



MEETING POSTING

TOWN OF NANTUCKET

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Committee/Board/s	Coastal Resilience Advisory Committee
Day, Date, and Time	Tuesday, September 27 th , 2022, at 10am
Location / Address	☐ REMOTE PARTICIPATION VIA ZOOM The meeting will be aired at a later time on the Town's Government TV YouTube Channel https://www.youtube.com/channel/UC-sgxAlfdoxteLNzRAUHIxA
Signature of Chair or Authorized Person	Mary Longacre, Chair Vincent Murphy, Coastal Resilience Coordinator
WARNING:	IF THERE IS NO QUORUM OF MEMBERS PRESENT, OR IF MEETING POSTING IS NOT IN COMPLIANCE WITH THE OML STATUTE, NO MEETING MAY BE HELD!

Coastal Resilience Advisory Committee

Agenda for Tuesday, September 27th, 2022, at 10am

A. Convene in Open Session via Zoom

Join Zoom Meeting

<https://us06web.zoom.us/j/86863383148?pwd=YkE0YUVNMIU1NnpwYTJ6clg4U241QT09>

Meeting ID: 868 6338 3148

Passcode: 917271

1. Call to Order

2. Meeting announcements

- Script for remotely conducting Open Meetings, read by the Chair
- The meeting is being audio / visually recorded

3. Approval of minutes from August 23rd, and September 13th
4. Update on events of Climate Change Awareness month
5. Update on CZM grant application from Vince Murphy.
6. Discussion of Climate Action Plan history and opportunities. The Select Board is expected to meet in November to review their Strategic Plan goals. Do we want to recommend that they add a Climate Action goal under Environmental Leadership?
 - 2008 Sustainable Nantucket Press Release - see packet
 - 2010 DRAFT Climate Action Plan (not formally adopted) see packet
 - 2018 #ACKLOCAL Sustainability branding initiative:
<https://nantucket-ma.gov/1129/Sustainability>
 - 2019 Hazard Mitigation Plan listed Climate Change as an area of concern <https://www.nantucket-ma.gov/DocumentCenter/View/24719/Town-of-Nantucket-2019-Hazard-Mitigation-Plan>
 - 2020 Sustainability Assessment Recommendations Report – see packet
 - 2022 Martha's Vineyard Commission Climate Action Plan presented to the NP&EDC on 9/19/22:
https://youtu.be/KYDXMIzj01w?list=PL49sKqpy7VAhMct0abpZ0-5e_AuC0lXe-&t=1822
The Plan can be downloaded from their website: <https://thevineyardway.org/action-plan>
7. Continued discussion of checklist for evaluating coastal projects for resilience – continued from prior discussion of shoreline access issues.
8. Continued discussion of Priority 1 projects for Madaket from CRP, Design Thinking Workshop 'Just Do It' project <https://sway.office.com/xzqM7zsrpWKGmGD1?ref=Link>
9. Public Comment
10. New business, Committee & Natural Resources Dept. reports from Planning Board, Conservation Commission, Harbor and Shellfish Advisory Board, Select Board, Advisory Committee of Non-Voting Tax Payers, and other committee members.
11. Discussion of upcoming meeting dates and topics: Next meeting dates are October 11th and 25th
12. Motion to adjourn

Developing a Climate Action Plan for the Town of Nantucket



The First Step – Nantucket Joins the Cities for Climate Protection Campaign

In 2008, in response to the request of local non-profit, Sustainable Nantucket, the Board of Selectmen of the Town of Nantucket unanimously voted to join the International Council of Local Environmental Initiatives (ICLEI) and participate in the **Cities for Climate Protection Campaign**. Nantucket joined over twenty-seven participating communities in Massachusetts alone, including, among others: Amherst, Barnstable, Boston, Falmouth, Gloucester, Hull, Kingston, Newburyport, Newton, Northampton, Salem, Somerville, Springfield, Williamstown and Worcester.

What is the International Council of Local Environmental Initiatives (ICLEI's) Cities for Climate Protection Campaign (CCP)?

The International Council of Local Environmental Initiatives (ICLEI's) Cities for Climate Protection Campaign (CCP) is a performance-oriented campaign that offers a framework for local governments to **reduce greenhouse gas emissions and improve livability** within their municipalities. It is designed to educate and empower local governments worldwide to take action on climate change.

- **What are the Milestones of the ICLEI Cities for Climate Protection Campaign?**
- **Milestone One:** Conduct a baseline greenhouse gas emissions inventory for the entire community and municipal operations.
- **Milestone Two:** Set an emissions reduction target.
- **Milestone Three:** Develop and adopt a local action plan or a collection of initiatives to reach the target reductions. These initiatives will include finding efficiency and technological improvements available to the municipality.
- **Milestone Four:** Implement actions. This milestone involves municipal government to formally adopt individual emission reduction initiatives. Further, various municipal departments may be called upon to coordinate and implement the adopted initiatives.
- **Milestone Five:** Monitor emission reductions. Perform follow-up inventories.

Achievements – In May of 2009, with the help of Sustainable Nantucket, the Town of Nantucket achieved the first two milestones of the Climate Protection Campaign process

On March 25, 2009, Nantucket achieved the first two milestones of the Climate Protection Campaign process. Board of Selectmen Chair, Michael Kopko & Selectmen Brian Chadwick, Allen Reinhard, Patty Roggeveen, and Rick Atherton **accepted the Greenhouse Gas Emissions Inventory report** completed by Sustainable Nantucket on behalf of the Town, and **approved the suggested targets for reduction** of greenhouse gas emissions reduction detailed in the report.

Achievement of these **milestones fulfills two of the criteria outlined in the Green Communities Act** for Nantucket to be considered for upcoming **"Green Communities" funding from the state of Massachusetts** – which could provide significant funding from the state **toward energy**

efficiency and renewable energy initiatives on the island.

NOW In Progress: Achieving the 3rd Milestone of the Campaign, designing a Climate Action Plan for Nantucket.

What is a Climate Action Plan?

It is a collection of initiatives to reach the target reductions. These initiatives will address both primary and secondary sources of carbon emissions, and include finding efficiency and technological improvements available to the municipality. Areas addressed will include buildings, (Historic District Commission guidelines; incentives for energy efficiency and renewable energy sources) lighting, town fleet, public transportation, community policies (e.g., idling policy), life cycle cost analysis for purchases, composting program, gray water /lo-flow toilet program, bio-degradable plastic trash bags; biker/pedestrian friendly community; public education campaign for the environment; school curriculum...

a.) Why do we need to have a Climate Action Plan?

- ❖ Reduction of Nantucket's carbon emissions will *provide multiple economic and environmental benefits* including:
 - o cleaner air and water
 - o cost savings from reduced energy use through efficiency and conservation measures
 - o reduced dependency on fossil fuels
 - o development of renewable energy
 - o reduced traffic congestion & pollution benefiting tourist economy and downtown revitalization
 - o potential for economic benefits from eco-tourism
 - o potential for economic benefits from agri-tourism
- ❖ **Increases TON eligibility for state funding for energy efficiency and renewable energy production:**

The Climate Action Plan can be used as a basis for a Municipal Energy Use Reduction Plan, tailored to fulfill the requirements for Green Communities funding (\$10 million per year currently available to qualifying municipalities with populations under 35,000) from the state of MA for energy efficiency and renewable energy initiatives.

 - o Qualifies the Town of Nantucket for additional Smart Growth Points from the State of Massachusetts increasing our eligibility for grants and lower interest rates on long-term capital loans.
- ❖ **It is important for the municipality to become the leader**, showing the Nantucket community that reducing energy use & carbon emissions is a priority. The plan includes implementing energy efficient & carbon gas emission within their own operations including building, facilities, and vehicle fleets. The plan also includes outreach initiatives to change public attitudes and behavior around lowering our carbon footprints and energy efficient practices.

Potential grants, incentives & assistance:

- ❖ Green Communities Grants for Renewable Energy and Energy Efficiency – \$10 million available annually - (Includes Energy Efficiency and Conservation Block Grant)
- ❖ Department of Environmental Protection (MassDEP): Municipal Waste Reduction & Climate Protection Grants –
- ❖ Massachusetts Technology Collaborative
- ❖ Sustainability Fund written into Plan – could be created by Town to generate funds for this effort – revenue from fees leveraged on new construction over a certain square footage in lieu of using renewable energy to power 20% of the new construction – people pay a fee. This funds Aspen’s municipal department and efforts in this area.
- ❖ Current federal legislation includes provisions for additional incentive funding as well.

In January of 2010, Sustainable Nantucket was hired as a consultant to facilitate the completion and adoption of Nantucket’s Climate Action Plan.

The Plan as it is written in DRAFT form is designed to give stakeholders a comprehensive view of the scope and scale of actions that will be necessary in achieving the goal. The initiatives listed are a **broad menu of possible steps** and the list is illustrative and flexible. **In order to reach the targets however, bold steps will need to be taken, possibly involving changes in current behavior patterns and will require sacrifices at both the individual and collective community level.**

The Town of Nantucket is seeking community input into this Plan.

Click [HERE](#) for a DRAFT of the Climate Action Plan

Please email any comments on the Plan to climateplan@sustainablenantucket.org

Next Steps

TON’s steps after a Plan has been refined and adopted.

Create an Implementation Plan. This follows the Climate Action Plan and outlines recommended actions, progress indicators, and the estimated costs and emissions reduction.

Take action in order of priority as determined in the Implementation Planning process.

Town of Nantucket

DRAFT

A Climate Action Plan for Nantucket Island

A roadmap to achieving targeted reductions by 2020.

7/15/2010

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This document was prepared by Sustainable Nantucket.

LETTER FROM THE NANTUCKET BOARD OF SELECTMEN

Open letter to the community of Nantucket:

We, the Nantucket Board of Selectmen, have made the commitment to make climate action and carbon emissions reduction a priority for our Town government and community. In March of 2008, we voted to join the International Council of Local Environmental Initiatives (ICLEI) and participate in their Cities for Climate Protection (CCP) Campaign. On March 25, 2009, Nantucket achieved the first two milestones of the Climate Protection Campaign process. We accepted the Greenhouse Gas Emissions Inventory report completed by Sustainable Nantucket on behalf of the Town, and approved the suggested targets for reduction of greenhouse gas emissions detailed in the report (See Appendix for full copy of report with approved targets).

The third milestone of the CCP Campaign is the development and approval of a Climate Action Plan (CAP or Plan) for the Town of Nantucket. A CAP is a collection of initiatives designed to reach the target reductions. These initiatives will address both primary and secondary sources of carbon emissions. Through adoption of this Plan, the Town articulates possible strategies designed to increase energy-efficiency in Town buildings, improve departmental practices, encourage the use of cleaner fuels, and invest in renewable energy within the municipal and community infrastructure. The Town will develop community policies, as well as educational and incentive programs in collaboration with schools and local non-profits, designed to encourage participation in the CAP by year-round and seasonal families, visitors and guests.

There are many reasons to draft a CAP, not the least of which are the potential economic and environmental benefits (cleaner air, cleaner water, reduced traffic and pollution) derived from energy conservation and reduced dependency on fossil fuels. Nantucket has strong, practical motivations for joining the CCP Campaign and making a definitive commitment to reducing fossil-fuel use and carbon emissions. In addition to reducing high-energy costs, our unique geographical situation makes us particularly vulnerable to the potential effects of climate change – advanced flooding and erosion should the sea-level rise as predicted, and devastating storm damage if the wind and water currents are altered.

Adoption of the CAP identifies and supports utilization of the significant renewable energy resources (wind-power --land-based and sea-based-- and tidal-power) that are available all around us to possibly achieve energy independence, as referenced in Nantucket's Master Plan, approved by the Planning Board and adopted by Town Meeting in April of 2008. Adoption of the CAP and implementation of certain specific actions will fulfill criteria set by the Massachusetts Green Communities Act, thereby making the Town of Nantucket eligible to receive state funding toward renewable energy development. In addition, as a resort destination for many influential seasonal residents and visitors, Nantucket's CAP can serve as an inspiration – the foundation of a

model of sustainability – which other communities across the nation may wish to copy. Successful implementation of the CAP initiatives and achieving target reductions could make us a destination for visitors beyond our traditional summer season and lead to economic benefits for our community in the form of eco-tourism and job creation.

As the elected leaders of the community of Nantucket, we strongly feel that is also incumbent upon us to envision, plan for, and safeguard the future of the Island, in as strategic and forward-thinking a manner as possible. Our acceptance of, and support for the CAP, actively demonstrates our commitment to reaching the benchmarks stated herein and we urge all residents to work collectively with us to reach the Plan's goals.

Sincerely,

Patricia Roggeveen, Chairperson

John "Rick" Atherton

Brian Chadwick

Michael Kopko

Whiting Willauer

THE INTERNATIONAL COUNCIL OF LOCAL ENVIRONMENTAL INITIATIVES (ICLEI)

ICLEI is an international member association of local governments who are dedicated to climate protection and sustainable development. The council was established in 1990 when 200 local governments from 43 different countries came together at the United Nations in New York. In 1995 the USA branch was created, which now includes as members, over 500 towns and cities that are working towards greenhouse gas reductions and sustainable development.

In 1993, ICLEI began the Cities for Climate Protection Campaign (CCP) to assist local governments that have committed to addressing the issues surrounding increased greenhouse gas emissions and the resulting global climate change. The CCP is a global campaign aimed at slowing the earth's warming trend by enlisting cities to prepare and enact plans to reduce energy consumption and associated greenhouse gases.

Nantucket Joins ICLEI

In March of 2008, at the request of a local non-profit, Sustainable Nantucket, Nantucket's Board of Selectmen unanimously voted in favor of joining ICLEI and the Cities for Climate Protection (CCP) Campaign. At this time, the Board accepted the offer from Sustainable Nantucket, to assist in the CCP process in collaboration with the Nantucket Energy Study Committee.

The Cities for Climate Protection Campaign (CCP) Milestone Process

The CCP involves a five-milestone process to achieve greenhouse gas emissions reductions. The five milestones are as follows:

Milestone One: Conduct a baseline emissions inventory for the entire community and municipal operations. From the baseline data, emissions growth or decline is forecasted assuming no actions are taken to address greenhouse gas emissions. The primary emission sources examined in the Milestone One Inventory are:

- *Transportation* - Emissions from personal and commercial vehicles
- *Energy Use* - Energy for residential, commercial, and municipal facilities
- *Solid Waste* - Methane and Carbon Dioxide (CO₂) contribution of waste disposal operations

Milestone Two: Set an emissions reduction target. Many local and international targets have been set at twenty percent of the base year emissions level and use their projection year as the target year for obtaining these emissions reductions.

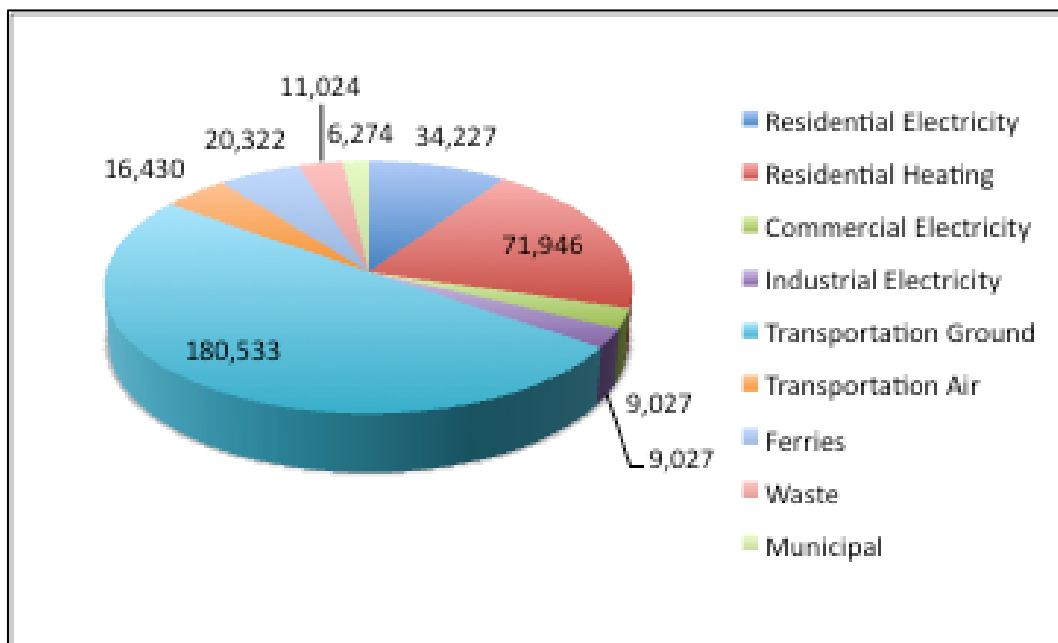
Milestone Three: Develop a local action plan or a collection of initiatives to reach the target reductions. These initiatives will include finding efficiency and technological improvements available to the municipality.

Milestone Four: Implement actions. This milestone involves municipal government to formally adopt emission reduction initiatives. Further, various municipal departments may be called upon to coordinate and implement the adopted initiatives.

Milestone Five: Monitor emission reductions. Monitoring and verification of progress on the implementation of actions to reduce emissions is an ongoing step that begins once measures are implemented. ICLEI's software tool assists in the quantification of emissions reductions and allows for convenient reporting of results.

Nantucket Emissions Inventory

On March 25, 2009, Nantucket achieved the first two milestones of the CCP Campaign process. The Board of Selectmen accepted the Greenhouse Gas Emissions Inventory report completed by Sustainable Nantucket on behalf of the Town, and approved the suggested targets of greenhouse gas emissions reduction detailed in the report. A breakdown of total emissions is shown on the chart below. For detailed information on the inventory and targets, please see Appendix E, on page 37.



Municipal + Community Emissions Inventory in metric tons of carbon dioxide equivalent in 2007. See source data in Appendix E and F.

THE CLIMATE ACTION PLAN: VISION, STRATEGIES & GOALS

Goal: The Town has adopted the goal of reducing total Nantucket Island greenhouse gas emissions by 10% below 2000 levels by 2020.¹

The purpose of this Climate Action Plan (CAP) is to identify actions that both the municipality and the Island's private community can take in order to reduce Nantucket's total greenhouse gas emissions to 10% below 2000 levels by 2020. We estimate that emissions have increased 10% since 2000, and project that in the absence of any mitigation measures, emissions will increase 3% per year through 2020², therefore achieving the 2020 goal will require reductions of 20% from the 2007 baseline across all major categories.

As the following content will demonstrate, achieving Nantucket's reduction targets will require extensive participation and commitments by the community, especially private citizens, and the Town. The plan is designed to give stakeholders a comprehensive view of the scope and scale of actions that will be necessary in achieving the goal. The initiatives listed are a broad menu of possible steps and the list is illustrative and flexible. In order to reach the targets however, bold steps will need to be taken, possibly involving changes in current behavior patterns and will require sacrifices at both the individual and collective community level.

Strategy Overview

The strategies in this CAP are grouped into the following major energy use / emissions source categories:

- Transportation
- Heating
- Electricity
- Waste Management
- Green Communities Requirements

Each category contains a summary of its impacts relative to other sources followed by select "Strategy Spotlights" which detail actions that can be taken to reduce emissions, and in some cases, consideration of the cost and benefits associated with a specific reduction strategy. Some programs are either existing measures or are currently in the development stages, others are totally new initiatives. Many of the new initiatives follow the example of other local government emission reduction efforts.

¹ For a further discussion of the reduction goals see the Inventory in the Appendix

² Nantucket's residential population increased 10% between 2000 – 2007, forward looking assumptions are based on the US Energy Information Administration's projection of 3% per year emissions growth between 2008 – 2035.

Nantucket's 2020 goal will not be feasible without significant reductions in the largest emission sources, namely private vehicles and residential heating and cooling. Together, these account for 79% off all on-island emissions. It will be very difficult to achieve the overall goal without a significant reduction in fuel usage for vehicles and significant improvements in heating and electricity use in buildings.

In an effort to facilitate Nantucket's application for the State of Massachusetts Green Communities Grant Program, the last section of the Plan highlights the five requirements for qualification, which include a 20% reduction in municipal energy use. Where those requirements are featured in the body of the Plan, they are noted as a Green Communities Requirements with the letters "**GCR**" next to the strategy. If Nantucket successfully meets the five requirements for the Green Communities program, the town will be eligible to receive a portion of the approximately \$7M in annual grant awards to fund energy efficiency and conservation programs in the state.

Appendices A – D list each strategy along with its anticipated cost and impact on a relative basis. Appendices E and F provide emissions inventory summary and details respectively. All actions with high or medium impact should be thoroughly investigated.

The Town's Role

The town can help facilitate the rapid development and deployment of reduction tactics by adopting the following strategies:

- ✓ Use Town leadership to inspire community action
- ✓ Build on existing efforts in the community
- ✓ Create a position, contract for services, or department assigned to:
 - Monitor progress of emission reduction programs and report the results
 - Coordinate implementation and funding
 - Manage energy contracts for the Town
 - Network with other communities and organizations who are participating in CCP Campaigns in order to learn from their experience and programs
 - Engage the community by developing education campaigns
- ✓ Maintaining openness to innovation and policy-making
- ✓ Evaluate and implement emissions reduction strategies under municipal control (noted herein with a **(M)** in the subject heading).³

³ Strategies are noted with an "**M**" if the Town can either implement the strategy for its municipal operations OR institute policy towards the desired goal.

It is important to keep in mind that direct municipal emissions are less than 4% of the total. Drastic reductions by the municipality will have an insignificant effect on reaching the established goal.

The Community's Role

Over 95% of the Island's total emissions are generated from private, commercial and industrial gasoline, fuel oil and electricity consumption. Town leadership can build infrastructure, set policy and live by example, but members of the community will need to be personally accountable for the conservation and efficiency actions suggested in the CAP in order to achieve the Island's emissions reduction goal.

In many cases, the greatest challenge to action is inertia and lack of information. We hope that this plan will be a valuable step along the path to empowering members of our community to identify ways to reap measurable cost savings from reductions in gasoline, fuel oil, or electricity usage through efficiency, conservation and new technologies. We encourage members of the community to get involved in the evolution of this plan and to follow the Town's lead in taking action.

TRANSPORTATION: GROUND, AIR, AND WATER

Transportation related activities (ground, air and water) account for 60% of the island's total emissions. It will be nearly impossible to accomplish the 2020 reduction goal without substantial reduction in fuel consumption for transportation, and specifically in ground transport as 83% of emissions in this category come from fuel consumed by vehicles on the island. Fuel consumption by ferries and planes make up the remaining 17% of transportation related emissions. Long-established patterns of development, behavioral activities, practical efficiencies and cultural practices support personal vehicle use and altering these practices will be a substantial challenge.

The following strategy spotlights are categorized according to improvements in (1) infrastructure, and (2) policy and education.

Strategy Spotlights – Infrastructure

T.1. Increase Nantucket Regional Transit Authority (NRTA) Ridership (M)

A significant increase in the number of NRTA riders would go a long way in achieving reductions in emissions from transportation if riders transitioned away from private

vehicles. A small bus carrying as few as 5 to 10 passengers can displace 5 cars and result in a 60% reduction in fuel use for every mile traveled.⁴

In order to achieve significant reductions in fuel consumed for vehicle use, the Town must support the use of public transportation in a variety of ways, such as:

- ✓ Provide incentive programs for Town employees and private citizens to use public transportation.
 - Cash-Out Program – offer employees a cash allowance in lieu of parking in or around the core area.
 - Provide passes to employees.
- ✓ Fund supplemental public transit operations and capital needs annually through local sources.
 - Add direct routes from additional satellite parking areas.
 - Increase frequency on heavily used routes.
 - Add service to areas where service currently does not exist.
- ✓ Expand service and add direct routes from additional satellite parking areas.
- ✓ Create policies that prioritize a reduction in car usage on the Island.
- ✓ Improve facilities including waiting areas, bus shelters and modernize vehicles and equipment.
- ✓ Marketing campaigns that encourage the use of efficient vehicles or alternative forms of transportation for vacationers, as well as summer and year round residents.
- ✓ Include costs for improving waiting areas and adding bus shelters in an annual capital plan
- ✓ Increase marketing efforts
- ✓ Expand methods for providing service information to users
- ✓ Offer Traffic Demand Management mitigation in exchange for parking waivers.
- ✓ Seek supplemental funding to expand the hours of operation of the downtown and beach routes.

T.2. Bike Friendly Nantucket (M)

Every trip a non-recreational cyclist takes replaces a car on the road and the fuel that vehicle would have been consumed for the trip. In order to encourage the use of bikes as a primary mode of transportation on the Island, bike travel must be as safe and convenient as possible.

The Town and the Nantucket Planning and Economic Development Commission (NP&EDC) have had an active bike path construction plan in effect since the early 1970's. While the Town has interconnected much of the bike path system, there are critical gaps remaining. The most challenging and controversial is creation of the so-

⁴ A 60% reduction in fuel usage occurs if 5 cars that average 20 mpg are replaced by 1 bus that gets 10 mpg over the same distance.

called “In-Town Bike Path”, connecting the downtown area to the rotary along Washington, Francis, Union, and Orange Streets. Gaps exist at the edge of town between Madaket Road and the mid-island area, a west of town corridor along Cliff Road, and in certain rural locations including Hummock Pond Road, Tom Nevers, and connecting to smaller village areas such as Wauwinet.

Specific actions to improve and expand Nantucket’s bike path network include the following:

- ✓ Advance the permitting, right-of-way acquisition, and construction of the paths currently under design, such as the first phases of the In-Town and Hummock Pond Road bike path, and the second phase of the Prospect Street bike path.
- ✓ Increase capital funding when necessary for bike path projects, such as scheduling Proposition 2½ overrides.
- ✓ Reconstruct intersections to improve bicycle safety and crossing at key roadways
- ✓ Provide free or reduced cost bicycle safety gear including, but not limited to, lights and helmets.
- ✓ Install infrastructure along identified safe routes to schools.
- ✓ Set aside annual funding to purchase and maintain public bike racks.
- ✓ Provide areas for locking bikes at a variety of destinations, including schools, town buildings, bike paths, beaches, and ferry terminals.
- ✓ Provide space for child trailers to be parked and secured
- ✓ Involve businesses in providing incentives for bikers⁵

T.3. Parking Management (M)

Nantucket’s population increase has resulted in a predictable rise in vehicle usage. Discussion about parking and congestion is broken into two parts: the downtown and the balance of the island.

T.3.1 Downtown Nantucket (M)

Maintaining the historic center of Nantucket’s downtown as the “symbolic center of the island” has been a longstanding policy supported by practices of historic preservation, New England cultural patterns, and traditional neighborhood/new urbanism principals. Congestion and parking issues have plagued downtown since the 1950’s and have been documented in numerous studies since that time. The Town has taken many steps to improve access to the downtown by alternative transportation modes and over the years, management activities, including one-way streets, enforcement of parking, and installation of signs. Downtown serves as the hub of necessary transportation activities connecting to vehicle and passenger ferries, public transportation, truck routes, deliveries to businesses – all factors which demand more active management of the

⁵ For more information see the People’s Pint Bike to Live Program in Greenfield, Ma.
<http://www.thepeoplespint.com/pages/BikeToLive.htm>

limited circulation and parking infrastructure. To increase efficiencies and decrease emissions from congestion related idling and unnecessary vehicle miles, specific actions include:

- ✓ Introduce paid on-street parking to improve efficiency and generate revenue for enforcement and public transit activities.
- ✓ Create satellite-parking areas on outlying Town property with direct NRTA access.
- ✓ Create seasonal corridors in congested areas allowing only NRTA and residential vehicles to increase speed and predictability of NRTA buses servicing satellite-parking areas.
- ✓ Manage resident parking areas adjacent to downtown.
- ✓ Eliminate sidewalk parking on key pedestrian routes.
- ✓ Manage pricing throughout the downtown to achieve peak efficiencies.
- ✓ Create policies which reward use of smaller fuel efficient vehicles, such as reserved parking spaces
- ✓ Implement tax benefits, flexible scheduling, telecommuting, van pooling, and bike racks, showers, and lockers for employees (source: MassRides).
- ✓ Require managed transportation plans when granting licenses for large events.
- ✓ Where appropriate, remove on-street parking spaces that impede traffic flow.
- ✓ Where possible, widen right-of-way to accommodate bike and pedestrian use, on-street parking, and minimum travel lanes

T.3.2 Remainder of the Island (M)

Congestion problems occur at key intersections in the mid-island area near public schools and at the convergence of bike paths. Extensive parking problems have been observed at certain beaches, the mid-island grocery store, and in certain high-density neighborhoods.

Reducing congestion and improving safety at dangerous intersections would reduce idling vehicles and remove a disincentive to use bicycles. The following actions would reduce congestion:

- ✓ Evaluate and possibly reconstruct high-traffic intersections to reduce congestion and improve safety for bicyclists and pedestrians as identified in the Master Plan⁶:
 - o Sparks and Atlantic Avenue, Prospect Street, and Surfside Road
 - o Bartlett and Surfside Road
 - o Rotary at Milestone and Old South Road, Orange Street, and Sparks Avenue
- ✓ Support the establishment of village centers in the Country Overlay District (COD).

⁶ See http://www.nantucket-ma.gov/Pages/NantucketMA_Planning/pubs

- ✓ Support the establishment of neighborhood centers in the Town Overlay District (TOD).
- ✓ Decentralize, where possible, activities that contribute to congestion and vehicle miles travelled.
- ✓ Create through-roads to remove bottlenecks and expand route choice to disperse traffic.
- ✓ Provide incentives for abutting property owners to consolidate vehicular access and provide interconnections between properties for vehicles and pedestrians.

Free parking in areas outside of the downtown serves to encourage private vehicle use as well. Revenue from parking could be used to fund public transportation and/or pedestrian and bicycle infrastructure improvements. Actions include the following:

- ✓ Expand resident sticker program for parking on public roads or property. Areas in Siasconset, Residential 5 (R-5) zoned neighborhoods, and certain publicly owned parking areas (parks, schools, open space, road shoulders, etc.) should be considered.
- ✓ Implement paid parking in mid-island and other commercial areas.
- ✓ Paid seasonal beach parking at Jetties and Surfside, including surrounding public roads.
- ✓ Lower the permitting threshold/provide incentives to encourage grocery delivery services.
- ✓ Provide incentives for businesses to encourage off-peak patronage.
- ✓ Relax zoning regulations for home occupations to reduce commuting.
- ✓ Provide incentives for abutting property owners to share parking.

T.4. Alternative Fuels (M)

In 2008 Massachusetts passed the Clean Energy Biofuels Act, which (1) offers preferred tax treatment for non-corn based alternatives to ethanol, (2) requires biofuel content in all diesel and home heating oil sold in the state, and (3) proposes new fuel standards that will encourage a range of emissions reducing technologies for cars and trucks.⁷ Biofuel content is expected to start at 2% in 2010 and ramp up to 5% by 2013. Nantucket could realize additional emissions reduction benefits by increasing the biofuel mix of its fuel to the more common B20 blend in some of its fleet, including garbage trucks, maintenance vehicles, fire trucks and school buses.

Other than sourcing and storing the biofuel, no engine adjustments are required to run B20. Because of the energy required to plant and harvest soy and palm oil, converting to standard B20 (20% biofuel) results in a 15% reduction in emissions compared to

⁷ For further information on the Clean Energy Biofuels Act go to the Mass.gov web page.
http://www.mass.gov/?pageID=eoeaterminal&L=4&L0=Home&L1=Energy%2C+Utilities+%26+Clean+Technologies&L2=Alternative+Fuels&L3=Clean+Energy+Biofuels+in+Massachusetts&sid=Eoeea&b=terminalcontent&f=eea_biofuels_act&csid=Eoeea

conventional diesel fuel. Waste cooking oil (e.g. from Island restaurants) can also be burned directly as a “local biofuel”. In this case the full 20% reduction in emissions can be claimed for each gallon of waste oil burned in vehicle. Since there may be an economic incentive for restaurants to donate their waste cooking oil, there may be a fuel cost savings from blending. In the City of Keene, New Hampshire all 77 of the city’s vehicles, from fire engines to snowplows, are running smoothly on B20 biodiesel, preventing an estimated 12 metric tons of CO₂ from entering the atmosphere annually.

Massachusetts has set the goal of making these fuels available to the public by mandating that all diesel and home heating oil be blended with biofuel⁸. Even though these fuels are not yet readily available, it could be advantageous for the community to begin a discussion with the island fuel supplier. Consolidating demand for biofuel will help yield the scale necessary to store the fuel on island. Having shared storage facilities would help NRTA make the conversion to a biofuel blend.

