

CAC Meeting Info Packet

6/29/23

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Assessing the Vulnerability to Climate Change

Truro Climate Action Committee
Meeting Minutes
June 22, 2023
10-12:30p

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Present: Carol Harris, Lili Flanders, Georgia Neill, Rebecca Bruyn

Minutes from May 24, 2023 and June 15th – Reviewed, changes made. Lili moved to approve both. Carol seconded it, all approved.

June’s Educational session on “What it means to be a Green Community” – 8 attended, good conversations, very involved, asking questions, small individual actions were discussed such as composting and discussion re community actions; for example; who is town investing with, reusing housing, addressing issues of mental health, etc. Is there signage that states that town is a Green Community? Could we create something? Carol to follow up with EC/Jarrold re the MA Green Community sign that had been posted on Route 6 and is now missing. Could we recommend that it be added to letterhead? More to come.

Whole Government Approach – Update; Discussion re the last version. Carol will respond to Brian Boyle/Energy Committee.

Climate Action Plan- Discussed creating the document in two phases. The first is the Assessment of Vulnerabilities and the second is Actions to Take based on the outcome of the assessment or first phase. Much was accomplished in further developing the draft. Will meet one more time to finalize and then send to SB.

2023/24 CAC Goals – Reviewed and revised list. Will prioritize and add key performance indicators. Will meet one more time to finalize and then send to SB

Next meeting – June 29th

Respectfully submitted,

Rebecca Bruyn

Truro Climate Action Committee

2023/24 Goals: DRAFT

Goal	Key Performance Indicator <i>(what constitutes success/completion)</i>	Lead	Priority
1. Complete Phase 1 Climate Action Plan for Truro.	<ul style="list-style-type: none"> Reviewed by Select Board Resources assigned by Select Board 	Carol	
2. Outreach: continue to develop climate info sessions at the Truro Public Library that inform residents and schools.	<ul style="list-style-type: none"> Topics identified Sessions scheduled and delivered 		
3. Rewrite/update the charge for the Climate Action Committee (incorporate climate equity and pollution vs climate change).	<ul style="list-style-type: none"> Rough draft submitted to Select Board 	Carol	
4. Provide updates to Select Board about climate actions twice a year.	<ul style="list-style-type: none"> One in June and one in December 	Carol	
5. Continue to write Articles for Truro Talks.	<ul style="list-style-type: none"> Approximately eight or nine per year 		
6. Create a Truro Earth Day event for 2024	<ul style="list-style-type: none"> Set goal(s) and benefits Identify components/content Identify resources Determine feasibility 		
7. Research and recommend new plantings around existing town buildings to help reduce energy use and capture carbon.	<ul style="list-style-type: none"> Identify best species for shading and carbon capture Identify costs Identify resources required to plant and maintain Identify benefits Determine feasibility 		
8. Design and develop model for residents' groups who meet regularly to identify what can be done by individuals.	<ul style="list-style-type: none"> Identify goal(s) and benefits Plan structure Identify on-going support requirements Determine feasibility 		
9. Identify a few measures to monitor, such as residential	<ul style="list-style-type: none"> Identify goal/purpose/benefits 	Rebecca	

Assessing the Vulnerability to Climate Change

Goal	Key Performance Indicator <i>(what constitutes success/completion)</i>	Lead	Priority
energy audits, solar installations, the number of registered EVs per year, etc., as a way to measure climate responses in Truro.	<ul style="list-style-type: none"> • Identify specific data • Identify resources for data • Get commitment from data sources to provide on a <i><what period></i> basis 		
10. Research green burials to determine if this can be implemented in Truro.	<ul style="list-style-type: none"> • Research requirements • Identify benefits • Determine feasibility 	Carol	
11. Address Phase 1 Climate Action Plan Feasibility Assessments.	<ul style="list-style-type: none"> • Feasibility of carpooling/ride sharing • Assess EV infrastructure • Assess public property for planting trees for shading/cooling • Identify affordable renewable energy sources 		

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TRURO CLIMATE ACTION PLAN
PHASE 1: ASSESSING VULNERABILITIES

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Prepared by the Truro Climate Action Committee

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INTRODUCTION

What is Climate Change

In Truro, climate change means poorer air and water quality, warmer air and water temperatures, sea level rise, loss of natural habitat and animals, drought, flooding, wildfire risk, and impacts on health and the local economy.

