



## **ENERGY & CLIMATE COMMITTEE MEETING AGENDA**

Wednesday, April 1, 2020, 8:00 AM

Virtual Webex Meeting

### **TO JOIN THE MEETING:**

1. Go to [www.webex.com/login/attend-a-meeting](http://www.webex.com/login/attend-a-meeting) and enter the following information:
  - a. Enter in the Meeting Number: 790 056 715
  - b. Enter your name, email, and the Meeting Password: ECC-April1
2. To join the meeting by phone, call 408-418-9388, then enter access code 792 917 239

### **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  
Paul Roth, alternate

### **Staff:**

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

1. Call to Order and Roll Call
2. Approval of March 6, 2020 Meeting Minutes
3. Energy Plan
  - a. Priority Strategy / Action Items for Thermal & Transportation Sectors
  - b. Draft Baseline for Thermal & Transportation Sectors
  - c. Consultant Webinar Presentation April 2, 2020
  - d. Online surveys for Residents and Businesses
  - e. Energy Plan Outreach Options for April and May
  - f. UNH Sustainability Fellow Update
4. New Business
5. Next Meeting: Wednesday, May 6, 2020
6. Adjourn

**CITY OF KEENE**

**ENERGY & CLIMATE COMMITTEE MEETING MINUTES**

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  
Andrew Dey  
Zack Luse  
Meaghan Rafferty  
Paul Roth, alternate

**Members not present:**

Anna Schierioth  
Rod Bouchard

**Guests present:**

Marge Shepardson  
Raleigh Ormerod, City Council  
Dee Robbins, Clean Energy Team  
Corinne Marcou, City staff  
Scott Maslansky, CDFR

**Staff:** Rhett Lamb, ACM/Community Development Director

Mari Brunner, Planner  
Morgan Urquia, City Intern  
Mr. Thomas Mullins, City Attorney

1. **Call to Order and Roll Call**

Dr. Shedd called the meeting to order at 8:02 am.

2. **Approval of February 5, 2020 Meeting Minutes**

*Vice Chair Hansel moved to accept the February 5 minutes, Councilor Clark seconded and the motion was passed unanimously*

3. **Introduction of new members**

New member Ms. Meaghan Rafferty and alternate member Mr. Paul Roth introduced themselves to the committee.

#### 4. **Committee Rules of Procedure**

The City Attorney, Mr. Mullins, introduced himself to discuss the rules of procedure for the committee. He stated that ECC is not a private body and there are certain rules that pertain to a public body that differ from those of private organizations. He said the City has a hierarchy of Boards and Commissions; one on the legislative side of the house and the other on the quasi-judicial side. He explained that, for example, the Zoning Board of Adjustment is the most quasi-judicial body and is charged with applying laws and their decisions can end up on the Superior Court. Alternatively, ECC sits on the legislative side of the house and was created by City Council; he explained that the ECC is a legislative body with smaller risk factors.

Mr. Mullins stated that is important for ECC members to follow the rules of procedure set forth by the State statute (RSA-91A- “The Right to Know Law”). He explained that under this law, members of the public are permitted to enter into committee meetings and videotape them if they would like to. He said the rules of procedure have been standardized so that everyone is on the same page under the statute.

Mr. Mullins stated that the rules and procedures document provides a roadmap for Boards and Committees to follow. He brought up a number of specific items; for example, the minute taker provides a record for the City Clerk and are generally familiar with parliamentary procedures; a motion is required for specific actions taken as well as an indication of the vote; there must be a quorum in order to operate, for example, there must be at least six people present at ECC’s meetings in order to have a meeting. If there is no quorum, the minute taker will leave after fifteen minutes. He said it is not okay to get together and talk about matters pertaining to the body in person or via email, outside a noticed meeting. Mr. Mullins stated that casual meetings together may potentially violate the statute if quorum is achieved and committee matters are discussed; therefore, the rules and procedural guidelines must be strictly followed to avoid these situations.

Mr. Mullins stated that the creation of subcommittees is allowed, however, a subcommittee represents an entity that provides advice to the larger body and are themselves public bodies, therefore, it is important that committee members understand the specific charge of the subcommittee. For example, members of a subcommittee must convene in a public place and are subject to the same rules as larger bodies. He stated for example, if the task is for an individual or two to conduct research and bring that information back to the body, it should be clear that those individuals are solely collecting information and are not responsible for synthesizing the information.

Vice Chair Hansel asked if there is a difference between a subcommittee and a work group. Mr. Mullins replied that the difference is dependent on whether or not the task includes a synthesis; a work group is solely presenting information to the larger body that they have gathered and have not distilled that information or offered any advice. Ms.

Brunner asked for clarification about whether it is permissible for outreach sub-groups to get together to table community events and Mr. Mullins said that it acceptable as a work group.

Mr. Mullins stated that he would like ECC members to adopt the rules of procedure and provide a signed copy back to the City.

***Councilor Clark moved that they adopt the rules of procedure, Mr. Roth seconded and the motion passed unanimously.***

## 5. **Energy Plan**

### a. **Community Survey – KSC Energy Cost Project**

Ms. Brunner directed members to a flyer explaining the Keene State College (KSC) Energy Cost project on page 16 of the agenda packet. She said she and Dr. Shedd had previously met with two college students in September who were interested in doing an energy project in Keene; since that time, students independently developed an energy project in coordination with Dr. Tom Webler from KSC to understand how energy costs affect Keene Residents and, as part of that project, they created a community survey. She said that the students informed the City about their work around the same time the City was planning to distribute a survey, so they decided to combine the two surveys into one. She included a link to the survey in the packet and stated that as of last night she had received 35 responses.

Dr. Shedd stated that the survey does not take more than five minutes and is fairly straight forward. Ms. Brunner said of the 33 people who took the survey it took them an average of four minutes to complete. She said the more responses that they can get the better as they want to understand how energy costs affect residents. The college students intend to collect surveys while tabling at Keene Housing. She encouraged members to take the survey as well as share it to reach more people in the community. She said that the students need to analyze the results and prepare a poster presentation for mid-April. Vice Chair Hansel asked how the students are distributing the survey currently. Ms. Brunner said there is a QR code for printed flyers that students will use to collect the results electronically. Dr. Shedd asked what happens with limited access to internet. Ms. Brunner replied that the challenge with paper distribution is that the responses will need to be manually entered by someone; however, Survey Monkey can accept surveys offline and then it combines online and offline results.

### b. **Focus Group De-brief**

Ms. Brunner said she shared the notes from the two focus groups in the meeting packet. She said the focus group on February 13 was for Institutions, which includes larger, nonprofit-type campuses with multiple buildings. She said these included Hillside Village, KSC, Keene Housing, the School District, Antioch University New England, the City of Keene, Cheshire Medical Center and the Energy and Climate

Committee. Dr. Shedd asked for member feedback on the focus groups. Vice Chair Hansel stated that he was very impressed by the level of interest and engagement in the focus groups, he said people were well-informed and had established their own goals for their organizations and relevant processes. Dr. Shedd stated that the Business and Institutional focus groups are using diverse data tracking tools so one of the questions moving forward for the City's Energy Plan is how to collate the information from the various sectors, which will be a whole project in and of itself. She said data tracking itself can change behavior.

Dr. Shedd stated that the one issue that emerged is education and how they plan to get information out to all of the sectors that the Energy plan will impact. Vice Chair Hansel said the Institutional sector included large organizations, however, the Business sector could have been more represented by smaller businesses, for example, the owner of Elm Street market was represented as a smaller-scale business. He said moving forward they should be conscious of the fact that these focus groups are mostly getting input from larger business players and not the smaller ones.

Ms. Brunner stated that the results of the focus groups have not yet been shared with Cadmus, the energy planning consultant. She said the businesses represented in the Business sector focus group were: Bensonwood, Elm Street market, C&S Wholesale Grocers, Marken Imaje, Green Energy Options, Hannah Grimes, Filtrine, Monadnock Food Co-Op, and the Monadnock Economic Development Corporation (MEDC) who works with all of the downtown businesses. She stated that they will be following up with a small business survey effort. She said Beth Wood, the Keene Downtown Coordinator who works for MEDC, sends out a newsletter every month which included a survey link but they still have not received enough responses.

Dr. Shedd said that the student survey is up on the City website and Ms. Brunner stated that she will double check if the business survey is posted on the City website as well. Ms. Brunner stated that if members of the committee have business contacts, or are business owners themselves, and want to share the business survey she will send the link out to members. Dr. Shedd stated that receiving responses from different scale businesses would be helpful as the data from Eversource suggests that there are almost two thousand commercial accounts in the City of Keene.

c. Electricity Sector - Evaluation Criteria & Strategy Prioritization

Ms. Brunner stated that she included a memo on page 30 of the packet to introduce the evaluation criteria for strategy prioritization from Cadmus. She said the memo regards one of the items in Cadmus' scope of work which is to identify a list of potential strategies to evaluate those strategies and prioritize them. She said Cadmus is looking to hear from ECC what their top five or six strategies are so that they can conduct an analysis of those strategies and provide the City with a final report. She said to achieve that, they worked with City staff to identify evaluation criteria to use as a tool to help choose the top 5-6 strategies. The evaluation criteria are included in the memo dated March 2, 2020 on page 30 of the packet:

Scale of Impact- Ms. Brunner stated that this evaluation criteria is focused on the ability to help reach the goal of renewable electricity supply for the City. Dr. Shedd noted that they still must define what renewable energy is. Ms. Brunner replied that the definition is a work in progress, however, the committee and the public have provided a lot of information about what they consider to be renewable. Ms. Brunner said they will hold another workshop in April and they can propose coming up with another definition then, however, there has been enough consensus that renewable energy represents clean energy that is not harmful to the environment.

