Town of Wayland Climate Action Mobilization Plan (CAMP) Working Draft - February 2022

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Preamble

At Spring 2021 Town Meeting, Wayland voted to declare a climate emergency.

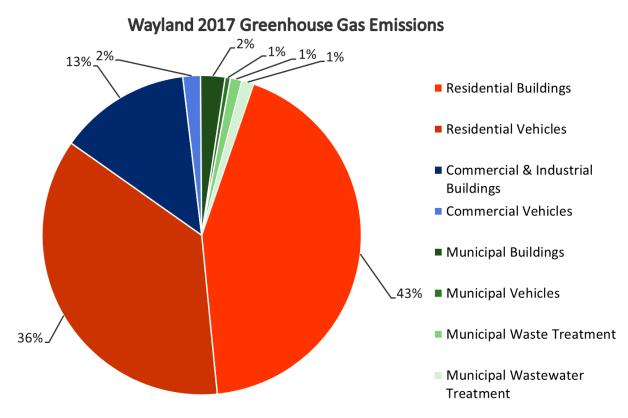
The Town committed to developing a Climate Action Mobilization Plan (CAMP) to achieve a minimum 50% reduction in the Town's aggregate greenhouse gas (GHG) emissions by 2030 and seek a higher 75% reduction if possible.

The Board of Selectmen has directed its advisory Energy and Climate Committee, with input from residents, to develop this first working draft for all townspeople to consider. We begin this document with this preamble, proposing *First Principles* to guide our initial strategy and plan implementation, and to provide an ongoing framework for evaluating improvements as they come up for consideration.

The Current Situation:

Carbon emissions, the largest source of GHG emissions, result directly from our use of oil, gas, or propane in our buildings, and from use of gasoline and diesel in our vehicles. There are also emissions related to how our electricity is produced, as well as emissions implications in how we manage our land, our water, source our food, and deal with waste.

The chart below shows Wayland's aggregate GHG emissions in 2017 by sector. Almost 80% of our total emissions come from our homes and our vehicles – we residents are the source! Our commercial sector (the blue wedges) totals another 15%. Municipal operations (buildings, vehicles, waste facilities – the green wedges) are just 5% of our emissions.



Source: Metropolitan Area Planning Council community greenhouse gas inventory tool.

We know for certain that *climate change is real, harmful, and caused by our climate-impacting choices* made as individuals, and as a town, state, nation, and world. When one hears that scientists have differing opinions, they do; but they all agree on these things. Fortunately, a collaboration of scientists, engineers, businesses, and trades have also identified how we can keep the world from getting much warmer than now, stopping at 1.5°C (equivalent to 2.7°F) above pre-industrial world temperature. We're currently at 1.1°C (2°F) above pre-industrial world temperature.

The question is whether we will choose to act in time, and do those things in the scale we need, to achieve what is necessary; including a critical near-term goal of 50% mitigation by 2030. And even if we succeed, a 1.5°C warmer world means we must prepare for a changing environment, increasing our resiliency to more frequent storms, increased heat and flooding.

Therefore, We Respond:

We, as a town and as individuals, have the responsibility and the opportunity to act decisively on climate in keeping with the character and ambition that our town is fortunate to have.

Wayland's proposed plan has three major tracks: 1) a comprehensive approach for <u>town-managed</u> facilities, vehicles, and operations; 2) a cohesive strategy to support the <u>town's households</u>, <u>businesses</u>, <u>and institutions</u> as they make decisions related to their homes, buildings, vehicles, food and waste; and 3) focus on our <u>community's resiliency and preparedness</u> for extreme events (weather, flooding, heat, etc.), already being experienced, and which we expect to worsen before we stabilize the atmosphere, hopefully no higher than 1.5°C.

First Principles to Guide our Response:

We offer these perspectives on *why* what we do here in Wayland matters, to help guide *how* we will design and develop our activities:

As a town and individuals, we choose to act responsibly to be a part of a climate solution, and not part of the problem.

As example, Wayland in 2010 became an official *Massachusetts Green Community*, enabling Wayland to secure and deploy grant funds that reduced municipal energy use and emissions. Wayland's emissions reduction is at least consistent with the state's accomplishment of about 25% reduction since 1990. We need an *additional 33% by 2030* to meet our minimum target.

As town and individuals, we understand that climate solutions are opportunities.

