



ENERGY & CLIMATE COMMITTEE MEETING AGENDA

Friday, March 6, 2020, 8:00 AM

2nd Floor Committee Room, City Hall

Members:

Dr. Ann Shedd, Chair
Peter Hansel, Vice Chair
Terry Clark, Councilor
Jake Pipp
Ken Dooley
Cary Gaunt

Anna Schierioth
Rod Bouchard
Andrew Dey
Zach Luse
Meaghan Rafferty (member-elect)
Paul Roth (alternate member-elect)

Staff:

Rhett Lamb, ACM/Community Development Director
Mari Brunner, Planner

1. Call to Order and Roll Call
2. Approval of February 5, 2020 Meeting Minutes
3. Introduction of new members
4. Committee Rules of Procedure
5. Energy Plan
 - a. Community Survey – KSC Energy Cost Project
 - b. Focus Group De-brief
 - c. Electricity Sector - Evaluation Criteria & Strategy Prioritization
 - d. Evaluation Criteria & Strategy Prioritization for Thermal and Transportation Sectors
 - e. Planning for Community Forum #2
6. Upcoming Dates of Interest
 - a. Sat. March 14 – Solarize Monadnock Solar Fair
 - b. Mon. March 23 – NHSaves Button-Up Workshop
 - c. Thu. April 2 – Cadmus Presentations (lunchtime and City Council meeting)
 - d. Sat. April 25 – Green Up Keene
 - e. Sat. April 25 – Monadnock Earth Festival
7. [Carbon Cash-Back Coalition](#)
8. Game of Floods
9. New Business
10. Next Meeting: Wednesday, April 1, 2020
11. Adjourn

City of Keene
New Hampshire
ENERGY AND CLIMATE COMMITTEE
MEETING MINUTES

Wednesday, February 5, 2020

8:00 AM

**Second Floor Committee
Room, City Hall**

Members Present:

Dr. Ann Shedd, Chair
Anna Schierioth
Peter Hansel, Vice Chair
Ken Dooley
Terry Clark
Zack Luse
Rod Bouchard
Jake Pipp

Members not present:

Cary Gaunt
Andrew Dey

Staff Present:

Mari Brunner, Planner

Guests present:

Carolyn Jones
Nancy Gillard
Dee Robbins
Corinne Marcou
Chuck Weed
Pat Martin
Meaghan Rafferty
Sparky VonPlinsky
Scott Maslansky
Dori Drachman

Dr. Shedd called the meeting to order at 8:01 AM.

1) Roll call

Roll call was conducted.

2) Approve January 8, 2020 minutes

Vice Chair Hansel moved to accept the January 8 minutes with amendments, Mr. Bouchard seconded and the motion passed unanimously.

Revisions are as follows:

On Page 6, change Mr. Fromuth Fromuth to Mr. Bart Fromuth

3) Energy Plan

a. Timeline and Work Plan - through June 2020

b. UNH Sustainability Fellow Program

Ms. Brunner stated that the City of Keene submitted an application for the UNH Sustainability Fellow Program; a program that provides high performing graduate students with real world sustainability-related job experience working on a sustainability project. She said the program has been running for a number of years; she spoke to several other cities who have participated in the program and received very positive reviews from them about their fellows. She said that the City decided it would be advantageous to have a fellow who could help with the development of the Energy Plan. Ms. Brunner announced that the City submitted a proposal to the program in early December and that Keene has been selected for placement of a fellow. Ms. Brunner noted that the fellow will work about 400 hours on-site, full-time from early June to mid-August. She stated that in order to prepare for the fellow to come onboard, she would like a draft of the Energy plan prepared by early June. She said this timeline is considerably earlier than they had previously anticipated.

Ms. Brunner stated that the memo for the job description for the Sustainability Fellow position is included in the packet; applications are being accepted until February 10 and interviews will take place in March. She directed members to the draft timeline that she included in the packet which she is proposing will guide their efforts to prepare the draft by early June. Ms. Brunner noted that time at the next few ECC meetings will be dedicated to receiving feedback on drafts City staff produce. She said under February the City aims to establish goals and objectives, identify key metrics and establish focus groups. She said she would like to review the first two items with ECC today. Ms. Brunner stated that at the ECC March meeting, they will review the criteria needed to prioritize strategies, as well as go over the draft of the community survey that will go out to the community in March and April. She said in April, they will ideally come into the meeting with a draft implementation plan or table for members to review, and in May they would present a draft plan and get committee feedback. She said in June they would have a revised draft prepared. Ms. Brunner stated that this is somewhat of an aggressive timeline so it would require support during the May and June meetings from the committee. She requested that members support dedication of committee time in March, April and May meetings to this effort. Members agreed.

Vice Chair Hansel said they will need to keep agenda clear of other items during the next three meetings. Dr. Shedd proposed extending their meeting times to accommodate this plan as there will be a lot of material to cover. She said they used to meet for an hour and half and now they meet for an hour and a quarter with the extra working group sessions, and that is one option to consider with the extra work they will have for accommodating the plan. She said they will need more time in March to get through the material needed, with the exception of County folks, as they have their own meeting. Mr. Bouchard suggested setting a different time session to go through the material. Dr. Shedd replied that Ms. Brunner is very busy in February implementing the time table and preparing for the Energy Plan draft. She said she will be running two focus groups and working on goals and objectives presented in the packet today. Ms. Brunner asked if members like the idea of having a longer session in March as scheduling is often difficult and they need at least six members present for quorum. She said she can send out a Doodle Poll to see how many members can attend for a two and half hour time slot which will replace the regular March meeting.

Mr. Pipp asked Ms. Brunner if the City has acquired the baseline electricity information from Eversource and Ms. Brunner replied that they have. Ms. Brunner replied that she included the electricity context for federal state and local policies and incentives that pertain to renewable electricity in the January ECC meeting packet, however, she may not have included the baseline information. She said she can send that information out to the committee. Dr. Shedd stated that Ms. Brunner and Mr. Lamb have discussed how to come up with metrics for the thermal and transportation sectors which will present much more of a challenge in acquiring than the electricity.

c. Draft goals, objectives, and evaluation criteria for strategy selection

Ms. Brunner stated that an attachment is included in the packet called “Clean Energy Plan- Draft Goals/Draft Strategies.” She stated that the draft she prepared covers goals for each sector, as well as the strategic approaches or methods for attaining each goal. She said underneath those goals and strategic approaches, she provides example objectives to achieve each goal. Ms. Brunner stated that the goals for the electricity, thermal and transportation sectors have been set forth under the Resolution; for example, the goal for the electricity sector states that 100% of all electricity consumed in the City will come from renewable energy sources by 2030; some strategic approaches toward achieving that goal could include (1) reducing electricity demand and usage for buildings in all sectors, (2) increasing local distributed renewable energy generation and (3) procuring renewable energy to meet the remaining electricity demand. She noted that those represent the three main categories that would entail more specific action items underneath. Ms. Brunner stated that she would like to review the strategies for the electricity sector and asked for member feedback on the three main approaches she has developed.

Vice Chair Hansel stated that Ms. Brunner has covered the three main areas and asked for further clarification between strategies two and three. Ms. Brunner replied that strategy two is aimed at promoting the development of renewable energy systems within Keene and the immediate surrounding region, and strategy three is focused on procurement of renewable energy from outside of Keene’s borders. Dr. Shedd suggested including energy storage as an element of strategy two. Members agreed.

Ms. Brunner asked for member feedback on the strategies and approaches for the thermal sector (heating/cooling). She said as stated in the Resolution, the goal is that 100% of thermal energy in the City will come from renewable energy sources by 2050. Strategic approaches that she has identified are (1) reduce thermal energy use in all buildings in all sectors and increasing energy efficiency (2) increase local renewable energy generation using renewable technologies such as solar thermal and geothermal technologies generated locally, (3) encourage fuel switching to renewable energy sources, for example, replacing furnaces and boiler systems with ducted heat and mini split heat pumps, or switching to biomass or biogas.

Councilor Clark stated that the heart of this whole effort was aimed at clean energy and proposed they be more specific. Vice Chair Hansel added that they do not know right now what the technology will evolve into in the future and they need to remain open to new technologies generated by renewable sources. He said switching to electric does not necessarily solve the clean energy problem as the source may not be clean. He proposed drafting the plan in such a

way that will accommodate emerging technologies. Ms. Brunner said they have gotten a lot of feedback from the community outreach and stakeholder groups they held last summer and throughout the fall and winter, as well as from the workshop in October, and people are generally in favor of promoting clean energy and the plan should define that up front. Councilor Clark agreed as that will help them present their case to the Council.

Dr. Shedd added that early on in the planning process, the committee identified values of the plan and those were never finalized. She said the consideration of what they are calling “renewable” or “clean energy” fits into the category of values and resilience that the group tried to address in their vision and values statements. She said the committee will need to develop a statement about their vision and values, however, right now they do not need to dive into those weeds quite yet. She suggested focusing instead on the core strategies needed to move the plan forward right now. Mr. Bouchard agreed that once you start considering residual materials from operations, that question becomes more relevant, for example, there is no good way to recycle solar panels right now. Ms. Brunner agreed that this is a conversation that needs to be continued, and she has been using the visions and values statements the committee came up with in their retreat as guiding principles for developing the strategies. She said overall there was consensus among members that renewable energy should not harm the environment. Vice Chair Hansel suggested adding categories for encouraging state and federal advocacy as well. Ms. Brunner asked for questions and feedback about the thermal sector. Dr. Shedd stated that there are specific technologies like district heating and smart grids and larger infrastructure questions which they will have to address in the thermal strategic planning section and that may fall under the state and federal levels.

