

Minutes

Martha's Vineyard Commission Climate Action Task Force (CATF)

Friday, February 21, 2020

at the Olde Stone Building, Oak Bluffs

CATF members present: Cheryl Doble, Dan Doyle, Alex Elvin, Rob Hannemann, Tristan Israel, Joan Malkin, Kathy Newman, Ben Robinson, Marc Rosenbaum, Alan Strahler, Bill Straw, Noli Taylor, Richard Toole, Kate Warner

Eversource representatives:

Steve Casey, manager of strategic planning
Ronit Goldstein, community relations specialist
Keith Jones, senior planning engineer
Juan Martinez, manager of distribution system planning
Suresh Mukherjee, system planner
John Ventura, manager of distribution engineering

I. Introduction

Ben Robinson opened the conversation by introducing the CATF's work and the importance of working with Eversource to meet its goals. Rob Hannemann elaborated on those points, describing the CATF's development of an energy baseline for the Island, which includes energy coming from off-Island. He pointed to a need for more quantitative goals in general, and a working partnership with Eversource. He said the overall strategy would be simple, focusing on electric transportation, heating and cooling, and noted that such a shift could be seen as benefiting Eversource. He asked to hear Eversource's plan for improving system resiliency in the face of sea-level rise, storms and outages, and information about establishing microgrids at town campuses, hospitals, shelters and elsewhere. (Steve Casey later said Eversource was open to microgrids but he noted their high cost and other factors to consider.) Rob also stressed the need for beefed up infrastructure for electric vehicle charging and electric ferries, and for preventive maintenance.

Steve said the Eversource reps present were the right people to address those issues. He said other communities in Eversource's service area (MA, NH and CT) have similar goals, and that Eversource's ability to advance those goals is limited to infrastructure, since the power itself is obtained from wholesale markets. He said the current focus for Martha's Vineyard is infrastructure for electric vehicles, load requirements and connections – and noted that Eversource can help identify what additional infrastructure is needed.

II. Climate change presentation and discussion

Steve gave a Powerpoint presentation on Eversource and climate change, with questions and comments from Eversource reps and CATF members scattered throughout. The presentation compared nationwide sources of carbon emissions to those in New England, where less fossil fuels are burned for industrial purposes and electric power, but more for housing, commercial uses and transportation. The power mix in New England is about 50% natural gas, 30% nuclear power, 11% renewables, 8% hydropower and 2% oil and coal. (Marc Rosenbaum pointed out that those proportions have changed significantly since 2000.) Steve said he expected renewable energy to increase soon as a result of offshore wind, which has far more potential than the amount contracted so far. He said Eversource is working with Orsted to develop an offshore wind farm but has not yet secured a contract.

John Ventura responded to Rob's earlier comments about preventive maintenance, saying that Eversource considers many factors and invests in maintenance before failure occurs. He drew attention to the double-circuit construction on Edgartown-Vineyard Haven Road, which he called effective but not pretty; the proposed energy storage system in Oak Bluffs (Steve said the ESS in Provincetown is basically done with permitting), and backup transformers in Chilmark that he expected to be finished this year.

Ben asked if the CATF could play more of a role in Eversource decision making, noting the controversy that surrounded the utility poles along Edgartown-Vineyard Haven Road. He proposed that the CATF could help with outreach surrounding projects that align with its goals, and Steve gladly welcomed the offer. Ronit Goldstein agreed that Eversource could do a better job of telling its story, and Noli Taylor encouraged her to communicate with Island groups such as the CATF so that they can share those stories with the community.

Kate Warner inquired about underground cables, but Eversource reps said that option is much more expensive, and potentially harder to maintain. Rob suggested not rejecting the idea outright, since the goal was to look 20 years down the road.

Steve explained that the state allows Eversource to own and operate up to 70 MW of solar power, and that raising that ceiling will require additional legislation that he hoped would move forward this year. He noted that Eversource owns a large amount of land where solar arrays could be installed, but that third-party developers are against the legislation. He also described a program where Eversource recruits people to own, operate and maintain EV charging stations that Eversource installs. He said the incentive for clients was to drive traffic to their businesses and charge for the energy, while Eversource benefits from the additional KW hours. He said Eversource has installed charging stations at 130 locations, with at least four stations each. He concluded by highlighting Eversource's corporate goal of becoming carbon neutral by 2030.