What Causes Climate Change

Greenhouse gas emissions are the greatest source of climate change and global warming and come from the combustion of fossil fuels (oil, coal, and natural gas) that we use for heating, electricity, manufacturing, and travel. Carbon dioxide accounts for approximately 82% of all greenhouse gases, while methane, nitrous oxide, and fluorinated gases make up the rest. Greenhouse gas emissions stay in the Earth's atmosphere. As the sun heats the Earth, some of that heat is absorbed and some is released back into the atmosphere.

Climate change occurs because greenhouse gases -- particularly carbon dioxide -- absorb and radiate heat causing the Earth to warm up. Per the National Oceanic and Atmospheric Administration (NOAA), emissions have increased by 41 percent from 1990 to 2017.

Impact

As the greenhouse gases trap heat, the atmosphere and oceans warm up. Warming causes more evaporation and precipitation, but not evenly. Some areas of the Earth face flooding, while others face drought. Storms may become more frequent and more intense. As average temperatures increase, glaciers and ice packs melt. This, in turn, causes sea level to rise.

Greenhouse gas emissions and the resulting warming temperatures impact all of us. For example:

Impact, continued

- Heat waves, heavy downpours, and stronger storms compromise buildings, roads, agriculture, fisheries, and ecosystems.
 - Sea level rise erodes our coastlines, an important source of income for Cape Cod.
 - Hotter temperatures and air and water pollution affect our health and the health of plants and animals living in the land and ocean.
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Effects on Truro

- Risk to human health and safety
 - Risk to health of local flora and fauna
 - Loss of native fish and shellfish
 - Damage to infrastructure: roads, power lines, communications, etc.
 - Damage to farms and crops

 - Property damage/loss of property
 - Loss of beaches and beach parking
 - Risk to local flora and fauna health
 - Increased risk of fires
 - Risk to fresh water supply
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Needs updating

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Assessing the Impact of Climate Change

An assessment of Truro's vulnerabilities must be conducted in order to create a Climate Action Plan for Truro.

Goals for Assessing

- Assess where Truro is vulnerable (at risk) due to climate change,
 - Prioritize the vulnerabilities for action, and
 - Develop plans that address those vulnerabilities
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Adaptation & Mitigation

In general, there are two ways to address vulnerabilities: adaptation and mitigation. *Adaptation* means adjusting to the impacts of climate change: for example, moving a shorefront home back from beaches and dunes that are eroding. *Mitigation* means preventing or reducing the impacts of climate change, such as eliminating the use of fossil fuels.

Who Does the Assessment?

◀ Addressing the effects of climate change in Truro requires a collaborative effort between Truro's municipal staff, elected officials, and boards and committees,

Goals Alignment

Effective climate leadership requires the integration of climate change mitigation and adaptation into daily operations, decision-making, and planning for our municipality. This means the Select Board must be committed to taking the lead on implementation of this approach and the integration of climate change mitigation and adaptation throughout all Town Departments, boards, and committees. This aligns with the Select Board's:

Values: Openness and Transparency, Collaboration, Sustainability

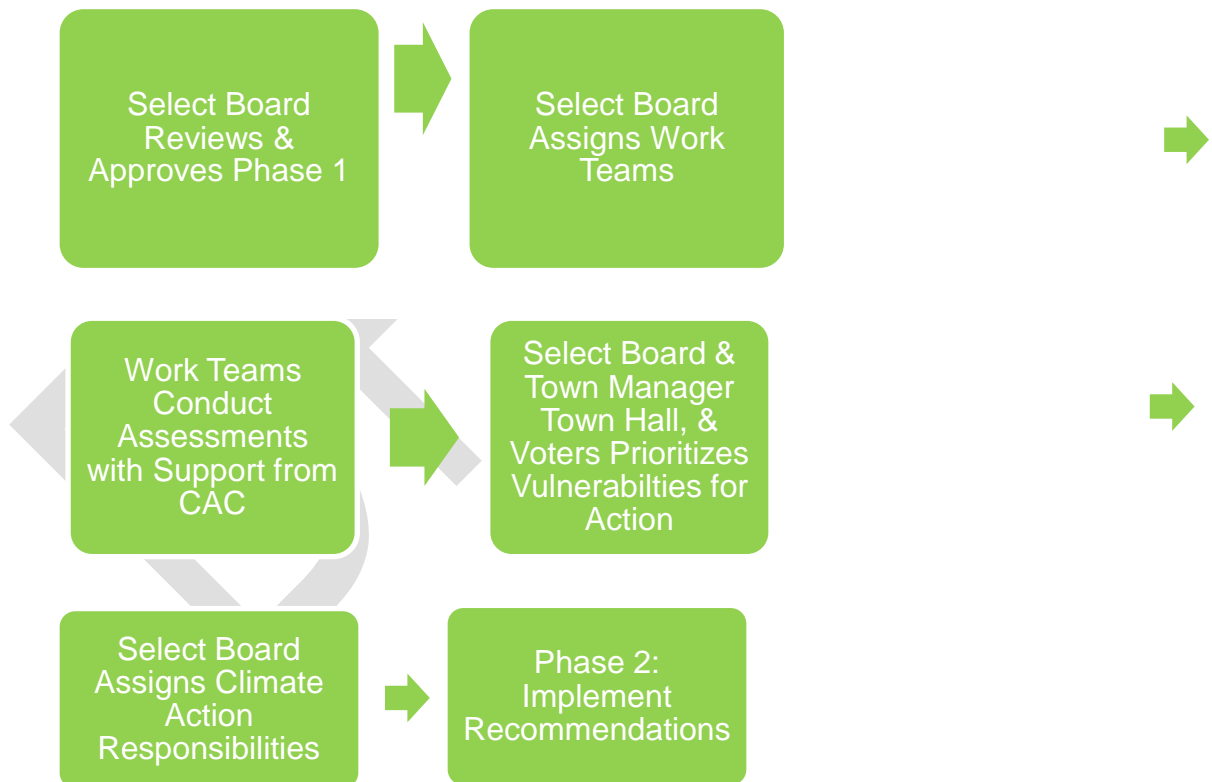
Assessing the Vulnerability to Climate Change

