

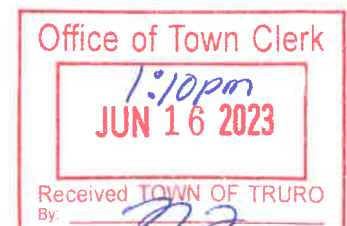
# Truro Climate Action Committee Meeting Agenda

**When:** Thursday, June 22, 2023, 10:00 AM to Noon

**Location:** Cobb Room, Truro Public Library

**Invitees:** Carol Harris, Emily Beebe, Georgia Neill, Lili Flanders, Rebecca Bruyn,  
Stephanie Rein

1. Assign notetaker for this meeting
2. Public Comment
3. Review and approve meeting minutes
4. Update on Green Community Session
5. Determine next steps for WGA and EC input
6. Finalize 2023/24 CAC goals
7. Finalize Climate Action Plan
8. Set date for next meeting (September? October?)
9. Adjourn



# **CAC Info Packet**

**6/22/23**

Truro Climate Action Committee  
Meeting Minutes  
May 24, 2023  
10a-12p

DRAFT

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

No public attended/No public comment

**Minutes from April 19<sup>th</sup>:** 1<sup>st</sup> moved by Carol, 2<sup>nd</sup> by Rebecca, Approved by all.

**Truro Talk articles;**

- July on Solar co-written by CLC and Carol Harris, all approved
- July topic; an outcome summary of June's educational session
- August topic; a summary of the children's session "visual messages from Truro children"
- September-none
- October-none

**Library Educational Sessions:**

- Continued discussion and revisions made to ppt for the June presentation
- Lili is working with Maggie on the summer educational children's session on July 29<sup>th</sup> from 10:30-12, which will be our last session for the summer/
- Next session to be in early October, topic to be determined.

**Review 2022/23 CAC Goals;**

Discussion on how best to update/summarize goals; met vs not met vs ongoing.  
After reviewing all 12 goals and changes made, it was decided to end the meeting due to time.  
All agreed to review the changes at next meeting and solidify our 2023/2024 goals.  
More to come.

Unable to finish all topics on the agenda.  
Will reconvene June 15<sup>th</sup>

Respectfully submitted by

Rebecca Bruyn

[REDACTED]

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**From:** carol\_harris <[REDACTED]>  
**Sent:** Friday, June 16, 2023 11:26 AM  
**To:** Richard Pask  
**Subject:** CAROL: FW: WGA  
**Attachments:** WGA Implementation Plan-Jan 18 from CH\_EC.docx

----- Original message -----

**From:** Brian Boyle [REDACTED]  
**Date:** 6/13/23 12:23 AM (GMT-05:00)  
**To:** Carol Harris [REDACTED]  
**Subject:** WGA

Hi Carol,

The Energy Committee has reviewed the WGA information from CAC and we think this is a great start. Attached, is a version with some edits and below are some additional suggestions for your consideration.

- There are three components to the WGA: 1. Governance, 2. Education, 3. Resilience. The Education and Resilience components should also be included in this implementation plan.
- Consider adding a new section to indicate the steps necessary after the training to enact the climate strategies. Ex. approvals, enforcement, etc. Or, incorporate the identification of next steps into the training section.
- The trainings section in the attached document structures the trainings as working groups on an individual department/committee/board/commission basis to allow for collaboration from the members in establishing opportunities, solutions, and timeframes for implementation. If this approach isn't possible, instead add a step that specifies who and how each department/committee/board/commission will develop a strategy to meet the WGA.
- Provide estimated costs for each item in the Costs section to give the Town a general idea of the costs to better enable them to approve the proposed plan. Also consider an alternative to printing of materials, if possible. Reducing the amount of printing could be an activity under the WGA and we could lead by example.
- Consider eliminating or reducing the Appendix section by integrating the responses to these questions directly into the implementation plan to ensure a cohesive plan that addresses all raised concerns.
- Question 2 in the Appendix: Is this referring to training costs or costs associated with department/committee/board/commissions following the WGA?
- Question 3 in the Appendix: The WGA policy directly calls out involvement from educators, parents, students, the School Board, and the State, so this implementation plan should incorporate their involvement and be put in front of the School board and/or committee for review.

If you have any questions feel free to contact me on it. And let me know if we can help support this in any other way. Thanks for the efforts of the CAC in this regard.