III. Energy supply presentation and discussion

Keith Jones gave a presentation on energy supply and distribution on the Vineyard, also with comments and question throughout. He described how energy arrives on four 23,000 V

undersea cables from Falmouth (three go to West Chop and one to East Chop) and is distributed to about 21,000 meters around the Island. The Island's energy load peaks in summer, especially during heatwaves, the July 4 holiday and presidential visits, but until the mid-'90s, the peak occurred in winter. He said his predecessor at Eversource had been an advocate of all-electric buildings on the Vineyard, until the peak swung over to summer.

In addition to the cables, there are also five diesel generators (three at the Eversource service center on Edgartown-Vineyard Haven Road and two at the MVY Airport), owned by NRG Systems, which supply backup during peak times or when the cables are damaged. A cable failure in 2013 caused a spike in the diesel usage. Keith explained that the proposed energy storage system in Oak Bluffs would supplement the diesels but not replace them altogether, at least not in the near future. (It would also help maintain the existing cables and improve the capacity to host distributed generation facilities in the future.) John said that each cable can be expected to last at least 40-50 years. The diesels are from the 1970s.

The rest of the presentation and discussion focused on supply issues, peak-loading trends, and upgrades to the system since 2000.

Kate asked how energy from the offshore wind farms could be brought directly to the Vineyard, and Juan Martinez explained that it would require a separate cable and a substation on the Island. He said that usually all the energy from a wind farm goes to one location where it can be distributed more efficiently. Rob suggested that the Island would need only about three turbines for its energy needs, and Juan suggested that a smaller-scale wind farm could be effective. In light of the various impacts of wind farms on the Island (including commercial fishing), Tristin Israel argued that Eversource should provide community assistance such as grants or other support to the community.

Eversource plans for peak load so that all other loads can be handled. Keith showed a graph that forecasted a 0.3% increase in peak demand per year through 2030. However, he pointed out that if the Vineyard plans to electrify its transportation, heating and cooling, then the forecast would be higher, possibly even shifting the peak back to winter. Juan added that planning on the Island will entail changes at Eversource to accommodate the peak. "We need to plan as you change it," he said. "If you add a lot of summer load, we have to add infrastructure. If you do it too fast, we might not be able to catch up." In that case, he said, Eversource might need to rely more on the batteries and diesels. "We need to plan together," he said. Rob said he would share the results of the energy modeling tool that Marc has developed.

Juan argued that energy efficiency measures can make a big difference, and the Island could pursue those prior to wide-scale electrification, which would give Eversource time to build. Steve added that enhanced building (or energy?) codes, as well as retrofits, can also influence the growth in peak load. Ronit pointed out that Cape Light Compact provides energy efficiency services to the Island, and that Eversource could not help in that regard.

Marc argued that the current forecast was too low, comparing it to growth since the 1960s, which according to another graph showed a linear increase of about 1 MW per year. But Keith said the 2030 forecast also accounts for energy efficiency measures, demand-side maintenance and solar power. Rob added that the state has projected a 14% growth in our population by 2030, but also that heat pumps will likely be adopted more quickly as a result of milder winters, and because the Island has no natural gas infrastructure.

Upgrades to the Eversource system since 2000 have included the following:

- Installation of a duct bank and other work at the Falmouth substation in 2009
- A new undersea cable in 2013-2014
- Replacement of substation transformers in 2018-2019
- Implementation of DA (distribution automation) switches in mid-2000s
- Interconnection studies for solar farms
- Continued vegetation management in 4-year cycles
- (A proposal to upgrade the Falmouth tap switching station, on which all of the supply in the region depends, is awaiting approval)

IV. Wrap-up

Looking ahead, the Eversource representatives envisioned the Island forging a path for Eversource to follow, in terms of modeling what will change over the next 20 years and how it will affect the energy forecast. (Marc noted that Eversource's modeling for energy loads was likely more sophisticated than the one the CATF is currently using.) Steve singled out electric ferries as a major load that the CATF will need to analyze in terms of both load and timing, along with other significant increases. Once that happens, he said, Eversource can engage more fully on what it means for them. Juan emphasized the need for the CATF and Eversource to work together to inform the public on what the various changes will require. He added that it usually takes 5-10 years for Eversource to build new infrastructure. Steve identified Juan and John as the likely points of contact for the CATF moving forward, since their teams handle systems planning at a high level.

Ben pointed out that there will need to be some feedback from Eversource as ideas come up, and vice versa, and that there will be some changes that can't be forecasted. Joan recommended establishing a regular feedback loop with some degree of formality, in order to ensure progress. Steve said the team would be happy to return every six months or so, or meet with the CATF over the phone as needed, and that Ronit will help tell the story to the community. Juan said Eversource would have more data after the summer, which is when planning often takes place.