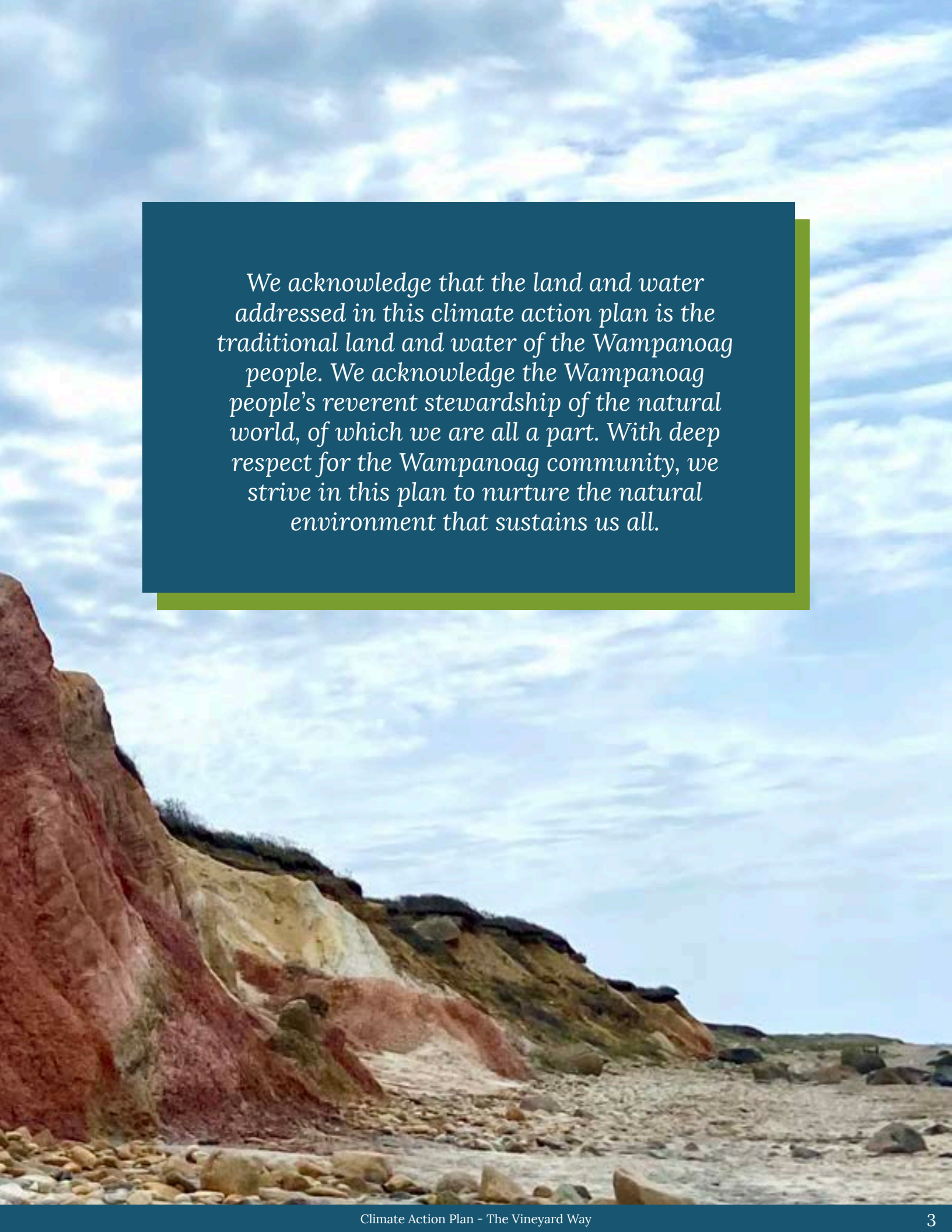




Climate Action Plan





We acknowledge that the land and water addressed in this climate action plan is the traditional land and water of the Wampanoag people. We acknowledge the Wampanoag people's reverent stewardship of the natural world, of which we are all a part. With deep respect for the Wampanoag community, we strive in this plan to nurture the natural environment that sustains us all.

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June 24, 2022

The Vineyard Way

Connected to Our Past, Committed to Our Future



To the Island Community:

This is the theme of the 2022 Martha's Vineyard Climate Action Plan. The Vineyard Way is a testament to the values of connectedness, commitment, and community.

Our very existence is tied to the land and water that surrounds us. Likewise, the climate change impacts we face are linked both to each other and to us. Humans are the main cause of the warming atmosphere, for example, which is causing the oceans to rise and erode the beaches that drive our local economy.

Learning lessons from the past, such as the Wampanoag people's reverence for the natural world, will help build a more resilient future. The actions proposed in this plan connect climate resilience to quality of life. Clean, renewable energy is good for our health. Preserving our salt marshes protects the marine food chain, pond water quality, and helps control coastal flooding. Climate change-related job training helps turn climate challenges into opportunities. A focus on equity enhances the common good.

As Island dwellers we are dependent on each other. Climate change does not abide town boundaries; we are all experiencing the same impacts. This plan was developed by your neighbors and friends. It will be implemented by a wide range of community organizations and the MVC, your regional planning agency that is committed to quality research and science-based decision-making.

The Island community came out in force for Climate Action Week in May 2022. Together we can build a strong, safe, and just foundation for the future. The Vineyard Way details the next chapter of a community rallying together to protect what makes life here special.

We are grateful to the MA Municipal Vulnerability Preparedness Program for funding our Climate Action Plan.

Sincerely,

Adam Turner
Executive Director



The Vineyard Way: Executive Summary

Climate change is the defining challenge of the 21st century. As an Island community our climate risks are heightened. At every edge we face more powerful storms, a rising sea, and the permanent loss of low-lying land. In addition, the Northeastern United States will see higher seas and hotter, wetter weather than the global average.

Greenhouse gasses emitted from the burning of fossil fuels are heating up the atmosphere. As a result, the natural world is under increasing stress - the land, water, plants, and animals that support human life. This stress affects us in every way, from the food we eat, the buildings we live in and the way we make our living, to our personal and collective health and well-being. It is all connected. Resilience is the ability to withstand and recover from adversity and a key to successful climate resilience is to understand and balance those connections.

The climate change challenge is twofold: eliminate the cause - the burning of fossil fuels - and adapt to the impacts.

In 2022 our six distinct towns, the Wampanoag Tribe, and community partners came together to write the story of a tight-knit community that rises to the climate challenge by developing a climate action plan, The Vineyard Way. To do so, we drew on our connections to nature and each other to consider climate-resilient actions for our homes, roads, beaches, education and workforce, energy, and food. We're navigating uncharted waters, but we're doing it together.

The planning team of more than 100 Island residents identified the following values to guide the planning process: healthy natural resources, equity and inclusion, community collaboration, resilience, and local action. Each of these values are things we want to strengthen and protect in the face of climate change.



thevineyardway.org





The plan focuses on six interrelated themes for regional coordination and action. Working groups explored climate impacts to their thematic area and developed 20-year goals, 10-year objectives, and immediate actions. They also designated action leaders, timelines, and measures of success. The six thematic areas are listed here with examples of the types of actions included in the plan:



Land Use, Natural Resources, and Biodiversity

Actions include discontinuing or managing development in vulnerable areas (e.g., flood zones); preservation of salt marshes for their many community values; setting maximum disturbance limits for new development and standards for the use of native plantings; and protecting coastal pond water quality and our drinking water through increased collaboration and enhanced regulations.



Transportation, Infrastructure, and Waste

Actions include planning for the protection or relocation of critical vulnerable roads that includes nature-based strategies, collaboration with the Steamship Authority to build resilient port infrastructure, assessing supply chain vulnerabilities, and reducing solid waste.



Public Health and Safety

Actions include bilingual community outreach to the public and health care providers on health-related climate impacts; development of an Island-wide emergency preparedness, response and recovery plan; and implementation of the regional Community Wildfire Protection Plan.



Economic Resilience

Actions for a resilient economic future include diversifying the economy, training residents for climate-related jobs, and ensuring the transition of vulnerable businesses (fossil fuel-related businesses and those in at-risk locations).



Food Security

Actions include developing standards for climate-friendly farming practices; ensuring that a consistent food supply will be in place for the food insecure and during emergencies; increasing access to lands for the Indigenous community; increased aquaculture production; and support for careers in commercial fishing.



Energy Transformation

Actions include increasing efficient electric home heating, the use of electric vehicles, and solar energy; microgrids and battery storage at critical facilities; advocacy for the transition of ferries to electric power; and collaboration with Eversource for sufficient electric grid capacity. Energy transition assistance for low-and-moderate income residents is a priority.

Strong community partnerships are built into this plan. It is a collaborative, Island-wide blueprint for climate change resilience. The Martha's Vineyard Commission (MVC) will oversee implementation of the plan, which is a public, website-based document that will be continuously updated as actions are accomplished. See the plan at: www.thevineyardway.org. The Town of Gosnold, which consists of the Elizabeth Islands, also developed a climate action plan as part of this grant project. We will look for areas of collaboration with them during implementation and have linked their plan to our website.

The title of this plan informs its content: The Vineyard Way, Connected to Our Past, Committed to Our Future. The plan builds on our community history and local knowledge and combines it with current science and technology to ensure a safe, equitable, sustainable Island future, Together.

BARRIERS

The scope of the plan focuses on the direct causes (i.e., greenhouse gasses) and impacts (e.g., flooding, heat, storm damage, etc.) of climate change. We recognize there are additional challenges the Island is facing that will create barriers to implementing some of the actions identified. While we do not address these barriers directly, we will partner with groups working on these issues where they intersect with our actions. Barriers include:

The Lack of Local Affordable Housing affects the economy, human health and well-being, and land use, all issues addressed in this plan. However, it is not caused by climate change, and given the current housing crisis it requires a much more focused effort to adequately address.

Project Permitting - The federal, state, and local permitting processes for climate change projects are expensive, time consuming, and complex. Changing permitting processes would take federal and state level actions and are therefore not addressed in this plan.

Development Pressure - Increased development will exacerbate climate impacts and hinder the adaptation measures needed to address them. However, moving forward, local decision-makers will have to consider how best to balance climate resilience and development.





Why Are We Planning for Climate Action?

Since the Industrial Revolution human activity is changing our climate through:

- Increased burning of fossil fuels that emit carbon dioxide (CO₂) for transportation (e.g., cars, boats, and planes), heating and cooling buildings, and electricity generation.
- Increased methane producing activities including factory farming, landfills, coal mining, oil and natural gas production, and wastewater treatment.

These gasses pollute the atmosphere and are known as “greenhouse gasses” due to their heat-trapping qualities that are causing the Earth to heat much faster than normal patterns. This greenhouse effect is exacerbated by the rapid destruction and loss of natural carbon sinks including wetlands, marshes, and forests, that when healthy can capture and store carbon and other greenhouse gasses.

Like most of the developed world, life on Martha’s Vineyard is almost entirely fossil fuel dependent. The cars we drive, the food we eat, the products we buy, the energy we consume, the houses we build, the items we ship, and the ways we travel to and from the Island all rely on fossil fuels.

The Island community is taking steps to reduce its reliance on fossil fuels. As of July 2021, all six towns on Martha’s Vineyard and the Martha’s Vineyard Commission adopted the following resolutions:

**Reduce fossil fuel use on the Island,
from a 2018 baseline**



50%
by 2030



100%
by 2040

**Increase the fraction of our
electricity use that is renewable**



50%
by 2030

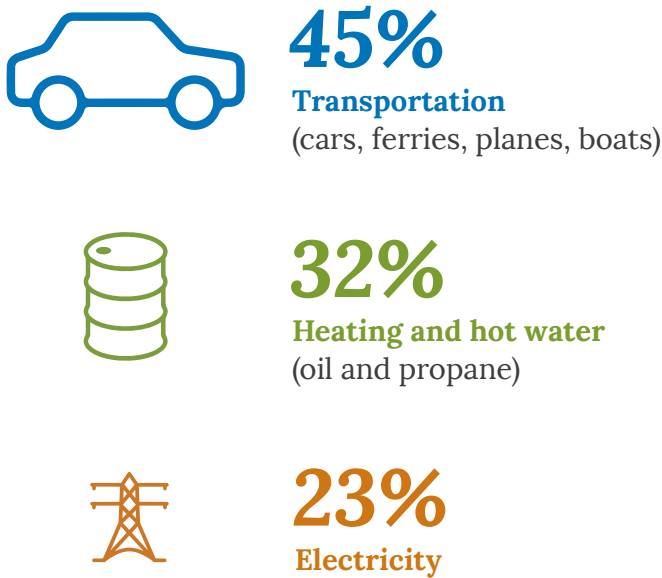


100%
by 2040

To measure progress towards these Island-wide goals, it was necessary to first understand our baseline energy use and emissions data for 2018. The MVC Climate Action Task Force (CATF) Energy Working Group completed this baseline assessment, identifying three major categories of “energy use” and “emissions”: transportation, building heating and hot water, and electricity.

Energy Use

Converting to a common unit of energy, the CATF estimates that the Island used approximately 945 GWh of energy across the three categories with the following breakdown:

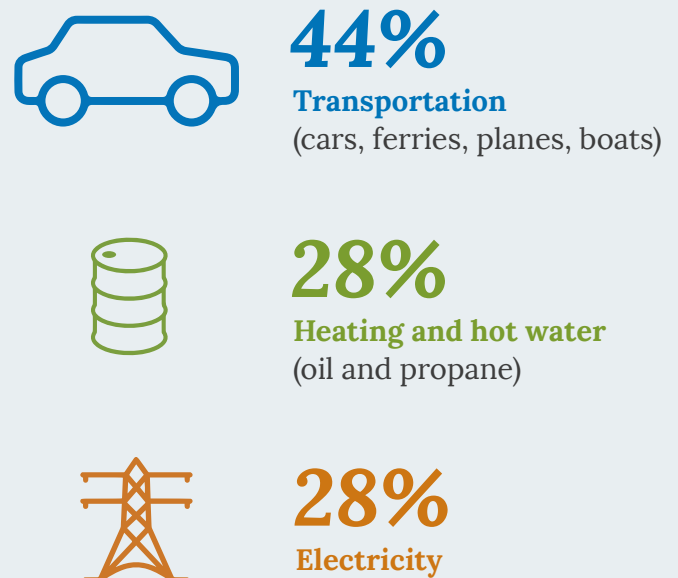


Heating Energy Use Breakdown

Buildings	Million gallons
Fuel Oil	2.49
Propane	7.88

Emissions

The CATF found that the Island emitted approximately 270,000 metric tons (606 million pounds) of CO2 in 2018, equivalent to the emissions of approximately 60,000 cars in one year. Emissions comprise the following figures:



Transportation Energy Use Breakdown

Transportation	Million gallons
Gasoline	7.23
Diesel	3.02
SSA Marine Diesel	1.46
MVY Jet Fuel	0.7
MVY Aviation Gas	0.09

Climate Change Hazards – conditions, projections, impacts

A warming earth and changing climate has varied critical impacts. Melting ice caps, sea level rise, increases in storm frequency and severity, droughts, wildfires, ocean acidification, soil depletion are only the initial impacts that we have begun to observe. More will surely manifest. Here are the projections:



Hazard	Local Projections	Impacts
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Rising Temperatures

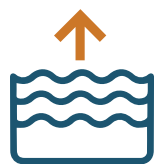
Greenhouse gasses (e.g. carbon dioxide and methane) trap heat in the atmosphere, causing global temperatures to rise.

Annual average temperatures on Martha’s Vineyard are projected to increase by 2.4–5.2°F by 2050, and 3.0–9.1°F by 2100.

Annually, we expect to see 2–10 more days with maximum temperatures over 90°F by mid-century, and 4–31 more days by 2100.

We expect 19–39 fewer days per year with minimum temperatures below 32°F by mid-century, and 23–63 fewer days by 2100.

- Higher demand on water resources
- Damage to crops and food plants; unpredictable growing seasons making global food supply less stable
- Increased vector-borne disease
- Heat stress, especially among elders
- Increased risk of wildfire
- Increased potential for invasive species



Sea-Level Rise

Sea levels are rising from the expansion of warmer waters and the melting of polar ice

Sea-level projections vary according to the source and timescale. Sea levels on the Vineyard have risen about 6” since 1970, and are expected to rise 0.6–1.8 feet by 2050; projections from the Woods Hole tide gauge show an increase of 1.5–6.5 feet by 2100 relative to mean sea level in 2000.

