

Tisbury Climate Committee

Meeting Minutes

Date: January 3, 2022.

Meeting called to order: by Melinda Loberg, Chair, at 5:32 PM.

Place: Zoom: <https://zoom.us/j/94919773776>
Meeting ID: 949 1977 3776 Passcode: 746312

Attendance: Committee Members: Melinda Loberg, Louise Clough, Anna Edey,
Rachel Orr, Kate Shands, Bill Straw, Bruce Stuart
Guests: Nick Lucas, Nelson Mechanical

Melinda began the meeting by reading the Covid disclaimer and the Zoom information.

Review and Approval of Minutes: Several small corrections and additions were made to the minutes of Dec. 13, 2021. Louise moved that the minutes be accepted, Anna seconded, and the motion passed 7-0.

Steering committee Report: The committee did not meet due to the holidays.

Public Health & Safety Thematic Working Group Report: The group had an initial meeting on Dec. 15 and will meet again this month to begin work.

Discussion: Anna gave a Power Point presentation on her energy activities. She started by saying that she was grateful to the MV Commission and others for addressing Climate Change (CC) and said we are well into it. She noted that blackouts are likely; we need to be planning for life in the face of CC; and we need to decrease carbon dioxide emissions.

She said we really could live without fossil fuels and said she wanted to show us what is possible right now. She added that she has had 40 years of experience doing research and following what others around the world are doing. She then presented her slides, which she will make available to the committee members following the meeting. The following is a summary of her slides:

The water tower could be self-sufficient; it has plenty of space for PV panels and batteries, and there could also be a PV canopy over the Park & Ride. PV panels get very hot and lose power efficiency as they get hotter; it is possible to harvest the solar heat and thus increase efficiency from 20% to 40-60%; and in addition, it can provide heat for the building.

The VH library proposal plans to use 99 PV panels, which would provide 36,000 kWh/year. It would be possible instead to put 217 panels on the building, harvesting both electricity and solar heat, and produce 400% more solar energy. She demonstrated changes that could easily be made in the building which would allow for that.

The Emergency Services Facilities (ESF) could have more solar panels on the roof, on shades over the doors and windows, on the East-facing roof, and in the back. Mini splits could provide for heating, cooling, and dehumidification. Adding some other features would allow it to be used as an emergency shelter. (Note: the ESF is already fitted out with a complete kitchen, including stove [we want to make sure it's an electric stove], refrigeration, industrial ice-maker, and dishwasher.)

The police station could have solar panels that would provide 70,000 kWh annually, which would provide for energy self-sufficiency and would reduce 50 tons of CO₂ emissions annually. The Tisbury School can be 100% net zero energy efficient. The Tappe design would not make a sustainable school, being 56% short of net zero. The Tisbury School Building Committee needs to consider Anna's improved design which would meet the standard they set of providing a "physical demonstration of environmental stewardship and innovation, providing a local case study for a sustainable school" and would provide 4 times more energy than the Tappe design. Anna's design includes a solar roof, windows that could provide heat, and a full ballcourt that does not require tearing down the gym.

Finally, she outlined a possibility for the island to be self-sufficient in the area of food security. She discussed the use of Solviva greenhouses and how much food they can provide. She said one acre of Solviva greenhouses could provide 5 salads weekly for 2,000 people, plus 230,000 eggs and 5,000 pounds of chicken. Ten acres could provide for a population of 20,000 people.

Melinda made one correction to Anna's presentation, saying the ESF is on the sewer system; the leaching field in the back of the building is one of two for the town sewer system and is not for the ESF alone. The hope is to eliminate the need to use this leach field as it is partly in the Tashmoo watershed and adds nitrogen to that estuary.

Rachel asked how many farmers, or employees would 10 acres of greenhouses require, and Anna said she can't answer that question right now. She said people could not believe how productive her greenhouses were, and that she can provide more information.

Melinda commented that many of our farms are beginning to use greenhouses, and they would be interested in Anna's information. Anna said she wants to talk to the Food Security Thematic Working Group (TWG), and she will have firmer financial information at that time.

Melinda said the information on Town buildings harkened back to Bill's information on energy consumption and conservation in those buildings and created a segue to the committee's goals. Anna said we need to make a proposal for the Senior Center, for example.

Bill said he met today with Jay and Kirk and will meet again on Friday with them and others. He said it's important to set measurable goals in preparation for Climate Change. He said Jay estimated a 2.5 foot rise in sea level by 2040, and Bill said we should plan for 7 feet. In setting goals, we need to set the easiest ones first. The first step should be to put heat pumps on five Town buildings by a certain date. We need to get bids for those projects. We need to address 3 systems in each of the buildings: lighting, hot water, and heating and cooling. Heat pumps are the heaviest lift. He said If CVEC does the projects for us, we lose money. We need a payout from the Massachusetts SMART program instead. The fire station provides the Town with \$10,000 per year, and we save \$17,000 a year in energy costs. Those amounts will pay off the initial investment of \$122,000 in 8 years and will provide \$200,000 in savings in 10 years.