Local impacts- Ms. Brunner stated that renewable energy can include local energy as well as energy purchased somewhere else and this item includes promoting the development of local energy systems (in both the City and the surrounding region). Councilor Clark added that the Southwest Region Planning Commission (SWRPC) area is the best geographic area to include because it communities that are considered part of the Monadnock Region that aren't in Cheshire County, such as Peterborough. Mr. Roth stated that it is important to define the focus of the region. Dr. Shedd agreed that for example, Marlborough, is very tied into Keene and the hydro facility is located there. Ms. Brunner agreed that the energy grid is much larger than NH so there may be degrees of scale, however, this criteria would rank a strategy that increases renewable generation within the New England grid over energy generated in Texas or Nebraska, or energy derived from the Monadnock region over energy coming from Rhode Island. Vice Chair Hansel asked how they will determine where the energy comes from on the grid and Ms. Brunner replied that there are maps that show electricity markets that are a bit abstract, however, the general idea here is that they would prioritize strategies that promote the development of renewable energy resources closer to Keene. Councilor Clark asked if that includes microgrids and Ms. Brunner replied that if the strategy were to form a microgrid to create energy resilience in the City, that particular strategy would rank high under local impacts criteria and represents a good example of how this criteria could be applied.

Local environmental and social goals- Ms. Brunner stated that this strategy focuses on the extent to which a strategy would contribute to local job growth and the extent to which a strategy would contribute to greenhouse gas emissions. She asked if members had questions. Dr. Shedd said perhaps they should focus not only on job growth but also a recognition that there will be a certain number of job losses in the fossil fuel industry and include this impact on the job force.

Inclusion and social equity- Ms. Brunner stated that this strategy emphasizes the extent to which a strategy is expected to be affordable and accessible by individuals from all income levels, and distributed evenly and equitably. She said that when the Resolution was adopted there was a preamble that included language around ensuring social equity in the goals, as well as several of the community energy discussions. Vice Chair Hansel stated that this item may be difficult to quantify or evaluate. Ms. Brunner replied that Cadmus ranked each strategy as low, medium or high and one of the things she wanted to discuss with the committee today was whether they want to

use this evaluation criteria for strategies in the thermal and transportations sectors as well, however, these strategies are largely meant to be used for a qualitative analysis.

Feasibility-Ms. Brunner stated that this item looks at the ability of the City to implement this strategy from both a cost and technical feasibility perspective. She said if it a strategy is brand new, complicated or expensive it might not be technically or financially feasible. She said “feasibility” includes evaluation of strategies to make sure the goals are reasonable and attainable.

Ms. Brunner stated that the table that was attached to the memo on page 31 lists all of the strategies Cadmus has proposed specifically for the electricity sector. She said for each strategy they provide a brief description of targeted impacts, for example, establishing a Community Choice Aggregation program for municipalities, businesses and residents in the City of Keene. She stated that they went through each of the five criteria and ranked them as high, medium or low and provided an estimated timelines within the ten-year timeframe to show the time it would take to implement a strategy.

Dr. Shedd stated that last month they had information in the packet about potential strategies and this grid does not include energy efficiency. Ms. Brunner replied that Cadmus is not looking at energy efficiency; they were hired to help the City identify the top 5-6 strategies that the City could pursue to achieve 100% renewable energy for the electricity sector. However, that doesn't meant that energy efficiency won't be in the plan – the consultant's report is only a portion of what will be included in the plan. Dr. Shedd replied that energy efficiency represents a part of overall energy goals and it would be an oversight to not include that and Ms. Brunner replied that is true; however, the consultant is not focusing on that. She said that items not included on the list will be inserted by City staff after as the scope of the consultants' work was looking at renewable energy and not energy efficiency strategies. Dr. Shedd said as the plan develops, the City needs to determine how to address the demand side of the equation. Ms. Brunner said that staff created a handout for this meeting which includes strategies and action items for all three sectors, and this list includes energy efficiency-related strategies. However, the consultant is not working on energy efficiency as their contract is specific to renewable energy strategies for the electricity sector. Dr. Shedd emphasized that lowering the demand changes the denominator of the equation of what is their percent renewable and that cannot be stressed enough and is a huge piece of what the strategies need to be and relate to what the City can do to impact the community scale in terms of both code regulations, incentives and other programs. She said she wants to keep that front and center in all of their discussions. Ms. Brunner agreed that the intent is to have energy efficiency be a core strategy of the plan, and reiterated that the list included in the packet is a list generated by the consultant specific to renewable energy strategies for the electricity sector, and does not include energy efficiency.

Ms. Brunner stated that the table attached was provided by the consultant and is specific to increasing renewable energy in the electricity sector. She said they were

looking at switching to renewable sources of energy and not reduction in energy usage.

Vice Chair Hansel said the five areas are not ranked or weighted in any way, however, assuming they are all ranked equally, he did an analysis of the high, medium and low priorities and noted that some of the categories were difficult to categorize. Ms. Brunner stated that the City did help with coming up with a numerical evaluation but they thought the numbers they derived were arbitrary and instead chose to use the categorization of high, medium and low and have a discussion around those strategies. Vice Chair Hansel stated that he did the analysis and came up with some surprising things. He said the EDPA (energy development purchasing agreement) came up high from municipality and not for business and residential; he said purchasing RECs was also high for municipal but not very high for residents or businesses. He stated some strategies came out high for all categories and it was an interesting exercise. Ms. Brunner said that staff are also thinking about what strategies to select and as they were going through the list they found a lot of the strategies were mostly geared towards the municipality which represents a small percentage of overall electricity use.

Vice Chair Hansel said the community-shared solar projects came out higher than he expected, however, he does not know if there are any good examples of these projects in NH and whether or not there are any impediments to their implementation. Members of public pointed to the Monadnock Food Co-op's community solar project and Vice Chair Hansel said that is a different model. He stated that if a resident or business does not have suitable roof they can become part of a project that is different than the co-op's model. Ms. Brunner said it is called group net metering and it is enabled in NH but it is not the friendliest option as there are some barriers to it in NH, however, with the SB-165 bill that passed last year the barriers are lowered for group net-metered solar projects for low income populations. Dr. Shedd said the bill required each utility to do three to four projects for low-income residents per year but she is not sure if any of those are underway yet. Vice Chair Hansel said that makes sense as that group net-metering enables everyone to participate whether you have a good site, have a high income or are a business or resident.

Mr. Pipp stated that it is important to put a forecast on the plan also as there may be new bills that pass that currently may not be feasible but will become more accessible in the future. Ms. Brunner stated that there are a lot of strategies on the table and they are difficult to go through. She proposed members split up into three groups to work through each of the sectors and come back to the larger group with recommendations for the top strategies. She said she reorganized the categories do make them a little easier to understand. She asked if the committee would prefer to break out into smaller groups. Councilor Clark suggested that in the interest of time that they remain as a large group for discussion.

Dr. Shedd noted that the data Eversource provided of Keene's electricity use by sector for 2018 showed there were a total of 12,500 accounts: about 2,000 in the

commercial sector and 10,000 in the residential sector; however commercial sector accounted for about 2/3 of total electrical use. She stated that in terms of total impact of consumption, the commercial sector will be more represented, so they may need to give more consideration to the residential sector for the social and environmental goals.

Ms. Brunner stated that the handout includes all the same strategies in the table with the goal at top, with strategies and action items that fall under each strategy underneath. She said some of the strategies came from the consultants and some she added herself.

Goal: That 100% of all electricity consumed in the City will come from renewable energy sources by 2030.

## **1. Reduce electricity use for buildings in all sectors**

### **1.1 -Adopt a Mandatory Benchmarking Ordinance**

### **1.2 -Adopt a Voluntary Benchmarking Policy**

Ms. Brunner stated that a potential strategy could be to require building owners of certain sizes or in certain districts to report their energy use to the City. She said this could be done as a mandatory or a voluntary benchmarking policy. However, voluntary policies do not result in as much compliance. Vice Chair Hansel said it would be easy to cut electricity if all businesses went out of business, and there needs to be a relationship between electricity use and business activity, for example, relative to square feet or production hours, to encourage businesses to grow and comply with benchmarking reporting. Ms. Brunner said the City would have to look into whether or not there would be a requirement to reduce energy use over time. She stated that the idea behind benchmarking policy is that by asking people to report energy use it will automatically get people thinking about ways in which they can reduce their energy use. Ms. Brunner stated that South Portland, Maine implemented a benchmarking policy that was tied to an economic incentive zoning district and as part of the tax incentives they require businesses over a certain size to report their energy use to the City and the City makes that information public so that people can see how energy is being used and hopefully see a reduction. Mr. Luse stated that investing in smart meters could reduce the burden of reporting and could be useful. Ms. Brunner said if the City were to implement some sort of community choice aggregation program, over time they could switch over to smart meters and that would be an excellent data source for understanding energy use for electricity. However, it will always be more challenging to get heating and cooling data because there is no corollary to the electric grid for thermal energy. Dr. Shedd said that one of the transitions that could happen is for heating/cooling to come from electricity and that could help roll some of the thermal usage into the electrical data.