By 2050, it’s projected we will see 35–135 “sunny-day coastal flooding days” per year, as opposed to 2020, which expected to have no more than three to seven days.

- More frequent flooding and nuisance tides
- Increase in erosion of beaches and dunes when coupled with storm surge
- Damage to coastal property and infrastructure
- Potential for saltwater intrusion of coastal wells
- Flooding and loss of salt marshes

Hazard

Local Projections

Impacts



Rising Sea Surface Temperatures and Ocean Acidification

As temperatures and gasses increase, much of the heat and CO₂ is absorbed into the oceans, causing sea-surface temperatures to rise and oceans to become more acidic.

The average sea surface temperature in the Atlantic increased 0.74 °F between 1950 and 2009, and is expected to increase 1.8–5.4°F by 2100.

Downscaled models project faster rates of warming in the Northeast continental shelf ecosystem compared to the global average.

Ocean pH has decreased by approximately 0.1 units over 100 years and is expected to continue to become more acidic in the coming years.

- Declines in pond water quality
- Loss of habitat for key fisheries
- Changes in fish migration patterns
- Increased potential for invasive species
- Impacts to shellfish life cycles and growth rates
- Impacts to commercial and recreational fishing



Extreme Storm Events

All of these changes can create more extreme weather events, including hurricanes, tropical storms, and nor'easters.

Climate change is expected to result in more intense and frequent storm events on the Vineyard.

Future hurricanes that form in the North Atlantic will produce more rain and may have higher wind speeds.

Some evidence suggests that nor'easters are also increasing in both frequency and intensity.

- Increased erosion of beaches and dunes
- Increased coastal flooding from storm surge
- Increased stormwater runoff and inland flooding
- Damage to the natural and built environment, causing economic, health, and safety impacts
- More frequent or prolonged power outages



Changes in Precipitation

Rising temperatures and other shifting climate patterns will also change the amount, frequency, and timing of rainfall and snowfall.

Total precipitation projections for Martha's Vineyard show variability.

The winter season is expected to see anywhere from 4% less to 14% more precipitation by mid-century, and 1% less to 24% more by the end of the century.

Martha's Vineyard basin could see a slight decrease, or an increase, in consecutive dry days throughout this century.

Annual consecutive dry days during the summer season are expected to increase by up to 4 days by the end of the century.

- Inland flooding from storm runoff
- Increased pollutant runoff
- Increased dampness and mold, and associated health problems
- Increased drought and wildfire risk
- Warmer and wetter winters, potentially increasing risk of tick-borne disease

Precipitation, air temperature, sea-level rise projections, and storm data are sourced from the MA Statewide and Sub-basin Climate Change Projections Guidebook, with sea-level rise projections also based on information in the MA Climate Clearinghouse, the Oak Bluffs Climate Change Vulnerability Assessment and Adaptation Plan, and NOAA Technical Report NOS CO-OPS 092. Storm event data is based on information in the MA Climate Clearinghouse.

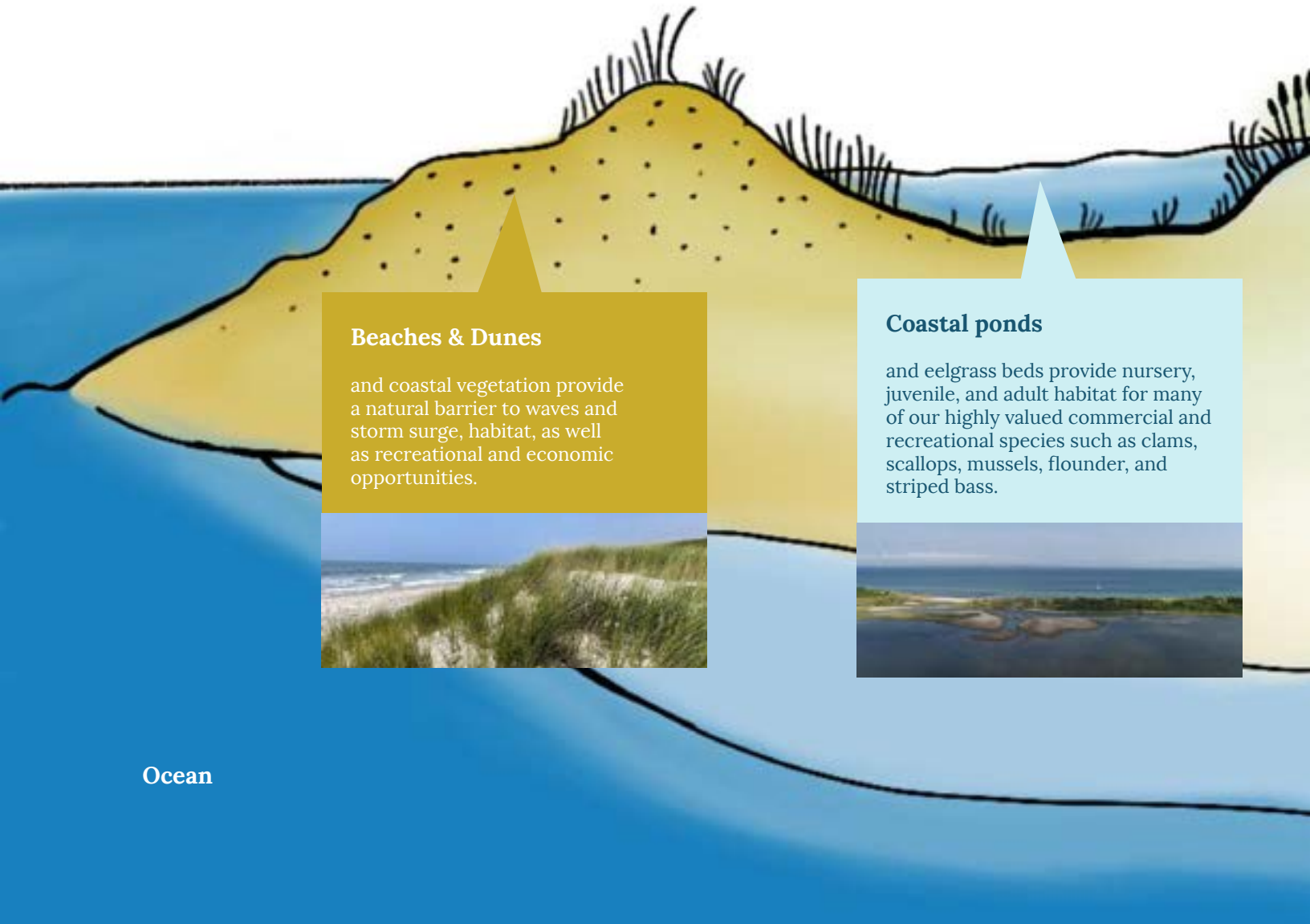
Climate Change and Our Environment

Climate change is threatening our environment and the benefits it provides. Ecosystems that are already degraded will be less resilient to the changes underway. Taking actions to protect and strengthen these ecosystems is therefore one of the best tools we have to create resilience in the face of climate change.

A healthy environment provides the foundation for our health, safety, economy, and quality of life. Some of nature's benefits are obvious, while others are not.

“As a Wampanoag woman, I ask that people recognize that these are our homelands and we as Wampanoag people are interconnected with this land. We cannot be separated from these lands and waters. What happens to these finite ecosystems affects my people, it affects all life that inhabits Noepe.”

Carole Vandal
- Tribal Elder & CAP Wampanoag Tribe
Community Liaison



Beaches & Dunes

and coastal vegetation provide a natural barrier to waves and storm surge, habitat, as well as recreational and economic opportunities.



Coastal ponds

and eelgrass beds provide nursery, juvenile, and adult habitat for many of our highly valued commercial and recreational species such as clams, scallops, mussels, flounder, and striped bass.



Ocean



Salt marshes

absorb water to prevent flooding, filter pollutants, provide habitat and food sources for an abundance of species, and trap carbon from the atmosphere.



Inland wetlands

absorb water to prevent flooding, filter out pollutants and clean water, provide habitat for an abundance of species, and trap carbon from the atmosphere.



Forests

provide shade, capture carbon, and clean the air and provide recreational opportunities. In combination with meadows, they reduce erosion of lands by trapping soil and they support habitat for an abundance of species including those that pollinate our food sources and species that are found only on the island.



Native meadows

filter rainwater, capture and absorb carbon, and provide habitat for pollinators and food for wildlife.

Aquifer

We have one major aquifer, an underground freshwater lens, that provides the Island with its drinking water.

Aquifer

Freshwater

Salt Water

Climate Change and Equity

While climate change affects everyone, some people are disproportionately impacted by climate hazards and may need additional support and resources to effectively prepare and respond to those hazards. For example, an older individual who lives alone may need additional assistance to evacuate their home during an extreme weather event. Preparing for climate change with an equity lens means providing people with various levels of support and assistance depending on their specific needs.

Equity

(noun)

Equity recognizes that each person has different circumstances and allocates the exact resources and opportunities needed to reach an equal outcome.

The thematic working groups sought to identify vulnerable populations and actions that ensure adequate information and resources are provided to help these groups prepare for and recover from climate change impacts and to help build the resilience of our entire community.

A variety of factors can influence vulnerability and those who identify with more than one of these factors are at greatest risk:

Marginalized Populations

- People who are living below the poverty line
- People with limited education or knowledge of English
- People of color

Individuals with existing health conditions

- People with health conditions such as heart disease, kidney disease, diabetes, and respiratory diseases or asthma
- People with physical disabilities including mobility challenges
- People using medical equipment that requires electrical power or medications that require refrigeration
- People with mental health challenges

Groups in susceptible life stages

- Young children
- Older adults, especially those living alone
- Pregnant women

Groups who are occupationally exposed to climate hazards

- People who work or exercise outdoors
- First responders

Groups living/working in vulnerable areas

- People living in areas at high risk of climate-related events such as flood zones, ocean surge zones and areas with little greenspace (e.g., “heat islands”)



Equity Considerations for Martha's Vineyard

65-74

Fastest growing age group in both the state and the county.¹

600

Number of low-income electricity ratepayers whose household income does not exceed 60% of the estimated state median income.

274

Number of structures located in the velocity zone, coastal areas subject to high-velocity wave action from storms.²

1,126

Number of structures that are located in the 100-year flood zone, which doesn't account for sea level rise.

4

Number of designated environmental justice populations based on minority, income, and language isolation status.³

Extreme heat is responsible for more weather-related deaths in the U.S. in the average year than any other hazard.

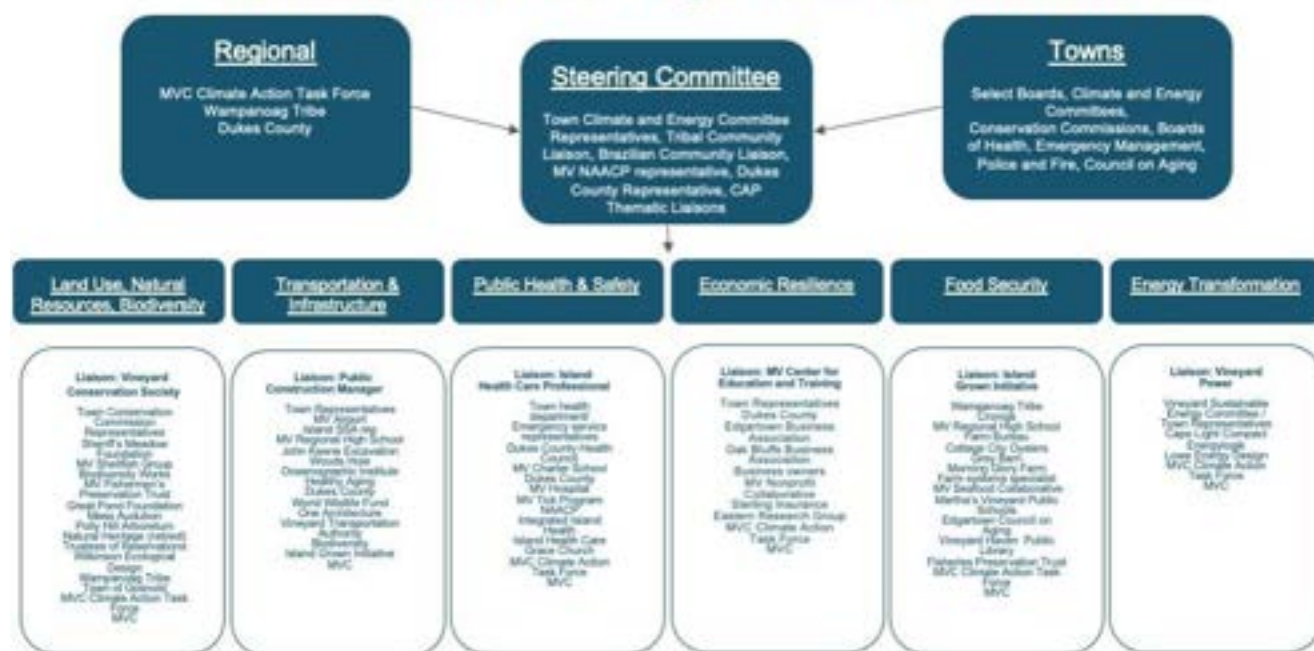
“Last July (2019), temperatures in the region hit the highest ever, which can be devastating to vulnerable populations like our elders. We’ve seen an enormous increase in pollen production, which has a direct impact on patients with cardiac and respiratory problems, including the increase incidence of acute asthma....**Climate change is truly a health care emergency.**”

- Denise Schepici, President, Martha's Vineyard Hospital

Community Engagement in Climate Action Planning - The Vineyard Way

Our plan was built from the ground up. The locally based approach to planning and outreach was aimed at strengthening social resilience by building on the capacity of our local leaders to organize, communicate, and facilitate the development of collaborative climate solutions. It also aimed to increase the number of climate advocates across all sectors of the community by coordinating and empowering a wide variety of organizations to participate in the process.

Climate Action Plan Organizational Structure



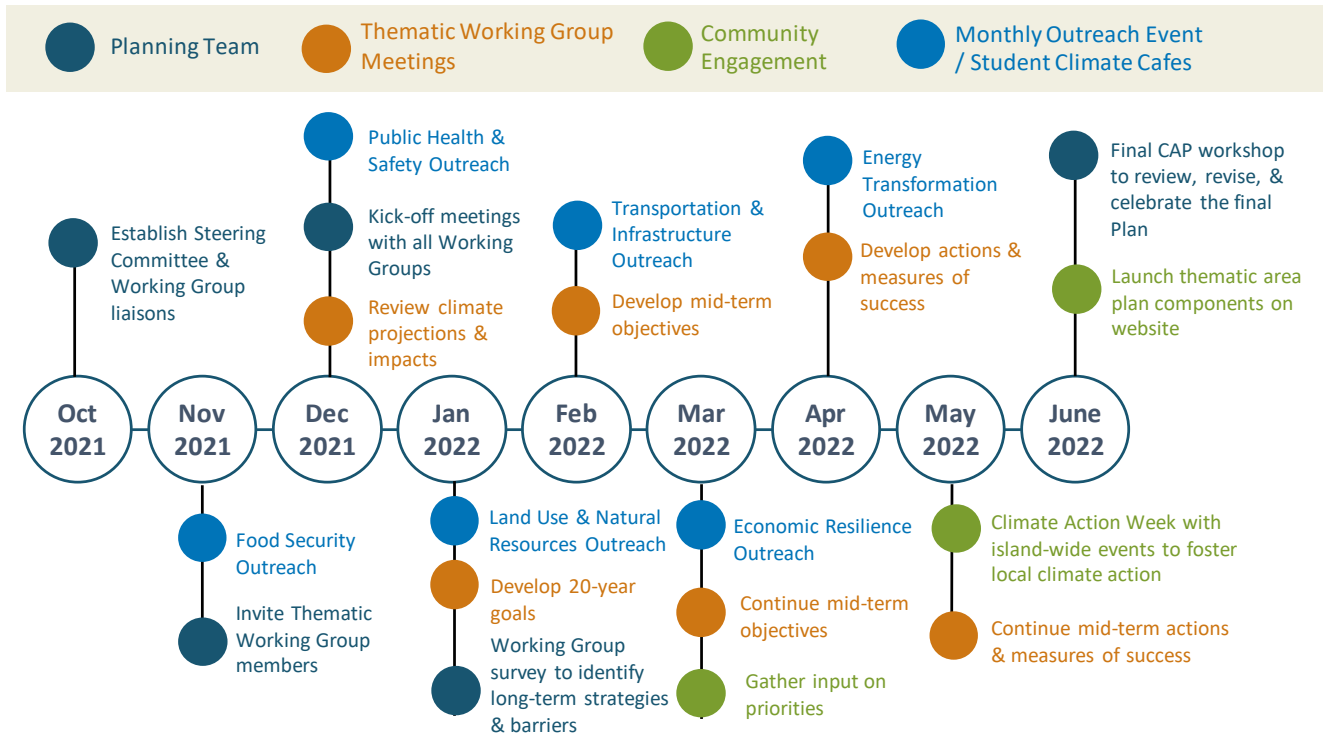
Roles

Steering Committee: Communicated and coordinated between the regional planning process and the group/town they represent. They also guided decision-making about the CAP process and outputs.