T.4.1 Position Nantucket as a demonstration site for plug-in hybrid and electric car technology (M)

Plug-in hybrids and electric cars would most likely be charged in the night hours; therefore an opportunity exists for these electric cars to draw power directly from wind turbines. An integrated program with a large-scale wind farm or via National Grid could be of mutual economic benefit. Consider that wind flow is strongest and most consistent at night, when electricity used in homes and businesses tends to be low. Such a program could dramatically reduce Nantucket’s transportation related emissions, depending on the rate of adoption of hybrid and electric vehicles. A pilot program could start with a community wind project, and then be expanded.

T.5. Trip Consolidation

Total vehicle miles traveled can be reduced by consolidating trips between outlying villages and common destinations, typically the downtown or mid-island. Car-pooling initiatives organized via internet sites such as Dividetheride.com have been successful in other communities. By deploying existing technology, one can imagine services ranging from “Stop and Shop Delivery”, to demand aggregation for taxi services to and from the ferries and the airport. Organized vanpooling has been utilized by some businesses and can be encouraged.

T.6. Encourage fuel conservation for recreational boating (M)

Exploring waters around Nantucket by boat is a favorite pastime of many who visit and reside on Nantucket. Boaters should have efficiency and conservation in mind when engaging in recreational boating. Ideas for specific actions include:

- ✓ Speed limits

⁸ See Clean Energy Biofuels Act

- ✓ Encouraging boat owners to maintain their engines and boats properly can enhance efficient use of fuel for recreational boating.
- ✓ A surcharge on the price of marine fuel could be imposed for use over certain thresholds to discourage frivolous use.

Strategy Spotlights – Policy and Education

T.7. Anti-Idling Policy (M)

Several cities have adopted anti-idling policies limiting the amount of time an engine may be running for town vehicles and any vehicles on town property or within a specified number of feet of a school property. The City of Denver conducted a successful pilot program with the use of a Vehicular Greenhouse Gas Tracking System on 146 city vehicles and 240 community vehicles. By tracking idling, rapid acceleration and braking, the city was able to cut idling by more than 35%, reduce emissions by 10% (as measured in CO₂/mile), and reduce fuel expenses⁹. According to the ICLEI Climate Air Pollution Planning Assistant (CAPPA) tool, reducing daily idling by one hour results in an annual savings of 900 gallons of fuel, or approximately \$2,500 and 9 metric tons (mT) of CO₂.

The current Massachusetts state law¹⁰ limits vehicle idling to no more than five minutes. The law does make some exceptions for vehicles that are making deliveries and need to run refrigeration or vehicles that need to run in order to operate machinery, for example. However, strict enforcement of idling policies by Town vehicles can reduce fuel costs, improve air quality, and reduce greenhouse gas emissions. According to the law, police, health officials, and all enforcement authorities have the ability to implement this policy. Penalties for ignoring this policy can range from \$100 to \$25,000. The foot police who monitor down town parking could enforce this policy. Also, the Town could educate the users of the Town fleet regarding the need to end idling.

T.8. School Bus Anti-Idling Policy (M)

The Massachusetts Department of Environmental Protection, (MassDEP), is working with school districts across the state to promote practical and effective actions for reducing our children's exposure to diesel pollutants as well as improve air quality. The state recommends the following steps to help reduce idling time at schools by school buses.

- ✓ Limit school bus idling time during pre-trip safety "circle checks."
- ✓ Direct drivers to turn off their buses as soon as they arrive in the schoolyard
- ✓ Provide a space inside the school where drivers who arrive early can wait, particularly during the winter.

⁹ http://www.icleiusa.org/success-stories/copy_of_smart-transportation/green-fleets-1/denver-co-cuts-idling-and-emissions-in-city-vehicles

¹⁰ M.G.L Chapter 90, Section 16 A

- ✓ Post "idling limit" signs wherever school buses park (see example to the right).
- ✓ Retrofit existing buses with pollution controls, and purchase new buses with cleaner burning engines.¹¹

The Town could work together with both the schools and the bus companies to educate and implement these strategies.¹²

T.9. Green Fleet Policy (M, GCR)

The Town can pass a resolution that stipulates that any new municipal vehicle must be the most fuel-efficient and/or the lowest emissions vehicle available that will fulfill the necessary function of that vehicle. Fuel efficient vehicles generally do not cost more, for high mileage, hybrid vehicles should be considered. A Green Fleet policy for municipal and school vehicles is required for consideration as a Green Community, as is a plan for replacing vehicles that do not meet the new fuel economy standards. *Guidance and Model Policy for Purchasing Only Fuel Efficient Vehicles* can be found on the Green Communities Web site.¹³

T.10. Carbon Offsets (M)

Either in addition to or in lieu of the Sustainability Fund outlined in the following section (T.11.), Nantucket could decide that it will allow some of its reduction targets to be met with the purchase of carbon offsets. A carbon offset is a financial instrument that represents the reduction one metric ton of carbon dioxide equivalent (CO₂e). Offsets are allowed under almost every carbon regulatory scheme around the world, including the Kyoto Protocol, California's AB 32, the East Coast's Regional Greenhouse Gas Initiative (RGGI), the Western Climate Initiative (WCI), and the American Clean Energy and Security Act (ACES), which passed the House of Representatives in 2009.

Offsets can be an appropriate interim substitute for direct reductions if they meet the highest standards of quality and transparency. High quality carbon offsets (1) follow a widely recognized standard, such as the Climate Action Reserve (CAR) or Voluntary Carbon Standard (VCS), (2) are independently validated and verified, (3) are serialized and registered to prevent double counting, (4) are of an appropriate vintage (e.g. matched within reason to the year the emissions were generated, a 2010 offset for emissions generated in 2010, etc.), and (5) are sold by a party that provides transparency into the details of points 1 - 4. Both CAR and VCS have multiple project protocols, including those for landfills, livestock, and forest management, any of which

¹¹ Suggestions taken directly from the MassDEP website on Air & Climate
<http://www.mass.gov/dep/air/community/schbusir.htm>

¹² In June 2008, Massachusetts passed the MassCleanDiesel program, which reduces air pollution from school buses. The retrofits available through this program improve local air pollution but do not result in reduced carbon dioxide emissions. For further information see the Massachusetts Dept. of Environmental Protection Air & Climate Web Site <http://www.mass.gov/dep/air/diesel/masscleandiesel.htm>

¹³ http://www.mass.gov/Eoeea/docs/doer/green_communities/grant_program/buying_fuel_efficient_vehicles.doc

might be desirable for Nantucket. Cost can vary widely among high quality offsets but a reasonable range is between \$10 and \$20 per metric ton (mT). Offsets can be deducted as a business expense but not as a charitable contribution.

If Nantucket is going to set interim targets and measurements between 2010 and 2020, offsets are likely to be a necessary step in achieving those targets.

T.11. Airport / Ferry Sustainability Fund (M)

Nantucket Airport operates a full service Fixed Base Operator (FBO), which oversees landing and parking fees, along with fuel services. The Town, in partnership with the Nantucket Airport, the Steamship Authority, and Hy-Line Cruises could consider launching a “sustainability fund” whereby fuel purchases or parking fees include the cost of the carbon emissions associated with commercial and private aircraft and ferry travel to and from the island. Contributions to the fund would be nominal compared to the cost of the mode of travel. The fund could be used to support energy efficiency measures or renewable energy projects elsewhere on the island. Marketing the program as a “Sustainability Fund” rather than an offset can help avoid some of the concerns and misconceptions about offsets.

Consider the example of balancing out the environmental impact from private air travel to and from the island by a contribution to the Fund: a private LearJet traveling round trip from New York’s La Guardia airport will emit approximately 5.5 mT of CO₂. A retail carbon offset that would fund reductions projects elsewhere can sell for \$15 per mT. Local reduction projects are likely to have a much higher cost per mT, but given that the former results in an \$83 charge on the cost of a multi-thousand dollar trip, there is room to charge a higher cost per mT and still have the fee be an appropriately small percentage of the cost of the trip.¹⁴

As noted above, in addition to offsetting the impact of private air travel to and from the island, the mitigation fund could include consideration of the fuel usage to transport visitors arriving to the island via ferry or commercial aircraft. Travelers could volunteer to contribute to the sustainability fund commensurate with the impact of their travel. Suggested contributions for this program would be nominal, on average less than \$5 for a ferry passenger and less than \$10 for an airplane passenger.

High quality retail carbon offsets that meet internationally recognized offset standards can be purchased for \$10 - \$15 per mT, whereas the cost to reduce one mT of CO₂ on the island might cost upwards of \$80 per mT or more. Therefore the sustainability fund might be better managed with a flat fee / contribution model determined by dividing the cost of targeted programs by the anticipated number of participants.

¹⁴ A Lear Jet uses 250 gallons of fuel per hour. Flying time between LGA and ACK is approximately 1 hr and 10 min, or 2 hours 20 min RT. Using the emission factor of 21.1 lbs of CO₂ per gallon of Jet A fuel burned, the emissions per hour are 5,275 lbs of CO₂ for a total of 12,133 lbs or 5.5 mT of CO₂.

T.12. Increase Town Police Bike Patrols (M)

Increasing the use of police bike patrols is one way for the Town to reduce transportation related emissions.

T.13. Optimize School Transportation Flows and Alternatives (M)

Optimization strategies for improving transportation flows and alternatives for Nantucket's schools include:

- ✓ Reinstate Bike to School / Work weeks
- ✓ Reconsider bus drop-off locations
- ✓ Educate and improve services to maximize the use of existing bus services

T. 14. Proper Tire Inflation Program (M)

Under-inflated tires can lower gas mileage by 0.3 percent for every 1 pounds per square inch (PSI) drop in pressure of all four tires. Thus, a vehicle running tires 5 to 10 PSI under-inflated is losing 1.5% to 3% fuel economy. Properly inflated tires are also safer and last longer.¹⁵ Educating the public about proper tire inflation using well placed signage can ensure that vehicle tires are properly inflated at all times, especially after beach excursions.

T.15. Food Miles Concept and Strengthening Local Agriculture

Food Miles is a term that refers to the distance food is transported from farmer to consumer. It is often thought of as a way to judge the environmental impact of food. For example, if faced with the choice of an apple from Vermont or California, the Vermont apple would have fewer Food Miles associated with it as a result of that apple being produced on a more "local" scale.

Currently, the majority of energy in the U.S. food system is used in processing, packaging, transporting, storing, and preparing food. From farmer to consumer a piece of produce grown in the United States often travels 1200- 1300 miles.¹⁶ While Nantucket's farmers cannot meet the Islands entire food needs, it is important to support the existing farms and growers, and to, where possible, support the expansion and strengthening of the agricultural infrastructure on Nantucket. Given the high cost of land on Nantucket resulting in the inability of many small growers to expand their operations in order to supply more locally grown food to the community, it would be advisable to support creative solutions to this problem. Experimental organic agriculture initiatives such as the New Alchemy Institute have proven that it is possible, using organic growing

¹⁵ For further information see the fueleconomy.gov website.
<http://www.fueleconomy.gov/feg/maintain.shtml>

¹⁶ For more information on the subject of Food Miles visit the National Sustainable Agriculture Information Service Website http://attra.ncat.org/farm_energy/food_miles.html

techniques, greenhouse technology and renewable energy to grow enough food sustainably, to feed 10 families, 365 days a year, on 1/10 of an acre of land.

HEATING AND GREEN BUILDING

In order to achieve its 2020 goal, Nantucket will have to make significant reductions in fuel oil consumption used for heating residential and commercial buildings. Residential heating accounts for 20% of total Island's carbon emissions, while heating of municipal buildings accounts for 40% of the Town's emissions. Like reducing vehicle miles on the island, there are many benefits from reducing Nantucket's fuel oil consumption, including reduced heating bills and creating jobs to implement weatherization programs. Changes to building codes can standardize energy efficiency and streamline application for state and federal funding opportunities.

Strategies for tackling emission reductions in heating use are categorized by (1) efficiency measures, and (2) education and policy.

Strategy Spotlights –Efficiency Measures

H.1. Weatherization (M)

According to the US Department of Energy, heating and cooling account for 50 to 70% of energy used in the average American home and inadequate insulation and air leakage are the primary causes of energy waste. Weatherization programs seal cracks around windows and doors, add insulation, and sometimes replace inefficient appliances, reducing energy-use-related Green House Gas (GHG) emissions and lowering utility bills. Studies suggest weatherization programs can save households 10-20% of annual energy costs. Assuming 10,000 households on the Island spending \$1,800 per year for fuel oil and propane, it is reasonable to estimate \$180 to over \$300 per year in potential savings for each home that undertakes an aggressive weatherization effort.¹⁷

Weatherization is a two-step process of first caulking, sealing and weather-stripping all seams, cracks and openings to the outside. About one third of leaks occur through openings in ceilings, walls and floors, ducts and fireplaces are other significant culprits. Once all leaks are sealed, insulation is used to provide an effective resistance to the flow of heat.

The Mass Weatherization Assistance Program (WAP) helps low income household reduce their heating bills by providing full-scale home energy conservation services, using federal and state funding. Typical work completed includes air sealing, attic

¹⁷ Assuming \$3 per gal for fuel, 3,700 HH, and 2007 baseline fuel consumption.

and/or sidewall insulation, and weather-stripping. Funds from the American Recovery and Reinvestment Act (ARRA) are helping expand this program in 2010.

Simply educating island residents about the benefits of weatherization might motivate homeowners who can afford to finance their own payback period. The town could facilitate a weatherization lecture series where community members could come with questions about their buildings and leave with practical solutions. Experts could be invited as guest lecturers. Sponsoring organizations could include Sustainable Nantucket, Housing Nantucket and the Nantucket Housing Authority, to name a few. This could also be an opportunity for the Historic District Commission to offer information of its Sustainable Preservation building guidelines.

H.2. Installation of Programmable Thermostats (M)

Through the use of a programmable thermostat it is possible to adjust the times of heating and cooling of a building based on a pre-set schedule, reducing energy use and increasing savings. It is possible to save 10% per year on heating and cooling bills by turning thermostats back 10° - 15° for an eight-hour period.¹⁸ Currently, the Town spends \$429,016 on light fuel oil (not including schools) according to the emissions inventory. If the Town turned down the thermostats at night by 10° - 15°, this would result in a savings of approximately \$42,000 per year.

H.3. Installation of Low Flush Toilets (M)

Traditional toilets use 3.5 gallons per flush (gpf). Newer low flush units can use between 1.6 and 1.0 gpf. These models tend to be more expensive than traditional models, however the extra cost is recouped in the savings associated with the cost of water. In a commercial facility that has roughly 30 flushes 260 days per year a traditional toilet would cost \$110 in water usage compared with a low flush and ultra-low flush that would cost \$50 and \$30 respectively. As new toilets are needed in Town buildings they could be replaced with either a low flush unit or an ultra-low flush unit, saving energy and water. The same substitution should be encouraged for private residences.

H.4. Rain Barrels and Greywater Collection (M)

Rain Barrels are a simple technology that harvests rain water from roofs and collects them in barrels. This technique has been used through out history as a means for procuring water. By using rain barrels it is possible to collect usable water without using electricity. Without rain barrels, rain is absorbed into the ground and replenishes the aquifer. Once in the aquifer, the water is then pumped up into the building or home to be used on demand. Harvesting rainwater can cut out the use of a pump for uses that do not require potable water, such as garden irrigation.

¹⁸ For more information go to the Governments Energy Savers Web Site for Thermostats
http://www.energysavers.gov/your_home/space_heating_cooling/index.cfm/mytopic=12720

It will be necessary for the Town to determine the different external uses for which water is currently needed. Rainwater or greywater may serve a number of municipal needs now served by potable water such as town landscaping and washing town vehicles and boats. Once the need for external water is evaluated it will then be possible to determine the best locations for rain barrels or greater collection. If the Building Department building (a roughly 58'x52' building) were to harvest its rainwater, an annual average of 78,917 gallons of water per year could be harvested.¹⁹

Strategy Spotlights – Policy and Education

H.5. Adoption of State Stretch Code (M, GCR)

As of August 1, 2009 the state of Massachusetts has adopted Appendix 120 AA that is a more stringent energy code based on the International Energy Conservation Code 2009. This appendix to the existing code is the result of municipalities of Massachusetts requesting an energy code that creates higher standards than the one already in place.²⁰ The stretch code is a voluntary option for municipalities looking to reduce energy waste from buildings though its adoption is a necessary step in the application for Green Communities funding.

H.6. Luxury Building Mitigation Fund (M)

Similar to the Airport / Ferry Sustainability Fund discussed in T.10, Nantucket could manage a mitigation fund from high end development. For example, the program could require all new construction over a certain size to meet 20% of its energy demand through onsite renewable energy or pay a fee. Fee payments could also be generated from the installation of any new heated pools. This revenue could fund selected initiatives designed to reduce overall emissions.

Since launching its Renewable Energy Mitigation Program in 2000, the city of Aspen, Colorado has raised over \$8 million for energy efficiency and renewable energy projects. REMP has two fees. One based on the size of the new home and the other based on whether or not the home has a non-complying exterior snowmelt, pool, and spa systems. The program charges new homeowners one fee if their homes exceed 5,000 sq. ft. and another fee up to \$100,000 if they exceed the "energy budget" allotted to their property by the local building code. As of Fall 2002, REMP has raised more than \$2 million for local energy efficiency and renewable energy projects. REMP's goal is to keep three tons of carbon out of the air for every excess ton of carbon put into the air.

¹⁹ Maximum Gallons of Rain Water Capture= (Annual Rainfall (42'')) X (Sq. Ft. of Roof (3000)) X (.623 gallons). For more information see Harvest H₂O website.
http://www.harvesth2o.com/Capture_System.shtml#top

²⁰ A copy of the Stretch Code can be found in the appendix of this document.

H.7. Low Interest Loans for Weatherization (M)

WAP may well serve a small portion of the Nantucket community but funding is limited and insufficient for the number of homes requiring retrofitting. It is likely that additional sources of funding will be necessary. The Town of Nantucket, with the assistance of National Grid or through the fund created in H.6., could encourage efficiency improvements by offering low or zero interest loans to building owners for improvements. For example, New York State offers home and multi-family building owner's loans at 4% below market for weatherization measures.

H.8. Promote Green Building Practices / LEED Certification (M)

Green Building practices take a holistic approach to environmental performance that includes water and energy efficiency, building materials, chemical usage, and transportation amenities. LEED (Leadership in Energy and Environmental Design) is a program of the US Green Building Council that recognizes the environmental performance of buildings and building professionals. Along with EPA's Energy Star for buildings, LEED offers a standard by which choices of windows, insulation, lighting systems, and heating and cooling systems allow for the most efficient building design. In addition to energy and water cost savings, there are paybacks associated with increased productivity and health.

Nantucket could offer lower building fees or expedited permit processing for buildings that meet LEED or Energy Star requirements.

ELECTRICITY

Residential electricity accounts for 10% of total Island emissions and electricity use in Town-owned buildings accounts for 20% of all municipal emissions. This section considers ways to reduce electricity usage through (1) efficiency, (2) conservation, and (3) renewables.

It is important to remember that efficiency and conservation are powerful tools – every kilowatt reduction achieved gets full credit for carbon reductions, and reduces the need for new electric power plants. Efficiency efforts can yield valuable reductions while the groundwork is laid for future deployment of renewable electricity sources.

Strategy Spotlights - Efficiency²¹

E.1. Efficient Lighting (M)

Moving to energy efficient lighting is one of the lowest cost ways to reduce electricity use and emissions. Inefficient incandescent bulbs are to be phased off the US market by 2012 and as a result, efficient lighting technology has advanced substantially. If using as little energy as possible is the goal, LED bulbs are the best option. Other things in LED's favor: they are dimmable, they turn on immediately, they offer a better quality of light, they last up to five times longer than CFLs and they don't contain mercury, which can be an issue with the disposal of CFLs.

As a versatile bulb that burns comparably bright to a standard incandescent, but still costs less over the long term and burns more efficiently, the CFL is still a good choice. CFLs use on average about 75% less energy than incandescent bulbs, and last 10 times longer. Nantucket families could save at least \$30 in electricity and replacement costs for each bulb they switch. Replacing 500 incandescent bulbs with CFLs would produce an annual cost savings of \$2,400 and a simple payback of 6 months.²²

When deciding between CFLs or LEDs, bulb price, lifespan, lumens (brightness), and wattage/electricity cost (how much electricity it takes to light the bulb) are all relevant factors. Web based tools are available to help buyers determine what lighting is right for them.²³

One-way Nantucket can encourage community members to purchase efficient lighting is to hold promotional CFL or LED bulb giveaway days. In addition to the efficient bulbs residents take home, a giveaway raises awareness of the benefits of efficient lighting, encouraging participants and their neighbors to buy additional bulbs on their own. Promotional giveaway programs can also be effective when coupled with other energy efficiency programs, such as low-income weatherization (see H.1.).

E.2. Install LED Streetlights (M)

Street lighting is often one of the largest items in a local government's energy budget. Many cities still have older, inefficient, mercury vapor lamps or incandescent bulbs in streetlights. LEDs have been used to successfully reduce energy use for traffic signals, and some cities are now choosing expanding their use to save energy from street lights. LEDs are highly efficient, and their light is directional, making it easy to focus them on roads, avoiding ambient light pollution and energy waste. LEDs produce better light quality than sodium lamps and provide better visibility of colors. Perhaps the most

²¹ While none of these efficiency strategies are specifically required under Green Communities, they will all help the Town achieve a 20% reduction in energy use in 5 years, which is required under the program.

²² ICLEI CAPPA Tool

²³ Productdose.com designed a light bulb comparison spreadsheet to help consumers determine when to purchase a CFL, LED or incandescent bulb. (http://www.productdose.com/LightBulb_Comparison.xls)

attractive feature of LEDs for local governments is the maintenance savings from their long life--10-12 years in streetlight applications.

According to ICLEI's CAPP tool, replacing 100 streetlights with LED lights would avoid 17.5 mT of CO₂ emissions and yield \$3,750 in annual energy savings and have a payback of less than three months²⁴.

E.3. Green Purchasing (M)

The Town should implement a green purchasing policy that would result in the purchasing of energy efficient appliances as well as sustainable and recycled products. Products could include recycled paper; energy efficient copiers, recycled content asphalt, concrete, or paint.²⁵ ENERGY STAR rated appliances should be required when replacing existing equipment. ICLEI's CAPP tool can help buyers calculate the energy and cost savings from purchasing efficient appliances should be required when purchasing ranging from computing devices, kitchen appliances as well as heating and cooling systems.

Strategy Spotlights – Conservation²⁶

E.4. Kill Phantom Loads (M)

Standby power, also called "phantom loads" refers to electric power consumed by electronic appliances while they are switched off or in standby mode. According to a McKinsey study, standby power alone is 6 to 8 percent of total energy consumption.²⁷ The biggest offenders include VCRs, TVs, computers, kitchen appliances and phone chargers. Phantom loads can be avoided by unplugging the appliance or using a power strip to cut all power to the appliance. SmartStrips are intelligent power strips that allow some appliances to be "always on" and empowering one appliance to trigger all others (e.g. when the computer is turned off, the printer, desk light and paper shredder are all powered off).

E.5. Promote the Use of Energy Measurement and Management Tools

When it comes to energy conservation, knowing really is half the battle. New tools and technologies are arming businesses and individuals with data about their electricity consumption, which in turn helps drive smarter choices about energy consumption. Tools for energy management include the use of smart meters, home and business energy calculators, and web based energy management tools. For example, OPOWER, which delivers energy savings to utility partners through large-scale customer

²⁴ Assuming 11 hrs of daily street light operation, \$0.09 per kWh, and 928 lbs CO₂ per MWh.

²⁵ See King County, Wa. Environmental Purchasing Program website for more details.

http://www.kingcounty.gov/operations/procurement/Services/Environmental_Purchasing/Policies.aspx

²⁶ While none of the conservation strategies outline are specifically required under Green Communities, many of these measures will help the Town achieve the required 20% reduction in energy use.

²⁷ http://www.mckinsey.com/client/service/electricpowernaturalgas/US_energy_efficiency/

engagement. By teaching households how to understand their energy use, OPOWER has helped up to 80% of targeted households take energy saving actions.

Simple steps like using Smart Strips, motion activated lighting, daytime janitorial service, reducing phantom loads, and running large appliances at off peak hours can reduce islanders' energy bills and reduce emissions from electricity.

E.6. Participate in a Demand Response Program (M)

Demand Response is a specific form of energy management whereby participating businesses are paid to reduce energy use during peak periods. Massachusetts based EnerNOC is a leading provider of demand response services, as well as energy management solutions for businesses (www.enernoc.com). Comverge provides similar services for individual homes (www.comverge.com). The Town of Nantucket might want to consider whether some of its buildings could benefit from participation in a demand response program.

E.7. Implement Time-of-Use or Peak Demand Energy Pricing (M)

In cooperation with National Grid, the island could implement an energy pricing policy that would charge customers a premium for energy consumed during peak demand periods, such as daytime summer hours (targeting air conditioning usage). While participation in a demand response program outlined in E.6. serves as a carrot, peak demand pricing can act a stick – and one that can potentially raise funds for energy efficiency measures in collaboration with the local electric company. [Note: National Grid is a likely source of funds to implement efficiency measures.]

E.8. Promote water conservation through proper lawn maintenance (M)

Irrigated and manicured lawns require considerable amount energy to maintain. Encouraging native landscaping or creating policy to limit the amount of water allowed for irrigating lawns would reduce residential electricity demand.

E.9. Employee Energy Education Program (M)

In order to increase more awareness of energy conservation issues and practices, an education program could be administered where the connection between employee execution of practical measures and energy savings for their business or home will be addressed. As a result of this education program, employees would be empowered to alter their individual energy use, as well as identify environmental and financial benefits associated with these actions. One possible resource would be to look into a Carbon Challenge where employees would compete against one another to achieve the greatest reductions.

E.10. Climate Change Curriculum and Community Education

Educating young people about the science of Climate Change is one of the most effective tools in facilitating behavioral changes. The Massachusetts Department of Education's Science and Technology/Engineering Curriculum Framework includes many

learning standards, specifically in the earth sciences, which can be accomplished by utilizing materials that focus on the use of energy resources and climate change. A possible resource could be the School Curriculum Backpack offered by Clean Air- Cool Planet.²⁸

E.11. Shade Tree Planting Program

All buildings absorb solar heat through windows and roofs resulting in an increased internal temperature. A landscape that incorporates shade trees into its design can lower solar heat gain. Deciduous trees, those that lose their foliage in the late Fall should be planted on south and west sides of buildings. This positioning helps protect the building from the directions that the sun is the strongest. Also, if an air conditioning unit were shaded it could increase the units' efficiency by 10%. Trees can also act as a wind block. All building owners should be encouraged to look at the advantages of shade trees planted when considering their landscape design.²⁹ Public shade tree programs should also be investigated.

Strategy Spotlights – Renewable Energy Generation

E.12. Renewable Energy Certificates (RECs) (M)

Renewable Energy Certificates represent the environmental benefits of renewable energy. RECs are sold separately from the energy itself and allow businesses and residents to claim ownership of renewable energy sources such as solar and wind without having to generate that energy themselves. Purchasing RECs will not reduce Nantucket's energy consumption, but as is the case with carbon offsets (T.10.), the town may decide it is appropriate to meet a portion of its electricity reduction target through the purchase of RECs. RECs can be purchased at prices ranging from \$5 to \$15 per MWh.³⁰

It is worth noting that the environmental attributes of renewable energy can only be counted once, either towards the island's reduction targets, or for sale to a third party, who in turn will count those reductions towards their targets.

E.13. Renewable Energy Generation from Wind Power (M)

The island and surrounding waters have significant wind power potential.³¹ The map below depicts wind speed estimates at 50 meters above ground as an indicator of suitability for utility-scale wind development.³²

²⁸ For more information see the following website <http://www.sciencecentercollaborative.org/backpack.php>

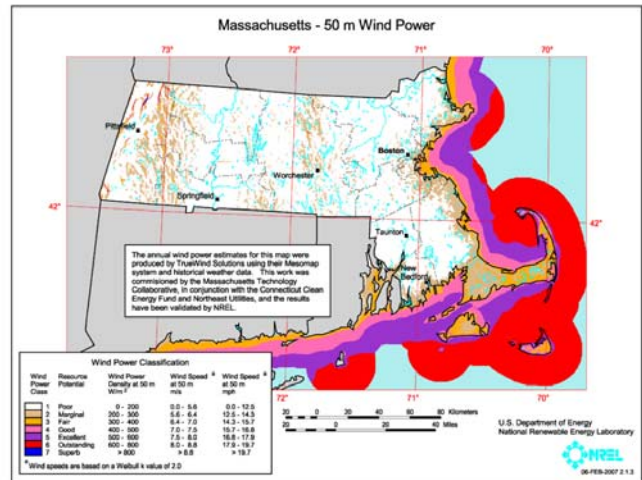
²⁹ Energy Savers.gov http://www.energysavers.gov/your_home/landscaping/index.cfm/mytopic=11940

³¹ With only an annual average of 52 days of sunshine per year, the island is less favorably designed for solar.

³² Wind power map of the state of Massachusetts published by the US Department of Energy's Wind Program and the National Renewable Energy Lab (NREL).

Wind energy can come to Nantucket from three different project types: (1) offshore utility scale development; (2) onshore utility scale development; or (3) small community wind projects.

With Cape Wind on the horizon, a large-scale utility wind³³ project would not be appealing or necessary on Nantucket. This leaves the consideration of community wind projects and small-scale wind installations to power businesses or individual. Community wind projects have the possibility of reducing municipal electric bills as well as stretching the Towns budget in the following ways by avoiding the full retail cost of delivered electricity and the potential for additional savings through power purchasing agreements. These projects should be allowed by reducing barriers to their permitting and construction.



Resources for further investigation of community wind projects include the Cape & Islands Renewable Energy Collaborative³⁴, the Massachusetts Clean Energy Center³⁵ and the Island Institute,³⁶ which focuses specifically on the year-round island communities in the Gulf of Maine.

The cost and emissions reductions of small-scale wind installation make economic sense on a ten to fifteen year payback schedule. With a lower marginal cost of electricity as compared to utility rates, the owner of a home or farm scale wind turbine (100 kW capacity or less) is likely to payback his or her investment in a ten to fifteen year period.

One interesting comparison is to consider the cost of home and farm scale wind verses the purchase of RECs. Assuming \$2,000 per kW capacity, purchasing and installing a 50 kW turbine will cost \$75,000.³⁷ Assuming 30% capacity over a 15-year period, the cost of the energy generated from that turbine is approximately \$50 per MWh. RECs can be purchased on the open market from anywhere between \$3 and \$10 per MWh. The REC however, does not factor in the cost of electricity. Assuming a retail electricity rate of \$0.09 per kWh (\$90 per MWh) over a 15 to 20 year time horizon, the economics of producing wind are favorable even to the purchase of RECs. (Note: the economics of

³³ Above 100kW, the distinction between community and utility-scale wind has to do with the ownership structure, where community wind projects are locally owned and optimize local benefits.

³⁴ www.cirenew.org

³⁵ <http://masscec.com>

³⁶ For further information on the Island Institute Community Wind Programs see their web page

<http://www.islandinstitute.org/communitywind.php>

³⁷ <http://www.windustry.org/how-much-do-wind-turbines-cost>

wind projects change considerably if Nantucket is able to take advantage of State and Federal financing opportunities such as The Massachusetts Clean Energy Center's (MassCEC) Community-Scale Wind Initiative awards³⁸.)

E.14. Solar installations (M)

Town administration is working with private entities to explore solar sites on the island. By leveraging current tax incentives and attractive financing from solar developers, the Town and perhaps some residents could utilize on site solar energy with little or no upfront cost. While sunshine is not as abundant on the island as wind, solar installations are less obtrusive and therefore may be palatable for more locations.

E.15. Residential and Commercial Wind & Solar

The Town of Nantucket was a leader in adopting a Wind Energy Conversion Systems (WECS) Bylaw at the Annual Town Meeting in April of 1982. However, since that time the WECS Bylaw had not been updated to reflect new technologies or other relevant changes to the Zoning Bylaw. At the 2009 Annual Town Meeting significant changes to the WECS section of the Zoning Bylaw were adopted. Changes included expanding the zoning districts in which WECS are allowed, reducing the setback restrictions associated with WECS, relaxing the height requirement for roof or wall mounted WECS, and eliminating outdated requirements and standards that are not relative to newer technology. Residential WECS are now allowed by-right as an accessory use in all zoning districts. Commercial WECS are allowed by-right as an accessory use in the Commercial Industrial (CI) district and allowed by special permit as a primary use in certain large lot residential districts and certain commercial districts. Solar installations are exempted from local zoning regulations under Massachusetts State law.

