

Lexington High School

Massachusetts Envirothon 2023 Community Engagement Award Research & Action Checklist

The Community Engagement Award recognizes your team's research and action related to the [Envirothon Current Issue](#). To meet the standard for the award, your team must show that you have been creative and resourceful in using a range of research strategies. Your team must also show that you have taken new ideas and connections based on your research and put them to work to benefit

There are three parts to this checklist:

- 1) RESEARCH.** Your team must complete a list of recommended community research tasks. You may decide to pursue your own tasks that take you deeper, or in different directions. If your team departs from this checklist, be ready to explain why you believe you still qualify for the award.
- 2) ACTION.** Your team must provide a description of the action project you are undertaking, and some form of evidence of your work (for example, a letter from a community partner)
- 3) REFLECTION.** These items -- accompanying each research and action item -- are your team's opportunity to show the ideas, local savvy, and informed opinions you gained from your research and action experiences. Consider all the items throughout the checklist and **respond briefly to at least five** that resonate most with your experience. You can also devise your own. Be ready to talk to your Envirothon reviewers about any of the items listed.

Name of your School/Organization/Team

Lexington High School

RESEARCH

1. COMMUNITY: This is how we are defining the geographic area of our "community" for this year's Envirothon Current Issue (Use a map or verbal description. What areas of which municipalities are your focus?):

We focused on the entire town of Lexington as drawn by the state.

REFLECTION: We found that placing these boundaries on our "community" were (or were not) helpful in considering solutions to climate issues. For example:

The boundaries of our community played an important role when considering the demographic make-up of our town. Lexington has a relatively high average income and education rate. This circumstance was influential in our process of creating new solutions because it highlighted the fact that money was not a limiting factor for our solution in many cases. By identifying these factors, our final solution culminated in the implementation of taxes and technologies on houses in our community.

REFLECTION: We discovered the following Environmental Justice issues represented within our community:

Due to the ethnically diverse nature of our community, a large portion of our town residents do not fluently speak English. As a result, climate mitigation actions taken by the town fail to be acknowledged by a significant portion of our town.

2. STATE PROGRAMS ASSISTING LOCAL COMMUNITIES: we became familiar with how our community has taken climate action through the [Massachusetts Municipal Vulnerability Preparedness Program](#) and the [Massachusetts Green Communities Program](#). (Talking with local people who have been involved with these programs, and reviewing reports and plans online, will put you on the fast track to understanding much about your community's climate priorities, goals, and accomplishments so far). This is the program that was most useful for our research interests:

Massachusetts Municipal Vulnerability Preparedness Program

This community person was especially helpful to us as we explored the work of these programs:

Name

Amber Carr

Organization

Town of Lexington

REFLECTION: We believe that community planning and participation in these programs could be expanded and improved in these ways:

3. PEOPLE (firsthand connections): We interviewed (at least) THREE people concerned with climate change in our community. (More people = more complete perspective on the issue. ONE of these people may be listed in (2) above, ONE may be listed in (4) below, and ONE may be listed in (7) below. Interviews may be in person or via video link. Collect the following information about each person):

Name #1

Mary Yardley & Fran Ludwig (they are working very closely together and we interviewed them together, hence we're including them under one "name")

Organization (if any)

Lexington Climate Action Network

Concern/expertise related to climate

Lexington Climate Action Network is a community group that strives to combat climate change, mainly via an educational approach but also by collaborating with other groups to mobilize more of Lexington in the fight against Climate Change. From what we learned, their current projects include collaborating with Lexington HeatSmart, a group that aims to increase accessibility of air-source heat pumps, organizing a protest outside a local bank to push for less investment in fossil fuels, and pushing state representatives Michelle Ciccolo and Ken Gordon to sign sustainability bills.

Name #2

Margaret Peard

Organization (if any)

Town of Lexington

Concern/expertise related to climate

Maggie Peard is the Sustainability and Resilience Officer for the town of Lexington. In addition, she was previously the Sustainability Planner for KLA (Kim Lundgren Associates). Her current job includes reducing greenhouse gas emissions, creating clean indoor and outdoor environments, and ensuring community members have access to the climate resources that they need through community programs and outreach. These programs include the Curbside Composting Pilot, Resilient Lexington Program, and Lexington HeatSmart.