6 Thematic Working Group Liaisons: Guided the development of their groups and provided on-going coordination, communication, and expertise in their thematic area.

6 Thematic Working Groups: Reviewed local climate impacts and developed long term regional goals, objectives, priority actions, and measures of success. They also supported broader community engagement and input.

Timeline of Events/Activities



Survey Results

March - June 2022

An online public survey was shared broadly to understand our community’s knowledge, concerns, and ideas about how best to address climate change. The survey was shared through social media, local organizations, and at Climate Action Week. Input was sought from year-round and seasonal residents, as well as regular visitors. A total of 261 people responded (85% year round residents and 11% seasonal, 4% other).

8 on a scale from 0-10
(10 being extremely important)

Participants ranked an average of 8 on the importance of working together Island-wide to prepare for climate change impacts (as opposed to working town by town).

92%

agree that climate change is a very urgent issue for Martha’s Vineyard

92%

agree that our Island community should take action now to reduce our contributions to climate change

87%

agree that climate change will affect them or their family a great deal

93%

agree that our Island community should take action now to prepare for the impacts of climate change



A Community-Based Process

Pre-Planning Activities

- 20 listening sessions with 15 stakeholder groups
- 3 new town Climate Committees formed
- 6 meetings with Select Boards to introduce the planning process



Planning Meetings

40

thematic working group meetings were held and over 108 participants (including representatives from Towns, the Tribal Community, NGOs, businesses, and students) developed goals, objectives, and actions



General Communication & Outreach

- 25 stakeholder group presentations
- 40 Island newspaper stories and commentaries, magazine stories, and radio reports on climate change issues
- 19 monthly public events/ presentations (focused on thematic working group topics)



Youth Engagement

6 monthly student led climate cafes

10 school outreach events

64 students submitted art in the Vineyard Conservation Society climate change art contest



Planning Meetings

93

town government board/committee members attended 6 online workshops

Planning Meetings

13

participants attended an in-person tribal engagement event



Climate Action Week

7 days with over 40 organizations that hosted events

1400 participants attended events

90 climate action pledges signed

31 electric vehicles (EVs) in the first-ever EV Fleet



Timeline of Island-Wide Climate Change Initiatives

2003-2009

2003

Vineyard Energy Project founded - actions include installing a series of solar demonstration sites around the Island and workshops on energy efficient building

2009

Vineyard Power founded - a community non-profit that works to produce electricity from local, renewable sources

2011-2017

2011

Vineyard Gazette - 15-part series, Climate Change on Martha's Vineyard, by Liz Durkee

2017

Establishment of the Vineyard Sustainable Energy Committee (VSEC) - collaboration of all six Island town energy committees

2019

2019

MVC Climate Action Task Force established to address Island-wide climate change adaptation and mitigation

2019

Climate Action Plan Phase I - data collection, community listening sessions, climate adaptation booklets prepared for towns

2019

Island Climate Action Network formed to disseminate climate change information and quickly gained over 600 members

2019

First Island Youth Climate Summit - Mass Audubon, MVRHS Protect Your Environment Club, Charter School

2019

All towns have completed MVP Community Resilience Building workshops and reports with detailed recommendations and are eligible for MVP action grants



2020

2020

MV Center for Education and Training begins training for wind farm technicians and continues to expand a climate-job related workforce

2020

Climate change planner position established at MVC



2021

2021

Vineyard Wind – the nation’s first commercial scale offshore wind project – gets the green light in partnership with Vineyard Power

2021

MVC Climate Action Task Force’s Energy Working Group completes a road map to meet the 100% renewable Island energy goals

2021

MV Community Foundation establishes a Climate Action Fund

2021

Vineyard Transportation Authority unveils solar energy project, has 16 electric buses and commits to an all electric fleet by 2027

2021

All six towns and the MVC Commissioners have adopted 100% Renewable Energy Island by 2040 resolutions

2021

All six Island towns have established Climate Committees.

2022

2022

MV Vision Fellowship funds two Island energy positions at Vineyard Power and MVC

2022

All Island Towns have joined the MA Green Communities Program, eligible for financial and technical support to reduce municipal energy use

2022

Tribal Climate Action Plan completed, Wampanoag Tribe

MV Climate Action Plan - The Vineyard Way

Connected to Our Past, Committed to Our Future is completed



Climate Action Plan: The Vineyard Way

1

Healthy Natural Resources

We are deeply connected to our environment. We will protect and strengthen the ecosystems, habitats, and biodiversity that provides us with life, livelihoods, and quality of life.

2

Equity & Inclusion

We are only as resilient as the most vulnerable among us. We will strengthen equity in access to food, water, health care, new technologies, and renewable energy.

3

Community Collaboration

Strong community cohesion improves our resilience. We will strengthen communication and outreach, honor our diversity, and unite our community through climate action.

4

Resilience Building

On an Island, self-sufficiency is critical. We will strengthen our resilience through thoughtful planning to ensure community health and safety.

5

Local Action

We all have a part to play in building climate resilience and minimizing our greenhouse gas contributions. We will encourage individual responsibility.



6

Thematic Planning Areas

The plan encompasses six thematic planning areas that represent priorities previously identified by all six towns. Each area represents an important aspect of the community that needs to be addressed to reach our long-term sustainability and resilience goals.



Land Use, Natural Resources, and Biodiversity



Transportation, Infrastructure, and Waste



Public Health and Safety



Economic Resilience



Food Security



Energy Transformation

Navigating the Plan

The following sections detail the complete results of the eight-month planning process. There is a section for each of the six thematic areas that contains the following information:

1st
Page

Thematic Area Description and Climate Impacts

Describes the thematic area and the main climate impacts that were identified through the planning process.

2nd
Page

What's Happening Now

Provides current baseline information related to the thematic area and factors that could influence resilience-building.

3rd
Page

Equity Considerations and Key Questions to Consider

Shares information about how equity relates to the thematic area and how the planning process addresses equity. This page also includes challenging questions that our community must consider moving forward to address climate change issues.

4th
Page

Long-term Goals and How We Will Measure Success and Progress

Shares the long-term goals that describe what we plan to achieve by 2040 and how we will measure our progress over time. This page also provides a list of actions that individuals and towns can take to support these goals.

5th
Page

Objectives, Co-Benefits, Actions, Leads, Due Date, and Cost

Includes tables with the following plan components for each Goal:

- **SMART Objectives:** Statements of what we will achieve in three to ten years (S = Specific, M = Measurable, A = Achievement-Oriented, R= Realistic, and T= Timebound).
- **Co-Benefits/Collaboration:** Shows which other thematic areas will either benefit from the objective/actions or where collaboration should happen during implementation.
- **Actions:** Describes in detail what will be done to achieve the objectives in the next several years.
- **Leads:** Describes which organization/group will coordinate or lead the action. While “Leads” are proposed and initially committed, some may require further organizational approvals.
- **Due Date:** The date that actions are due to be completed.
- **Cost Estimate:** Provides a general estimate of the cost.
 - \$ = Less than 10K
 - \$\$ = Greater than 10K, less than 25K
 - \$\$\$ = Greater than 25K, less than 100K
 - \$\$\$\$ = Greater than 100K

Overarching Goals and Objectives

The last section provides three cross-cutting goals and objectives that will support all of the thematic areas.



Land Use, Natural Resources, and Biodiversity

Martha's Vineyard is home to globally rare ecosystems and a wide array of biodiversity. The actions in this focus area will strive to protect the Island's biodiversity and natural resources (e.g., forests, freshwater sources, beaches, marshes) and better manage how humans zone and use these resources.



What are the Main Challenges Climate Change Places on Our Land Use, Natural Resources, and Biodiversity?

Coastal erosion and flooding is accelerating with sea level rise and stronger storm events, impacting habitat, biodiversity, land, buildings, and historic and cultural resources.

Salt marsh loss Without room to migrate inland, many salt marshes will turn into tidal flats as the sea rises, resulting in the loss of their many values.

Loss of open space biodiversity and extinction Due to habitat degradation, loss from weather extremes and sea level rise; changes in plant and animal cycles and ocean/air temperatures; increased invasive species.

Groundwater demand and degradation Increased demands for groundwater; more drought periods; increased pollutant runoff from more intense rainfall; and rise in groundwater level, flooding basements and impacting septic systems.

Degraded pond water quality is further stressed due to climate change impacts such as warmer and more acidic water and heavier rainfall.

What's Happening Now?



Martha's Vineyard has the last northeastern oak dominated forest in the U.S. Our native oaks support more biodiversity than any other comparable group of temperate forest trees.



70%

more carbon is absorbed by native plants than turf grass. Native plants are also easier to maintain and better absorb storm and rainwater.⁴



~10%

of our native flora has been lost in the past 25 years mainly due to the clearing of land and planting of non-native landscapes, which increase invasive species, pests, and diseases.⁵



7,400

Dukes and Nantucket Counties have the fastest population growth in the state.⁶

new houses and 9,000 guest houses could be built on Martha's Vineyard based on current zoning and available land that could potentially double the population.⁷

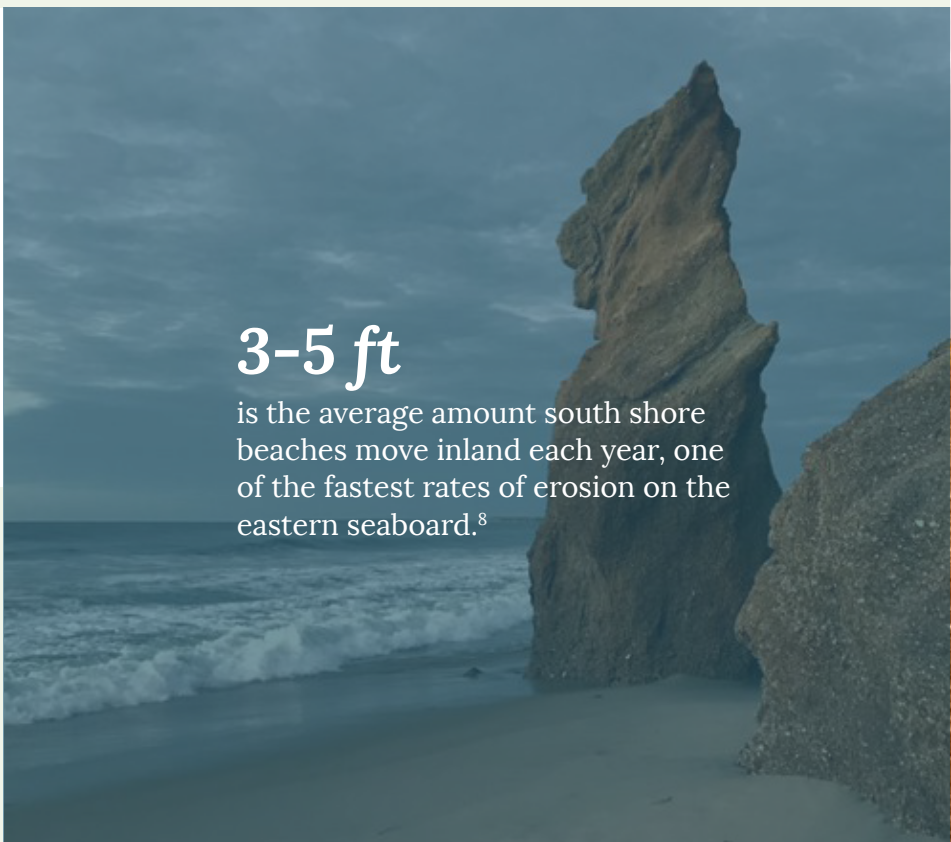


266+

of the Island's 3,500 acres of wetlands (largely salt marshes) could be lost by 2050 due to sea level rise.⁹

313

buildings permanently flooded by 2050 due to sea level rise, storms and storm surge.¹⁰



3-5 ft

is the average amount south shore beaches move inland each year, one of the fastest rates of erosion on the eastern seaboard.⁸



Equity + Land Use and the Environment

In the world of a changing climate, thoughtful land use has a huge role to play in addressing equity. Land use choices and regulations need to be understood both in terms of how we protect natural resources for the health of biodiversity and ecosystems as well as the health and safety of all members of the human community. The best planning sees these two goals not in opposition, but rather, as inextricably linked, since our most critical needs – air, food, water, shelter – are all provided for by a healthy natural environment.

Particularly on our Island, with its huge socioeconomic gulf, equitable access to basic resources is already under stress, and a growing population is living in prolonged states of insecurity – a problem which will deepen in the face of climate impacts. This plan aims to foster careful land use decision-making that is inclusive of the community and can help keep our most vulnerable residents out of harm's way, improve diverse access to food, space for recreation, overall wellness, and promotion of a healthy environment.

- The number of houses over 4,000 square feet has doubled in the last two decades.¹¹
- Nearly every one of our 27 coastal ponds are currently classified as “impaired,” a designation which indicates poor health (that provide local food, jobs, and recreation) and an inability to meet one or more of the standards set by the Clean Water Act.¹²

In The Face of These Challenges We Must Ask Ourselves

Should we allow people to build in areas we know will be unsafe in the future?

Do we want to be a community that enables expansive development at the expense of our native habitat and wildlife?



Facing rapidly growing development pressure on a finite Island, how do we address limits to growth and balance human needs and the environment?



How Will We Measure Our Success Toward These Goals?



GOAL #1

By 2040, land use decision-making prioritizes public safety and ecosystem values potentially impacted by climate change.



Number of new or updated land use policies adopted that protect human safety, natural resources, and biodiversity from climate change threats



GOAL #2

By 2040, natural resources and biodiversity are cooperatively managed and protected to maintain and promote habitat health, connectivity, and resiliency.



Number of habitat corridors created or protected



Number of adaptation strategies implemented to protect coastal pond and aquifer water quality



GOAL #3

By 2040, we will have protected our coastal ponds and sole source aquifer against increasing pressures of climate change and population growth.



Number of acres of salt marsh restored or migration areas protected



Number of coastal ponds with verified water quality improvement

Join Us in Taking Action

JOIN US!



Individual Actions:

- Reduce the size of your lawn, plant more native plants, and conserve water
- Follow the Island-wide fertilizer regulations; don't use synthetic chemicals on lawns and gardens
- Support conservation and proposed regulations that protect biodiversity, habitat, and climate resilience
- Consider installing a denitrifying septic system to protect the health of our ponds
- Read The Island Blue Pages, A Guide to Protecting Martha's Vineyard Waters: <https://www.mvcommission.org/islandbluepages>



Town Actions:

- Update floodplain and wetlands bylaws and regulations to address climate conditions
- Support undevelopment of at-risk properties (i.e., managed retreat)
- Adopt guidelines for the planting and maintenance of native plants on public lands
- Adopt regulations establishing maximum disturbance areas for new construction and standards for the use of native plants
- Collaborate on pond water quality improvement strategies
- Encourage projects to exceed the minimum building codes (flood zone, energy)




GOAL #1

By 2040, land use decision-making prioritizes public safety and ecosystem values potentially impacted by climate change.