Also in 2009, in order to assist residential homeowners and commercial business owners in their quest to green their buildings with wind and solar installations, local nonprofit Sustainable Nantucket, in partnership with Clean Air-Cool Planet and funded by the 11th Hour Project, collaborated with the Nantucket Historic District Commission to facilitate the drafting of a set of "green building" guidelines, entitled *Sustainable Preservation Guidelines*. These guidelines delineate the HDC's approach to renewable energy and energy efficiency inside, and outside of the Old Historic District, in new and existing buildings. The *Sustainable Preservation Guidelines* were formally adopted in October of 2009 and are among the first of their kind in the nation.

E.16. Zoning for Municipal Wind (M, GCR)

The intent of the recent Bylaw changes, mentioned above, in addition to providing much needed updates, were to ease permitting and remove obstacles that discourage wind generation. In order to encourage significant wind generation at a commercial scale, the WECS and Height Limitations sections of the Zoning Bylaw will require further changes. Furthermore, in order to qualify for Green Communities, the must pass an as-

³⁸ <http://masscec.com/index.cfm?pid=11047>

of-right by-law for renewable power generation (for more information see the Green Communities Web site³⁹.)

E.17. Pilot Program for Plug-In and Electric Vehicles Powered By Wind (See also T.4.)

Nantucket could become a demonstration site for plug-in hybrid and electric car technology. Wind flow is at its strongest and most consistent at night, when electricity used in homes and businesses tends to be low. With little nighttime demand, the value of power generated from midnight to 6 a.m. should be available at cheaper rates. Since, plug-in hybrids and electric cars would most likely be charged in the night hours, an opportunity exists for these electric car users to draw power directly from wind turbines. An integrated program with a large-scale wind farm or via National Grid could be of mutual economic benefit. Such a program could dramatically reduce Nantucket's transportation related emissions, depending on the rate of adoption of hybrid and electric vehicles. A pilot program could start with a community wind project, and then expand in partnership with a utility scale wind installation.

E.18. Wind Turbine Education Program, Nantucket Public Schools

Nantucket Public Schools is working with a wind committee (made up of educators, administrators, and sustainability professionals) to orchestrate the construction of a wind turbine located on school property. The turbine will serve two purposes; one, to reduce the energy bills of the school, and two, to be a tool for students in learning about green technologies, engineering, and the permitting process associated with the turbine. The committee is currently researching the possible cost savings and CO₂ reductions associated with the project. The turbine is scheduled for completion in the fall of 2010.

E.19. Planning Office and Renewable Energy Research (M)

Two major initiatives were begun in 2007: (1) coordinating with the Town of Edgartown to seek a Federal Energy Regulatory Commission (FERC) permit for a tidal energy demonstration project and (2) requesting a lease from the Bureau of Ocean Energy Management, Regulation, and Enforcement (BOEMRE) (formerly the Mineral Management Service (MMS) of the Department of the Interior) to study an area known as "South of Tuckernuck", a broad area between Tuckernuck, Muskeget and Chappaquiddick on Martha's Vineyard.

The NP&EDC is an active partner working with local, institutional, state and federal entities to create a Marine Renewable Energy Consortium (MREC) in this area between Nantucket and Martha's Vineyard. In addition, opportunity for renewable energy has become available with the passage of the state's Oceans Act, which allows for the development of an ocean management plan, an initiative that will most certainly involve the Commission's participation.

³⁹ http://www.mass.gov/Eoea/docs/doer/green_communities/grant_program/model_wind_bylaw.pdf

On May 28, 2008, the Massachusetts Oceans Act (Chapter 114 of the Acts of 2008) was signed, setting forth a year long process of developing a draft plan for Massachusetts coastal waters followed by a six-month process of finalization and rule changes. Staff and Commission members have been active participants over the past year. A home rule petition was passed at the 2009 Annual Town Meeting (Article 67), which would give the NP&EDC regulatory authority over large-scale developments. The petition, now referred to as House Bill 1122, is under review. Ocean-related planning work continues initiatives from last year in the areas south and west of Tuckernuck and Muskeget islands.

Ocean-related planning work continues initiatives from last year in the areas south and west of Tuckernuck and Muskeget islands.

E.20. Geothermal heat pumps

Geothermal heat pumps can provide heat in the winter and air conditioning in the summer by harnessing solar energy stored beneath the earth's surface. They save money, reduce emissions, and are cost effective in replacing conventional heating and cooling systems. Residential geothermal heat pump systems are typically more expensive to install than other HVAC systems however, their greater efficiency means the upfront investment can be recouped in two to seven years. After that, energy and maintenance cost are much less than conventional systems plus they have aesthetic advantages, quiet operation, and free or reduced-cost hot water.

In October 2008, geothermal heat pumps became eligible for a 30% tax credit through the Residential Energy Efficient Property Credit Revenue Code.⁴⁰

WASTE MANAGEMENT

When organic matter such as wood, paper, food, and yard waste is placed in landfills it decomposes aerobically, producing methane. Methane is a Greenhouse Gas that is 21 times as powerful as carbon dioxide. Emissions from waste on Nantucket accounts for 3% of the total emissions inventory. The Nantucket Solid Waste Recycling and Composting Facility is a model operation with an estimated 80% of materials recycled and diverted from landfilling. In order to achieve reductions from waste management, Nantucket will need to expand on the work that was already underway when the baseline was measured in 2007.

In April 2009, Waste Options together with Environmental Credit Corporation registered the first composting project with the Chicago Climate Exchange. Rather than more common landfill gas capture and destruction, the project generates credits by

⁴⁰ For more information, see http://www.energystar.gov/index.cfm?c=tax_credits.tx_index.

composting the waste stream. Because so much waste is composted, there is not much opportunity left to reduce methane emissions from the landfill.

W.1. Gasification (M)

[This section will be completed after further discussion with Waste Options]

W.2. Waste to Energy (M)

As a leader and innovator of waste management, the island might want to consider a waste to energy plant. While popular in Europe, trash-to-energy plants have met resistance in the U.S. The plants work by burning waste to heat a boiler to generate steam for a turbine, which in turn runs a generator to create electricity. Through this process, one ton of waste can generate 590 kWh of electricity.⁴¹

W.3. Transfer Station on the East Side of the Island (M)

A transfer station on the east side of the island would reduce the number of cars driving across the island on Saturday and Sunday to drop off waste at the landfill.

W.4. Reuse/Reduce Materials from Demolished Buildings (M)

Improved management of materials from demolished buildings will reduce the amount of waste shipped off the island.

W.5. Efficiency of Landfill Access and Uses (M)

The following are additional recommendations for reducing emissions at the landfill:

- ✓ Improve access to reduce idling vehicles
- ✓ Consideration of placement of landfill services to optimize traffic flows
- ✓ Encourage the use of clear, biodegradable trash bags

⁴¹ <http://www.nytimes.com/imagepages/2010/04/13/science/earth/13trash.html?ref=earth>

GREEN COMMUNITIES REQUIREMENTS

Green Communities is a division of the Massachusetts State government that empowers cities and towns to reduce their energy consumption through energy audits, management and measurement tools, and the distribution of Green Communities Grants. In order to be eligible for a Green Communities grant, Nantucket must meet the following five criteria⁴²:

1. Provide as-of-right siting in designated locations for renewable/alternative energy generation, research & development, or manufacturing facilities⁴³
2. Adopted an expedited application and permit process for as-of-right energy facilities
3. Establish benchmark for energy use and developed a plan to reduce baseline by 20 percent within 5 years
4. Purchase only fuel-efficient vehicles
5. Set requirements to minimize life-cycle energy costs for new construction; one way to meet these requirements is to adopt the new Board of Building Regulations and Standards (BBRS) Stretch Code.

The Green Communities Web site has links to model by-laws and guidance for meeting each criterion. Once Nantucket has met these five criteria, the town can apply for grant money to fund projects that will reduce energy consumption (i.e. priority is given to efficiency and conservation measures rather than renewable energy projects.) Grant money is generated from the sale of allowances under the Regional Greenhouse Gas Initiative (RGGI). In 2010, the amount of grant money to be distributed was \$7 million.

With regard to criterion #3, if Nantucket submits its 2007 baseline data, the 20% reduction in electricity use will need to be achieved by 2012. Alternatively, Nantucket could calculate a new baseline using the Green Communities MASSEnergyInsight tool⁴⁴, which will effectively reset the clock for another five years. It will be important to consider what energy conservation measures have been taken since 2007 to determine whether less time off a higher baseline is preferable to having more time but a lower baseline from which to measure reductions. Keep in mind, for the purposes of Green Communities, the scope of the baseline and reductions is **municipal energy use only**.

Furthermore, criterion #3 can only be met by reducing energy consumption. Substituting renewable energy sources or purchasing RECs or offsets will not count towards the 20% reduction target (this is not the case with the larger-scope ICLEI

⁴² [Green Communities Website](#)

⁴³ Wind installation zoning needs to meet the needs of nameplate capacity of 600 kW or more. While actual outputs may vary, a wind turbine that is 250 feet tall will generate approximately 660 kW.

⁴⁴ ICLEI software is also acceptable for calculating a 2010 baseline, though for this purpose the MASSEnergyInsight tool might prove to be cheaper and easier to implement.

Climate Mitigation Program, which is targeted at carbon emissions reductions). The following strategies spotlight ways municipal Nantucket can achieve a 20% reduction in energy consumption of municipal buildings, vehicles, and street lighting within 5 years. See Appendices A, B, and C for references to each of these efficiency measure in more detail.

Municipal Buildings

- ✓ Switch to efficient lighting
- ✓ Weatherization measures
- ✓ Install occupancy sensors
- ✓ Install LED exit signs
- ✓ Institute a lights out and power off at night policy
- ✓ LED holiday lights
- ✓ Efficient lighting retrofits

Vehicles

- ✓ Green fleet policy
- ✓ Trip reduction

Street lighting

- ✓ LED street lights
- ✓ Decrease average daily time street lights are on

Appendix A
Actions, Costs and Priorities for Reducing Emissions from Transportation

Ground Transportation --> 20% reduction target	Cost	Impact	Spotlight	Agency
<i>Municipal - short term</i>				
Town anti-idling policy	Low	Med	T.7.	BOS
Optimize school transportation flows and alternatives	Low	Med	T.14.	School Committee
Encourage fuel conservation in recreational boating	Low	Med	T.11.	BOS
School bus anti-idling policy	Low	Low	T.8.	School Committee
Restrict idling at public facilities	Low	Low	T.7.	BOS
Encourage car-pooling, van-pooling, and NRTA use by municipal employees	Low	Low	T.1.	BOS / Chamber
Utilize fuel-efficient vehicles (e.g. bicycles) for parking enforcement	Low	Low	T.12.	BOS
Increase NRTA ridership	Med	High	T.1.	NRTA / BOS
<i>Municipal - long term</i>				
Green fleet policy	Med	Med	T.9.	BOS
Utilize alternative fuel vehicles for city fleet	Med	Med	T.4.	BOS
Parking management	Med	Med	T.3.	BOS
<i>Community - short term</i>				
Bike friendly Nantucket	Low	Med	T.2.	Various
Open local government alternative fueling stations to the public	Low	Med	T.4.	Private
Education on proper tire inflation at Wauwinet and other tire inflation spots	Low	Low	T.14.	Various
Food miles program	Low	Low	T.15.	Various
Local biodiesel	Med	Med	T.4.	Private
Trip consolidation technologies	Med	Med	T.5.	Private
<i>Community - long term</i>				
Promote community purchases of compact, hybrid and electric vehicles	Low	High	T.9.	Various
Other Transport --> 5% for airport, 2% for ferries target				
<i>Airport</i>				
Carbon offsets	Low	Low	T.10.	BOS / Airport
Anti-idling policy	Low	Med		Airport
Gasoline surcharge for private aviation to fund weatherization programs	High	High	T.11.	Various
Efficient taxi and runway management	Med	Med		Airport
<i>Ferries</i>				
Sustainability Fund for passenger contributions	Low	Med	T.6.	BOS / Various
Consideration of alternative fuels, biodiesel	Med	Med	T.4.	Steamship / Hy-Line
Port electrification	Med	Med		

Note for Appendices A - D: Items highlighted in yellow are strongly recommended; items in green are potential sources of funds. Agencies have been identified where appropriate / available. Not all recommendations are expanded upon in the plan and therefore do not have spotlight references.

Appendix B
Actions, Costs and Priorities for Reducing Emissions from Heating and Green Building

Heating (Target --> 20%)	Cost	Impact	Spotlight	Agency
<i>Municipal - short term</i>				
Pass the Stretch Code to the MA state building code	Low	High	H.5.	BOS
Install programmable thermostats	Low	High	H.2.	BOS / Town Admir
Promote and identify weatherization programs for municipal buildings	Low	High	H.1.	BOS
Encourage / Sponsor city staff to become LEED Accredited professionals	Low	Med	H.8.	BOS
Historic and Sustainable Preservation Guidelines	Low	Med		BOS / HDC
Install low flush toilets in municipal buildings	Med	Med	H.3.	BOS
Rain barrels and greywater collection	Med	Med	H.4.	BOS
<i>Municipal - long term</i>				
Luxury building mitigation fund	Med	High	H.6.	BOS
Perform energy-efficient building lighting retrofits	Med	Med	H.1.	Various
Incentives or mandates for LEED or ENERGY STAR new construction or retrofits	Med	Med	H.8.	BOS
<i>Community - short term</i>				
Promote weatherization programs	Low	High	H.1.	Various
Encourage the use of programmable thermostats	Low	Med	H.2.	Various
Provide green building information to the public	Low	Low	H.8.	Various
Energy Efficiency kits	Med	Med		Various
Loans for weatherization programs	Med	High	H.7.	Various
<i>Community - long term</i>				
Incentives or mandates for LEED or ENERGY STAR homes	Low	Med	H.1.	Various

Appendix C
Actions, Costs and Priorities for Reducing Emissions from Electricity Use and Renewables

Residential, Commercial and Industrial Electricity (Target --> 20%)	Cost	Impact	Spotlight	Agency
<i>Municipal - short term</i>				
Efficient lighting	Low	High	E.1.	BOS
As of right siting for wind generation and expedited permitting	Low	High	E.16.	BOS
Install building/office occupancy sensors	Low	Med	E.1.	BOS / Town Admin
Institute a "lights out when not in use" policy	Low	Med	E.4.	Town Admin
Decrease average daily time for street light operation	Low	Med	E.1.	Town Admin
Install energy-efficient exit sign lighting	Low	Med	E.1.	Town Admin
Green purchasing policy	Low	Med	E.2.	Town Admin
Participate in demand response programs	Low	Med	E.6.	Town Admin
Employee energy education programs	Low	Med	E.9.	Town Admin
Shade tree program	Low	Med	E.11.	BOS / Planning
Climate change curriculum in schools	Low	Low	E.10.	School Committee
Purchase green tags/renewable energy certificates	Low	Low	E.12.	BOS
Wind turbine education in schools	Low	Low	E.18.	BOS / School
LED street lights	Med	Med	E.2.	BOS
Implement time of use or peak demand energy pricing	Med	Med	E.7	BOS / National Grid
<i>Municipal - long term</i>				
Renewable energy research	Low	High	E.19.	Planning Board
Perform energy-efficient building lighting retrofits	Med	Med	E.1.	Planning Board
Improve water pumping energy efficiency	Med	Med	E.8.	Planning Board
Require energy-efficient vending machines	Med	Med	E.1.	BOS
Plug-in / electric vehicle demonstration project	High	High	E.17.	Planning Board
<i>Community - short term</i>				
Switch to energy efficient lighting	Low	High	E.1.	Various
Kill phantom loads	Low	High	E.4.	Various
Energy management and measurement tools	Low	High	E.5.	Private
Promote water conservation	Low	Med	E.8.	Various
Shade tree program	Low	Med	E.11.	BOS / Planning
Promote community green power purchasing	Low	Low	E.12.	Various
Promote community on-site renewable technologies	Low	Low	E.15.	Various
Energy Efficiency kits	Med	Med		Various
<i>Community - long term</i>				
Energy efficiency challenge programs (e.g. OPOWER)	Low	Med	E.5.	Private
Promote participation in a local green business program	Low	Med		Various
Promote the purchase of ENERGY STAR appliances	Low	Med		Various
Residential geothermal	High	High	E.20.	Private
Community wind installations	High	Med	E.15.	Various

Appendix D
Actions, Costs and Priorities for Reducing Emissions from Waste Management

Wastewater treatment, recycling and waste (Target 20%)	Cost	Impact	Spotlight	Agency
<i>Municipal - short term</i>				
Reduce / re-use materials from building demolitions	Low	Med	W.4.	Various
Efficiency of landfill use and access	Low	Med	W.5.	BOS / Waste Options
<i>Municipal - long term</i>				
Transfer station on east side of island	Med	Med	W.3.	BOS
Gasification	High	High	W.1.	Waste Options
Waste to energy	High	High	W.2.	BOS / Waste Options
<i>Community - short term</i>				
Use clear and biodegradable plastic bags for trash	Low	Med	W.5.	Private
Continue extensive recycling efforts	Low	Low		Private

Appendix E

Emissions Inventory Breakdown

	Tons CO ₂ e		Tons CO ₂ e			
					Action Plan	2020 Action
			% of 2007	2020 Baseline	Reductions from	Plan Target
Community + Municipal	2000	2007	Total	("Do Nothing")	2007 Levels	Emissions
Residential Electricity	31,107	34,227	10%	35,586	-20%	27,382
Residential Heating	65,387	71,946	20%	74,803	-20%	57,557
Commercial Electricity	8,204	9,027	3%	9,385	-20%	7,222
Industrial Electricity	8,204	9,027	3%	9,385	-20%	7,222
Transportation Ground	164,074	180,533	50%	187,702	-20%	144,426
Transportation Air	14,932	16,430	5%	17,083	-20%	13,144
Ferries	18,469	20,322	6%	21,129	-20%	16,258
Waste	10,019	11,024	3%	11,462	-20%	8,819
Municipal	3,436	6,274	2%	6,523	-20%	5,019
Total	323,832	358,810	100%	373,058	Result -->	287,048
					Target -->	291,449
					Action Plan	2020 Action
				2020 Baseline	Reductions from	Plan Target
Municipal only	2000	2007	% of Total	("Do Nothing")	2007 Levels	Emissions
Buildings Electricity	1,112	1,224	20%	1,273	-30%	857
Buildings Heat	2,266	2,493	40%	2,592	-50%	1,247
Fleet	543	598	10%	621	-30%	418
Water & Sewage	1,674	1,842	29%	1,915	-10%	1,658
Streetlights	93	102	2%	106	-50%	51
Employee commute	14	15	0%	16	-10%	13
Total municipal	5,702	6,274	100%	6,523	Result -->	4,244
					Target-->	5,132

Appendix F
***Greenhouse Gas Emissions Inventory for the Town of Nantucket Prepared for The
Town of Nantucket by Sustainable Nantucket***

Emissions Inventory Methods and Data Sources

The baseline year for the Nantucket greenhouse gas inventory was 2007. The emission inventory and forecast, as well as most of the reduction measures, are separated into two distinct areas. The first is a **community wide assessment** of all energy and waste related activities that occur on this island. The community emissions data includes that from within the Town's borders such as vehicle tail pipes and heating broilers. The inventory required data and technical information to be collected from a wide range of sources including:

- Local Utilities: National Grid, Harbor Fuel, Sun Island Fuel, Waste Options
- Transportation surveys provided by the Nantucket Planning & Economic Development Commission
- Steamship Authority, Hy-line ferry, commercial airlines, and the Nantucket Memorial Airport

Community data gathered and entered into the software are general figures and not expected to be, nor can they be, completely accurate. Quantifying the consumption and emissions of the community over a period of time using the same methodology can be beneficial in that progress in the community can be recorded and monitored. The associated costs were generated from the internal records of the energy providers, such as the utility companies.

The second section of the inventory is an evaluation of emissions coming from **municipal operations**.

This includes building energy use, vehicle fleet emissions, Town generated solid waste, and other energy use such as outdoor/street lighting and water works operations.

A separate Town government-based inventory is conducted because the Town ultimately has greater control over its own emissions than private activities in the community. The Town can contribute directly to emission reductions through its own practices while setting an example for responsible energy and fuel use for residents and institutions within the community. The CCP program allows the Town to do just that, by showing emissions reduced and cost saved. The inventory required data and technical information to be collected from a wide range of sources including:

- Local Utilities: National Grid, Yates Gas, Harbor Fuel, Waste Options;
- Town of Nantucket Offices and Departments

- Public Schools
- Nantucket Cottage Hospital
- Police Department
- Fire Department

The data gathered will be expressed in eCO₂ emissions, which consist of emissions associated with carbon dioxide, nitrous oxide, and methane. eCO₂ is a measure that describes how much warming a given type and amount of a greenhouse gas may cause, using the functionally equivalent amount of carbon dioxide as a reference. For example, methane is 21 times more potent of a greenhouse gas than carbon dioxide on a molecule-by-molecule basis. Therefore, 1 ton of methane has an equivalent CO₂ value of 21 tons.

The data was entered into specialized software designed by ICLEI and Torrie Smith Associates. The CCP software calculates eCO₂ from energy use and other inputs and also translates all energy units into British Thermal Units (BTU's) for comparison between energy sources. BTUs are a unit of energy that allows comparisons across various types of energy. Every different energy source (such as natural gas, electricity, diesel, gasoline, etc.) has a natural amount of energy embedded within it. British Thermal Units standardize the amount of energy embodied in these different fuels comparisons can be made amongst their energy content. For example, when we determine the energy content in electricity (in BTUs) and in natural gas (in BTUs), we can compare and sum these figures. The energy costs associated with each category were taken from the energy providers' bills kept on record at the appropriate Town department.

Community Emissions Findings

	Equiv CO ₂ (tons)	Equiv CO ₂ (%)	Energy (MMBtu)
Residential			
Nantucket, Massachusetts			
<i>All Residential</i>			
Electricity	34,227	9.7	310,580
Light Fuel Oil	38,179	10.8	461,859
Propane	33,767	9.6	466,524
<i>Subtotal All Residential</i>	106,174	30.1	1,238,963
Subtotal Residential	106,174	30.1	1,238,963
Commercial			
Nantucket, Massachusetts			
<i>sm. commercial/ industrial</i>			
Electricity	9,027	2.6	81,911
<i>Subtotal sm. commercial/ industrial</i>	9,027	2.6	81,911
Subtotal Commercial	9,027	2.6	81,911
Industrial			
Nantucket, Massachusetts			
<i>lg. commercial/industrial</i>			
Electricity	9,027	2.6	81,911
<i>Subtotal lg. commercial/industrial</i>	9,027	2.6	81,911
Subtotal Industrial	9,027	2.6	81,911
Transportation			
Nantucket, Massachusetts			
<i>Ferries</i>			
Diesel	20,322	5.8	234,327
<i>Subtotal Ferries</i>	20,322	5.8	234,327

	Equiv CO ₂ (tons)	Equiv CO ₂ (%)	Energy (MMBtu)
<i>Private and Commercial Jets/Planes</i>			
Gasoline	2,674	0.8	31,401
Diesel	13,773	3.9	158,618
<i>Subtotal Private and Commercial Jets/Planes</i>	16,447	4.7	190,019
<i>Road Vehicles</i>			
Gasoline	149,454	42.3	1,748,452
Diesel	31,667	9.0	364,841
<i>Subtotal Road Vehicles</i>	181,121	51.3	2,113,293
Subtotal Transportation	217,890	61.7	2,537,639
Waste			
Nantucket, Massachusetts			
<i>Waste Options</i>			<i>Disposal Method - Managed Landfill</i>
Paper Products	4,319	1.2	
Food Waste	8,062	2.3	
Plant Debris	-493	-0.1	
Wood/Textiles	-864	-0.2	
<i>Subtotal Waste Options</i>	11,025	3.1	
Subtotal Waste	11,025	3.1	
Total	353,142	100.0	3,940,425

Municipal Emissions Findings

	Equiv CO ₂ (tons)	Equiv CO ₂ (%)	Energy (MMBtu)	Cost (\$)
Buildings				
Nantucket, Massachusetts				
<i>Schools</i>				
Electricity	709	11.3	6,429	315,245
Light Fuel Oil	1,176	18.7	14,221	235,912
<i>Subtotal Schools</i>	1,884	30.0	20,651	551,157
<i>Town Accounts</i>				
Electricity	516	8.2	4,678	252,643
Light Fuel Oil	1,318	21.0	15,943	429,016
<i>Subtotal Town Accounts</i>	1,833	29.2	20,621	681,659
Subtotal Buildings	3,718	59.2	41,272	1,232,816

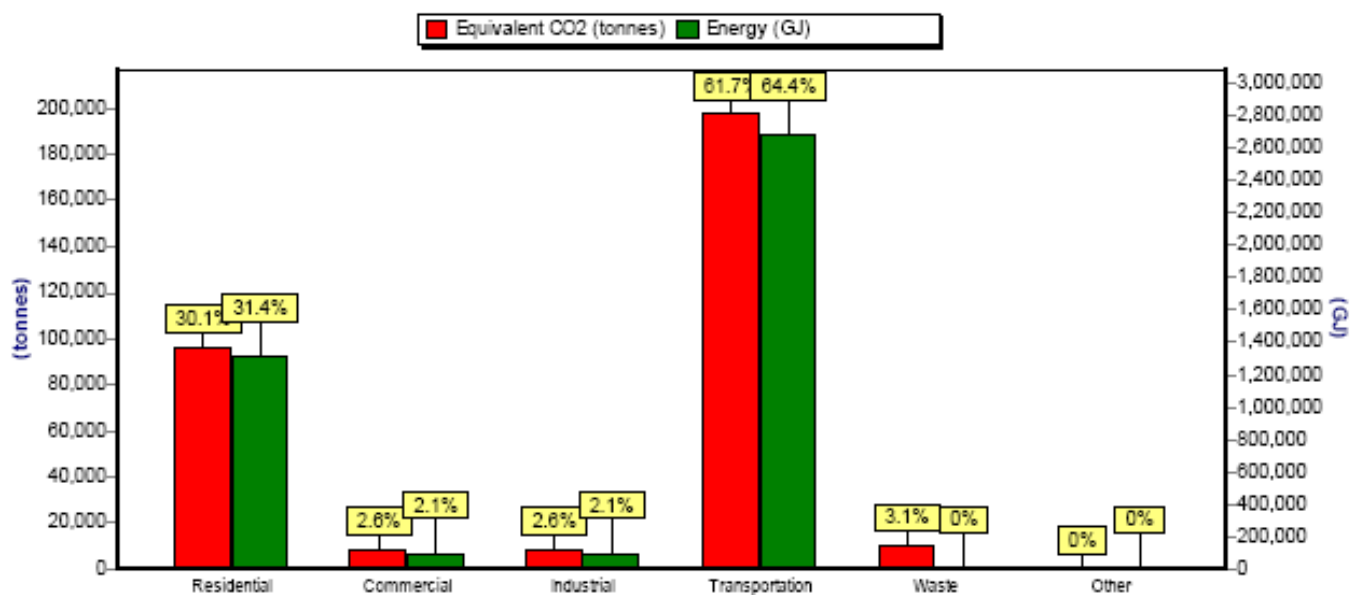
	Equiv CO ₂ (tons)	Equiv CO ₂ (%)	Energy (MMBtu)	Cost (\$)
Vehicle Fleet				
Nantucket, Massachusetts				
<i>Town Fleet</i>				
Gasoline	499	8.0	5,847	212,480
Diesel	100	1.6	1,149	43,520
<i>Subtotal Town Fleet</i>	599	9.5	6,996	256,000
Subtotal Vehicle Fleet	599	9.5	6,996	256,000
Employee Commute				
Nantucket, Massachusetts				
<i>Town Employees</i>				
Gasoline	15	0.2	176	
Diesel	0	0.0	0	
<i>Subtotal Town Employees</i>	15	0.2	176	
Subtotal Employee Commute	15	0.2	176	
Streetlights				
Nantucket, Massachusetts				
<i>Untitled</i>				
Electricity	102	1.6	924	73,848
<i>Subtotal Untitled</i>	102	1.6	924	73,848
Subtotal Streetlights	102	1.6	924	73,848
Water/Sewage				
Nantucket, Massachusetts				
<i>Town of Nantucket</i>				
Electricity	1,773	28.3	16,088	1,330,894
Light Fuel Oil	69	1.1	835	20,081
<i>Subtotal Town of Nantucket</i>	1,842	29.4	16,923	1,350,975
Subtotal Water/Sewage	1,842	29.4	16,923	1,350,975
Total	6,275	100.0	66,290	2,913,639

Inventory Results

The greenhouse gas (GHG) inventory measured emissions based on two separate studies. The first was a measure of all emissions from the Nantucket residential and commercial community. (Fig. 1) The second level of the inventory investigated the emissions from municipal operations. (Fig. 2)

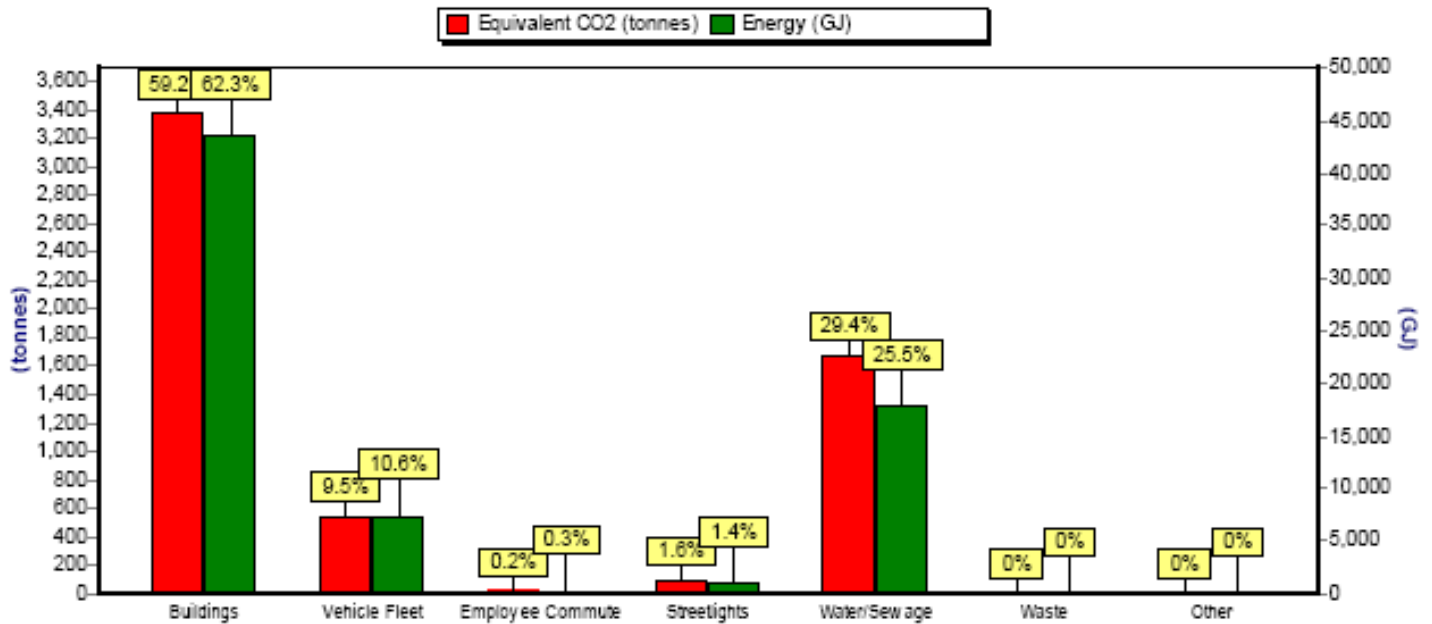
In 2007, the community of Nantucket's greenhouse gas emissions totaled 353,142 tons of eCO₂. Transportation energy use accounted for 64.4% and residential household energy use accounted for 31.4% of the communities' emissions. Gasoline used for transportation was the largest overall source of eCO₂. Light fuel oil and electricity produced large quantities of eCO₂ after gasoline (38,179 tons and 34,227 tons eCO₂ respectively).