Goals Alignment, continued

Goals: Use long term and strategic planning to guarantee the future health and well-being of our community.

Objective #10: The Select Board will provide support to and collaborate with the Climate Action Committee and the Energy Committee on the goals of creating a Climate Action Plan for the Town of Truro, and researching the hiring of a Climate Action Agent, as well as to work with the Climate Action Committee to develop a policy memorandum that facilitates and guides progress in all relevant areas toward a “Net Zero Truro” by 2050 and will ask for updates at least twice per year.

Work Process




Carol: fix formatting

Note that some/much of the information required to make vulnerability assessments may already be available.

Output

The final output of each work team is the recommendation and the plan captured in the form below.

	Climate Assessment/ Recommended Action
Goal:	
Assigned to:	
Methodology (how to achieve the goal):	
Resources Required (people and data):	
Benefits to Truro:	
Cost of Doing Nothing:	

Fix Form

Add a sample form

Add to form: 'measurement of success'

Assessing the Vulnerability to Climate Change

Goal #1: Assess Building Emissions

Based on the CAC's greenhouse gas emissions assessment for Truro, emissions are largely generated from the use of fossil fuels. Fossil fuels in buildings – gasoline, propane, and oil – are used to heat buildings, heat water, and cook. Migrating to electric heating and cooking as well as reducing heat and cooling loss from buildings help reduce emissions.

Tasks:	Assigned to:
1. Conduct energy assessments for all municipal buildings and vulnerable buildings.	EC
2. Estimate costs to upgrade	EC

Goal #2: Assess Transportation Emissions

In Truro, most greenhouse gas emissions come from heating and cooking with fossil fuels and transportation (cars, trucks, and buses).

Tasks:	Assigned to:
1. Improve broadband access to reduce travel	Cable & Internet
2. Assess feasibility of carpooling and ride sharing	CAC
3. Assess expanding bicycle and pedestrian paths	Bikes & Walkways
4. Assess EV infrastructure	CAC
5. Assess long-term plan to electrify municipal vehicles	DPW

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Goal #3: Assess Waste Emissions

The EPA estimates food waste is the single most common material in landfills and incinerated in the U.S. Food contributes to 24% of landfill waste and 22% of combusted municipal solid waste.

Solid waste contributes to greenhouse gases through the emission of nitrous oxide from solid waste combustion facilities.

Tasks:	Assigned to:
1. Research feasibility of reducing waste disposal	DPW
2. Research feasibility of building materials reuse/recycle	DPW

Goal #4: Assess Resilience of Infrastructure

Sea level rise, flooding, and increasing temperatures and severe weather threaten the stability of homes, commercial buildings, municipal buildings, roads, electric service, and cable services.

Tasks:	Assigned to:
1. Assess vulnerabilities in utility infrastructure	DPW
2. Conduct vulnerability assessments of municipal facilities	DPW
3. Assess vulnerabilities to low-lying roads	DPW
4. Assess best practices to protect the aquifer	Health

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Goal #5: Assess Ecosystems Vulnerability

Protecting watersheds keep the aquifer safe. Preserving the natural ecosystem whenever feasible will help reduce greenhouse gases by sequestering carbon, protect habitat for wildlife, shellfish, and fin fish, and provide a healthier environment for Truro's residents and visitors.

