduced energy use during the hottest summer months of 2023 and targeted for the days and hours when our regional grid manager anticipated peak demand.

Objective: (1) Contribute to mitigation of projected peak demand on the regional energy grid that could trigger use of more polluting back-up generators, brown-outs and/or grid failure; (2) Learn about resident interest/engagement in energy reduction on declared Peak Energy Days and Hours and test whether that could be sustained over time; (3) Determine resources and strategies necessary for launching and sustaining a Peak Energy Day Program; and (4) Provide information from the Pilot Project to design a more comprehensive, campus wide Peak Energy Program to include both residents and staff for inclusion in Collington’s new Sustainability Plan for 2024-2026.

Project Description:

Collington’s Peak Energy Day pilot project was one that emerged spontaneously in response to the Co-Chair, Steve Woodbury’s presentation at a Climate Action Committee meeting in which he listed a variety of projects that had been envisioned and ended with saying “...and we will take any of these on whenever someone steps up to work on them.” Shortly thereafter, a relative newcomer to the community, Katie Thompson, approached Joel Brody, the other Co-Chair of the Climate Action Committee, to note that she thought the “Peak Energy Day” project that had already been so successful at Kendal affiliates, Crosslands/Longwood, was “low hanging fruit” for Collington’s Climate Action Committee. Joel heartily agreed but had been concerned that outcome data was not available to us for evaluating pre-post outcomes for energy used and associated costs. Nonetheless, since—whether the best measurement of those outcomes was possible or not—they recognized that the project would contribute to reducing the challenge to the



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grid, the likelihood of needing to deploy dirty generators and possible brown-outs. So, aware that the summer's hottest weather was headed their way, Joel and Katie decided to try a pilot project that would also give opportunity to learn whether the community's Independent Living residents would be responsive to specific energy reducing alerts and what all might be involved in launching and sustaining a Peak Energy Day project. Joel, who was already engaged with work on drafting Collington's new Sustainability Plan for 2004-2006, considered that a Pilot would contribute to formulating a more comprehensive project for inclusion in that longer term Plan.

Brief description/characterization of community/campus

Collington is a Life Plan CCRC (Continuing Care Retirement Community) in the Washington, DC suburban area on a 125 acre campus. Independent Living residents comprise about $\frac{3}{4}$ of the over 400 people living on a campus with clustered cottages and larger villas, joined by covered pathways to each other and an apartment building that also houses a community center and a health care facility for memory support and both short-term and long-term assisted living. This non-profit facility enjoys a campus surrounded by a forest preserve and protected wetlands and extensive, lively engagement of residents in its operations and community life. Infused with Quaker values, there is a shared concern of both Administration and of Residents to sustainability practices and climate action in support of those.

This project would be applicable to any community in which communication of the project description and directives is possible, some components of which are on short notice and, sometimes, when staff support and/or key residents may not be available.

Methodology (Activities, Steps):

- Studied materials developed by other Kendal affiliates Crosslands/ Longwood who had successfully conducted Peak Energy Day projects and obtained very helpful consultation from George Alexander, leader in those efforts.
- Drawing from these sources, we wrote, printed, with Resident Association (RA) support, and distributed descriptions of the Peak Energy Day Pilot Project to residents of each Independent Living Unit (in their mail slots), including that there would be an ALERT for upcoming days and what residents were asked to do on the Peak Energy Days:

Set the HVAC thermostat 2-4 degrees higher for as long as you are comfortable; Minimize use of hot water; Minimize use of electricity, especially stove, microwave, dryer, washer, dishwasher, toaster & TV;



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Minimize amount of sunlight entering the home; Charge electric vehicles only at night

We also included an “Action Report”, asking residents to indicate their participation immediately after a Peak Energy Day; indicate what they did and requesting return to one of the Project leaders’ Mail slots.