Fig. 1 – Community Emissions Inventory Results



In 2007 the Town of Nantucket generated 6,275 tons of eCO₂, 59.2% of which came from building energy use (Figure 2). ECO₂ emitted by the public schools accounted for 1,884 tons, or 30 % of this total, and ECO₂ emitted by other town buildings was equal to 1771 tons, or 29%. The municipal water/sewage, vehicle fleet, and streetlights/traffic lights accounted for 29.35%, 9.5%, and 1.6% respectively, of the remaining emissions. In 2007, the Town of Nantucket spent a total of \$2,913,639 on energy.

Fig. 2 – Municipal Emissions Inventory Results



Forecasting

Between April 1, 2000 and July 1st, 2007, Nantucket's population expanded by 10.5%.⁴⁵ With the 2008 economic recession in mind, we are projecting Nantucket's population growth rate between 2008 and 2020 at 50% of the rate of the previous 7 years, or 5.3%. Based on this growth rate and utilizing the Energy Use Growth Forecast Tool provided by the U.S. Department of Energy's *Energy Information Association* (EIA),⁴⁶ our total energy use as a community could grow by 6.42%. Correspondingly, if unchecked, our community's carbon emissions would rise from 353,142 tons of eCO₂ in 2007 to 375,813 tons of eCO₂ by 2020.

Targets for reduction

The 2nd Milestone of the ICLEI Cities for Climate Protection Campaign is to set targets for reduction of greenhouse gas emissions. We recommend that Nantucket's initial target be to reduce our emissions by **10% below 2000 levels by 2020**. This would mean reducing our overall GHG emissions from 380,302 tons of eCO₂ emissions in 2007, to

⁴⁵ U.S. Census Bureau. <http://quickfacts.census.gov/qfd/states/25/25019.html>

⁴⁶ Data Source: US DOE Energy Information Administration
<http://www.eia.doe.gov/oiaf/aeo/supplement/supref.html>

294,392 tons by 2020⁴⁷, an overall reduction of 86,000 tons from 2007 levels, and a reduction of 110,325 tons from our projected total carbon emissions in 2020, if no steps were taken.

While the state of Massachusetts set targets in the 2004 Massachusetts Climate Protection Action Plan, which aim for the reduction of greenhouse gas emissions in Massachusetts by at least 10% below 1990 levels by 2020, we believe Nantucket should set it's own tough, yet realistic targets for reduction that take into account our high rate of population expansion --36.8% from 1990 to 2000, in comparison to the state's expansion of 5.2% in that time frame, and 10.5% from 2000 to 2007 in comparison to the statewide average of 1.6%.⁴⁸

For longer-term targets, we suggest reducing emission to 25% below 2000 levels by 2030, 55% by 2040, and 75-80% by 2050. This timeline for reduction would put us roughly in line, with the state of Massachusetts long-term targets of a 75 – 80% reduction from 1990 levels, by the target date recommended by the Union of Concerned Scientists, which is 2050.⁴⁹

⁴⁷ According to the Energy Use Forecast Tool provided by the U.S. Department of Energy's *Energy Information Association* (EIA)

⁴⁸ U.S. Census Bureau, State and County Quick Facts
(<http://quickfacts.census.gov/qfd/states/25/25019.html>)

⁴⁹ At a population expansion rate in Massachusetts as a whole of 6.8% between 1990 and 2007.



NANTUCKET

SUSTAINABILITY ASSESSMENT RECOMMENDATIONS REPORT

FEBRUARY 2020

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OVERVIEW

The Town of Nantucket recognizes the importance of sustainability. In its 2019 Strategic Plan, the Select Board indicated that sustainability needed to be central to the Town's path forward and this should start with the operationalizing of sustainable practices throughout Town government. This was an important step to unite a number of individual actions by municipal departments and community groups under a shared vision and pathway to a more sustainable future.

In September 2019, Kim Lundgren Associates, Inc. (KLA) was hired to conduct a sustainability assessment and provide key recommendations on how to operationalize sustainability into municipal operations so the Town could lead by example for the community by adjusting its practices to prioritize the long-term protection of its valuable assets from the challenges of the 21st century.

Overall, it is believed that Nantucket's year-round and summer residents both support sustainability broadly. With fairly new leadership and municipal staff that support sustainability principles, the Town is now in a position to actively incorporate sustainability practices into the daily operations and culture of the island. The tools and recommendations from this project, including the Sustainability Framework, can lay the foundation for further action.

SUSTAINABILITY FRAMEWORK

As part of this project, the Town requested a recommendation for a Sustainability Framework that supports the Town's definition of sustainability. The definition of sustainability that was developed for the Select Board's Strategic Plan was comprehensive, but by listing specific priority areas, it could inhibit the inclusion of additional areas in the future. Therefore, based on conversations with key municipal staff and best practices, KLA is recommending a slight revision of the definition.

Original Definition:

Sustainability is how the Town of Nantucket, with a focus on historic preservation, natural resources, hazard mitigation, solid waste management, energy, public health, and education, institutionalizes practices in municipal operations that support a balance of the economic, environmental, and social health of our island, which meet the needs of current residents and visitors without compromising the ability of future generations to meet evolving needs.

Recommended Revised Definition:

Sustainability: Balancing the economic, environmental, and social health of our island to ensure we meet the needs of current residents and visitors without compromising the ability of future generations to meet evolving needs. The Town of Nantucket will lead by example through institutionalizing sustainability principles into municipal operations.

The purpose of a sustainability framework is to aid the Town in the design, scoping, and evaluation of projects and programs to ensure they are always considering sustainable principles to yield the greatest impact possible. There are various nationally recognized sustainability rating systems and benchmarks that have been developed over the years, such as the STAR Community Rating System (no longer active) and LEED for Cities and Communities. Given Nantucket's unique character, it was determined that a custom framework, that leverages these existing tools, would be the best path forward. To develop the framework, KLA engaged 28 stakeholders from the municipal government and two from ReMain Nantucket (a local non-profit organization that sponsored this analysis) through interviews and an online survey to determine priorities, understand what is already happening on Nantucket, and what is planned. Additionally, KLA applied national best practices to build out the draft framework. The draft framework was reviewed and refined during a three-hour workshop with the Cabinet and other key municipal staff in December 2019. The result was a robust sustainability framework that consisted of five priority areas and 12 themes. Each theme consists of one to three criteria that further define the intentions of the theme. KLA built the Sustainability Framework into an MS Excel Workbook tool that provides definitions, sample questions to ask in the design of projects to help meet the criteria, and a set of metrics to track progress. The complete Nantucket "Sustainability Framework" can be found in Appendix B.

SUSTAINABILITY FRAMEWORK PRIORITY AREAS AND THEMES

Community Preservation

- Natural Resources Protection & Enhancement
- Historic Preservation
- Mobility
- Housing

Economic Vitality

- Inclusive Economy
- Resilient Economy

Inclusivity

- Inclusivity

Resilience

- Adaptive Capacity
- Climate & Energy
- Waste Resources

Good Governance

- Transparency
- Communication & Education



SUSTAINABILITY ASSESSMENT

The Sustainability Assessment was completed utilizing the Sustainability Framework developed for the Town. This high-level baseline assessment (which can be found in Appendix A) focused on sustainability commitments Nantucket has made collectively as a Town government and then specifically within various departments. This information was collected through a review of select existing plans and policies (see call out box) and through interviews with key department and community stakeholders only (see list of interviewees in Appendix D) but is not an exhaustive list. However, there is enough information from the baseline and best practices within Massachusetts and across the country for KLA to provide recommendations.

Plans and Policies Reviewed for Sustainability Assessment

- 2009** Master Plan
- 2016** Complete Streets Policy
- 2018** (FY) Town of Nantucket Annual Report
- 2019** Fuel Efficient Vehicle Policy
- 2019** Long Range Transportation Plan
- 2019** MVP Report
- 2019** Natural Hazard Mitigation Plan
- 2019** Select Board Strategic Plan
- 2019** Stretch Code

Nantucket as a community and as a Town government has taken many steps toward a more sustainable future. A number of these are highlighted below with some commentary.



The Framework Priority Area noted most often throughout this process as being the strongest on sustainability was Natural Resources Protection & Enhancement. Sixty percent of Nantucket is protected conservation land, which certainly supports this. Additionally, there seems to be a general appreciation for Nantucket's natural resources, such as its beaches, harbors and conservation land, which are major island attractions. Nantucket is proactively monitoring water quality in order to strengthen the islands ecosystems. Water quality monitoring of fresh and saltwater systems is primarily focused on summer-time conditions, as the warmer months typically have the lowest water quality conditions, which are the target of resource management. Reports and information are readily available on the Town's website. The Town also operates the Brant Point Shellfish Hatchery that specializes in the production of Nantucket Bay Scallops and other shellfish to supplement the wild population within Nantucket and Madaket Harbors.



Nantucket has also made considerable headway in recent years in the promotion of energy efficiency and renewable energy programs throughout the community- offering opportunities that had not previously been available on the island prior to the hiring of an Energy Coordinator in 2011. In February of 2020, Nantucket was designated as a Massachusetts Green Community and awarded a municipal solar bid for up to 5MW of solar energy development. Nearly a decade ago, a community led group initiative resulted in a greenhouse gas emissions inventory and a climate action plan, which were never formally adopted. Based on interviews and memos to the Select Board, the process through which these were developed did not feel transparent and the Town did not have a lot of confidence in the underlying data, assumptions and recommendations of these materials. Therefore, these were not reviewed as part of this process, but they do demonstrate the community's desire for action in this area, as will be supported by a \$50,000 MassDEP Planning Assistance Grant secured by the Town in 2019 to update its Climate Action Plan.



Historic preservation is an area of strength, but it also has created challenges to implementing certain climate and sustainability actions, such as the installation of renewable energy in the historic downtown core and the village of Siasconset. However, the Town's Preservation Planner and Energy Coordinator have recently partnered to encourage the Nantucket Historic District Commission (HDC) and Nantucket Historical Commission (NHC) to update their sustainability guidelines to better balance Nantucket's clean energy goals with its rich historic cultural identity.



Resilience to a changing climate has become a high priority over the last year or so and the Town has demonstrated its commitment to focus on this from a coastal resiliency standpoint through the hiring of a Coastal Resiliency Coordinator and the development of a Coastal Resiliency Plan in 2020. A broader lens for resilience that includes the resilience of the inland areas, the community and the economy, which will all be impacted by climate change, is highly encouraged.

- ★ Nantucket has taken many steps to address waste on the island. From plastic bans to the composter at the landfill and the “take it or leave it.” The struggles in the area of waste seem to be in the communication and education of the community and the municipal departments on the latest waste stream sorting changes. Also, as has been the norm in most of the country, Nantucket is still slightly more focused on the recycling portion of the reduce, reuse, recycle protocol. The attempts at reuse, including the “take it or leave it” have struggled, with materials accumulating and being shipped off island for disposal. Having two different audiences (year-round vs. seasonal) is certainly a factor here. In 2019, the island’s recycling and composting initiatives took a step forward with the addition of a Recycling and Solid Waste Coordinator at the Town’s Department of Public Works.
- ★ Nantucket is addressing the reduce area to some extent through the various plastic bans. There has been a significant effort put in to educate and engage on the environmental impacts of plastics. While this is an important issue to address, it is now being addressed in its third iteration (bags, straws, single-use). The risk is that community members consider a plastic-free Nantucket (which is a very important and impressive effort) as the end goal, rather than just one component of a broader campaign to become more sustainable. This is where the revised, comprehensive focus of the **ACK Local** brand (see recommendations below) will be valuable. Key in supporting this branding campaign, is the Town’s public outreach manager who is an English to Spanish translator who excels in social media, effective communication, messaging, and creative design.
- ★ Nantucket is seeking to create and preserve affordable housing for the benefit of year-round low- and moderate-income households who would otherwise have difficulty locating housing on the island. The Town has recently established and filled the position of Municipal Housing Coordinator reporting to Town Administration to provide full-time support in this role.

Overall, the greatest recommendation KLA can offer is to highly encourage the Town to establish more specific goals and policies in each Priority Area for municipal operations to start, and then to carry into the community. From a municipal standpoint, there were very few examples of policies imposing actual requirements on the Town. In 2020, when the impacts of climate change are already felt, the Town cannot rely on voluntary actions either in its own operations or in the community to ensure a sustainable future. It is important to note that as this report was finalized, Nantucket achieved Massachusetts Green Communities status, which required the adoption of five specific criteria, including: The Stretch Energy Code, a Fuel Efficient Vehicle Policy, a municipal Energy Reduction Plan, and the establishment of a Solar Overlay District with expedited permitting. These policies lay a solid foundation for the Town to strengthen its current sustainability activities, launch new initiatives, and demonstrate its commitments through action.

Additional priority strengths, areas of opportunity, and recommendations from the sustainability assessment are provided in the table below.

	STRENGTHS	AREAS OF OPPORTUNITY	RECOMMENDATIONS
MUNICIPAL ACTIONS	Municipal Leadership and Staff: The interactions KLA had with municipal leadership and staff suggested a very strong interest and commitment to sustainability; a willingness to work together to operationalize sustainability; and a desire to learn more. Securing buy in from the municipal implementers can be a primary barrier to moving forward with sustainability actions. This does not appear to be as much of an issue for Nantucket.	There is still some disconnect and less integration with the departments that have their own boards- i.e. Schools and Water Company. It is important that all facets of the Town government are moving in the same direction together to ensure effectiveness and consistency.	Town Leadership should coordinate with other Boards to secure buy in to the sustainability priorities and together develop goals and targets for each area. It is also recommended that Schools and Water have a representative on the Sustainability Working Group (see recommendations below).
	Municipal Policies & Operations: Sustainability has been identified in the Select Board's Strategic Plan of 2019, demonstrating a clear commitment from the top.	More specific goals and targets need to be established to ensure the entire Town government is operating toward the same end goal both in the internal operations and how they serve the community.	The Sustainability Framework is a good tool for this. It is also recommended the Town develop an internal municipal sustainability plan that keeps all departments moving in the same direction and introduces not only guidelines but requirements for employee behavior at the point of hire- with an initial training for all existing employees.
COMMUNITY ACTIONS	Historic Preservation: The entire island of Nantucket is a National Historic Landmark District, making it particularly unique in how it can develop. Nantucket has done a very good job of keeping the look and feel of the island with very strict requirements on building materials.	Historic preservation restrictions are also a reason why various efforts to develop (publicly visible) renewable energy systems across the island have historically been a challenge.	The Town is clearly aware of these competing priorities. The recent hiring of a Preservation Planner who is focused on sustainable preservation, including on key collaborations with the Town's Coastal Resiliency and Energy Coordinators, presents a great opportunity to possibly lead the nation in this important area.

STRENGTHS	AREAS OF OPPORTUNITY	RECOMMENDATIONS
Climate & Energy: Through the creation of the Energy Office, the Town has helped the municipality and the broader island community gain access to key energy efficiency and renewable energy programs, at the federal, state and local level.	Without baseline data or targets for where Nantucket is trying to get to, it can be challenging to rally key staff and the community around engaging in these programs when saving money is not always a priority.	The Town should conduct a town-wide GHG inventory, establish reduction targets, and develop a climate action plan to meet those targets. The MVP program supports addressing both climate mitigation and adaptation as part of their definition of resilience. The Town should take advantage of addressing impacts and sources of climate change together so they can tell a shared story to the community as to why action is important.
	Development: the greatest threat identified by the participants of the online survey was overdevelopment. Nantucket, like many communities, has not yet placed significant restrictions on development to minimize impact. There is also a large renovation industry on the island which generates significant construction and demolition waste, which is shipped off island for disposal.	The Town should consider a phased approach to requiring sustainable development over time. For example, the Town could first create incentives for meeting green building standards, while providing ongoing education and training to local developers and contractors. The Town should then collaborate with this community to develop an update to the zoning code that meets the broader sustainability goals. This collaborative approach can help avoid putting a significant burden on local contractors. Potential targets could be all new residential and commercial buildings and major renovations will be built to LEED Gold standards by 2025. There is significant education and engagement that needs to happen with the broader community in order to be successful, including tying their actions to waste and other negative impacts on Nantucket.



RECOMMENDATIONS

Throughout this process, the KLA Team engaged with several key staff and was quite impressed with the level of interest in sustainability, commitment to collective action, and candor that was presented by municipal staff. This allowed for deep insight and clear recommendations, despite the short timeline of the project. The recommendations for Nantucket fall under four specific areas, (1) Application of the Sustainability Framework, (2) Community Engagement & Communications, (3) Integrating Sustainability into Municipal Operations, and (4) Municipal Sustainability Office, all of which are described in detail below.

APPLICATION OF THE FRAMEWORK

The Sustainability Framework is an important tool for Nantucket because it was developed with the input of key Town staff. The level of detail in the discussion on the Framework's criteria at the December 10th workshop suggest that the staff are genuinely interested in developing a tool that is unique to Nantucket and truly represents the island's sustainability priorities. It is highly recommended to build off this momentum and move quickly on utilization of the Framework to evaluate existing projects, assist with design of future projects, and develop the scope for projects (including the identification and initiation of projects). The benefit of this framework is to consider sustainable principles early in the project life-cycle. The proposed steps to most effectively do this are listed below.

1

Confirm all relevant departments are willing to unify their understanding of what we mean by sustainability and their approach to implementation of the Framework.

- KLA did confirm this with the Cabinet members and others that attended the December 10th workshop, but not all municipal departments were represented here. It would be worthwhile for the Town Manager to request confirmation from all departments and develop a process to engage those departments that have their own boards, such as the Schools, Water Company and Airport.
- Ensure that all departments understand and manage the time it will take to initially launch the Framework. Although the time commitment may diminish as it becomes more familiar, it should be communicated that it is a priority and requirement, and appropriate time should be invested.

2

Demonstrate the criteria of the Framework and their application to projects is supported at the highest level in the Town

- This can be completed initially through a presentation and acceptance of the Framework by the Select Board at an upcoming Meeting. Regular updates to the Select Board and/or Cabinet might be helpful to track and report progress of the Town's sustainability projects and activities.
- Trainings on the Framework should be provided for all appropriate employees along with one-on-one support for early projects.
- Work with Human Resources to integrate Framework training into employee onboarding process, as applicable.

APPLICATION OF THE FRAMEWORK

3

Identify key champions from different departments to form a Sustainability Working Group

- This was a suggestion that came out of the December 10th workshop and through several interviews. The group should consist of individuals that represent the whole range of community priorities including Energy, Waste, Natural Resources, Water, Public Health, Coastal Resiliency, Historic Preservation, Housing, Planning, Schools, and Transportation.
- The Working Group should meet as early in 2020 as possible and formalize their own charter (to be confirmed by Town leadership) and meeting schedule and select a chair for the year. Their charter should include the acceptance of a revised definition of sustainability and the development of proposed sustainability goals as part of **ACK Local** to be reviewed and confirmed by the Cabinet and the Select Board, and any other relevant boards.
- This group, which should meet on a regular basis (i.e. monthly or bimonthly) to:
 - i. Determine criteria for which projects will need to complete the Framework (i.e. what is the trigger—Size? Cost? Type of project?)
 - ii. Support education for all municipal employees on intent and implementation of Framework.
 - iii. Review results of initial evaluations submitted by departments proposing new projects, and track summary data on ongoing submissions.
 - iv. Determine whether projects should be approved, revised to better meet goals of Framework, or rejected.
 - v. Ensure the Framework is utilized for ongoing and future Planning efforts.
- The Working Group will also be critical for ensuring an accurate, robust and meaningful Climate Action Plan and municipal GHG Inventory update

4

Evaluate the Framework

- After six months or a set number of projects are completed, the Framework should be assessed to confirm it is still representative of the Town's view on sustainability and to identify opportunities to strengthen it.
- Suggestions for an ongoing assessment of the Framework include identifying criteria that are:
 - i. the most difficult to get to a positive contribution - *may need to reframe or provide more examples.*
 - ii. most often misinterpreted by the initial reviewer - *may need to provide more clarity, a new definition, or more examples.*
- Establish a process to thoroughly review and refine as needed every 1-3 years.

PROPOSED ACTION TIMELINE

A potential plan for rollout of the Working Group is depicted in the timeline below:

	FEB	MAR	APR	MAY	JUN	JUL	AUG
Introduce Sustainability Framework							
Confirm Staff Willingness to Participate							
Create the Sustainability Working Group							
Confirm Leadership Buy In							
1st Meeting of the Sustainability Working Group • Identification of Initial List of Projects to be Reviewed with the Framework • Development of Draft Sustainability Goals							
2nd Meeting of the Sustainability Working Group • First Round of Projects Reviewed by the Group							
Ongoing Meeting of the Sustainability Working Group						Continues Monthly	
1st Assessment of the Framework							



COMMUNITY ENGAGEMENT & COMMUNICATIONS

The greatest need identified throughout this process was deep and ongoing community engagement and communication. Many interviewees noted the challenges of engaging the public on sustainability programs and activities, particularly given the two very different audiences of year-round vs. seasonal residents. With multiple audiences and a range of priorities, Nantucket would be well served to create one clear brand and message that tells the local story of sustainability—what it has accomplished and where it is headed. This project has already created a foundation to work from, and momentum to move forward. The next steps for the Town to continue to drive this forward are highlighted below.

1

Refine the identity of the existing brand

- As part of this process, the KLA Team worked with the Town to develop a brand and key messaging for its sustainability work. The results are provided in Appendix F. Ultimately the Town chose to take their existing **ACK Local** brand and expand it from an anti-plastics campaign to now represent all sustainability activities.
- Coordinate with the public outreach officer to refine or update the **ACK Local** logo to reflect this change.

2

Develop a unified communications strategy on sustainability

- The unified communications strategy can be developed by the current Town staff or with assistance from a consultant, based on the branding and messaging work delivered as part of this project and included in Appendix F of this report. The final product should be a document or toolkit for use by all departments and community partners with clear guidance on:
 - i. Communication goals
 - ii. How and when to use the **ACK Local** logo and messaging,
 - iii. Metrics for tracking success
 - iv. Best practices to utilize various medium (videos, social media, newsletters, website, etc.) to target specific audiences.
- Create an infographic to detail the new relationship between **ACK Local** and all the various programs and activities the Town has been moving forward for a more sustainable future.
- Update and make more prominent the Town's **ACK Local** webpage. Add a redirect from ACK-Local.org to the Town's webpage.

3

Launch a sustainability engagement campaign that leverages existing efforts and any upcoming planning processes

- Develop a detailed integrated community engagement strategy that articulates the goals and details how the community will be engaged through online and in-person activities. A few tips for success include:
 - i. Do not always lead the communication with climate change, rather focus on the values of the audience you seek to engage. For example, a resident might not think they are concerned about climate change, but they are concerned about erosion or air quality or public health. Drawing attention with something the audience values will increase the effectiveness of engaging those that have not been part of these conversations in the past.
 - ii. Establish equitable engagement targets to ensure the broadest possible reach
 - iii. Identify key partners that can be trained on the brand and the unified communications strategy to help promote engagement in the plans as well as in the Town's broader sustainability effort.
 - iv. Consider hiring and paying a small stipend to local youth or seniors as ambassadors for the program and planning efforts. It is best to identify ambassadors that represent some of the harder-to-reach audiences as they may be able to engage that audience more readily.
- As the engagement on sustainability is taking shape, the Town should consider developing and disseminating a baseline survey to the community, if one has not yet been completed. It will be very valuable to have opinions, perceptions, and concerns prior to a deep engagement effort and then again once the engagement effort is completed to truly understand the impact of the engagement campaign.

PROPOSED ACTION TIMELINE

See below for a potential timeline for a Communications Strategy launch:

	JAN	FEB	MAR	APR	MAY	JUN	JUL
Refinement of the <i>ACK Local</i> logo & brand identity							
Development of Unified Communications Strategy							
Design the Integrated Public Engagement Campaign							
Official Launch of the Updated <i>ACK Local</i> Brand							
Ongoing Community Engagement							

INTEGRATING SUSTAINABILITY INTO MUNICIPAL OPERATIONS

For the residents and visitors of the island to take sustainability seriously and move beyond the low hanging fruit actions to those with greater impact, it is imperative the Town government is leading by example. One of the big takeaways from the interviews was that institutionalizing sustainable practices for internal operations did not appear to be as much of a priority as it was for service delivery to the community. Nantucket has an opportunity to truly lead by example through initiating internal policies that establish standards for how the municipal government builds, purchases, and goes about its daily operations. The Sustainability Framework will be an important tool to support the development and coordination of policies, procedures, practices and guidelines to improve sustainability in municipal operations.

Below are a few example best practices for sustainable municipal operations that should be seriously considered by the Town of Nantucket, some of these are already highlighted in the Sustainability Assessment section. While KLA is recommending a Director of Sustainability to oversee the sustainability of municipal operations (see below), this does not mean the Town cannot leverage existing staff and consultants to start to move forward on the actions identified in the table below.

Example Best Practices in Municipal Sustainability

CATEGORY	ACTION	DESCRIPTION	RESOURCES & EXAMPLES
BUILDINGS/ FACILITIES	Adopt green building standards for all new or renovated municipal buildings	The Town should prioritize the development of a policy that requires the incorporation of green building standards above and beyond the Stretch Code for all new or renovated facilities. Nantucket can adopt an existing standard, such as LEED or the Living Building Challenge or develop their own. The additional costs that may be identified in the upfront costs are often far outweighed by the lifetime of benefits from these improved buildings.	In 2002, the City of Cambridge adopted a City Green Building Policy requiring that all new construction and major renovation of municipal buildings, including public schools, follow LEED guidelines. Town of Amherst's Net Zero Buildings Bylaw requires new and renovated municipal buildings to be powered and heated entirely with renewable energy. Town of Watertown's ordinance requires new commercial buildings greater than 10,000 square feet or residential buildings with more than 10 units to be built with rooftop solar panels.

CATEGORY	ACTION	DESCRIPTION	RESOURCES & EXAMPLES
WASTE	Develop waste reduction goals and implement strategies for all municipal departments	Zero waste goals are the norm these days. Given the space limitations on Nantucket, this would be a prudent goal for the municipal operations and the community.	Boston, MA's <u>Zero Waste Boston</u> plan outlines its waste reduction goals and implementation strategies. Other notable national programs include: <u>City of Phoenix Zero Waste Program</u> (leading on the circular economy) <u>County of Hawai'i Zero Waste Implementation Plan</u> (island community example)
ENERGY	Enhance the Town's municipal electric aggregation program, Nantucket PowerChoice, to include more renewable energy content than is currently offered in the standard default plan, preferably from local sources. The Town should also consider purchasing its power supply from the CCA.	In a municipal aggregation program, the Town contracts with an electricity supplier on behalf of residents. Through municipal aggregation the Town can help deliver cost savings, price stability, and the option to purchase more renewable energy.	<u>Town of Dedham Aggregation Program</u> <u>MAPC's Community Choice Aggregation Program Toolkit</u>
PURCHASING	Develop and implement an Environmentally Preferable Procurement Policy (EPP) to be utilized by all municipal departments and agencies	The Commonwealth of Massachusetts has a robust EPP program that Nantucket can utilize for the development of its own EPP program. The EPP can cover all procurement items like paper, and computers as well as extend to contracts, requiring consultants to meet certain standards as well.	<u>Commonwealth of Massachusetts EPP</u> The National Association of State Procurement Officials' <u>Green Purchasing Guide</u> is a guide to adopting green purchasing programs.
EMPLOYEES/ OPERATIONS	Create a Municipal Sustainability Plan and train all staff on the Town's sustainability priorities and staff expectations	A municipally focused sustainability plan will include specific goals and actions Nantucket is committing to for its internal operations. The Town already operates an onboarding program that could incorporate additional training and tools on sustainability goals and behaviors the Town expects from its employees.	<u>City of Chicago Sustainable Operations Plan</u> <u>Orlando, FL Municipal Sustainability Plan</u> <u>Flagstaff, AZ Municipal Sustainability Plan</u>

MUNICIPAL SUSTAINABILITY OFFICE

One task for this project was to identify the most appropriate avenue through which sustainability can be implemented in a unified fashion throughout the Town. Specifically, the Town was seeking recommendations on the optimal operational structure for an Office of Sustainability.

Through the process, KLA advised that creating a new position or office was not the only way (and often not the best first step) to actively move forward on sustainability. The goal is to have sustainability embedded in all parts of Town operations and daily lives for residents. With so many different municipal departments driving their own sustainability action, it was essential that all the key departments first get on the same page with what sustainability means for Nantucket and how that vision can be applied to different programs and projects. This has already begun through the development of the Sustainability Framework, which has received widespread support and confirmed the Town's top priorities. This Framework is essential for the Town and will be a valuable guide if/when a Sustainability position/office is created. The Framework will guide the development of specific sustainability goals and policies, which will allow the Town to focus on what matters most, rather than being reactive to the latest issue raised by the community, which was expressed as a challenge.

The Sustainability Working Group will start by applying the Framework to projects the Town is completing. Moving forward, the Town has identified two potential planning processes that might be initiated in 2020- the Coastal Resiliency Plan and a Climate Action Plan. These planning processes represent an opportunity for the Town to leverage consultant support to engage the broader community on what the Town seeks to accomplish through **ACK Local** and to better understand the community's priorities. This will allow the Town to have a clear workplan for a potential Sustainability hire.

After much consideration, KLA recommends the Town consider hiring a Director of Sustainability to lead the development and implementation of a municipal sustainability plan. This plan will focus specifically on the internal facing government operations, and not on service delivery, which is covered through each department. The Director of Sustainability should also participate in the Sustainability Working Group, but not necessarily as the Chair, the chairmanship should rotate between the various members. The presence of the Director of Sustainability on the Sustainability Working Group will aid in ensuring the Town is always leading by example and that the Director of Sustainability is aware of the projects other departments are leading in the community. If the Town does move forward with a sustainability-specific hire, it is KLA's strong recommendation that the position be a cabinet level position that reports directly to the Town Manager's Office (Town Manager or Deputy Town Manager). Establishing the role at this level will demonstrate the commitment of the Town government to sustainability and increase the likelihood of success in the role. It is important to note that in an ideal world the Director of Sustainability is so successful helping integrate sustainability into the daily operations of all departments that their position is no longer needed. This could be an aspirational end goal.

A director level municipal sustainability position typically earns in the range of \$75,000-\$120,000/year. The Town should consider including this salary in the next budget cycle, which may need to be FY 2022 due to the timing of this report. It may be appropriate to focus on the two potential planning processes planned for 2020 to keep the momentum going in the interim.

CONCLUSION

Sustainability has been a part of the discussion on Nantucket for some time. There is a clear interest in the concept, but varied thoughts on what it looks like on the island. The Sustainability Assessment completed through this process highlighted areas of strength to build off, such as work that has been implemented to protect Nantucket's natural resources, historic areas and structures, and the more recent advances around energy and resilience. A series of interviews, a workshop, and an online survey delivered for this project resulted in a robust sustainability framework that consists of five priority areas and 12 themes. Each theme is made up of one to three criteria that further define the intentions of the theme. Nantucket's Sustainability Framework is a key tool for the Town to continue to lead on sustainability.

Finally, this report outlined KLA's top recommendations for Nantucket to implement to further the Town's commitments and actions around sustainability to lead the community by example. The recommendations are provided with detailed steps and a proposed schedule for consideration. The recommendations focus on:

- Application of the Sustainability Framework
- Community Engagement & Communications
- Integrating Sustainability into Municipal Operations
- Considerations for a Municipal Sustainability Office

KLA believes these recommendations are an important next step for Nantucket to drive a cohesive sustainability initiative in its municipal operations and service delivery to the community. Demonstrated municipal action that tracks progress through sustainability metrics will be a shining example for the broader community and will build support for and a culture around new policies that promote community sustainability.

Appendix A:

Nantucket's Sustainability Baseline Assessment Summary

Nantucket Baseline Assessment

Kim Lundgren Associates, Inc. conducted a high level baseline assessment of the sustainability commitments Nantucket has made collectively as a Town government and then specifically within various departments. This information was collected through a review of select existing plans and policies (see list of plans reviewed in the methodology section) and through interviews with key department and community stakeholders only (see list of interviews in the methodology section) and is not an exhaustive list. The Town staff and key stakeholders can use this as a starting point and are encouraged to fill any gaps that may exist.

This baseline assessment is organized utilizing the Sustainability Framework that was developed for Nantucket, which covers five key areas (Community Preservation, Economic Vitality, Inclusivity, Resilience, and Good Governance), each with one to three subthemes.

