

Condo Decarbonization in Cape Ann Report 2023

Community Action, Seaside Sustainability

Cape Ann Climate Coalition

TownGreen



SUMMARY

Research Question: Do owners of condo associations have access to resources to decarbonize their buildings?

Key Findings: There may be little interest in decarbonization among condo associations in Cape Ann due to barriers of money, time, available programs, lack of interest, condo relationships, or politics. From the minimal survey responses received, this is visible, but there is not enough information to identify if this is a trend for buildings in Cape Ann.

Methods: We reviewed several sources of information to further understand decarbonization and the barriers that condo owners or listing agents may face. This was used to compile a survey to send to condo owners and listing agents to determine why they have yet to decarbonize. A master list of all condo owners and listing agents in Cape Ann was created, and they were contacted via email and phone by the team members.

Limitations: There was limited information available to the public on specific condo associations, in addition to contact information for owners. For some buildings we were only able to find contact information for listing agents. When reaching out, oftentimes they could not provide all the information needed. Additionally, only two survey responses were received. This does not provide enough information to determine the overall status of decarbonization among condo buildings in Cape Ann.

Context:

Residential energy currently comprises a fifth of all greenhouse gas emissions in the U.S. This has created a strong motive to incorporate green practices into housing developments. Efforts are being made to achieve decarbonization in buildings while maintaining an affordable housing price. Affordable housing owners, developers and managers have not been educated on how to

carry out these changes. Upgrades for energy efficient technology and electrification can be expensive, these changes will take years to implement and will require buildings to reduce energy use to eliminate all emissions. Affordable housing and marginalized communities have been discarded when it comes to reaching decarbonization in housing.

Groups in Massachusetts are asking to set aside \$300 million from COVID-19 relief funds to install affordable and public housing, schools and other municipal buildings. The Massachusetts Clean Energy Center would manage the money from the “Zero Carbon Renovation Fund” if established. This money will then be used to make accommodations and updates to buildings to more sustainable arrangements.

Recommendations:

1. Provide an incentive for individuals who fill out the survey, such as gift certificates or other similarly valued items.
2. Provide condo owners with more information regarding the project to ensure that the project would seem important and clear. Recipients that understand the project better may be more inclined to fill out the survey.
3. Reach out to groups that have larger audiences and ask to collaborate. This could allow the survey to reach more people.

PROJECT BACKGROUND

Decarbonization is a large and essential part of alleviating climate change. Buildings are included in the top electricity users, due to all of the appliances and amenities within each structure. It is important that the electricity is being used effectively and none is being wasted within these buildings. This energy waste is related to the building envelope, which includes the insulation. It's important to make sure there are no gaps or places air from heater or air conditioning can escape or enter. Two establishments have been successful in making decarbonization efforts, these include Glenwood Management in New York, New York, and St. Peter's Residential in New Orleans, Louisiana. These buildings successfully executed their efforts because of the incentives that came along with decarbonizing. Glenwood Management was incentivized to decarbonize by financial factors, decarbonizing allowed them to escape fines they were going to eventually face. St. Peter's Residential was a project conducted through Stanford University, the incentive was both educational and philanthropic. Both buildings implemented decarbonization technology and therefore were successful. The best approach, however, is still the use of net-zero technology while developing the building.

RESEARCHERS

Seaside Sustainability is a nonprofit organization located in Gloucester, Massachusetts that works to protect and preserve our oceans, seas, wetlands, and estuaries. The organization prioritizes education and action as a way to motivate and guide the public toward sustainability practices. Seaside Sustainability's Climate Action team focuses on projects that evolve and execute impactful climate adaptation around the world. The community organizing subteam joins with groups both locally and internationally to inspire communities everywhere to engage in the fight against climate change.

Research Question

Do owners of condo associations have access to resources to decarbonize their buildings?

