

Dunbarton Energy Committee Meeting Minutes, January 17, 2022 (Virtual meeting)
Members Present: Bob Ray, Dana Lavoie, Mike Kaminski, George Holt, John Stevens
Public: None

Meeting opened at 7:06 PM

1. Public comment: None

2. Dec. 20, 2021 meeting minutes approved

3. School Solar electric.

- Property restrictions make Fogg property on Gorham Pond Rd. not a possible site for solar panel field installation
- Town property C3-01-02 looks to be a good installation location. Check for any other possible use restrictions
- Check Eversource for power line feed capacity and 2 or 3 phase availability. Estimated line capacity 168 kw.
- Will need a shed for power meter
- George will send out property boundary drawing. Downloadable on Google Earth.
- Dana will contact Granite State Solar to involve them in site evaluation.

4. Status of the school hot water solar panel system.

- On hold for weather for roof access.

5. Residents' advice and tours for Solar and other energy savings opportunities

- With little response so far, Dana will re-post the DEC offer on the Facebook Community Group page and the EC website.
- Bob will check the DEC email contact address.

6. School energy savings

- Bob and John will do a thermal camera walkthrough of the school in the next few weeks.
- John will explore cost for a professional energy audit. The last audit was performed in 2011.

Meeting adjourned at 8:22 PM

Next meeting: February 21, 2022

Respectfully submitted: John Stevens

Dunbarton Energy Committee Meeting Minutes, March 21, 2022 (Virtual meeting)

Members Present: Bob Ray, Dana Lavoie, David Elberfeld, John Stevens

Public: None

Meeting opened at 7:00 PM

1. Public comment: None

2. January 17, 2022 meeting minutes approved, no meeting in February

3. School Solar electric.

- Dana contacted Granite State Solar for initial assessment of town property lot C2-01-02 in Rt.77.
- The Rt. 77 site has good southern exposure.
- Site is quite level and will need only modest tree clearing.
- Dana will meet with members at the site for review.
- Once initial investigation is done, Dana will contact more Solar installers
- Not near neighbors property and not visible to neighbors.
- Concerned that there are no power poles on property, only phone lines.
- Nearest power line to east may not have 3 ph. service. Nearest power line to west comes from Ray Rd, 10 to 15 poles away. Will need a transformer to connect to solar site.

4. Status of the school hot water solar panel system.

- On hold for weather for roof access.

5. Bow Energy Committee.

- John will contact them to check on their progress. Have they done any Town Solar installations?

6. Residents' advice and tours for Solar and other energy savings opportunities

- Earth day is April 22.
- Dana could set up a tour of some resident's homes exhibiting energy related installations
- Bob will check the DEC email contact address.
- Conduct during a 4 hour period on or the day after Earth Day. Live or Virtual?
- David will make a listing his solar array performance.
- Dana will contact Police Chief to show his electric car

6. School energy savings

- Bob and John did a thermal camera interior walkthrough of the school a few weeks ago. No major problems seen, just some small fixes involving leaks or small missing insulation areas.
- Possibly inside storms on north facing windows.
- John will contact auditors for a whole-school professional energy audit and any possible rebates on cost.

7. Dana presented the idea of an electric police vehicle. Will meet with the Police Chief to provide information.

Meeting adjourned at 8:01 PM

Next meeting: April 18, 2022

Respectfully submitted: John Stevens

Dunbarton Energy Committee Meeting Minutes, April 18, 2022 (Virtual meeting)
Members Present: Bob Ray, Dana Lavoie, David Elberfeld, George Holt, John Stevens
Public: Jessica Dunbar, Bow Energy Committee

Meeting opened at 7:05 PM

1. Public comment: Jessica Dunbar announced the restart of the Bow Energy Committee.
2. March 21, 2022 meeting minutes approved
3. School Solar electric.
 - Dana contacted Granite State Solar. They are not interested as the project is not part an existing facility and needs a meter added.
 - Dana is looking at other firms and rough specifications, will set up a Google Drive to share documents.
 - Former director of Five Rivers Assoc. is now with Revision Energy.
 - John will seek installer names for other area municipal solar installations
 - This installation will be 2 to 2 ½ times the size of the transfer station installation.
 - George will speak to the selectmen about this installation and possible warrant article.
4. Status of the school hot water solar panel system.
 - Now that weather is getting warmer George will work with Dana
5. Bow Energy Committee.
 - Will discuss sharing this year's energy Expo, Bob will need additional help as he will be out of town at camp for the summer.
6. Residents' advice and tours for Solar and other energy savings opportunities
 - Dana very interested in this activity but his schedule is quite busy with trips and vacation.
 - Get residents to make a list of items they can show. Maybe get pictures of their items?
 - Maybe 5 or 6 sites?
 - Dana will post on the Dunbarton Community Facebook page to solicit residents display sites.
 - Visits maybe Saturday mornings, around Memorial Day, May 21 or June 4 display dates?
 - Mention the Energy Expo on the visits?
7. School energy savings
 - The last school energy audit was done in 2011, should do a current audit. John will investigate who and when.
 - Bob and John recently did thermal images of the school, interior and exterior.
 - Look at present situation for heating/ventilation system balance.