Community Preservation

Natural Resources Protection & Enhancement

Aspirational Statement (Strategic Plan 2019)

Nantucket residents and visitors share responsibility for the long-term sustainability of our beautiful island. We recognize our stewardship of the land, air, and water and work to ensure our community is resilient and self-sufficient. Other communities look to Nantucket to learn how to care for the natural environment.

The Island has maintained its strong rural identity and well-preserved historic character.

Relevant Existing Goals

Master Plan (2009)

- To maintain and protect the quality and quantity of the island's groundwater resources, ensuring a healthy drinking water supply.
 - To provide park and recreational facilities that meet the diverse needs of residents and visitors of all ages.
 - Special natural features with cultural importance, such as spectacular beaches, ponds, landforms, forests and moors will be protected and properly managed as well.
-

- Habitat for rare and endangered species, managed so that a variety of landscapes survive and prosper, will be plentiful.

Coastal Management Plan (2014)

- All coastal management and erosion control projects that propose work in land under the ocean should consider potential impacts to fisheries and sufficient surveying should be required when necessary to minimize adverse impacts. Project appropriate survey(s) shall be provided by an independent third party and the cost of such survey(s) shall be borne by the project applicant

Strategic Plan (2019)

- Finalize an island-wide, long-term water quality management plan that addresses ponds, harbors, stormwater, and wastewater with specific ways/methods to measure improvement.

Existing or Identified Policies and Programs

Existing

- Oyster Restoration Program
- Shell Recycling Program
- Fertilizer Program

Identified- MVP Report

- Restore coastal wetlands to mitigate storm surge and sea level rise.

Available Data

- 200,000 pounds of oyster and quahog shells have been recycled from local restaurants, raw bars, and events. These are then dried and a year later used to restore the oyster populations
- 60% of Nantucket is protected conservation land

Key Challenges/Opportunities Identified by Interviewees

- How accommodate new development without negatively impacting water quality, animals, ecosystems, wetlands,
 - People come to Nantucket for the environment- the harbor with good fishing, habitat, people understand appreciate the natural resources and are willing to put their money where their mouth is- they are willing to support.
 - Privately funded conservation group owns the majority of land in Nantucket. 60% conservation land
 - Natural resources was the area identified by the Cabinet as being the best example of where Nantucket is very strong as it relates to sustainability.
-

Historic Preservation

Aspirational Statement (Strategic Plan 2019)

The Island has maintained its strong rural identity and well-preserved historic character.

Year-round transportation includes accessible, affordable, and reliable multi-modal options that respect the historical setting of our community and limit reliance on single-occupancy vehicles and private transportation.

Relevant Existing Goals

Long Range Transportation Plan (2019)

- Consider environmental and historical impacts of any transportation system improvement.

Existing or Identified Policies and Programs

Existing

- Hired a Preservation Planner

Identified- MVP Report

- Develop guidelines to preserve historic streetscapes while mitigating hazards.

Available Data

- Over \$2.5 million approved for 19 historic preservation projects in FY 2019 from Community Preservation Act funds.

Key Challenges/Opportunities Identified by Interviewees

- The entire island of Nantucket is an historic landmark
- Working on a project to address sustainability and community preservation. It is currently still in development, right now it is more ad hoc, consensus building. They are working on creating a structure for this project
- Challenging to integrate sustainability into a community where historic preservation is so important, but development has taken away the easy choices

Mobility

Aspirational Statement (Strategic Plan 2019)

Nantucket has no traffic lights. Year-round transportation includes accessible, affordable, and reliable multi-modal options that respect the historical setting of our community and limit reliance on single-

occupancy vehicles and private transportation. The Town has improved safety and mobility without accommodating a car-centric culture. Pedestrians and bicyclists feel safe as they traverse along paths and walkways that abut our local roads. Our community embraced the use of technology to improve parking turnover in our vibrant Old Historic District and made year-round access a pleasant experience.

Relevant Existing Goals

Master Plan (2009)

- To minimize the number of cars coming to the Island and their use once they are here.
- To provide a transportation system that will move people and goods to, from, and around the Island in a way that is safe, convenient, economical, and sensitive to the character of the various areas of the Island.

Long Range Transportation Plan (2019)

- Reduce the number of motor vehicles on the island
- Continue using the Town and Country overlay districts to encourage living, working, and playing within proximity.
- Offer an array and interconnection of transportation modes to the traveling public.
- Create management policies and additional opportunities for parking in the downtown area.
- Improve information for using the island's transportation system.
- Consider how transportation programs and projects would contribute to the resiliency or reliability of the transportation system.
- Ensure that transportation to and from the island is safe, convenient, economical, and sensitive to the various areas of the island.
- Rely on traffic control methods that reduce congestion while maximizing public safety and livability.
- Consider environmental and historical impacts of any transportation system improvement.

Strategic Plan (2019)

- Launch a downtown parking management system based on demand management principles that achieves (or is measured by) 85% occupancy of public parking spaces.
- Complete at least one key sidewalk route connection from Mid-Island (Six Fairgrounds Housing Project) to the ferries with improved standards for accessibility.
- Shift the mode of choice of commuters from driving alone to using other modes by 6%.

Existing or Identified Policies and Programs

Existing

- Complete Streets Policy (2016)
- Installation of roundabouts
- Improved bicycle and pedestrian infrastructure
- Promote using buses and the 15 walking tours of Nantucket and discourage bringing personal vehicles to the short-term visitors.

Identified- Master Plan (2009)

- Shorten distances between trip origins and destinations by promoting a Town and Country settlement pattern.
- Offer an array and interconnection of alternative transportation modes to the traveling public.
- Provide the public with information for using the island's alternative transportation modes.
- Reduce the amount of development that could be built on the Island.
- Create options and alternatives for parking in the downtown area.
- Utilize the telecommunication infrastructure as a means to reduce the number of trips.
- Ultimately, find an equitable and legal way to limit cars coming on-island.
- Reduce traffic congestion and improve safety in the vicinity of Nantucket's schools.
- Consider environmental and historical impacts of any transportation system improvement.
- Rely upon road design and traffic control approaches that maximize public safety.
- Accommodate the need for bulk delivery of commodities to the Island in a manner that is efficient, cost-effective, and in keeping with the character of the community.
- To provide for safe and convenient access to the island through its other port of entry, Nantucket Memorial Airport, while considering the island's environmental and historical limitations.
- To provide an efficient and convenient water-transportation system that connects mainland ports with Nantucket Harbor.
- To encourage the coordination of land side services on Nantucket at time of ferry arrivals.
- To encourage the provision of freight service to the island that is dependable, affordable, and meets the economic needs of the island, while considering the land-side effects of scheduling, vehicle size, and trip frequency.
- To coordinate Steamship Authority and private passenger carrier arrivals and departures with land side transportation.
- To improve traffic congestion and safety in the vicinity of ferry terminals.

Identified- MVP Report (2019)

- Develop a ferry/transportation master plan that addresses access to and from the Island, and appropriate means of relocating [the ferry terminals] if needed.

Available Data

- 34+ miles of bike paths on the island
- Buses currently carry approximately 5-6000 bikes per year (each bus can hold 2 bikes)

Nantucket's 2017 Commute Mode		Massachusetts 2017 Commute Mode
Drove Alone	67.0%	70.7%
Walked	12.3%	4.8%
Carpooled	8.6%	7.5%
Worked at Home	5.3%	4.9%
Bicycle	3.1%	-
Motorcycle	1.7%	-
Public Transit	1.6%	10.2%
Taxi	0.4%	-
Other	0.1%	2.0%

Key Challenges/Opportunities Identified by Interviewees

- Issues with EV buses – does not believe the shift to electric buses makes sense for Nantucket, given the additional infrastructure required and the increased demand for electricity, when they are trying to keep that to a minimum.
- Traffic congestion in the summer is significant.
- Bus routes do not adequately cover all of the island, due to narrow streets.

Housing

Aspirational Statement (Strategic Plan 2019)

Nantucket is a diverse community with a broad spectrum of economic circumstances and has housing stock that meets the range of needs. Year-round housing is achievable for everyone who works on the Island, and the various tiers of affordable housing make year-round living comfortable, stable, and inclusive. Our seasonal workforce is able to find safe and secure housing. Homes on Nantucket are well-constructed and integrated into the character of the Island.

Relevant Existing Goals

Master Plan (2009)

- To provide for the housing needs of residents, specifically targeting affordability for the year-round, working community.
- To develop strategies designed to encourage the retention of year-round owner-occupied housing units.
- To provide housing for seasonal employees, in both the public and private sectors.
- To meet the needs of senior citizens and those with special needs.

Strategic Plan (2019)

- Achieve Safe Harbor Status in each of the next three years per the goals set for Nantucket by the State through Chapter 40B and maintain local control over affordable housing initiatives.
- Finalize a plan to address housing needs specifically for Town employees – year-round and seasonal.
- Determine in greater detail the need for housing at all affordability levels (30% Area Median Income (AMI) to 200% AMI) for the community.
- Identify incentives to encourage homeowners to use secondary dwellings as year-round rentals

Existing or Identified Policies and Programs

Existing

- Increase housing stock for low and medium income residents with zoning incentives
 - Modified zoning bylaws to address moderate income housing stock
 - The Multi-Family Overlay District (MFOD), which allows one dwelling unit per 2,500 square feet of lot area, has been successful in creating year-round housing at attainable prices. Since 2000, 135 units have been permitted under this program.
-

- Senior Citizen Tax Work-Off Program Policy
- Affordable housing and rental assistance programs

Identified- Master Plan 2019

- The inclusionary housing unit aspect of Major Commercial Development (MCD) permitting needs to be updated to reflect current practices. Accessory apartments are allowed in all zoning districts, but the restrictive nature of their requirements preclude these units from contributing to housing for the seasonal workforce.
- To provide incentives, especially in the TOD, for the creation of restricted housing units, preferably in perpetuity.
- To develop public/private partnerships to create new housing opportunities for those committed to year-round residency, dispersed throughout the community.
- To meet the planned production goal of 20 affordable dwelling units per year.
- To provide seasonal employee housing, dispersed throughout the community.
- To support and promote any efforts of the Town of Nantucket or other entities to expand affordable housing opportunities for senior citizens.
- To meet the need for housing and related care for special needs populations.

Available Data

- 44%- percentage of owner-occupied households on Nantucket that are cost burdened (more than 30% of household income spent on housing)¹
- 35% percentage of renter-occupied households on Nantucket that are cost burdened (more than 30% of household income spent on housing)²
- 135 permitted units under the Multi-Family Overlay District (MFOD)

Key Challenges/Opportunities Identified by Interviewees

- Falling short on the quality of the living situation for a number of folks in the year-round community.
- NIMBYism (re: 40B housing)
- Difficult for new residents, including municipal staff, to find affordable housing
- Limited housing options that fall under the definition of affordable
- Town has built some of its own housing, current project in court battle

¹ THE BURDEN OF HOUSING COSTS IN MASSACHUSETTS. INSTITUTE FOR COMMUNITY HEALTH — DATA TABLES, JANUARY 2019

² Ibid.



Economic Vitality

Inclusive Economy

Aspirational Statement (Strategic Plan 2019)

Nantucket is a vibrant and diverse community committed to the health and well-being of our residents and visitors. The local economy provides middle-class job opportunities, and the Old Historic District is vibrant year-round. The economic vitality of the Island is bolstered by seasonal residents and visitors. Everyone enjoys public access to our beaches, waterways, and conservation land.

Relevant Existing Goals

Master Plan (2009)

- To promote a healthy, balanced, year-round and seasonal economy that improves the quality of life for island residents, stressing support for local businesses and workers.

Existing or Identified Policies and Programs

Identified- Master Plan 2009

- Build a stronger year-round economy and restore and support downtown as a year-round business and employment center.
- To encourage the expansion of existing year-round businesses and establishment of new year-round businesses in the mid-island area, in a manner that promotes a cohesive, pedestrian-friendly, mixed-use retail, service, and residential area.
- To encourage and develop opportunities for low-impact, home-based businesses.
- To provide improved public services, particularly in the downtown area.
- To support and cultivate a wide variety of small scale economic activities that may be easily integrated into the community with little or no adverse impact on island resources.
- To promote agricultural industries.
- To promote and support sustainable fisheries.
- To support the development of small businesses that provide the goods and services for increasing energy efficiency and utilizing alternative energy.

Identified- Natural Hazard Mitigation Plan (2019)

- Improve the capabilities of personnel to search and obtain electronic project plans and records for major and critical infrastructure and systems.
-

Available Data

- None Found in Materials Reviewed.

Key Challenges/Opportunities Identified by Interviewees

- Need better communication tools and channels to connect with a broad audience

Resilient Economy

Aspirational Statement (Strategic Plan 2019)

Nantucket is a vibrant and diverse community committed to the health and well-being of our residents and visitors. The local economy provides middle-class job opportunities, and the Old Historic District is vibrant year-round. The economic vitality of the Island is bolstered by seasonal residents and visitors. Everyone enjoys public access to our beaches, waterways, and conservation land.

Relevant Existing Goals

Master Plan (2009)

- To promote a healthy, balanced, year-round and seasonal economy that improves the quality of life for island residents, stressing support for local businesses and workers.
- Maintain a strong, tourism-based economy.

Existing or Identified Policies and Programs

Existing

- Sustainability Nantucket Community Farm Institute outdoor classroom structure, educational workshops and site manager for farming. (\$35,750 allocated in FY 2019)

Identified- Master Plan 2009

- Build a stronger year-round economy and restore and support downtown as a year-round business and employment center.
- To encourage the expansion of existing year-round businesses and establishment of new year-round businesses in the mid-island area, in a manner that promotes a cohesive, pedestrian-friendly, mixed-use retail, service, and residential area.
- To encourage and develop opportunities for low-impact, home-based businesses.
- To provide improved public services, particularly in the downtown area.
- To support and cultivate a wide variety of small scale economic activities that may be easily integrated into the community with little or no adverse impact on island resources.
- To promote agricultural industries.
- To promote and support sustainable fisheries.
- To support the development of small businesses that provide the goods and services for increasing energy efficiency and utilizing alternative energy.

Available Data

- None Found in Materials Reviewed.

Key Challenges/Opportunities Identified by Interviewees

- Need better communication tools and channels to connect with a broad audience

Inclusivity

Inclusivity

Aspirational Statement (Strategic Plan 2019)

Governance is collaborative, and representation on Boards, Committees, and Commissions is reflective of the diversity of our community.

Nantucket is a vibrant and diverse community committed to the health and well-being of our residents and visitors.

Everyone enjoys public access to our beaches, waterways, and conservation land.

Relevant Existing Goals

- None Found in Materials Reviewed.

Existing or Identified Policies and Programs

Existing

- All beaches are public and free.

Available Data

- None Found in Materials Reviewed.

Key Challenges/Opportunities Identified by Interviewees

- Schools are 47% people of color, but very few if any people of color show up to town meeting.
- No real social equity group on Nantucket that oversees everything.
- Input and feedback from everyone in the community is key- not just outreach, though.
- The year round residents have a very different story to tell and the service industry has another
- different story. Need to collect everyone's stories.



Resilience

Adaptive Capacity

Aspirational Statement (Strategic Plan 2019)

The Town is committed to planning for a resilient and sustainable community and maintaining and improving municipal infrastructure and assets. Town employees provide vital municipal services that are valued by residents and visitors and are engaged members of our community.

Nantucket residents and visitors share responsibility for the long-term sustainability of our beautiful island. We recognize our stewardship of the land, air, and water and work to ensure our community is resilient and self-sufficient. Other communities look to Nantucket to learn how to care for the natural environment.

Relevant Existing Goals

- None Found in Materials Reviewed.

Existing or Identified Policies and Programs

Existing

- Create a municipal position of resilience coordinator, who will help facilitate and coordinate Island-wide resiliency initiatives (including town, private, federal) and the various conservation groups.
- Creation of a Coastal Resilience Advisory Committee
- Develop a Coastal Resiliency Plan (2020)

Identified- MVP Report (2019)

- Perform a review of municipal bylaws, regulations, and policies relevant to hazard mitigation and resilience in order to foster interdepartmental coordination and communication, and guide development of new resiliency policies.
 - Develop a ferry/transportation master plan that addresses access to and from the Island, and appropriate means of relocating [the ferry terminals] if needed.
 - Restore coastal wetlands to mitigate storm surge and sea level rise.
 - Develop guidelines to preserve historic streetscapes while mitigating hazards.
 - Identify and make action plans for roads (raise, build bridges) and determine alternative access routes
 - Expand pavement management plan and process to include road elevations and stormwater drainage modifications, strategies and actions.
 - Work with public utilities to assure reliability and redundancy of critical infrastructure
-

- Work with private sector to assure continuous services.
- Conduct an assessment of long-term risks and alternatives in the Downtown area for the next 25-50 years.
- Foster and implement ongoing community resilience discussions while bringing in subject matter experts to annually share successes and assist with planning.
- Implement sewer management plan by allocating sufficient resources and an effective prioritization process while integrating with other projects.
- West End of Island: Utilize the isolated community of the west end as a prototype for resiliency planning.

Identified- Natural Hazard Mitigation Plan (2019)

- Develop a Nantucket Electric Supply Resilience Plan with National Grid that enhances information sharing, coordinates major projects and improvements, protects against major events, and integrates resilience into planning, investments and decision making.

Available Data

- None Found in Materials Reviewed.

Key Challenges/Opportunities Identified by Interviewees

- Coastal flooding and erosion were identified as the most significant recent hazards
- Five of the top ten flood elevations measured in Nantucket history occurred in the first three months of 2018.
- Ongoing development continues to be a challenge for overall sustainability

Climate & Energy

Aspirational Statement (Strategic Plan 2019)

Nantucket residents and visitors share responsibility for the long-term sustainability of our beautiful island.

Town facilities and offices incorporate modern technology and are efficient in design, energy use, and location. The Town is committed to planning for a resilient and sustainable community and maintaining and improving municipal infrastructure and assets. Town employees provide vital municipal services that are valued by residents and visitors and are engaged members of our community.

Year-round transportation includes accessible, affordable, and reliable multi-modal options that respect the historical setting of our community and limit reliance on single-occupancy vehicles and private transportation.

Relevant Existing Goals

Green Communities

- Reduce municipal energy use 20 percent over 5 years
-

Existing or Identified Policies and Programs

Existing

- Fuel Efficient Vehicle Policy (2019)
- Stretch Energy Code (2019)
- Local solar rebate program
- Nantucket PowerChoice program
- Nantucket Energy Storage Aggregation
- Beat the Peak Initiative
- HeatSmart program
- LED Streetlights
- Green Office Guide

Available Data

- Energy Efficiency Program Results
 - 2,778 Home Energy Assessments performed
 - 4,035 Powerstrips installed
 - 108,199 Lightbulbs Replaced
 - 685 Wi-Fi Thermostats installed
 - 396 Dehumidifiers replaced
 - 165 Electric Heatpump Water Heaters installed
 - 2,269 Programmable Thermostats installed
 - 3,336 Water-saving showerheads installed

Key Challenges/Opportunities Identified by Interviewees

- The Energy Office programs are not integrated into all departments
- Energy Coordinator is not at a Cabinet Level and often times not brought into planning processes early enough to have an impact on a project.
- Historic District Commission continues to be a hurdle for new renewable energy projects, but they have been taking steps in the right direction
- Seems to be more of an interest in solar than wind on the island

Waste Resources

Aspirational Statement (Strategic Plan 2019)

Provide data-driven recommendations on island-wide solid waste management guided by principles of sustainability.

Relevant Existing Goals

- None Found in Materials Reviewed.

Existing or Identified Policies and Programs

Existing

- Mandatory recycling program
-

- Waste separation program
- Take It or Leave It
- Plastic bag, straw, and single-use bans

Available Data

- 83% of the Nantucket waste stream could be diverted from the landfill through reuse, recycling or composting ³

Key Challenges/Opportunities Identified by Interviewees

- Enforcement of mandatory recycling can be challenging and expensive
- Working through third party haulers requires a lot of education and outreach
- Need to model the waste stream behavior we want the community to follow in the municipal offices
- Municipal staff in other departments indicated not being aware of or not understanding the new solid waste program requirements.
- Do not have tonnage data for commercial vs. residential. The haulers just bring in their waste with all the trash in it. Technically the haulers are required to separate or inform what is coming from the commercial businesses vs. residential but this is not enforced.
- The Nantucket recycling system is unique given its use of a biodigester and the large fluctuation of waste generated between the summer tourist and winter seasons.⁴
- Many municipal buildings are reused/recycled.
- The “Take it or Leave It” is unbalanced- far too many people leaving stuff and not enough taking it. In the summer, DPW workers clear it out every week and send everything off island to be disposed of.

³ Waste Characterization: Study & Outreach on Nantucket. WPI. <https://wp.wpi.edu/nantucket/projects/2018-projects/dpw/>

⁴ Ibid



Good Governance

Transparency

Aspirational Statement (Strategic Plan 2019)

The Town of Nantucket reflects the community value of fiscal responsibility in its operations. Governance is collaborative, and representation on Boards, Committees, and Commissions is reflective of the diversity of our community. Town facilities and offices incorporate modern technology and are efficient in design, energy use, and location. The Town is committed to planning for a resilient and sustainable community and maintaining and improving municipal infrastructure and assets. Town employees provide vital municipal services that are valued by residents and visitors and are engaged members of our community.

Relevant Existing Goals

- None Found in Materials Reviewed.

Existing or Identified Policies and Programs

- None Found in Materials Reviewed.

Available Data

- None Found in Materials Reviewed.

Key Challenges/Opportunities Identified by Interviewees

- Coordination and collaboration between and among departments seems to vary depending on the person leading the department. Natural Resources, Water, and Sewer actively coordinate and work together.
- Departmental silos was mentioned by a few interviewees as an obstacle to moving sustainability forward in the Town.

Communication & Education

Aspirational Statement (Strategic Plan 2019)

Town employees provide vital municipal services that are valued by residents and visitors and are engaged members of our community.

Other communities look to Nantucket to learn how to care for the natural environment.

Relevant Existing Goals

- None Found in Materials Reviewed.

Existing or Identified Policies and Programs

Existing

- ACK Local Campaign
- General plastics ban education
- Water Department and Natural Resources provide educational initiatives in or with the schools
- Solid Waste has actively engaged the community on how and what to recycle through surveys, focus groups, attendance at existing meetings

Identified -Natural Hazard Mitigation Plan (2019)

- Develop a public outreach program that target public school teachers and students (K-12) and works to add appropriate climate science, sea level rise, hazard mitigation and coastal resilience planning to the curriculum.

Available Data

- 1,000 emails receive the Town's e-newsletter
- Typically receives 2,000 hits per month from posting on social
- 3,000 Twitter followers

Key Challenges/Opportunities Identified by Interviewees

- In the online survey conducted through this project, which was completed by 18 municipal staff members, nearly 28% of the respondents (making it the number one answer) indicated that ***A comprehensive communication and education campaign for the public to understand what sustainability related activities are happening on Nantucket and what role each individual needs to play to create a more sustainable future*** was the most important effort to continue moving forward on. This was also repeatedly noted in interviews as the greatest challenge.
- Too many messages competing for attention, even among Town departments
- Newsletter and the Instagram stories are the most effective at reaching a broad audience on the island
- Have had the most success engaging the community through in-person activities
- Nantucket officials note that finding a way to inform visitors, especially during the high-volume tourist season during the summer, is a challenge.⁵
- Two municipal staffers indicated providing some level of education and training to the broader community, specifically students and non-English speakers.
- Input and feedback from everyone in the community is key- not just outreach.
- The year round residents have a very different story to tell and the service industry has another different story. Need to collect everyone's stories.

⁵ Town of Nantucket Hazard Mitigation Plan. Adopted March 8, 2019.

Appendix B:

Sustainability Framework

Nantucket Sustainability Framework Summary

This Sustainability Framework was developed based on research, interviews, and a survey that was conducted by Kim Lundgren Associates, Inc. for the Town of Nantucket. The Framework is designed to reflect Nantucket's values as it relates to a more sustainable future for all. The Framework can be used to assess or screen a program, project, or initiative (collectively identified as strategy in this tool), to ensure that it is meeting Nantucket's priorities. The Framework is presented as a series of criterion that are provided as a positive (+1), neutral (0), or negative (-1) contribution to provide scores for each strategy. Alternatively, you could simply use the questions to guide the design of your strategies. A few things to note: Where a strategy falls short of meeting a particular criterion, consider revising the approach. The examples and questions on the Examples tab provide some guidance on how to do that. If it is simply not possible to adjust the scope of the strategy, consider not moving forward with that strategy. The term "strategy" in the framework is meant to generally refer to any program, project, action, or initiative that may be considered by the Town for inclusion in a plan, budget, capital improvement, or in general for implementation.

This Framework is meant to be a "living" tool that evolves as the Town does.

The more it is utilized, the more value it will bring. There should be periodic reviews and updates to the Framework based on the Town's experience utilizing it. Perhaps some of the criterion are not relevant in a few years or new ones need to be added. The Town should create a process to both review and update the Framework at least annually. The Definitions and Examples should be updated far more regularly so that the tool stays relevant, this will aid in the ease of use.

This workbook is split into 4 tabs, in addition to this Summary section. The first is the complete Framework with the detailed criterion associated with each score level. The second is the Definitions Tab which provides more detailed definitions for words that may be new to the users of the Framework or that could have multiple meanings. Each word that is bold and underlined in blue in column C (+1 -positive contribution) on the Framework Tab is defined and linked to the Definitions Tab. The Examples Tab provides probing questions to think about how to design the strategy in a way that will meet the Sustainability Framework criteria. This section also includes an area for Nantucket specific examples to be incorporated as more best practices are developed. The Metrics Tab provides sample metrics that can be utilized to track how the Town is meeting its sustainability priorities as identified by the Framework.

The Framework is split into 5 priority areas and 12 themes that represent essential components for sustainable Nantucket

Community Preservation:

- Natural Resources Protection & Enhancement
- Historic Preservation
- Mobility
- Housing

Economic Vitality

- Inclusive Economy
- Resilient Economy

Inclusivity

- Inclusivity

Resilience

- Adaptive Capacity
- Climate & Energy
- Waste Resources

Good Governance

- Transparency
- Communication & Education

Nantucket Sustainability Framework Summary

Priority Area	Theme	1	0	-1	Initial Score	Notes	Opportunities to Improve
Community Preservation	1. Natural Resources Protection & Enhancement	1a (+) The strategy promotes the ongoing preservation and enhancement of Nantucket's natural resources, including beaches, wetlands, surface water bodies, groundwater, and open spaces.	1a (0) The strategy does not actively promote the ongoing preservation and enhancement of Nantucket's natural resources, including beaches, wetlands, surface water bodies, groundwater, and open spaces.	1a (-) The strategy is likely to negatively impact Nantucket's natural resources, including beaches, wetlands, surface water bodies, groundwater, and open spaces.			
		1b (+) The strategy preserves and enhances the quality and health of habitat and minimizes disruptive non-native flora and fauna and/or disease vectors.	1b (0) The strategy does not actively preserve, enhance or degrade the health of habitat, and facilitates neither the management nor the spread of invasive flora and fauna and/or disease vectors.	1b (-) The strategy is likely to degrade habitat health and/or encourage the spread of invasive flora and fauna and/or disease vectors.			
	2. Historic Preservation	2a (+) The strategy preserves or enhances the value associated with the Town's historic and cultural resources.	2a (0) The strategy does not preserve or enhance the value associated with the Town's historic and cultural resources.	2a (-) The strategy is likely to degrade or negatively impact the value associated with the Town's historic and cultural resources.			
	3. Mobility	3a (+) The strategy promotes ongoing access to or supports the creation of reliable and affordable multi-modal transport that prioritizes pedestrian and bicycle safety.	3a (0) The strategy does not actively promote or prevent access to or the creation of reliable and affordable multi-modal transport that prioritizes pedestrian and bicycle safety.	3a (-) The strategy actively restricts or prevents both access to and the creation of reliable and affordable multi-modal transport that prioritizes pedestrian and bicycle safety.			
	4. Housing	4a (+) The strategy actively promotes housing affordability and accommodates nontraditional housing options.	4a (0) The strategy does not address housing affordability or the accommodation of nontraditional housing options.	4a (-) The strategy actively exacerbates issues of housing affordability or limits nontraditional housing options.			
Economic Vitality	5. Inclusive Economy	5a (+) The strategy enhances the number of jobs in Nantucket that pay a living wage.	5a (0) The strategy does not cause an increase or a decrease in the number of jobs that pay a living wage in Nantucket.	5a (-) The strategy leads to a loss of jobs that pay a living wage in Nantucket.			
		5b (+) The strategy creates or strengthens job-related skills training, particularly for growing and/or targeted industries.	5b (0) The strategy does not create nor strengthen job-related skills training.	5b (-) The strategy reduces or eliminates resources for job-related skills training, especially those in growing and/or targeted industries.			
		6a (+) The strategy strengthens the resilience of the local economy through diversifying the economy and/or supporting a creative economy, entrepreneurial activity, or self-employment.	6a (0) The strategy does not strengthen the resilience of the local economy, and does not support the creative economy, entrepreneurial activity, or self-employment.	6a (-) The strategy potentially hurts the resilience of the local economy, or hinders the creative economy, entrepreneurial activity, or self-employment.			
	6. Resilient Economy	6b (+) The strategy supports a robust, sustainable tourism economy which actively engages visitors and/or residents in Nantucket's sustainability priorities.	6b (0) The strategy neither supports nor hinders Nantucket's sustainable tourism economy and does not change how tourists and/or residents are engaged in Nantucket's sustainability priorities.	6b (-) The strategy negatively impacts Nantucket's ability to realize value through a sustainable tourism economy and fails to actively engage tourists and/or residents in Nantucket's sustainability priorities.			
		6c (+) The strategy supports local agriculture and/or related activities.	6c (0) The strategy neither supports nor negatively impacts local agriculture and/or related industries.	6c (-) The strategy may negatively impact local agriculture and/or related industries.			
Inclusivity	7. Inclusivity	7a (+) The strategy engages non-traditional stakeholders in decision-making.	7a (0) The strategy does not seek to engage non-traditional stakeholders in decision-making, but also does not disenfranchise these stakeholders by actively excluding them from decision-making.	7a (-) The strategy disenfranchises non-traditional stakeholders by excluding them from decision-making or engaging them in a weak or superfluous way.			
		7b (+) The strategy has been led, designed, developed, implemented, or evaluated by a diverse group that is representative of the population served.	7b (0) The strategy has been led, designed, developed, implemented, or evaluated by a diverse group but it is not representative of the population served.	7b (-) The strategy has not been led, designed, developed, implemented, or evaluated by a diverse group and may reinforce systemic and institutional barriers to engagement.			
		7c (+) The strategy reduces disparities in accessing community assets and resources (e.g., parks, schools, transportation, public programs, etc.).	7c (0) The strategy does not reduce nor increase disparities in accessing community assets or resources.	7c (-) The strategy may potentially increase disparities in accessing community assets or resources.			