Our research questions aim to identify the level of accessibility condo owners have to decarbonization resources and information; such as energy-efficient incentive programs or energy coaches. The extent of accessibility can then highlight any barriers or concerns condo

owners experience that may prevent transitions to decarbonized buildings, as well as identify any resources that are available and have been successful.

The questions within our survey consist of:

- Building age
- Number of units in a building
- Number of buildings they operate/own
- If there is a shared energy cost
- Current heating system
- Individual unit electric/heating bill estimate monthly/annually
- Date of last energy assessment
- Thoughts about transitioning to 100% renewable energy (solar, wind)
- Access to dependable information and resources that explain energy-efficient upgrades and incentive programs
- Willingness to know more about how to access information about energy-efficient upgrades and incentive programs
- Any financial concerns about installing energy-efficient upgrades in their condos
- If access to a MassSave HEAT Loan at 0% would make a difference in affording energy-efficient upgrades
- Any condo bylaws or other policies need to be considered when looking into energy-efficient upgrades
- Any barriers they have encountered or anticipate encountering
- If EV charging stations are available at each condo and interest in installing them
- Would their condo association consider putting solar PV panels on its roof?
- Would they like more information about PV solar panels?
- Would they be interested in speaking with a coach about energy-efficient upgrades and learning about incentive programs?

What is Decarbonization?

Decarbonization is the reduction or elimination of systems or processes that produce carbon dioxide emissions commonly released to generate energy/electricity. The decarbonization of buildings and day-to-day human activities can best be achieved by relying on energy sources that do not require fossil fuels and produce low carbon emissions, such as solar and wind power, that can ultimately mitigate increasing global temperatures. Decarbonization is important because it is a vital step in mitigating the extensive carbon emissions resulting in global climate change that can often be found in the energy used by building operations. A combination of low-carbon energy sources and energy efficiency can decrease costs, ensure a cleaner environment that protects the health and well-being of nature, and push for a future that prioritizes

decarbonization. Key factors that may prevent an individual or a group from participating in decarbonization is the lack of knowledge or simply not knowing of any available resources. There is also the misconception that buying or participating in a greener alternative is extremely costly that, in the case of decarbonizing residential property, may drive away potential buyers or increase property value that may displace residents.

Research Methods

The team reviewed several sources of information to further understand decarbonization and the barriers that condo owners may face. This was used to compile questions to create a survey to send to condo owners and listing agents to determine status on decarbonizing. A master list of all condo owners and listing agents in Cape Ann was created, and they were contacted via email and phone by the team.

Online Research: The team gathered information from various online resources in order to understand decarbonization and compile a list of condos. The team researched articles and academic journals about barriers to decarbonization and found case studies for housing associations decarbonizing. Doing this research allowed the team to create a list of questions to ask condo owners about what is preventing them from decarbonizing. In addition, the team used sites such as RedFin, Zillow, Realtor.com, and many more to find all of the condos in Cape Ann. When doing this, the team gathered information such as name, address, owners, phone number, type of condo, management system, number of units, type, and age of the heating system, building age, parking, and email address. This was then added to a collaborative master list on Google Sheets.

Emails: Using the survey created from the research previously done, the team emailed condo owners and listing agents that provided their emails to hear why they have not yet decarbonized. If no response was received, a follow-up email was sent reiterating the previous email.

Telephone Calls: If condo owners and listing agents did not provide their emails, a phone call was made instead. The phone call would allow the team member making the call to share the survey with the condo owner or listing agent. In addition, the call would allow the team member to speak with the condo owner or listing agent directly and find out why they were not able to fill out the survey. If the condo owner or listing agent did not respond to the phone call, a voicemail was left.

Analysis

Drawing on the research done by the team, the following analysis was conducted:

1. Some barriers the condo owners and listing agents faced in decarbonizing are money, availability of programs, lack of information, personal view, and building design. However, there is not enough data to create a solid analysis.
2. The buildings that were researched by the team range from brand new to up to 263 years old.
3. The most common heating systems found by the team include natural gas/gas, electric, and fireplaces or wood stoves. Only one condo was found to use solar panels.
4. Out of the 102 condos found in Cape Ann, only 73 provided email addresses for the team to send out the survey to. From that number, only 2 condo owners or listing agents filled out the survey.