Name #3

Mark Sandeen

Organization (if any)

Lexington Select Board

Concern/expertise related to climate

Mark Sandeen is currently an elected member of the Lexington Select Board, so he has a direct influence on how Lexington moves forward. He was also formerly a chair of the Sustainable Lexington Committee, Better Buildings and Community Choice Aggregation task forces, co-chair of Lexington's Getting to Net Zero Emissions task force, and chair of Lexington's Stretch Energy Code campaign, which majorly helped mobilize Lexington to adopt the stretch energy code, which requires a minimum level of sustainable infrastructure in new buildings. All of this and more (go to marksandeen.com for his full bio) makes him extremely knowledgeable about climate change especially in relation to infrastructure, legislation, and economics.

Name #4 (This is beyond the requirement. Bravo!)

Charlie Wyman

Organization (if any)

Lexington Living Landscapes

Concern/expertise related to climate

Lexington Living Landscapes

REFLECTION: We think this group is especially effective (e.g. influencing decisions and/or taking action) around climate issues in our community, and this is why:

The Lexington Climate Action Network was one group we found particularly potent in our community as they actively pursue change through community efforts as well as having a large membership and being well informed. For example, just this year on March 21, LexCAN was part of the National Day of Action to Stop Dirty Banks as a partnership with Third Act. In addition, their efforts have reached the hearts of many people, accumulating them over 300 members within the community. With such a large taskforce, they have great potential for change in our community.

REFLECTION: We think this person (or group) has power to make change (or to block change) around climate issues in our community, and this is why:

Mark Sandeen is a member of Lexington's Select Board, which is an elected group composed of five members. They consistently hold meetings throughout the year to discuss and oversee policies that are being carried out by the town government. Mr. Sandeen's influential role regarding our town's legislative policies in conjunction with his dedicated background and experience in climate solutions (both their opportunities and their challenges), we think that he has the power to implement changes that are necessary to mitigate and adapt to the impacts of climate change faced by our community.

REFLECTION: We think this group is especially effective at mobilizing missing voices around climate issues in our community, and this is why:

Lexington's elementary schools have after-school programs filled with educational activities. By incorporating climate-related activities into these programs, young parents will become more knowledgeable about the climate related actions being taken by our community. Currently, our climate resilience community is mostly made up of older members, and not many young voices are heard.

REFLECTION: We were inspired by this example of HUMAN RESILIENCE in our community:

REFLECTION: We encountered this genuine, honest difference of opinion on climate action needed in our community:

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4. PLACES (firsthand experiences): We visited (at least) THREE different places with significance for climate change in our community (Use a mapping app on a cell phone to get latitude/longitude information. If you had someone to guide you on your visit, include that person's name and contact information):

Place name #1

Vine Brook

Latitude:

42.46567754

Longitude:

-71.21359867

Significance for climate change:

There was recently a current debate over the size of this vine brook culvert. In the past, there had been efforts done with town volunteers to assess the state of Vine Brook and Willard's Brook during the Vine Brook and Willard's Brook Stream Shoreline Surveys. However, some concerns arose for the parts of Vine Brook that remain underground after consecutive efforts to insert culverts and daylight the stream. Parts of Vine Brook flow directly under the town center and would require heavy reconstruction to allow for a more ecologically friendly layout.

Name of guide who accompanied you, if any:

N/A

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Place name #2

Hartwell Composting Facility

Latitude:

42.46891432

Longitude:

-71.25541357

Significance for climate change:

This composting facility hosts the largest solar project in Lexington, with a combination of ground and roof arrays of solar panels. It is a 1.62 megawatt solar facility

Name of guide who accompanied you, if any:

Robert Beaudoin

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Place name #3

Lexington Police Station

Latitude:

42.45878184

Longitude:

-71.23723356

Significance for climate change:

This station is currently being rebuilt to be net zero, set up with solar panels up on top and electric police car charging stations.

Name of guide who accompanied you, if any:

N/A

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Place name #4 (This is beyond the requirement. Bravo!)

Lexington Town Hall & Town Offices

Latitude:

42.44679275

Longitude:

71.22453285

Significance for climate change:

This is where all climate-related legislative decisions are made and is the headquarters of both the Lexington Conservation Committee and Maggie Peard, the Lexington Sustainability & Resilience Officer.