Tasks:	Assigned to:
<ol style="list-style-type: none">1. Identify shade-starved areas and assess strategic planting of trees to provide building shading and cooling2. Research potential reforestation of disturbed areas3. Research protecting the aquifer4. Research protecting salt marshes	CAC

Goal #6: Assess Production of Clean, Local Energy

Producing green energy locally will reduce the production of greenhouse gases and may protect Truro from sustained power outages.

Actions:	Assigned to:
<ol style="list-style-type: none">1. Assess future energy needs for Truro2. Identify affordable renewable energy sources, including mini grids and battery storage, and assess feasibility	EC/DPW EC/CAC

Goal #7: Assess Human Health & Safety

Hotter summers are a risk to elderly, infants, those with health issues, low-income families, outdoor workers, and indoor workers without air cooling. Deaths result from heat stroke and related conditions, but also from

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Goal #7: Assess Human Health & Safety, continued

cardiovascular disease, respiratory disease, and cerebrovascular disease. Heat waves are also associated with increased hospital admissions for cardiovascular, kidney, and respiratory disorders.

More violent storms, such as northeasters and hurricanes, put human health and safety at risk via loss of heat/cooling, access to potable water, access to health care, and damage to homes. Mental health is also at risk due to threats to physical health and safety. These risks increase with prolonged power outages.

Tasks:	Assigned to:
<ol style="list-style-type: none">1. Assess viability of heating and cooling shelters in the event of an extended power loss2. Assess viability of cooling centers during extended hot temperatures3. Identify existing resources for physical and mental health	Fire/Rescue/Police Health Dept.

Goal #8: Assess Economic Viability of Truro

Assess the potential loss of income to the municipality and to businesses due to climate change. This may include, but is not limited to:

- Loss of tax revenue: property & businesses
- Loss of beach parking
- Loss of tourist revenue
- Loss of successful farming
- Loss of aquaculture/fishing/shellfishing

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Goal #8: Assess Economic Viability of Truro, continued

Tasks:	Assigned to:
1. Assess potential loss of tax revenues due to residential and commercial property loss (flood plain map)	Finance Committee Beach & Rec Dept
2. Assess potential loss of revenues due to loss of beaches and beach parking	
3. Assess potential loss of revenues due to loss of shell and fin fishing (licenses, launch and mooring fees)	Pamet Harbor Commission Shellfish Committee
4. Assess the potential impact of climate change on local businesses and tourism	Finance Committee

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Next Steps

After the eight assessment goals have been completed, the next steps are:

1. Determine the priority for addressing Truro's vulnerabilities by obtaining input from the Select Board, municipal managers, and/or residents. This can be done through voting, holding input/discussion sessions, and/or survey.
 2. Assign the top vulnerabilities to the appropriate town departments and/or committees.
 3. Departments and committees, with the help of the CAC, develop specific plans to address priority vulnerabilities.
 4. Select Board reviews and approves plans. These plans become Phase 2 of Truro's Climate Action Plan.
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APPENDIX: What Has Truro Already Done?

Municipal Actions

- 2004 Truro forms the Energy Committee
- 2009-2020 Energy consumption for municipal buildings/vehicles reduced by 28%
- 2010 6.8 kw Solar PV array installed on Central Elementary School
- 2011 Truro is awarded *Green Community* designation and adopts MA *Stretch Energy Code*

- 2013 Municipal buildings excluding Truro Central School converted to LED lighting

- 2015 Truro institutes ban on use of plastic bags in town stores
- 2017 Truro invests in a solar farm in Canton that supplies 100% of municipal electricity
- 2018 Truro adopts a zoning bylaw limiting house size

- 2018 Truro Central School converts to LED lighting
- 2019 Composting becomes available to residents at the Transfer Station
- 2019 Truro forms the Climate Action Committee
- 2021 A town-wide greenhouse gas inventory is completed

- 2021 EV Charging station is installed at Town Hall
- 2023 Truro adopts Specialized Energy Code at the Annual Town Meeting

Residential & Business Actions

- 2018-2020 Participates in *Solarize Outer Cape* program for residential rooftop solar
- 2021 To date, 14 electric cars are registered with the town of Truro
- 2021 Climate Action Committee meets with Truro Residents for feedback?
- 2022 Climate Action Committee works with Cape Light Compact to sign up 17 Truro businesses for an energy audit

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