Objective 1: By 2024, identify and map coastal and inland land vulnerable to flooding, land vulnerable to extreme wildfire risks, associated ecosystems, and land suitable for undevelopment that significantly contribute to climate resilience and public safety. (Some actions support Overarching Goal 1)	Co-Benefits/ Collaboration: 		
Actions	Lead	Due Date	Cost
Action 1.1 All existing, relevant mapping is collected and synthesized.	Martha's Vineyard Commission	2023	0
Action 1.2 Required new mapping is identified, created, and added to the overall synthesis.	Martha's Vineyard Commission	2023-24	\$
Action 1.3 Review maps to identify areas of priority concern related to extreme flooding, wildfire, and contributors to climate resilience.	Martha's Vineyard Commission	2024	0
Action 1.4 With other working groups, develop a collaborative long-term vision and land use decision-making framework that builds environmental and socioeconomic resilience.	Martha's Vineyard Commission and all thematic working group reps	2025	\$\$\$\$
Objective 2: By 2028, develop tools to protect and enhance prioritized ecosystems that provide public safety benefits. (Some actions support Overarching Goal 1)	Co-Benefits/ Collaboration: 		
Actions	Lead	Due Date	Cost
Action 2.1 Complete pilot Sengekontacket Pond Salt Marsh Migration Study.	OB Planning and Conservation, Martha's Vineyard Commission	2022	\$
Action 2.2 Design an education program about the connection between the health of marsh ecosystems, climate resilience, and public safety.	Vineyard Conservation Society	2024	\$\$
Action 2.3 Commission a comprehensive shoreline management plan for future public beach and coastal management.	Martha's Vineyard Commission	2025	\$\$\$\$
Action 2.4 Assess health and migration potential of Island salt marshes and ID priority salt marshes for restoration.	Martha's Vineyard Commission, Young	2025	\$\$\$

Land Use, Natural Resources and, Biodiversity

Actions	Lead	Due Date	Cost
Action 2.5 Develop an Island-wide DCPC to enable salt marsh migration.	Martha's Vineyard Commission	2025	\$
Action 2.6 Develop a demonstration project to evaluate the potential value of biochar in sequestering carbon and benefiting soil restoration, biodiversity, wildfire management, and water quality.	Martha's Vineyard Commission	2026	\$\$\$
Action 2.7 Update Town Wetlands Bylaws and regulations for coastal and inland wetlands and flood zones.	Reestablish All Island Conservation Commission through MVC	2026	\$\$
Action 2.8 Investigate the concept of an Island-wide DCPC to regulate and minimize new coastal armoring.	Martha's Vineyard Commission, VCS	2026	\$
Action 2.9 Restore priority salt marshes.	Martha's Vineyard Commission, Young	2030	\$\$\$\$
Objective 3: By 2026, development in harm's way is discontinued or managed through local, regional, and state regulations to minimize climate risks to public safety. (Some actions support Overarching Goal 1)	Co-Benefits/ Collaboration: 		
Actions	Lead	Due Date	Cost
Action 3.1 Develop an MVC DRI Policy for flood risk areas and update other relevant DRI Policies.	Martha's Vineyard Commission	2023 (Flood Risk Policy; 2025 for updates)	0
Action 3.2 Collaboratively update town floodplain bylaws for consistency, based on climate science, that address relocation of damaged or at-risk coastal structures.	All Island Planning Board, Planning Board staff, Martha's Vineyard Commission	2024	\$
Action 3.3 Create an Island-wide map of potential sites where habitat and infrastructure might migrate due to flooding and sea level rise.	Martha's Vineyard Commission, Possible consultant	2024	\$\$
Action 3.4 With other working groups, develop a collaborative long-term vision and land use decision-making framework that builds environmental and socioeconomic resilience.	Martha's Vineyard Commission and all thematic working group reps	2025	\$\$\$\$
Action 3.5 Implement Dukes County Community Wildfire Protection Plan and work with PH&S TWG to develop shared messaging about biodiversity and public safety.	Fire Chiefs	2025	\$
Action 3.6 Implement a pilot program to undevelop vulnerable areas to allow for ecosystem protection and migration.	Martha's Vineyard Commission/ Village and Wilderness	2028	\$\$\$\$
Action 3.7 Design an outreach program to help the community become more aware of and comfortable with the idea of undevelopment.	Martha's Vineyard Commission/ Village and Wilderness	2028	\$\$\$\$
Action 3.8 Develop a decision-making process for towns to turn undeveloped land into stormwater retention sites/public open space.	Martha's Vineyard Commission, consultant	2030	\$\$\$

GOAL #2

By 2040, natural resources and biodiversity on Martha’s Vineyard are cooperatively managed and protected to maintain and promote habitat health, connectivity, and resiliency.

Objective 1: By 2025, a conservation summit convenes every 2-3 years where conservation organizations identify data gaps and develop collaborative projects that promote connectivity and resilience toward targets developed in the process. (Some actions support Overarching Goal 1)			
		Co-Benefits/ Collaboration:	
Actions	Lead	Due Date	Cost
Action 1.1 A map of current ecosystems and current and potential habitat corridors is complete for public and private lands and water.	MVC mapping / Biodiversity Works/ Polly Hill	2024	\$\$
Action 1.2 Convene small summit of conservation professionals to review map and identify actions, partnerships, and priorities.	MVC Climate Planner/ Polly Hill (Host)	2025	\$
Action 1.3 With other working groups, develop a collaborative long term vision and land use decision-making framework that builds environmental and socioeconomic resilience.	Martha's Vineyard Commission and all thematic working group reps	2025	\$\$\$\$
Action 1.4 Create a public version of the map to be shared broadly.	MVC mapping / Biodiversity Works/ Polly Hill	2025	\$
Action 1.5 Execute conservation summit every 2-3 yrs to update map as projects move forward.	MVC Climate Planner	On-going	\$\$
Objective 2: By 2024, with the guidance of the Tribe, the Island has established minimum standards for the use of native vegetation for municipally maintained greenspaces.		Co-Benefits/ Collaboration: 	
Actions	Lead	Due Date	Cost
Action 2.1 Collect information on native species and provide plant information on website for landscaping.	Polly Hill	By 2024	\$
Action 2.2 Make native seed bank available to sell to established nurseries or landscapers to offer more natives.	IGI, Polly Hill	2025	\$\$\$
Action 2.3 Bring together towns/park commissioners to develop guidelines for native plant species on public lands.	Natural Neighbors in partnership with students (Felix Neck), Tribe	By 2024	\$\$

Actions	Lead	Due Date	Cost
Action 2.4 Each town adopts guidelines for native species on public lands.	Town Climate Committees and Con Comm	By 2025	0
Action 2.5 Share guidelines for all public and private green spaces, including lawns, that promote 30% cultivated /70% native plants.	Polly Hill, Natural Neighbors Programs	By 2025	\$\$- graphic designer
Action 2.6 Promote landscape architect designers who specialize in native landscapers.	Poly Hill	2025	\$\$
Action 2.7 Conduct classes with landscapers/landscape architects on natural lanscape design.	TBD	2026	\$\$

Objective 3:
By 2025, a maximum % disturbance per acre is established for all new development over one acre, except for the purpose of restoring native ecological habitat.

Co-Benefits/ Collaboration:



Actions	Lead	Due Date	Cost
Action 3.1 Define “disturbance” and use a graphic design to demonstrate scenarios that incorporate ecological landscape design.	Martha's Vineyard Commission	By 2024	\$\$
Action 3.2 Bring together town planning boards to develop a set of regulations that include minimum disturbance %.	Martha's Vineyard Commission	By 2024	\$
Action 3.3 Each town adopts regulations for minimum disturbance %.	Town Climate Committees and Con Comm	By 2025	0

GOAL #3

By 2040 we will have protected our coastal ponds and sole source aquifer against the increasing pressures of climate change and population growth.


Objective 1:
Nitrogen mitigation and other pollutant reduction strategies have been identified, approved, funded, and implemented for each priority coastal pond by 2027 and all other coastal ponds by 2030.

Co-Benefits/ Collaboration:



Actions	Lead	Due Date	Cost
Action 1.1 Create an interdisciplinary team to conduct a biannual review of current monitoring results and how they inform decision making.	MVC Climate Planner and consultant	2023	\$\$
Action 1.2 Create a water monitoring network to coordinate water sampling and testing and to share data and findings.	Martha's Vineyard Commission	2023	\$

Land Use, Natural Resources, and Biodiversity

Actions	Lead	Due Date	Cost
Action 1.3 For each coastal pond, identify what data has been collected and what data is missing/necessary to readjust nutrient limits.	Interdisciplinary Team with consultant	2024	\$\$
Action 1.4 Fund the collection of necessary data to achieve Action 1.2.	Various Groups	2024 onward	\$\$\$\$
Action 1.5 Implement mitigation strategies that have been proven to be effective based on existing studies and future research.	Martha's Vineyard Commission	2024 onward	\$\$\$\$
Objective 2: By 2026, Island-wide bylaws and regulations are in place which will ensure the aquifer remains safe and potable, experiences sustainable recharge, and is consumed in a manner that is responsive to population growth, changes in precipitation, and air temperature.	Co-Benefits/ Collaboration: 		
Actions	Lead	Due Date	Cost
Action 2.1 Monitor the aquifer and factors that could impact its sustainability (trends, population, changing weather patterns).	Martha's Vineyard Commission	2023 onward	\$\$
Action 2.2 Identify threats (e.g. land use, consumption) to aquifer and establish water use thresholds based on future climate conditions.	Martha's Vineyard Commission, consultant	2025	\$\$\$\$
Action 2.3 Conduct a study to inform land use decision-making and regulations to protect the aquifer and avoid drawdown.	Martha's Vineyard Commission	2026	\$\$\$

Other Proposed Partners to Support Objectives/Actions: Town Assessors, Boards of Health, Planning Boards, Conservation Agents, Conservation Commissions, Department of Public Works, Shellfish Departments, Water Departments, Great Pond Foundation, MA Coastal Zone Management, MA Department of Environmental Protection, The Trustees of Reservations, Sheriff's Meadow Foundation, Dukes County Barrier Beach Task Force, Pond Associations, All Island Conservation Commission, Riparian Land Owners, Barnstable County Floodplain Specialist, Conservation groups, MA Bureau of Geographic Information, US Geological Survey, Natural Resources Conservation Service, WHOI/Sea Grant, Wampanoag Tribe Natural Resource Department, The Nature Conservancy, MV Garden Club, Woods Hole Oceanographic Institution, Tisbury Waterways, Inc., Mill Brook Committee



Transportation, Infrastructure, and Waste

The actions in this focus area highlight the basic physical and organizational structures needed for the operation of the Island community (buildings, roads, power supplies, communications, sewage, water) and on the public and private conveyance of passengers or goods through vehicles, buses, trains, planes, and boats. Actions also include a focus on the need to reduce waste and to manage waste more self-sufficiently.



What are the Main Challenges Climate Change Places on Our Transportation, Infrastructure, and Waste?

Damage to coastal roads and infrastructure from stronger and more frequent storms, sea level rise, and higher storm surge.

Increased tidal flooding to coastal roads and infrastructure (including wastewater, water, communications).

Damage to ferry and harbor infrastructure and increased ferry cancellations from extreme weather, causing an inability to get off-Island for medical and other needs, as well as supply chain disruptions.

Loss of access to critical facilities such as the Martha's Vineyard Hospital and Steamship Authority due to coastal storms, storm surge, and flooding.

What's Happening Now?



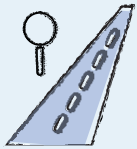
40

Miles of bike paths on the Island.¹³



15%

Increase in the number of vehicles traveling to and from the Island over the past decade.¹⁵



41 miles

of roads are in the 100-year flood zone and 16 miles in the velocity zone, the high hazard portion of the flood zone.¹⁶

28

critical facilities are in the 100-year flood zone including the Martha's Vineyard Hospital, ferry docks and infrastructure, bridges, Packer's fuel and barge docks.¹⁷

1,000+ tons

Amount of food scraps composted in the past 4 + years and prevented from being shipped off-Island with trash.¹⁸



1,700+

Steamship Authority boat cancellations between 2018 and 2020 due to weather.¹⁴



\$19.4 million

Cost to export 6,500 tons of food waste per year between 2020 and 2040.¹⁹

Did you know?

Recent improvements to the fixed piers and platforms at the Steamship Authority's Woods Hole facility were designed to accommodate sea level rise for the fifty-year service life of the project.



Equity + Transportation, Infrastructure, and Waste

Older residents and people with existing health concerns may be disproportionately impacted by transportation and infrastructure disruptions. This plan seeks to improve the resilience of our critical transportation and infrastructure which will improve resilience of these vulnerable populations. This includes improving access to the Martha's Vineyard Hospital during storm events, improving the supply chain to ensure the availability of medical supplies such as prescriptions during and after storm events, more resilient ferry service to ensure consistent access on and off-Island, and an improved communications infrastructure.



In The Face of These Challenges We Must Ask Ourselves

Does it make sense to invest big money to protect coastal roads and infrastructure when we know that in the coming decades they will be increasingly impacted by storms and sea level rise?

On an Island connected to the mainland only by sea and air, how do we increase our self-sufficiency and improve our supply chain so we can adapt to increased weather extremes?



How Will We Measure Our Success Toward These Goals?



GOAL #1

By 2040, critical vulnerable roads and infrastructure are protected or relocated through a network that prioritizes non-fossil fuel-based transportation and nature-based strategies.

Number of regional road and infrastructure improvements to build resilience and improve alternative transport

Number of nature-based stormwater management systems installed

At least one of the three hospital access roads that are in the flood zone is adapted to provide access during storm major events

Number of actions to improve supply chain resilience

Tons of waste reduced (to reduce the cost of off-Island shipping)



GOAL #2

By 2040, a long-term resiliency plan for our supply chain is being implemented to ensure an adequate flow of goods, materials, and services needed.



GOAL #3

By 2040, a model of Island self-sufficiency has been adopted to reduce solid waste and promote local production, repurposing, and sharing of goods and services.

Join Us
in Taking
Action



Individual Actions:

- Reduce the size of hard surfaces like driveways and patios by using stones or shells that absorb storm and rainwater
- Reduce your lawn size - native plants and trees are easier to care for, increase biodiversity, and absorb storm and rainwater
- Drive less, and instead walk, bike, or take public transportation
- Reduce the amount of waste you produce. Buy less stuff; reuse, repair, and share items to reduce waste transport on and off-Island; and compost food scraps
- Shop locally instead of importing more things



Town Actions:



- Assess town infrastructure and transportation assets and vulnerabilities to form the basis for further planning
- Use nature-based strategies to protect at-risk infrastructure and/or identify alternative locations
- Ensure town Joint Transportation Committee representatives understand climate risks and prioritize funding for this plan's transportation priorities
- Develop a policy to ensure that climate change projections and protocols are used to assess road and infrastructure repairs and upgrades
- Implement nature-based stormwater management strategies and identify land for additional stormwater management projects


JOIN
US!



GOAL #1


By 2040, critical vulnerable roads and infrastructure are protected or relocated through a network that prioritizes alternative transportation and green infrastructure.