Our climate choices can benefit us financially with other benefits such as comfort, performance, health, and sustainability. Our strategy asks the town and its people to do those things that benefit the climate that are also financially positive, easily accessible and doable. As example, the solar canopies and roof systems installed on four Wayland buildings, as well as energy efficiency upgrades, and LED streetlighting, have all created financial benefits for the town, as well as greater resiliency. We intend our town's climate initiative to improve our quality of life and help to create the Wayland we want for our collective future. We therefore focus on *Engagement*, to build awareness, participation, support, and hopefully some fun; and expect to celebrate each milestone together as we achieve them.

We can make it easy to make climate smart decisions.

To achieve the scale we need, our strategy is to help all residents and businesses to feel comfortable moving forward with high quality, sensible green choices. As example, when buying a new heating system or vehicle, we envision a program that helps to reduce townspeople's time, effort, and

uncertainty in finding electrically sourced heat, or buying their first electric car. We'll also help people find vetted, quality energy efficiency services; to provide guidance to climate-benefitting and healthy food choices or waste management practices; and to easily access incentives offered by our utilities, state, and Federal government. As example, Wayland is currently selecting an economic and green source of electricity for all town residents (Community Choice Aggregation Electricity, as voted in 2021 Town Meeting).

Supporting these goals, we include a role for local Grassroots organizations like *Energize Wayland*, which support residents' climate-related decisions - by providing coaching, vetting, and group-buy arrangements -which make climate-supportive choices less risky, less expensive, and less time consuming. As example, Energize Wayland led two rounds of the *Wayland Solarize* program, which successfully helped over 250 households install solar energy and green heating systems.

We need to make it fair and accessible to all.

We need an equitable strategy, recognizing that not all have funds or ability to invest in their homes, or acquire new vehicles, or make changes to their food purchases, land and waste management practices. We can do this with tailored support for low- and moderate-income residents, to ensure their ability to benefit from available incentives and services.

We aspire to Innovate.

Wayland residents and government include many expert and talented individuals that can help us not only apply what other towns have done but consider creative new ways to accomplish our climate goals for maximum benefit.

We aspire to Lead.

What Wayland does, as an individual town, won't change the atmosphere substantially by itself. We may be able contribute much more if we *Lead-by-Example*, creating a strategy that other towns choose to emulate, and thereby achieve their own success.

We need to Speak Out.

Our success requires utility, regional, state, and Federal policies to be well designed for what we need to accomplish. And while politics are favorable now, this only happens when *voters and the grassroots continue to demand it.* So we - all those who care about our climate future - need political activity in support of climate to continue sustained and strong. In Wayland, we will engage, inform, and welcome our resident's participation in all levels of policy discussions and decision making.

This Draft Climate Plan

This plan proposes six categories of climate actions. In each we highlight the actions we as residents, businesses and institutions must take, and what we as a Town need to do in our municipal operations.

- I. Decarbonize our Homes and Buildings
- II. Moving to Clean Energy Supply
- III. Transportation Driving Clean and Driving Less
- IV. Adaptation and Resilience
- V. Nature-Based Actions to Mitigate Carbon
- VI. Food and Waste

The final section reflects that engagement and equity must be a central tenet of Wayland's approach. We offer our thoughts on how to start, knowing that it will evolve and that it must serve all residents.

Please provide questions and comments on this draft climate plan to climateplan@wayland.ma.us

I. Decarbonize our Homes and Buildings

Buildings emit almost 60% of our town greenhouse gas emission. And our homes are the single biggest source of these building emissions. We must engage residents and property owners to make green choices and lead by example by continuing to decarbonize our municipal buildings.

Residents and Property Owners:

It may surprise many Wayland residents that our homes are one of the single biggest sources of Wayland's greenhouse gas emissions. That creates both an opportunity and challenge. The opportunity is that home and property owners have the power to do what's needed to reduce their fossil fuel use. The challenge is that we can't rely on one new policy or regulation, it will require all of us to take actions. The road map is clear, each and every Wayland property owner must "decarbonize" their home or building energy use.

- **Reduce building energy use.** All residential and commercial property owners should complete a no cost energy MassSave audit and pursue actions identified to reduce their home energy use (insulation, air sealing). By 2030, 50% of homes and commercial buildings will complete audits and thermal upgrades. By 2050, 100% of non-municipal buildings have thermal upgrades.
- Move off gas and oil for our heating and cooling systems to electricity. All new or replacement air conditioning systems must use heat pump technology that can also provide heating. All new and replacement heating systems should rely fully on green electrically powered heat pumps or hybrid systems that allow for gas or oil use from no more than 25% of the heating needs. By 2030, the goal is 25% non-municipal buildings use heat pumps to achieve at least 75% of their heating needs. By 2050, 100% of these buildings have thermal upgrades and use heat pumps for heating and cooling.
- Install solar when feasible. All property owners shall evaluate the potential for solar systems.

How will we achieve these goals? To help residents navigate these often-complicated choices, municipal staff and community-based groups like EnergizeWayland will support coaching and outreach efforts, identify qualified vendors, and ensure residents understand their choices making full use of state and utility rebates. Wayland will also pursue town regulations to limit or prevent new gas hook ups in new construction.

Town Leading by Example

After homes and commercial buildings, our municipal buildings account for the rest of our emissions. We must lead by example to ensure that our buildings are carbon neutral (use no fossil fuel and, when possible, generate solar energy on-site).

- Mandate by 2024 that all new and substantial rehabilitations of existing municipal buildings use no fossil fuels, decarbonize, and incorporate climate sensitive design. This is consistent with the Town Meeting resolution passed in 2018.
- Implement decarbonization strategies for all existing municipal buildings taking advantage of heating/cooling system replacements and other opportunities. By 2030, 25% of buildings have implemented such strategies; by 2050 100% of buildings are decarbonized and no longer use onsite fossil fuel.

Advocate for effective state policies. Wayland must join other municipalities to advocate at the state level for significant renewable energy, decarbonization, and building energy efficiency standards and funding to support municipalities and residents in taking decarbonization efforts and achieve environmental justice goals.

II. Moving to Clean Energy Supply

There is no path to achieving net zero GHG emissions without changing where our energy comes from and how we use it. This shift is at the heart of Wayland's Climate Action Plan.

Fossil fuels like oil and gas emit greenhouse gases that contribute to climate change. We, like the rest of Massachusetts, have relied on fossil fuels to power our heating and cooling systems, cars, machinery, and to generate electricity.¹ Meeting our climate goals requires two broad shifts: 1) whenever possible, move from technologies that rely on fossil fuels to ones that use electricity ("electrification") and 2) transition to purchasing electricity from renewable sources.

The state currently requires Eversource (our Town's default electricity supplier) and other electricity suppliers to get almost 50% of the electricity they supply to us this year from existing and new clean energy sources.² The state's 2050 decarbonization goal is for 80% to come from clean energy sources.³ **So we all have work to do to green the sources of our electricity** both for our Town's municipal consumption and the electricity we use as homeowners, renters, and commercial property owners.

Individual Residents, Faith Based Organizations, and Small Businesses:

- Implement the Town's community electricity choice program by 2023. The program will aggregate Town residents' electricity demand, negotiate price and preferred fuel sources, and enable residents to purchase electricity generated from a higher percentage of renewable energy sources compared to the Eversource default level. The program will expand equity access to renewable power by being available to all residents, including renters and low- & moderate-income ratepayers.
- Encourage private Wayland ratepayers to boost their purchases of electricity from renewable power sources via subscribing to voluntary green power programs and enhanced renewable power options under the Town's community electricity choice program.
- Encourage private Wayland electricity ratepayers, including residents, non-profit entities, and businesses, to install solar capacity locally.
- Encourage private Wayland electricity ratepayers to reduce their current electricity bills by buying electricity bill credits from community solar projects. Reach out to ratepayers most likely to benefit such as renters, low- & moderate-income residents, houses of worship, and non-profit entities.

Town Electricity Decisions:

- Boost Town of Wayland purchases of electricity or credits produced by renewable power projects to 100% of our municipal load by 2030. Currently, the Town purchases electricity credits equal to about 25% of the Town's annual electricity use from the four existing solar projects located on Town properties. Complete the Loker Elementary School roof solar project and maximize purchases from projects installed on additional Town properties.
- Boost the electricity resiliency of the Town's critical municipal facilities and businesses by including battery storage to solar projects serving such facilities.
- Join other towns in advocating accelerating Eversource's renewable power purchase mandates.

¹ MA state profile, U.S. Energy Information Administration, www.eia.gov/state/?sid=MA#tabs-1

² MA Annual Compliance Information for Retail Electric Suppliers, <u>www.mass.gov/doc/minimum-standards/download</u>

³ MA 2050 Decarbonization Plan, www.mass.gov/doc/ma-2050-decarbonization-roadmap/download

III. Transportation - Driving Clean and Driving Less

Nearly 40% of Wayland's greenhouse gas emissions come from transportation, primarily from vehicles driven by residents. Helping residents and businesses switch to cleaner vehicles and reduce their driving trips must be a key part of Wayland's response to climate change.

Both Town government and Wayland community members have roles to play in reducing their emissions from driving.

Residents, Businesses and Organizations:

- Switch from gas-powered vehicles to electric. Residents and business owners should consider EVs for all new vehicle purchases. The Town and community groups like Energize Wayland can inform residents of electric vehicle options and connect them to discount buying programs and rebates. By 2030, 50% of Wayland's new passenger and commercial vehicle purchases should be electric. By 2050, all should be.
- Use other modes of transportation. Residents and students should bike or walk to schools and other destinations when possible. The Town can support this by increasing safe walking and biking routes. Residents should consider using commuter rail lines in Weston, Natick and Lincoln and other nearby public transportation options. Have students ride the bus instead of being driven.

Town Government:

- Electrify town vehicle fleets. Every new town vehicle purchased should be electric when available technology exists. Electric cars, pickups, police cruisers and SUVs are available now; emergency vehicles and heavy equipment should follow soon. Anti-idling equipment or hybrid vehicles should be considered as interim steps. By 2030 all light-duty and passenger vehicles should be electric.
- Install EV charging stations at all schools and town buildings for public and employee use and for charging town electric vehicles. Encourage property owners to install charging stations and direct them to utility incentives and grants.
- Use electric school busses and incentivize bus riding. Purchase electric busses and/or lease only from companies that have them. Incentivize school bus riding by making it free. Limit or charge fees for vehicles dropping off or picking up.
- Improve alternatives to driving. Provide safe options for Wayland citizens to drive less by adding walking and biking paths, sidewalks, and bike lanes. Encourage businesses to add bike racks. Work with other towns to increase parking at commuter rail lines. Consider shuttles to connect residents to town destinations and transit lines.
- Encourage residents to drive electric cars. Connect residents to rebates and discounted purchase programs. Offer incentives like priority parking or tax discounts for EV drivers. Offer bulk buy programs for home charging stations.
- **Discourage idling.** Inform town employees and public about state anti-idling law and add signage at appropriate locations.
- Advocate for state actions that incentivize electric cars. Join other towns to advocate for reduced electricity pricing for EV charging and to allow for local tax incentives.
- **Prepare for climate changes by improving transportation infrastructure.** New and existing culverts and bridges must be designed to reflect updated flooding and climate predictions.

IV. Adaptation and Resilience

A changing climate will bring increased storms, flooding, and extreme heat -- all of which affect Wayland. We need both to adapt to this changing climate and to build resiliency to live with the effects that can't be prevented.

Most proposed actions in this Climate Action Plan focus on reduction of greenhouse gas emissions, the primary cause of climate change. Unfortunately, the effects of climate change will continue to worsen for years. In Wayland, this will mean increased precipitation in strong storms, accompanying drought between stormy periods, and ecological disruption because of changed weather patterns and generally warmer conditions. The record flooding of 2010 and the record snowfall of 2015 are recent examples. Many of these proposed actions will have an immediate positive effect directly on Wayland.

As a prerequisite to accomplishing change, Wayland should band together with other towns to lobby the state to enable local tax incentives to motivate the desired behavior.

Resident Actions:

- Maintain or increase tree cover especially around buildings. Trees absorb water from the soil and act as a sponge to store water and release it slowly.
- **Minimize Lawns**. Lawns are the worst landscape form for ecosystem resilience. When used, organic lawn keeping practices need to be encouraged. Educate homeowners about organic lawn practices such as proper mowing to eliminate watering, pesticides, and artificial fertilizers for mature lawns
- Encourage Lawn Alternatives. Offer subsidized or free native plants to homeowners with instructions for their use, which include removing invasive plants and planting native trees

Town Actions:

- Remove or reduce the effect of man-made obstructions in the Sudbury River which add to flooding in Wayland. Since Thoreau's time the cumulative effects of the numerous bridges and causeways across the river between Wayland and the Billerica Dam have been recognized as the most likely cause. Wayland should take every opportunity to modify river structures that increase river flow. Engage in regional efforts to remove or breach the Billerica Dam. Pursue structural strategies at the old railroad causeway south of Route 20 as it is repurposed for a rail trail. Work with legislators to change state policies for all downstream bridge reconstruction projects to require flow enhancement to more nearly natural conditions.
- Enact more robust stormwater regulations to deal with stronger storms. A new bylaw will require pervious pavement and predominantly green infrastructure in all new projects. It will require strict maintenance of tree cover within the same sub-watershed. All stormwater engineering calculations will be done using projected storm intensities for 2075.
- Increase the progressivity of water rates to increase water supply resilience.
- **Remove invasive plants** from municipal lands annually.
- **Commit to grass fields** and not turf. Implement the five-year moratorium on turf fields passed at 2021 Town meeting and follow organic best practices for maintaining grass fields.

V. Nature-Based Actions to Mitigate Carbon

Reducing greenhouse gas emissions doesn't just require technology. Nature-based solutions simply ask the Town, businesses, and residents to take action to protect the natural landscapes and resources in Wayland.

Resident Actions:

- Maintain or increase tree cover, especially around buildings. Trees around buildings provide shade and wind protection, reducing HVAC usage. Appropriate action will focus on maintaining existing tree cover. The Town should embark on a public education campaign to explain to homeowners why they should not cut down trees around their houses.
- Minimize use of lawns in landscaping, which are the worst landscape form for carbon sequestration. Lawn mowing uses large amounts of gas and causes much more pollution than would be caused by burning that gas in a car. Where lawns are used, organic lawn keeping practices need to be encouraged. The Town should prohibit lawn watering for mature lawns. The Town should embark on a public education program to educate homeowners about organic lawn practices such as proper mowing to eliminate watering, pesticides, and artificial fertilizers for mature lawn maintenance and increase carbon sequestration in the soil.
- Use lawn alternatives. Lawns are the worst landscapes for climate change while wetlands and forests are best. Subsidized or free native plants will be offered to homeowners with seminars and written instructions for their use, which will include removing invasive plants and planting native trees.

Town Actions:

- **Strengthen tree removal regulations** to require strict maintenance of tree cover. Trees and forested landscapes sequester large amounts of carbon.
- Increase the progressivity of water rates. Pumping and treatment of water require energy. High usage of water is associated with use of undesirable landscape forms, such as lawns. Progressive water rates provide an incentive for users to change behavior and have proven effective.

VI. Food and Waste

Climate Action through Food

Our eating habits (agriculture) are a major contributor to emissions. Reducing our "food print" is an easy and impactful way to take climate action, with many added benefits (human and ecosystem health, stronger local economies, community). We need support to:

- Switch to a more plant-based diet. Meat and dairy (livestock) produce about 14.5 % of the world's greenhouse gasses. Changing diets can be done at our own pace and with little financial investment, but it is a deep lifestyle change that needs to be supported to be maintained by educational campaigns, peer support, and celebration (cooking and eating together).
- Buy more locally produced food, which has fewer "food miles" (conventional food travels on average 1,500 miles from farm to tables). Local farms are small farms that more readily adopt climate-friendly and regenerative practices (especially if we ask them to), use fewer pesticides, rebuild crop and insect diversity, enrich the soil, and produce tastier and more nutritious food. Many small farmers are working on sequestering carbon. Local, decentralized production reduces food safety risks. And they spend their money locally, strengthening the local economy.
 Our Town should support our farmers market, local farmstands (like Lee's Farmstand), our local farmers, and rent out conservation land and fields to young, land-poor farmers.
- Grow our own food. A town-wide campaign to get us gardening, which gets us outside in nature, relieves stress, keeps us moving and produces tasty, healthy food with zero food miles on it. We can organize permaculture and regenerative ag workshops, gardening support groups.
 Our schools and community gardens can be centers of education, community, and crop sharing.

Waste and Recycling

Let's support residents, businesses, & schools to reduce, reuse, repurpose, recycle.

- Zero organic waste. Over 51% of our trash is organic, compostable. This wastes a lot of food and organic fertilizer, contributes to methane in landfills and incineration pollutants, and puts an assortment of trucks on our roads. Organics should instead be picked up at the curb by one hauler and composted locally, and the compost used for our playing fields, parks, gardens.
- **Reduce package and single use waste** by strenuously enforcing the polystyrene and plastic bag bans and considering further regulation, e.g., of alcohol nips and single use plastic bottles.
- Divert reusable clothing, furniture, building materials, etc. into reuse or resale markets.
- **Buy less stuff.** Educate about the climate cost of stuff, run fun "Buy Nothing" campaigns, make thrift stores cool. Support Freecycle, our Library's "Library of Things," and tool pools.
- **Repair culture** by organizing Repair Cafes, Maker Spaces, and supporting repair businesses.
- **100% recycling** by educating and motivating residents, businesses, schools to make Wayland the state leader in recycling once again. Students can be engaged in a town wide campaign.

The Town should reassess how it can support residents, businesses, and schools by:

- Offering, or contracting, one hauling service that combines organic waste, recycling, and trash collection making it cheaper, less polluting, more efficient, and more accountable.
- **Regulating organic waste** from institutions such as schools, restaurants, and assisted living with a more stringent Commercial Food Material Disposal Ban than the state currently has.
- **Composting all organics** on site and distributing/selling the compost.
- **Developing a thriving Give and Take** at the Transfer Station, which can again serve as "Wayland's water cooler" where the community comes together.

VII. Resident Engagement

As the largest contributors to our carbon footprint, residents will be asked to make changes to our homes and lifestyles. But most of us don't know why, or how to make such changes. We need support to (1) better understand climate impacts and actions,

(2) connect these to our values and sense of community, (3) overcome all kinds of obstacles. Engagement needs to give us co-ownership of the mobilization, not as something top-down, occasional, abstract, or personally irrelevant, but as a proud contribution to all we hold dear.

Deep and lasting engagement combines insights from behavioral science, Community-Based Social Marketing and inclusive community organizing.

- **Survey** residents' climate beliefs, willingness to make changes, challenges, and obstacles (practical, financial, social, and psychological), and the climate actions they already have taken.
- Share the survey results in multiple "maps" (in a broad sense) that allow us to see where we stand and what our neighbors are doing, plug into growing trends ("Wow, 300 Waylanders drive EVs!"), have a sense of support and agency in a complex, uncertain, and intimidating field.
- **Give all access** through a suite of media (incl. <u>EnergizeWayland.org</u>) offering a wide variety of actions and support (from easy, practical onramps to intense coaching), and clarity about financial incentives to make actions as affordable as possible across language barriers.
- Targeted campaigns, for instance, to those with older heating systems, or ideal roofs for solar.
- **Partnerships** with all other local organizations and interest groups in town, as well as all Town Boards, Committees, Administration and Staff.

We have to complement science, abstract language and urgency with the positive reasons why we should care, our values of identity, love, community, and nature.

- **Develop the Teams and Testimonials** functions on <u>EnergizeWayland.org</u> to spur positive encouragement and friendly competition between neighborhoods and peer groups.
- A free, yearly print production that celebrates and showcases our actions and accomplishments.
- An Art campaign with ongoing public, communal art installations.
- A Festival of the Human Family, on Mass Race Amity Day 2022 (June 12), with a climate justice lens: zero-waste and emissions, art, climate education and climate actions.
- Well-facilitated conversations to nurture inner resilience for coping with anxiety and uncertainty, especially for *youth*, and to build bridges across divides.

Wayland is a well-connected community and resident climate engagement is underway, but to scale up, these volunteer efforts need support from Town government and staff, in particular from a Sustainability Manager, with a budget. These are *essential* to run or connect us with the following programs, which have proven their efficacy elsewhere.

- 1. A team of well-trained, local coaches to help us make smart choices on the most impactful climate actions, which are also new, complicated, and costly: heat pumps, solar, and electric vehicles. The coaching model has been proven to be very effective in our two Solarize programs and the Energize Wayland heat pump coach, but they need further development and investment.
- 2. Access to a call-in center to guide residents with insulation, retrofits and MassSave-approved vendors and installers.
- 3. A team of youth ambassadors to spread the climate message and answer basic questions through tabling, canvassing, door-knocking (volunteers and paid college, High School students).