Meeting adjourned at 8:11 PM

Next meeting: May 16, 2022

Respectfully submitted: John Stevens

Dunbarton Energy Committee Meeting Minutes, May 16, 2022 (Virtual meeting)

Members Present: Bob Ray, Dana Lavoie, David Elberfeld, George Holt, Mike Kaminski, John Stevens

Public: Jessica Dunbar & Michael Leuchtenberger from Bow Energy Committee

Meeting opened at 7:02 PM

1. Public comment: None

2. April 18, 2022 meeting minutes approved

3. 2022 Energy Expo

- October 1 event date approved
- Invitation emails to be sent from and replied to Dunbarton and Bow committee email addresses
- Jessica has created a vendor and exhibitor spreadsheet in Google Docs and requested gmail addresses of DEC members to let her share the spreadsheet with them.
- Contact Goffstown Ace Hardware for LED lamp donation. Offer lamps to kids that attend. (From school energy kids session)
- Share attendee gmail addresses to Dana, Jessica and Michael.
- Bob will share vendor 2019 invitation text to Jessica

4. School solar electric.

- Dana looked further at the potential Rt. 77 site
- Land assessment good, dry and level
- Dana spoke to Revision energy. 3 possible options: Single phase possible up to 100 Kw but the desired proposed capacity is 150Kw. 80 – 100 Kw array not feasible for tax breaks. Needs fencing and tree clearing, additional costs.
- Revision comments: 1- reach out to the Bow school district to share output and find a larger 3 phase available site. Possible issues if Dunbarton is not connected with the Bow district in the future. 2- School roof is suitable for solar installation and connection but would likely have less output to fully meet school's electric use.
- GSS not interested in the project at the present Rt.77 site.
- Dana will continue to speak with Revision and GSS.

5. Status of the school hot water solar panel system

- Now that the weather is improved, George will go the roof to examine the panels to correct issues.

6. Progress on tours of residents' homes for solar and other energy improvements: Update in future.

7. School energy savings opportunities.

- John will get quotes from professional energy auditors.

Meeting adjourned at 8:15 PM

Next meeting: June 20, 2022

Respectfully submitted: John Stevens

Dunbarton Energy Committee Meeting Minutes, June 27, 2022 (Virtual meeting)

Members Present: Bob Ray, Dana Lavoie, David Elberfeld, George Holt, Mike Kaminski, John Stevens

Public: None

Meeting opened at 7:15 PM

1. Public comment: None

2. May 16, 2022 meeting minutes approved

3. 2022 Energy Expo

- Granite State Solar will be attending with table
- Revision will attend only with workshop
- Capital Well will attend so not contacting Skillings

4. School solar electric.

- Dana is looking at both Revision and Granite State Solar for information, quotes and suitability of site.
- Dana will meet with Revision in June 30 on panel location on School roof.
- The Rt.77 site out of the picture as it lacks 3 phase connection and lacks financial attractive. The school roof location has 3 phase available.

5. Status of the school hot water solar panel system

- George found a small leak in a tube in a panel and repaired it.
- Still can't find a remote way to track the system output, Dana can connect on-site.

6. Progress on tours of residents' homes for solar and other energy improvements.

- John will refer a resident request for solar advice to George.
- Will hold on our audit service till cold weather seasons.

7. School energy savings opportunities.

- John will get quotes from professional energy auditors.

8. Town solar system

- One panel has reduced output, inverter or wiring, GSS will check.

Meeting adjourned at 8:25 PM

Next meeting: July 18, 2022

Respectfully submitted: John Stevens

Dunbarton Energy Committee Meeting Minutes, July 18, 2022 (Virtual meeting)

Members Present: Bob Ray, Dana Lavoie, Mike Kaminski, John Stevens

Public: None

Meeting opened at 7:02 PM

1. Public comment: None

2. June, 27, 2022 meeting minutes approved

3. 2022 Energy Expo

- George met with Joshua Singer from local Energy Solutions on EV exhibitor availability
- Dana contacted Goffstown Ace Hardware
- Goffstown Minisplit declined
- Bow Plumbing will participate, location outside gym entrance
- We need advertising on the Common and Library

4. School solar electric.

- Dana visited school with Revision Energy to examine facility. Looked at main electric panel, 3 phase connection and roof.
- Police and Fire may be doing major roof work over the next year or so.