Name of guide who accompanied you, if any:

Interviewed these two people there: Margaret Peard & Amber Carr (separately and at separate times)

REFLECTION: We found the best example of natural resources (soil, water, forest, wildlife) affected by climate change here:

REFLECTION: We were inspired by this example of NATURAL RESILIENCE in our community:

REFLECTION: This is the best example we found in our community of a NATURE BASED SOLUTION that is ALREADY WORKING WELL (natural or human-made):

REFLECTION: This is the best idea we heard about for a NATURE BASED SOLUTION that should be CONSTRUCTED OR DEVELOPED in our community:

REFLECTION: This is a place that we really want to PROTECT in our community, and this is why:

5. MEDIA & WEB RESOURCES (These are secondary sources; use them to broaden your understanding. Please save versions of these pieces - e.g. paper copies, permanent links, or pdfs - to share, and be ready to explain their importance):

We found these **THREE websites** to offer especially good resources for well-presented, accurate information relevant to climate change. We have evaluated these using [C.A.R.S criteria](#) and recommend them as background for people planning to take climate action in our community (Provide urls to take the reader to the particular page you most recommend as a resource):

Website/page #1 URL:

https://www.lexingtonma.gov/DocumentCenter/View/7644/Lexington_OS RP_2022-A_Report?bidId=

Ten words on how it is valuable/useful:

Deep dives into Lexington's natural resources, community, and climate impacts.

Website/page #2 URL:

<https://www.mass.gov/doc/lexington-report/download>

Ten words on how it is valuable/useful:

Details what environmental & infrastructural resources Lexington has & their resilience.

Website/page #3 URL:

<https://www.lexingtonma.gov/1262/Energy-Efficiency-Electrification>

Ten words on how it is valuable/useful:

Details what heat pumps are and Lexington-specific heat pump grants

We found this **recent NEWS STORY about our community** that relates to the climate topics we investigated:

Headline or Title:

Debate about the Tracer Lane Solar project continues

News Source and URL:

<https://lexobserver.org/2023/05/04/debate-about-the-tracer-lane-solar-project-continues/>

Date:

May 4th, 2023

This **FEATURE ARTICLE or BOOK** really helped us understand climate issues:

Headline or Title:

Lexington's Annual Town Report

News Source and URL:

<https://records.lexingtonma.gov/weblink/0/edoc/2769112/2022%20Annual%20Report.pdf>

Date:

Unknown?? date in 2022

REFLECTION: We found this **OPINION PIECE** related to climate issues to be particularly persuasive:

Headline or Title:

News Source and URL:

Date:

REFLECTION: We had concerns about the facts and/or arguments presented in this media item and believe that it qualifies as CLIMATE MISINFORMATION:

Headline or Title:

News Source and URL:

Date:

6. LEGISLATION. We learned about this proposed new law (a bill that has been introduced into the Massachusetts legislature) and believe that it would help address the climate issues our community faces (Contacting your state representative or senator, and advocacy groups, plus the [Legiscan](#) and the [Mass Legislature](#) searchable databases, can help you):

Bill number and name:

Stretch Energy Code

A URL that provides more information:

<https://www.lexingtonma.gov/DocumentCenter/View/8115/Art-26---Specialized-Stretch-Code-Presentation-updated-2823-posted?bidId=>

Briefly describe how this proposed law would help to address the climate crisis (Describe the intended effect of the law. Would it change everyday life in some way? Would it make it easier for people to do the right thing for the climate? Who would be affected most?)

This proposed law acts to require the usage of efficient energy sources and a reduction of greenhouse gas emissions in buildings that are planned to be constructed. This law came into effect in our town on January 1st, 2023. This law helps address the climate crisis by ensuring that newly constructed infrastructure fits in with our goal of becoming a net-zero emission town by 2050. This recently enacted piece of legislature will change everyday life for Lexington residents buying newly constructed houses, which have the required sources of energy and electricity built into the structure itself. Therefore, residents will not need to manually implement these alternative sources of energy, making it easier for them to live in a house with significantly reduced greenhouse gas emissions.

REFLECTION: We found the following group(s) advocating for (or against) this change, and these are the main reasons they give for their position(s):

REFLECTION: We found another proposed new law that we think will make the climate crisis worse, and this is why (include bill number and URL):

7. BUDGETS AND TIMEFRAMES. As we developed our recommendations, we found this resource (perhaps a conversation with a person, or a website, or a document) to be especially helpful in explaining the planning, time, and funding considerations that would be important to make our recommendations a reality (Provide enough information on the resource so someone else could find two resources in particular. One has been conversations with Lexington Green Team members Tina

McBride and Cindy Aarons. They volunteer at our school each day to help out with composting, and have been very accessible in telling us about what has and has not worked in the past, and what barriers may stand in the way. The second has been the data on all Lexington properties including assessed value and living area from the town assessors website (<https://www.lexingtonma.gov/161/Assessor>) which along with google sheets, has allowed us to make detailed models and calculations on how much various tax structures would earn.