- Posted all this information also on our resident-only google group list serve.
- Designed and prepared posters to Alert the community of Peak Energy Day(s), times.
- Recruited other residents to help with poster distribution/placement throughout public spaces and all bulletin boards in the community center.
- With direction from George Alexander, tracked the data on our grid manager PJM’s website to anticipate our need to announce a Peak Day Alert.
- Worked with the Chief of Administration to place an article in the weekly newsletter and to post any Alerts to the closed circuit tv serving all units.
- Solicited and received generous support from leaders of other resident groups who allowed access to their poster display cases into which our posters could be inserted.
- When the need for the first Peak Energy Day Alert emerged it was for 3 consecutive days, not just 1! So, posters were quickly revised by hand to indicate the Alert days with time frame and other volunteers were called into action for distribution.
- After many comments on the resident’s list-serve about the Action Report being available for completion on line, Dennis Evans, the Chair of the RA Computer Committee, stepped up to perform his magic so that could be accomplished.
- Responded to a request from the Editor of The Collingtonian, our RA’s monthly magazine, for a short description for inclusion in its next issue.
- Entered all the reported data (Action Report) on a spreadsheet and prepared an interim report for the Climate Action Committee.
- Since new residents are continuously moving into Collington, we were granted access to a spread sheet of move-in dates, on the basis of which we could inform newcomers of the Peak Energy Day Pilot Project. About 2 weeks after their move-in, we placed the same information that had been distributed before their arrival with a welcome cover letter from the Climate Action Committee in the newcomers’ mailboxes.

Funding Needed (Amount, Sources):



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Funding for printing of Peak Energy Day descriptions (350) and Posters to Alert residents for each Peak Energy Day (70) was born by our Residents' Association with a few supplies (cardboard stock and markers) donated by residents. Estimates for larger, professionally printed posters as well as tall poster stands and some yard signs were made by Katie and submitted by Joel for the budget request of the Climate Action Committee for next year; most of this is a one-time cost (e.g., larger printer stands and professionally printed posters) for a total of \$500.

Involvement or Support of Community Administration: The Chief Financial Officer worked with us to clarify issues with our power company, PEPCO, and to determine that a pre-post “test case” on changes in energy use & cost (even for a single “trial” unit) would not be feasible in time for the Pilot Project in 2023. The Chief of Administration, facilitated getting out the Alert for each of the Peak Energy Days by posting on the closed-circuit TV and including articles in the weekly newsletter. Our Culinary Supervisor, was of critical assistance in providing a large display with a white pad on which we could place the Peak Energy Day Alert in the place likely to garner the most attention, at the entrance to the dining room. This was especially crucial when the Alerts had to be declared on weekends when dining hours are different and residents do not as often attend gatherings in the community building.

Key Challenges:

An inherent challenge is the fact that announcements of Peak Energy Day Alerts cannot be fully developed until the date(s) and time are known...close to 24 hours, only, ahead of the Peak Energy Day. To add that information before we could get the alerts out was a challenge—do-able but quite a rush.

Outcome (Results):

- Residents of **105 units** formally reported participation in the first alert (we did not ask for reports on the other Alerts). Many additional residents verbally and informally reported that they had participated in the Peak Energy Day actions even though they had not submitted reports. Additional residents indicated that they engaged in the requested energy-reducing actions “all the time” so did not report on their participation. Hence, we have reason to believe that many more than the residents in 105 Units participated in the Peak Energy Day actions called for.
- An unplanned but happy consequence was the extensive talk—over meals, in the halls, on the resident list-serve—about the Peak Energy Day experiences. Residents were enthusiastic about the effort and there was a sense of community coming-together for this climate action. Many folks commented on how “easy” it was to practice these energy conserving steps, how they had learned some new



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ways to reduce their energy needs and that they were following these practices routinely after the first Peak Energy Day(s) in July.

Lessons Learned:

- We CAN DO Peak Energy Days in the Collington Community! And, Collington residents DO sustain their participation!
- We had not done enough recruiting for help with the first Alert. Even though folks generously pitched in at the last minute, we learned that we needed more advance planning to have a team ready for the short time from being confident that an alert would be needed and getting the word out.
- Our Power company (PEPCO) was not good at announcing potential peak loads; the PJM website offered better data and we shifted to use of that source, primarily, for anticipating, refining and, eventually, declaring our ALERTS.
- We should have prepared for an on-line capability for residents to give feedback to the first alert. The data received from 105 units was cumbersome to add and, other than showing us the location clustering, did not add much to our knowledge beyond the extent of participation. Any request for feedback in the future should be very short and available for on-line completion.
- We need to design a larger poster, professionally printed to be more interesting/appealing in presentation And, most especially, with an EASY way to insert the specific Energy Day(s) and hours as soon as we determine the need for an Alert without having to reprint a poster.
- We need bigger, more graphically engaging posters and much better display stands—taller and for larger posters—and possibly, yard signs so we can get ALERT announcements out more into the campus rather than only at the Community Center building.
- We need a much better display for Alerts on the closed-circuit TV. We didn't have enough information or time to do this part of the alert better for the pilot and the display was not easy to read nor attractive.
- It became readily apparent that sustaining a Peak Energy Day project over the years ahead would depend upon the commitment of a much larger number of people. It was also clear that residents could be responsive to requests for small amounts of time but did not as eagerly respond to taking on a larger share of responsibility.