Objective 1: By 2026, identify, evaluate, and prioritize an Island-wide network of transportation and infrastructure assets and vulnerabilities that are important to support a thriving Island community. (Some actions support Overarching Goal 1)	Co-Benefits/ Collaboration: 		
Actions	Lead	Due Date	Cost
Action 1.1 Develop a regional protocol for town by town assessments.	Martha's Vineyard Commission	2023	\$
Action 1.2 Establish Island-wide community values in the face of climate change to guide town by town assessments.	Martha's Vineyard Commission	2023	0
Action 1.3 Complete town by town assessments of infrastructure assets and vulnerabilities.	Town Climate Committees	2024	\$
Action 1.4 With other working groups, develop a collaborative long-term vision and land use decision-making framework that builds environmental and socioeconomic resilience.	Martha's Vineyard Commission and all thematic working group reps	2025	\$\$\$\$
Objective 2: By 2026, design climate-resilient and regional transportation and infrastructure networks including ports and airports, greener (non-fossil fuel) transportation options, and no regret measures.	Co-Benefits/ Collaboration: 		
Actions	Lead	Due Date	Cost
Action 2.1 Develop near-term no regret measures for roads and infrastructure.	Martha's Vineyard Commission	2025	\$\$
Action 2.2 Assess carrying capacity of inland transportation routes and potential for new connectors.	Martha's Vineyard Commission	2026	\$\$\$\$
Action 2.3 Design complete streets system with an emphasis on walking, biking, ride shares, and public transit.	Martha's Vineyard Commission	2026	0
Action 2.4 Reimagine vulnerable roads, plan for, and fund, sustainable longer term solutions.	Martha's Vineyard Commission	2026	0

<p>Objective 3:</p> <p>By 2030, a model climate change assessment protocol is in use by which new road and infrastructure investments are made with an emphasis on green infrastructure.</p>	<p>Co-Benefits/ Collaboration:</p> 		
<p>Actions</p>	<p>Lead</p>	<p>Due Date</p>	<p>Cost</p>
<p>Action 3.1 Develop a pilot near-term green infrastructure project to help inform protocol.</p>	<p>Martha's Vineyard Commission</p>	<p>2024</p>	<p>\$\$\$</p>
<p>Action 3.2 Develop a protocol to assesses climate impacts on roads and infrastructure and propose measures to minimize the impacts.</p>	<p>Martha's Vineyard Commission</p>	<p>2025</p>	<p>\$\$</p>
<p>Action 3.3 Identify key locations and funding sources for purchase of land to provide stormwater management and flood control.</p>	<p>Martha's Vineyard Commission</p>	<p>2026</p>	<p>0</p>
<p>Objective 4:</p> <p>By 2027, increase collaboration between the SSA and MVC to improve communication and implementation of actions that build resilience of our ports.</p>	<p>Co-Benefits/ Collaboration:</p> 		
<p>Actions</p>	<p>Lead</p>	<p>Due Date</p>	<p>Cost</p>
<p>Action 4.1 An MVC liaison attends monthly SSA board meetings to learn of and update MVC on SSA climate-related matters.</p>	<p>Martha's Vineyard Commission</p>	<p>2022</p>	<p>0</p>
<p>Action 4.2 Support identification of grant opportunities to build port infrastructure resilience and develop collaborative proposals.</p>	<p>Martha's Vineyard Commission</p>	<p>On-going</p>	<p>0</p>
<p>Action 4.3 Complete a study to determine how to maintain viability of the Oak Bluffs port.</p>	<p>Steamship Authority</p>	<p>TBD</p>	<p>\$\$\$\$</p>
<p>Action 4.4 A climate-focused liaison attends the Long Range Planning and Transportation Group meetings to share climate related updates.</p>	<p>Martha's Vineyard Commission</p>	<p>2022</p>	<p>0</p>
<p>Action 4.5 Communicate existing efforts to build SSA resilience with the broader public through CAP/ICAN communications.</p>	<p>Martha's Vineyard Commission and Steamship Authority</p>	<p>On-going</p>	<p>0</p>


GOAL #2

By 2040, a long-term resiliency plan for our supply chain is being implemented to ensure an adequate flow of goods, materials, and services needed.



Objective 1: By 2030, maintain reliable access and service around the following areas: - Material and Energy (including areas that reduce dependency) - People and Services - Communication and Information	Co-Benefits/ Collaboration: 		
Actions	Lead	Due Date	Cost
Action 1.1 Establish three supply chain working groups: 1) Material and Energy, 2) People and Services, 3) Communication and Information.	MVC Climate Action Task Force	By 2023	\$
Action 1.2 Complete climate change and supply chain studies to guide emergency response and Island-wide planning.	MVC Climate Action Task Force	By 2024	"\$\$\$\$
Action 1.3 Develop resilience plans to promote local production and minimize importing of materials.	MVC Climate Action Task Force	By 2025	\$
Action 1.4 Implement projects that address priorities.	TBD in Plan	On-going beyond 2025	"\$\$\$\$

GOAL #3

By 2040, a model of Island self-sufficiency has been adopted to reduce solid waste and promote local production, re-purposing, and sharing of goods and materials.

Objective 1: By 2030 build the composting infrastructure and operating systems necessary to help all Island commercial establishments comply with the Mass DEP food waste bans and develop programs to maximize food waste capture from all Island producers (residential and commercial).	Co-Benefits/ Collaboration: 		
Actions	Lead	Due Date	Cost
Action 1.1 Upgrade the pilot project drum composting system at Island Grown Initiative.	MV Food Waste Initiative Committee	2024	\$\$\$\$
Action 1.2 Add one to three additional drum composting facilities to handle maximum amount of food waste	MV Food Waste Initiative Committee	2030	\$\$\$\$

Transportation, Infrastructure, and Waste

Actions	Lead	Due Date	Cost
<p>Objective 2:</p> <p>By 2030, develop a system and infrastructure to redirect the maximum amount of Construction and Demolition waste from off-Island disposal to on Island recycling, repurposing, repair, or resale.</p>	<p>Co-Benefits/ Collaboration:</p> 		
<p>Action 2.1</p> <p>Identify best practices for demolition and construction waste and create a network to connect stakeholders and markets.</p>	C&D Waste Committee and Vineyard Vision Fellowship	2025	\$\$\$
<p>Action 2.2</p> <p>Run pilot programs assessing the viability of redirecting demolition and construction waste for on-Island use.</p>	C&D Waste Committee and Vineyard Vision Fellowship	2026	\$\$
<p>Objective 3:</p> <p>By 2027, build a comprehensive analysis of all aspects of Island waste, the generators of each category of waste, and potential alternate uses of wastes locally and regionally.</p>	<p>Co-Benefits/ Collaboration:</p> 		
<p>Action 3.1</p> <p>Identify existing examples and establish a network to expand the amount of waste diverted from off-Island disposal.</p>	TBD	2024	\$\$\$
<p>Action 3.2</p> <p>Perform an extensive waste characterization study and document past and present disposal methods, costs, etc.</p>	TBD	2024	\$\$\$\$

Other Proposed Partners to Support Objectives/Actions: Town Climate Committees, Department of Public Works, Wastewater, Emergency Managers, Planning Boards, Martha’s Vineyard Commission Joint Transportation Committee, MV Hospital, Martha’s Vineyard Vision Fellowship, Dukes County, MV Airport, Island Grown Initiative, Brunos, Material Providers, Local Grocers, Data and Internet Providers, Power Companies, MA Department of Transportation and Emergency Management Agency, MV Refuse District, South Mountain Co., MV Builders Association





Public Health and Safety

The actions in this focus area will strive to protect and improve the health and welfare of people in our community in the face of climate change threats. Actions also include a focus on preparing for and safeguarding people from natural disasters and preparing for recovery.



What are the Main Challenges Climate Change Places on Our Public Health and Safety?

A lack of access to critical facilities and services due to damaged infrastructure and flooded areas during and after storm events. Extreme weather events can also delay transportation on and off-Island or stop it all together, limiting access to medical supplies and services.

Increased risk of physical illness and mental health issues due to changes in climate and weather patterns. Physical risks include heat-related illnesses, respiratory illnesses, vector-borne disease due to increased tick and mosquito population, and stress and anxiety associated with the impacts of natural disasters (e.g. injury, loss of property and security, and displacement).

Increased risk of wildfire events during droughts



What's Happening Now?



135

critical facilities in Dukes County are listed as vulnerable to hazard events.²⁰



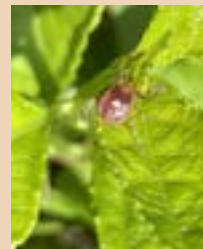
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access roads to the Martha's Vineyard Hospital are in the flood zone. The fourth would be inundated in a Category 4 hurricane, which would mean no access to the hospital.²²



1954

is the last year we had a Category 3 or greater hurricane; we are due for a large storm event. Significant development combined with sea level rise make for greater safety and property risks.²¹



86%

increase in the rate of Lyme disease in Dukes County since 2010, the highest of any county in the state.²³



20%

increase in pollen concentration across North America since 1990, with a 200% increase expected by 2100.²⁴





Equity + Public Health and Safety

Climate change will disproportionately impact those in our community who lack resources to prepare for the changes to come or respond to disaster events. Members of our community who are more vulnerable to changes in our climate include our large elderly population, those who suffer from respiratory conditions, outdoor workers, non-English speakers, and underserved communities who lack access to guidance and health care. We will aim to ensure all people have access to information and services that can help them prepare and recover from climate change impacts. Specific actions will focus on identifying vulnerable populations to ensure safety during extreme events and carrying out broad outreach programs through multilingual and varied approaches to provide the tools and resources needed to improve resilience to climate health and safety risks.

- About 1/3 of the year-round population is 60+ year-old residents.
- ~11% of children in Dukes County are living in poverty.²⁵
- ~23% of households are considered to have severe cost burdens.²⁶



In The Face of These Challenges We Must Ask Ourselves

Climate change will make storm events more frequent and severe and we are also overdue for a major storm event. How do we prepare ourselves so these events have the least possible impact and we recover quickly?

Many climate issues are not obvious, such as increased stress and anxiety. What can we do to ensure all of our residents and visitors have access to resources that foster well-being in the face of these challenges?



How Will We Measure Our Success Toward These Goals?



GOAL #1

By 2040, for the safety of all residents and visitors, we have an effective county-wide emergency preparedness, response, and recovery system in place, including multilingual communication.



Number of trained CERT volunteers, number of multilingual staff



Number of regional projects implemented to support emergency preparedness and response



Number of multilingual outreach events that have occurred about climate and health and number focused on vulnerable populations



Number of health care providers trained in climate and health issues



GOAL #2

By 2040 Island residents understand environmental and climate change impacts to human health and well-being and everyone has access to support that builds self-sufficiency and resilience.

Join Us
in Taking
Action

JOIN
US!



Individual Actions:

- Sign-up for CodeRED online to receive emergency notifications
- Create an emergency kit to be prepared for extreme events
- Volunteer with a Community Emergency Response Team to train for and help out during emergencies
- Bring plenty of water for your family/employees when active outside during warm months. Know the signs of heat stress and heat stroke to address it early.



Town Actions:

- Identify and map where vulnerable residents live for the regional database
- Support a permanent regional manager position that will develop a regional emergency preparedness, response, and recovery plan
- Limit or restrict re-development in highly vulnerable areas (flood zone, fire prone areas) after disaster events
- Health agents join Dukes County Health Council climate sub-committee and support outreach work of Public Health Collaborative
- Ensure adequate cooling stations during summer months and heatwave events



GOAL #1

By 2040, for the safety of all residents and visitors, we have an effective County-wide emergency preparedness, response, and recovery system in place, including multilingual communication.

Objective 1:

By 2024, we have a secure regional database of residents and homeowners, road associations, vulnerable populations, and key personal health needs to be managed by the regional emergency manager and/or Dukes County Emergency Management Association.

Co-Benefits/ Collaboration:



Actions	Lead	Due Date	Cost
Action 1.1 Reach out to Aquinnah CERT and public health organizations to identify vulnerable populations and create database.	Dukes County Emergency Management Association	2023	\$
Action 1.2 Towns identify residents, homeowners, and road associations, using Aquinnah as a test case.	Dukes County Emergency Management Association	2023	\$
Action 1.3 Coordinate databases.	Dukes County Emergency Management Association	2023	\$
Action 1.4 Remaining five towns accomplish Actions 1.1. and 1.2.	Dukes County Emergency Management Association	2024	\$

Objective 2:

By 2026 a permanent, full-time regional emergency manager is in place with town consent and financial support.

Co-Benefits/ Collaboration:





Actions	Lead	Due Date	Cost
Action 2.1 Define roles and responsibilities and host agency of position.	Dukes County Emergency Management Association/ Martha's Vineyard Commission	2023	\$\$
Action 2.2 Identify funding and hire position.	Dukes County Emergency Managers Association/ Martha's Vineyard Commission	2025	0

<p>Objective 3: By 2026 a preparedness, response, and post-disaster recovery plan has been adopted and will be overseen by the regional emergency manager in cooperation with all towns.</p>	<p>Co-Benefits/ Collaboration:</p> 		
<p>Actions</p>	<p>Lead</p>	<p>Due Date</p>	<p>Cost</p>
<p>Action 3.1 Determine what emergency plans exist in each town (make public) and coordinate to determine necessary modifications.</p>	<p>Prospective Emergency Manager</p>	<p>2025</p>	<p>\$</p>
<p>Action 3.2 Develop and implement regional emergency preparedness, response, and recovery plan.</p>	<p>Prospective Emergency Manager</p>	<p>2029</p>	<p>\$\$\$\$</p>
<p>Objective 4: By 2026 one or more regional shelters are adequately stocked and staffed with certified shelter volunteers.</p>	<p>Co-Benefits/ Collaboration:</p> 		
<p>Action 4.1 ID prospective sites, staff needs, populations served, purpose, and supplies/ logistics, MOUs up to date.</p>	<p>Emergency Managers</p>	<p>2024</p>	<p>\$</p>
<p>Action 4.2 Enhance volunteer training program.</p>	<p>Emergency Managers, local CERT teams</p>	<p>2024</p>	<p>\$</p>
<p>Objective 5: By 2026 a self-sustaining Island-wide Community Emergency Response Team (CERT) network is established, staffed, well-trained, and funded.</p>	<p>Co-Benefits/ Collaboration:</p>		
<p>Action 5.1 ID trainers, seek and train volunteers, determine age requirements for volunteers.</p>	<p>Emergency Managers</p>	<p>2022</p>	<p>\$</p>
<p>Objective 6: By 2030, the Dukes County Community Wildfire Protection Plan is implemented, including training and specialized firefighting equipment.</p>	<p>Co-Benefits/ Collaboration:</p> 		
<p>Action 6.1 DCR/MVC/Fire Chief coordination.</p>	<p>Fire Departments</p>	<p>2027</p>	<p>\$\$</p>

GOAL #2

By 2040, Island residents understand environmental and climate change impacts to human health and well-being and everyone has access to support that builds self-sufficiency and resilience.

<p>Objective 1:</p> <p>By 2023, a sub-committee of the Dukes County Health Council is developed to facilitate Island health care provider education related to public health threats of climate change.</p>	<p>Co-Benefits/ Collaboration:</p>		
<p>Actions</p>	<p>Lead</p>	<p>Due Date</p>	<p>Cost</p>
<p>Action 1.1 Propose sub-committee to Dukes County Health Council.</p>	<p>Chair of Dukes County Health Council</p>	<p>2022</p>	<p>0</p>
<p>Action 1.2 Recruit members to maintain a functioning group.</p>	<p>Chair of Dukes County Health Council</p>	<p>2022</p>	<p>0</p>
<p>Action 1.3 Survey health care members and organizations to understand knowledge and gaps in health impacts of climate change.</p>	<p>Duke County Health Council sub-committee</p>	<p>2023</p>	<p>0</p>
<p>Objective 2:</p> <p>By 2024, disseminate a set of Island-wide bilingual video and other outreach materials to educate the public about the health impacts from climate change on the following topics:</p> <ul style="list-style-type: none"> - Updated overview/summary of how various health impacts link to climate change - Wildfire - Floods - Temperature extremes - Vector-borne disease - Food security - Food and water-borne disease - Air pollution, allergens, and pollen - Mental health and stress-related disorders 	<p>Co-Benefits/ Collaboration:</p> 		
<p>Actions</p>	<p>Lead</p>	<p>Due Date</p>	<p>Cost</p>
<p>Action 2.1 Create tracking spreadsheet of educational material and where it is disseminated.</p>	<p>Island Health Care, Public Health Nurse</p>	<p>2022</p>	<p>0</p>
<p>Action 2.2 Create a bilingual one page document and video with an overview that connects health impacts, climate change, and environmental health.</p>	<p>Island Health Care, Public Health Nurse</p>	<p>2022</p>	<p>0</p>

Actions	Lead	Due Date	Cost
Action 2.3 Gather existing or create new materials.	Island Health Care, Public Health Nurse	2022	0
Action 2.4 Disseminate materials through Dukes County Health Council, community partner networks, and outreach events.	Population Health Specialist	2024	\$
Objective 3: By 2025, the subcommittee works with Inter-Island Public Health Excellence Collaborative to conduct quarterly outreach events for health care providers and other targeted groups.	Co-Benefits/ Collaboration: 		
Action 3.1 Work with town health agents to agree on topics covered and target audience/approach.	Population Health Specialist	On-going	0
Action 3.2 Implement quarterly outreach events through coordination with experts and key audiences.	I2 Population Health Specialist	On-going	0
Action 3.3 Propose for Rural Scholar to conduct a study on the impacts of climate change on human health on MV.	Duke County Health Council Climate sub-committee	2023	0



Other Proposed Partners to Support Objectives/ Actions: Town Emergency Managers, Councils on Aging, Climate Committees, Public Health and Social Services Agencies, Aquinnah Community Emergency Response Team, Emergency Managers, Road Associations, Volunteer Emergency Agencies, MV Hospital, Steamship Authority, MV Airport, Faith Communities, Food agencies, Red Cross, Salvation Army, Island Health Care, Vineyard Medical Care, Brazilian Community Liaison and high school students, Libraries, MV Community Services, Health Care Providers, heads of clubs and organizations, businesses (e.g. landscapers at nurseries), Vineyard Medical Care, I2 Partners



Economic Resilience

The actions in this focus area will strive to increase the local economy's capacity to handle shocks that may occur due to extreme weather catalyzed by a changing climate (flood, hurricane, drought, etc.). Actions also include a focus on adapting to new technologies, new market demands, and new workforce skills as our economy shifts to reduce our carbon footprint and adapt to climate change impacts.



What are the Main Challenges Climate Change Places on Our Economy?

Changes to the economy and workforce, including a move away from fossil fuel-related businesses; extreme weather impacts to small businesses; changes in outdoor jobs and recreation due to extreme weather; loss of beaches due to sea level rise and coastal erosion.



Cost of living increases, including housing, insurance, and food; shocks from extreme weather events (storms, flooding, heat, wildfire); loss of town property tax income as coastal property values decline.

Loss of business due to “life-line infrastructure” interruptions from storms, flooding, and erosion, and a lack of planning for businesses to address these impacts.

What's Happening Now?



\$2 Billion

Island property threatened by erosion.²⁹



40%

of small businesses do not recover from extreme weather events.²⁷



\$200 Million

the estimated amount in real estate that may be vulnerable to sea level rise between now and 2050.³⁰



\$150 Million

the estimated annual economic value of public coastal natural resources in Oak Bluffs alone based on the services they provide such as flood control, tourism, and fishing.³¹

In 2050, sea level rise and 100-year storm(s) will flood 313 buildings permanently for a total cost of \$204.8 million; 3,135 buildings will flood temporarily due to storm surge for damage totaling \$985.6 million.²⁸

Getting **Blue**, **Green**, and **Creative**

Planning for a more diversified, sustainable, and less beach-focused economy can be accomplished by focusing on blue, green, and creative economies.

Blue Economy

Ocean-based jobs including fishing/aquaculture, boat building and repair, marine transportation, and tourism

Green Economy

Jobs that reduces greenhouse gas emissions, preserve biodiversity, and enhance ecosystem services, including renewable energy and nature-based climate change-adaptation strategies

Creative Economy

Jobs related to human creativity, such as art, music, and food, knowledge and technology



Equity + the Economy

Economic disparity on the Island is a major roadblock to an equitable society. Extreme real estate prices, a lack of affordable housing, and high costs of living threaten to disenfranchise the year-round working class population. This is particularly true of vulnerable populations, including low wage earners, persons lacking in specialized training, non-English speaking residents, and business owners and employees located in flood-prone and other climate-impacted areas. We will address climate change-related equity issues with increased identification and access to training for local climate-change-related jobs that target vulnerable populations and provide support for the adaptation of vulnerable businesses.

725

Number of job losses at businesses in vulnerable areas as the result of sea level rise and 100-year storm events by 2030.³

In The Face of These Challenges We Must Ask Ourselves

Extreme weather will affect the Island's visitor-based economy including beach recreation and the coastal real estate market. How do we turn these changing conditions into sustainable economic opportunities?

Construction is the Island's second largest industry. Growth on a finite island is not a sustainable economic model. How do we create an economy that is less based on growth?

Vineyard businesses face a myriad of challenges that threaten their stability. How can we support them as they address more sustainable practices and climate change-related vulnerabilities?



How Will We Measure Our Success Toward These Goals?



GOAL #1

By 2040 we have in place the framework to adapt the Vineyard economy with the diversification, resilience, and sustainability needed to meet the Island’s challenges and opportunities from climate change.

- Number of people trained locally in climate resilient job skills
- Number of businesses taking advantage of incentives to become more energy efficient and sustainable
- Number of partnerships with vulnerable businesses to begin climate adaptation

Join Us in Taking Action to Improve Our Economic Resilience



Individual Actions:

- Support local businesses where possible
- If you’re a business owner, learn how climate change can impact your business and plan for these changes
- Complete an energy audit to identify ways you can conserve energy, switch to renewable energy sources, and promote sustainable practices
- Encourage youth to consider climate change-related careers
- If you work in a fossil fuel-based business, take advantage of local job training in climate change-related fields



Town Actions:

- Develop policies to assist vulnerable businesses relocate, restructure, or adapt
- Support increases at the MV Regional High School for in-school climate-focused career and technical training, as well as high-level ecology and STEM (Science Technology Engineering and Math) programming
- Begin fiscal planning now to address the upcoming loss of coastal property taxes as extreme weather creates declines in the value of coastal real estate

GOAL #1

By 2040, we have in place the framework to adapt the Vineyard economy with the diversification, resilience, and sustainability needed to meet the Island’s challenges and opportunities from climate change.




Objective 1:


By 2030, an Island-wide vision for a sustainable and resilient future economy is established. (Some actions support Overarching Goal 1)

Co-Benefits/ Collaboration:



Actions	Lead	Due Date	Cost
<p>Action 1.1 An economic sub-committee of the Climate Action Task Force is established.</p>	Martha's Vineyard Commission	2023	\$
<p>Action 1.2 Create a set of climate impact scenarios to be widely distributed and discussed among business/industry, government, and public.</p>	Martha's Vineyard Commission	2023	\$
<p>Action 1.3 Evaluate business vulnerabilities and options for addressing new economic conditions.</p>	Martha's Vineyard Commission	2025	\$\$\$
<p>Action 1.4 With other working groups, develop a collaborative long-term vision and land use decision-making framework that builds environmental and socioeconomic resilience.</p>	Martha's Vineyard Commission	2025	\$\$\$
<p>Action 1.5 Conduct an education campaign to build understanding and commitment to likely climate impacts and necessary adaptation.</p>	Martha's Vineyard Commission	2026	\$\$
<p>Action 1.6 Develop an Island-wide vision for a sustainable and resilient future economy.</p>	Martha's Vineyard Commission	2030	\$\$\$

<p>Objective 2:</p> <p>By 2030, our businesses contribute individually to Island sustainability through climate change mitigation measures.</p>	<p>Co-Benefits/ Collaboration:</p> 		
<p>Actions</p>	<p>Lead</p>	<p>Due Date</p>	<p>Cost</p>
<p>Action 2.1</p> <p>Develop a checklist of action covenants for businesses to take to addressing sustainability and mitigation measures.</p>	<p>Vineyard Power</p>	<p>2022</p>	<p>0</p>
<p>Action 2.2</p> <p>Create incentives to implement change and acknowledge businesses that join the campaign.</p>	<p>Vineyard Power</p>	<p>2025</p>	<p>\$\$</p>
<p>Action 2.3</p> <p>Use checklist to measure and monitor business progress in implementing sustainability and mitigation measures.</p>	<p>Vineyard Power</p>	<p>On-going</p>	<p>0</p>
<p>Objective 3:</p> <p>By 2030, we have a local, capable, and motivated workforce through a job training network for local residents.</p>	<p>Co-Benefits/ Collaboration:</p> 		
<p>Action 3.1</p> <p>Identify needed jobs, skills and careers that will help, address climate resilience.</p>	<p>MV Center for Education and Training</p>	<p>2022</p>	<p>0</p>
<p>Action 3.2</p> <p>Engage employers, assess hiring needs and capacity to hire new staff and/or transition to new types of employees.</p>	<p>MV Center for Education and Training</p>	<p>2023</p>	<p>\$</p>
<p>Action 3.3</p> <p>Offer programs (with an emphasis on vulnerable populations) that lead to high-climate-priority job credentials.</p>	<p>MV Center for Education and Training</p>	<p>Begin 2023 and on-going</p>	<p>\$\$</p>
<p>Action 3.4</p> <p>Increase capacity at MV Regional High School for in-school Career and Technical training, as well as high-level science programming.</p>	<p>MV Regional High School</p>	<p>2027</p>	<p>\$\$\$\$</p>
<p>Objective 4:</p> <p>By 2027, assist vulnerable business types identify the challenges and opportunities that will enable them to transition to a sustainable model.</p>	<p>Co-Benefits/ Collaboration:</p> 		
<p>Action 4.1</p> <p>Use results from Action 1.3 to begin discussions with vulnerable businesses.</p>	<p>Martha's Vineyard Commission</p>	<p>2025</p>	<p>0</p>

<p>Objective 5:</p> <p>By 2030, our businesses are prepared for and able to adapt and recover from slow on-set and acute climate change impacts and where necessary, identified relocation options.</p> <p>This Objective will not be initiated until a lead is found.</p>	<p>Co-Benefits/ Collaboration:</p> 		
Actions	Lead	Due Date	Cost
<p>Action 5.1</p> <p>Develop a set of metrics to help businesses understand/assess how urgent their vulnerability status is (physical vs. extreme event).</p>	TBD	TBD	TBD
<p>Action 5.2</p> <p>Develop a set of best practices for businesses to take to prepare for climate impacts (e.g. access to capital).</p>	TBD	TBD	TBD
<p>Action 5.3</p> <p>Using assessment, develop and provide outreach and technical capacity to vulnerable businesses to make changes.</p>	TBD	TBD	TBD
<p>Action 5.4</p> <p>Create incentives to implement change and acknowledge businesses that do.</p>	TBD	TBD	TBD
<p>Action 5.5</p> <p>Develop a communication plan for emergency preparedness.</p>	TBD	TBD	TBD
<p>Action 5.6</p> <p>Use checklist to measure and monitor business progress in changing operations and relocating.</p>	TBD	TBD	TBD

Other Proposed Partners to Support Objectives/Actions: Town Emergency Managers, Dukes County Commission, Commerce, MA-EOHED, Cape Cod Economic Development Council, capital improvement managers, Town administrators



Chappy Ferry Facebook Page



Chappy Ferry Facebook Page



Food Security

The actions in this focus area will strive to ensure that all people always have reliable access to -and a sufficient quantity of- affordable, nutritious food that meets their preferences and needs for an active and healthy life. Actions also include a focus on locally produced food and sustainable methods, such as regenerative farming and aquaculture.



What Are The Main Challenges Climate Change Places on Our Island Food Security?

Disruption of the supply chain from the international to the local levels. Shipping, trucking, and ferrying food to the Island is becoming increasingly unpredictable, as are national and international food availability and prices.

Increased demand for local food, constrained by cost of living, lack of affordable housing, and access to affordable land.



Growing inequity among food-secure and food-insecure populations, as climate change increases the cost of food, stresses supply chains, and increases climate-driven immigration.



What's Happening Now? (as of 2022)



32

land-based farms.



19

aquaculture farms.³²



130 people

are employed in the Island's fishing and aquaculture industries.³³



7,715 acres

of land on the Island are devoted to agriculture, including hay and pasture lands.³⁴



\$5.4 million

of agricultural production is valued on the Island each year.³⁵



4-7%

of the food demand of the year-round population is grown on the Island.³⁶



2-day supply

supply of food on the Island to meet community food needs, putting our food security at risk if we are cut off from mainland food imports for a prolonged period of time.



Food Equity

Most people don't realize there is a population of food insecure people on the Island that has been growing. Climate change will exacerbate existing inequalities with increased costs and challenges with maintaining supplies for emergencies. Specific goals and actions will focus on ensuring all people always have access to healthy and nourishing foods on a regular basis and during emergencies.

- Food insecure households are growing on the Island, exacerbated by the COVID-19 pandemic and the Island's deepening affordable housing crisis.
 - The Island Food Pantry saw a 103% increase in child visits and an 84% increase in elder visits between 2019 and 2021.
 - These numbers are continuing to climb—there was a 40% increase in Pantry visits between February 2021 and February 2022.³⁷



In The Face of These Challenges We Must Ask Ourselves

Martha's Vineyard is historically a foraging, fishing, and farming community. In a time of climate change, when we need to rely on food grown as close to home as possible, how can we ensure this is part of our future? How do we help local foragers, farmers, and fishers thrive? How can more Island people engage in growing and harvesting their own food in a sustainable way?

How can we strengthen relationships with other regional growers to improve long-term food security for the Island as global food supplies and transportation systems become less stable?

What if food can't be shipped to the Island for weeks due to damage to port infrastructure, mainland infrastructure or delays in mainland supply chains? How can we be better prepared for extreme events?



How Will We Measure Our Success Toward These Goals?



GOAL #1

By 2040, food grown on the Island is harvested and produced in a way that strengthens biodiversity and makes food more abundant over time, and the majority of food consumed on the Island is grown in the Northeastern US.

- Number of food storage centers and food assistance distribution sites with energy-resilient infrastructure
- Number of farms engaged in regenerative agriculture practices
- Number of days of food available on the Island to feed year-round population in case of emergencies



GOAL #2

By 2040 MV has a climate resilient physical and social framework to ensure that all residents have access to appropriate, ample, and nourishing food with dignity.

- % growth in aquaculture production
- # of partnerships with the Wampanoag Tribe to support food security and land access
- # of outlets that accept SNAP/HIP and/or Fresh Connect

Join Us in Taking Action to Improve Our Food Security!

JOIN US!



Individual Actions:

- Grow food at home, sign up for a plot in a community garden, or make your garden bigger. Share or preserve your extra harvest.
- Ask at fish markets, grocery stores and restaurants what's available from local and regional farms and fishermen
- Save and share seeds through the Martha's Vineyard Community Seed Library
- Keep an emergency kit in your house with shelf-stable food for at least three days for all of those in your household
- Volunteer or donate to the Island Food Pantry or the Island Grown Gleaning program








Town Actions:

- Work to ensure adequate waterfront space is prioritized, adapted, and preserved to support commercial fishing and aquaculture
- Enact policies to expand affordable housing, to ensure that quality housing is available for farmers and farm workers
- Encourage towns and regional decision-makers to support the Right to Farm, including greenhouse space on farms to strengthen year-round food production

GOAL #1



By 2040, food grown on the Island is harvested and produced in a way that strengthens biodiversity and makes food more abundant over time, and the majority of food consumed on the Island is grown in the Northeastern US.

Objective 1: By 2026, establish a procurement and distribution system to bring more New England-grown foods to the Vineyard.		Co-Benefits/ Collaboration: 	
Actions	Lead	Due Date	Cost
Action 1.1 Determine a baseline of food we produce locally and how much of imported food is from Northeastern US producers.	Island Grown Initiative	2023	\$\$
Action 1.2 Develop new relationships with regional growers and distributors.	Island Grown Initiative	2024	\$\$
Action 1.3 Create a centralized hub for New England-grown food to be shipped, stored, and distributed to the Island.	Island Grown Initiative	2030	\$\$\$\$
Objective 2: By 2030, all Island farms are implementing a standard slate of climate-friendly farming practices (i.e., till less, utilize cover crops, increased diversity, native plantings, reduce fossil fuel usage, reduce/eliminate synthetic fertilizers, pesticides and herbicides).		Co-Benefits/ Collaboration: 	
Actions	Lead	Due Date	Cost
Action 2.1 Create an Island-wide standard for climate-friendly farming practices.	MV Agricultural Society	2024	\$\$
Action 2.2 Establish a fund within Ag Society granting program to support farmers' transition to these determined practices.	MV Agricultural Society	2025	\$\$\$\$
Objective 3: By 2027, substantially increase the number of Islanders growing food for themselves and their families.		Co-Benefits/ Collaboration: 	
Actions	Lead	Due Date	Cost
Action 3.1 Create a formal network of community gardens.	Island Grown Initiative	2023	\$
Action 3.2 Formalize support for home growers.	Island Grown Initiative	2024	\$\$\$
Action 3.3 Establish a training program for aspiring hunters to reduce the deer/tick populations and increase protein availability.	MV Tick Program	2027	\$\$
Action 3.4 Secure and establish perennial food production areas in public spaces in every town.	Island Grown Initiative	2028	\$\$\$


<p>Objective 4: By 2030, increase aquaculture production by 30%.</p>	<p>Co-Benefits/ Collaboration:</p> 		
<p>Actions</p>	<p>Lead</p>	<p>Due Date</p>	<p>Cost</p>
<p>Action 4.1 Develop a business plan to analyze the potential of building an on-Island shellfish processing facility.</p>	<p>Island Grown Initiative</p>	<p>2023</p>	<p>\$\$</p>
<p>Action 4.2 Conduct an Island-wide analysis to identify shellfish/seaweed site suitability, allowable areas per town, and permitting preparations.</p>	<p>MV Shellfish Group</p>	<p>2026</p>	<p>\$\$\$\$</p>
<p>Action 4.3 Build partnerships between technical organizations and local growers to share information on innovative practices.</p>	<p>MV Shellfish Group, Cottage City Oysters</p>	<p>On-going</p>	<p>0</p>
<p>Objective 5: By 2030, increase local purchasing of locally harvested seafood.</p>	<p>Co-Benefits/ Collaboration:</p> 		
<p>Action 5.1 Establish a labeling and marketing campaign for local seafood in Island markets and restaurants.</p>	<p>MV Fishermen's Preservation Trust</p>	<p>2023</p>	<p>\$\$\$</p>
<p>Action 5.2 Increase institutional purchasing of local seafood in schools and the MV Hospital.</p>	<p>Vineyard Seafood Collaborative</p>	<p>2025</p>	<p>0</p>
<p>Objective 6: By 2032, commercial fishing and aquaculture are safeguarded as sustainable livelihood options.</p>	<p>Co-Benefits/ Collaboration:</p> 		
<p>Action 6.1 Work with towns to ensure waterfront space is prioritized, adapted, and preserved to support commercial fishing.</p>	<p>Cottage City Oysters/ Working Waterfronts</p>	<p>On-going</p>	<p>\$\$</p>
<p>Action 6.2 Develop fishing clubs and/or mentorships to increase interest of the next generation of fishers.</p>	<p>MV Fishermen's Preservation Trust and MV Shellfish Group</p>	<p>2025</p>	<p>\$\$\$\$</p>
<p>Action 6.3 Increase collaboration of fishers and scientists to improve understanding of projected changes to future fisheries.</p>	<p>MV Fishermen's Preservation Trust</p>	<p>2026</p>	<p>\$\$\$\$</p>
<p>Action 6.4 Maintain or expand permits for current species through buyouts and loan program partnerships.</p>	<p>MV Fishermen's Preservation Trust</p>	<p>On-going</p>	<p>\$\$\$\$</p>
<p>Action 6.5 Develop clear communication channels between fishers and regulators to identify and adapt to changing climate conditions.</p>	<p>MV Fishermen's Preservation Trust</p>	<p>On-going</p>	<p>0</p>

GOAL #2

By 2040 MV has a climate resilient physical and social framework to ensure that all residents have access to appropriate, ample, and nourishing food with dignity.

Objective 1: By 2028, there is an Island-wide resilient network of food processing, storage, and distribution centers.	Co-Benefits/ Collaboration: 		
Actions	Lead	Due Date	Cost
Action 1.1 Determine an accurate count of year-round population.	MVYPS English Language Learner Director	2023	0
Action 1.2 Assess the number of food centers needed, logistics, and the types of food needed to stock the centers.	Island Grown Initiative	2023	\$\$\$
Action 1.3 Identify suitable locations, distribution methods and routes, and design distribution centers to ensure accessibility.	Island Grown Initiative	2025	\$\$\$
Action 1.4 Build or retrofit existing structures to become distribution centers.	Island Grown Initiative	2028	\$\$\$\$
Objective 2: By 2029, there is a consistent 2-3 week supply of food available on-Island for the year-round population throughout the year, which can also be accessed in the event of an emergency.	Co-Benefits/ Collaboration: 		
Actions	Lead	Due Date	Cost
Action 2.1 Coordinate food equity providers with Emergency Managers, Tribe, and grocers to establish protocols during emergency events.	Island Grown Initiative	2023	0
Action 2.2 Simulate an emergency event to ensure communication is resilient and accessible (multi-lingual, visual, and oral).	Island Grown Initiative	2023	0
Action 2.3 Establish a shared database for tracking inventory flow and guiding assessment and communication.	Island Grown Initiative	2024	\$\$\$
Action 2.4 Educate the community about the importance of having emergency food supplies and create donation programs for kits.	Island Grown Initiative	2025	\$\$

<p>Objective 3:</p> <p>By 2025, SNAP/HIP & Fresh Connect are accepted at Farmers Markets and local farm stands to maximize usage for those who are eligible.</p>	<p>Co-Benefits/ Collaboration:</p> 		
<p>Actions</p>	<p>Lead</p>	<p>Due Date</p>	<p>Cost</p>
<p>Action 3.1 Communicate with WT market managers about getting the equipment and developing a process for use of SNAP/HIP.</p>	<p>Morning Glory Farm</p>	<p>2023</p>	<p>0</p>
<p>Action 3.2 Work with health care providers to roll out Fresh Connect and maximize enrollment.</p>	<p>Island Grown Initiative</p>	<p>2023</p>	<p>\$</p>
<p>Action 3.3 Develop messaging and advertise the advantages of enrolling in SNAP/HIP & Fresh Connect.</p>	<p>Island Grown Initiative</p>	<p>2023</p>	<p>\$</p>
<p>Objective 4:</p> <p>By 2030, ensure that safe passage is provided to Wampanoag Tribal members for traditional foraging, fishing, and hunting practices on all Island conservation lands forever.</p>	<p>Co-Benefits/ Collaboration:</p> 		
<p>Actions</p>	<p>Lead</p>	<p>Due Date</p>	<p>Cost</p>
<p>Action 4.1 Coordinate and learn from off-Island examples (e.g., NLC) about how it was done in other locations.</p>	<p>Kinship Heals</p>	<p>2024</p>	<p>\$</p>
<p>Action 4.2 Build kinship bonds and allies - ceremony, circle time - build real relations/trust.</p>	<p>Kinship Heals</p>	<p>2026</p>	<p>0</p>
<p>Action 4.3 Identify best approach and plan for how to partner with land trust organizations.</p>	<p>Kinship Heals</p>	<p>2026</p>	<p>0</p>
<p>Action 4.4 Create a mechanism to provide safe passage (e.g., permit/ID).</p>	<p>Kinship Heals</p>	<p>2028</p>	<p>\$\$\$</p>
<p>Action 4.5 Outreach to local police force to ensure an understanding of Indigenous rights.</p>	<p>Kinship Heals</p>	<p>2029</p>	<p>\$</p>

<p>Objective 5:</p> <p>By 2030, develop partnerships between local farms, individuals, Tribal members and organizations to rematriate traditional seed varieties and increase the availability of traditional Indigenous foods.</p>	<p>Co-Benefits/ Collaboration:</p> 		
Actions	Lead	Due Date	Cost
<p>Action 5.1</p> <p>Develop a business plan for sustainability of the program to be used for a grant proposal.</p>	Kinship Heals	2024	0
<p>Action 5.2</p> <p>Identify staff to coordinate activities.</p>	Kinship Heals	2025	\$\$\$
<p>Action 5.3</p> <p>Coordinate with other tribal programs and farm producers to understand varieties that are climate resilient.</p>	Kinship Heals	2026	0
<p>Action 5.4</p> <p>Identify land (tribal, individual, or existing farms) that can be used for cultivation.</p>	Kinship Heals	2027	0
<p>Action 5.5</p> <p>Train individuals on traditional knowledge.</p>	Kinship Heals	2028	\$
<p>Action 5.6</p> <p>Build up a seed bank of traditional seed varieties.</p>	Kinship Heals	2029	\$\$

Other Proposed Partners to Support Objectives/Actions: Town Select Boards, Planning Boards, Shellfish Constables, Emergency Managers, Parks and Rec Committees, Martha’s Vineyard Commission, Dukes County Social Services, Process First, Buy Local Organizations, Marty’s Local, Northeast Grain Shed, Grey Barn, Slough Farm, Native Earth, Farm Institute, Farm stands, Grocery Stores, (and other food outlets), neighboring communities on Cape and Nantucket; regional seafood processors, shipping and transportation partners, Sheriff’s Meadow Foundation, MV Land Bank, funders and consultants, Nurseries, landscapers, Professional Gardeners, MV Builders Association, Faith-based Groups, Rod and Gun Club, Wampanoag Tribe Natural Resources Department, Rangers and NDR, Graduate student/Vision Fellow, Woods Hole Oceanographic Institution, Marine Biological Laboratory, WHOI/Sea Grant, MV Farm Bureau Chapter, Local fish Markets and Restaurants, Schools, MV Hospital, Island Health Care, Harbor Advisory Committee, Conservation organizations, Regulatory Agencies, Research Partners, MA Division of Marine Fisheries, National Marine Fisheries Service/NOAA, Island Food Equity Network, Island Disability Coalition, landowners of rental properties, Realtors (who oversee rental properties), Salvation Army, Red Cross, TTOR Community Ambassador Program, West Tisbury Farmer’s Market, Native Land Conservancy, Aquinnah Cultural Center, US Department of Agriculture



Energy Transformation

The actions in this focus area highlight the process by which our energy supply will become more reliant on renewable energy (solar, wind, hydro) and less on fossil fuels. Actions include a focus on the transition to clean electric power by individuals, businesses, and municipalities.



How Can We Reduce Our Contributions to Climate Change and Increase Our Energy Resilience?

Conserve energy and improve efficiency.

Electrify all end uses of energy (e.g., electric vehicles, transportation and building heating/cooling).

Increase renewable energy generation on and off Island (e.g., solar and offshore wind).

Ensure our energy supply and distribution networks are resilient (e.g., battery storage and microgrids).

What's Happening Now?



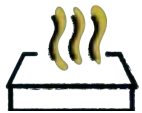
43%

of our electricity is currently sourced from regional renewable sources such as wind, solar and hydro-electric generation.⁴²



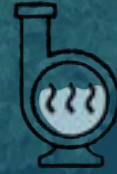
100-200

electric vehicles are currently being utilized on the Island.⁴³



6000 - 7000

Estimated number of on-Island air source heating systems.⁴⁶



2000-3000

Estimated number on-Island heat pump hot water systems.⁴⁵



10%

of electricity used comes from on-Island solar generation.⁴⁴



Offshore Wind

Massachusetts has a goal to deploy 5,600 megawatts (MW) of local offshore wind over the next decade.³⁸ These turbines will produce enough clean energy to power 3 million homes - over 45% of the state's energy demand. Offshore wind development will benefit Martha's Vineyard by providing:

- Over \$15,000,000 in infrastructure investments, including a resilient port on Vineyard Haven's working waterfront³⁹
- 50 year-round local jobs at an offshore wind operations center generating \$75,000,000 in economic development over 15 years⁴⁰
- \$25,000,000 in funding to facilitate the transition to a more resilient and equitable 100% renewable community⁴¹



Equity + Energy Transformation

The up-front cost of transitioning to more efficient technologies and renewable energy sources can be a barrier to many low to medium income homes. These barriers create inequities in the ability to receive the long-term, cost-saving benefits of new technologies. We will aim to ensure all people have access to these benefits through a variety of programs. Some of these actions are focused on improving communications and participation in Cape Light Compact programs for low to moderate income families. Other actions will take advantage of funds derived through Vineyard Power's Community Benefit Agreement that provides money specifically to reduce electricity costs of low-income families.

In The Face of These Challenges We Must Ask Ourselves

United Nations scientists tell us that we must reach net-zero carbon-dioxide emissions by 2050 and that the next 10 years are critical for making changes to reduce greenhouse gas emissions to maintain a liveable future. "It's now or never, if we want to limit global warming" - IPCC Working Group III Co-Chair Jim Skea

What behaviors are we willing to change individually and collectively to reduce our contributions to climate change (i.e. greenhouse gas emissions)?

How can we invest in new opportunities that help fight climate change and build a sustainable future?



Photo: Veja Mate



How Will We Measure Our Success Toward These Goals?



GOAL #1

Reduce fossil fuel use on the Island from the 2018 baseline, 50% by 2030 and 100% by 2040 (adopted by all 6 towns on Martha's Vineyard and the MVC Commissioners).



Measure and track our greenhouse gas emissions and energy use over time



% of grid electricity that comes from regional renewable sources and projection with wind farm



% of Island's electrical demand met by solar installation



of electric vehicles



of buildings with air-source heat pumps (heating and hot water)



\$ saved to environmental justice communities and # of low-income rate payers through Resilience and Affordability Program (RAP) fund and Cape Light Compact



GOAL #2

Increase the percentage of our electricity use that is renewable and generated regionally (within New England).



GOAL #3

Ensure that our energy supply is both adequate and resilient in response to the impacts of climate change.

Join Us in Taking Action to Improve Our Energy Resilience



Individual Actions:

- Ride your bike more, carpool, or take public transportation
- Opt-in to Cape Light Compact "Local Green" energy supply
- Get a home energy audit from Cape Light Compact and make your home more energy efficient
- Switch to electric when replacing your heating and cooling systems
- Install solar panels
- Buy an electric vehicle when you need a new vehicle







Town Actions:


- Develop a 5-year Energy Plan toward meeting the 2040 goals including resilient back-up energy sources
- Identify municipal facilities and sites for the location of microgrids to provide Island resiliency in collaboration with emergency responders
- Adopt 100% electric new building code and EV ready charging infrastructure on new buildings in all 6 towns




GOAL #1


By 2030, reduce fossil fuel use on the Island from the 2018 baseline, 50% by 2030 and 100% by 2040.

Objective 1 By 2030, increase energy performance of new and/or existing commercial and residential buildings.		Co-Benefits/ Collaboration: 		
Actions	Lead	Due Date	Cost	
Action 1.1 Support Cape Light Compact as needed in establishing a Home Energy Assessment baseline and implementation goal.	Cape Light Compact	Every 3 years	0	
Action 1.2 Evaluate and identify gaps in Home Energy Assessments so customers receive Home Energy Reports and path to electrification.	Vineyard Power - Energy Transition Coordinator	Annually	0	
Action 1.3 All Island towns have adopted proposed net zero building code.	Town Energy Committees	2025	\$	
Objective 2 By 2032, 55% of Island homes (10,000) will have air source heat pumps for home heating and domestic hot water.		Co-Benefits/ Collaboration: 		
Actions	Lead	Due Date	Cost	
Action 2.1 Launch an Energy Education Campaign on building energy use, including energy coaches to provide information to residents and businesses.	Vineyard Power - Energy Transition Coordinator	2023	\$	
Action 2.2 30% of all Island homes will have adopted heat pump technologies for heating and domestic hot water.	Vineyard Power - Energy Transition Coordinator	2027	\$	
Action 2.3 55 low-income residences have been converted to 100% electric heat pumps and 15 to heat pump hot water heaters, including weatherization measures and insulation improvements.	Cape Light Compact	2024	\$\$\$\$	
Action 2.4 Increase the number of air source heat pump installers on the Mass Save heat pump Installer Network from four to eight.	Cape Light Compact	2023	\$	
Action 2.5 All new construction and major renovations (50% or more of gross area being renovated) in all six towns are required to be 100% electric.	Town Energy Committees	2025	0	



<p>Objective 3</p> <p>By 2032, the number of newly Island-registered electric vehicles will exceed the state forecast of 46% by 10%, for a total of 56%.</p>	<p>Co-Benefits/ Collaboration:</p> 		
<p>Actions</p>	<p>Lead</p>	<p>Due Date</p>	<p>Cost</p>
<p>Action 3.1 Launch an Energy Transition Program focused on electric vehicle adoption.</p>	<p>Vineyard Power - Energy Transition Coordinator</p>	<p>2023</p>	<p>0</p>
<p>Action 3.2 An Island-wide master plan of charger locations, level two and level three chargers, has been prepared and approved.</p>	<p>MVC Energy Planner</p>	<p>2024</p>	<p>0</p>
<p>Action 3.3 Establish baseline and encourage business owners, schools and hospital to provide at least one charger for employees.</p>	<p>Vineyard Power - Energy Transition Coordinator</p>	<p>2024</p>	<p>0</p>
<p>Action 3.4 All new residential construction and major renovations include conduit to convenient charging location and breaker for future EV charger.</p>	<p>Town Energy Committees</p>	<p>2025</p>	<p>\$</p>
<p>Action 3.5 An analysis of feasibility of locating EV chargers at SSA parking lots is completed.</p>	<p>MVC Energy Planner</p>	<p>2025</p>	<p>0</p>
<p>Action 3.6 Incentives provided to support low/moderate income purchasing of EVs.</p>	<p>State Senator and Representative</p>	<p>2026</p>	<p>0</p>
<p>Action 3.7 The Steamship Authority provides preferences in rates, booking, and parking at Palmer Ave. lot for electric vehicles.</p>	<p>MVC Energy Planner</p>	<p>2027</p>	<p>\$\$\$</p>
<p>Objective 4</p> <p>By 2032, all fleet vehicles will be 100% electric.</p>	<p>Co-Benefits/ Collaboration:</p> 		
<p>Actions</p>	<p>Lead</p>	<p>Due Date</p>	<p>Cost</p>
<p>Action 4.1 At least ten school busses are electric.</p>	<p>School Committee</p>	<p>2027</p>	<p>0</p>
<p>Action 4.2 All delivery vehicles are electric.</p>	<p>MVC Energy Planner</p>	<p>2030</p>	<p>0</p>



<p>Objective 5</p> <p>As Steamship Authority and passenger ferries are replaced, they are replaced with hybrid or electric models.</p>	<p>Co-Benefits/ Collaboration:</p> 		
<p>Actions</p>	<p>Lead</p>	<p>Due Date</p>	<p>Cost</p>
<p>Action 5.1</p> <p>Advocate for electric ferry infrastructure.</p>	<p>Climate Action Task Force, MVC Energy Planner</p>	<p>On-going</p>	<p>0</p>
<p>Objective 6</p> <p>By 2030, all landscaping equipment is electric.</p>	<p>Co-Benefits/ Collaboration:</p> 		
<p>Actions</p>	<p>Lead</p>	<p>Due Date</p>	<p>Cost</p>
<p>Action 6.1</p> <p>Educate the community about benefits and opportunities of electric equipment and convert all landscaping equipment.</p>	<p>Vineyard Power - Energy Transition Coordinator</p>	<p>2030</p>	<p>0</p>
<p>GOAL #2 Increase the percentage of our electricity use that is renewable and generated regionally (within New England).</p>			
<p>Objective 1</p> <p>By 2032, 15% of our electricity is generated by solar on Island up from the current 9%.</p>	<p>Co-Benefits/ Collaboration:</p> 		
<p>Actions</p>	<p>Lead</p>	<p>Due Date</p>	<p>Cost</p>
<p>Action 1.1</p> <p>Generate outreach to connect people and businesses with solar programs including youth who are interested in solar installation.</p>	<p>Vineyard Power - Energy Transition Coordinator</p>	<p>2023</p>	<p>\$-\$\$</p>
<p>Action 1.2</p> <p>Host/Create outreach events or participate in existing events to gain support for implementation of MV CATF Energy Group goals/objectives.</p>	<p>Vineyard Power - Energy Transition Coordinator and MVC Energy Planner</p>	<p>On-going</p>	<p>\$</p>
<p>Action 1.3</p> <p>Annually track Solar Generation on MV to ensure we're meeting the objective.</p>	<p>Vineyard Sustainable Energy Committee and Vineyard Power</p>	<p>Annually until 2040</p>	<p>\$</p>
<p>Action 1.4</p> <p>Increase solar and HVAC installers on MV through local courses and apprenticeships.</p>	<p>MV Center for Education and Training</p>	<p>On-going</p>	<p>\$\$\$ - annually (per cohort)</p>
<p>Action 1.5</p> <p>Standardize permitting process for solar installation.</p>	<p>MVC Energy Planner</p>	<p>2030</p>	<p>\$\$\$\$</p>

<p>Objective 2</p> <p>By 2030, increase the amount of baseline renewably generated electricity, 30% above the renewable portfolio standard (RPS) in the standard power supply.</p>	<p>Co-Benefits/ Collaboration:</p> 		
<p>Actions</p>	<p>Lead</p>	<p>Due Date</p>	<p>Cost</p>
<p>Action 2.1</p> <p>Work with CLC staff and board and CLC board reps from MV to commit to targets: 5% by 2025, 15% by 2027, 30% by 2030.</p>	<p>MV Cape Light Compact Reps</p>	<p>2030</p>	<p>0</p>
<p>Objective 3</p> <p>By 2027, 10% of Island residential ratepayers are either opting into the 50% or 100% “local green” renewable generation products provided by Cape Light Compact.</p>	<p>Co-Benefits/ Collaboration:</p> 		
<p>Actions</p>	<p>Lead</p>	<p>Due Date</p>	<p>Cost</p>
<p>Action 3.1</p> <p>Get baseline # of existing participants.</p>	<p>MV Cape Light Compact Reps</p>	<p>By 2022</p>	<p>\$</p>
<p>Action 3.2</p> <p>Create outreach materials about “local green” option.</p>	<p>MV Cape Light Compact Reps</p>	<p>By 2023</p>	<p>\$</p>
<p>Action 3.3</p> <p>Work with CLC to implement an education campaign to target audiences (e.g., realtors provide info to new homeowners, electricians).</p>	<p>MV Cape Light Compact Reps</p>	<p>On-going</p>	<p>\$\$</p>
<p>Objective 4</p> <p>Increase participation in programs targeting low to moderate income Islanders to gain the benefits from new renewable sources (through lower rates).</p>	<p>Co-Benefits/ Collaboration:</p> 		
<p>Actions</p>	<p>Lead</p>	<p>Due Date</p>	<p>Cost</p>
<p>Action 4.1</p> <p>Increase awareness and enrollment into low-income access program and increased benefits from RAP fund.</p>	<p>Cape Light Compact & MV Cape Light Compact Reps</p>	<p>On-going</p>	<p>\$</p>
<p>Action 4.2</p> <p>Use Vineyard Power RAP funding and work with CLC to apply credits.</p>	<p>Vineyard Power</p>	<p>Applied Annually or Monthly for 15 years</p>	<p>\$</p>

Objective 5 Develop a targeted program for solar and battery backup for low to moderate income rate payers.	Co-Benefits/ Collaboration: 		
Actions	Lead	Due Date	Cost
Action 5.1 Advocate for CLC Cape and Vineyard Electrical Offering.	MV Cape Light Compact Reps	2022	0
Action 5.2 Appeal through DPU or Act of Legislation.	State Senator and Representative	2024	0
Action 5.3 Build local Island partnerships and raise awareness to low-income rate payers.	Cape Light Compact	On-going	0

2 GOAL #3 Ensure that our energy supply is both adequate and resilient in response to the impacts of climate change.

Objective 1 By 2024, all Island towns have developed a plan based on Island-wide standards/guidelines for energy resilience in the face of extreme weather events and prolonged power failure.	Co-Benefits/ Collaboration: 		
Actions	Lead	Due Date	Cost
Action 1.1 Develop Island-wide resilience standards/guidelines to help towns evaluate the resilient energy demands of their critical facilities.	MVC Energy Planner, Town and County Emergency Managers	2023	\$
Action 1.2 Towns develop/approve a plan for resilience using generators and power from renewables with emphasis on renewables going forward.	Town Emergency Managers	2024	\$
Objective 2 By 2024, we have developed a plan with Eversource as to how we can meet the Island's resilience needs.	Co-Benefits/ Collaboration: 		
Action 2.1 Identify solar/battery projects and schedules that increase resilience and reduce peak energy demand; provide lists to Eversource.	MVC CATF Energy Group	2023	\$
Action 2.2 Work with Eversource to determine and publish their plans for resilience support.	MVC CATF Energy Group	2023	\$
Action 2.3 There is an organization created specifically to work with Eversource to guide the plan and monitor progress.	MVC CATF Energy Group	2024	\$


<p>Objective 3</p> <p>From 2023 on, aid the implementation of the Stretch Code and its future iterations to ensure new builds are increasingly resilient to the impacts of climate change.</p>	<p>Co-Benefits/ Collaboration:</p> 		
<p>Actions</p>	<p>Lead</p>	<p>Due Date</p>	<p>Cost</p>
<p>Action 3.1</p> <p>Outreach to building inspectors, architects, and builders regarding Stretch Code modifications including new incentives from CLC.</p>	<p>Vineyard Power -Energy Transition Coordinator</p>	<p>2024</p>	<p>\$</p>
<p>Action 3.2</p> <p>Training on the Stretch Code modifications and new CLC incentives are provided for architects and contractors.</p>	<p>Vineyard Power -Energy Transition Coordinator</p>	<p>2024</p>	<p>\$\$</p>
<p>Action 3.3</p> <p>Building Inspectors are working together to ensure that all are using the same metrics.</p>	<p>Building inspectors</p>	<p>2024</p>	<p>\$</p>
<p>Objective 4</p> <p>By 2030, all municipalities and regional entities have incorporated microgrid technology to service their critical facilities.</p>	<p>Co-Benefits/ Collaboration:</p> 		
<p>Actions</p>	<p>Lead</p>	<p>Due Date</p>	<p>Cost</p>
<p>Action 4.1</p> <p>Identify municipal facilities and sites for the location of microgrids to provide Island resiliency.</p>	<p>Town Emergency Managers, MVC Energy Planner</p>	<p>2023</p>	<p>\$</p>
<p>Action 4.2</p> <p>Engineering study to identify optimal technology for microgrids of identified facilities, addresses battery safety, and site conditions.</p>	<p>MVC Energy Planner</p>	<p>2025</p>	<p>\$\$\$</p>
<p>Action 4.3</p> <p>Begin public procurement processes for microgrid development.</p>	<p>Town Administrators</p>	<p>2026</p>	<p>\$\$</p>
<p>Action 4.4</p> <p>Install microgrids at town, county, and regional critical facilities.</p>	<p>Town Administrators</p>	<p>2026-2030</p>	<p>\$\$\$\$</p>

Other Proposed Partners to Support Objectives/Actions: Town Select Boards, Facilities and Department of Public Works Directors, Dukes County, Dukes County Housing Authority, Island Housing Trust, Councils on Aging, Energy Logic, MV Builders Assoc., MV Airport, Rental Car companies, PSD Consulting, Eversource, MA Department of Environmental Protection and Clean Energy Center, Steamship Authority, Vineyard Transportation Authority, School Department, Nantucket, Vineyard Conservation Society, HVAC Installers, Plumbers, Insulation Contractors, Solar Installers, design/build firms, Chamber of Commerce, Trades partners, Business Associations in Towns, CAP Volunteers, MA Department of Energy Resources, South Mountain Co., MA State Representatives and Senators, Vineyard Sustainable Energy Committee, Habitat for Humanity, Food Pantry, Island Health Services, State Board of Building Regulations and Standards Training programs

Overarching Goals and Objectives

GOAL #1

By 2040, the Island community has combined historical knowledge and practices with proven technology and current climate change science to build social, environmental, and economic resilience to the impacts of climate change and to minimize contributions to its cause.

Objective 1: By 2025, a collaborative framework for land use decision-making is developed that builds environmental and socioeconomic resilience.	Co-Benefits/ Collaboration: 		
Actions	Lead	Due Date	Cost
Action 1.1 Develop a series of maps for Land Use and Biodiversity -areas that can provide public safety and biodiversity resilience.	See Land Use Section	2024	\$\$
Action 1.2 Map and evaluate vulnerable business assets and areas for potential future relocation and a resilient future economy.	See Economic Section	2024	\$\$
Action 1.3 Complete town maps of transportation and infrastructure assets and vulnerabilities. Combine maps and ID areas of regional significance.	See Transportation and Infrastructure Section	2024	\$\$
Action 1.4 Identify collaborative long-term vision of environmental and socio-economic resilience to climate change.	Martha's Vineyard Commission	2025	\$\$
Action 1.5 Combine and review thematic group map layers to identify land use priorities that support the collaborative vision and areas of overlap/conflict.	Martha's Vineyard Commission	2025	\$\$
Action 1.6 Develop a land-use decision making framework and additional actions, regulations, policies needed to achieve collaborative vision.	Martha's Vineyard Commission	2025	\$\$
Action 1.7 Design a public information campaign to explain and build community support and political will for joint vision and land-use decision-making framework.	Martha's Vineyard Commission	2025	\$\$

GOAL #2

By 2040, implementation of actions that build environmental and socio-economic resilience of our Island are being implemented through reliable and sustainable sources of funding.

Objective 1: By 2030, a policy framework is in place to support a sustainable finance mechanism that generates and distributes funds for Island-wide climate action.	Co-Benefits/ Collaboration: 		
Actions	Lead	Due Date	Cost
Action 1.1 Complete a sustainable finance analysis to identify funding needs, and potential finance mechanisms that could be developed.	Martha's Vineyard Commission	2024	\$\$\$
Action 1.2 Work with towns and Dukes County to determine the best sustainable finance mechanism for Martha's Vineyard.	Martha's Vineyard Commission	2025	\$\$
Action 1.3 Develop a sustainable finance policy framework to outline fee structure, disbursement protocol, and decision-making.	Martha's Vineyard Commission	2027	\$\$\$\$
Action 1.4 Work with towns to adopt sustainable finance policy framework.	Martha's Vineyard Commission	2027	\$

GOAL #3

By 2040, climate change actions are being implemented through a team of professionals that are skilled in key capacities needed to support cross-cutting actions that build Island resilience.

Objective 1: At least one new climate-related position is hired annually to support implementation of key actions of the Climate Action Plan.	Co-Benefits/ Collaboration: 		
Actions	Lead	Due Date	Cost
Action 1.1 Hire a full-time grant writer at the MVC to identify funding sources and support grant proposal development with CAP leads.	Martha's Vineyard Commission	2022	\$\$\$
Action 1.2 Hire a Climate Communications Specialist to conduct strategic communications that support CAP goals and objectives.	Martha's Vineyard Commission	2023	\$\$\$
Action 1.3 Carry out a capacity needs assessment to identify and prioritize key positions needed to implement the CAP.	Martha's Vineyard Commission	2023	\$
Action 1.4 Explore new partnerships that can support capacity needs such as (graduate/legal students, fellowships).	Martha's Vineyard Commission	Ongoing	

Moving Forward

When it comes to climate action it's all hands on deck!

The hard work does not end with completion of this plan. Planning for successful implementation was a priority during development of the plan. Moving forward, we will review progress, adapt approaches to build on success, and address new challenges. When areas of conflict arise we will aim to balance the diverging interests (e.g., tick and wildfire management practices vs. biodiversity protection):

Implementation will move forward in the following ways:

The Vineyard Way website (www.thevineyardway.org) will be used to house the plan. It will be updated periodically to demonstrate how the 180+ actions are progressing and completed over time.

The MVC will oversee and coordinate plan implementation, led by the staff climate change planner and energy planner and supported by other staff. The MVC will communicate with the 20+ lead organizations to support implementation needs.

The Steering Committee will continue working together as the Climate Resilience Subcommittee (CRC) of the MVC Climate Action Task Force. The CRC will meet monthly and help prioritize actions, track progress, and collaborate with the towns and other represented groups to implement specific projects.

The Six Thematic Working Groups will each meet at least twice a year to review progress and make necessary adjustments based on new information that becomes available (see box).

An annual meeting of the entire planning team will take place to report on progress and look for new areas for cross-cutting action.

The Island Climate Action Network (ICAN) will provide on-going communications about how the public can get involved in supporting implementation of the plan and other climate efforts (www.islandclimateaction.org).

Current MVC Studies

MVC work is grounded in science and several studies are now underway that will help inform plan implementation. As these studies are completed, they will be shared with appropriate working groups to support updates to actions. These include:

- US Army Corps of Engineers Carrying Capacity and Supply Chain study
- Storm Tide Pathways study
- Sengekontacket Salt Marsh Migration study
- Woodwell Climate Research Center, Island decadal climate modeling and carbon sequestration studies
- Up-Island Pond Water Quality 208 Equivalency Project

Community Participants

We'd like to give a big **THANK YOU** to everyone who was involved in developing The Vineyard Way - Climate Action Plan and contributed to Climate Action Week.

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Monthly Climate Change Community Engagement Presenters

Protect Your Environment Club/
Felix Neck Wildlife Sanctuary
Eric Glasgow, Gray Barn Farm
Roxanne Kapitan, Garden Wisdom
Bow Van Riper, MV Museum
Island Grown Gleaners
Dick Johnson, MV Tick Program
Carolina Cooney, OB Library
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Cleveland House Poets, Arnie's
Poetry Cafe
Phil Colarusso
Molly Conole and Mark Lovewell
Cook the Vineyard
Cottage City Oysters
Leslie Davenport
Jenny Devivo
Dukes Conservation District
Edgartown Books
Edgartown Library
Farm Institute
Felix Neck Wildlife Sanctuary
Rebecca Gilbert
Emma Gildesgame
Goldie's Rotisserie
Green Room
Lila Fischer
Flying Elbows
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Honeysuckle Oysters
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Allyson Malik
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MV Charter School
MV Community Seed Library
MV Hospital
MV Film Festival
MV Film Society
MV Interfaith Action Team
MV League of Woman Voters
MV Museum
MV Regional High School
MV Shellfish Group
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Protect Your Environment Club
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Vineyard Gazette
Vineyard Haven Library
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Endnotes

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