### **1.3- Partner with NHSaves Program to enhance public outreach and education.**

Ms. Brunner said one strategy is to partner with NH Saves program. She said one idea is to have somebody on site in Keene to do direct outreach to local businesses and residents to help individuals become aware of the incentives through NH Saves. Dr. Shedd stated that the Monadnock Sustainability Hub is in conversations about how to bring that program to the region. She suggested combining 1.3 with 1.6, with NH Saves becoming a subset of 1.6. Ms. Brunner said it may be helpful to get through what all of the strategies are before going into those specifics. Dr. Shedd proposed that they cluster some of the strategies in the interest of time. Ms. Brunner agreed and said that if they break the strategies up they can work through what each strategy represents and combine them in the interest of time.

#### **1.4- Re-establish ECOvation Hub**

Ms. Brunner said that the idea of re-starting the ECOvation Hub came out of the Institution Focus group. She said the initiative was started but then plateaued and one of the strategies could include reinvigorating the ECOvation Hub in order to help train and increase the scope skills for renewable energy technologies. Mr. Dey stated that he attended an event in Brattleboro and was informed that the ECOvation Hub work is now closed because not much had happened. He stated that establishing connections between institutions was one of the only valuable outputs of that work.

#### **1.5- Consider adopting a local amendment to the 2015 State Energy Code, or explore adopting a green code such as the International Green Construction Code.**

Ms. Brunner stated that this strategy is related to the energy code and came out of the Business focus group. She said recently the state moved to the 2015 energy code which they are currently under and municipalities can adopt specific local amendments to the code through a process, but cannot adopt a whole new energy code. She said another option is in addition to the 2015 state energy code, they can adopt a green code like the international green construction code which would require new developers in Keene to follow both codes. Ms. Brunner stated that is an option the City could explore and they have already adopted an incentive district called SEED which incentivized new construction to meet LEED standards. Ms. Brunner said the re-zoning is specific to the zoning chapter and land use regulations but this would be related to state building codes. She said there has been discussion about whether or not to include incentives in zoning for green buildings, however, she is not sure where that discussion is at right now. Mr. Lamb stated that the SEED district overlaps with the changing zoning districts, however, they aim to continue the intent of the SEED district as originally conceived and adopted but how that will happen is not entirely clear yet. Ms. Brunner stated that this strategy would be separate from the land use code updates.

Mr. Maslansky noted that at the state level there is a New Hampshire energy code collaborative; their main focus originally was to create a roadmap to compliance

for the 2009 code but now that the 2015 code is here, they are reevaluating what the direction should be, whether it is enforcement and compliance, focus on education and training, or a code that municipalities could implement. He asked committee members if there is any area of focus that they would like more information or help they are at the stage of focusing on what elements to move forward with. Dr. Shedd said initiatives like that would impact the feasibility ranking of programs as the City would not have to implement these program all on their own. Mr. Lamb said that there are elements from the 2015 code that are worse from an energy and conservation standpoint than the 2009 code. One of those is the solar on rooftops on smaller buildings. He said they should be promoting the potential for influencing changes at the state level or looking into amendments that might remove some of the current barriers to solar on roofs. Mr. Dey said that his understanding is that the version of the 2015 codes adopted at the state level preserved some of the green energy code that weakened the 2015 code so if this is a direction to be pursued one thing to look at is what elements of the green energy code were not included in the version that was adopted by the state.

**1.6 Provide education and information/resource-sharing to increase awareness and understanding of energy efficiency and efficient building design, including benefits, available incentives/programs, etc.**

Ms. Brunner stated that this strategy is focused on promoting education, resource sharing, raising awareness and doing outreach. She stated that the education and outreach strategy has been identified as high priority by all of the focus groups. She said Ms. Rheannon Demond from Bensonwood talked about the need to educate people about the benefits of the more efficient energy code because it could increase upfront costs for developers and there has been pushback from that community. She suggested that education could focus on the offsets of operating costs of the building, as well as co-benefits like increased air quality and impacts on health. Ms. Brunner said this is a broader, more general strategy to think about ways to increase education awareness and outreach. She proposed that they combine 1.6 and 1.3 into one as Dr. Shedd suggested.

Ms. Brunner asked members to go through each of the five strategies and pick the top one or two. Mr. Luse stated that prioritizing reducing energy would be a higher level priority before renewable energy. Ms. Brunner noted that at the last meeting they went through higher level strategies, reduce electricity use, increase renewable energy usage and storage, and procure renewable energy for the remaining energy demand and they added advocacy; all those strategies will be in the plan, however, this exercise today is to help narrow down which strategies to prioritize underneath each of those higher level strategies. Ms. Brunner stated that the pathway to renewable energy she conceived was to first reduce energy use, generate as much local energy as possible and then procure the remaining energy from sources outside of the area while simultaneously advocating for policies at the state and federal level to help achieve those goals. Dr. Shedd agreed that

community aggregated power may happen before some of the other goals and it takes time to lay down the groundwork for renewable energy so the order of the numbers may change. Mr. Maslansky said there is a lot of money in the pot to be used so trying to partner with utilities to do as much efficiency as possible makes a lot of sense; however, one of the biggest missing pieces from that is the thermal measures. He said there is an advocacy piece to get utilities to support thermal and the incentives are there now, for example, the tax credit.

Ms. Brunner asked members how they would rank the top 1-2 priorities for the five strategies. She said this very short timeframe so leveraging programs and incentives that are already available makes sense while also keeping in mind the other goals.

Vice Chair Hansel said the strategy that stood out in all categories was 1.3 and 1.6 (partnering and educating). He said the lowest priority was 1.4 (reestablishing the ECOvation Hub work).

Mr. Luse agreed that the education piece and incentives are high priorities. Mr. Roth said the benchmarking also dovetails well with the education and advocacy strategies. Mr. Pipp agreed with picking either 1.1 or 1.2.

#### **2.6 Offer non-financial incentive programs for residents and businesses**

Ms. Brunner stated that the City used to run the 10% Challenge which was a competition in the community to recognize one organization/company each year as the “Green Business of the Year.” Dr. Shedd said ECC used to be involved in that selection process but it took a lot of volunteer work and time and may not be worth the effort. Vice Chair Hansel added that some winners were located outside of Keene as well.

#### **2.7 Offer financial incentive programs to incentivize renewable energy for residents and businesses**

Ms. Brunner said this strategy could include local tax rebates for renewable energy installations and other incentives to help lower the financial barriers to renewable energy. Dr. Shedd noted that Keene already has tax exemptions for renewable energy.

#### **2.8. Reduce permitting, zoning and inspection barriers to renewable energy**

Ms. Brunner stated that this strategy could include streamlining the permitting process, eliminating redundancies from inspection protocols, etc.

#### **2.9 Lease property**

Ms. Brunner stated that this strategy could involve the City offering their property for developers and utilities to host renewable energy projects.

#### **2.10 Community/ Shared Solar Projects**

Ms. Brunner stated that there are logistical barriers to group net metering in NH, however, this could be something to look into for low income populations due to the SB-165 bill that passed. She said the barrier for group metering is based on the administrative burden of distribution and requires an LLC or legal entity to handle it and is very challenging for most populations, however, they eliminated that hurdle for low income communities with SB-165.

#### **2.11 Revolving Investment Program**

Ms. Brunner stated that this strategy could include the City establishing a revolving fund where proceeds from existing renewable energy projects are reinvested into new projects.

#### **2.12 Partner with a local bank to offer a solar loan program**

#### **2.13 Work with the utility Eversource on providing potential incentives for renewable energy installations or energy storage**

#### **2.14 Provide education and information resource-sharing to increase awareness and understanding of renewable energy technologies.**

Ms. Brunner asked for committee member feedback on this group. Green Mountain Power in Vermont is getting the Tesla power wall installed as a benefit for homeowners. Dr. Shedd said they found there are problems with the battery storage system in Maplewood.

The group decided that working on a pilot program for energy storage is a top priority for members. Ms. Brunner said 2.2 “Onsite Generation - Direct Ownership” and 2.3 “Onsite Generation - Third Party Owned Generation” would be geared towards the municipality only. However, the majority of electricity usage is from the commercial sector, so 2.9 would allow the City to lease land for other large energy users (large commercial users, large institutions, etc.). She noted that there is a cap on net metering projects, right now it is 1 megawatt on individual projects, however there is a bill that would raise the cap for public entities within the same jurisdictional boundary. Ms. Brunner said the energy produced by that system can benefit other public entities but not anyone else. She said there is another bill that would raise the net metering cap for everyone to 5 megawatts. Mr. Luse asked if a net metered project could sell energy to a CCA. Dr. Shedd said there is a large commercial-scale solar farm in Fitzwilliam and they will sell it to the grid and not to off-takers. Ms. Brunner said the commercial scale is very different and the net metering is a specific set-up that has a different rate for reimbursement than commercial-scale solar projects.

Mr. Lamb stated that SB-1402 makes a compromise while SB-1218 removes the cap for everyone and the legislative process is ongoing. He said the benefit for SB-1218 is that it is raising the cap for everyone.