5. Status of the school hot water solar panel system

- No change in monitoring system yet
- Dana can connect with George at school to do quick monitor of circuits and switches.

6. Progress on tours of residents' homes for solar and other energy improvements.

- Dana had information on Iceland hydro-electric: Rejkavic has most outdoor pools heated during winter, heated year round, may send hydro-electric to Great Britain.

7. School energy savings opportunities.

- John will look for winter timing for professional energy auditors.

8. Interface with town residents

- Dana had an appreciated conversation with a town resident on solar installation at their home.

Meeting adjourned at 7:42 PM

Next meeting: August 15, 2022

Respectfully submitted: John Stevens

Dunbarton Energy Committee Meeting Minutes, August 15, 2022 (Virtual meeting)

Members Present: Bob Ray, Dana Lavoie, Mike Kaminski, John Stevens

Public: Jessica Dunbar

Meeting opened at 7:04 PM

1. Public comment: None

2. July 18, 2022 meeting minutes approved

3. 2022 Energy Expo

- 16 participants so far.
- Vendors: Yankee Thermal Energy, Newell Crathern, Shakes and Shingles, Misubisihi Electric, waiting application from Bow plumbing and others.
- Revision to do workshop and if wanted, table for brochures.
- 14 tables needed so far, 8 for businesses and 6 for non-profits.
- John will do a floor layout drawing with locations for electric and back surface once attendees are confirmed
- Electric vehicles: one owner, Bill Barry bringing self and vehicles, Jessica's husband with electrical vehicle. Joshua singer will contact others, George will call him and Grappone.
- Kids' activity: Jessica will consult with Bow schools for personnel available when schools open.
- We have about 70 lawn signs, all need event date stickers.
- John and Bob will count signs and stands we have and then pick locations.

4. School solar electric.

- Dana has met two times with Revision at the school and examined electric panels and location of the 3-phase electric line.
- The proposal is for a 100 Kw school roof mounted system.
- Probably lease with buyout in 5-6 years, the installer must own the system for 5 years to take advantage of tax and incentives.
- Dana can pass around the financial details to members.

5. Status of the school hot water solar panel system

- No change in monitoring system yet.
- George can monitor output inside the school system but remote monitoring is not available.

6. Progress on tours of residents' homes for solar and other energy improvements.

- Voted to delay discussion of this until post-Expo, January/February.

7. School energy savings opportunities.

- Voted to delay discussion of this until post-Expo, January/February.

8. Other matters to discuss.

- None

Meeting adjourned at 8:23 PM

Next meeting: September 19, 2022

Respectfully submitted: John Stevens

Dunbarton Energy Committee Meeting Minutes, Sept 19, 2022 (Virtual meeting)
Members Present: Bob Ray, Dana Lavoie, Mike Kaminski, John Stevens

Meeting opened at 7:00 PM

1. Public comment: None

2. August 15, 2022 meeting minutes approved

3. 2022 Energy Expo

- Will do preliminary set-up the Friday evening starting at 6:30. Involves marking vendor/exhibitor locations, moving carpet strips, setting up workshop room chairs in the Library and a classroom. Mike, George, Jessica and John will do.
- No more replies yet on EV dealers, George re-contacted Grappone, no response yet.
- Jessica's co-workers with their Tesla likely to attend.
- Bow Plumbing will present an efficient gas water heater.
- Chris Daley may present heat pumps
- Jessica suggests contacting WMUR, NHPR, Concord Monitor to advertise the EXPO
- We need larger wall signs at the event to post workshop locations and schedules and EV test drive locations. Jessica will design and George will print 24 X 36 inch signs.
- Workshop presenters will need HDMI to USB adapters to plug into the video projectors.
- John will get the EXPO notice and poster on the Dunbarton town website. Bob will post the EXPO notice on Facebook again a week before the event.

4. Other matters to discuss.

- None

Meeting adjourned at 7:35 PM

Next meeting: October 17, 2022

Respectfully submitted: John Stevens

Dunbarton Energy Committee Meeting Minutes, October 17, 2022 (Virtual meeting)

Members Present: George Holt, David Elberfeld, Mike Kaminski, Dana Lavoie, Bob Ray, John Stevens

Public: None

Meeting opened at 7:05 PM

1. Public comment: None

2. August 15, 2022 meeting minutes approved

3. 2022 Energy Expo

- Solar vendors except Revision a no-show
- Revision Solar ran a well attended workshop but did not use table provided on the event floor.
- 8-10 EVs attended in the parking lot with a shelter tent and 8 – 10 EVs, all Tesla, well attended.
- Net Zero very active plus selling a book.
- Attendance was short of 80% of expected. 90% were from Dunbarton and Bow.
- Bow energy committee said it was a success.
- Jessica has suggested next year's event could be better scheduled in November.
- Possibly have other towns energy committees, Pembroke and other more participate in event organization. Possibly Hooksett if they have an energy committee.
- Voted to approve reimbursing Bob Ray for EXPO Green Energy Times advertising costs (\$245) and sign stickers (\$105.59).