Nantucket Sustainability Framework Summary

Priority Area	Theme	1	0	-1	Initial Score	Notes	Opportunities to Improve
Resilience	8. Adaptive Capacity	8a (+) The strategy increases the ability of the town's built and/or natural systems (e.g., enhanced water storage) to better withstand or accommodate disruption from flooding (coastal, surface water, and storm tide), erosion, coastal hazards, increased temperatures, drought, sea level rise, extreme weather, or other physical, economic, or social threats.	8a (0) The strategy does not increase nor decrease the ability of the town's built and/or natural systems to better withstand or accommodate disruption from flooding (coastal, surface water, and storm tide), erosion, coastal hazards, increased temperatures, drought, sea level rise, extreme weather, or other physical, economic, or social threats.	8a (-) The strategy may decrease the ability of the town's built and/or natural systems to withstand or accommodate disruption from flooding (coastal, surface water, and storm tide), erosion, coastal hazards, increased temperatures, drought, sea level rise, extreme weather, or other physical, economic, or social threats.			
		8b (+) The strategy creates redundancy or flexibility (e.g., distributed energy resources) in built and/or natural systems to maintain continuity (no failure or loss of function) in the face of flooding (coastal, surface water, and storm tide), erosion, coastal hazards, increased temperatures, drought, sea level rise, extreme weather, or other physical, economic, or social threats.	8b (0) The strategy does not create or decrease redundancy, diversity, or flexibility in built and/or natural systems that maintains continuity (no failure or loss of function) in the face of flooding (coastal, surface water, and storm tide), erosion, coastal hazards, increased temperatures, drought, sea level rise, extreme weather, or other physical, economic, or social threats.	8b (-) The strategy may decrease redundancy, diversity, or flexibility in built and/or natural systems to maintain continuity (no failure or loss of function) in the face of flooding (coastal, surface water, and storm tide), erosion, coastal hazards, increased temperatures, drought, sea level rise, extreme weather, or other physical, economic, or social threats.			
		8c (+) The strategy helps build a sense of community and develop social networks to enhance the ability of community members to be prepared for, adapt to, and recover from the impacts of anticipated hazards associated with climate change, as determined by those community members who are expected to be affected by the strategy.	8c (0) The strategy does not build or erode a sense of community or promote social networks among those who are expected to be affected by the strategy, OR the strategy may be assumed to build those aspects, but its impact has not been measured directly by those communities.	8c (-) The strategy may erode a sense of community or undermine social networks, reducing the ability of community members to adapt to and recover from the anticipated hazards associated with climate change, as determined by communities who are expected to be affected by the strategy.			
	9. Climate & Energy	9a (+) The strategy uses the most up-to-date local climate projections available and appropriate planning horizons (timeframes) to guide decision-making.	9a (0) The strategy does not consider climate projections because the projections were deemed not to affect the project or decision-making, OR the strategy has not assessed the appropriateness of its planning horizon (timeframe).	9a (-) The strategy does not consider climate change to guide decision-making, and/or does not use the most up-to-date local climate projections available, OR has an inappropriate planning horizons (timeframe).			
		9b (+) The strategy reduces greenhouse gas emissions or energy use from buildings, transportation, waste, wastewater, consumption, and other sectors.	9b (0) The strategy will neither reduce nor generate new greenhouse gas emissions or energy demands, OR reductions in greenhouse gas emissions or energy use is indirect, minimal, or non-quantifiable.	9b (-) The strategy will likely increase greenhouse gas emissions or energy use.			
		9c (+) The strategy actively removes barriers to and promotes the use of renewable energy or non-fossil fuel based resources.	9c (0) The strategy does not remove or create barriers to, and does not promote, the use of renewable energy or non-fossil fuel based resources.	9c (-) The strategy creates barriers to, and limits the promotion of, the use of renewable energy or non-fossil fuel based resources.			
	10. Waste Resources	10a (+) The strategy addresses waste resources by prioritizing a reduce first approach and identifying reuse options for any waste that is generated, before recycling is considered, resulting in significant reductions in the amount of waste sent to a landfill.	10a (0) The strategy does not prioritize waste reduction options OR the strategy does not involve the use of resources, materials, or products OR the product has no impact on the amount of waste sent to a landfill.	10a (-) The strategy may increase waste generation as well as the amount of waste sent to the landfill.			
Good Governance	11. Transparency	11a (+) The strategy directly educates, informs, and/or increases transparency with how resources are allocated and why.	11a (0) The strategy does not directly educate, inform, and/or increase transparency with how resources are allocated and why.	11a (-) The strategy may reduce transparency in its development and implementation.			
		11b (+) The strategy has demonstrated that it can directly provide a social, environmental, and/or economic (triple bottom line) benefit to Nantucket today and into the future.	11b (0) The strategy does not directly provide or remove a social, environmental, and/or economic benefit to Nantucket today and into the future.	11b (-) The strategy removes social, environmental, and/or economic benefits to Nantucket today and into the future.			
	12. Communication & Education	12a (+) The strategy clearly indicates how it will develop and deliver effective and ongoing communication and education specific to the benefits of the project and how it supports sustainability on Nantucket.	12a (0) The strategy anticipates delivering effective and ongoing communication on how the project supports sustainability on Nantucket, but has not provided a clear plan on how.	12a (-) The strategy does not indicate any effort to develop and deliver effective or ongoing communication related to the sustainability benefits of the project.			
		12b (+) The strategy includes direct, ongoing communication and collaboration across two or more municipal departments/offices throughout design and implementation to integrate and align efforts on smart climate and sustainability planning.	12b (0) The strategy includes minimal or baseline communication or collaboration across two or more town departments or only during one phase of the project.	12b (-) The strategy does not include communication or collaboration across town departments on smart climate and sustainability planning, and may create misalignment in actions, goals, or resource allocations.			

Nantucket Sustainability Framework Definitions

Term	Definition		Source
Distributed Energy Resources	Physical and virtual assets that are deployed across the electricity grid, typically close to the load, and usually behind the meter, which can be used individually or in aggregate to provide value to the grid, individual customers, or both. Examples include solar, storage, energy efficiency, and demand management.	Advanced Energy Economy	https://blog.aee.net/distributed-energy-resources-101-required-reading-for-a-modern-grid
Growing and/or Targeted Industries	This will need to be determined by the Town. What are the new, targeted industries you would like to see grow? An example could be solar installers, entrepreneurs.	TBD	
Inclusive Economy	Inclusive economy is one in which there is expanded opportunity for more broadly shared prosperity.	Rockefeller Foundation	https://www.rockefellerfoundation.org/blog/five-characteristics-inclusive-economy-getting-beyond-equity-growth-dichotomy/
Living Wage	The living wage is the hourly rate that allows residents to meet minimum standards of living to support his or herself and their family. This includes housing, transportation, food, taxes, health care, etc. This amount varies depending on the individual's number of dependents. For a family of two with two working parents and two children, on Nantucket this would be equal to \$18.44/hour.	https://livingwage.mit.edu/counties/25019	
Non-traditional stakeholders	Individuals that are not traditionally involved or engaged in a given activity, often because of a historical legacy of barriers such as culture, language, history, past experience, lack of political power, and discrimination. Common non-traditional stakeholder groups include: people of color, low-income constituencies, individuals with disabilities, the working poor, the unemployed, and those for whom English is a second language.		
Reduce First Approach	The waste management strategy that exemplifies the appropriate hierarchy, focusing on minimizing consumption of resources, materials, or products (e.g., through material use efficiency, using a sharing economy, etc.) as the first step.	https://www.iisd.org/business/tools/bt_4r.a_spx	
Sustainable Tourism	Tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities.	United Nations World Tourism Organization (UNWTO)	https://www.forbes.com/sites/timothyjmcclimon/2019/12/09/the-future-of-preservation-is-sustainable-tourism/#211d799d6ea5
Triple Bottom Line	The triple bottom line approach expands the traditional accounting framework to look beyond just financial gains to include the social and environmental impacts of their company. These three bottom lines are often referred to as the three P's: people, planet, and profit.	https://sustain.wiscn.edu/sustainability/triple-bottom-line/	

Nantucket Sustainability Framework Question Examples

Priority Area	Themes	Framework Criterion	Nantucket Specific Examples	Questions to Consider	Additional Resources
Community Preservation	1. Natural Resources Protection & Enhancement	1a (+) The strategy promotes the ongoing preservation and enhancement of Nantucket's natural resources, including beaches, wetlands, surface water bodies, groundwater, and open spaces.	What measures have been identified to preserve existing natural resources and eliminate or minimize any disturbance during and after the project? How will the natural areas be improved upon completion of this project?		
		1b (+) The strategy preserves and enhances the quality and health of habitat and minimizes disruptive non- native flora and fauna and/or disease vectors.	Have the priority habitat areas within the work zone been identified? Are there any threatened or endangered species in the area? Are there opportunities to restore the ecosystem? Are there any disruptive non-native species in the work zone that could beeradicated?		
	2. Historic Preservation	2a (+) The strategy preserves or enhances the value associated with the Town's historic and cultural resources.	Has an opportunity to create a balance between sustainability and historic preservation been identified?		
	3. Mobility	3a (+) The strategy promotes ongoing access to or supports the creation of reliable and affordable multi- modal transport that prioritizes pedestrian and bicycle safety.	What are the mobility goals/requirements? Will this result in more people taking bikes or walking or utilizing public transit vs. driving alone? How will this impact single occupancy vehicle traffic? How will bicyclist and pedestrian safety on the roads be prioritized?		
	4. Housing	4a (+) The strategy actively promotes housing affordability and accommodates nontraditional housing options.	Will this create a greater demand for affordable housing? Are there opportunities to support alternative housing such as tiny houses?		
Economic Vitality	5. Inclusive Economy	5a (+) The strategy enhances the number of jobs in Nantucket that pay a living wage.	Will this result in more opportunities that pay a living wage either during or after completion?	https://livingwage.mit.edu/counties/25019	
		5b (+) The strategy creates or strengthens job-related skills training, particularly for growing and/or targeted industries.	Are there opportunities to introduce on the job trainings or support workforce development?		
	5. Resilient Economy	6a (+) The strategy strengthens the resilience of the local economy through diversifying the economy and/or supporting a creative economy, entrepreneurial activity, or self-employment.	Are there ways to engage businesses that directly support or promote the local creative economy in the design, delivery or maintenance of this?		
		6b (+) The strategy supports a robust, sustainable tourism economy which actively engages visitors and/or residents in Nantucket's sustainability priorities.	Are there opportunities to actively engage and educate visitors and residents alike in the value that will be delivered through this?	https://sustainability-leaders.com/sustainable-tourism-strategies-examples/	
		6c (+) The strategy supports local agriculture and/or related activities.	In what way could this support local farms, farmers, community gardens, etc.?		
Inclusivity	7. Inclusivity	7a (+) The strategy engages non-traditional stakeholders in decision-making.	Which community members will be most impacted? In what ways have they been engaged in the design/development of this strategy? What options exist for additional engagement by those most represented in the area? Are there certain strategy decisions the Town would be willing to concede to them?	IAP2 Spectrum of Public Participation Participatory Budgeting	
		7b (+) The strategy has been led, designed, developed, implemented, or evaluated by a diverse group that is representative of the population served.	Who is leading the project? Are there opportunities to be inclusive of a diverse group that also represents those that will be served now and in the future?		
		7c (+) The strategy reduces disparities in accessing community assets and resources (e.g., parks, schools, transportation, public programs, etc.).	How will the community engage with this? How can we ensure the benefits are shared by all in an equitable fashion?		

Nantucket Sustainability Framework Question Examples

Priority Area	Theme	Framework Criterion	Nantucket Specific Examples	Questions to Consider	Additional Resources
Resilience	8. Adaptive Capacity	8a (+) The strategy increases the ability of the town's built and/or natural systems (e.g., enhanced water storage) to better withstand or accommodate disruption from flooding (coastal, surface water, and storm tide), erosion, coastal hazards, increased temperatures, drought, sea level rise, extreme weather, or other physical, economic, or social threats.	Detail the improvements to infrastructure that will result in enhanced resilience. Which hazards will be addressed?		
		8b (+) <u>The strategy creates redundancy or flexibility (e.g., distributed energy resources) in built and/or natural systems to maintain continuity (no failure or loss of function) in the face of flooding (coastal, surface water, and storm tide), erosion, coastal hazards, increased temperatures, drought, sea level rise, extreme weather, or other physical, economic, or social threats.</u>	Are there backups or redundancies in the systems utilized or impacted? How will implementation create redundancy or flexibility?		
		8c (+) The strategy helps build a sense of community and develop social networks to enhance the ability of community members to be prepared for, adapt to, and recover from the impacts of anticipated hazards associated with climate change, as determined by those community members who are expected to be affected by the strategy.	In what ways can this bring people in the community closer together? Is there a solid understanding of the current state of social cohesion? If so, will this allow that to grow?	https://www.humanrights.gov.au/our-work/race-discrimination/publications/building-social-cohesion-our-communities	
	9. Climate Action	9a (+) The strategy uses the most up-to-date local climate projections available and appropriate planning horizons (timeframes) to guide decision-making.	Can you demonstrate how the latest climate projections were factored into the design?	http://resilientma.org/	
		9b (+) The strategy reduces greenhouse gas emissions or energy use from buildings, transportation, waste, wastewater, consumption, and other sectors.	Have greenhouse gas (GHG) emissions from implementation been considered and/or calculated, such as from vehicles removal of trees. Can these emissions be offset through mitigation post implementation or through the purchase of a carbon offset?	https://www.terrapass.com/carbon-footprint-calculator	
	10. Renewable Energy	10a (+) The strategy actively removes barriers to and promotes the use of renewable energy or non-fossil fuel based resources.	Have alternatives been evaluated for every possible fossil fuel based resource associated with implementation. Is there a plan to incorporate renewable energy sources?		
	11. Waste Resources	11a (+) <u>The strategy addresses waste resources by prioritizing a reduce first approach and identifying reuse options for any waste that is generated, before recycling is considered, resulting in significant reductions in the amount of waste sent to a landfill.</u>	How will potential waste be addressed before, during and after implementation. What methods will be deployed to minimize waste generated as a result of implementation?	http://zerowaste.org/	
Good Governance	12. Transparency	12a (+) The strategy directly educates, informs, and/or increases transparency with how resources are allocated and why.	What factors were taken into account when this was approved? How has this information been publicized?		
		12b (+) <u>The strategy has demonstrated that it can directly provide a social, environmental, and/or economic (triple bottom line) benefit to Nantucket today and into the future.</u>	Has a triple bottom line analysis been conducted? Are there opportunities to consider the potential indirect benefits and impacts?	https://sustain.wisconsin.edu/sustainability/triple-bottom-line/	
	13. Communication & Education	13a (+) The strategy clearly indicates how it will develop and deliver effective and ongoing communication and education specific to the benefits of the project and how it supports sustainability on Nantucket.	Is the project following the Unified Communications Strategy for Sustainability (<i>to be developed</i>) . What communication tactics and channels will be utilized? How will the messaging be developed?		
		13b (+) The strategy includes direct, ongoing communication and collaboration across two or more municipal departments/offices throughout design and implementation to integrate and align efforts on smart climate and sustainability planning.	Which departments are involved in the development and design of the project? How are they collaborating? What tools are they utilizing to ensure ongoing coordination?		

Nantucket Sustainability Framework Metrics

		Sample Metric	Unit	Baseline Data	Baseline Year	Target Data	Target Year
Community Preservation	1. Natural Resources Protection & Enhancement	% of land area that is permanently protected	Percent				
		Land area that is permanently protected	Acres				
		Reported cases of vector borne illnesses in people each year (i.e. Triple E, West Nile Virus, etc.)	# per year				
	2. Historic Preservation	# of historic facilities preserved	Total Number				
	3. Mobility	Total miles of new on-street bicycle routes defined by lane markings or signage	Miles				
		Linear feet of new pedestrian accommodation	Feet				
		Public transit ridership (seasonal vs. year round)	# per year				
	4. Housing	% of housing stock available to moderate income residents	Percent				
Economic Vitality		% of year round residents making a living wage	Percent				
	5. Inclusive Economy	% of seasonal residents making a living wage	Percent				
		# of workforce training programs offered	# per year				
		# of participants in workforce training programs	# per year				
		% of population that is working in the creative economy	Percent				
	6. Resilient Economy	Annual revenue generated by those that are self-employed or part of the creative economy	\$				
		Number of different industries that make up at least 10% of the Nantucket economy based on dollars brought in	#				
Inclusivity	7. Inclusivity	Number of percentage of people engaged by ethnicity, age, and income level	# and/or percent				
		Number or percentage of people indicating an improvement in access to resources	# and/or percent				
Resilience	8. Adaptive Capacity	Percent of projects with a green infrastructure component	Percent				
		Number of projects designed utilizing the Envision sustainable infrastructure rating system	#				
		Total Community Greenhouse Gas Emissions	metric tons of carbon dioxide equivalent				
		Total Municipal Greenhouse Gas Emissions	metric tons of carbon dioxide equivalent				
	9. Climate Action	Greenhouse Gas Emissions from the Transportation Sector	metric tons of carbon dioxide equivalent and percent of total				
		Greenhouse Gas Emissions from the Buildings Sector	metric tons of carbon dioxide equivalent and percent of total				
		Greenhouse Gas Emissions from the Waste Sector	metric tons of carbon dioxide equivalent and percent of total				
		Total energy use by sector	MMBTU				
	10. Renewable Energy	Total kW of renewable energy generation	kW				
		Number of solar installations by year	# per year				
	11. Waste Resources	Waste Diversion Rate	tons or % of total waste				
Good Governance	12. Transparency	# of project budget justifications and/or sustainability framework analyses made publicly available	# per year				
		# of followers on the Town's social media pages	# per platform per month				
	13. Communication & Education	Diversity of attendees at project meetings/events broken out by ethnicity, age, and/or income level	% breakdown				
		Demonstrated improvements in community awareness on and actions taken to be more sustainable (determine through survey)					
			percent change from baseline				

Appendix C:

Cabinet Presentation from
October 7, 2019

Nantucket Sustainability Assessment Project

October 7, 2019



A scenic view of Nantucket, Massachusetts, featuring a row of traditional blue-shuttered houses along the water's edge. Several sailboats are anchored in the harbor, and the sky is a clear, vibrant blue.

Agenda

- Introductions
- Overview of the Project Goals
- Interactive discussion on Nantucket's work to date
- Review of Timeline
- Role of the Cabinet

About Kim

- As an early municipal sustainability pioneer developed 1st Climate Action Plan in Massachusetts (2001)
- Opened ICLEI- Local Governments for Sustainability's 1st Regional Office & worked with 100's of communities across the country (2005)
- Started KLA as a benefits corporation to walk the talk on sustainability (2014)



Project Scope

-
- What is sustainability in Nantucket?
 - What are we doing and how well?
 - What else could we be doing?



Sustainability Definition

Sustainability is how the Town of Nantucket, with a focus on historic preservation, natural resources, hazard mitigation, solid waste management, energy, public health, and education, institutionalizes practices in municipal operations that support a balance of the economic, environmental, and social health of our island, which meet the needs of current residents and visitors without compromising the ability of future generations to meet evolving needs.

-Town and County of Nantucket, Strategic Plan

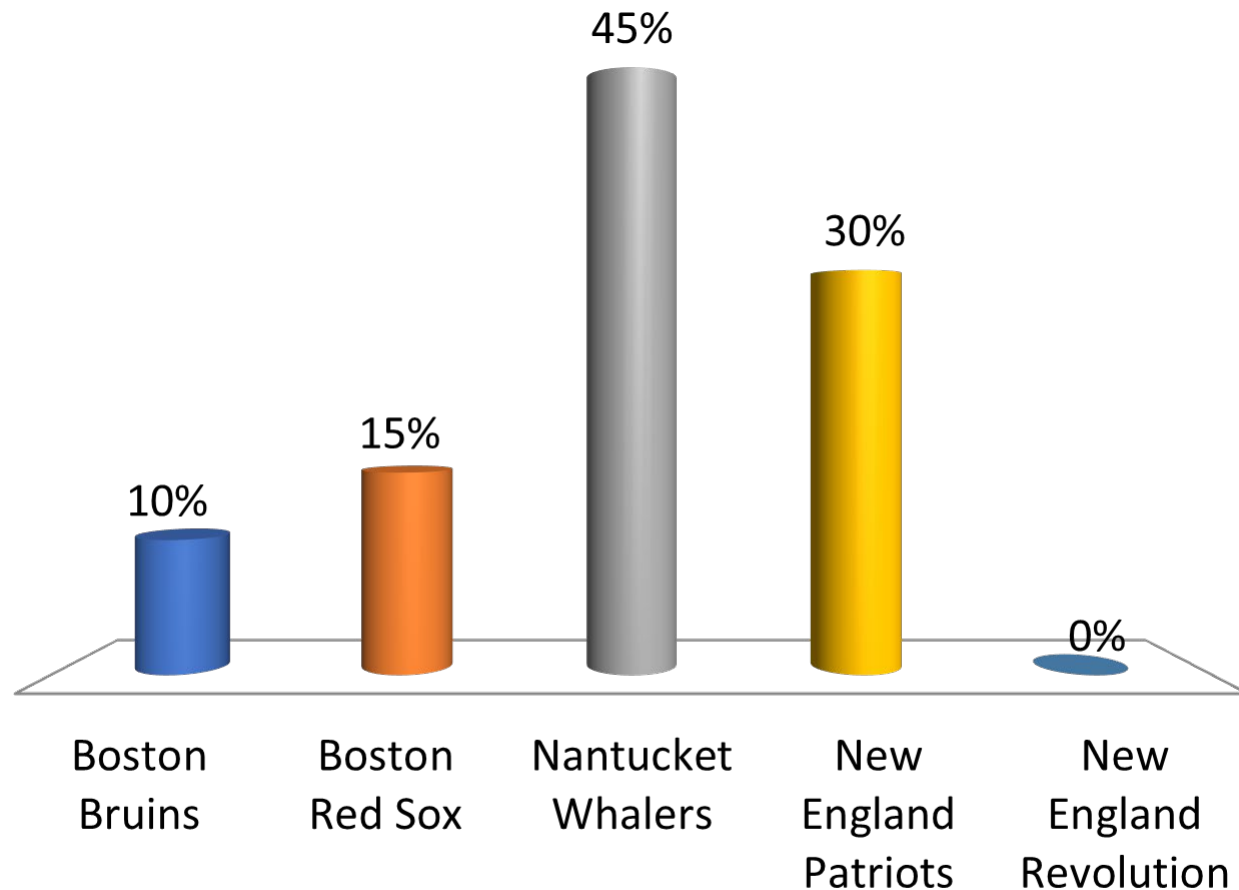


How are we
doing?



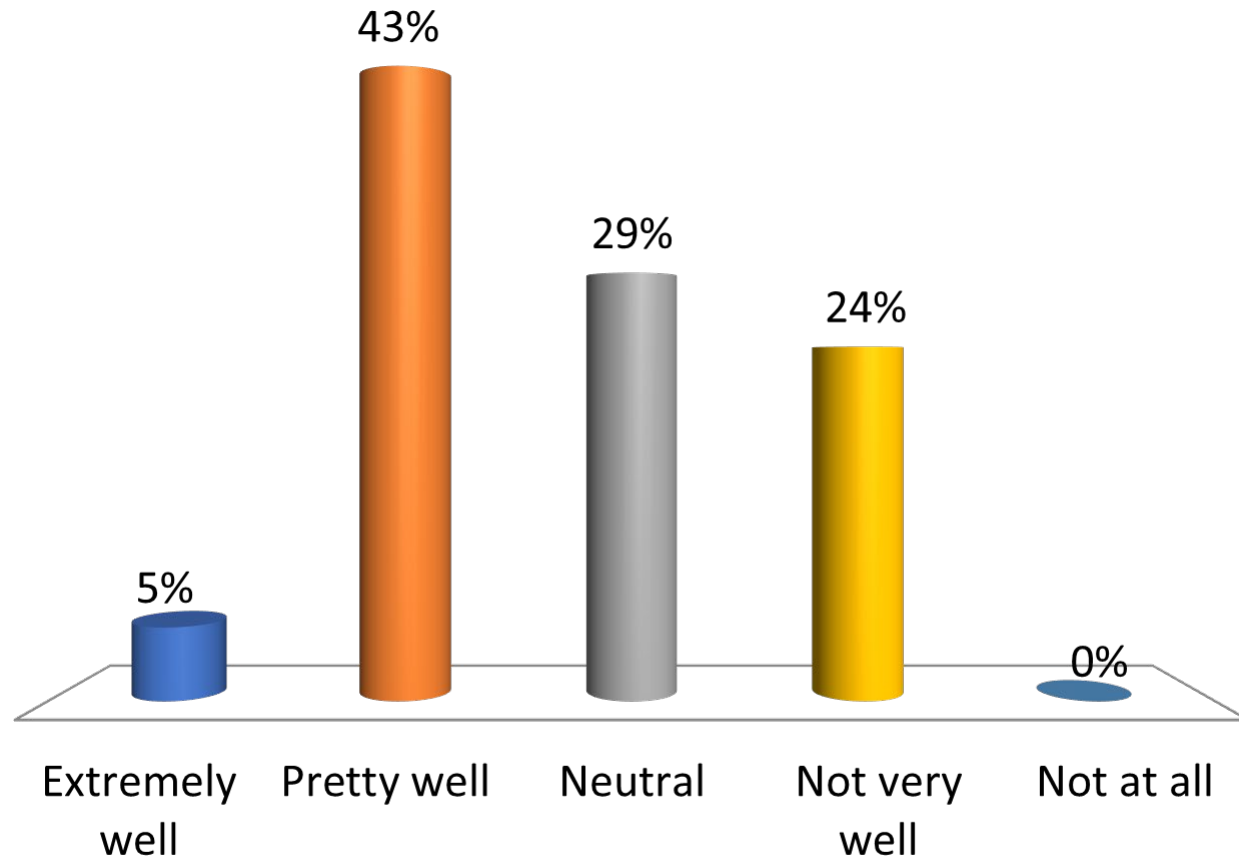
What is your favorite sports team?

- A. Boston Bruins
- B. Boston Red Sox
- C. Nantucket Whalers
- D. New England Patriots
- E. New England Revolution



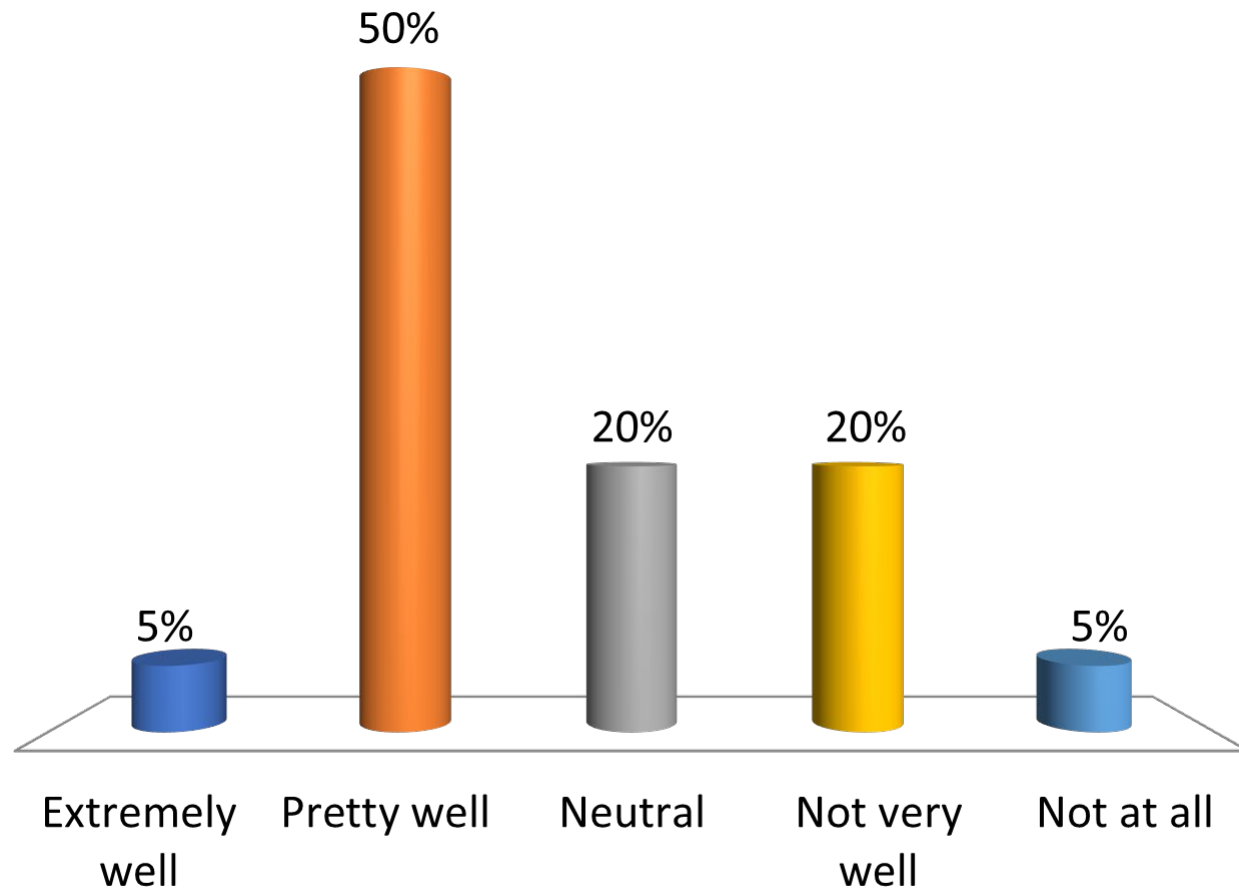
How well do you feel Nantucket as a community embraces sustainability?

- A. Extremely well
- B. Pretty well
- C. Neutral
- D. Not very well
- E. Not at all



How well do you feel Nantucket's municipal government embraces sustainability?

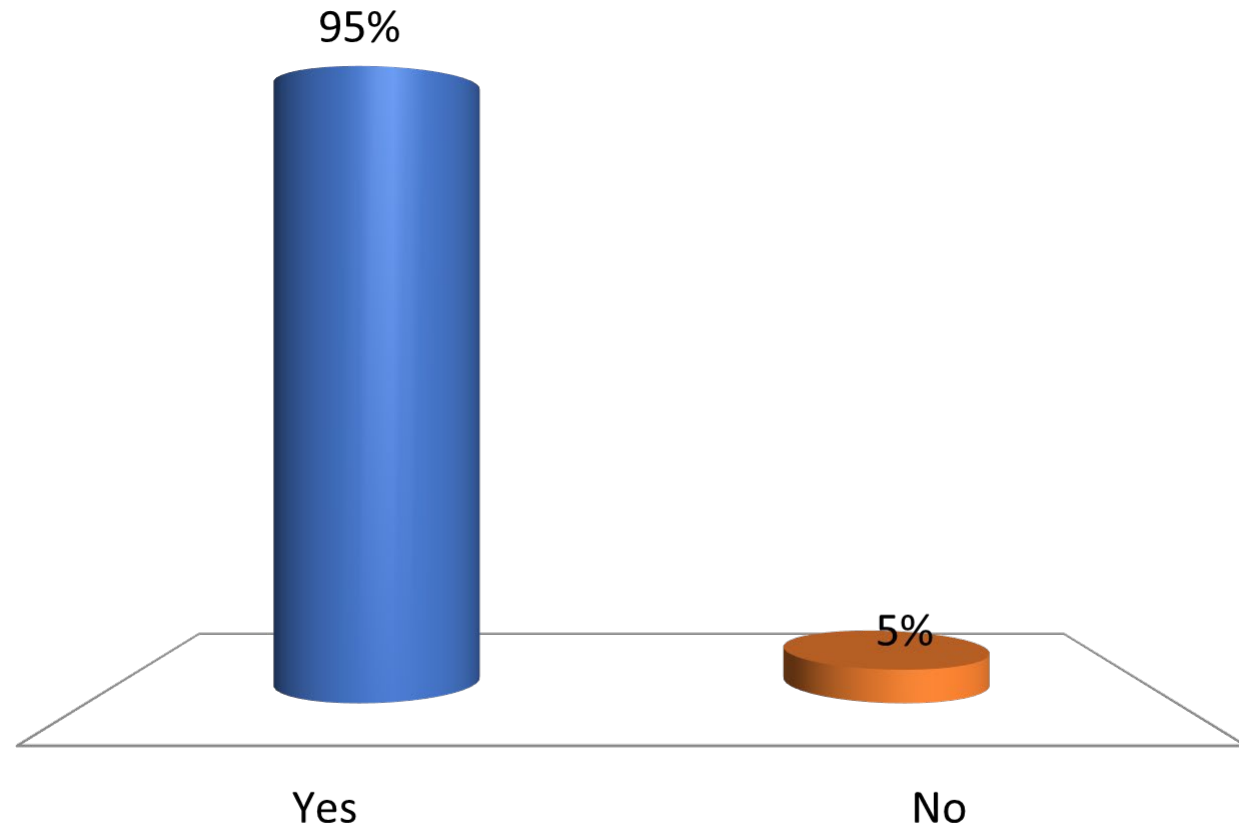
- A. Extremely well
- B. Pretty well
- C. Neutral
- D. Not very well
- E. Not at all



Do you believe that Nantucket should consider climate change and community resilience in the development of municipal policies and projects?