Vice Chair Hansel stated that action item 2.13 for the electricity sector – working with the utility to provide a pilot program for renewable energy and/or storage – would have the highest scale of impact. Both Vice Chair Hansel and Chair Shedd ranked 2.13 as the highest; energy efficiency and renewable storage programs will be very much a part of the transition. Action item 2.11 (Revolving Investment Program) and 2.12 (Partner with a local bank to offer a solar loan program) relate to providing financial resources to help make projects more feasible. Action item 2.4 (Adopt/establish local renewable energy requirements) and 2.5 (Adopt Solar Ready Guidelines) apply to new construction.

Councilor Clark stated that 2.4 and 2.5 are the most important as the players who are not involved need to be brought into this process. He said many of the codes and regulations are adopted from zoning codes, building and fire codes are driven by a national process, and they are adopted by the state and handed down by cities and towns so they need to make amendments for Keene. He said zoning is locally defined. Mr. Roth said it is better to do on a state level rather than a local level. With regards to the international green construction code (IGCC), the City could choose to adopt the IGCC and then that would apply in addition to all of the other building codes. It would potentially hold new construction to a higher standard than just the energy code on its own would. Dr. Shedd asked what the pace of new construction is, and Ms. Brunner replied that the vast majority of energy use will come from existing building stock. Mr. Lamb said that the idea of making new buildings solar ready can be done through the code even if existing buildings represent the majority of installations.

The group discussed the top action items based on the discussion so far, which include the utility pilot program (2.13); some sort of revolving loan program (2.11/2.12); education (1.6/2.14); onsite generation (2.2 & 2.3); adopting solar requirements or guidelines (2.4 & 2.5); reduce permitting, zoning and inspection barriers to renewable energy (2.8); and a benchmarking ordinance (1.1). The group noted that the top items appear to be action item 2.13; 2.11 and 2.12 can be combined; 2.14 education; 2.2 and 2.3 onsite generation; 2.4 and 2.5 solar energy requirements and zoning permitting and inspection barriers.

The group discussed the possibility of a revolving loan program, which could be geared towards specific businesses and residents that cannot finance the program themselves; example is Milwaukee Shines. Mr. Maslansky, who works for the CDFA, noted that Keene Housing borrowed money from Keene Downtown Development Corporation to complete energy efficiency and renewable energy projects. The City should be aware of loan programs that already exist and help to promote them to local businesses and institutions.

The group continued and discussed the action items listed under strategy 3 for the electricity sector - Procure renewable energy to meet remaining electricity demand. Ms.

Brunner said that action item 3.1 (Establish a Community Choice Aggregation Program) has already been discussed at length by this committee, so in the interest of time, she is not going to go over it again but can answer questions. Action item 3.2 (Virtual Power Purchase Agreements - VPPAs) is a way for the City to support and help finance specific renewable energy projects. To do this, the City would enter into a long term fixed price contract for renewable energy from a specific project. The renewable energy system developer sells the energy, and the City gets the benefit of the RECs associated with the energy sold this way. VPPAs incentivize new renewable energy capacity. For example, the Town of Hanover is considering a VPPA to help support wind energy development for a specific project in New England. VPPAs can be integrated into a CCA program to share the benefits with residents, business owners, and others.

Action item 3.3 (Encourage residents and businesses to purchase RECs or enter into competitive supply agreements) may be incompatible with 3.1 because anyone who is already on a competitive energy supply would not be brought into a CCA program by default.

Dr. Shedd voted for 3.1 and Ms. Brunner asked if they would be interested in learning more about virtual purchasing power agreements, members replied that they would like to learn more. Vic Chair Hansel agreed that members of ECC should understand this better for purposes of the energy plan.

The group decided on the top six strategies for Cadmus to research further, as follows:

1. Establish a Community Choice Aggregation Program (3.1)
2. Virtual Power Purchase Agreements by City (3.2)
3. Work with the utility to develop a pilot incentive program for renewable energy or storage (2.13)
4. Partner with a local financial institution to offer a solar loan or revolving loan program (combination of 2.11 and 2.12)
5. Adopt a Mandatory Benchmarking Ordinance (1.1)
6. Adopt Solar Ready Guidelines (2.5)

Ms. Brunner thanked the group for getting through the Electricity Sector, and noted that there wasn't time to go through the Thermal and Transportation sectors as a group at this meeting. She asked committee members to read through the handout and rank the strategies for these two sectors before the April meeting. She noted that she accidentally left out electric school bus idea under Transportation; she will add that and send the handout to board members by email.

#### **e. Planning for Community Forum #2**

Ms. Urquia is organizing a group of people to work on the planning for a second community forum for the energy plan that would be held in mid to late April in the same time frame as the Monadnock Earth Festival. She said the first planning meeting will be March 17 as a work group. Ms. Urquia will also help compile baseline data for both Thermal and Transportation sectors.

## **6. Upcoming Dates of Interest**

- a. Sat. March 14 – Solarize Monadnock Solar Fair—City Council voted in support of the solarize campaign; campaign will take place at Bensonwood and is open to the public. There will be solar installers present to answer questions, information about energy efficiency and weatherization programs, and one food truck – Pit Stop Barbecue .
- b. Mon. March 23 – NHSaves Button-Up Workshop- Ms. Brunner noted there is a flyer in the packet with more information. This workshop is scheduled to take place at the Keene Public Library the evening of March 23rd, which is a Monday.
- c. Thu. April 2 – Cadmus Presentations (lunchtime and City Council meeting)  
Cadmus consultant will present to City Council to discuss their work products and electricity baseline and a strategy analysis, community presentation will happen during the lunch hour that day from 12-1 pm. She will let committee know about where it will be held. There will be publicity to the public about a location.
- d. Sat. April 25 – Green Up Keene
- e. Sat. April 25 – Monadnock Earth Festival

## **7. Carbon Cash-Back Coalition**

Dr. Shedd stated that the Carbon Cash-Back Coalition is working on a state-level of a carbon pricing model as there is general consensus that carbon pricing will move the needle fastest on greenhouse gas emission reductions. She asked guest, Ms. Shepardson, to provide a brief description of the Carbon Cash-Back Coalition. She stated that there is support around the state; the Coalition developed last fall and put out a resolution in some 36 towns; they are in the process of being introduced to some City Councils and hope to get up to 200 towns supporting it. She said it is just a resolution and will tell state legislators that cities want them to vote on a carbon bill. She passed out handouts. She stated that over 3,000 economists have signed onto this as a general policy idea as the fastest, most effective way to reduce carbon emissions by forty percent. Ms. Shepardson said that Ms. Gillard will be bringing this to the City Council. For more information, people should visit the website at [www.carboncashback.org](http://www.carboncashback.org) or contact the local chapter of the Citizen’s Climate Lobby .

## **8. Game of Floods**

Ms. Marcou, City staff member, announced that the City is looking to recruit 14-18 people to do a Game of Floods training and she will be reaching out to any members who are interested. She said the training event will likely take place the week of March 24 or April 2 on a Tuesday or Wednesday night. She encouraged interested members to please get in touch with her and noted that it is easier to train individuals with a larger group of participants.

## **10. Next Meeting: Wednesday, April 1, 2020**

*Dr. Shedd adjourned the meeting at 10:36 am.*

# Keene Energy Plan: Draft Goals, Strategies & Objectives

## ELECTRICITY

**GOAL:** That 100% of all electricity consumed in the City will come from renewable energy sources by 2030.

### **1. Reduce electricity use for buildings in all sectors.**

- 1.1. Adopt a Mandatory Benchmarking Ordinance – Require building owners of certain sizes or in certain districts to report energy use data to the City. Optional: require a reduction in energy use over time.
- 1.2. Adopt a Voluntary Benchmarking Policy – Encourage participation from building owners in a benchmarking effort to collect building energy use data.
- 1.3. Partner with the NHSaves Program to enhance public outreach and education.
- 1.4. 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 energy efficiency and renewable energy technologies.
- 1.5. Consider adopting a local amendment to the 2015 State Energy Code, or explore adopting a green code such as the [International Green Construction Code](#).
- 1.6. Provide education and information/resource-sharing to increase awareness and understanding of energy efficiency and efficient building design, including benefits, available incentives/programs, etc.

### **2. Increase local renewable energy generation & storage.**

- 2.1. Host a renewable energy bulk purchasing program (e.g. Solarize Campaign)-Support solarize-style campaigns in the City to expand solar capacity
- 2.2. 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.
- 2.3. 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
- 2.4. Adopt/establish local renewable energy requirements-Require renewable energy installations in certain cases, such as new construction.
- 2.5. Adopt Solar Ready Guidelines to encourage or require new buildings to be built in a way that accommodates future solar installations
- 2.6. Offer non-financial incentive programs for residents and businesses. Such programs could include creating local competitions where the primary incentive would be public recognition of achievement.

- 2.7. Offer financial incentive 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.
- 2.8. Reduce permitting, zoning, and inspection barriers to Renewable Energy-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.
- 2.9. Lease City property for renewable energy development-Offer City property for lease to utilities or developers to host renewable energy projects.
- 2.10. Community / Shared Solar Projects-Organize community / shared solar projects in which multiple utility customers can subscribe to community solar and benefit from lower rates.
- 2.11. Revolving Investment Program-City establishes a revolving fund where proceeds from existing RE projects are reinvested into new RE projects
- 2.12. 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.
- 2.13. 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.
- 2.14. Provide education and information/resource-sharing to increase awareness and understanding of renewable energy technologies, including benefits, available incentives, financing mechanisms, etc.