Next Steps or Follow Up:

We are already in process on these next steps:



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- In the process of developing Collington’s new Sustainability Plan for 2024-2026, work with Administration partners to develop access to data for outcome evaluations of energy-use and costs.
- A draft has been written for a Peak Energy Day Program Project for inclusion in the joint Administration-RA Collington Sustainability Plan for 2024-2026 that would seek to extend this energy-reduction program to the entire campus.
- On-going, we are providing information to new comers about our Peak Energy Day Project
- A long-range plan has been developed for maintaining the Peak Energy Day Program into the future: The Project was divided into small tasks (15) and 2 or more residents recruited to serve on “Tag Teams” for each of these.
- Communicate Pilot project outcomes by: Submitting a final report on the Pilot Project Outcomes to the Climate Action Committee; placing an article in our weekly newsletter; posting on the Resident List Serve
- Submit a Budget (done) for 2024 one-time costs of larger posters, high stands and yard signs. To solve the problem of needing to prepare posters ahead of time but with the ability to add the specific Peak Energy Day Alerts as they arise, we are now planning for posters with an area to which we can make a Velcro-attached addition of the Alert Days as needed. A resident with artistic talent, has agreed to create this re-design for us for next year, with ideas coming also from other artists who have agreed to help.
- Continue to provide information about Peak Energy Days to newcomers.

Resources:

- Our project description drew heavily from the resources from Crosslands/Longwood and, specifically, from George Alexander’s work; we’ve attached our version.
- Anyone wishing to see our example (using our Peak Energy Day Pilot Project) of how to make a plan to maintain a project like this over time, see Attached

Photos: Our poster—part pre-printed and part hand-done (see attached)—we hope for bigger, better posters next year!

Attached

- Pilot Project Description
- Picture of posters/flyers for Alerts
- How to Maintain the Peak Energy Day Program long-term: Sample for other projects.



PEAK ENERGY DAY PROJECT

The Climate Action Committee is inviting all residents in independent living to participate in a Pilot Project that involves a community effort to reduce our energy use on targeted “peak days” to benefit our planet home and our Collington homes. The outcome of the Pilot Project will be used to evaluate and refine plans for a more comprehensive Energy Reduction Project during 2024.

What is this about?

What is “Peak Usage”? What are “Peak Energy Days”
Peak usage refers to high electricity usage, usually due to high temperatures—now over more months of the year-- and increased use of air conditioning.

Peak Energy Days are those on which our power company (PEPCO) predicts the electric grid for our area will likely be at peak capacity.

Why is this important to us?

Power companies use more expensive and dirtier generators to supply extra energy during peaks, increasing pollution and immediate as well as long-term energy costs, obvious and hidden.

When electricity demand exceeds capacity, we are more vulnerable to “brown outs” (which, we know from recent experience, impacts communications and other important equipment) and the possibility of power failure increases.

Reduction in our energy use will not only be a contribution to reducing pollution but, specifically on “Peak Energy Days”, it can have an above-average impact on our energy costs. The computation of that saving is incredibly convoluted, but we know enough to know that it will help some--and perhaps, significantly—on efforts to trim costs for helping with Collington’s goal of a positive financial bottom line.

What do we do on Energy Peak Days?

On Peak Energy Days, residents are asked to take as many of the following actions as possible, some of which many residents are already doing:

Set the HVAC thermostat 2-4 degrees higher for as long as you are comfortable and, possibly, when you are to be away from your home (some even suggest turning off the AC unit for some time periods).