FINDINGS

Based on the research we conducted, gathering information about condo associations in Cape Ann, natural gas/gas, electric, and fireplaces or wood stoves are common heating systems. Based on the results from our survey, it appears there is minimal movement towards decarbonizing.

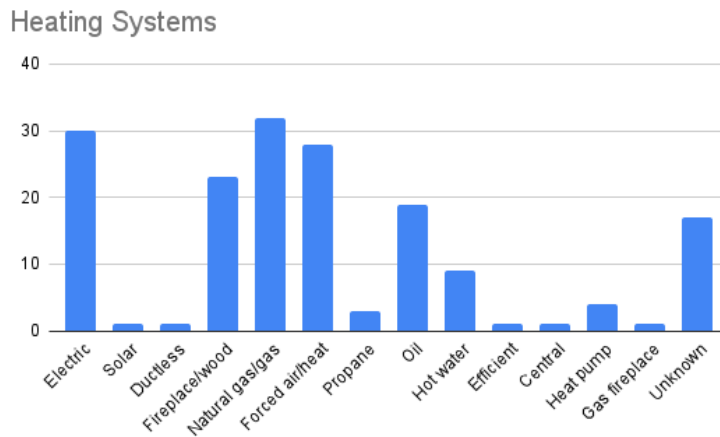


Figure 1: Heating systems used in condos that were researched

From the survey responses received, propane and electric were used. The responses we received appear to lean towards the side of not being interested in decarbonization. There were no indications of an energy assessment for either one, which could imply a barrier.

What is your current heating system?

2 responses

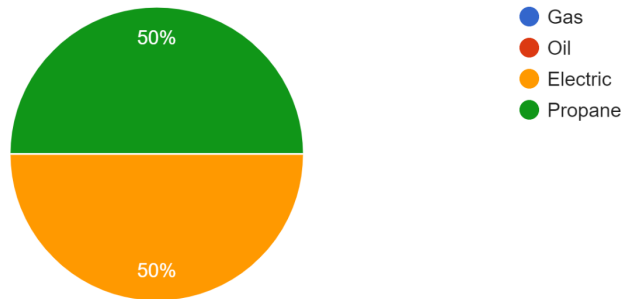


Figure 2: Heating systems used from survey responses

It was also noted that there are no financial concerns for energy-efficient upgrades, which could illustrate that finances are not a barrier or there is little interest. In addition to the little interest in receiving information on solar panels, this could point to the fact that there is minimal attraction to decarbonization. Barriers they have encountered or expect to have are time, finances, planning, where to start, understanding incentives, and personal view. One of the barriers both responses have in common is condo relationships/politics.

What are the barriers you have encountered or anticipate encountering?

2 responses

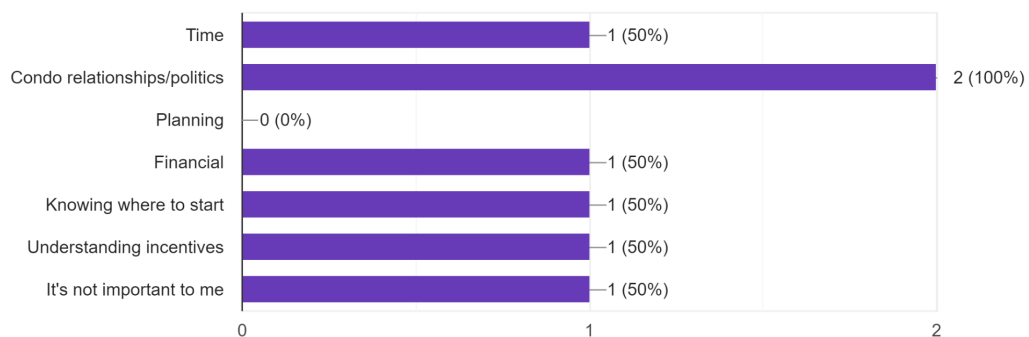


Figure 3: Barriers to decarbonization based on survey results

Minor interest in renewable energy or help suggests that there could be minimal or no interest in decarbonization from those who provided responses to the survey. Relating back to our initial