### **3. Procure renewable energy to meet remaining electricity demand.**

- 3.1. Establish a Community Choice Aggregation Program – Aggregate community load and purchase electricity from an alternate electricity supplier, while still receiving transmission and distribution service from Eversource.
- 3.2. Virtual Power Purchase Agreements (VPPAs) by City- Enter into a long-term, fixed price contract for renewable energy from a specific project (i.e. agree to a contract for differences, or CfD). 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.
- 3.3. 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.
- 3.4. 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.

#### **4. Advocacy at federal, state, and county level.**

- 4.1. Track energy-related legislation at the state and federal level and advocate for incentives and programs that would help promote energy efficiency and/or renewable energy development.

### **THERMAL (HEATING AND COOLING)**

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**GOAL:** That 100% of all energy for heating and cooling consumed in the City will come from renewable energy sources by 2050.

#### **1. Reduce thermal energy use for buildings in all sectors.**

- 1.1. Adopt a “Home Energy Labeling” program for residences – Require energy efficiency disclosure for existing and new residential properties at the time a property is listed for sale. (Potential resource: NEEP)
- 1.2. Adopt a Mandatory Benchmarking Ordinance – Require building owners of certain sizes or in certain districts to report energy use data to the City. Optional: require a reduction in energy use over time. (Potential resource: NEEP)
- 1.3. Adopt a Voluntary Benchmarking Policy – Encourage participation from building owners in a benchmarking effort to collect building energy use data.
- 1.4. Partner with the NHSaves Program to enhance public outreach and education.
- 1.5. 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 energy efficiency and renewable energy technologies.
- 1.6. Consider adopting a local amendment to the 2015 State Energy Code, or explore adopting a green code such as the [International Green Construction Code](#).
- 1.7. Launch a weatherization program, such as “Window Dressers” ([windowdressers.org](#)) to help residents save energy and reduce costs during the heating season.
- 1.8. Work with partners such as Keene State College and Southwest Region Planning Commission to continue to encourage more efficient residential woodstoves through the woodstove change-out program.
- 1.9. Seek grants / funding for other weatherization and energy optimization programs.
- 1.10. Provide education and information/resource-sharing to increase awareness and understanding of energy efficiency and efficient building design, including benefits e.g. air quality), available incentives/programs, etc.

## **2. Increase local renewable energy generation for heating and cooling.<sup>1</sup>**

- 2.1. Commission a study to assess the potential for a renewable district heating system in Keene to understand what areas of the city would have the appropriate demand characteristics to justify a district energy system, as well as what local renewable sources are available and at what potential and likely cost.
  - 2.1.1. Explore options for a renewable district heating and/or combined heat and power pilot project, including possible public-private partnerships, grants and other funding opportunities, etc.
- 2.2. Work with the utility to develop a pilot incentive program for thermal energy storage (TES) -Engage utility company on providing potential incentives for thermal energy storage by residents or businesses in Keene.
- 2.3. Offer non-financial incentive programs for residents and businesses. Such programs could include creating local competitions where the primary incentive would be public recognition of achievement.
- 2.4. Offer financial incentive 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.
- 2.5. Reduce permitting, zoning, and inspection barriers to Renewable Energy-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.
- 2.6. Provide education and information/resource-sharing to increase awareness and understanding of renewable thermal energy technologies, including benefits, available incentives, financing mechanisms, etc.

## **3. Encourage fuel switching to renewable fuel sources.**

- 3.1. Host a renewable heating and cooling (RH&C) campaign (e.g. “Heatsmart” campaign). RH&C campaigns are a type of bulk purchasing program aimed at homeowners and small businesses. These campaigns encourage the installation of renewable thermal technologies for space heating and cooling or for hot water heating through targeted local out-reach efforts and, often, with bulk discount prices.
- 3.2. Offer non-financial incentive programs for residents and businesses. Such programs could include creating local competitions where the primary incentive would be public recognition of achievement.

<sup>1</sup> Renewable thermal options could include Air Source Heat Pumps (ASHP), Ground Source Heat Pumps (GSHP), Biomass Boilers, Solar Hot Water (SHW) Installations, and Biodiesel blending in home heating oil. Of these, GSHP, SHW, and potentially biomass boilers (depending on biomass source) could be considered locally generated.

- 3.3. Offer financial incentive 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.
- 3.4. Reduce permitting, zoning, and inspection barriers to Renewable Energy-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.

**4. Advocacy at federal, state, and county level.**

- 4.1. Track energy-related legislation at the state and federal level and advocate for incentives and programs that would help promote energy efficiency and/or renewable energy development.

**TRANSPORTATION**

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**GOAL:** Achieve 100% renewable energy in the ground transportation sector (vehicles registered in Keene) by 2050.

**1. Reduce vehicle miles traveled (i.e. how much people drive).**

- 1.1. Promote active transportation (walking, bicycling, and other “human-powered” transportation modes).
  - 1.1.1. Incorporate the adopted City of Keene Complete Streets Design Guidelines (2015) into the City’s street standards for new streets, and develop Complete Streets standards for re-construction of existing streets.
  - 1.1.2. Pursue grants/other funding to supplement the cost of maintaining existing pedestrian and bicycle infrastructure (e.g. \$5 vehicle registration fee).
  - 1.1.3. Pursue grants and other funding sources to install new bicycle and pedestrian infrastructure, including sidewalks, crosswalks, multi-use trails, & bicycle parking (e.g. TAP, CMAQ, MAST Complete Streets grant, RTP grant, etc.).
  - 1.1.4. Partner with local schools and the Keene School District on Safe Routes to School programs, including supporting grant applications and project management of federal funds.
  - 1.1.5. Work with community partners such as Pathways for Keene and Monadnock Alliance for Sustainable Transportation to promote active transportation through education, outreach, and programming.
- 1.2. Promote intracity and intercity transit options.
  - 1.2.1. Continue to support the City Express & Friendly Bus program.
  - 1.2.2. Work with Southwest Region Planning Commission and other community partners to explore options for a multi-modal transportation center in Keene.

- 1.3. Promote carpooling, carsharing and ride-sharing to reduce the need for individuals to own motor vehicles.
  - 1.3.1. Explore options to provide public car-sharing parking spots.
  - 1.3.2. Incentivize developers to include car-sharing parking spaces/other amenities in new developments or major renovation projects.
  - 1.3.3. Explore options for providing “park and ride” lots in or near Keene.

**2. Accelerate the shift to electric vehicles and other alternative fuel vehicles.**

- 2.1. Install public EV charging stations (level 2 and fast-charge) in on-street parking areas and in public parking lots or structures.
- 2.2. Incentivize EVs through parking policies/other methods.
- 2.3. Promote EVs through education and marketing campaigns.
- 2.4. Support local “drive electric” events to encourage residents to test drive an EV.
- 2.5. Work with the Keene School District and local school bus company to encourage switch to electric school buses.

**3. Promote efficient growth patterns / coordinate transportation & land use planning.**

- 3.1. Encourage location and concentration of land uses and urban design (i.e. follow “smart growth” principles).
- 3.2. Encourage location of affordable housing near employment centers.
- 3.3. Participate in regional transportation and land use planning efforts.
- 3.4. Continue to consider access and safety for all modes of transportation in the review of development and redevelopment proposals.

**4. Strategy 4: Advocacy at federal, state, and county level.**

- 4.1. Advocate for more funding at the state and federal levels for transportation, including funding for transit and “alternative” transportation options (in addition to funding to maintain / repair bridges, roads, and other infrastructure development and maintenance).
- 4.2. Advocate for state allocation of funding through the federal Transportation Alternatives Program for “non-infrastructure” Safe Routes to School projects (Education, Encouragement, and Evaluation programs).
- 4.3. Advocate for state-level policies, programs, and incentives for electric vehicles and other alternative vehicle technologies.

**Prepared by:** Morgan Urquia

**Objective:** Using data gathered from Assessing, we analyzed the total square footage of heated/cooled space in the City of Keene, divided into the following sectors:

- Residential (50% of total sq.ft)
- Commercial (30% of total sq.ft.)
- Public (20% of total sq.ft)

Each sector was then divided by the specific:

- Heat Fuel
- Heating System
- Cooling System

**Analysis by Sector**

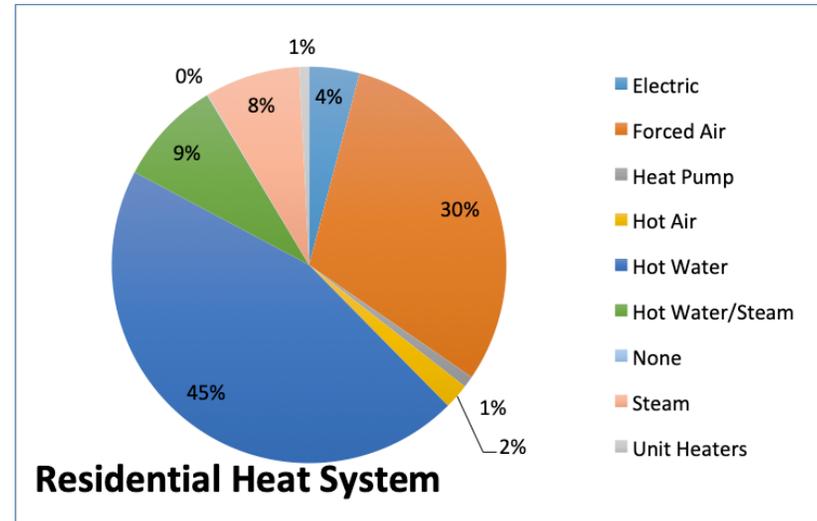
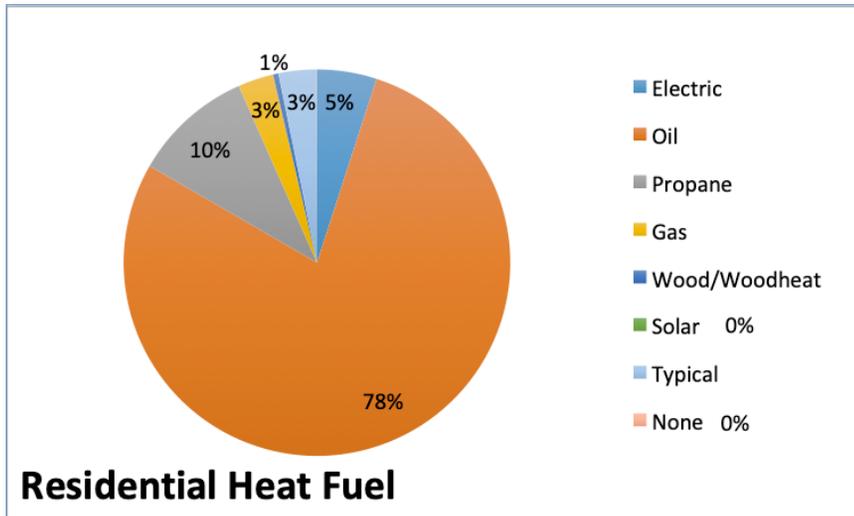
**I. Residential**

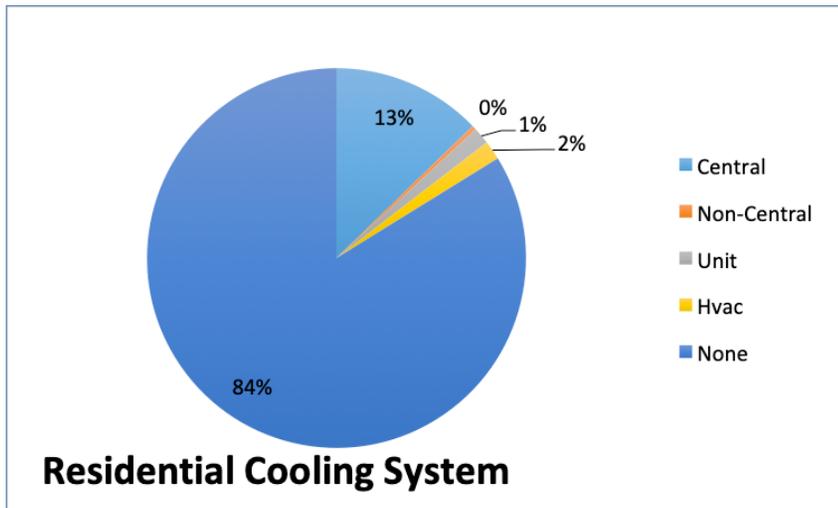
Categories within Residential:

- 1 unit-detached (single family home)
- 1 unit-attached
- 2 unit
- 3 unit

- 4 unit
- 5-8 unit
- 9+ unit
- Public Housing
- Manufactured Homes

*Overall percentages, based on square footage:*





**Overall narrative:**

The vast majority of residential space is heated by oil, though that is particularly notable in the 1-unit detached (87%), the 2-unit (90%), 3-unit (86%), 4-unit (91%), and in manufactured homes (91%).

Public housing in particular accounts for the majority of the “Typical” heat fuel category. Assessing gives this distinction to units where the heat fuel is unknown after a survey. We have reached out to Keene Housing to clarify their heat fuel types and categorize “Typical” accordingly.

Hot Water systems make up for almost half (45%) of residential heating systems and forced air is next at 30.5%. The breakdown in each individual residential category is similar, aside from 5-8 unit spaces and 9+ unit spaces, which use primarily (81% and 71% respectively) Hot Water/Steam. Public housing also stands out for using 34% unit heaters. Manufactured homes use nearly all (95%) forced air heating systems.

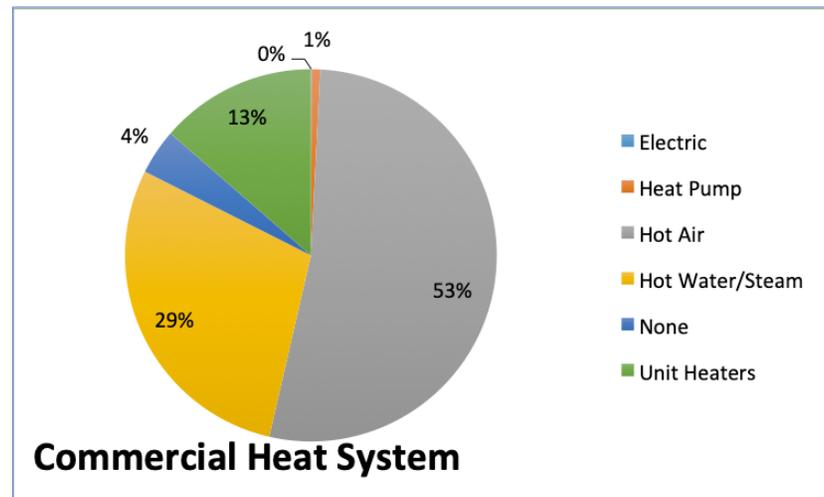
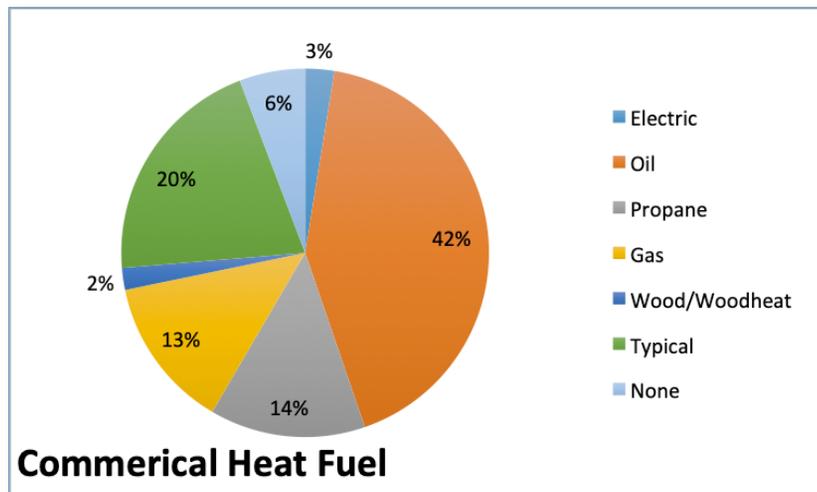
The majority of residential units (84%) do not have cooling systems, with 1-unit attached homes having the highest percentage of units with Central AC (11%).

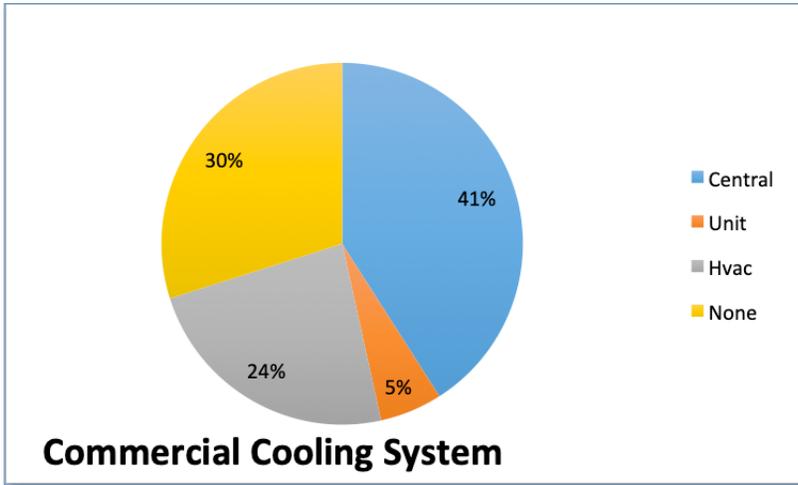
**II. Commercial**

Categories within Commercial:

- Commercial
- Industrial

*Overall percentages, based on square footage:*





*Overall narrative:*

Heat fuel is more balanced in this sector, though again Oil heat fuel dominates both Industrial (56%) and Commercial (39%). Typical accounts for a 20% overall square footage, 26% within Commercial and only 4% of industrial. For heating systems, Hot Air makes up 58% of commercial space, whereas Hot Water and Steam make up 59% of industrial space.