4. School Solar Electric.

- Dana presented preliminary proposal information with PPA method from Revision and noted possible cost reduction from State.
- No up-front payment, 5 years till payoff.
- Investment protection, act allows 30 % reduction in cost.
- They work also with non-profits.
- Would cover all electric use.
- 100 Kw AC size gives best return, includes all bill factors. Larger size includes only supply charges.
- System would have 349 panels with "string" inverter.
- We could do further work on reducing the site's usage for additional savings.
- Check August usage, it looks high for a period when school is not in session.
- Buyout would be at 62% vs the 28% at the Transfer Statin system.
- With PPA agreement there would be no up-front or maintenance costs for the first 5 years.
- Next steps could be a presentation to the School Board. Mike will contact the Board when we could have an informational meeting with them

5. School Hot Water Solar

- George related that the system is working to some degree, actual data not seen lately.
- We would like to look at a system to track output / performance.

6. Resident homes tours.

- George and Dana offered to present tours of their solar systems.
- Look at "SENSE" usage tracking system which monitors individual appliance usage.

7. School energy savings opportunities.

- John will send out past energy audits and reports from the.

8. Other matters to discuss.

- None

Meeting adjourned at 8:45 PM

Next meeting: November 21, 2022

Respectfully submitted: John Stevens

Dunbarton Energy Committee Meeting Minutes, November 21, 2022 (Virtual meeting)
Members Present: George Holt, David Elberfeld, Mike Kaminski, Dana Lavoie, Bob Ray, John Stevens
Public: Brian Watford

Meeting opened at 7:01 PM

1. Public comment: Brian Watford Would like to be an EC member. Members approved.
2. October 17, 2022 meeting minutes approved
3. School Solar Electric.
 - Dana has presented the project to the School Board. They are conceptually interested in this project.
 - Approved Revision to present at a future School Board meeting.
 - Dana also reached out to Norwich Solar for a proposal.
 - Dana sent George last 13 months of school electric usage, George will put into a spreadsheet
4. School Hot Water Solar
 - George will re-check operation and data access, last checked in early fall.
 - We would like to look at a system to track output / performance.
5. Resident homes tours.
 - On pause till spring.
 - Residents can visit homes for interest in technology, solar PV, electric vehicles and more.
7. School energy savings opportunities.
 - Good idea to get a new energy audit.
 - George will present electrical usage information as needed
 - Blinds and shutters are seldom used at night.
 - George: need to analyze electric usage points and heating fuel usage.
 - Brian offered to head up electric and heating fuel usage.
8. Other matters to discuss.
 - Dana got information on "SENSE" usage point monitor.
 - The SENSE tool monitors wave forms to identify devices
 - Should the EC purchase a system? Lower price is being offered, \$220 per device.
 - Will support sub-panels.
 - Use EC website to list contractors for home evaluation.

Meeting adjourned at 7:45 PM

Next meeting: December 19, 2022

Respectfully submitted: John Stevens

Dunbarton Energy Committee Meeting Minutes, December 19, 2022 (Virtual meeting)

Members Present: George Holt, David Elberfeld, Mike Kaminski, Bob Ray, Brian Watford, John Stevens

Public: None

Meeting opened at 7:03 PM

1. Public comment: None

2. November 21, 2022 meeting minutes approved

3. School Solar Electric.

- It was mentioned whether NH might follow the way that California PUC has lowered the payback rate from .30 / kwh to .08 / kwh. Investment payback term could change from 6 years to 20 years.
- We need to check with Revision Energy on their net metering calculations.
- NH does not payback on distribution charges.

4. School Hot Water Solar

- Further activity on hold till spring

5. Resident homes tours.

- On pause till spring.

6. School energy savings opportunities.

- After consulting with the School Board for their thoughts and approval, John can get energy audit quotes.
- Who is the school heating system maintenance and installation people.

7. Town Solar

- George will calculate the town solar savings on town buildings.
- Note difference from before installation to current cost status.
- Will supply data by our next meeting and maybe put in town report.
- Mike noted that there has been a big rise in school electric use.
- Mike has installed a ground source system at his home. He is currently paying \$2.49 per gallon for fuel using a fuel club supplier

Meeting adjourned at 7:34 PM

Next meeting: January 16, 2023

Respectfully submitted: John Stevens