Ms. Brunner stated that the goal for the transportation sector also stated that 100% of energy in the ground transportation sector should come from renewable energy by 2050; she proposed that they limit this to vehicles registered in Keene. She said she used Burlington, Vermont as a model as their “Roadmap to Net Zero” plan details how they will get to their goal by 2030 or 2040. She stated that limiting this sector to ground transportation is practical as they do not have much control over air transportation.

Dr. Shedd suggested they do make passing mention of air transportation in the plan and Ms. Brunner agreed, however, it makes more sense to focus on ground transportation first as they can really only influence vehicles registered in Keene. She said that their previous methodology for the greenhouse gas inventory was based on vehicle miles traveled calculated using traffic counts for all vehicles that pass through Keene, whether they are residents, visitors, or just people passing through. This time, she proposes that they focus on Keene residents with this effort. Dr. Shedd added that a large percentage of Keene’s daily workforce is coming from outside of the City, and in terms of economic development tourism is a source, so she suggested they should address electrification of transportation and encourage the development of EV charging infrastructure. She said they have less control of what happens outside of Keene, however, it is a piece of Keene’s total emissions. Vice Chair Hansel agreed that the City cannot control emissions from visitors, but they can influence them and suggested they highlight how employers can be more energy conscious overall in their operations and with their suppliers as well.

Mr. Bouchard asked Mr. Lamb what the number of incoming vehicles or employees are to Keene during business hours. Mr. Lamb replied that he can get that data from the Census but he doesn't know the exact number. Mr. Weed proposed discouraging the use of internal combustion engines for boats and race cars. Vice Chair Hansel suggested collaborating with other groups like the Monadnock Alliance for Sustainable Transportation (MAST) on transportation action items. Councilor Clark stated that the public transportation system is also an important element. Dr. Shedd stated that ride sharing, carpooling and alternative transportation modes would fit under strategy one.

Ms. Brunner added that the strategic approaches for the transportation sector include (1) reduce vehicle miles traveled and increase efficiency, (2) accelerate the shift to electric vehicles, and (3) promote efficient growth patterns/coordinate transportation and land use planning. She said the third item is pointing to more of a long-term goal of locating people closer to where they need to go to make transportation by foot, bike, or public transit more viable. Vice Chair Hansel asked whether Strategy 3 is aligned with other City planning documents and initiatives. Ms. Brunner replied in the affirmative, and gave examples from the City's Comprehensive Master Plan, the Complete Streets policy and design guidelines, and Bicycle and Pedestrian Master Plan as well as the current "Building Better Together" project that is taking a comprehensive look at updating the City's zoning and land use regulations and putting them all in one document. Mr. Pipp proposed the use of electric school buses in the school district as well, noting the detrimental health impacts of diesel engines on schoolchildren. Mr. Bouchard added that electric school buses could be an opportunity for storage, and Dr. Shedd agreed that there are creative opportunities and examples out there.

d. Draft performance metrics

Ms. Brunner suggested members look at the draft performance metrics at home and provide her with feedback in person or on the phone. She said on a high level, electricity data is more readily available to the City from Eversource. The City's Assessing Department has data on solar systems. She said thermal data is less available and although they have some data on heating systems, the information is not up to date. She said when looking at metrics at the thermal and transportation sectors they just do not have the same types of data sources that they have for electricity. Vice Chair Hansel suggested that Keene State College and AUNE perform a representative survey per sector and extrapolate from that data set about the thermal and transportation sectors. Dr. Shedd added that there was an email from Ms. Sarah Bockus at AUNE about applications for summer interns and that could present a good opportunity.

Ms. Brunner stated that part of the action items in the plan could be to try to acquire better data. However, they will not get the thermal and transportation data in time for creating baselines to include in the plan. She said a survey can be included in the plan as a future action item. An audience member asked if there is a way to determine the thermal usage of homes and businesses and Ms. Brunner said she has some data but it can be very old and often involves assumptions about the type of heating systems and is limited in its scope. She said it will be useful as baseline information.

e. Focus group update

Ms. Brunner said she is hoping to do two focus groups in February; the first one, the Institution sector, is scheduled for Feb 13 and she has gotten six responses back. She said there are 4-5 confirmed people and Ms. Gaunt told her that she has been recruiting people from KSC, River Valley Community College and AUNE to come to the focus group.

Ms. Brunner stated that the Business and Commercial focus group may or may not happen at the end of February and needs to be further organized and planned. She said she is currently working on a list of businesses to reach out to now.

f. Planning for community forum #2

Dr. Shedd said the first community forum was held in October at KSC which had about 35 members of the public in attendance. She said that the first forum presented mostly the vision and goals and Ms. Brunner is envisioning the second forum to begin to roll out some of the strategies. She said the second workshop would require committee support and volunteers to design and promote. Dr. Shedd stated that she sent out an email to several members of the committee and a couple of members of the public to potentially form a working group to design the workshop. She said she heard from Ms. April Salas from the Clean Energy Team that she is willing to participate. Ms. Brunner stated that working group volunteers would be expected to select a date and time and design the agenda, for example, inviting speakers, create posters and design the program. She said if they want to do a workshop in mid-March she would not have time to put a lot of effort toward it but she can help support volunteers in the implementation.

Dr. Shedd stated that if they are having an extended session for the committee in early March, they can go through the evaluation criteria for strategy selection and asked if they would be realistically ready to put together a workshop for March. A guest stated that the timeline seems ambitious. Ms. Brunner said the issue is whether or not there are volunteers who have time to put the workshop together. Ms. Pat Martin asked if the community workshop input is needed for Cadmus. Ms. Brunner stated that Cadmus is wrapping up their work and will be finished in April. She said the purpose of the workshop is to do a check-in with the community and give people an opportunity to keep up with the plan and do some education about programs and actions as there has not been a community forum since October.

Ms. Pat Martin stated that if they are not time constrained to March, the Clean Energy Team plans to put on activities for Earth Day in April and asked if it would be more appropriate to do a community forum during Earth week. Dr. Shedd agreed as it provides volunteers more time to develop materials to share with the public. Ms. Robbins added that the Button Up workshop is also on the Clean Energy Team's agenda in March so it will be hard to do both. Vice Chair Hansel agreed that the Earth Day timeframe will make more sense. Ms. Brunner stated that is still not too early to form a working group for a workshop slated for mid to late April so if anyone is interested in volunteering to organize a workshop to please let Dr. Shedd or herself know. Ms. Pat Martin stated that she is interested.

g. Consultant status and progress

Ms. Brunner stated that she included a document in the packet from the consultant Cadmus entitled “Keene, New Hampshire: One Hundred Percent Renewable Energy Planning Evaluation Criteria.” She said this is the first draft that Cadmus submitted to staff for evaluation criteria used to rank and prioritize strategies. She said City staff did provide feedback so they will provide a revised draft. Ms. Brunner proposed using a similar format for ranking the action planning for the thermal and transportation sectors. She said any feedback from the committee will be passed on to Cadmus as well. Ms. Brunner said Cadmus is generating a whole list of actions that the City can take including community power, solarize campaigns, etc. She said then the City will choose the top six actions using the evaluation criteria in the packet. Ms. Brunner stated that for example, the City told Cadmus they want to give a higher weight to the criteria for the scale of impact. Dr. Shedd stated they will discuss this process in more depth at the next session.

4. Community Choice Aggregation

Ms. Brunner stated that the City Manager and City staff met with the County at least twice to discuss the City’s approach. She said the City would like to move forward with exploring a community power program; however, this option would not preclude the City from participating in a county-level program at a future point. She said the City is also exploring ways to be inclusive of communities outside of Keene. Ms. Brunner stated that the County is looking into a shared back office model. Councilor Clark stated that they spoke to the City Manager and he was unclear about the structure of the program. Ms. Brunner replied that she is not an expert in that area; however, she believes that it boils down to the fact that systems for setting up municipal programs are well-developed and understood. She said there is less hesitancy from suppliers who are bidding on a municipal program so it is more likely to be successful. She said NH is charting new ground with this type of program which also means that there are a lot of details needing to be worked out, and suppliers may not be willing to assume certain risks. She said the municipal-level program is designed so that other communities can join in and once the details of a shared back office and county-level program are worked out they can look at joining that program down the line.

Mr. Bouchard stated that he and Mr. Lamb and a number of other country representatives met with the City Manager and Clean Energy NH representatives, and they agreed to try to work together to make this happen as a unit. He said there will be various pushes ahead for the City of Keene because they have more traction already to move the program along, however, they also agreed to work together to create a shared back office so when integration happens it will be much easier. He said it will also make it easier for some of the towns to join in on this group. Mr. Bouchard said generally speaking, when you go out to negotiate contracts in the power pool, it is important to maintain maximum critical mass moving forward because the bigger the aggregation, the better the prices.

Mr. Lamb stated that as the back office system develops, the City intends to draft an RFP for a community-choice aggregation (CCA) plan as soon as possible. Dr. Shedd noted that the state-enabling legislation allowing CCA with an opt-out model is explicit in that the process needs a CCA committee which the City would need to name. She said some communities name their energy committees in that advisory role, however, she is not sure with that ECC has the time or expertise needed to serve as an advisory committee. She proposed representation on the advisory committee from ECC. Dr. Shedd proposed that Mr. Bouchard be named on that committee and perhaps Ms. Duffy, the energy purchaser at Keene State College. Vice Chair Hansel asked if the School District is planning on being involved. Mr. Dooley stated that they are interested in being involved, however, the School District's usage is very different and as a high user of energy they receive fantastic rates already. Mr. Bouchard added that there is a dual path system for programs like this: the philosophical path of green energy at the best rate but not necessarily the current rate, and then brown energy which is green and brown energy mixed together which might be the path forward toward green energy and often better rates. He said the value of CCA is choice and there are different paths of approach.

Councilor Clark stated that cheaper energy might incur external costs that are not born at the meter and instead are absorbed by the environment. He said the work of this committee is to achieve clean energy and there is a big difference between brown and green energy in terms of ECC's charge. Dr. Shedd agreed that the primary mission of ECC is explicitly to work toward reduction of greenhouse gas emissions and it would be great to do that at a reduced cost but their primary charge is to achieve clean energy.

Ms. Dori Drachman introduced herself as a member of the Peterborough Energy Committee. She said that on behalf of the smaller towns, she encourages the City to include language in their CCA plan that would allow and encourage smaller towns to join the program at a later time. She noted that towns like Peterborough are at a disadvantage in terms of resources and she encourages Keene to maintain an openness to inclusivity. Ms. Brunner stated that is the City's intent. Mr. Bouchard added that one of his goals is to make sure smaller towns receive the benefit in proportion to how they are participating.

Ms. Brunner stated that in the resources folder on the Google Drive she included a folder about Community Power which includes slides from webinars, outreach materials and background information on community power.

Mr. Bouchard and Mr. Weed excused themselves from the meeting.

Mr. Scott Maslansky asked about the role of competitive energy supply and if businesses that currently use a competitive energy supplier would be allowed and encouraged to participate in the CCA program as well. Dr. Shedd replied that her understanding is that the electricity demand on which negotiations would be based are only relevant to those who are not already on competitive energy supply. She said most of the larger institutions and businesses are already on competitive energy supply. She said she hopes that as those contracts end, those entities can

comparison shop and see what the CCA has to offer, if it can offer a green opportunity and that they could become involved. Ms. Brunner added that CCA in NH is set up in such a way that anyone who is already on a default energy option would be switched over to the community energy supply. She said people often do not switch and that is why, when they go out to bid with suppliers, they will be conservative and only look at people on the default supply when assessing the demand. Mr. Scott Maslansky asked if participation will be predominantly residential and Ms. Brunner and Dr. Shedd replied yes.

5. Correspondence

a. Christa Daniels regarding “Game of Floods”

Ms. Daniels stated that she will be training about five graduate students to facilitate a game called Game of Floods. She said the Urban Sustainability Development Network decided to take a game from California which is more a form of community engagement than a professional training. She stated that the game runs for about two hours, and involves a group of 7-9 people to play. In the game, players trade assets and figure out how to save a hypothetical town from a climate-related flood. Ms. Daniels explained that through the game, players are essentially performing a vulnerability assessment for an imaginary town called Resilience Harbor and are challenged to make strategic decisions, such as whether or not to save the school or the power plant, based on a set of priorities. In the end of the game, the players are given a budget and players are forced to brainstorm solutions together. Ms. Daniels explained that the game can be played by City Staff for fun or by high school students, however, the key is to have trained facilitators. She stated that they are proposing that students train committee members so that they can then facilitate the game and run it at schools or other locations. She said multiple groups can play simultaneously in the same room or space with different budgets and can compare their decisions with other player groups.

Ms. Daniels stated that AUNE is offering the training for anyone who wants to learn about the game and become a trained facilitator. Ms. Daniels replied that the game boards are small and easy to print (17 X 23). Ms. Dori Drachman asked if it is open to other counties and Ms. Daniels replied yes. She said individuals from Peterborough can be mixed in with Keene folks because it is good for players to work with people they do not know. Mr. Pipp added that it seems like a great way to get people involved and talking about flooding scenarios. Ms. Daniels also proposed that they find a good space where they can set up five tables, for example, the library or recreation center due to AUNE’s recent flooding incident.

Mr. Pipp moved to partner with AUNE on the “Game of Floods” game, Vice Chair Hansel seconded and the motion passed unanimously.

b. Eric Swope regarding NH Drinking Water Festival

Dr. Shedd stated that if members are interested in being involved with the NH Drinking Water Festival for fourth graders in the community to please contact Mr. Swope.

c. Clean Energy Team – Request for ECC sponsorship of a NH Saves “Button Up” Workshop

Dr. Shedd stated that over fifty people showed up to last year's Button Up workshop which was one of the largest turn outs of residents interested in weatherization. She said the Clean Energy Team is asking the City to partner with them to host a Button Up workshop on March 23. Ms. Gillard said they are looking at the Stone Arch Community Room as a potential venue and if the workshop takes places earlier in the month, they could hold it at Keene Ice as well. Ms. Gillard stated that Keene was the largest turn out they have had in the past five years. Mr. Scott Maslansky stated that March 23 is also Energy Week and has often included four to five energy-related events around the state.

Vice Chair Hansel moved to recommend that the City partner with the Clean Energy Team on the "Button Up" workshop, M. Pipp seconded and the motion passed unanimously.

6. New Business

Chair Shedd asked the committee if members would consider having a longer meeting in March. Vice Chair Hansel suggested that they might consider having two meetings next month if they are unable to find a time for a longer meeting. Ms. Brunner said she would send out an online poll to schedule the next meeting.

Dr. Shedd stated that next month they will talk briefly about a state-initiative called the Carbon Cash Back coalition.

7. Next Meeting: TBD.

8. Adjourn

There being no further business, Dr. Shedd adjourned the meeting at 9:20 AM.

Respectfully submitted by,

Ayshah Kassamali-Fox, Minute Taker

City of Keene
NEW HAMPSHIRE

ENERGY AND CLIMATE COMMITTEE

Rules of Procedure

1. **Meetings:** Meeting times and dates are to be determined by members of the Energy and Climate Committee (hereinafter “Board”). All meetings must be open to, and accessible by, the public. Meeting times and locations will be posted at least twenty-four (24) hours in advance of any such meeting in two (2) appropriate places, one of which may include the City’s website in accordance with RSA 91-A:2. At least three (3) meetings shall be held each calendar year.
2. **Minutes:** Minutes of such meetings shall be kept in accordance with RSA 91-A:2, and shall include the following: the name of the Board; date, time and location of the meeting; the members present; the members absent; the time that the meeting was called to order and by whom; motions or other actions taken including who made the motion and who seconded; who voted and how; who recused and the reason for recusal, and whether the action passed or failed; the names of persons appearing before the Board; the subject matter discussed; the time the meeting adjourned; the name of the minute taker. If there is no minute taker specifically assigned to the Board, the Chair shall designate an appropriate individual for this purpose. Within 5 days of the close of the meeting of the Board, the minute taker shall submit the draft minutes to the Staff Liaison for the Board. The Chair, or Vice-Chair, shall review the draft minutes and may make such corrections as are necessary to ensure that information required to be included in the minutes of such meetings is accurate. Examples of appropriate corrections include spelling of names, grammar, citations, and technical jargon. In no case shall a correction alter what was said or discussed at the meeting, or the result of any action taken. All corrections shall be made with “track changes” or a similar feature turned on so that other Board members are aware of any such corrections. If extensive revisions are being requested by a member, the Board should conduct the review at the end of the regular agenda items. Once approved, meeting minutes shall be immediately filed with the City Clerk.
3. **Quorum:** A quorum shall consist of a majority of the total eligible number of members that may be appointed to the Board, either under state law or by City Code, regardless of the number of members actually appointed. Board business shall not be conducted in the absence of a quorum. An available alternate member shall be appointed by the Chair in the absence of a regular member to form a quorum, and shall be appointed by the Chair at any time in the absence of any regular member. Unless the appointed alternate member becomes unable to continue to participate, the alternate member so appointed should continue to serve in the place of the absent regular member if a matter under consideration by the Board extends over multiple meetings, and/or until that matter has been completed. A quorum of the Board shall always be physically present at the location specified in the public notice, and no Board business shall be conducted through email or other electronic communication that does not allow the public to hear, read or otherwise discern the meeting discussion. A member may participate by telephone or other electronic communication when the member’s attendance is not reasonably practical, the reason for absence is stated in the minutes, and all participants, including the public, are able to hear, read and discern the meeting discussion. Email communications among the Board or between the

Board and Staff Liaison shall be used only for the transmittal of administrative matters such as scheduling or the transmittal of information to be acted upon at the public meeting. Board business shall not be conducted in any manner other than at a duly noticed public meeting.

4. **Elections:** At the first meeting of the new calendar year the Board shall elect, by simple majority, a Chair and a Vice-Chair.

5. **Presiding Officer:**

- A. The Chair shall preside over the meeting and call the members to order.
- B. In case of absence of the Chair, if a quorum is determined to be present, the Board shall proceed with the Vice-Chair acting as the presiding officer.
- C. In the event that both the Chair and Vice-Chair are absent, and if a quorum is determined to be present, the Board shall proceed to elect a Board member, by majority vote of those present, as Temporary Chair of the meeting until the presiding officer appears.

6. **Right of Floor:** The Chair shall control the meeting. When recognized by the Chair, a member of the Board or the public, shall respectfully address the members of the Board and shall confine themselves to the question under debate, avoid personal comments, and refrain from impugning the motives of any other individual's argument or vote. The Chair shall act on all proper motions for which there is a second. A motion to call the question shall require two-thirds (2/3) vote and is not debatable.

7. **Order of Business:** The business of all regular meetings shall be transacted in the following order:

- A. Call to order.
- B. Roll call of attendance.
- C. Acceptance of minutes of preceding meeting.
- D. Board business on meeting agenda.
- E. New business
- F. Adjournment.

8. **Meeting Agenda:** The meeting agenda shall be prepared by the Staff Liaison on consultation with the Chair, or in the absence of a Staff Liaison, by the Chair. Items to be placed on the meeting agenda must be received by the Staff Liaison a minimum of five (5) business days prior to the scheduled meeting. No subject matter that is not on the agenda shall be discussed at the meeting, but shall be referenced under New Business and shall be placed on the agenda for discussion at the next regular meeting.

9. **Communications:** Communications to be introduced to the Board must be signed by the person introducing the same, either by hand or scanned and submitted electronically, must give his or her residential address or mailing address, if different, at which he or she can be notified of meetings, and telephone number, if available. Communications not containing all of the above will not be accepted by the Staff Liaison, or by the Chair, and will not be placed on the agenda of the Board. Communications addressed to a Board member of a personal or argumentative nature

shall not be introduced in the meeting. Any email communication directly to a member of the Board relating to a matter before the Board must be provided to Staff Liaison, or to the Chair, for compliance with this paragraph and for inclusion in the record. If the Board decides to submit a written memorandum on a matter before it to the City Council, it shall direct the Staff Liaison to draft the memorandum for review and approval by the Chair prior to submission to the City Council.

10. **Order of Business - Out of Order:** The Chair may permit any item of business to be taken out of the regular order as set by the agenda unless there is an objection by a Board member in which case a majority of the Board may vote to take the item out of order.

11. **Reports:** When required, the Board shall issue a Majority Report as “Informational” or as a Recommendation to the City Council based on the findings of the Board. A simple majority of the quorum shall be sufficient for the report.

12. **Tie Vote:** In case of a tie vote on any motion or recommendation, said motion or recommendation shall be deemed defeated.

13. **Reconsideration:** After the decision of any question, any member who voted with the prevailing side may move for reconsideration for that action at the next regular meeting of the Board. For the purposes of this Rule, the next regular meeting of the Board shall be the next regularly scheduled meeting of the Board which is at least ten (10) days after the meeting of the Board at which the decision to be reconsidered occurred. The Board member shall submit a written notice and the question shall be placed on the agenda in accordance with these Rules of Procedure (“Rules”). A motion to reconsider shall require a majority vote of the Board members present. If the motion to reconsider is approved, then the matter shall be before the Board for further discussion and appropriate action. After a motion for reconsideration has once been acted on, no other motion for reconsideration thereof shall be made. If the original vote is sustained at the next regular meeting as defined herein, the Board shall have no further right of reconsideration on the question.

14. **Conflict of Interest:**

- A. Every member present when a question is placed before the Board shall vote thereon, except when the member has a conflict of interest in the matter as defined by Article VI, Conflict of Interest, and Section 25, Communications, of the Charter of the City of Keene. A conflict may exist when a Board member’s spouse, civil union partner, parent, child, or other member of the Board member’s immediate family has a conflict. A conflict exists when a business or individual has a matter before the Board and the Board member is employed by the business, or is otherwise a party in interest. If the conflict becomes known prior to a Board meeting, the Board member shall file the written particulars of the conflict of interest with the Staff Liaison for inclusion on the Board agenda. If the conflict becomes known to the Board member during a meeting, the Board member should immediately disclose the particulars of the conflict of interest. The question of whether or not a conflict exists will then be decided by a majority vote of Board members present. When such a conflict exists, the member having the conflict shall

be recused and shall be prohibited from participating in the discussion and shall not vote on the matter. No Board member having a conflict of interest may discuss the matter in which they have a conflict with any other Board member in any other place or any other time.

- B. Any Board member having reasonable grounds to believe that another Board member has a conflict of interest may raise the issue on their own motion. The question will then be decided as set forth above.

15. **Non-Public Session:** City Boards and Commissions may not enter a non-public session without prior notice to, and the presence of, City Staff at the meeting. In the event of a requirement to enter into non-public session, a majority of members present at a Board meeting may, by roll call, vote to go into non-public session in accordance with RSA 91-A:3. The motion shall state the specific statutory basis relied upon for the non-public session. All persons who are not Board members qualified to participate in the discussion shall leave the meeting, unless specifically requested to remain. No action or decision with respect to the matter shall be taken in non-public session. Minutes of the non-public sessions shall be taken and the minutes shall be publicly disclosed within seventy-two (72) hours unless, by recorded vote of two-thirds (2/3) of the members present, the minutes are sealed in accordance with RSA 91-A:3. The minutes of any non-public meeting shall be designated as such and shall be filed with the City Clerk no more than seventy-two (72) hours after the meeting.

16. **To Amend Rules:** These Rules may be amended or new Rules adopted by a two-thirds (2/3) vote of all members appointed to the Board. The public meeting notice shall state that a proposal to amend the Rules is included on the meeting agenda. Proposed amendments shall be submitted in writing at a regular Board meeting, but shall not be acted upon until the next regular meeting of the Board. An amendment to the Rules shall become effective upon passage.

17. **Creation of Subcommittees:** The Board may create subcommittees as necessary to assist in its operations, which shall be advisory to the Board. Subcommittees shall be created by vote of the Board for a stated purpose, identifying the specific Board members appointed, with the purpose and membership included in the minutes of the Board. Non-Board members shall not be appointed to subcommittees. Subcommittees are public bodies under RSA 91-A, and are subject to all of the requirements applicable to the Board under the foregoing Rules of Procedure, including prior public notice of meeting dates, times and meeting locations which are accessible to the public, and keeping and submitting appropriate minutes within the time periods stated above.

18. **Rules of Order - Roberts Rules of Order** shall govern points of order not covered herein.

Adopted this ____ day of _____, 2020.

_____, Chair

KEENE ENERGY COST SURVEY

A Study to Understand how Energy Costs affect Keene Residents

A pair of Keene State College students are working with the City of Keene to better understand how energy costs affect Keene residents. By participating, you will help the students with their research and help the City better understand residents' needs. Thank you!



www.surveymonkey.com/r/KYF2ZV3

QUESTIONS ABOUT THE SURVEY?

If you have questions about the KSC student research study, please contact Maia Roderick: maia.roderick@ksc.keene.edu or Lauren Peyser: lauren.peyser@ksc.keene.edu.

For questions about the City of Keene Energy Planning project, please visit www.ci.keene.nh.us/sustainability or call 603-352-5440.



Keene
STATE COLLEGE



Project Partners: City of Keene
Community Development
Department & Keene Energy and
Climate Committee

Keene Energy Plan Focus Group

SUMMARY NOTES

ATTENDEES:

Name	Affiliation
Andy Kropff	Hillside Village
Ann Shedd	Energy and Climate Committee
Cary Gaunt	Keene State College
Diana Duffy	Keene State College
Joshua Meehan	Keene Housing
Kenneth Dooley	Keene School District / SAU 29
Laura Andrews	Antioch University New England
Mari Brunner	City of Keene
Paul Roth	Cheshire Medical Center
Peter Hansel	Energy and Climate Committee
Scott Martin	City of Keene

1. City of Keene Sustainable Energy Goals & Energy Plan Project

Mari gave a brief overview of the City's Sustainable Energy goals, which include the following:

1. All electricity consumed in the City will come from renewable energy sources by the year 2030, and
2. All thermal energy and energy used for transportation will come from renewable energy sources by the year 2050.

Furthermore, the City Council made a commitment to develop a plan to achieve these goals by December of 2020. Mari said that staff are currently working with the Energy and Climate Committee (ECC) to develop this plan. Throughout the spring and summer of 2019, staff worked with the ECC to do initial outreach, including 18 in-person stakeholder interviews, 2 workshops with the ECC, and a focus group with local property owners. In addition, staff worked on an RFP to bring a consultant on board to work on the electricity goal. In the fall of 2019, staff hired a consultant and worked with the selected consultant to develop an electricity context and baseline using data from Eversource. Outreach included a community workshop in October 2019 as well as several "community conversation" sessions throughout November and December 2019. These sessions have continued throughout January and February of 2020.

Staff are currently working on the baselines for the thermal (heating and cooling) and transportation sectors, and in consultation with the ECC, the City will be prioritizing strategies and action steps. The goal is to have a first draft of the plan ready by the beginning of the summer of 2020. In addition, there may be another community workshop in late April. The draft plan will be revised using feedback/input and then released for public comment in late summer/early fall, then introduced to City Council for adoption.

2. Discussion Questions

a) *What challenges does your organization face in regards to tracking and reporting energy use? How have you used this data? Would you be willing to share your organization's energy usage data with the City?*

Mari said that, based on the responses to the “Keene Energy Plan: Institution Feedback Survey,” most organizations track energy use but everyone seems to use their own system for tracking data. She is curious to know what challenges / barriers there are for tracking data, as well as how each organization actually uses this data. Paul Roth (Cheshire Medical Center) said they use EPA Portfolio Manager, however they are behind in entering data. The biggest challenge is staff time to enter data; he noted the EPA is working on making the software more user-friendly.