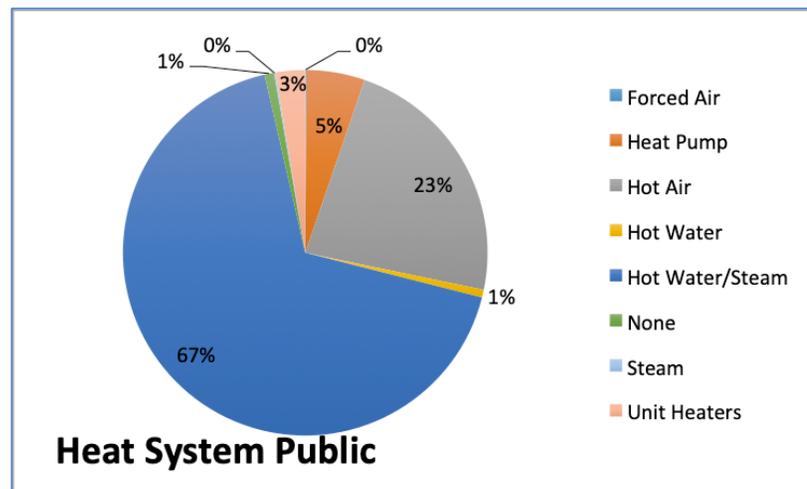
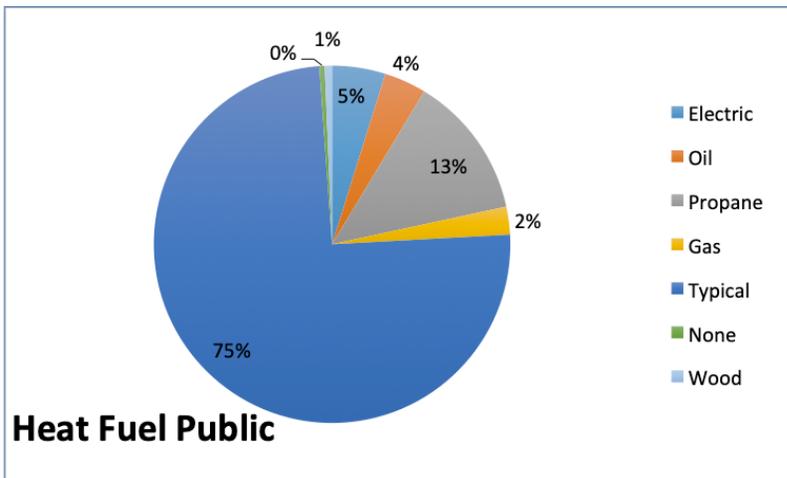
We see more of an even breakdown of cooling systems, with the square footage with central AC (41%) being more than the space without cooling (30%). This overview does not yet include the 61 "Mixed Use" properties, which are a combination of commercial and residential.

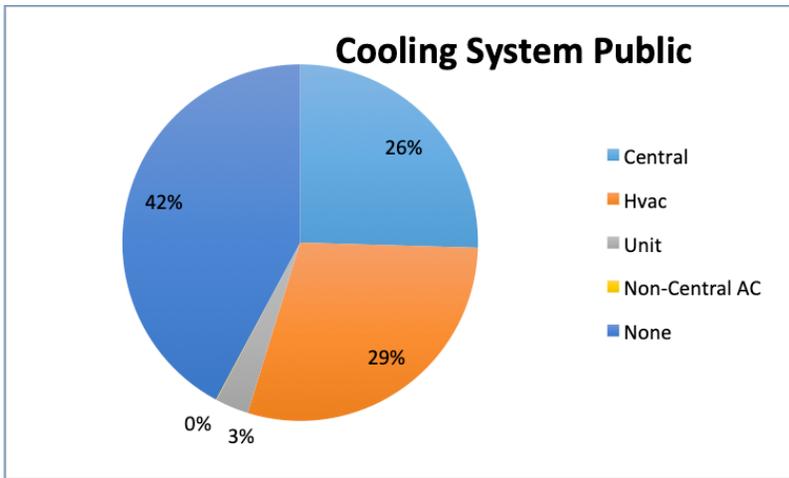
**III. Public**

Categories within Public:

- Government
- Educational Institutions
- Public k-12
- Non-Profit

*Overall percentages, based on square footage:*





*Overall Narrative:*

The Heat fuel sector is largely insignificant because of the total number of “Typical” listings (75%). Only in government do we get a better picture of the primary heat fuel (propane, 47%) and see less unknown (typical, 40%).

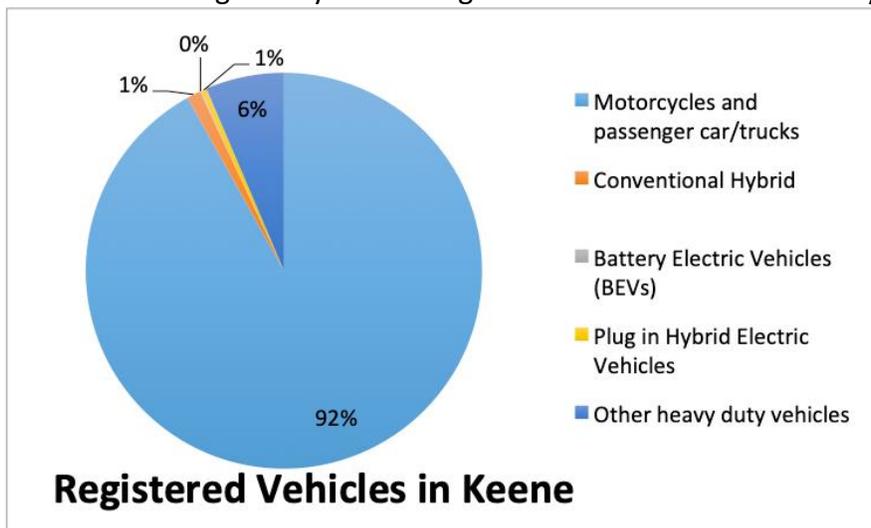
We have a better sense of Heating Systems, with Hot Water/Steam being the most prevalent system in all categories.

Cooling systems also aligned more across the sectors, with 42% not having any cooling system. We still need to understand the difference between “Non-Central” and “Unit” cooling systems.

**Objective :** Using data from the local and national sources, we hope to establish a baseline for transportation use in Keene. Feasibility of transportation surveys presents a major roadblock, so we have set metrics that are repeatable across years, feasible to measure with current resources, and limited to cars registered in the City of Keene. Sources will also be provided in the full presentation.

**Registered Vehicles**

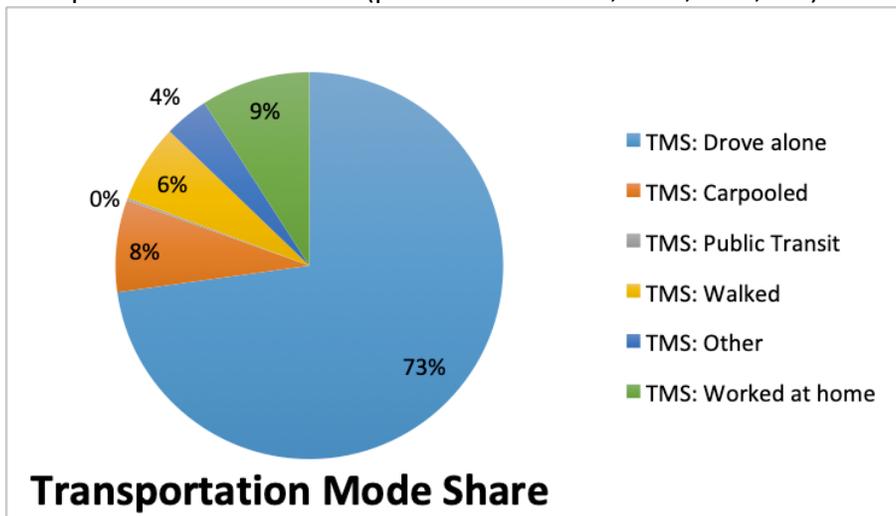
- Metric 1: Total number of vehicles registered in Keene and # of vehicles per household
- Metric 2: Fraction of total light-duty vehicle registrations that are electric or hybrid vehicles



*Chart shows % of total registered vehicles in Keene (19911 as of Dec 2019, or approx.. 2 1/5 per household)*

**Transportation Mode Share**

- Metric 3: Transportation Mode Share (percent who drive, walk, bike, etc) for work/school



*Chart shows percent of total workers 16+ (11,941, according to the American Community Survey in 2017)*

**Transportation Infrastructure**

- Metric 4: Transit Ridership
- Metric 5: Number of bus stops/ miles of bus route
- Metric 6: Miles of bike/ped pathways maintained year round

- Metric 7: Number of EV charging stations by type
- Metric 9: Number of roundabouts compared to signalized intersections

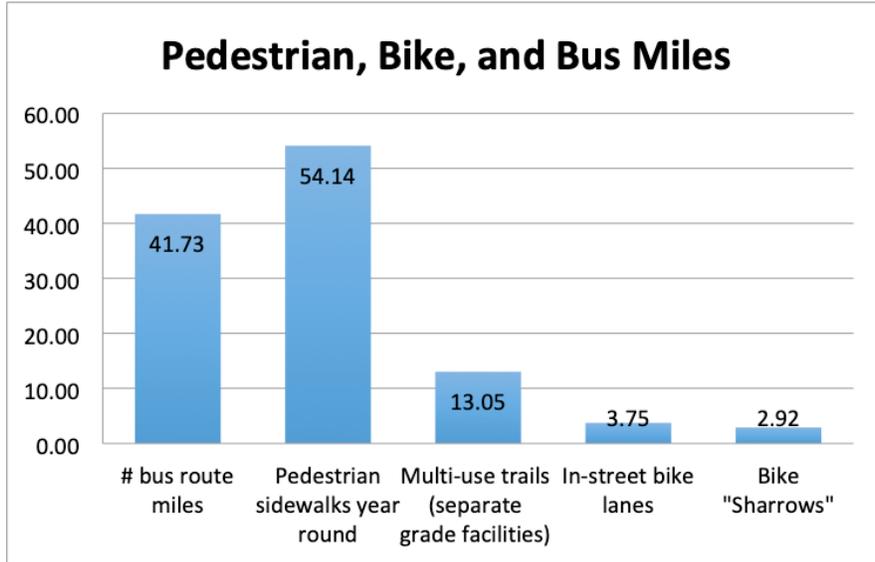


Chart shows number of 'miles' in Keene for the respective category

**Other pertinent metrics related to pedestrian and bike infrastructure:**

Number of Bike Boxes	2
Number of enhanced crossings	15
Number of crossings in bike/ped space	32
Number of bus stops	39