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REFLECTION: We were surprised to learn about this obstacle to making the changes we recommend:

we were surprised to learn about the limited jurisdiction that towns have over buildings and taxes. For example, Lexington's first attempt at implementing the super stretch energy code (which mandated all houses over 4000 sq ft to have either electrical heating or be net zero by usage of green energy) was blocked by the Massachusetts state attorney general, and was only passed as part of a pilot program after many Lexington residents lobbied for it. For us in particular, a town can not raise taxes more than 2.5% annually. So in order to implement our recommendation in full, it would have to pass by the state & likely be blocked and need lobbying/a pilot program again.

8. SUMMARY OF OUR RESEARCH AND RECOMMENDATIONS (OUR ENVIROTHON PRESENTATION).

Below is a summary of the main point(s) of our Mass Envirothon 2023 Current Issue presentation in 3-4 sentences:

Taking into consideration the demographic make-up of our community, we propose a new policy that additionally taxes houses that exceed a certain size.

REFLECTION: AUDIENCE: These are the specific interests and groups - who have the power to make the changes we recommend - that we are addressing in our presentation:

We are addressing both state and local levels of legislature to assist in the creation of this policy. The changes we plan to implement would require approval from both of these levels in order to be actualized. This is due to the significant increase in income tax we would like to implement for climate-associated projects.

REFLECTION: AN UNEXPECTED FIND! We were surprised at how important and valuable this person, place, or other resource is for our community's response to climate change:

REFLECTION: UNEXPECTED HOPE! Of all the people, places, and online research we did, this is the thing we found that gave us the most hope (Tell us why!):

REFLECTION: OTHER QUESTIONS we would like to answer about our research:

ACTION!

9. THIS IS HOW WE ARE SHARING AND/OR TAKING ACTION BASED ON WHAT WE HAVE LEARNED:

- Best approach: Write and attach a brief news release about your project and/or provide a link to photos and other documents about the work.
- At least: Write a paragraph below presenting the basic facts of your project: who, what, when, where, how, and why.

the form of an email, to the Lexington Planning Committee. This statement was a well-researched, multi-paragraph email arguing that the Planning Committee should work to impose stringent restrictions and conditions on a proposed new solar project in Lexington, called the Tracer Lane Solar project. This project, proposed by Tracer Lane II Realty, would involve cutting trees to install solar panels on a 30-acre property right on the banks of the Cambridge Reservoir. This has faced much resistance by conservationists in the town due to the fact that it would destroy valuable wildlife habitat and pose major safety concerns for residents in the case of a fire on the solar farm. On Wednesday, May 17th at 6:00 PM, the Planning Committee held a meeting to continue the discussion of this project, so, that morning, we sent our email discussing the environmental concerns posed by unregulated development of such a solar farm while also considering the fact that Lexington has a wide reserve of usable space on rooftops and parking lots that could be covered with solar--without disrupting any ecosystems, causing sedimentation, or creating a safety hazard.

REFLECTION: OUTCOMES. We see these results (planned and unplanned, in ourselves and in the community) from our research and action:

Our email was received and sent to the planning committee to be reviewed before the meeting! However, because this was so recent, the outcome has not yet been determined.

REFLECTION: TEAMWORK. These are the ways we worked best as a team, and these are the ways we could improve:

REFLECTION: OTHER QUESTIONS we would like to answer about our action:



10. EVIDENCE OF OUR COMMUNITY ENGAGEMENT.

- EITHER (best approach): Provide a copy of a letter or email from a community partner outside our school about the action we have chosen to take ([Here are some tips for how to ask for a letter](#))

Letter writer's name:

Kiruthika Ramakrishnan

Position/Organization:

Town of Lexington Planning coordinator

- OR: Provide a different form of evidence (Please describe):

<https://drive.google.com/file/d/1ct89av0jnZU0P43K1Ej0zuikmGYnpj8D/view?usp=sharing> - this is a PDF format of the email that we sent to the Planning Committee as well as the response that the Planning Committee sent back to us, telling us that the planning committee received and will read our statement. This is evidence that we sent our statement to the right people and it (hopefully) will actually make some impact in helping our community's resilience to climate change.

REFLECTION: SECOND CHANCES. If we were going to do this community action over again, this is what we would do the same, and this is what we would change:

REFLECTION: WHAT'S NEXT? Based on our experience, this is the next step we recommend for ourselves or other young people in this community: