Wrentham Master Plan

Energy and Sustainability

Draft Existing Conditions

Introduction

Energy is an increasingly critical topic for municipalities across Massachusetts both in terms of reducing energy costs and reducing greenhouse gas (GHG) emissions to slow climate change. Total energy costs represent a significant portion of annual Town spending and offer a corresponding prospect for savings.

In addition, increasing energy efficiency and shifting energy sources away from fossil fuels like gas and oil helps reduce greenhouse gas (GHG) emissions. Massachusetts has a statewide goal of reducing greenhouse gas (GHG) emissions to net-zero (see below for glossary of terms) by 2050, and many municipalities have adopted the same goal. Municipalities have an important role in effectively reducing emissions directly through control over municipal energy usage, and indirectly through land use planning, policies and programs, and capital projects for residents and business energy use. Incorporating energy efficiency and renewable energy into municipal planning has several benefits, including:

1. Help save money and reduce energy costs
2. Stabilize energy prices
3. Reduce air pollution
4. Reduce greenhouse gas emissions
5. Increase energy resilience and energy independence

Planning for long-term resiliency to prepare the infrastructure and services of the Town to the impacts of climate change is also a central responsibility of municipal government. Due to the amount of GHG emissions already in the atmosphere from the burning of coal, oil, and gas over the past 150 years, climate change is already occurring and will continue to. The impacts of these global changes are felt locally in the Boston metro region and Wrentham specifically. Already, Wrentham has faced challenges of local flooding and loss of electricity after major storms, which climate change will exacerbate.

Quick Facts

- The Town of Wrentham spent $680,000 on energy costs in 2020 and has a plan to cut energy use by 20% in 5 years.
- Delaney Elementary School has the highest energy use and is one of the least energy efficient municipal buildings.
- Municipal electricity use accounts for about 3% of all electricity use and 3% of natural gas use within Wrentham, and likely an even smaller percentage of transportation energy use.
- Wrentham residents and businesses have received more than $4,000,000 in MassSaves electric incentives for energy efficiency upgrades between 2013-2019.
- There are 335 renewable energy sources in Wrentham, most of which are solar panels on residential property.
- Inland flooding is one of the greatest climate-related hazards that Wrentham faces.

Key themes/findings

- Wrentham has adopted new policies to encourage energy efficiency and renewable energy generation that now make the Town eligible for Green Community designation, which grants Wrentham access to State grants for projects that improve municipal energy efficiency and renewable energy use.
- Municipal leadership in reducing greenhouse gas emissions to mitigate the worst of climate change impacts is critical. However, emissions from municipal buildings and Town-owned vehicles account for only a fraction of the total emissions in Wrentham. Reducing town-wide emissions requires making it much easier for residents and businesses to improve energy efficiency, shift to electric power, and install renewable energy generation.
- The transportation sector is the largest source of emissions in the United States, in Massachusetts, and likely in Wrentham.[1] Driving is a bigger source of greenhouse gas emissions in Massachusetts than coal-fired power plants. Promoting more walkable neighborhoods with land use patterns that allow people to walk, bike, or take transit to work, school, and wherever they need to go is one of the most effective strategies in reducing energy use and emissions.
- The Town has started to address climate-related inland flooding through a new Green Infrastructure Master Plan to improve stormwater management.

Glossary of Energy and Sustainability Terms

Green infrastructure: Integration of natural systems and elements to provide a specific service, often water infiltration, filtration, or storage. May include engineered elements in addition to natural elements. May also provide co-benefits such as shade, cooling, wild-life habitat, recreation etc.

Greenhouse gas emissions: Gases in the atmosphere that absorb and re- emit heat, and thereby keep the planet's atmosphere warmer than it otherwise would be. Those most commonly accounted for are carbon dioxide (CO2), methane (CH4), and nitrous oxide (N2O).

Net-zero municipality: A municipality which produces zero net carbon pollution and/or gets as much electricity from renewable sources as it uses, achieved through a combination of energy efficiency improvements, local clean energy production, and purchasing renewable energy.

Renewable energy: Energy that is collected from resources which are naturally replenished on a human timescale, such as sunlight, wind, rain, tides, waves, and geothermal heat

[1] Transportation energy use data is unavailable.

Municipal Energy Profile

Municipalities have direct control over energy use in their municipal facilities including, buildings, open space and recreational facilities, traffic lights, water and sewer systems, and vehicle fleets. While municipal energy use only makes up a small portion of the total energy use within a community, municipal leadership on energy efficiency and renewable energy can be critical to elevating the issue and incentivizing change through leading by example. Energy efficiency efforts can help save the Town money by reducing costs from energy usage and taking advantage of utility incentives. Similarly, purchasing renewable energy can help stabilize energy prices and may reduce costs for the Town, which can be a significant portion of the municipal budget.

Green Community and Clean Energy

Wrentham has been working to cut costs by improving energy efficiency and encouraging renewable energy sources and is currently in the process of becoming designated as a Green Community by the Massachusetts Department of Energy Resources (DOER). The Green Communities Designation allows the Town to be eligible for state grant funding to implement energy conservation measures across Town-owned property, buildings, and vehicles. For example, municipalities have used Green Community grants to purchase new heating equipment for schools or install electric vehicle (EV) charging stations. In order to become a Green Community, a municipality must:

1. Develop a 5-year energy reduction plan to reduce municipal energy use by 20%
2. Approve zoning for renewable energy generation,
3. Adopt expedited permitting for as-of-right energy facilities,
4. Adopt a fuel-efficient vehicle policy, and
5. Adopt the Massachusetts' Board of Building Regulations and Standards (BBRS) Stretch Code (780 CM 115.AA) which minimizes the full costs of an asset over its life cycle and increase energy efficiency in new construction.

As of November 2021, Wrentham meets each of the criteria, with the final step taken at the November 15, 2021, Town Meeting where the Stretch Code was unanimously adopted. The Town is in the process of completing an application for Green Community Designation.

In order to plan for the use of Green Community grants and further emissions reductions, MAPC offers several resources, including the Municipal Net Zero Playbook. The Playbook offers guidance to help municipalities improve energy efficiency and shift to renewable energy sources to advance towards net zero, including through transportation, buildings, zoning and permitting, and increasing the renewable energy supply.

Municipal Energy Use

The following table presents the Town's energy use over the past several years by facility type, including building, open space, street/traffic light, transportation, and water/sewer.[2] Buildings consume the most energy, by far. From year to year, energy use has fluctuated due to changes in the weather and use and given that records have been kept for only six years, it is difficult to determine an overall trend of energy use.

[2] This data does not include the King Philip Regional High School.

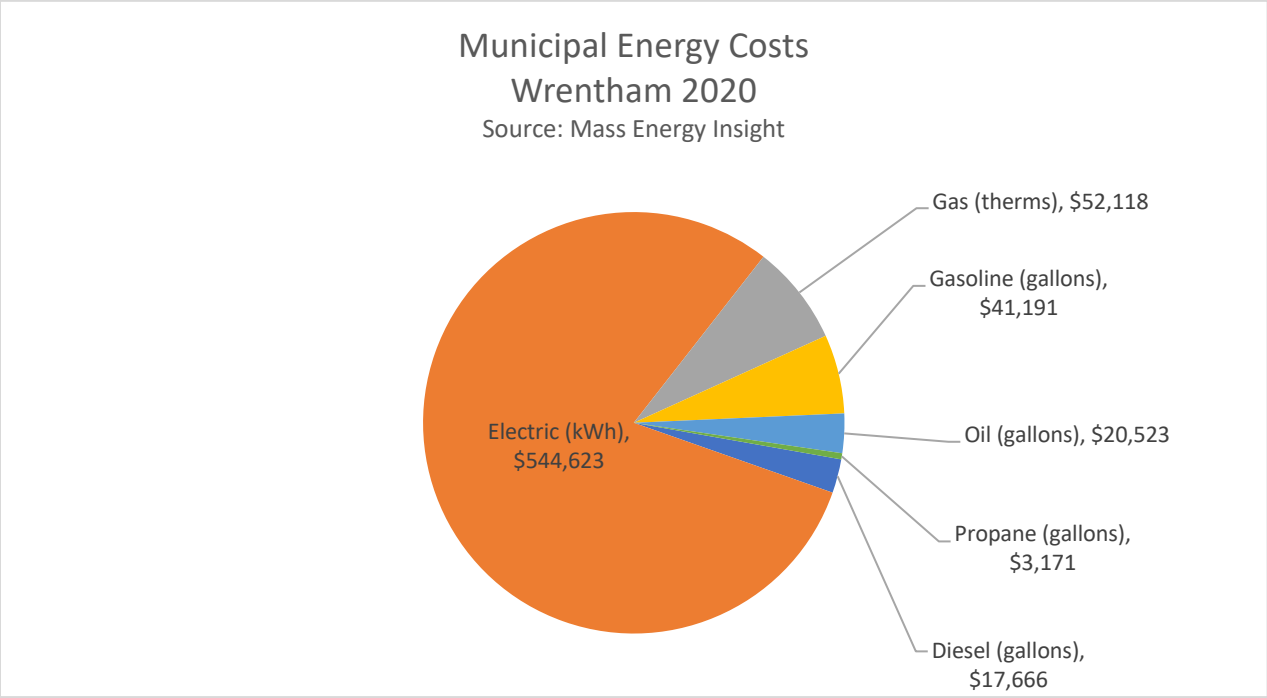
Municipal Energy Use (MMBtu) by Facility Type, 2015-2020						
	2015	**2016**	**2017**	**2018**	**2019**	**2020**
Building	20,900	18,587	19,752	19,481	20,323	18,581
Open Space	30	26	28	22	23	25
Street/Traffic Lights	34	34	33	36	38	36
Transportation	Not reported	Not reported	Not reported	Not reported	6,548	6,607
Water/Sewer	2,707	2,864	2,542	2,782	2,434	2,824
Total	**NA**	**NA**	**NA**	**NA**	**29,365**	**28,073**
Source: Mass Energy Insight, ERP Guidance Table 3b - Municipal Energy Consumption						

The table below presents the energy consumption of municipal buildings (which does not include the King Philip Regional High School). Delaney Elementary School consumes substantially more than any other building. The table also shows the size and energy efficiency of each building, and the Delaney Elementary School is not only the biggest building, but also one of the most inefficient.

Highest Energy Consuming Municipal Buildings			
	Energy use in 2020 (MMBtu)	Area (Square feet)	Energy use per area (MMBtu/square foot
Delaney Elementary School	7,935	58,500	0.14
Charles E Roderick Intermediate School	3,460	55,662	0.06
Public Safety Building	2,845	38,329	0.07
DPW Garage	1,201	9,638	0.12
Town Hall	1,113	10,984	0.10
Fiske Public Library	871	13,840	0.06
Senior Center	499	3,778	0.13
Sheldonville Fire Station	234	1,978	0.12
Old Fiske Library	184	3,997	0.05
Cemetery Building	103	600	0.17
Building Inspector	87	1,500	0.06
Church Clock Ext	48	-	-
Total	**18,581**		
Source: Mass Energy Insight, ERP Guidance Table 3b - Municipal Energy Consumption; Alpha Facility Solutions "Town of Wrentham Facility Condition Assessment," January 22, 2020			

Municipal Energy Costs

The chart below illustrates Wrentham's municipal energy costs in 2020 totaling $680,000. The vast majority of costs are for electricity, likely for lighting and cooling. Shifting use from fossil fuels such as gas and oil to electricity is an effective strategy towards reducing emissions, because renewable energy sources, such as solar and wind, are distributed through the electric grid.



Residential & Commercial Energy Profile

While leadership in municipal energy use is critical, the energy used in residential, commercial, and industrial sectors comprises a much larger portion of Wrentham's energy usage and GHG emissions. For example, municipal electricity use accounts for about 3% of all electricity use and 3% of natural gas use within Wrentham, and likely an even smaller percentage of transportation energy use.

Energy Use

The table below shows the electric and natural gas usage from the residential sector compared to the commercial and industrial.[3] Electricity is often used for lighting and cooling, and natural gas for building heat and hot water. The commercial and industrial sector uses slightly more energy than the residential sector, accounting for about 57% of the total electricity use and 61% of the total natural gas use.

[3] The commercial and industrial sector data also includes municipal energy use due to aggregation of data from MassSave. MassSave is a collaborative, all-encompassing energy efficiency program run by energy providers and utilities in Massachusetts.

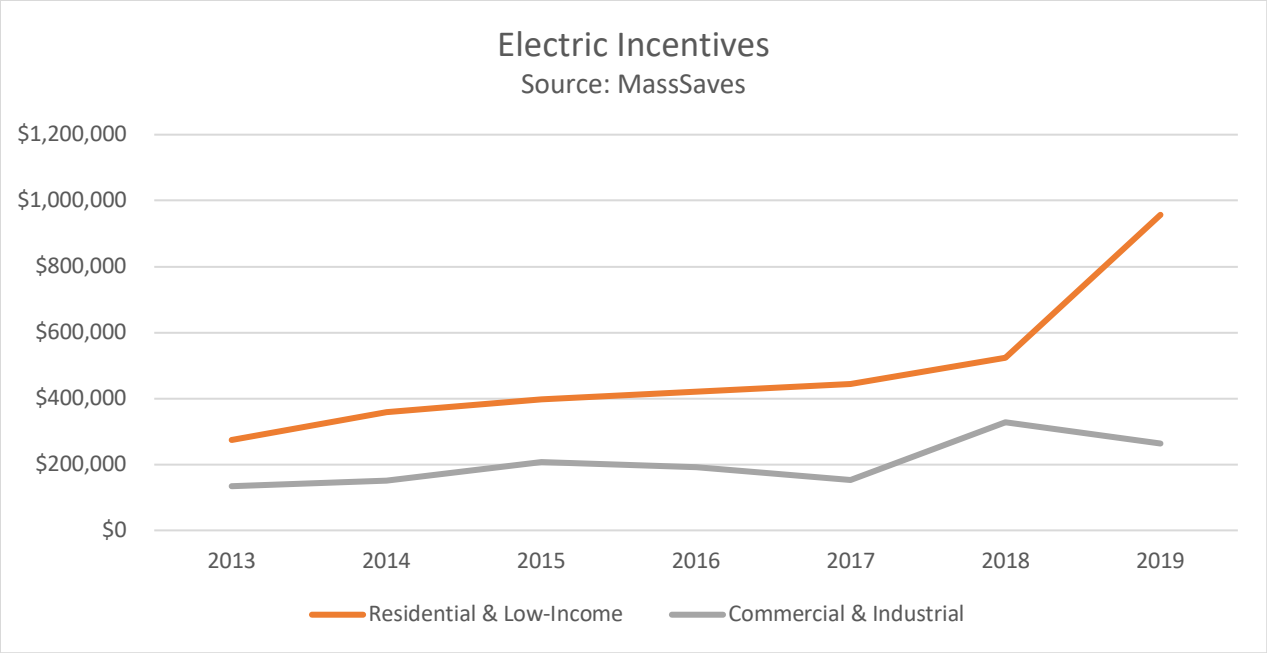
Residential, Commercial, and Industrial Energy Use and Savings		
Sector	**Annual Electric Usage (MWh)***	**Annual Gas Usage (Therms)***
Residential & Low-Income**	40,469	1,460,573
Commercial & Industrial***	52,113	2,266,346
Total	92,581	3,726,919
Source: MassSave https://www.masssavedata.com/Public/GeographicSavings?view=U *MWh Mega-Watt hour. One MW is equivalent to 1,000 kilowatts (kW) or 1,000,000 watts (W). One MWh would be equivalent to the electricity required to power 10,000 100-watt light bulbs for one hour. A therm is equivalent to 100,000 BTUs or British Thermal Units. One therm is approximately the energy equivalent of burning 100 cubic feet of natural gas. ** "Low-income" refers to Affordable housing occupied by lower-income households. *** This also includes municipal energy use due to aggregation of data from Mass Save.		

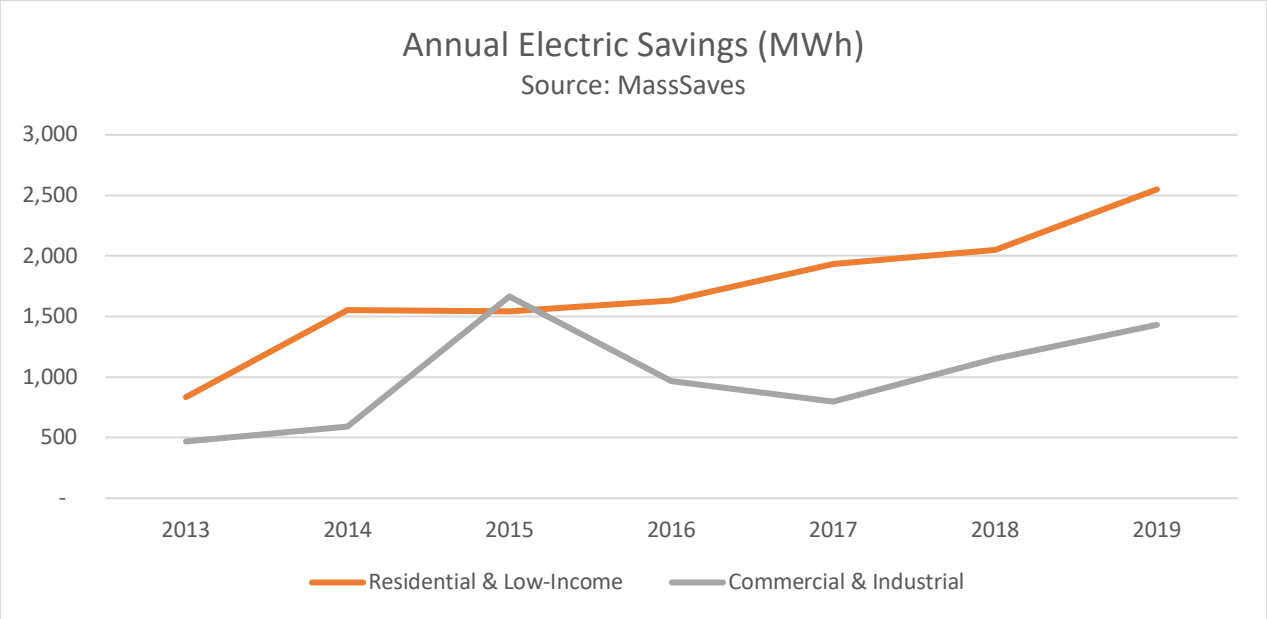
The annual electric and natural gas usage between 2013 and 2019 has fluctuated from year to year but remained relatively constant. However, over the course of each year, there are typically energy peaks during the summer months such as July and August, as well as winter months such as January and December due to the seasonal energy needs for cooling and heating.

Energy costs

Energy Efficiency

Wrentham's adoption of the Stretch Code at the Spring 2021 Town Meeting will help increase energy efficiency and reduce residents' energy costs. In addition, Wrentham's residents have already been proactive in taking action to address energy use in their own homes, as illustrated by the rate of participation in the MassSave program. MassSave is a statewide collaborative of Massachusetts' natural gas and electric utilities and energy efficiency service providers that offers a variety of services and rebates to state residents to help them make energy efficiency upgrades. The figures below illustrate the increasing number of incentives granted to Wrentham residents and businesses between 2013 and 2019, and the correlated increase in electric savings in both the residential and commercial/industrial sectors. Wrentham residents and businesses have received more than $4,000,000 in MassSaves electric incentives for energy efficiency upgrades between 2013-2019.





Wrentham also participates in the PACE Financing made available through the municipality to homeowners to reduce energy and water consumption. PACE stands for Property Assessed Clean Energy and is a program that local governments implement to allow homeowners to payback the upfront costs of renewable energy, energy efficiency, and water efficiency improvements through assessments added to their property tax bill.

Renewable energy generation

Wrentham residents and businesses have also been proactive in developing renewable energy sources. There are more than 335 qualified renewable energy generation units in Wrentham, most of which are solar panels at residential properties with a capacity of 8 – 14 kilowatts at a cost of $4 per watt.[4] However, there are also several larger installations at Mount Saint Mary's Abbey, the Wrentham Development Center, and other commercial, municipal, and institutional properties. In total, the renewable energy generation capacity in Wrentham is currently approximately 17,000 kW, a miniscule amount compared to the town-wide energy use.

Green Municipal Aggregation

In addition to taking steps to increase energy efficiency and otherwise reduce energy use, cities and towns are increasingly turning to municipal aggregation (also called community choice aggregation) to help residents and businesses within the community save money on electricity costs. In a municipal aggregation, a city or town contracts with an electricity supplier on behalf of residents and businesses who have not already selected a competitive supplier as an alternative to the basic service provided by the electric utility. This is separate from the municipal-specific contracts.

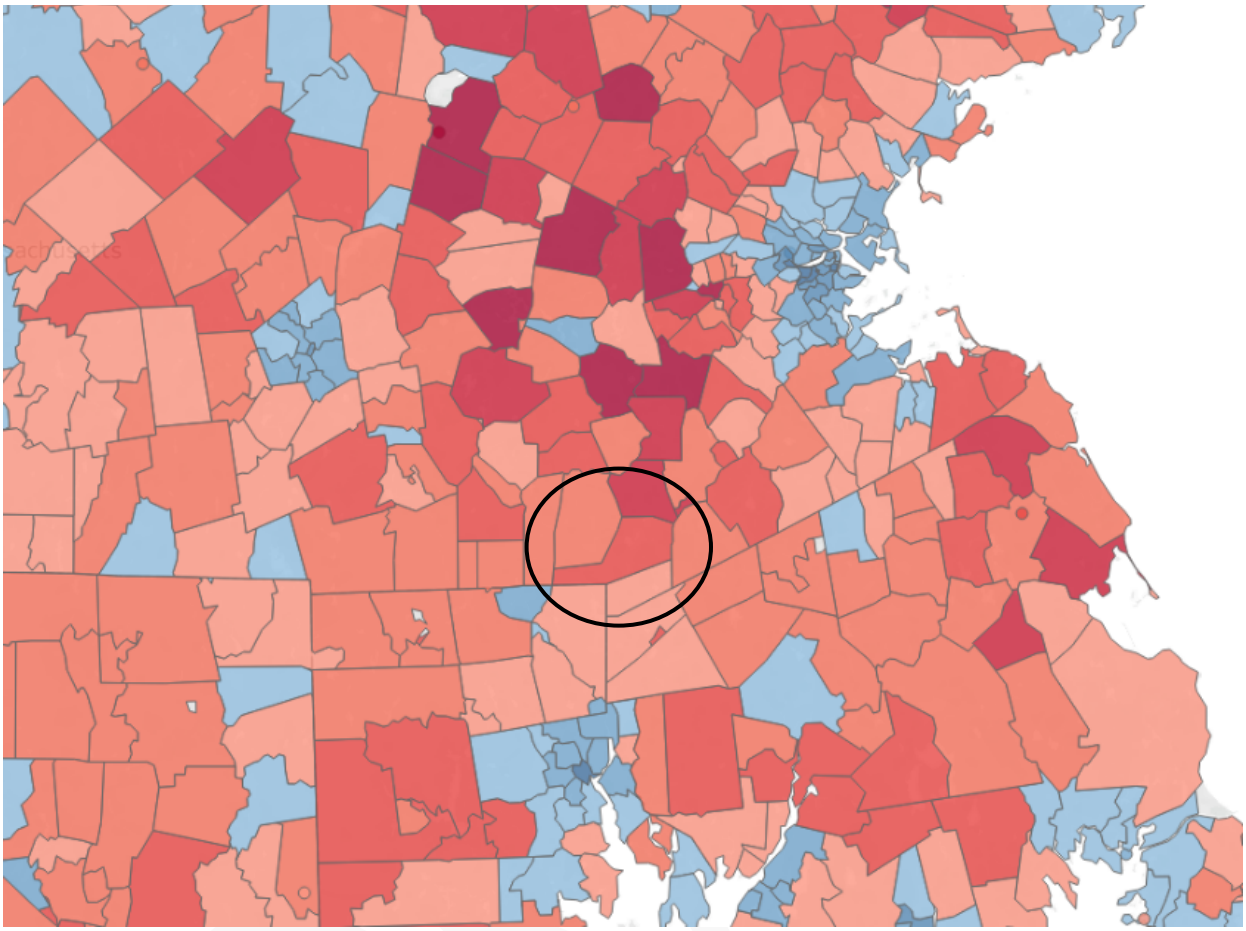
Typically, most aggregations in Massachusetts have pursued cost savings and price stability as primary goals, but MAPC has developed a strategy to help communities achieve these goals while also helping to build new renewable energy.[5] Communities participating in the Green Municipal Aggregation program typically add 5% or more additional renewable energy into their contracts (above and beyond current state requirements), helping to drive increased renewable generation capacity in New England. Fourteen cities and towns in the Boston metro area are implementing green municipal aggregation with MAPC, including Millis. Wrentham could pursue the same.

Transportation Energy and Emissions

Unfortunately, municipal-level data on transportation energy use is unavailable. The transportation sector is the largest source of emissions in the United States, in Massachusetts, and likely in Wrentham. In other words, cars and personal trucks are now a bigger source of greenhouse gas emissions than coal-fired power plants. Transportation emissions are a product of the total miles driven (often referred to as vehicle-miles traveled, or VMT) and the fuel efficiency of those vehicles. Transitioning to electric or other "zero emission" vehicles is critical to reducing emissions. In addition, reducing the need to drive and making it safer and more convenient to take transit, walk, and bike is necessary for effectively reducing transportation sector energy use. The land use patterns of our towns and cities have created a dependence on cars and trucks to get to work, home, and most places people need to go. The map below shows the estimated carbon emissions per household by zip code. As is illustrated, households in more urban zip codes have less carbon emissions largely due to less use of cars and personal trucks. The chart below the map shows the estimated carbon emissions from different sectors of an average household in Wrentham.[6]

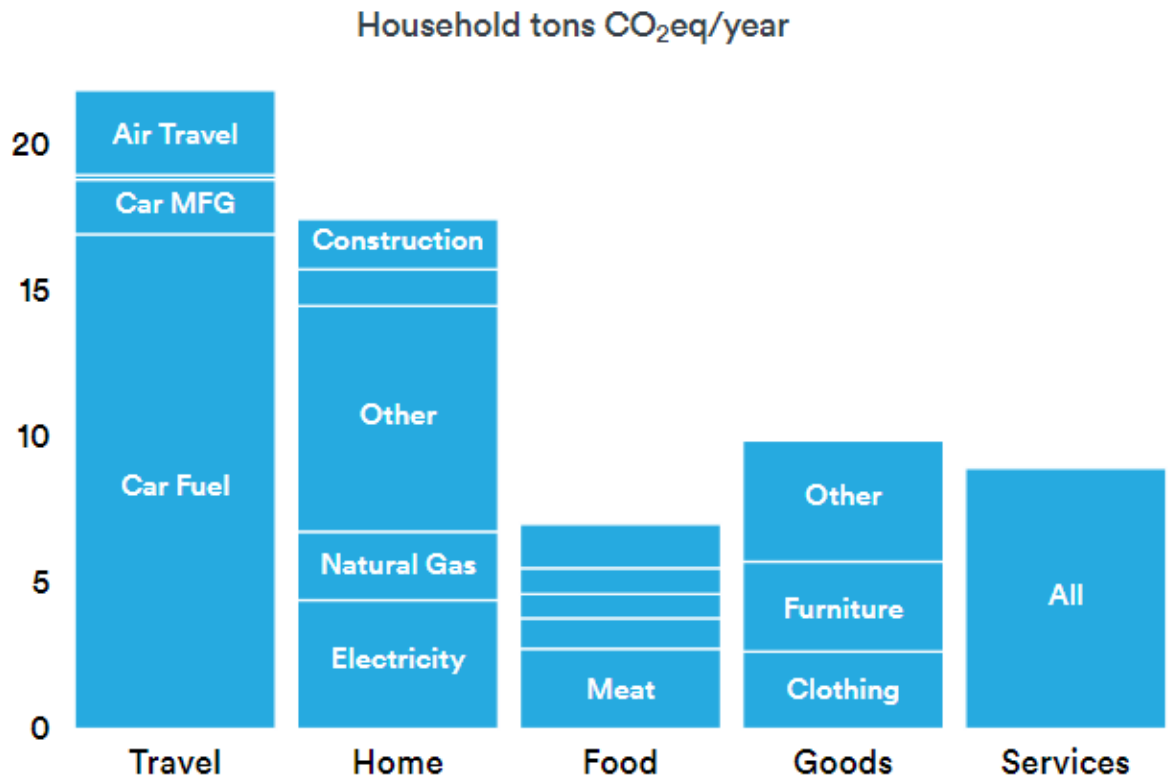
[4] https://www.mass.gov/service-details/lists-of-qualified-generation-units
[5] For more information: https://www.mapc.org/our-work/expertise/clean-energy/green-municipal-aggregation/
[6] Source: UC Berkeley CoolClimate Network, Average Annual Household Carbon Footprint (2013).

Figure: Estimated carbon emission per household by zip code[7]



[7] Source: UC Berkeley CoolClimate Network, Average Annual Household Carbon Footprint (2013).

Figure: Estimated carbon emissions from average household in Wrentham[8]



[8] Source: UC Berkeley CoolClimate Network, Average Annual Household Carbon Footprint (2013).

Climate Preparedness and Resiliency

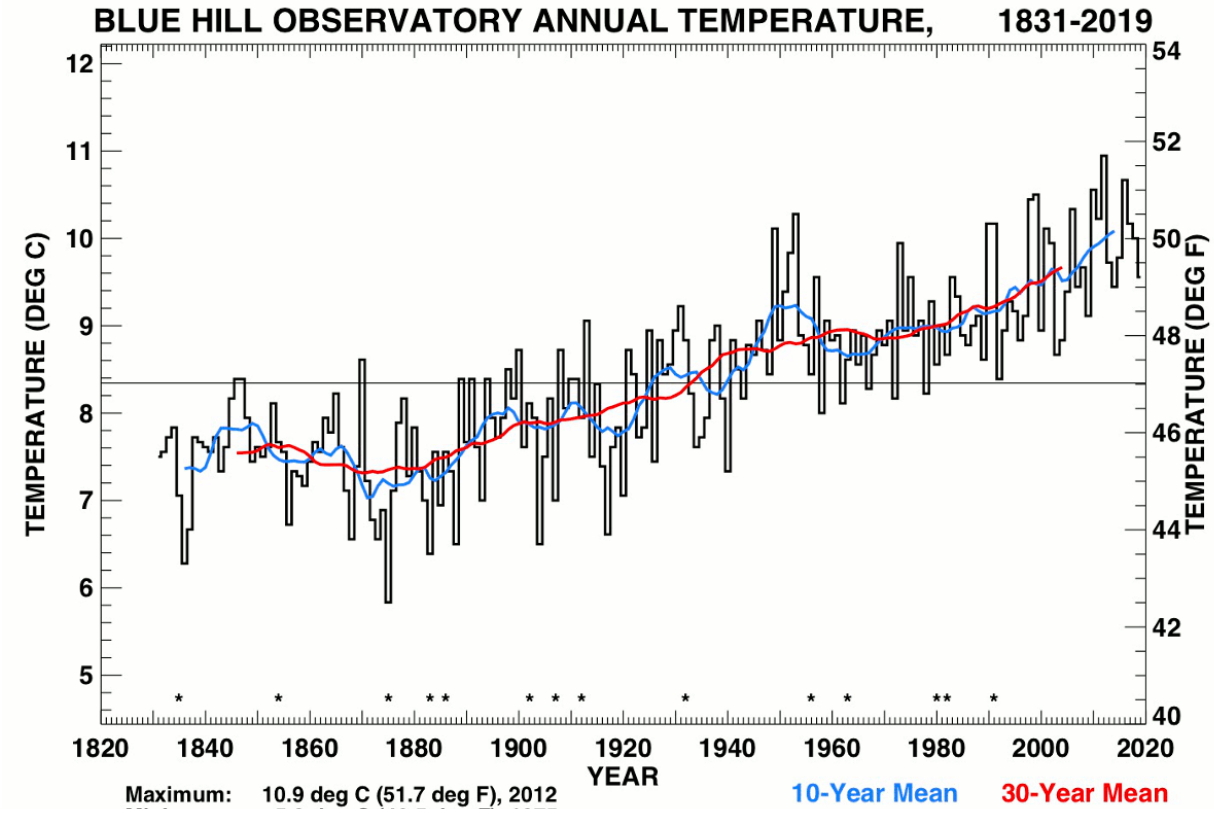
Recent years have seen notable weather extremes in Wrentham. Globally, the past five years have been the hottest in recorded history. These types of weather events are projected to happen more frequently as our climate warms. Projected changes include an increase in average temperatures and extreme heat days. Changing precipitation patterns include both increased flooding from large rain events and a greater likelihood of drought. Changing climatic conditions will have wide ranging impacts on infrastructure, public health, natural resources, and the economy. Wrentham is already taking proactive steps to address potential climate threats; the Master Plan process is an additional opportunity to assure that Wrentham is well-prepared to address the challenges posed by changing conditions. This section summarizes climate projections, highlights existing conditions, and identifies climate impacts to consider when planning for the future.

Climate Observations and Projections

Temperature and Extreme Heat

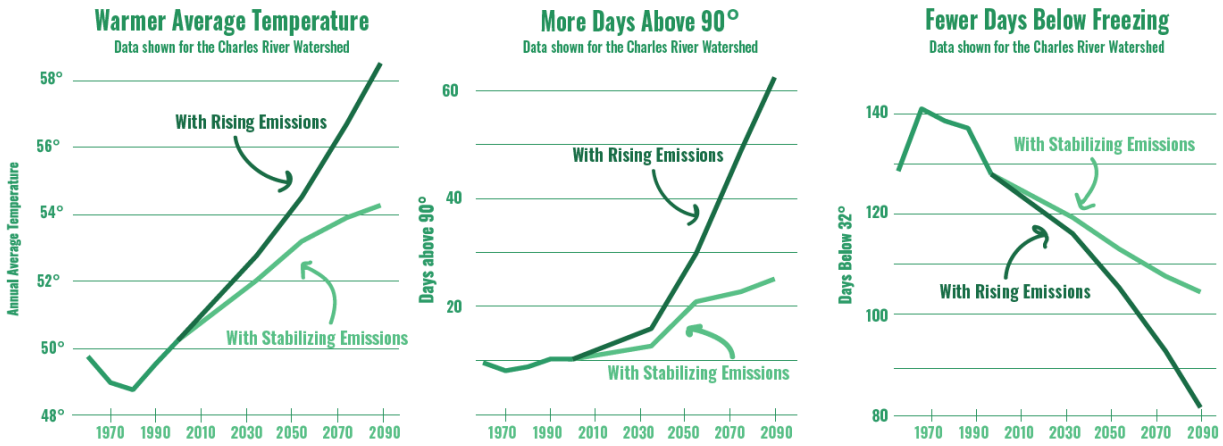
Records from the Blue Hill Observatory in Milton, MA show that average temperatures (30-year mean) have risen approximately 3 degrees (F) in the almost 200 years since record keeping began in 1831, as shown in the Figure below.

Figure: Observed Increase in Temperature



The Northeast Climate Adaptation Science Center (NECASC) provides localized climate projections for Massachusetts. The figure below provides projections for average temperature, days above 90 degrees, and days below freezing for the Wrentham area.

Figure: Projected Temperature Changes for the North Coastal Watershed[9]



The projected increase in extreme heat and heat waves is the source of one of the key health concerns related to climate change. Prolonged exposure to high temperatures can cause heat-related illnesses, such as heat cramps, heat exhaustion, heat stroke, and death. Heat can also exacerbate pre-existing conditions, including respiratory illnesses, cardiovascular disease, and mental illnesses. The poor air quality and high humidity that often accompany heat waves can also aggravate asthma and other pre-existing cardiovascular conditions.

Due to what is termed the "heat island effect," areas with less shade and more dark surfaces (pavement and roofs) will experience even hotter temperatures. These surfaces absorb heat during the day and release it in the evening, keeping nighttime temperatures warmer as well. In contrast, trees can play an important role in mitigating heat. Shaded surfaces can be 25-40 degrees cooler than peak temperatures of unshaded surfaces. Although most of Wrentham has a robust tree cover that helps cool the air, the Wrentham Premium Outlets and its parking areas are a "Hot Spot," defined as being in the hottest 5% of the MAPC region.

The Wrentham Zoning Bylaw also has requirements in the parking regulations for landscaping to reduce the visual impacts of large areas of pavement, improve the overall environment of parking areas by providing areas for shade and heat reduction, and enhancing the overall aesthetic appeal of parking areas.

Precipitation Patterns, Flooding, & Drought

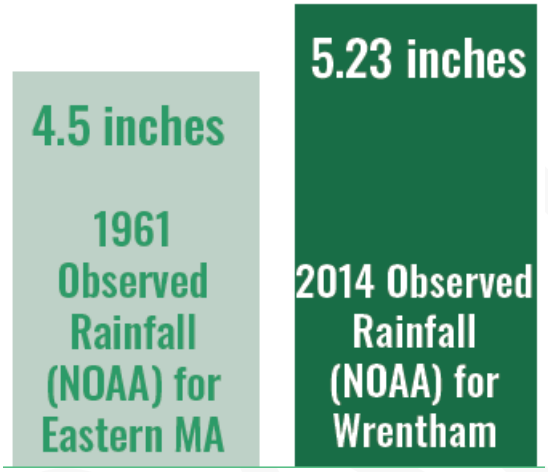
Annual precipitation in Massachusetts has increased by approximately 10% in the fifty-year period from 1960 to 2010.[10] Moreover, there has been a significant increase in the frequency and intensity of large rain events. The Northeast US has experienced a 55% increase in the amount of annual precipitation that falls in the top 1% of storm events over the past 60 years.[11] The figure below

[9] Northeast Climate Adaptation Science Center (NECASC)
[10] Massachusetts Climate Adaptation Report, 2011; https://www.mass.gov/files/documents/2017/11/29/Full%20report.pdf
[11] Fourth National Climate Assessment, 2018

shows the increase in the size of the 10-year, 24-hour storm, a figure used to size stormwater infrastructure, for Wrentham over the past 60 years.

The trends of increasing annual rainfall and large rainfall events are projected to continue as the climate warms. Despite overall increasing precipitation, more frequent and significant summer droughts are also a projected consequence of climate change. This is due to projections that precipitation will increase in winter and spring and decrease slightly in the summer and fall, and a result of earlier snow melt and higher temperatures that will reduce soil moisture.

Figure X: Increase in the 10-year, 24-hour rainfall event



Source: National Oceanic and Atmospheric Administration (NOAA)

Wrentham experiences flooding from rain events. FEMA flood zones identify risk in areas adjacent to rivers and streams and along the coast, as shown in Figure XX in the Open Space and Recreation chapter. Yet flooding is not restricted to the FEMA flood zones. This is common in urban and suburban communities where development has changed stormwater patterns. Causes of flooding can include failed or undersized stormwater infrastructure, paved surfaces, and filling of former wetlands. This reality is illustrated by the location of flood claims paid by FEMA due to damage from March 2010 rains. More than x% of the claims paid to Wrentham residents were located outside of the FEMA 1% chance flood zones (see Figure x).

Impacts on Society

Just as some locations in Wrentham will be more vulnerable to climate impacts than others, it is also true that climate change will not affect all residents of Wrentham equally. People who may be more susceptible to negative health effects can include older adults, young children, pregnant women, people with disabilities, and people with pre-existing health conditions, as they are more likely to be physically vulnerable to the health impacts of extreme heat and poor air quality. Individuals with physical mobility constraints may need additional assistance with emergency response. Older adults are often at elevated risk due to a high prevalence of pre-existing and chronic conditions. People who live in substandard housing and in housing without air conditioning have increased vulnerability to heat-related illnesses. Black and Latino residents in Massachusetts are hospitalized for asthma at considerably higher rates than the population as whole, reflecting the

reality that longstanding societal inequities can lead to differential health outcomes based on race and ethnicity.

Low-income residents are often more susceptible to financial shocks, which can occur after extreme weather, and which can impact financial security and the ability to secure safe shelter and meet medical needs. Social isolation can also influence vulnerability, as it limits access to critical information, municipal resources, and social support systems. In the absence of strong social support networks and translation services, people living alone and those with limited English language proficiency may experience social isolation. People of color and undocumented immigrants may also experience social isolation where there are historically strained or tenuous relationships with government officials and first responders.

Certain occupations may also experience more severe impacts. People who work outdoors, or in unregulated temperatures, are at increased risk for heat-related illnesses. Residents reliant on the local fishing, shell fishing, and lobstering economy may be impacted as changes in water temperature and acidity affect the local ocean economy.

Strategies that direct resources to populations most likely to be affected, include improving public health, housing conditions, and community cohesion will support resilience in the face of climate impacts. Social connectedness helps populations prepare for, respond to, and recover from the impact from climate change. Research has shown that communities with stronger ties and networks have reacted faster to meet needs and begin recovery efforts after the occurrence of natural disasters. Additionally, there is a growing body of evidence that social cohesion is a protective health factor as those with stronger connections typically experience healthier outcomes.

Municipal Vulnerability Preparedness (MVP) Plan

Wrentham received a grant in 2018 from the Massachusetts Executive Office of Energy and Environmental Affairs to participate in the Commonwealth's Municipal Vulnerability Preparedness (MVP) program. The program provides supports for municipalities to plan and implement key climate resilience actions using a community-based, multi-disciplinary, participatory planning effort through the Community Resilience Building (CRB) platform. The process was guided by a core team that also serves as its Natural Hazard Mitigation steering committee, providing synergy and alignment with both processes, including staff of 11 municipal departments, two businesses, health providers, religious leaders, and Food Pantry.

Hazards

Recent climate-related events illustrate the potential hazards to the town. For example, in 2016, Massachusetts experienced one of the worst droughts since the 1960s, and Wrentham's water supply was threatened. In March 2018, the Town had widespread electricity loss during Winter Storm Riley, which is an ongoing risk because of the location of the substations. Based on these experiences and others, the MVP Plan identifies the following top hazards in Wrentham:

1. Inland flooding
2. Heat Waves
3. Severe Storms (ice storms, tornados, Nor'easters, blizzards)

4. Drought

MVP Recommendations

Based on these hazards and an assessment of the Town's strengths and challenges in terms of infrastructure, society and community, and environmental and natural resources, the MVP plan identifies the following priority actions:

Infrastructure

1. Establish a shelter that can serve the community for multiple days, is ADA compliant, can include showers and cooking facilities, and provide back-up power generation. Consider the Delaney School as an option.
2. Relocate the Department of Public Works complex including the building, salt shed, and other facilities outside of the floodplain.
3. Improve and upgrade communication equipment and strategies for public safety and municipal staff, particularly during emergencies. Ensure there are back-up strategies that will function in the event of loss of electricity and internet, such as redundancy towers.

Society

1. Create a more cohesive Local Emergency Planning Committee and work to create a better more cohesive Comprehensive Emergency Management Plan.
2. Create a plan to protect residents during emergencies and extreme weather events for Bennett Gardens and other Housing Authority facilities.
3. Increase the size of the Senior Center.
4. Expand Food Pantry operations to include all residents and increase hours during time of emergencies and extreme weather events.
5. Create back up potable water options during emergencies and extreme weather events.

Environment

1. Re-evaluate existing stormwater bylaws. Ensure bylaws address water quality issues and green infrastructure opportunities for stormwater management.
2. Create a new Open Space and Recreation Plan that prioritizes connected open space and acquiring land that prioritizes resiliency and climate/natural hazard mitigation.
3. Restore the lake systems in town for water quality, recreation opportunity, and flood mitigation.

Strengthening Resiliency

The Town has started to advance the recommendations of the MVP Plan. In 2021, the Town received more than $100,000 from the Massachusetts Executive Office of Energy and Environmental Affairs in an MVP Action Grant to update the local land use bylaws and regulations. The goal of this project is to improve the Town's resilience to flooding while also protecting surface and ground water sources from stormwater pollution, which will improve the resilience of both the Town's water supplies and important recreational resources such as Lake Pearl and Lake Archer. The Town intends to integrate climate resilience considerations into its land use policies and

regulations and to develop a town-wide Green Infrastructure Master Plan which will increase the use of Low Impact Development (LID) and Green Infrastructure (GI) in the community.[12]

In addition, the Town is working with the Charles River Watershed Association on a Charles River Watershed modeling project along with 16 other communities.[13] The Charles River Flood Model forecasts expected flooding under different climate conditions and allows us to test flood mitigation strategies of various nature-based solutions.

Hazard Mitigation Plan

In conjunction with the MVP Plan, the Town also completed a Hazard Mitigation Plan in 2018, as required to be eligible to receive FEMA funding for hazard mitigation grants. The Wrentham Hazard Mitigation Plan assesses the potential impacts to the Town from flooding, high winds, winter storms, brush fire, geologic hazards, extreme temperatures, and drought. Flooding, driven by hurricanes, nor'easters, and other storms, clearly presents the greatest hazard to the Town.

Based on these hazards, the following mitigation measures are identified as high priority:

Extreme heat

- Evaluate cooling and warming center locations and opportunities for back-up electricity generation
- Become designated as a Tree City USA

Flooding

- Complete a feasibility study to upgrade, renovate, or move New DPW. Needs assessment first then site assessment.
- Create and implement a stormwater bylaw.
- Eagle Dam restoration or removal.
- Implement the updated Open Space and Recreation Plan.
- Revise development regulations, including to develop a no-disturbance buffer for wetlands, expand the Water Resource Protection District, and update the Open Space Preservation Development bylaw