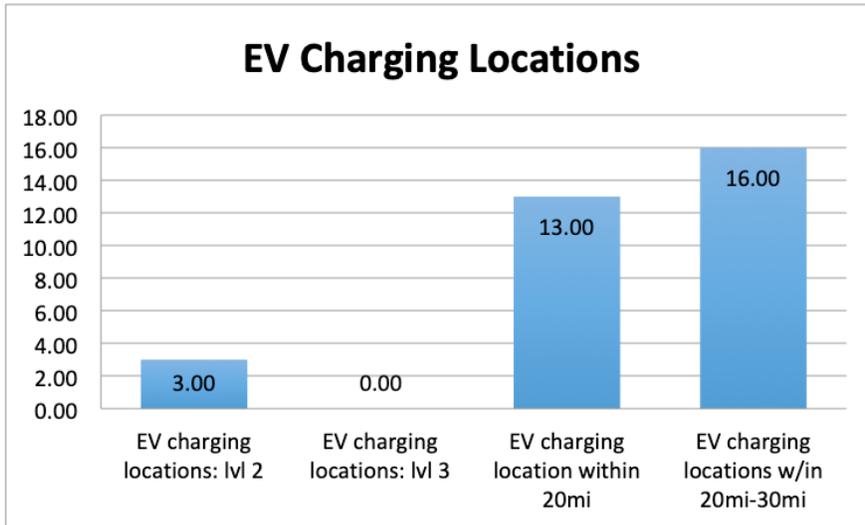
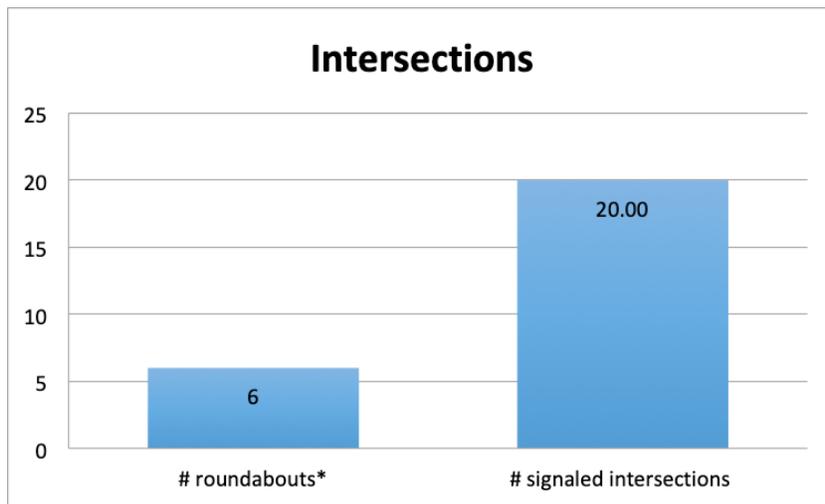
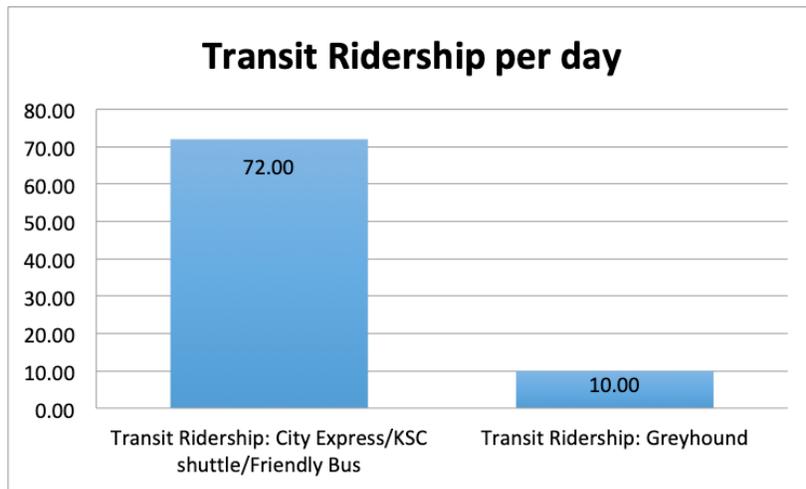
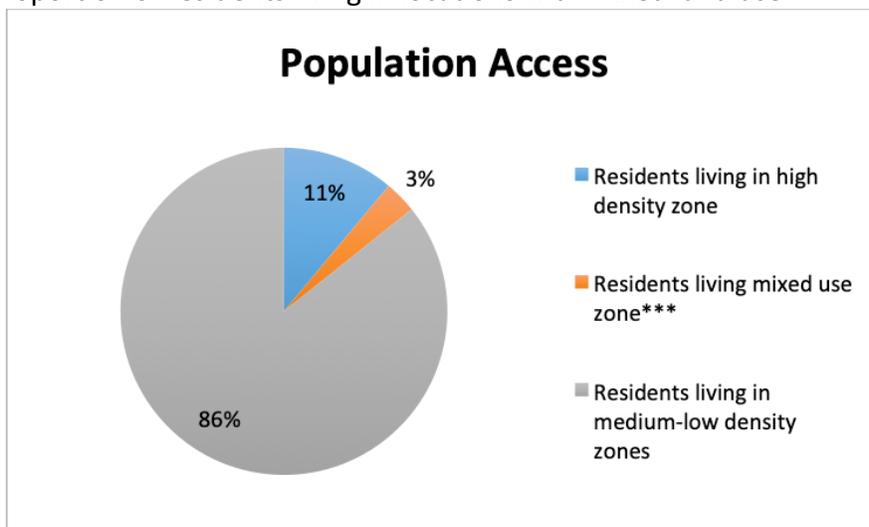


Chart shows number of EV charging locations, not the number of charging units.



**Population Access**

- Metric 8: Proportion of residents living in locations with mixed land use



*Chart shows % of residences, out of total number of residences in Keene (6484 residences, according to assessing data)*

## **PRESS RELEASE**

**Date:** Tuesday, March 24, 2020

**Contact:** Mari Brunner, Planner  
(603) 352-5440  
[mbrunner@ci.keene.nh.us](mailto:mbrunner@ci.keene.nh.us)

### **KEENE 100% RENEWABLE ENERGY PLAN – The City of Keene seeks input from residents and businesses on ways to achieve its 100% renewable energy goals through an online webinar, a resident survey, and a business survey.**

(Keene, NH) – As the City cuts back on in-person public gatherings, it is ever more important that residents' voices continue to be heard and considered on issues that will affect them. To that end, the City of Keene invites all residents and interested individuals to participate in a live webinar presentation on Thursday, April 2 from 12:00-1:30 pm to learn about strategies and actions the City is considering to help the community get 100% of all electricity from renewable sources. In addition, residents and businesses are invited to participate in a survey to help better understand how energy costs affect Keene residents and businesses.

During the April 2<sup>nd</sup> webinar presentation, the City's energy consultant will provide an overview of Keene's "electricity landscape," including how much electricity the community currently uses, where that electricity comes from, and a business-as-usual scenario to show what would happen if the City takes no action. Then, the consultant will go over six potential strategies/actions that the City could pursue to help residents, businesses, non-profits, and public agencies in Keene shift to 100% renewable electricity by 2030. Attendees will be asked to provide feedback on these proposed strategies, which will then be considered and incorporated into the consultant's final report.

To register for the webinar presentation on April 2<sup>nd</sup> at 12:00 pm, please using the following link: <https://attendee.gotowebinar.com/register/2872010539435482379>. After registering, you will receive a confirmation email containing information about joining the webinar.

In addition to the April 2 webinar, the City is seeking input from residents and businesses through two online surveys. The resident survey, which seeks to understand how energy costs affect Keene residents, was prepared by two Keene State College students for a research project. Responses to this survey will not only support future City planning, but also the undergraduate research of these students. To participate in the resident survey, please use the following link: [www.surveymonkey.com/r/KYF2ZV3](http://www.surveymonkey.com/r/KYF2ZV3). You must be 18 years old or older to participate.

The business survey seeks to understand how Keene area businesses currently procure or generate energy for electricity, heating, and cooling, as well as the level of concern regarding energy costs. To participate in the business survey, please use the following link:  
<https://www.surveymonkey.com/r/G9LND3V>.

To learn more, please visit the City's sustainability page at [www.ci.keene.nh.us/sustainability](http://www.ci.keene.nh.us/sustainability) or contact Mari Brunner, Planner at (603) 352-5440 or [mbrunner@ci.keene.nh.us](mailto:mbrunner@ci.keene.nh.us).