research on barriers to decarbonization, money, personal view, and building design are just a few of the potential barriers owners may face. Politics may prevent some owners from getting access to information or permits they need in order to decarbonize their buildings. Looking at resources or information to help move towards energy efficiency, only one response noted having access to Mass Save, which is a company in Massachusetts that helps provide assistance to residents and businesses to improve energy efficiency with incentives, training, and more (Mass Save, 2023).

When considering electric vehicle use, having charging stations could be a simple first step to promoting decarbonization. Having this option available can be appealing to owners of these cars and bring more customers to these condo associations. There were mixed results on whether survey respondents are interested in installing electric vehicle charging stations. While neither had electric vehicle charging stations at the time of responding to the survey, one response showed interest, while the other response did not show interest in installing them.

Do you have EV charging stations available at your condo? Are you interested in installing them?
2 responses

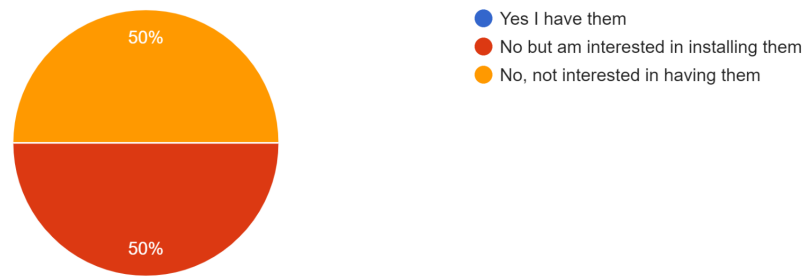


Figure 4: Survey results on EV charging stations

When doing this research some challenges encountered were the lack of public information on condo associations and personal emails. Most emails found were for listing agents who may not have the information that owners do.

CONCLUSION/RECOMMENDATIONS

We were able to find email addresses for 73 out of 102 locations to send the survey to. From that, we only received two responses. Some reasons as to why we may not have received as many

responses could be they did not have enough information or could not provide due to privacy, emails were sent to spam, many of the emails found were listing agents and did not have information, a lengthy thread of communication if it was forwarded to the owner or another party, it was looked at as another advertisement, or there was no interest.

Phone calls were also made when no email response was received. A common response when answering the phone was that they are too busy and offered an email address to send the survey to instead of answering questions over the phone. Email preference could have been because they are not interested and are not obligated to answer this way. Individuals could also forget the phone conversation if the form was sent by email by the time they look at it. There were also cases when there was no answer, and a voicemail was left. A lack of interest could also have played a role in minimal survey responses. When considering that, nearby condo associations may also share these same ideas and not have an interest in decarbonization.

Recommendations to get more responses would be to provide an incentive if individuals fill out the survey. Incentives could be gift cards or similar items. This was not feasible for our research due to budget constraints. Another option is to provide more information regarding our project. To the receiver of the emails, our project may not have been intriguing or clear enough. More explanation and relating it back to the recipient may lead to more responses. Reaching out to superior groups, such as The New England Chapter of the Community Associations Institute, which provides information and resources to association owners, could have the ability to reach more individuals (New England Chapter of the Community Associations Institute, n.d.). On community pages, like Facebook, asking them to share the survey can reach more people since it will be easily accessible and there is no need for individual emails.

Overall, based on the results of the survey it appears there may be little interest in decarbonization among condo associations in Cape Ann. A possible lack of resources could play a role in this. When analyzing the responses, a possible barrier could be personal views that relate to the information we researched prior to sending out surveys. More campaigns and awareness on this topic could make this initiative more accessible and desired in many communities in the future.

Authors

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