Minimize use of hot water, especially during the hottest part of the day, 3-6pm

Minimize use of electricity, especially your stove, microwave, dryer, washer, dishwasher, toaster & TV, especially between 3-6pm

Minimize amount of sunlight entering your home, especially when/if in direct sunlight

Minimize charging of electric vehicles

An **Energy Day Alert** is expected from Pepco or our regional Grid Manager (PJM), often only **ONE DAY in advance**. Plans are being made to convey these alerts to residents. It isn't known how many Peak Energy Days will be declared over the course of the Pilot Project, but the guess is less than 10.

There is no "enrollment" to participate in Peak Days. However, AFTER PEAK DAY PARTICIPATION we may ask that you let The Climate Action Committee know about your participation that day. From time to time, residents will be given an easy form for that information so that the Climate Action Committee can assess the level/types of participation relative to the results and use it to inform its efforts toward a more comprehensive Energy Reduction Project for 2024.

Any questions and Reports of Participation can be addressed to the following participants in the Climate Action Committee:

[Note: Contact info has been removed here for publication to a wider audience than Collington Residents.]

MAINTAINING THE PEAK ENERGY DAYS PROJECT

GOAL: Using what is learned from the Peak Energy Days Pilot Project, plan for how it can be sustained as part of an energy reduction program in Collington's Sustainability Plan 2024-2026.

PRINCIPLES:

1. Keep the tasks small but coherent
2. Require small amounts of resident time and with intermittent engagement over a specified period of time (Pilot Project through Sept 2023; more comprehensive Peak Energy Day Program to start in late Spring of 2024 and end in early Fall (4-5 months over hottest weather period).
3. Engage residents without pressuring and provide opportunity for potential participants to fully understand the request of them; preferably, recruit residents who can enjoy the requested participation.

TASKS NEEDED TO ACCOMPLISH THE GOAL:

1. Identify the tasks to be performed to launch observance of Peak Energy Days among Independent Living Residents.
2. Write descriptions of the tasks and invite residents to share the action required in each of the identified tasks (on rotation and by substituting as needed for members of the tag-team).
3. Initiate the Tag-Teams as part of the Pilot Project to work out the kinks and confirm the number of people needed on the various teams.
4. Provide any needed orientation or training for members of the Tag-Teams and solicit their feedback from experience with their task during the Pilot Project.

ALERT

PEAK ENERGY DAY(S)

[hand print days, e.g. **MON, TUES, WED**]

[hand print dates, e.g., **JULY 27, 28, 29**]

Especially, during PEAK HOURS

[hand print hours, e.g. **3PM – 6PM**]

Set HVAC thermostat 2-4 degrees higher

Limit use of hot water

Minimize use of electricity-Stove, microwave, dryer,
washer, dishwasher, toaster, TV

Reduce amount of sunlight entering home

Charge electric car at night

**Thank YOU for joining in
Climate Action!**

TASKS FOR PEAK ENERGY DAY PROJECT

1. OVERALL COORDINATION OF PEAK ENERGY DAY PROJECT
2. CONSULTATION/COORDINATION WITH ADMINISTRATION & RA
3. TRACK PJM & IDENTIFY ALERT DAYS & TIMES
4. PRINT DATES/TIMES ON RA PRINTER AND PLACE COPIES IN BOXES FOR DISTRIBUTION
5. DISTRIBUTION OF FLYERS/POSTERS ON BULLETIN BOARDS AND ELEVATORS
6. FLYERS/POSTERS ON STANDS: & DINING RM
7. POST INFO ON LISTSERV
8. CLUSTER & FLOOR LEADER CONTACT (to residents not on List Serve)
9. INFO ON PEAK ENERGY DAY PROJECT TO NEWCOMERS
10. WRITING/EDITING OF DESCRIPTIVE INFO (FLYERS OR FOR LISTSERV AND COURIER)
11. DESIGN OF FLYERS/POSTERS
12. BUDGET/PLAN RESOURCES NEEDED
13. EVALUATION OF PROJECT
14. PILOT PROJECT REPORTS (To Climate Action Committee, SSAFE, etc)
15. WRITE PROJECT PRESENTATION FOR INCLUSION IN SUSTAINABILITY PLAN 2004-2006