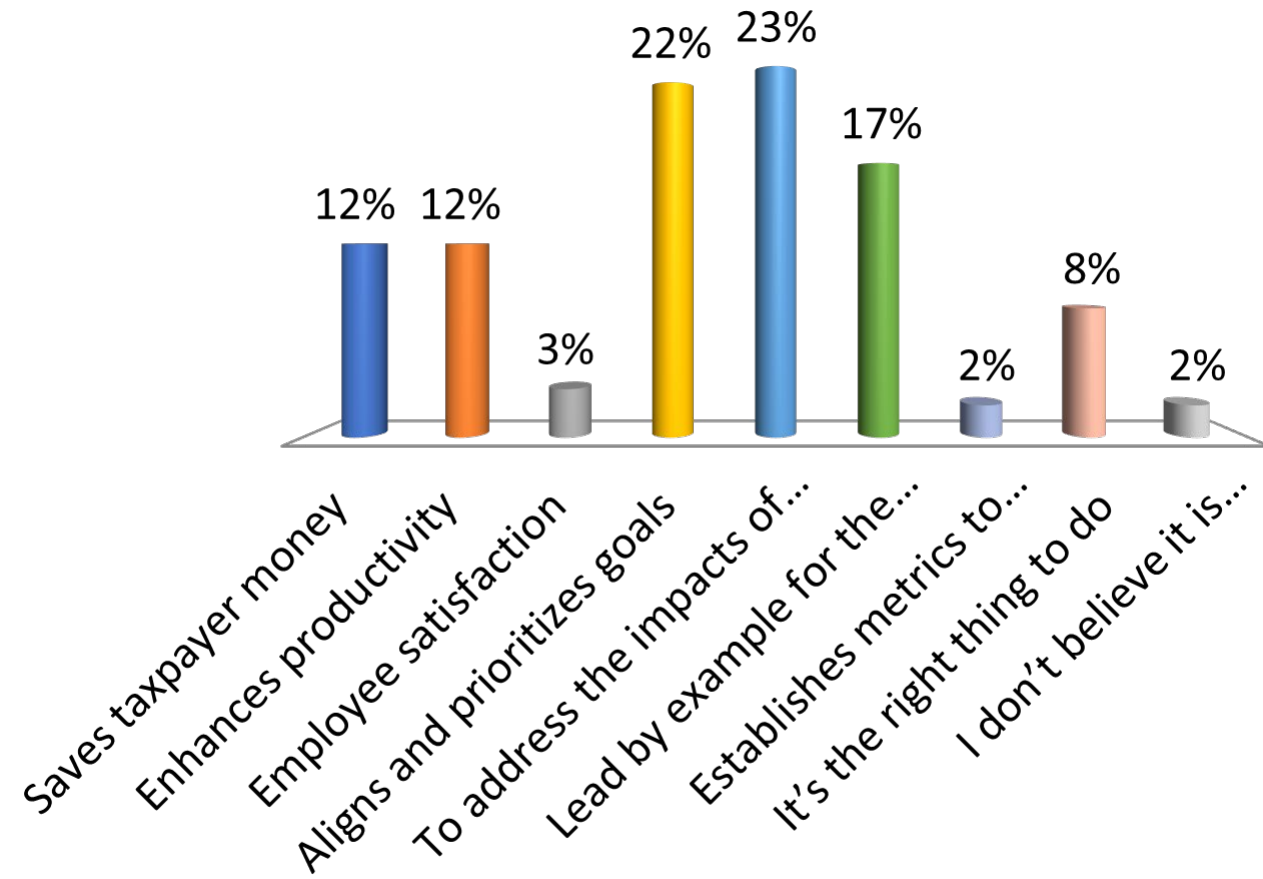
A. Yes

B. No



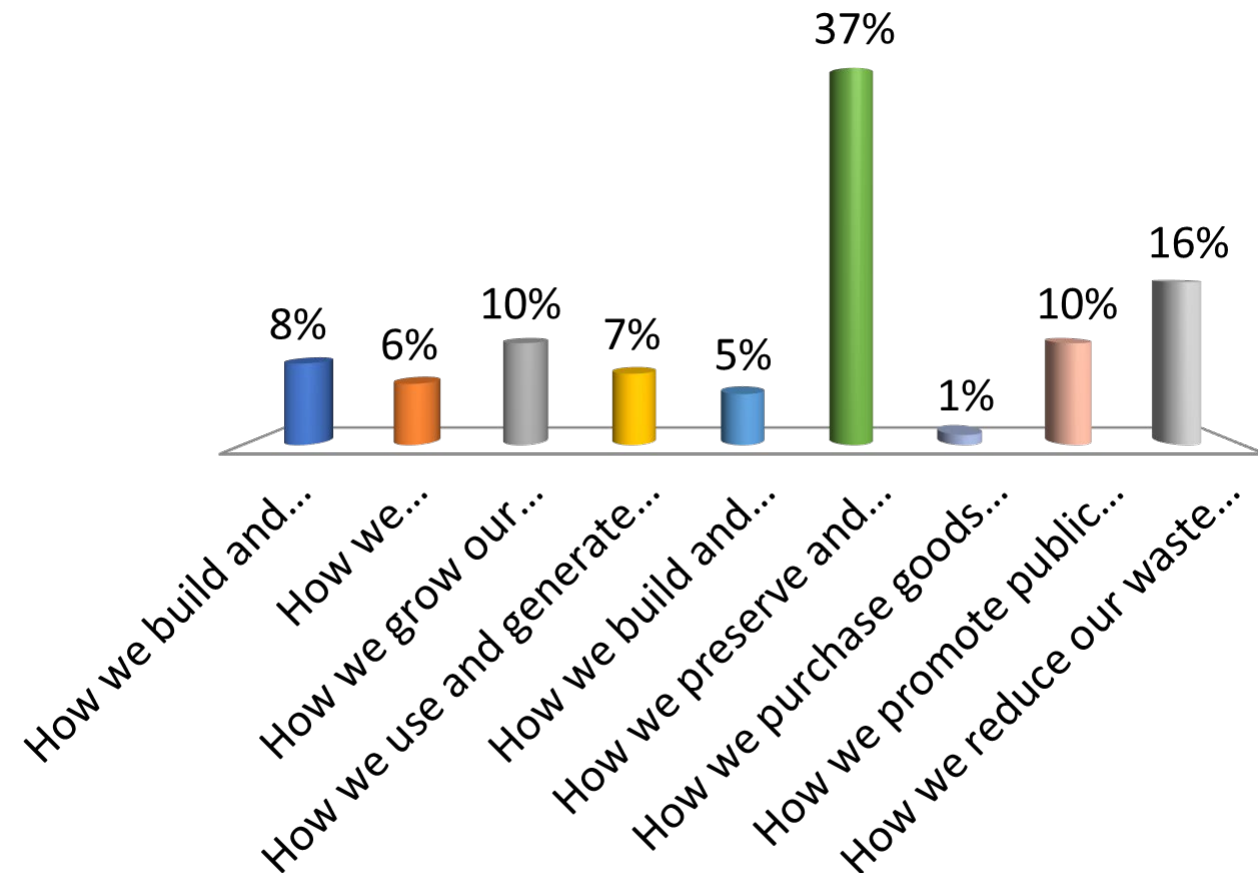
Why do you think it is important for Nantucket municipal government to operate sustainably? *(choose 3)*

- A. Saves taxpayer money
- B. Enhances productivity
- C. Employee satisfaction
- D. Aligns and prioritizes goals
- E. To address the impacts of climate change
- F. Lead by example for the community
- G. Establishes metrics to track progress
- H. It's the right thing to do
- I. I don't believe it is important



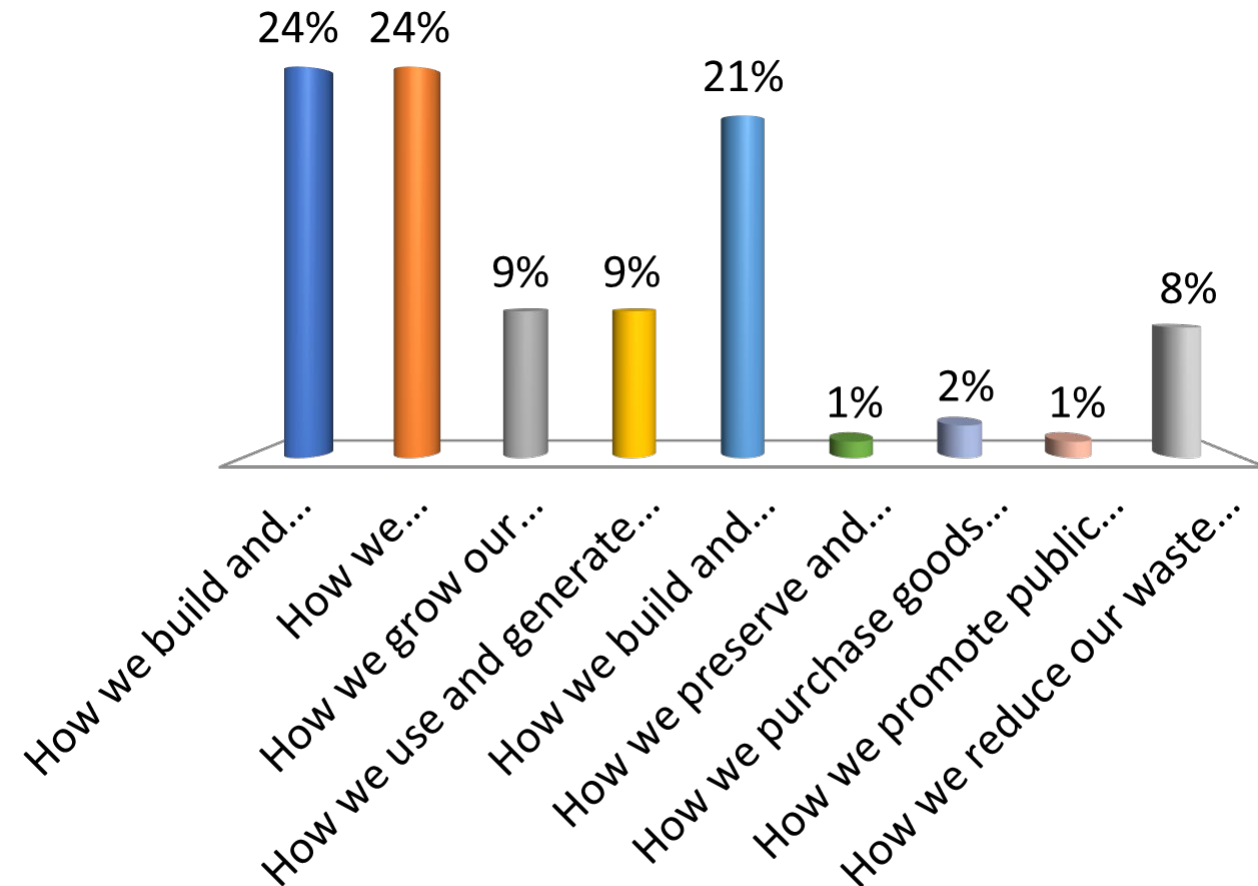
Which area do you feel Nantucket has the least work to do as it relates to integrating sustainability principles? *Rank your top three in order*

- A. How we build and maintain buildings
- B. How we develop/redevelop/rebuild
- C. How we grow our economy (incl. tourism)
- D. How we use and generate energy
- E. How we build and maintain our infrastructure (roads, water/sewer)
- F. How we preserve and protect our natural resources
- G. How we purchase goods and services
- H. How we promote public health & safety
- I. How we reduce our waste and promote recycling and composting



Which area do you feel Nantucket has the most work to do as it relates to integrating sustainability principles? *Rank your top three in order*

- A. How we build and maintain buildings
- B. How we develop/redevelop/rebuild
- C. How we grow our economy (incl. tourism)
- D. How we use and generate energy
- E. How we build and maintain our infrastructure (roads, water/sewer)
- F. How we preserve and protect our natural resources
- G. How we purchase goods and services
- H. How we promote public health & safety
- I. How we reduce our waste and promote recycling and composting



What are we
doing?



Scope & Timeline

[illegible]

Role of the Cabinet

- Develop/confirm the definition of sustainability as it relates to your department
- Report existing sustainability actions
- Identify opportunities for application of sustainability principles
- Promote sustainability principles



THANK YOU!

Kim Lundgren

617.820.8038

kim@kimlundgrenassociates.com



Appendix D:

List of Stakeholder Interviews

List of Interviewees

Name	Position/Organization
Libby Gibson	Town Manager
Gregg Tivnan	Assistant Town Manager
Rachel Day	Assistant Town Manager
Dawn Hill Holdgate	Select Board- Chair
Rita Higgins	Select Board- Vice Chair
Jason Bridges	Select Board
Matt Fee	Select Board
Kristie Ferrentella	Select Board
Brian Turbitt	Director of Municipal Finance
Amanda Perry	Human Resources Director
Rob McNeil	Director of Public Works
Stephen Murphy	Fire Chief
David Gray	Director of Wastewater
Jeff Carlson	Director of Natural Resources
Karen McGonagle	Chief Technology Officer
William Pittman	Police Chief
Roberto Santamaria	Public Health Director
Janet Schulte	Director of Culture and Tourism
Andrew Vorce	Director of Planning
Mark Willet	Water Company Manager
Lauren Sinatra	Energy Coordinator
Graeme Durovich	Solid Waste Coordinator
Holly Backus	Preservation Planner
Vincent Murphy	Coastal Resiliency Coordinator
Paula Leary	NRTA Coordinator
Florencia Rullo	Public Outreach Officer
Tucker Holland	Housing Coordinator
Richard Moore	DPW- Operations Manager
Cecil Barron Jensen	ReMain Nantucket
Rachel Hobart	ReMain Nantucket

Appendix E:

Stakeholder Survey Results

#1

COMPLETE

Collector: Nantucket Sust...ssment Survey (Web Link)
Started: Wednesday, November 20, 2019 10:01:04 AM
Last Modified: Wednesday, November 20, 2019 10:12:52 AM
Time Spent: 00:11:48
IP Address: 173.166.18.152

Page 1

Q1 In your opinion, what is the one thing that makes Nantucket so special?

Nantucket isn't "so special". It's a nice place, but just a place.

Q2 What do you think is the greatest threat to Nantucket's sustainability?

Climate Change.

Q3 We have been using the definition of sustainability that was developed for the Select Board's Strategic Plan as the foundation for this work. Sustainability is how the Town of Nantucket, with a focus on historic preservation, natural resources, hazard mitigation, solid waste management, energy, public health, and education, institutionalizes practices in municipal operations that support a balance of the economic, environmental, and social health of our island, which meet the needs of current residents and visitors without compromising the ability of future generations to meet evolving needs. Do you have any suggested additions or changes to this definition?

Yes, I have some suggestions. (please indicate in the comment box below)

,
 Other (please specify):
 It needs to be cut down from 7 foci to 2-3, and more directed to an outcome.

Q4 This is an anonymous survey, but it would be helpful to know your position level. Which best describes your role in the Town government?

Manager or Coordinator

Q5 Nantucket continues to take action to prepare for and reduce its contribution to climate change. Please rank the following priority areas in order of which you believe they should be considered. 12 being the most important and 1 being the least important.

Coastal erosion and/or sea-level rise	1
Community Health and Wellbeing	3
Economic vitality	7
Energy efficiency/ Sustainable Building Requirements (i.e. Net Zero or LEED-equivalent design principals)	11
Historic preservation	6
Housing affordability	8
Natural and environmental resources preservation and enhancement (preservation/sustainability of the ecological assets, open space, wildlife, air quality, biodiversity and invasive species, and green infrastructure)	4
Increasing Renewable energy (local generation and electric supply)	10
Smart Growth/Land Use	5
Solid waste reduction and management	9
Transportation choices (providing and encouraging use of cleaner, multi-modal options)	12
Water quality	2

Nantucket Sustainability Assessment Survey

Q6 With all the sustainability and resilience related projects/actions you/your department are taking, which one of the following would you find most valuable to continue and enhance your existing efforts? Please choose only one.

A policy directive requiring every department integrate sustainability into their operations and how they deliver services to the community

Q7 Based on your response to Question #1 (what you think is most special about Nantucket), what do you think is the most effective way for Nantucket to address sustainability as a Community?

Require it through strict regulatory mechanism

Q8 Based on your response to Question #1 (what you think is most special about Nantucket), what do you think is the most effective way for Nantucket to address sustainability as a Town Government/Municipality?

Identify and codify regulatory actions.

#2

COMPLETE

Collector: Nantucket Sust...ssment Survey (Web Link)
Started: Wednesday, November 20, 2019 10:07:19 AM
Last Modified: Wednesday, November 20, 2019 10:14:48 AM
Time Spent: 00:07:29
IP Address: 50.79.189.241

Page 1

Q1 In your opinion, what is the one thing that makes Nantucket so special?

Beaches

Q2 What do you think is the greatest threat to Nantucket's sustainability?

Over development

Q3 We have been using the definition of sustainability that was developed for the Select Board's Strategic Plan as the foundation for this work. Sustainability is how the Town of Nantucket, with a focus on historic preservation, natural resources, hazard mitigation, solid waste management, energy, public health, and education, institutionalizes practices in municipal operations that support a balance of the economic, environmental, and social health of our island, which meet the needs of current residents and visitors without compromising the ability of future generations to meet evolving needs. Do you have any suggested additions or changes to this definition?

Not sure.

Q4 This is an anonymous survey, but it would be helpful to know your position level. Which best describes your role in the Town government?

Cabinet

Q5 Nantucket continues to take action to prepare for and reduce its contribution to climate change. Please rank the following priority areas in order of which you believe they should be considered. 12 being the most important and 1 being the least important.

Coastal erosion and/or sea-level rise	4
Community Health and Wellbeing	10
Economic vitality	11
Energy efficiency/ Sustainable Building Requirements (i.e. Net Zero or LEED-equivalent design principals)	2
Historic preservation	8
Housing affordability	5
Natural and environmental resources preservation and enhancement (preservation/sustainability of the ecological assets, open space, wildlife, air quality, biodiversity and invasive species, and green infrastructure)	9
Increasing Renewable energy (local generation and electric supply)	3
Smart Growth/Land Use	12
Solid waste reduction and management	6
Transportation choices (providing and encouraging use of cleaner, multi-modal options)	1
Water quality	7

Nantucket Sustainability Assessment Survey

Q6 With all the sustainability and resilience related projects/actions you/your department are taking, which one of the following would you find most valuable to continue and enhance your existing efforts? Please choose only one.

An online resource guide with a collection of best practices that are applicable to Nantucket

Q7 Based on your response to Question #1 (what you think is most special about Nantucket), what do you think is the most effective way for Nantucket to address sustainability as a Community?

Investigate ways to mitigate beach erosion

Q8 Based on your response to Question #1 (what you think is most special about Nantucket), what do you think is the most effective way for Nantucket to address sustainability as a Town Government/Municipality?

Get out of the way of private efforts to preserve our beaches

#3

COMPLETE

Collector: Nantucket Sust...ssment Survey (Web Link)
Started: Wednesday, November 20, 2019 10:55:41 AM
Last Modified: Wednesday, November 20, 2019 11:01:41 AM
Time Spent: 00:05:59
IP Address: 208.87.236.201

Page 1

Q1 In your opinion, what is the one thing that makes Nantucket so special?

tight community

Q2 What do you think is the greatest threat to Nantucket's sustainability?

population growth

Q3 We have been using the definition of sustainability that was developed for the Select Board's Strategic Plan as the foundation for this work. Sustainability is how the Town of Nantucket, with a focus on historic preservation, natural resources, hazard mitigation, solid waste management, energy, public health, and education, institutionalizes practices in municipal operations that support a balance of the economic, environmental, and social health of our island, which meet the needs of current residents and visitors without compromising the ability of future generations to meet evolving needs. Do you have any suggested additions or changes to this definition?

No, it looks great!

Q4 This is an anonymous survey, but it would be helpful to know your position level. Which best describes your role in the Town government?

Manager or Coordinator

Q5 Nantucket continues to take action to prepare for and reduce its contribution to climate change. Please rank the following priority areas in order of which you believe they should be considered. 12 being the most important and 1 being the least important.

Coastal erosion and/or sea-level rise	1
Community Health and Wellbeing	9
Economic vitality	8
Energy efficiency/ Sustainable Building Requirements (i.e. Net Zero or LEED-equivalent design principals)	2
Historic preservation	7
Housing affordability	10
Natural and environmental resources preservation and enhancement (preservation/sustainability of the ecological assets, open space, wildlife, air quality, biodiversity and invasive species, and green infrastructure)	4
Increasing Renewable energy (local generation and electric supply)	6
Smart Growth/Land Use	11
Solid waste reduction and management	3
Transportation choices (providing and encouraging use of cleaner, multi-modal options)	5
Water quality	12

Nantucket Sustainability Assessment Survey

Q6 With all the sustainability and resilience related projects/actions you/your department are taking, which one of the following would you find most valuable to continue and enhance your existing efforts? Please choose only one.

A comprehensive Sustainability Plan with clear goals and metrics to align with

Q7 Based on your response to Question #1 (what you think is most special about Nantucket), what do you think is the most effective way for Nantucket to address sustainability as a Community?

have a plan and educate the people

Q8 Based on your response to Question #1 (what you think is most special about Nantucket), what do you think is the most effective way for Nantucket to address sustainability as a Town Government/Municipality?

have a plan and educate the public

#4

COMPLETE

Collector: Nantucket Sustainability Assessment Survey (Web Link)
Started: Wednesday, November 20, 2019 10:06:01 AM
Last Modified: Wednesday, November 20, 2019 12:03:59 PM
Time Spent: 01:57:57
IP Address: 208.87.236.201

Page 1

Q1 In your opinion, what is the one thing that makes Nantucket so special?

Our historic and cultural identity. The entire island is an National Historic Landmark!

Q2 What do you think is the greatest threat to Nantucket's sustainability?

Extreme Weather Events!

Q3 We have been using the definition of sustainability that was developed for the Select Board's Strategic Plan as the foundation for this work. Sustainability is how the Town of Nantucket, with a focus on historic preservation, natural resources, hazard mitigation, solid waste management, energy, public health, and education, institutionalizes practices in municipal operations that support a balance of the economic, environmental, and social health of our island, which meet the needs of current residents and visitors without compromising the ability of future generations to meet evolving needs. Do you have any suggested additions or changes to this definition?

Not sure.

Q4 This is an anonymous survey, but it would be helpful to know your position level. Which best describes your role in the Town government?

Manager or Coordinator

Q5 Nantucket continues to take action to prepare for and reduce its contribution to climate change. Please rank the following priority areas in order of which you believe they should be considered. 12 being the most important and 1 being the least important.

Coastal erosion and/or sea-level rise	9
Community Health and Wellbeing	7
Economic vitality	8
Energy efficiency/ Sustainable Building Requirements (i.e. Net Zero or LEED-equivalent design principals)	6
Historic preservation	12
Housing affordability	11
Natural and environmental resources preservation and enhancement (preservation/sustainability of the ecological assets, open space, wildlife, air quality, biodiversity and invasive species, and green infrastructure)	10
Increasing Renewable energy (local generation and electric supply)	5
Smart Growth/Land Use	4
Solid waste reduction and management	3
Transportation choices (providing and encouraging use of cleaner, multi-modal options)	1
Water quality	2

Nantucket Sustainability Assessment Survey

Q6 With all the sustainability and resilience related projects/actions you/your department are taking, which one of the following would you find most valuable to continue and enhance your existing efforts? Please choose only one.

Other (please specify):

A municipal steering committee /interdepartmental taskforce that collaborates and shares ideas and resources to further sustainable practices AND a comprehensive Sustainability Plan WITH an education campaign component for the public to understand the Town's sustainability related activities for Nantucket and how individuals can play a role!! The education portion can be done through the CRA Committee!

Q7 Based on your response to Question #1 (what you think is most special about Nantucket), what do you think is the most effective way for Nantucket to address sustainability as a Community?

To come up with a plan with clear objectives that has been vetted by ALL (town employees and island residents!)

Q8 Based on your response to Question #1 (what you think is most special about Nantucket), what do you think is the most effective way for Nantucket to address sustainability as a Town Government/Municipality?

To come up with a plan with clear objectives that has been vetted by ALL (town employees and island residents!)

#5

COMPLETE

Collector: Nantucket Sust...ssment Survey (Web Link)
Started: Wednesday, November 20, 2019 12:06:16 PM
Last Modified: Wednesday, November 20, 2019 12:13:03 PM
Time Spent: 00:06:46
IP Address: 4.28.87.67

Page 1

Q1 In your opinion, what is the one thing that makes Nantucket so special?

History

Q2 What do you think is the greatest threat to Nantucket's sustainability?

Tourism

Q3 We have been using the definition of sustainability that was developed for the Select Board's Strategic Plan as the foundation for this work. Sustainability is how the Town of Nantucket, with a focus on historic preservation, natural resources, hazard mitigation, solid waste management, energy, public health, and education, institutionalizes practices in municipal operations that support a balance of the economic, environmental, and social health of our island, which meet the needs of current residents and visitors without compromising the ability of future generations to meet evolving needs. Do you have any suggested additions or changes to this definition?

No, it looks great!

Q4 This is an anonymous survey, but it would be helpful to know your position level. Which best describes your role in the Town government?

Manager or Coordinator

Q5 Nantucket continues to take action to prepare for and reduce its contribution to climate change. Please rank the following priority areas in order of which you believe they should be considered. 12 being the most important and 1 being the least important.

Coastal erosion and/or sea-level rise	12
Community Health and Wellbeing	3
Economic vitality	2
Energy efficiency/ Sustainable Building Requirements (i.e. Net Zero or LEED-equivalent design principals)	1
Historic preservation	9
Housing affordability	11
Natural and environmental resources preservation and enhancement (preservation/sustainability of the ecological assets, open space, wildlife, air quality, biodiversity and invasive species, and green infrastructure)	8
Increasing Renewable energy (local generation and electric supply)	5
Smart Growth/Land Use	4
Solid waste reduction and management	7
Transportation choices (providing and encouraging use of cleaner, multi-modal options)	10
Water quality	6

Nantucket Sustainability Assessment Survey

Q6 With all the sustainability and resilience related projects/actions you/your department are taking, which one of the following would you find most valuable to continue and enhance your existing efforts? Please choose only one.

A comprehensive communication and education campaign for the public to understand what sustainability related activities are happening on Nantucket and what role each individual needs to play to create a more sustainable future

Q7 Based on your response to Question #1 (what you think is most special about Nantucket), what do you think is the most effective way for Nantucket to address sustainability as a Community?

Working together with the town many non-profits

Q8 Based on your response to Question #1 (what you think is most special about Nantucket), what do you think is the most effective way for Nantucket to address sustainability as a Town Government/Municipality?

Public outreach. Educational campaigns that speak of the importance of preserving the island for its rich history

#6

COMPLETE

Collector: Nantucket Sust...ssment Survey (Web Link)
Started: Wednesday, November 20, 2019 1:57:38 PM
Last Modified: Wednesday, November 20, 2019 2:02:58 PM
Time Spent: 00:05:19
IP Address: 208.87.236.201

Page 1

Q1 In your opinion, what is the one thing that makes Nantucket so special?

Its Historical Mystique

Q2 What do you think is the greatest threat to Nantucket's sustainability?

Climate Change and Development

Q3 We have been using the definition of sustainability that was developed for the Select Board's Strategic Plan as the foundation for this work. Sustainability is how the Town of Nantucket, with a focus on historic preservation, natural resources, hazard mitigation, solid waste management, energy, public health, and education, institutionalizes practices in municipal operations that support a balance of the economic, environmental, and social health of our island, which meet the needs of current residents and visitors without compromising the ability of future generations to meet evolving needs. Do you have any suggested additions or changes to this definition?

No, it looks great!

Q4 This is an anonymous survey, but it would be helpful to know your position level. Which best describes your role in the Town government?

Manager or Coordinator

Q5 Nantucket continues to take action to prepare for and reduce its contribution to climate change. Please rank the following priority areas in order of which you believe they should be considered. 12 being the most important and 1 being the least important.

Coastal erosion and/or sea-level rise	9
Community Health and Wellbeing	12
Economic vitality	1
Energy efficiency/ Sustainable Building Requirements (i.e. Net Zero or LEED-equivalent design principals)	2
Historic preservation	4
Housing affordability	5
Natural and environmental resources preservation and enhancement (preservation/sustainability of the ecological assets, open space, wildlife, air quality, biodiversity and invasive species, and green infrastructure)	7
Increasing Renewable energy (local generation and electric supply)	10
Smart Growth/Land Use	11
Solid waste reduction and management	6
Transportation choices (providing and encouraging use of cleaner, multi-modal options)	3
Water quality	8

Nantucket Sustainability Assessment Survey

Q6 With all the sustainability and resilience related projects/actions you/your department are taking, which one of the following would you find most valuable to continue and enhance your existing efforts? Please choose only one.

A Cabinet level Sustainability position to drive collective and coordinated action between departments

Q7 Based on your response to Question #1 (what you think is most special about Nantucket), what do you think is the most effective way for Nantucket to address sustainability as a Community?

Involve interested parties

Q8 Based on your response to Question #1 (what you think is most special about Nantucket), what do you think is the most effective way for Nantucket to address sustainability as a Town Government/Municipality?

Start limiting growth by policy. Prevent subdivisions, spot zoning, and focus on preservation

#7

COMPLETE

Collector: Nantucket Sust...ssment Survey (Web Link)
Started: Wednesday, November 20, 2019 4:52:25 PM
Last Modified: Wednesday, November 20, 2019 5:01:33 PM
Time Spent: 00:09:08
IP Address: 50.79.189.241

Page 1

Q1 In your opinion, what is the one thing that makes Nantucket so special?

Historic areas and beaches

Q2 What do you think is the greatest threat to Nantucket's sustainability?

Over development and increased density

Q3 We have been using the definition of sustainability that was developed for the Select Board's Strategic Plan as the foundation for this work. Sustainability is how the Town of Nantucket, with a focus on historic preservation, natural resources, hazard mitigation, solid waste management, energy, public health, and education, institutionalizes practices in municipal operations that support a balance of the economic, environmental, and social health of our island, which meet the needs of current residents and visitors without compromising the ability of future generations to meet evolving needs. Do you have any suggested additions or changes to this definition?

No, it looks great!

Q4 This is an anonymous survey, but it would be helpful to know your position level. Which best describes your role in the Town government?

Cabinet

Q5 Nantucket continues to take action to prepare for and reduce its contribution to climate change. Please rank the following priority areas in order of which you believe they should be considered. 12 being the most important and 1 being the least important.

Coastal erosion and/or sea-level rise	5
Community Health and Wellbeing	8
Economic vitality	6
Energy efficiency/ Sustainable Building Requirements (i.e. Net Zero or LEED-equivalent design principals)	4
Historic preservation	10
Housing affordability	9
Natural and environmental resources preservation and enhancement (preservation/sustainability of the ecological assets, open space, wildlife, air quality, biodiversity and invasive species, and green infrastructure)	12
Increasing Renewable energy (local generation and electric supply)	3
Smart Growth/Land Use	7
Solid waste reduction and management	2
Transportation choices (providing and encouraging use of cleaner, multi-modal options)	1
Water quality	11

Nantucket Sustainability Assessment Survey

Q6 With all the sustainability and resilience related projects/actions you/your department are taking, which one of the following would you find most valuable to continue and enhance your existing efforts? Please choose only one.

A dedicated grant writer to support sustainability actions in your department or for your programs

Q7 Based on your response to Question #1 (what you think is most special about Nantucket), what do you think is the most effective way for Nantucket to address sustainability as a Community?

addressing overdevelopment and somehow controlling over use of the island during the summer, the old leave only footprint campian seems still important

Q8 Based on your response to Question #1 (what you think is most special about Nantucket), what do you think is the most effective way for Nantucket to address sustainability as a Town Government/Municipality?

development of succession plans, including development of its employees. Supprting the efforts and understanding what each is tasked with, truely understand

#8

COMPLETE

Collector: Nantucket Sust...ssment Survey (Web Link)
Started: Thursday, November 21, 2019 9:27:36 AM
Last Modified: Thursday, November 21, 2019 9:46:33 AM
Time Spent: 00:18:56
IP Address: 208.87.236.201

Page 1

Q1 In your opinion, what is the one thing that makes Nantucket so special?

Location

Q2 What do you think is the greatest threat to Nantucket's sustainability?

erosion combined with sea level rise for the island itself but overbuilding and seasonal impact on our infrastructure and resources is the greatest

Q3 We have been using the definition of sustainability that was developed for the Select Board's Strategic Plan as the foundation for this work. Sustainability is how the Town of Nantucket, with a focus on historic preservation, natural resources, hazard mitigation, solid waste management, energy, public health, and education, institutionalizes practices in municipal operations that support a balance of the economic, environmental, and social health of our island, which meet the needs of current residents and visitors without compromising the ability of future generations to meet evolving needs. Do you have any suggested additions or changes to this definition?

Yes, I have some suggestions. (please indicate in the comment box below)

,
Other (please specify):
infrastructure

Q4 This is an anonymous survey, but it would be helpful to know your position level. Which best describes your role in the Town government?

Cabinet

Q5 Nantucket continues to take action to prepare for and reduce its contribution to climate change. Please rank the following priority areas in order of which you believe they should be considered. 12 being the most important and 1 being the least important.