Scott Martin (City of Keene) and Diana Duffy (Keene State College) both said they use Excel spreadsheets to track energy use. Diana said there are many different software options for tracking energy use and analyzing the data, such as EnerNOC. This software includes demand-response capabilities. KSC has to report greenhouse gas emissions data every three years, so this makes energy tracking on a regular basis a priority. Their data is compiled with data from other colleges and they can compare their energy use to other similar institutions that way. Cary Gaunt (KSC) noted the importance of using the data collected to tell a compelling story. Their challenge at KSC is finding the time to do a deeper analysis of the data and create a story to communicate the data in a way that means something. Laura Andrews (Antioch University New England - AUNE) said that AUNE tracks data regularly and uses the information to help them make decisions about equipment replacement schedules and potential cost savings for specific projects.

Paul Roth said he sees the benefit of sharing data; however, it would require a consistent format. He did not think it would be helpful to compare the hospital's energy use to the energy use of other institutions in the room because of the unique circumstances/ needs of the hospital; others concurred. It is more useful to compare hospitals to hospitals, universities to universities, etc. Andy Kropff (Hillside Village) said their facility is new and not fully occupied so it isn't useful yet to compare energy use. He did say that having data on energy use is helpful when looking at potential energy projects, such as installing solar to offset energy use.

Cary Gaunt said that reporting energy use to the City would help the City track progress towards its goals and communicate to the public. She gave an example of the Chesapeake Bay Watershed where they developed indicators and tracked progress, and had to develop simple and clear graphics to convey information to stakeholders. She said the City should keep messaging simple and consistent, and use graphics / visuals to convey information. For example, ask institutions to share total energy usage and percent from renewables v. non-renewables and develop graphics and messaging/story to go along with it. The press will most likely provide media coverage when indicators come out – this happened with the Chesapeake Bay Watershed initiative.

Diana Duffy noted that receiving and processing data would require a champion within the City and most likely some sort of energy data analysis software. This person could also work on developing the message/story. The group concurred that data collection every 6 months would not be unreasonable, but every month would be too much. Peter Hansel (ECC) said that it would also be useful to know the

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square feet of heated space for each organization – this would only need to be shared once, then updated when it changes.

b) What are some of the “drivers” behind your organization’s energy goals? (e.g. cost avoidance, increase reliability of energy, other?)

Peter Hansel said it would also be interesting to hear “who” are the drivers for energy tracking and setting goals at each organization. Andy Kropff said that the main driver at Hillside Village is the residents – many of them are energy-conscious and they are thinking about the heritage they are leaving for their grandchildren and great-grandchildren. Cary Gaunt said that she, Diana Duffy and the President’s Council for a Sustainable Future are the internal champions for energy goals at KSC. For example, when the college was looking at transitioning from heating oil to LR100, they had to lean on the commitments made within KSC’s strategic plan, show the financial cost, and demonstrate co-benefits such as the human health component of switching from a dirty fuel source that was smelly and caused headaches to a cleaner-burning source. Diana Duffy said that KSC also wanted to get ahead of the air quality issue in Keene – as a large energy user, they knew they could be approached and required to reduce their emissions by NHDES, and they wanted to get ahead of that. Cary Gaunt added that another “driver” is competition with other universities – KSC reports to AASHE which ranks KSC and allows them to benchmark and compare to peers.

Ken Dooley (Keene School District) said that he and the CFO are the internal champions for the school district; there is a lot of turnover on the school board and it depends on the current board members whether energy is an issue they will focus on. They always have to show the cost savings. He was asked whether students have ever been the champions; he responded that there has been one instance where a teacher helped students get involved, however this requires a teacher to become a champion.

Laura Andrews said that the drivers for AUNE include attracting students, aligning with their mission, and the economics of specific projects / actions. AUNE has strong support from the local administration (New England campus specifically). Paul Roth said the main driver for CMC is the bottom dollar; they are currently using oil to heat their facilities, which he is not happy about because it is not a good option from an economic standpoint. The main champion is himself; he has a good working relationship with the CFO and he is on several committees that work on energy issues. He noted that there is not much support from the Dartmouth-Hitchcock healthcare system (this is different than Dartmouth College). He said the recent boiler emergency at CMC led to getting new boiler controls which allowed them to find several issues they could fix. He noted some hospitals in New England are Energy-Star rated, including one in NH.

Ann Shedd (ECC) asked if any organizations have considered back-up energy systems and energy resiliency. Paul Roth said this issue is in the forefront of CMC’s decision-making for heating, but not so much for cooling. Diana Duffy said KSC is very interested in this topic, especially since heating fuels are delivered by truck and are vulnerable to disruptions. She added that this issue should be a part of the overall energy story that the City tells.

Josh Meehan (Keene Housing) said that their main drivers are cost avoidance and obsolescence of existing equipment. Many of their properties still use WWII-era electric heaters that are difficult to maintain and use a ton of energy. Keene Housing relies on funding from federal contracts, which have not gone up in a long time, so any operating costs they can reduce leaves more money for capital

improvements and providing services. They always consider reliability and the payback time. The proof of concept needs to be reasonable.

Peter Hansel said that it is important to make the case for switching to systems that are more efficient or to renewable systems before equipment needs to be replaced. If you wait until the boiler breaks down, it will most likely get replaced with the same exact boiler because of the urgency to get a new heating system and the fact that plumbers will probably do what they already know how to do. Scott Martin said it much easier to replace a failing system with a new, identical one because all of the supporting infrastructure will already be in place and it will not need to be re-designed or configured. The group discussed the need to train plumbers and electricians and other trade workers.

Josh Meehan said that Keene Housing tracks all of their anticipated future expenditures, including energy systems as well as other infrastructure like sidewalks. They flag all opportunities for energy efficiency upgrades and make a note if rebates or other incentives are available for each project. This makes it a lot easier and smoother when the time comes to make the investment. Andy Kropff said that stories like these should be shared with individual property owners who may not have the time and resources to figure all of these things out on their own. Scott Martin added that the City could act as a clearinghouse to share these stories and resources. He noted that the City should promote the NHSaves programs as well. Everyone agreed that NHSaves has useful programs for various different types of organizations; they should be brought in as a partner.

The group discussed air quality in Keene and the issue of pollution. The group said that more education and awareness is needed around air quality, and suggested ways the City could better communicate to residents and businesses when there is an air quality alert (e.g. text notifications, visual meter on Central Square, social media posts, partner with KSC/Nora Traviss, etc.). Andy Krofft said that Nora Traviss is coming to Hillside Village to talk to their residents.

c) What has been the biggest challenge or barrier for your organization in reaching its energy goals? Does your organization have a specific person tasked with energy demand management or energy procurement? Does your organization have a specific person tasked with sustainability initiatives?

The group went around and said what the top challenge is for each organization; responses included the cost of renewable energy, the cost of new infrastructure, siting constraints for solar systems (KSC and Hillside Village), leadership turnover, lack of state incentives, and uncertainty about future location (Antioch). To address these challenges, the group suggested that the City track legislation at the state level and advocate where it makes sense. Cary Gaunt said that the fact that the City adopted goals had an influence on KSC's decision-making and helped push them toward more renewables. To address turnover in leadership, it is very helpful to have concrete goals to turn to; she and Diana are currently working on codifying policies on how to obtain their goals. Paul Roth noted that it is important to keep the larger picture in mind, including attracting new businesses (which may increase energy use) and also looking at the embodied energy in building materials. He said that incentivizing the re-use of existing buildings or incentivizing infill development is important, too.

Most organizations have a person tasked with energy management. Cary Gaunt said the City should build in a regular review of the efficacy of its approach to see if it is getting results. With the Chesapeake Bay Watershed initiative, it was voluntary for the first 25 years. Then, when they realized they were not going to reach their goals with a purely voluntary approach, they made compliance mandatory. Peter

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Hansel said that this is somewhat analogous to an “opt-out” community choice aggregation program – more people will do it if they have to opt-out rather than choose to opt-in.

d) What specific incentives has your organization taken advantage of in order to successfully complete an energy efficiency or renewable energy project? Grants? Finance mechanisms?

Mari said that, on the survey, almost all respondents said that they took advantage of “other incentives.” She is curious to know what specific incentives organizations are using to accomplish energy efficiency and renewable energy projects. Diana Duffy said that KSC is using revenue from selling thermal renewable energy credits (t-RECs) to make their use of biofuel manageable. The group discussed the company that provides biofuel to KSC, which is based out of Tewksbury, MA. This company will work with commercial property owners, but not individual homeowners. They have noticed a reduction in maintenance costs with the new fuel because it burns cleaner and requires less maintenance. Peter Hansel said that switching to Biofuel could be a great option for people who currently have oil boilers. Scott Martin said it depends on the company; the City of Keene was told that the boilers they have from Burnam couldn’t be switched over to biofuel. However, Burnam is working on this issue.

Both Keene Housing and the Keene School District take advantage of state rebates and Eversource programs to fund projects. Ken Dooley said that he is able to use cost savings from projects to fund future energy efficiency projects. They have tried using on-bill financing to pay for projects before; the City has looked into this as well. Josh Meehan said that Keene Housing has used the Community Development Block Grant program before. He noted that public entities and low-income entities no longer have to compete for the same pot of funding. However, these programs typically require a level 1 energy audit in as part of the application. He said CDFA also has a green energy fund, and Eversource has a Community Loan fund. Mari asked whether a “green revolving loan fund” would be helpful; there was a mixed response from the group. Both Ken Dooley and Josh Meehan said they try to find free money rather than looking for loans. Others said it could be helpful; however, the City would need to think about how the program is structured and how it will measure and verify that requirements for the loan fund have been met.

e) What types of partnerships have you been a part of, and how were they helpful with regards to energy procurement, efficiency upgrades, etc.?

Cary Gaunt said that Rutland, VT partnered with Green Mountain Power (utility) on energy projects. They have branded themselves the “Energy City of the Future;” she suggested that Keene consider some type of branding as well and suggested making this area well-known for clean energy jobs. Josh Meehan said that Keene Housing has been a part of the Dept. of Energy’s “Better Buildings Challenge,” which has given them access to blower door equipment and training. Andy Kropff said that there is a need for more people trained with blower door equipment and air balancing.

Laura Andrews suggested that this could be a workforce training opportunity for higher education institutions, including KSC, AUNE, River Valley, Keene Community Education, the High School Career Center, and Hannah Grimes, among others. The group discussed this idea at length and decided that a forum on workforce development for clean energy jobs is needed.

Diana Duffy said that KSC is currently looking for sites for solar; they are trying to transition to solar for their electricity demand, but siting is a challenge. Cary Gaunt said perhaps the City could help promote a solar partnership, and gave an example of the “Capital Solar Partnership” in Washington, DC.

3. Potential Renewable Energy Strategies

Mari said that there isn't time to go over the renewable energy strategies; however, information was included in the handout on several different approaches/strategies that the City is currently exploring. These include:

- Energy Benchmarking - the process of measuring and analyzing the actual energy and water consumption in a building and comparing to similar peer buildings and/or the same building at a past point in time. The City could lead by example and benchmark its own buildings to encourage others to do so (option 1), adopt a voluntary benchmarking ordinance to encourage participation from private building owners (option 2), or adopt a mandatory benchmarking ordinance that would require certain building owners (i.e. buildings in a specific zoning district, or of a certain size threshold) to report energy use data to the City.
- Collaborative Electricity Procurement - aggregate the demand of a few organizations in deregulated electricity markets to procure renewable electricity on a voluntary basis.
- Reverse auction - an auction in which the roles of the buyer and seller are switched. In a traditional auction, a seller puts a product up for sale, which is bid on by many potential buyers. The buyer willing to pay the highest price wins the auction. In a reverse auction, a buyer requests a product, and many sellers bid to provide that product. The bidder that can provide the product at the lowest price wins the auction. Reverse auctions can be used for entities that aggregate their demand to increase their purchasing power. Aggregation can draw more bidders and allows entities with smaller demands to participate in the reverse auction process.
- Community Choice Aggregation (CCA) - CCA allows communities to determine their electricity generation sources by aggregating the community load and purchasing electricity from an alternate electricity supplier while still receiving transmission and distribution service from their existing provider. CCAs can be designed either as “opt-in” or “opt-out” programs. With opt-out programs, all eligible customers are enrolled automatically, and it is up to the customer to contact the CCA program if they wish to be removed.
- Virtual Power Purchase Agreement – a financial arrangement between a developer and the buyer which guarantees a cash flow for the renewable energy project based on output. The electricity generated from the project is sold into the local wholesale electricity market; the revenue from this sale, which varies depending on local electricity prices, is then returned to the buyer.

4. Focus Group Evaluations

Mari thanked everyone for attending and asked that people fill out the evaluation forms before they leave.

Keene Energy Plan – Business Focus Group

SUMMARY NOTES

ATTENDEES:

Name	Affiliation
Rheannon Demond	Bensonwood
Andrew Dey	Bensonwood - Unity Homes
Mark Franke	C&S Wholesale Grocers
Peter Hansel	Filtrine Manufacturing Co.
Pablo Fleischmann	Green Energy Options
Randall Walter	Hannah Grimes
John Noonan	Markem-Imaje Corporation
Jen Risley	Monadnock Food Coop
Elizabeth Wood	MEDC
Mari Brunner	City of Keene

1. City of Keene Sustainable Energy Goals & Energy Plan Project

Mari gave a brief overview of the City’s Sustainable Energy goals, which include the following:

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2. Discussion

a) In general, how concerned is your business about the cost of energy (electricity and heating/cooling)? Does your business track energy use? If so, how?

- Peter Hansel said that the cost of energy is part of Filtrine's decision; however they also consider the cost of operating their facility. When they moved from Harrisville to Keene, they moved to a much bigger space that was more expensive to heat and operate. Filtrine has been aggressively pursuing energy efficiency and has reduced energy use by 50%.
- John Noonan said that Markem has been at their current site since 1950 and their oldest building dates from 1904. They have about 300,000 square feet of building space. They track electricity use through Eversource and they also track propane use. They are a global company and compare their Keene facility to facilities located around the world. Cost comes up often because New England is expensive when it comes to energy. Markem completed an energy audit within the past year and they are looking at projects to decrease their energy use. They have sustainability goals they are trying to meet.
- Jen Risley said that the Monadnock Food Co-op (MFC) has about 3,600 members who push the Co-op to consider larger goals than just the bottom line; MFC tracks its energy use and compares to other co-ops. They use a lot of energy because of their refrigeration units; they buy carbon offsets for this energy use.
- Randall Walter said that at the Hannah Grimes Center, the programming they provide comes first. They want to do more to reduce their energy use, however it is a challenge because they have a lot of different people and companies that use their space that may or may not use energy efficiently. They are occupying an older building, and even with renovations it could still use more upgrades to be energy efficient. They will most likely do something soon because they are using older equipment that may need to be replaced.
- Pablo Fleischmann said that his goal as the owner of Green Energy Options (GEO) is to not have an electric bill. They recently moved to a new building, so they haven't got it all figured out yet, but they are working on it. They installed solar and are moving towards electricity for heat. GEO is a B-Corp and they have to report metrics every three years. In his experience, the per-kilowatt cost of electricity isn't too bad, however the demand charges are huge and can be very expensive for manufacturing companies. One option he is looking into as it becomes more available and viable is battery storage.
- Rheannon Demond said that she works for Bensonwood which has a facility in Keene for Unity Homes. The Keene facility is still fairly new, but has solar installed as well as a woodchip boiler (although it is not yet in operation). The solar array covers about 25% of their energy needs. She said she also owns the Elm Street Market, which is a small business that uses a lot of energy for refrigeration. As a smaller business, they don't have the capacity/capital to install solar. In addition, she is on the Board of the Cheshire Children's Museum. They participated in an energy audit through Eversource and as a result they are replacing lights with LEDs with an estimated savings of \$255/month, which is a lot for a non-profit.

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- Andrew Dey said that Bensonwood has struggled in the past with getting access to 3-phase power. They have a 30,000 SF facility in Walpole and a 100,000 SF facility in Keene.
- Mark Franke said that C&S Wholesale Grocers tracks electricity usage closely at all of their facilities. They are part of the EPA Energy Star Program, which uses Energy Star Portfolio Manager to track energy use at each of their facilities and helps them prioritize where to invest in energy efficiency. Out of their 35 campuses, 5 are considered “green.” They installed LEDs at their warehouses, tried solar but struggled to demonstrate a favorable return on investment, and participate in a demand-response program where they can “shed” load during peak energy use times to save a significant amount of money.
- Ann Shedd said that the Greater Keene Chamber of Commerce does a “Regional Issues” series that is usually well attended. They are planning to have an energy-related series in the near future. She said that participants should share ideas about potential topics with herself or Phil Suter.
- Peter noted that Filtrine installed a 633 kW solar PV system that covers all of their energy use. This was a large investment – over \$1,000,000 – however, after 5-6 years they will be “energy free.”
- Mari Brunner said that one of the reasons for this focus group is to help the City identify areas where the City could help businesses to reach the 100% renewable energy goals. She said that one of the strategies the City could look into is providing a low-interest loan for solar by collaborating with a local bank or credit union. She asked the group whether this type of loan would be useful or something they think other businesses would take advantage of for solar.
- Andrew Dey said that Bensonwood probably would not have taken advantage of a loan program.
- Pablo Fleischmann said that the City should consider advocating at the state and federal level for funding for solar programs, such as the commercial rebate program which was recently de-funded. There is a lot that could be done to incentivize solar – Vermont, Maine, and Massachusetts all have better incentives than New Hampshire, and the result is less renewable energy development in our state. He reiterated that demand charges are an issue.

b) In your opinion, what is the biggest non-financial barrier to implementing energy efficiency and/or renewable energy projects?

- John Noonan said that a lack of state incentives is the biggest barrier. Eversource provides programs that they take advantage of for energy efficiency – LEDs and VFDs are easy, but there are no incentives for solar. Corporate approval is much more likely if there is an incentive offered.
- Pablo Fleischmann noted that small companies need more help. When there isn’t a specific person or team of people tasked with managing energy, taking advantage of incentives can fall through the cracks. It would be helpful to have someone to provide resources to smaller businesses and let them know that there is money available through programs like NHSaves. He said that while NHSaves proactively reaches out to large energy users, it does not reach out to smaller businesses.
- Beth Wood said that education is a big barrier. People do not always know about programs, resources, and newer technologies they could be using.

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- Rheannon said that Keene State College is a great resource. In particular, the Architecture program, which has a building science component, could be a great partner for educating local businesses. She noted that many students are trained, and then they graduate and leave the area because there aren't any jobs in a related field. She took an entry-level position at Bensonwood in 2010, then created a sustainability position over time by making the case internally for the position. Part of the reason for having a sustainability position was to better market their homes as energy-efficient.
- Randall Walter said that competition with other projects is another barrier. For example, if they need to replace the roof and re-stripe the parking lot, then upgrading their energy equipment might get pushed out. It all boils down to monetary reasons.
- Mari Brunner said that at a previous focus group, a lack of contractors was identified as a barrier. She was curious to know if businesses are having the same experience.
- Rheannon said that finding contractors that know how to install air to water heat pumps, for example, is a challenge everywhere. They can find sellers, but not installers.
- Mark Franke said that C&S uses national contractors for this very reason. They do not use local contractors.
- Pablo Fleischmann said that there is a lack of contractors/expertise for electrical infrastructure upgrades.
- Jen Risley said that another issue is the fact that many small businesses rent their space, so they have less of an incentive to upgrade a building they do not own (i.e. "split incentive"). She thought that this is where a loan program could be helpful.
- Andrew Dey said that Bensonwood considered a ground-mounted solar array, but they are wary of the permitting process and possible objections that could be raised by neighbors.
- Mark Franke said that C&S also looked at doing a ground-mounted array, but at the time it did not make financial sense. Mari noted that the City recently eliminated the cap on the solar tax exemption in Keene, which might make a larger solar array more feasible for C&S.
- Rheannon said that she wanted to echo what Beth said earlier about education – she recommends showing simple math to demonstrate the advantages and overcome objections from skeptics. She also said it would be helpful to have someone to advocate on behalf of businesses to their landlords. Beth added that there needs to be some sort of incentive to get the landlord at the table.
- Randall Walter said that it might be useful to include something in the property tax bills and tie programs to tax incentives. Peter added that the City also sends out sewer and water bills.
- Pablo said that, in terms of non-financial barriers, one area the City could look at is zoning and permitting. He said that permit fees, especially for smaller systems, can be a barrier and suggested that the City consider a flat fee rather than a fee based on the value of the system.

c) *How could the City help you or other businesses with energy efficiency projects and/or switching to renewable energy?*

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- The group discussed biomass as a potential renewable thermal technology, and the fact that Keene has air quality issues. It was noted that it would be helpful to have some direction from the City regarding commercial-scale biomass and how it would affect air quality.
- The group discussed whether banning new fossil fuel infrastructure would help move the City towards its goals faster. Some communities, such as Berkeley, MA have banned natural gas lines in new homes.
 - John Noonan said that Markem switched from #4 heating oil to propane, which reduced their EPA permits significantly. He said they chose propane over CNG because propane comes in by rail, whereas CNG has to be trucked in and there are only two routes. If there is a bad weather event, and the state closes those routes down, they would be out of luck. By switching to propane, they cut their heating expenses significantly. He cautioned against the City making heating more expensive for businesses as this could drive them out of the City.
 - Ann Shedd said that KSC is using 100% post-consumer oil to heat its campus. They might be a model for other large energy users.
 - Mari Brunner said that one option could be to look at a district heating system that is powered by a renewable energy source, such as geothermal. Peter Hansel said that there was a proposal for something like this a while back in Keene. Andrew Dey suggested looking up an organization called “BTU,” which is a biothermal utility in Brattleboro.
- Several people agreed it would be helpful for the City to quantify its goals and create a baseline. The City could then monitor how it is doing to reach its goals. This was an issue with the adaptation plan – it had a lot of great goals, but there was no baseline to compare to, so the City did not know how it was doing.
- The group discussed the possibility of having a NHSaves person in the Keene area to do more concentrated outreach to local businesses.
- The City could partner with organizations like the Chamber to put on educational events and forums.
- Mark Franke said that, at C&S, a major driver for change at their company was the millennial workforce that kept pushing the company to do better. This led to the formation of a sustainability committee, which has helped turn the organization around.
- Several members suggested that the City look at the building code and consider adopting amendments related to energy codes. The current building code is the 2015 code, but amendments passed at the state level which basically default it back to the 2009 code for the energy code. Durham is an example of a NH community that adopted more recent codes. This should be done along with education about the benefits of an increased energy code, which include significant health benefits and lowering the operating costs of homes.
- Another idea that was discussed was requiring renewable energy systems for development of a certain size. The Town of Epping does this. In Boulder, CO homes over a certain size are required to have a certain HERS rating or be net zero.

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- Other ideas include requiring wiring for EV charging stations in new construction. Both Markem and GEO have charging stations for employees, and Bensonwood is looking into it, as well as the Co-op.

3. Potential Renewable Energy Strategies

Mari said that there is information in the packet about potential programs/strategies the City could pursue. These include:

- Community Choice Aggregation (CCA) - CCA allows communities to determine their electricity generation sources by aggregating the community load and purchasing electricity from an alternate electricity supplier while still receiving transmission and distribution service from their existing provider. CCAs can be designed either as “opt-in” or “opt-out” programs. With opt-out programs, all eligible customers are enrolled automatically, and it is up to the customer to contact the CCA program if they wish to be removed.
- Renewable Energy Bulk Purchasing Program – examples include solarize campaigns and renewable heating and cooling campaigns. These are typically volunteer-led group purchasing programs that aims to reduce barriers to renewable technologies such as solar and air source heat pumps by streamlining the process, offering some discounts, and overcoming inertia.
- Virtual Power Purchase Agreement – a financial arrangement between a developer and the buyer which guarantees a cash flow for the renewable energy project based on output. The electricity generated from the project is sold into the local wholesale electricity market; the revenue from this sale, which varies depending on local electricity prices, is then returned to the buyer.
- Energy Benchmarking - the process of measuring and analyzing the actual energy and water consumption in a building and comparing to similar peer buildings and/or the same building at a past point in time. The City could lead by example and benchmark its own buildings to encourage others to do so (option 1), adopt a voluntary benchmarking ordinance to encourage participation from private building owners (option 2), or adopt a mandatory benchmarking ordinance that would require certain building owners (i.e. buildings in a specific zoning district, or of a certain size threshold) to report energy use data to the City.
- Collaborative Electricity Procurement - aggregate the demand of a few organizations in deregulated electricity markets to procure renewable electricity on a voluntary basis.
- Reverse auction - an auction in which the roles of the buyer and seller are switched. In a traditional auction, a seller puts a product up for sale, which is bid on by many potential buyers. The buyer willing to pay the highest price wins the auction. In a reverse auction, a buyer requests a product, and many sellers bid to provide that product. The bidder that can provide the product at the lowest price wins the auction. Reverse auctions can be used for entities that aggregate their demand to increase their purchasing power. Aggregation can draw more bidders and allows entities with smaller demands to participate in the reverse auction process.

4. Focus Group Evaluations

Mari thanked everyone for attending and asked that people fill out the evaluation forms before they leave.

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Community Development Department

MEMORANDUM

DATE: March 2, 2020

TO: Energy and Climate Committee

FROM: Mari Brunner, Planner

SUBJECT: Evaluation Criteria for Electricity Sector Strategies

Recommendation

Informational.

Background

The City of Keene's energy planning consultant, The Cadmus Group, has proposed a set of five evaluation criteria that could be used to assess potential strategies/action items in order to identify the highest priority options to include within the renewable energy plan. These evaluation criteria include the following:

1. **Scale of Impact:** Extent to which the action has the potential to increase the level of renewable energy in the community electricity mix (i.e. how much the strategy will "move the needle")
2. **Local Impacts:** Extent to which a strategy will increase renewable energy development / generation within the region and increase resiliency to shocks to the energy system.
3. **Local Environmental and Social Goals:** Extent to which a strategy is expected to contribute to local job growth and impact local greenhouse gas emissions.
4. **Inclusion and Social Equity:** Extent to which a strategy is expected to be affordable and cost-effective for residents and businesses of all income levels within Keene, and extent to which the benefits associated with the strategy are expected to be distributed equitably.
5. **Feasibility:** Extent to which the City will incur costs to implement the strategy, and extent to which the strategy is technically possible. This rating includes the availability of existing funding sources and incentives.

The Cadmus Group has developed an initial list of potential renewable energy strategies for the Electricity Sector and conducted an analysis using the criteria listed above, using a qualitative ranking of "low," "medium," or "high" for each criteria. This analysis is included in the attached table, and is intended to help the City select up to six strategies to be included within the renewable energy plan. For each of the six selected strategies, Cadmus will provide a more in-depth analysis, including an assessment of impacts, benefits, risks, and feasibility of each option.

ATTACHMENT: Strategy Evaluation Table prepared by The Cadmus Group

COPY: Rhett Lamb, Community Development Director / Assistant City Manager

Strategy	Description	Targeted Impact	Scale of Impact Score	Local Impact Score	Local Env. and Social Goals Score	Inclusion and Social Equity Score	Feasibility Score	Timeline
Establish a Community Choice Aggregation Program (municipal)	Establish a community choice aggregation	Municipal, Residents, Businesses, Organizations within City of Keene	High	Low	Low	Medium	Medium	~12 months to establish/start operating Municipal participation will depend on when current contracts expire
Establish a Community Choice Aggregation Program (Joint Office)	Work with other entities to consolidate demand and establish a community choice aggregation	Municipal, Residents, Businesses, Organizations in Keene and in the region	High	Low	Low	Medium	Medium	~12-18 months to establish/start operating Municipal participation will depend on when current contracts expire
Virtual Power Purchase Agreements (VPPAs) by City	Agree to a contract for differences (CfD) with a renewable energy developer at a given strike price to receive the RECs from a project. The renewable energy system developer sells the energy generated into the normal power market and uses the CfD as a hedge on the variable price of power.	Municipal, and potential partners (local businesses or organizations)	Medium	Low	Medium	Medium	High	~3-6 months to identify a RE project and negotiate a contract ~10-20 year term

Host a renewable energy bulk purchasing program (e.g. Solarize Campaign)	Support solarize-style campaigns in the City to expand solar capacity	Residents, businesses, organizations in Keene or region	Low	Medium	Low	Medium	High	~8 months to organize and run a bulk purchasing campaign
Purchase Renewable Energy Credits or enter into competitive supply agreement for renewable energy	Allows municipality to purchase renewable energy that matches consumption. RECs tend to be annual purchases and competitive supply agreements tend to be short-term.	Municipal	Low	Low	Low	Medium	Medium	~2 months to identify/negotiate contract ~1-3 year contract term
Encourage residents and businesses to purchase RECs or enter into competitive supply agreements	Encourage community members to purchase RECs or enter into competitive supply agreements.	Residents, businesses, organizations in Keene	Low	Low	Low	Low	High	If implemented - could include a marketing campaign, creation of resources (webpage, fliers, one pagers), workshops, with ongoing updates ~3 months-3 years
On-Site Generation - Direct Ownership	Install renewable energy projects on City facilities and City-owned lands; City would own the project(s) and the RECs.	Municipal	Low	Low	Medium	Medium	Low	~12-18 months to install on-site system Would be ongoing as opportunities arise for procurement.
On-Site Generation - Third Party Owned	Generation is installed on City Property, but rather than owning the PV system, the City uses solar leasing or PPA to pay a fixed price for electricity generated by PV panels on city property	Municipal	Low	Low	Medium	Medium	Medium	~12-18 months to install on-site system ~10-20 year contract term with potential opportunity to purchase the system

Local Renewable Energy Requirements	Require renewable energy installations in certain cases, such as new construction.	Businesses	Low	Medium	Low	Medium	Medium	~3 months-1 year Largely dependent on political capital needed to pass mandate
Adopt Solar Ready Guidelines	Encourage or require new buildings to be built in a way that accommodates future solar installations	Businesses	Low	Low	Low	Medium	High	~2-3 months to develop and encourage solar ready guidelines Adopting mandatory guidelines may take additional time
Local Renewable Energy Non-Financial Incentive Programs	The City establish programs to incentivize renewable energy for residents and businesses. Such programs could include creating local competitions where the primary incentive would be public recognition of achievement.	Residents, Businesses	Low	Low	Low	Medium	High	~12-18 months to design and run an incentive program
Local Renewable Energy Financial Incentive Program(s)	The City establishes programs to incentivize renewable energy for residents and businesses. Such programs could include local tax rebates for renewable energy installations, tax credits, exemptions from property taxes, and zero interest and forgivable loans.	Residents, Businesses	Low	Medium	Medium	Medium	Low	Largely dependent on available capital and political capital needed. Could be 1-3 years.

<p>Reduce permitting, zoning, and inspection barriers to Renewable Energy</p>	<p>The City streamlines the permitting, zoning and inspection processes so that processing time and expenses are reduced. This may include streamlining permitting processes for specific technologies that meet certain standards, and eliminating redundancies from inspection protocols.</p>	<p>Residents, Businesses</p>	<p>Low</p>	<p>Medium</p>	<p>Medium</p>	<p>Medium</p>	<p>High</p>	<p>~2-3 months to identify and reduce barriers through permitting, zoning, and planning improvements</p> <p>Timeline may vary depending on community's process for changing zoning language.</p>
<p>Lease City property for renewable energy development</p>	<p>Offer City property for lease to utilities or developers to host renewable energy projects.</p>	<p>Utility RE Supply</p>	<p>Low</p>	<p>Medium</p>	<p>Low</p>	<p>Medium</p>	<p>Medium</p>	<p>~3-12 months to negotiate land leases and contracts.</p>
<p>Community / Shared Solar Projects</p>	<p>Organize community / shared solar projects in which multiple utility customers can subscribe to community solar and benefit from lower rates</p>	<p>Municipal, residents, businesses</p>	<p>Medium</p>	<p>Medium</p>	<p>Medium</p>	<p>Medium</p>	<p>Medium</p>	<p>~6-24 months to identify a site, select a project developer, develop the solar array, and identify customers</p>

Revolving Investment Program	City establishes a revolving fund where proceeds from existing RE projects are reinvested into new RE projects	Municipal (if internal), or residents/businesses if loan fund	Low	Low	Medium	High	Medium	~18-24 months to establish a fund and generate sufficient revenue to invest in RE projects (assumes capital is available to start fund) Ongoing support of RE projects
Partner with a local bank to offer a solar loan program	Create a partnership with a local financial institution to create a loan product to finance renewable energy installations targeted at businesses or residents	Residents, Businesses	Low	Medium	Low	Low	Medium	~12-24 months to develop a partnership
Work with the utility to develop a pilot incentive program for renewable energy or storage	Engage electric utility on providing potential incentives for renewable energy installations or energy storage by residents or businesses in Keene	Residents, businesses	Low	Low	Low	Medium	Medium	~6-12 months before a pilot program is implemented, ongoing KPI/metrics tracking
Re-establish the Ecovation Hub	Work with local colleges, vocational schools in the region to reestablish the Ecovation hub to create course content focused on renewable energy	Residents	Low	Low	Low	Medium	Medium	~12-18 months to develop a workforce training program Ongoing workforce training

SOLARIZE MONADNOCK 2020 PRESENTS:

SOLAR FAIR

SAT, MARCH 14 ■ 10AM-2PM

(SNOWDATE - SUN, MARCH 15 ■ 12PM-4PM)

BENSONWOOD/UNITY HOMES

25 PRODUCTION AVE., KEENE

**SOLARIZE MONADNOCK 2020 VOLUNTEERS
AND SIX DIFFERENT SOLAR INSTALLERS
WILL ANSWER YOUR QUESTIONS ABOUT
SOLARIZING YOUR HOME.**



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For more info go to:
solarizemonadnock.com



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Solarize Monadnock 2020 is supported by
the Monadnock Sustainability Network, a 501(c)3 organization

Button up your home, not your coat

FREE Home Energy Workshop



NHsaves Button Up Workshop is a free presentation to help local residents **conserve energy and save money** on their heating and cooling bills.

Learn about **saving electricity, insulation** and air sealing, energy audit and weatherization programs, **rebates** on electric and gas appliances, and **other incentives** from NH's energy utilities.

cleanenergykeene.com/button-up

WHERE:

Keene Public Library, Auditorium
60 Winter St.
Keene, N.H.

WHEN:

Monday, March 23, 2020
Workshop starts at 7:00 P.M.
Doors open at 6:30 P.M.
Light refreshments will be served

PRESENTER:

Ted Stiles, BPI Certified Energy Auditor

QUESTIONS:

info@cleanenergykeene.org

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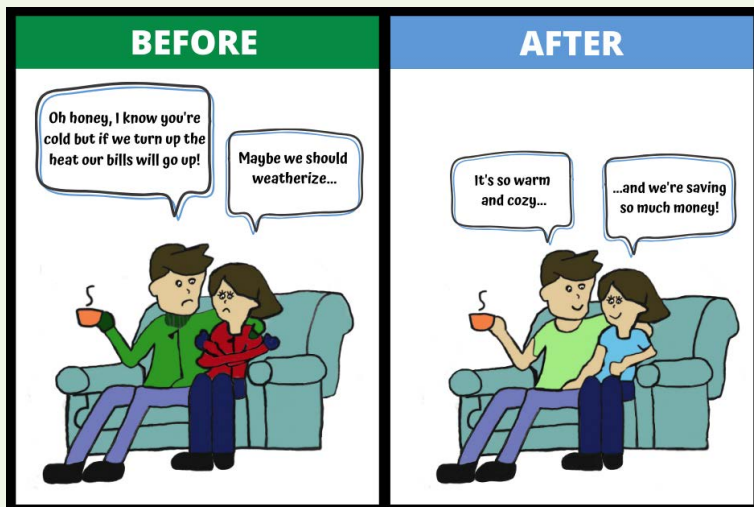
NHSaves www.nhsaves.com

Local Partners:

Keene's Energy and Climate Committee
Keene Clean Energy Team
Monadnock Sustainability Hub

Visit www.nhsaves.com/events for dates and locations of all Button Up workshops.

Workshops are organized by **Plymouth Area Renewable Energy Initiative**, (PAREI)
www.PlymouthEnergy.org • 603-536-5030



The workshops are FREE thanks to funding provided by



By working together we can make Keene a greener community. Join Keene residents, businesses, community groups & KSC in a volunteer event to clean up the city!

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GREEN UP KEENE 2020

Saturday, April 25

Check in: 8am-12pm

Railroad Square

<https://ci.keene.nh.us/public-works/green-up-keene>