Multiple Hazards

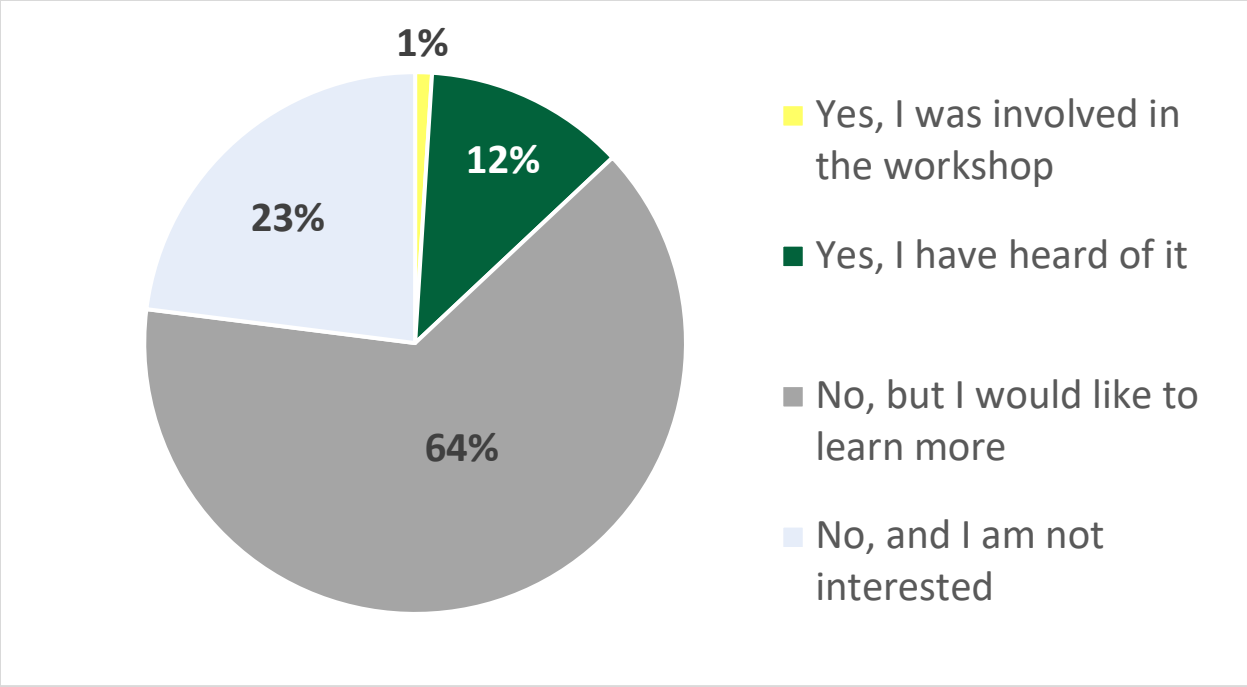
- Upgrade GIS and mapping technology

Community engagement

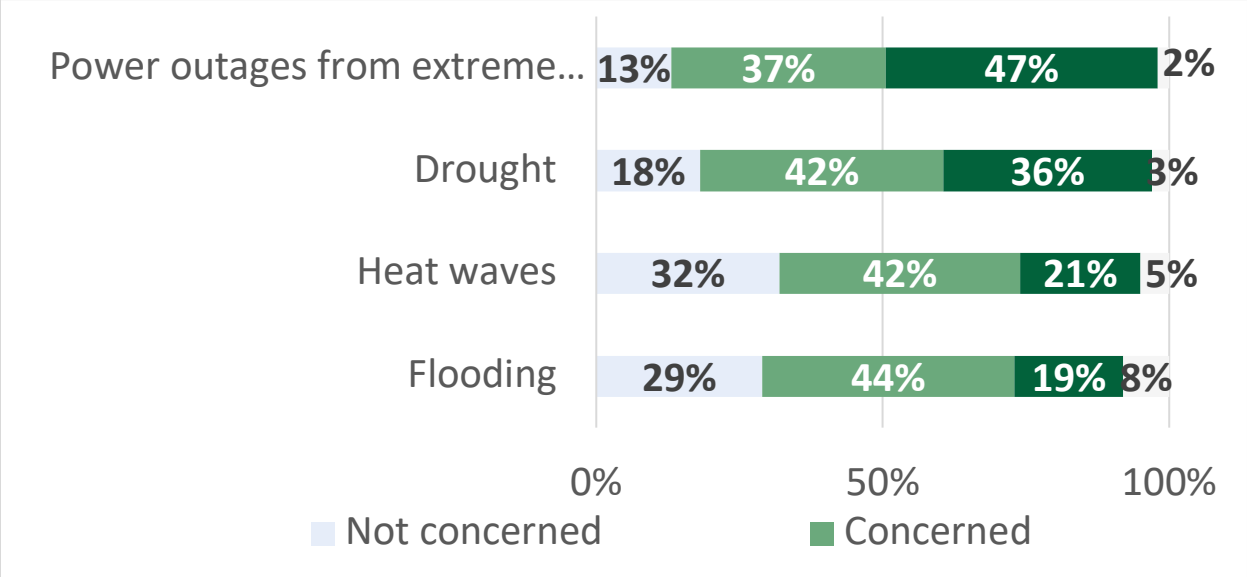
The Phase II Community Survey conducted in November-December 2021, included several questions focused on energy and sustainability.

Survey respondents were asked: **What is your familiarity with Wrentham's 2018 Community Resilience Building workshop and plan?**

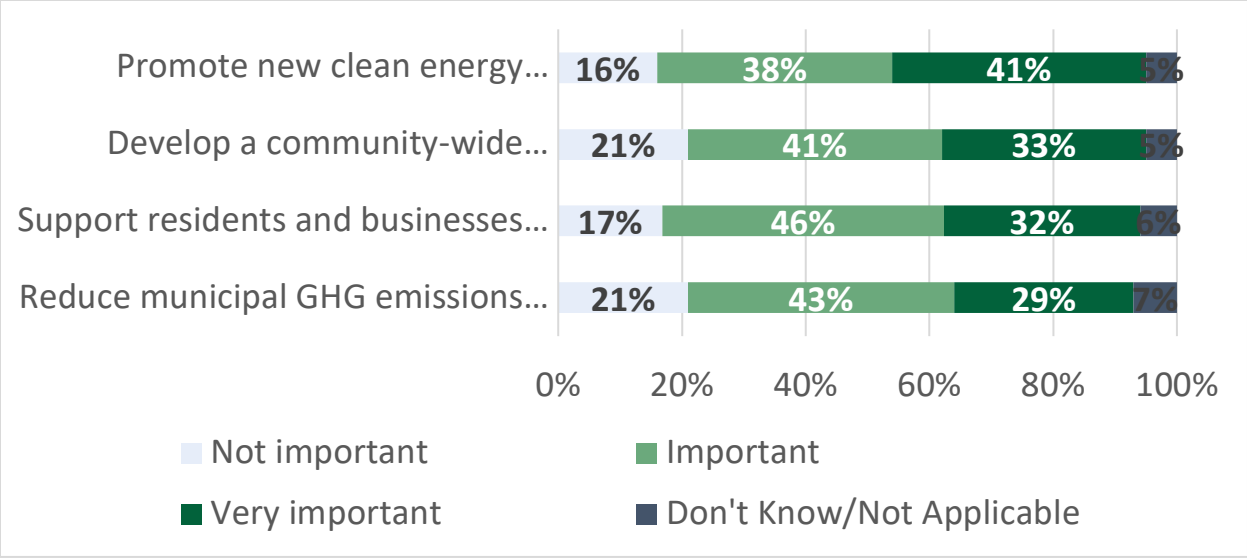
[12] https://experience.arcgis.com/experience/38c0d67ba7f1471696f385aa0a9c1b88/
[13] https://www.crwa.org/watershed-model.html



Survey respondents were asked: **Rank your concern about the following local climate impacts.**



Survey respondents were asked: **How important are the following energy and sustainability goals?**


Promote new clean energy...
16%
38%
41%
5%
Develop a community-wide...
21%
41%
33%
5%
Support residents and businesses...
17%
46%
32%
6%
Reduce municipal GHG emissions...
21%
43%
29%
7%
0%
20%
40%
60%
80%
100%
Not important
Important
Very important
Don't Know/Not Applicable