Brian

# Whole Government Approach

## Implementation Plan

Developed by Climate Action Committee & Energy Committee

6/12/2023

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**Goal** The goal of the Whole Government Approach (WGA) is to ensure Truro's town departments, committees, boards, and commissions lead by example in considering climate-friendly options in all operations, decision-making, and planning activities.

Some climate-friendly examples are:

- Minimizing non-recyclable and plastic materials in the purchasing process,
  - Selecting hybrid or electric vehicles whenever feasible,
  - Ensuring septic systems are installed outside of the floodplain and estimated sea level rise.
- 

**WGA & CAP** The WGA is a policy requiring town staff, boards, committees, and commissions to integrate climate change adaptation and mitigation into daily operation, decision-making, and planning.

The Climate Action Plan (CAP) is a customized assessment of Truro's risks as a result of climate change and identifies specific adaptation and mitigation plans to address Truro's climate change threats.

The WGAP will ensure that the town staff and volunteers incorporate feasible climate change adaptation and mitigation actions that align with and accomplish the Climate Action Plan goals.

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**Audience** The intended audience for the WGA includes Town Hall department heads, other town staff as identified by Town Manager and department heads, and committee, board, and commission chairs.

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**Training**

The CAC, with support from the EC, will develop and deliver training OR will work with a consultant to develop or deliver training that will inform and empower the Audience to execute to the WGA.

The recommended training process includes:

1. Survey the WGA Audience to identify information gaps and their interests relating to:
  - a. climate change,
  - b. climate change risks for Truro,
  - c. climate-friendly actions,
  - d. CAP adaptation and mitigation plans, and
  - e. Green Community designation benefits and requirements.

The survey will include a primer that describes/defines climate change, adaptation, mitigation and the potential impact on Truro.

2. Develop a training that:
    - a. addresses the survey results,
    - b. collaborates with the Audience to identify daily and long-term opportunities when their department/committee/board/commission can integrate climate-friendly choices,
    - c. collaborates with the Audience to identify areas where municipal activities may be in conflict with the goals of the CAP, and
    - d. collaborates with the Audience to establish an operations and planning climate strategy with goals, target metrics, performance evaluation criteria, budget, & feasible implementation schedule for each department/committee/board/commission.
  3. Select Board liaison, Town Manager, DPW Director, and Health/Conservation Agent review and approve the training syllabus.
  4. Provide a training session for each individual department/committee/board/commission to develop specific implementation plans for each group.
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**Cost**

Anticipated costs include:

- the survey mechanism (estimated \$),
  - printing the training materials (estimated \$), and
  - possibly, the cost of a consultant (estimated \$).
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## Appendix: Questions about Implementation

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1. Who is going to facilitate or consult with the Town to identify the stated metrics [in the WGA] and develop these training and evaluations for the Town?

*The CAC will lead the effort and can develop and deliver training unless the Town prefers and can fund a consultant to perform these tasks.*

2. What is the cost of these new requirements? How are we going to pay for it?

*The costs, if any, will be identified as part of the training. If expenses are identified, then they would need to be approved by the Town entity.*

3. The Select Board does not dictate policy for the School Committee, so this policy cannot include requirements for the School Committee and TCS. Unless the intent is to have this be a combined document for approval by both bodies. Which means the Select Board and School Committee should be reviewing at the same time.

*The CAC is working with the School Committee to identify ways in which we can work together. The WGA and associated training can be addressed separately with them.*

4. Who is going to facilitate or consult with the Town to prepare businesses for climate change, education, and preparedness planning? Who is going to pay for that cost?

*The CAC is working with businesses separately on specific items. For example: the CAC has developed materials and met with several businesses about installing EV chargers; the CAC and EC have worked with Cape Light Compact to focus on electrification of buildings; and the EC has and is planning to educate businesses on the new MA building codes.*



## Appendix: Questions about Implementation

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5. Who is going to facilitate or consult with the Town to review the climate action plan to identify conflicts with municipal activities that may conflict with the goals of the plan? What if those operational activities can't be changed immediately or short-term without significantly impacting services to our community members? If it increases the cost of those services (which it likely will in the short term), how will that be communicated to the Community? Will these committees develop warrant articles and present them at Town meeting to pay for these cost increases?

*The Climate Action Plan is a separate project that will look at risks and recommend mitigation or adaptation plans. See section "WGA & CAP" on page 1 of this document.*

6. I note that the policy identifies committee and boards, but it doesn't place any requirements on committees from a regulatory or advisory capacity. Why not? Shouldn't all 35 committee charges be reviewed and changed to meet this requirement if approved?

*Commissions have been included.*

7. Will these requirements be phased out over time? What is the timeline for implementation for each of these requirements?

*Actions will be identified as part of the training. Each organization will need to determine **feasible** timing and review with Town management, as appropriate.*

8. What staff increases will be necessitated from implementing this whole government approach to be able to do the new work required of this whole government approach and plan?

*Staff increases are not anticipated.*

# Truro Climate Action Committee

## 2023/24 Goals: DRAFT

<b>Goal</b>	<b>Key Performance Indicator</b> (what constitutes success)
1. Complete Phase 1 Climate Action Plan for Truro	
2. Outreach: develop info sessions at the Truro Public Library that inform residents, schools, and businesses about responding to climate change	
3. Rewrite/update the charge for the Climate Action Committee (incorporate climate equity and pollution vs climate change)	
<i>4. Recommend and implement a Whole Government Approach TBD</i>	
5. Provide updates to Select Board and Municipal Managers about climate actions twice a year	
6. Write Articles for Truro Talks	
7. Create a Truro Earth Day event for 2024	
8. Research and recommend new plantings around existing town buildings to help reduce energy use and capture carbon.	
<i>9. Build groups of residents to meet regularly on what can be done by individuals, maybe this can be developed in response to June's event? TBD</i>	
10. Identify a few measures to monitor such as residential energy audits, solar installations, if possible, the number of registered EVs per year, is there a way to measure heat pump installations, etc.	
11. Research green burials to determine if this can be implemented in Truro	

# **TRURO CLIMATE ACTION PLAN**

## **BECOMING RESILIENT: PART 1 ASSESSING VULNERABILITIES**

*Needs a photo*

**Prepare by the Truro Climate Action Committee**

## FORWARD

### What is Climate Change

The international climatology community has presented definitive evidence that the earth has experienced 30+ years of an increase in the average land and sea temperatures. A decade of change in the average temperature is accepted as the definition of climate change. Since the current change is an increase in the average temperature, it is accepted to be, by definition, global warming. In this context, the scientific community sees climate change and global warming as synonymous. The numerous potential causes of climate change, whether warming or cooling, fit into two general categories: natural and human caused.

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 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

## Assessing the Vulnerability to Climate Change

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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:

- 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.

### Effects of Climate Change in Truro

#### *Increasing Land & Water Temperatures*

- Risk to human health
- 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

#### *More Violent Storms*

- Property damage
- Risk to human safety
- Risk to local flora and fauna
- Loss of beaches and beach parking (revenue)
- Damage to infrastructure: roads, power lines, communications, etc.
- Damage to farms and crops

#### *Drought*

- Risk to human health
- Risk to local flora and fauna health
- Damage to farms and crops
- Increased risk of fires
- Risk to fresh water supply

### *Sea Level Rise*

- Risk to property (loss of tax revenues)
- Risk to fresh water supply (intrusion of salt water)
- Risk to local flora and fauna habitat
- Damage farms and crops
- Risk to infrastructure: roads, power lines, etc.

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*Needs updating*

### Forward

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2. Goal #1: Reduce Building Emissions
3. Goal #2: Reduce Transportation Emissions
4. Goal #3: Reduce Waste Emissions
5. Goal #4: Resilient Buildings & Utilities
6. Goal #5: Protect, Preserve, & Restore Ecosystems
7. Goal #6: Assess Production of Local, Clean Energy
8. Goal #7: Ensure Human Health & Safety
9. Goal #8: Assess Economic Viability of Truro
10. Next Steps
11. Glossary of Climate Terms
12. Appendix: What has Truro Already Done?

## Assessing the Vulnerability to Climate Change

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### Assessing the Impact of Climate Change

In order to create a Climate Action Plan for Truro, an assessment of Truro's vulnerabilities must be conducted.

#### *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

in order to assure a viable future for Truro.

#### *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, boards and committees, residents, and business owners.

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

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



## Assessing the Vulnerability to Climate Change

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**Objectives:** #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*

The final output of each work team is the recommendation and 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'*

### Goal #1: Reduce Building Emissions

Greenhouse gas emissions in Truro 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.

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

## Assessing the Vulnerability to Climate Change

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### Goal #2: Reduce Transportation Emissions

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

<b>Actions:</b>	<b>Assigned to:</b>
<ol style="list-style-type: none"><li>1. Improve broadband access to reduce travel</li><li>2. Assess feasibility of carpooling and ride sharing</li><li>3. Assess expanding bicycle and pedestrian paths</li><li>4. Assess EV infrastructure</li><li>5. Assess long-term plan to electrify municipal vehicles</li></ol>	Cable & Internet CAC Bikes & Walkways CAC DPW

### Goal #3: Reduce 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 percent of landfill waste and 22 percent of combusted municipal solid waste.

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

<b>Actions:</b>	<b>Assigned to:</b>
<ol style="list-style-type: none"><li>1. Research feasibility of building materials reuse/recycle</li><li>2. Research feasibility of reducing waste disposal</li></ol>	DPW DPW

## Assessing the Vulnerability to Climate Change

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### Goal #4: Resilient Buildings and Utilities

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.

<b>Actions:</b>	<b>Assigned to:</b>
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

### Goal #5: Protect, Preserve, and Restore Ecosystems

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.

<b>Actions:</b>	<b>Assigned to:</b>
1. Maintain and increase parks and open spaces	??
2. Identify shade-starved areas and assess strategic planting of trees to provide building shading and cooling	
3. Assess reforestation of disturbed areas	

## Assessing the Vulnerability to Climate Change

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### 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.

<b>Actions:</b>	<b>Assigned to:</b>
<ol style="list-style-type: none"><li>1. Assess future energy needs for Truro</li><li>2. Identify affordable renewable energy sources, including mini grids and battery storage, and assess feasibility</li></ol>	EC EC/CAC CAC

### Goal #8: Assess Human Health and 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 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.

<b>Actions:</b>	<b>Assigned to:</b>
<ol style="list-style-type: none"><li>1. Assess heating and cooling shelters in the event of an extended power loss</li><li>2. Assess cooling centers during extended hot temperatures</li></ol>	Fire/Rescue/Police Health Dept.

## Assessing the Vulnerability to Climate Change

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### Goal #9: 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

<b>Actions:</b>	<b>Assigned to:</b>
1. Assess loss of tax revenues due to residential and commercial property loss (flood plain map)	Finance Committee
2. Assess loss of revenues due to loss of beaches	Beach & Rec Dept
3. Assess loss of revenues due to loss of shell and fin fishing (licenses, launch and mooring fees)	Harbor
4. Assess the impact of climate change on tourism	Finance Committee

### Next Steps

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

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

# Assessing the Vulnerability to Climate Change

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## **Glossary of Climate Terms**

*Carol: add definitions*

*Adaptation*

*Carbon Emissions*

*Carbon Sequestration*

*Greenhouse Gases*

*Flood Plain*

*Mitigation*

*Net Zero*

*Anything else?*

### APPENDIX: What Has Truro Already Done?

*Notes: 1) this needs to be updated 2) ask Emily and Jarrod for input 3) Fix formatting/spacing*

#### *Municipal Actions*

2004 Truro forms the Energy Committee

2009-2020 Energy consumption for municipal buildings/vehicles reduced by 28% (from *Mass Energy Insight*)

2010 26.8 kw Solar PV array installed on Central Elementary School

2011 Truro is awarded *Green Community* designation, adopts MA stretch Energy Code

2013 Municipal buildings excluding the school converted to LED lighting

2015 Truro institutes a ban on plastic bags

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 is available to residents at the Transfer Station

2019 Formation of Climate Action Committee (approved at Annual Town Meeting)

2021 The Climate Action Committee starts drafting a Community Climate Action Plan

2021 Truro completes a Town wide greenhouse gas inventory and presents to SB

2021 EV Charging stations installed at Town Hall

2021 Climate Action Committee supports Cape Light Compact's Main Streets program: 17 Truro businesses sign up for a business energy audit



## Assessing the Vulnerability to Climate Change

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**2022 & 2023**

**Ongoing:** Cape Light Compact provides rebates for efficient lighting, heat pumps, solar, and electric vehicles. All Municipal buildings have had insulation upgrades.

### ***Residential Actions***

**2018-2020** Participates in *Solarize Outer Cape* program for residential rooftop solar

**As of 2021** 14 electric cars are registered with the town of Truro  
Approximately 2.6 Megawatts generated by residential solar

## Assessing the Vulnerability to Climate Change

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### APPENDIX: Example of Development of a Climate Action

*Show a sample work plan and completed climate assessment/action form*