Coastal erosion and/or sea-level rise	12
Community Health and Wellbeing	5
Economic vitality	7
Energy efficiency/ Sustainable Building Requirements (i.e. Net Zero or LEED-equivalent design principals)	4
Historic preservation	2
Housing affordability	6
Natural and environmental resources preservation and enhancement (preservation/sustainability of the ecological assets, open space, wildlife, air quality, biodiversity and invasive species, and green infrastructure)	9
Increasing Renewable energy (local generation and electric supply)	3
Smart Growth/Land Use	10
Solid waste reduction and management	8
Transportation choices (providing and encouraging use of cleaner, multi-modal options)	1
Water quality	11

Nantucket Sustainability Assessment Survey

Q6 With all the sustainability and resilience related projects/actions you/your department are taking, which one of the following would you find most valuable to continue and enhance your existing efforts? Please choose only one.

A comprehensive communication and education campaign for the public to understand what sustainability related activities are happening on Nantucket and what role each individual needs to play to create a more sustainable future

Q7 Based on your response to Question #1 (what you think is most special about Nantucket), what do you think is the most effective way for Nantucket to address sustainability as a Community?

Involve builders and land developers

Q8 Based on your response to Question #1 (what you think is most special about Nantucket), what do you think is the most effective way for Nantucket to address sustainability as a Town Government/Municipality?

publicizing what efforts were done and exactly WHAT impact they had (how they were successful) and why we need, as an island with no surrounding cities or mutual aid, need to plan to take care of ourselves

#9

COMPLETE

Collector: Nantucket Sust...ssment Survey (Web Link)
Started: Thursday, November 21, 2019 10:56:58 AM
Last Modified: Thursday, November 21, 2019 11:47:25 AM
Time Spent: 00:50:27
IP Address: 208.87.236.201

Page 1

Q1 In your opinion, what is the one thing that makes Nantucket so special?

Inter-connectedness, spirit of self-reliance/independance, preserved open spaces and natural beauty (beaches, moors)

Q2 What do you think is the greatest threat to Nantucket's sustainability?

overpopulation (peak and off peak): too many people and cars, erosion of neighborly etiquette

Q3 We have been using the definition of sustainability that was developed for the Select Board's Strategic Plan as the foundation for this work. Sustainability is how the Town of Nantucket, with a focus on historic preservation, natural resources, hazard mitigation, solid waste management, energy, public health, and education, institutionalizes practices in municipal operations that support a balance of the economic, environmental, and social health of our island, which meet the needs of current residents and visitors without compromising the ability of future generations to meet evolving needs. Do you have any suggested additions or changes to this definition?

Yes, I have some suggestions. (please indicate in the comment box below)

,
Other (please specify):

This is very long, it could be streamlined and simplified--too many topic areas. There is no mention of maintaining a thriving community where people want to live, work, play, visit--or the importance of the island to be more self-reliant due to our remoteness. Perhaps the Town should look toward the Commonwealth's Sustainability definition for model language? (i.e. <https://www.mass.gov/executive-orders/no-438-state-sustainability-program>)

Q4 This is an anonymous survey, but it would be helpful to know your position level. Which best describes your role in the Town government?

Manager or Coordinator

Q5 Nantucket continues to take action to prepare for and reduce its contribution to climate change. Please rank the following priority areas in order of which you believe they should be considered. 12 being the most important and 1 being the least important.

Coastal erosion and/or sea-level rise	12
Community Health and Wellbeing	3
Economic vitality	4
Energy efficiency/ Sustainable Building Requirements (i.e. Net Zero or LEED-equivalent design principals)	7
Historic preservation	8
Housing affordability	1
Natural and environmental resources preservation and enhancement (preservation/sustainability of the ecological assets, open space, wildlife, air quality, biodiversity and invasive species, and green infrastructure)	11
Increasing Renewable energy (local generation and electric supply)	10
Smart Growth/Land Use	5
Solid waste reduction and management	6
Transportation choices (providing and encouraging use of cleaner, multi-modal options)	9
Water quality	2

Nantucket Sustainability Assessment Survey

Q6 With all the sustainability and resilience related projects/actions you/your department are taking, which one of the following would you find most valuable to continue and enhance your existing efforts? Please choose only one.

Other (please specify):

A plan and vision is first and foremost for the other steps to be successful. Besides the plan, many elements here are important, especially municipal steering committee, stakeholder advisers, internal policies, PR campaign, and online resources. A Cabinet level position and grant writer are not essential.

Q7 Based on your response to Question #1 (what you think is most special about Nantucket), what do you think is the most effective way for Nantucket to address sustainability as a Community?

Provide key input in a public engagement process on island-wide sustainability. Duty of the community to stay informed and to contribute and participate where there is an opportunity. Responsibilities must be shared--small personal actions add up to make a big impact.

Q8 Based on your response to Question #1 (what you think is most special about Nantucket), what do you think is the most effective way for Nantucket to address sustainability as a Town Government/Municipality?

To lead by example and to take advantage of all State-level guidance, grants, and programs available to support common sustainability goals. The Town must manage growth more sustainably and provide solutions for the unintended consequences of too many people, cars, overuse of resources (waste, environment, energy, water), which negatively impact the quality of life.

#10

COMPLETE

Collector: Nantucket Sust...ssment Survey (Web Link)
Started: Friday, November 22, 2019 4:05:28 PM
Last Modified: Friday, November 22, 2019 4:09:25 PM
Time Spent: 00:03:56
IP Address: 208.87.236.201

Page 1

Q1 In your opinion, what is the one thing that makes Nantucket so special?

Community

Q2 What do you think is the greatest threat to Nantucket's sustainability?

Over development

Q3 We have been using the definition of sustainability that was developed for the Select Board's Strategic Plan as the foundation for this work. Sustainability is how the Town of Nantucket, with a focus on historic preservation, natural resources, hazard mitigation, solid waste management, energy, public health, and education, institutionalizes practices in municipal operations that support a balance of the economic, environmental, and social health of our island, which meet the needs of current residents and visitors without compromising the ability of future generations to meet evolving needs. Do you have any suggested additions or changes to this definition?

No, it looks great!

Q4 This is an anonymous survey, but it would be helpful to know your position level. Which best describes your role in the Town government?

Cabinet

Q5 Nantucket continues to take action to prepare for and reduce its contribution to climate change. Please rank the following priority areas in order of which you believe they should be considered. 12 being the most important and 1 being the least important.

Coastal erosion and/or sea-level rise	7
Community Health and Wellbeing	8
Economic vitality	10
Energy efficiency/ Sustainable Building Requirements (i.e. Net Zero or LEED-equivalent design principals)	5
Historic preservation	11
Housing affordability	6
Natural and environmental resources preservation and enhancement (preservation/sustainability of the ecological assets, open space, wildlife, air quality, biodiversity and invasive species, and green infrastructure)	4
Increasing Renewable energy (local generation and electric supply)	9
Smart Growth/Land Use	1
Solid waste reduction and management	2
Transportation choices (providing and encouraging use of cleaner, multi-modal options)	12
Water quality	3

Nantucket Sustainability Assessment Survey

Q6 With all the sustainability and resilience related projects/actions you/your department are taking, which one of the following would you find most valuable to continue and enhance your existing efforts? Please choose only one.

A municipal steering committee or interdepartmental taskforce that collaborates and shares ideas and resources to further sustainable practices

Q7 Based on your response to Question #1 (what you think is most special about Nantucket), what do you think is the most effective way for Nantucket to address sustainability as a Community?

Public Outreach

Q8 Based on your response to Question #1 (what you think is most special about Nantucket), what do you think is the most effective way for Nantucket to address sustainability as a Town Government/Municipality?

Work it into our operations - "operationalize" the practices that support/enhance sustainability

#11

COMPLETE

Collector: Nantucket Sust...ssment Survey (Web Link)
Started: Monday, December 02, 2019 8:14:13 AM
Last Modified: Monday, December 02, 2019 8:22:10 AM
Time Spent: 00:07:57
IP Address: 208.87.236.201

Page 1

Q1 In your opinion, what is the one thing that makes Nantucket so special?

Geographic location, pristine beaches, fishery, community

Q2 What do you think is the greatest threat to Nantucket's sustainability?

climate change and over development

Q3 We have been using the definition of sustainability that was developed for the Select Board's Strategic Plan as the foundation for this work. Sustainability is how the Town of Nantucket, with a focus on historic preservation, natural resources, hazard mitigation, solid waste management, energy, public health, and education, institutionalizes practices in municipal operations that support a balance of the economic, environmental, and social health of our island, which meet the needs of current residents and visitors without compromising the ability of future generations to meet evolving needs. Do you have any suggested additions or changes to this definition?

No, it looks great!

Q4 This is an anonymous survey, but it would be helpful to know your position level. Which best describes your role in the Town government?

Cabinet

Q5 Nantucket continues to take action to prepare for and reduce its contribution to climate change. Please rank the following priority areas in order of which you believe they should be considered. 12 being the most important and 1 being the least important.

Coastal erosion and/or sea-level rise	11
Community Health and Wellbeing	10
Economic vitality	8
Energy efficiency/ Sustainable Building Requirements (i.e. Net Zero or LEED-equivalent design principals)	1
Historic preservation	7
Housing affordability	9
Natural and environmental resources preservation and enhancement (preservation/sustainability of the ecological assets, open space, wildlife, air quality, biodiversity and invasive species, and green infrastructure)	6
Increasing Renewable energy (local generation and electric supply)	3
Smart Growth/Land Use	2
Solid waste reduction and management	5
Transportation choices (providing and encouraging use of cleaner, multi-modal options)	4
Water quality	12

Nantucket Sustainability Assessment Survey

Q6 With all the sustainability and resilience related projects/actions you/your department are taking, which one of the following would you find most valuable to continue and enhance your existing efforts? Please choose only one.

A dedicated grant writer to support sustainability actions in your department or for your programs

Q7 Based on your response to Question #1 (what you think is most special about Nantucket), what do you think is the most effective way for Nantucket to address sustainability as a Community?

Municipal-Community collaboration

Q8 Based on your response to Question #1 (what you think is most special about Nantucket), what do you think is the most effective way for Nantucket to address sustainability as a Town Government/Municipality?

Coordinated efforts to lead sustainability initiatives led by a central coordinator. Enforce existing laws and regulations for building, fertilizer use, etc.

#12

COMPLETE

Collector: Nantucket Sust...ssment Survey (Web Link)
Started: Monday, December 02, 2019 8:03:02 AM
Last Modified: Monday, December 02, 2019 8:48:36 AM
Time Spent: 00:45:34
IP Address: 208.87.236.201

Page 1

Q1 In your opinion, what is the one thing that makes Nantucket so special?

The community and its connection to history (sorry, two things)

Q2 What do you think is the greatest threat to Nantucket's sustainability?

Not adapting early enough to future changes in climate effects and sea-level rise.

Q3 We have been using the definition of sustainability that was developed for the Select Board's Strategic Plan as the foundation for this work. Sustainability is how the Town of Nantucket, with a focus on historic preservation, natural resources, hazard mitigation, solid waste management, energy, public health, and education, institutionalizes practices in municipal operations that support a balance of the economic, environmental, and social health of our island, which meet the needs of current residents and visitors without compromising the ability of future generations to meet evolving needs. Do you have any suggested additions or changes to this definition?

Yes, I have some suggestions. (please indicate in the comment box below)

,
Other (please specify):

I would add the following as the first sentence: "Nantucket is a very unique and special place." This provides a positive affirmation to the definition and reinforces the "why."

Q4 This is an anonymous survey, but it would be helpful to know your position level. Which best describes your role in the Town government?

Manager or Coordinator

Q5 Nantucket continues to take action to prepare for and reduce its contribution to climate change. Please rank the following priority areas in order of which you believe they should be considered. 12 being the most important and 1 being the least important.

Coastal erosion and/or sea-level rise	12
Community Health and Wellbeing	11
Economic vitality	1
Energy efficiency/ Sustainable Building Requirements (i.e. Net Zero or LEED-equivalent design principals)	6
Historic preservation	9
Housing affordability	4
Natural and environmental resources preservation and enhancement (preservation/sustainability of the ecological assets, open space, wildlife, air quality, biodiversity and invasive species, and green infrastructure)	10
Increasing Renewable energy (local generation and electric supply)	5
Smart Growth/Land Use	8
Solid waste reduction and management	7
Transportation choices (providing and encouraging use of cleaner, multi-modal options)	2
Water quality	3

Nantucket Sustainability Assessment Survey

Q6 With all the sustainability and resilience related projects/actions you/your department are taking, which one of the following would you find most valuable to continue and enhance your existing efforts? Please choose only one.

A comprehensive Sustainability Plan with clear goals and metrics to align with

Q7 Based on your response to Question #1 (what you think is most special about Nantucket), what do you think is the most effective way for Nantucket to address sustainability as a Community?

1) Build awareness and cooperation in the community, 2) Shape mindsets and agendas, and 3) Driving collective action.

Q8 Based on your response to Question #1 (what you think is most special about Nantucket), what do you think is the most effective way for Nantucket to address sustainability as a Town Government/Municipality?

There needs to be an identified and empowered leader to help organize and drive sustainable practices and planning across the Town departments. Like IT, sustainability needs to support and be incorporated in every department. There is a Chief Technology Officer (CTO) to coordinate IT needs across departments, perhaps a Chief Sustainability Officer (CSO) would have a similar role with staff distributed across departments.

#13

COMPLETE

Collector: Nantucket Sust...ssment Survey (Web Link)
Started: Monday, December 02, 2019 8:30:34 AM
Last Modified: Monday, December 02, 2019 8:49:24 AM
Time Spent: 00:18:49
IP Address: 70.88.196.18

Page 1

Q1 In your opinion, what is the one thing that makes Nantucket so special?

Small community, beaches, natural resources and conservation land

Q2 What do you think is the greatest threat to Nantucket's sustainability?

Population growth, development, our inability to process the amount of trash that ends up in our landfill

Q3 We have been using the definition of sustainability that was developed for the Select Board's Strategic Plan as the foundation for this work. Sustainability is how the Town of Nantucket, with a focus on historic preservation, natural resources, hazard mitigation, solid waste management, energy, public health, and education, institutionalizes practices in municipal operations that support a balance of the economic, environmental, and social health of our island, which meet the needs of current residents and visitors without compromising the ability of future generations to meet evolving needs. Do you have any suggested additions or changes to this definition?

No, it looks great!

Q4 This is an anonymous survey, but it would be helpful to know your position level. Which best describes your role in the Town government?

Cabinet

Q5 Nantucket continues to take action to prepare for and reduce its contribution to climate change. Please rank the following priority areas in order of which you believe they should be considered. 12 being the most important and 1 being the least important.

Coastal erosion and/or sea-level rise	9
Community Health and Wellbeing	7
Economic vitality	3
Energy efficiency/ Sustainable Building Requirements (i.e. Net Zero or LEED-equivalent design principals)	4
Historic preservation	6
Housing affordability	1
Natural and environmental resources preservation and enhancement (preservation/sustainability of the ecological assets, open space, wildlife, air quality, biodiversity and invasive species, and green infrastructure)	11
Increasing Renewable energy (local generation and electric supply)	8
Smart Growth/Land Use	10
Solid waste reduction and management	12
Transportation choices (providing and encouraging use of cleaner, multi-modal options)	2
Water quality	5

Nantucket Sustainability Assessment Survey

Q6 With all the sustainability and resilience related projects/actions you/your department are taking, which one of the following would you find most valuable to continue and enhance your existing efforts? Please choose only one.

A comprehensive communication and education campaign for the public to understand what sustainability related activities are happening on Nantucket and what role each individual needs to play to create a more sustainable future

Q7 Based on your response to Question #1 (what you think is most special about Nantucket), what do you think is the most effective way for Nantucket to address sustainability as a Community?

Community education of the impact on our community if we do not address climate change and solid waste management and development

Q8 Based on your response to Question #1 (what you think is most special about Nantucket), what do you think is the most effective way for Nantucket to address sustainability as a Town Government/Municipality?

Public outreach and education and providing the resources to implement change for year round and seasonal community

#14

COMPLETE

Collector: Nantucket Sust...ssment Survey (Web Link)
Started: Monday, December 02, 2019 10:19:18 AM
Last Modified: Monday, December 02, 2019 10:31:27 AM
Time Spent: 00:12:09
IP Address: 208.87.236.201

Page 1

Q1 In your opinion, what is the one thing that makes Nantucket so special?

beautiful beaches

Q2 What do you think is the greatest threat to Nantucket's sustainability?

contamination of the drinking water supply

Q3 We have been using the definition of sustainability that was developed for the Select Board's Strategic Plan as the foundation for this work. Sustainability is how the Town of Nantucket, with a focus on historic preservation, natural resources, hazard mitigation, solid waste management, energy, public health, and education, institutionalizes practices in municipal operations that support a balance of the economic, environmental, and social health of our island, which meet the needs of current residents and visitors without compromising the ability of future generations to meet evolving needs. Do you have any suggested additions or changes to this definition?

Yes, I have some suggestions. (please indicate in the comment box below)

,
 Other (please specify):
 maybe call out drinking water specifically, or water in general

Q4 This is an anonymous survey, but it would be helpful to know your position level. Which best describes your role in the Town government?

Cabinet

Q5 Nantucket continues to take action to prepare for and reduce its contribution to climate change. Please rank the following priority areas in order of which you believe they should be considered. 12 being the most important and 1 being the least important.

Coastal erosion and/or sea-level rise	1
Community Health and Wellbeing	11
Economic vitality	2
Energy efficiency/ Sustainable Building Requirements (i.e. Net Zero or LEED-equivalent design principals)	4
Historic preservation	7
Housing affordability	8
Natural and environmental resources preservation and enhancement (preservation/sustainability of the ecological assets, open space, wildlife, air quality, biodiversity and invasive species, and green infrastructure)	10
Increasing Renewable energy (local generation and electric supply)	3
Smart Growth/Land Use	6
Solid waste reduction and management	9
Transportation choices (providing and encouraging use of cleaner, multi-modal options)	5
Water quality	12

Nantucket Sustainability Assessment Survey

Q6 With all the sustainability and resilience related projects/actions you/your department are taking, which one of the following would you find most valuable to continue and enhance your existing efforts? Please choose only one.

A comprehensive communication and education campaign for the public to understand what sustainability related activities are happening on Nantucket and what role each individual needs to play to create a more sustainable future

Q7 Based on your response to Question #1 (what you think is most special about Nantucket), what do you think is the most effective way for Nantucket to address sustainability as a Community?

communication and education campaign re: sustainability

Q8 Based on your response to Question #1 (what you think is most special about Nantucket), what do you think is the most effective way for Nantucket to address sustainability as a Town Government/Municipality?

communication and education campaign re: sustainability incorporated into an existing department operation to take advantage of the shared resources

#15

COMPLETE

Collector: Nantucket Sust...ssment Survey (Web Link)
Started: Monday, December 02, 2019 10:38:46 AM
Last Modified: Monday, December 02, 2019 10:48:18 AM
Time Spent: 00:09:32
IP Address: 208.87.236.201

Page 1

Q1 In your opinion, what is the one thing that makes Nantucket so special?

Our community

Q2 What do you think is the greatest threat to Nantucket's sustainability?

Trash

Q3 We have been using the definition of sustainability that was developed for the Select Board's Strategic Plan as the foundation for this work. Sustainability is how the Town of Nantucket, with a focus on historic preservation, natural resources, hazard mitigation, solid waste management, energy, public health, and education, institutionalizes practices in municipal operations that support a balance of the economic, environmental, and social health of our island, which meet the needs of current residents and visitors without compromising the ability of future generations to meet evolving needs. Do you have any suggested additions or changes to this definition?

No, it looks great!

Q4 This is an anonymous survey, but it would be helpful to know your position level. Which best describes your role in the Town government?

Support Staff

Q5 Nantucket continues to take action to prepare for and reduce its contribution to climate change. Please rank the following priority areas in order of which you believe they should be considered. 12 being the most important and 1 being the least important.

Coastal erosion and/or sea-level rise	1
Community Health and Wellbeing	7
Economic vitality	11
Energy efficiency/ Sustainable Building Requirements (i.e. Net Zero or LEED-equivalent design principals)	8
Historic preservation	12
Housing affordability	9
Natural and environmental resources preservation and enhancement (preservation/sustainability of the ecological assets, open space, wildlife, air quality, biodiversity and invasive species, and green infrastructure)	6
Increasing Renewable energy (local generation and electric supply)	2
Smart Growth/Land Use	10
Solid waste reduction and management	3
Transportation choices (providing and encouraging use of cleaner, multi-modal options)	5
Water quality	4

Nantucket Sustainability Assessment Survey

Q6 With all the sustainability and resilience related projects/actions you/your department are taking, which one of the following would you find most valuable to continue and enhance your existing efforts? Please choose only one.

A Cabinet level Sustainability position to drive collective and coordinated action between departments

Q7 Based on your response to Question #1 (what you think is most special about Nantucket), what do you think is the most effective way for Nantucket to address sustainability as a Community?

Open dialogue, education, and the involvement of as many people from as many different backgrounds as possible

Q8 Based on your response to Question #1 (what you think is most special about Nantucket), what do you think is the most effective way for Nantucket to address sustainability as a Town Government/Municipality?

Education, cooperation, and concrete plans with measurable results

#16

COMPLETE

Collector: Nantucket Sustainability Assessment Survey (Web Link)
Started: Monday, December 02, 2019 10:44:24 AM
Last Modified: Monday, December 02, 2019 11:15:35 AM
Time Spent: 00:31:10
IP Address: 208.87.236.201

Page 1

Q1 In your opinion, what is the one thing that makes Nantucket so special?

It's unique, natural, preserved beauty

Q2 What do you think is the greatest threat to Nantucket's sustainability?

People's lack of extended awareness/personal responsibility beyond the immediate here and now

Q3 We have been using the definition of sustainability that was developed for the Select Board's Strategic Plan as the foundation for this work. Sustainability is how the Town of Nantucket, with a focus on historic preservation, natural resources, hazard mitigation, solid waste management, energy, public health, and education, institutionalizes practices in municipal operations that support a balance of the economic, environmental, and social health of our island, which meet the needs of current residents and visitors without compromising the ability of future generations to meet evolving needs. Do you have any suggested additions or changes to this definition?

No, it looks great!

Q4 This is an anonymous survey, but it would be helpful to know your position level. Which best describes your role in the Town government?

Manager or Coordinator

Q5 Nantucket continues to take action to prepare for and reduce its contribution to climate change. Please rank the following priority areas in order of which you believe they should be considered. 12 being the most important and 1 being the least important.

Coastal erosion and/or sea-level rise	5
Community Health and Wellbeing	10
Economic vitality	2
Energy efficiency/ Sustainable Building Requirements (i.e. Net Zero or LEED-equivalent design principals)	6
Historic preservation	1
Housing affordability	3
Natural and environmental resources preservation and enhancement (preservation/sustainability of the ecological assets, open space, wildlife, air quality, biodiversity and invasive species, and green infrastructure)	7
Increasing Renewable energy (local generation and electric supply)	11
Smart Growth/Land Use	9
Solid waste reduction and management	8
Transportation choices (providing and encouraging use of cleaner, multi-modal options)	12
Water quality	4

Nantucket Sustainability Assessment Survey

Q6 With all the sustainability and resilience related projects/actions you/your department are taking, which one of the following would you find most valuable to continue and enhance your existing efforts? Please choose only one.

A Cabinet level Sustainability position to drive collective and coordinated action between departments

Q7 Based on your response to Question #1 (what you think is most special about Nantucket), what do you think is the most effective way for Nantucket to address sustainability as a Community?

Through enforced policies and regulations, increase the sustainability of the island

Q8 Based on your response to Question #1 (what you think is most special about Nantucket), what do you think is the most effective way for Nantucket to address sustainability as a Town Government/Municipality?

Policies and regulations for the community, while leading by example as the TON and individual employees working for TON

#17

COMPLETE

Collector: Nantucket Sustainability Assessment Survey (Web Link)
Started: Monday, December 02, 2019 10:31:54 AM
Last Modified: Monday, December 02, 2019 11:32:12 AM
Time Spent: 01:00:18
IP Address: 208.87.236.201

Page 1

Q1 In your opinion, what is the one thing that makes Nantucket so special?

Coastal location and environment

Q2 What do you think is the greatest threat to Nantucket's sustainability?

Economic sustainability needs more tourists. Environmental sustainability needs fewer tourists or a better approach to managing visitors and waste. The conflict here is a large problem.

Q3 We have been using the definition of sustainability that was developed for the Select Board's Strategic Plan as the foundation for this work. Sustainability is how the Town of Nantucket, with a focus on historic preservation, natural resources, hazard mitigation, solid waste management, energy, public health, and education, institutionalizes practices in municipal operations that support a balance of the economic, environmental, and social health of our island, which meet the needs of current residents and visitors without compromising the ability of future generations to meet evolving needs. Do you have any suggested additions or changes to this definition?

Yes, I have some suggestions. (please indicate in the comment box below)

,
Other (please specify):

Sustainability within Town of Nantucket is a balance of economic, environmental, and social health of our Island which meets the needs of residents and visitors without compromising the ability of future generations to meet evolving needs. Sustainability requires historic preservation, natural resources, hazard mitigation, solid waste management, energy, public health and education to be institutionalized in municipal operations to achieve a fair equilibrium.

Q4 This is an anonymous survey, but it would be helpful to know your position level. Which best describes your role in the Town government?

Manager or Coordinator

Q5 Nantucket continues to take action to prepare for and reduce its contribution to climate change. Please rank the following priority areas in order of which you believe they should be considered. 12 being the most important and 1 being the least important.

Coastal erosion and/or sea-level rise	12
Community Health and Wellbeing	4
Economic vitality	6
Energy efficiency/ Sustainable Building Requirements (i.e. Net Zero or LEED-equivalent design principals)	9
Historic preservation	8
Housing affordability	10
Natural and environmental resources preservation and enhancement (preservation/sustainability of the ecological assets, open space, wildlife, air quality, biodiversity and invasive species, and green infrastructure)	11
Increasing Renewable energy (local generation and electric supply)	3
Smart Growth/Land Use	1
Solid waste reduction and management	5
Transportation choices (providing and encouraging use of cleaner, multi-modal options)	2
Water quality	7

Nantucket Sustainability Assessment Survey

Q6 With all the sustainability and resilience related projects/actions you/your department are taking, which one of the following would you find most valuable to continue and enhance your existing efforts? Please choose only one.

A comprehensive communication and education campaign for the public to understand what sustainability related activities are happening on Nantucket and what role each individual needs to play to create a more sustainable future

Q7 Based on your response to Question #1 (what you think is most special about Nantucket), what do you think is the most effective way for Nantucket to address sustainability as a Community?

Incorporating Sea Level Rise into strategic planning.

Q8 Based on your response to Question #1 (what you think is most special about Nantucket), what do you think is the most effective way for Nantucket to address sustainability as a Town Government/Municipality?

Incorporating Sea Level Rise into strategic planning

#18

COMPLETE

Collector: Nantucket Sust...ssment Survey (Web Link)
Started: Monday, December 02, 2019 3:07:13 PM
Last Modified: Monday, December 02, 2019 3:23:29 PM
Time Spent: 00:16:16
IP Address: 208.87.236.201

Page 1

Q1 In your opinion, what is the one thing that makes Nantucket so special?

Ample conservation land

Q2 What do you think is the greatest threat to Nantucket's sustainability?

Plastics, and people taking the islands natural resources for granted.

Q3 We have been using the definition of sustainability that was developed for the Select Board's Strategic Plan as the foundation for this work. Sustainability is how the Town of Nantucket, with a focus on historic preservation, natural resources, hazard mitigation, solid waste management, energy, public health, and education, institutionalizes practices in municipal operations that support a balance of the economic, environmental, and social health of our island, which meet the needs of current residents and visitors without compromising the ability of future generations to meet evolving needs. Do you have any suggested additions or changes to this definition?

Not sure.

Q4 This is an anonymous survey, but it would be helpful to know your position level. Which best describes your role in the Town government?

Manager or Coordinator

Q5 Nantucket continues to take action to prepare for and reduce its contribution to climate change. Please rank the following priority areas in order of which you believe they should be considered. 12 being the most important and 1 being the least important.

Coastal erosion and/or sea-level rise	8
Community Health and Wellbeing	3
Economic vitality	1
Energy efficiency/ Sustainable Building Requirements (i.e. Net Zero or LEED-equivalent design principals)	9
Historic preservation	4
Housing affordability	2
Natural and environmental resources preservation and enhancement (preservation/sustainability of the ecological assets, open space, wildlife, air quality, biodiversity and invasive species, and green infrastructure)	12
Increasing Renewable energy (local generation and electric supply)	7
Smart Growth/Land Use	6
Solid waste reduction and management	11
Transportation choices (providing and encouraging use of cleaner, multi-modal options)	5
Water quality	10

Nantucket Sustainability Assessment Survey

Q6 With all the sustainability and resilience related projects/actions you/your department are taking, which one of the following would you find most valuable to continue and enhance your existing efforts? Please choose only one.

A Cabinet level Sustainability position to drive collective and coordinated action between departments

Q7 Based on your response to Question #1 (what you think is most special about Nantucket), what do you think is the most effective way for Nantucket to address sustainability as a Community?

Involving people with education and outreach efforts

Q8 Based on your response to Question #1 (what you think is most special about Nantucket), what do you think is the most effective way for Nantucket to address sustainability as a Town Government/Municipality?

More interdepartmental communication so that sustainability is practiced across the board.

Appendix F:

Branding Notes



Nantucket Branding Notes

Summary

Nantucket is home to a very engaged – but also very individualistic - population, and as many stakeholders indicated across 30 interviews with KLA, communicating effectively with the public is a key part of successful initiatives on the island.

To foster this communication, win local support, and coordinate departments, the Sustainability Branding Group and KLA recommend the formalization and expansion of the brand, **ACK Local**, and associating it with both existing and future sustainability initiatives. Doing so achieves several things:

- Provides a framework for working with the public and using their own language
- Makes the town's work much clearer to the public, lending it legitimacy among community groups
- Allows departments using the brand to benefit from collective messaging tools like email lists and outreach events.
- Prevents reduplication of efforts across departments

Brand Details

Brand Name: ACK Local

Tagline: Protect our island. Preserve our future.

Elevator Pitch – Why do we need ACK Local?

The people of Nantucket are engaged like nowhere else. From families who have lived on the island for generations, to newcomers drawn by Nantucket's unmistakable charm and economic opportunity, they are constantly finding new ways to invest in and improve the place they live. The result? Dozens of initiatives to protect the history of the island, to preserve the beautiful nature that surrounds the town, and explore new ways to enjoy one of the most unique places in the nation.

This home-grown activism is a powerful resource for a town threatened by the impacts of climate change, which is why we've put it at the heart of **ACK Local**: our official framework for uniting and coordinating both the departments of Nantucket and the efforts of its residents. By combining our efforts through this initiative, we will be able to protect all the

things that make Nantucket so wonderful from the challenges of the next century and explore new ways to make our community even better than before.

Rollout Suggestions

- Further develop a logo that keeps a consistent color palette/style, but which can be adapted for different initiatives.
- Give ACK Local its own page on the Nantucket website, or link from the Nantucket website out to the ack-local.com URL, which has been secured by the Town.
 - This is key for SEO. In a test run during the meeting, Googling the term “ACK Local” simply brought up the airport.
- Unify information relating to existing ACK Local initiatives at this URL
 - Make sure all departments are aware of the new page.
 - Create a unified mail list signup at this page.
- Combine outreach mailing lists and resources wherever appropriate
- Conduct a “soft launch” by emailing and reaching out to everyone whose information could not be appropriately aggregated above. For example, those who signed up for department-specific updates.
 - Remind them of ACK Local’s past successes, what role it will play in the future, and **get them to sign up for the unified outreach list.**
- Apply the branding to new plans, such as the **Coastal Resilience Plan and the Climate Action Plan** and use the new outreach list to get people up to date.
- Launch more publicly at events like **One Book, One Island**
- Leverage ACK Local to formalize community partnerships and encourage inter-departmental meetings.

Expansion Suggestions

- Develop a set of “personas,” or models of your target audiences, in order to consistently reach the people, you need to, when you need to.

- Develop a visual style guide (set fonts, colors, ways of presenting things, etc.)
- Develop a written style guide (messages that do and don't work, things to avoid, etc.)
- Develop a social media presence with ACK Local, pulling together information from all departments and building up #ACKLocal. Remember to collect and analyze metrics.