He said our two most important priorities are sea level rise and the Town buildings. He said we should research how the town can purchase the landfill solar array when its contract is completed. What we would save on electricity is more than the cost of the loan. We need exact numbers for those savings and costs.

Nick said that he is in the business of engineering and installing heat pumps and would be interested in attending our meetings regularly to assist with discussions where he has expertise. He mentioned RISE Engineering and Mass Save and said we need to assess the cost of high-energy system installations. He said there is a seasonal energy exchange ratio (SEER) of money to BTU's generated, and heat pumps are 200-300% more energy efficient than current systems. Bill commented that CLC uses RISE and they have done a lot of work in Tisbury. Louise said we won't be making the decisions but will be making recommendations instead. She said from her own small experience with solar panels, it takes a long time to get them installed.

Rachel said that we should be looking at energy generation on individual buildings versus a microgrid system. She added that we need to know what our vulnerability is, for example at Five Corners. If there are holes in our basic information, we need to fill those in.

Melinda said that there is Storm Tide Pathways (STP) information, and she has it. Jay added a warrant article to have an engineer do what Rachel outlined. Bill added that the STP information is available on the MV Commission website. He said that if we want to interconnect the Town buildings with microgrids, there is one problem at present. The power companies have laws restricting power lines crossing state highways. He would love to have the wells and the water company connected, but that for the moment, each building has to stand alone. He said that for shelters, we need battery backup and generators.

Rachel said we should suggest that we designate space for batteries even if they are not installed now. When she was on the School Building Committee, that was not part of the plan. She asked where could it go? Across the street? And the same for the library: where is the logical place to put it? Anna said we need to advise the Select Board.

Melinda said we need to develop a plan: by 2040, x will happen, and what do we need to do in the meantime? We need to make recommendations in letters to the various committees. She added that letters would be the minimum input; attendance at meetings would be better. We need to co-ordinate with capital planning for the town.

Rachel said that Jonathan Snyder [Finance Director, Town of Tisbury] prepares a capital plan every year and asked if we have to talk to a person at each building or if Kirk submits plans for everybody. Melinda said going through Kirk reaches all buildings. Rachel said except for the school and the library.

Melinda said the library is interesting. There is a private funding plan for the addition, but in the process of planning for that addition, they uncovered problems. Those problems increased the project to a retrofit of the whole building, so it's a much bigger project than originally envisioned. Anna asked, what is the best time to talk to their committee? Melinda answered that first, we need to write things down that will be the basis of what we present.

Anna said we won't be living here if there is 7 feet of sea level rise. There will be no ferry and no beaches. Bill said there's a lot we can fix to address that possibility. Melinda said we can only look as far ahead as 2030-2040, and we have pretty good data on sea level rise. We have to work with what we have, and we can work with those numbers.

Bill reminded the Committee that we can apply for \$250,000 twice a year (in February and September) from Green Communities. We have only applied for \$140,000 for a heat pump at the police station and \$63,000 for a heat pump at the DPW. We had to forfeit some of that money because the bids were too high. We will miss the February grant unless Kirk re-submits our previous request.

Melinda asked Bill if the two of them could work on an outline of our priorities and circulate it to everybody on the Committee, since time is of the essence.

Rachel commented that the time to submit financial articles has passed. She said she doesn't know if there is time this year to gauge Town support for the plan for the buildings. She said a non-binding warrant article would help Town committees have a vision for future funding.

Anna commented that it will be important for people to know that we would actually be *saving* money, not spending more.

Melinda said we need to go beyond municipal buildings and roads; we need to help the community be more energy efficient, for example to have residents install heat pumps. She said Yarmouth had put out an RFP for homeowners to make homes more energy efficient. Bill said we need a list of homes in Tisbury that have heat pumps and asked if we wanted to buy 1,000 heat pumps of various sizes, would it benefit the community, that is, would there be an economy of scale?

Nick said 30 % of homes in Tisbury have heat pumps. He mentioned MassSave and said Massachusetts wants to be fossil-free by 2040, and to be 70% of the way there by 2030. He said there will be a massive influx of heat pumps in the next 3 or so years, but he said each home is individual, and each installation is individual, so it would be easier to set up a cost-reduction plan for homeowners, and to design it like MassSave has done, to give money back to homeowners.

Melinda said that would be good as long as we could find a financial resource.

Rachel said Kirk had talked about a resource for commercial buildings, and asked if there was anything that would keep us from having a revolving fund or a betterment or a subsidy.

Melinda said the state has a program for homeowners who can't afford it, but there's not much money in it. She said there will be a PACE presentation at the West Tisbury Select Board meeting on Wednesday at 4:30, and that she has the Zoom information. Anna said she liked the idea of buying heat pumps at wholesale prices straight from manufacturers; installers could buy at that price and do the work, and we could look for state rebates.

Melinda said we need to look at how to finance these plans.

She set the next meeting for January 24, because January 17 is a holiday.

She also asked Anna to e-mail her Power Point presentation to the Committee.

Adjournment: Motion to adjourn by Bill, seconded by Louise. The motion passed 7-0. The meeting was adjourned at 7:02 PM.

Next Meeting: January 24 at 5:30 PM.

Minutes Submitted by: Kate Shands