

# 9.

## PROJECTS & Initiatives



### Monroe County, FL

PHOTO SOURCE: GreenKeys! Project Team

Monroe County has already begun the process of addressing sustainability, climate change and sea level rise in its capital planning process. Projects completed by the County in recent years, as well as those proposed for the future, are provided in the following two (2) sections.

#### A. Projects Completed to Date

In recent years, Monroe County has completed several projects aimed at increasing overall sustainability and resilience to climate change and sea level rise. Notable infrastructure projects completed in recent years which will help increase the overall resiliency of the County are provided in Table 20.

#### B. Projects in the Pipeline

Of the County's proposed \$416,958,562 Million budget for FY 2016, the County's multi-year (4 years) Capital Plan of \$328.7 Million includes significant investment in the maintenance, repair, and improvement of the County's capital assets, public safety and physical environment. These investments are specifically targeted at wastewater-related infrastructure, roads, bridges, canals, land acquisition, parks and beaches, fire stations and fire trucks, a new jail and a new courthouse. The County's FY 2016 budget includes a Capital Budget of \$115 Million that specifically includes \$22 Million for wastewater-related infrastructure, \$20 Million for roads and bridges, \$10 Million for parks and beaches, and \$8 Million for the Jefferson Browne Courthouse.

There are many types of projects where departments can collaborate on adding energy efficiency and sustainability and resiliency features into existing or near-future design or renovation plans. Some projects may also be suitable for an evaluation using one of the many infrastructure project analysis tools

like Envision, Infrastructure Voluntary Evaluation Sustainability Tool (“INVEST”) or other design-related systems tools that consider sustainability and resiliency factors to optimize design. The projects in Table 21 are proposed in the County’s Capital Improvements Program for FY 2016-2020. Additionally, the table below provides suggestions for how the County could consider integrating various sustainability and adaptation strategies into this and future capital planning and budgeting processes.



**Table 20. Capital Improvement Projects Completed in Recent Years**

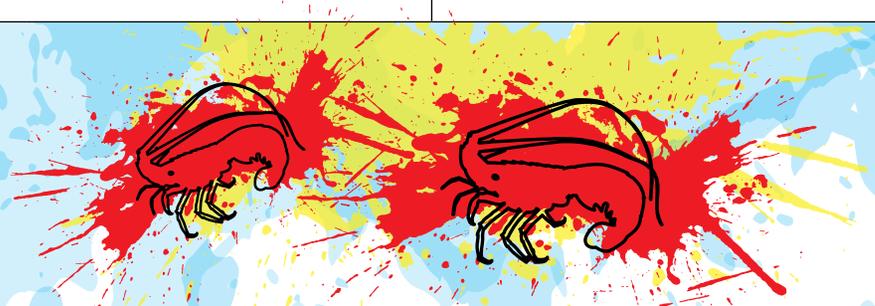
Project Completed	Project Improvements	Total Project Cost
Stock Island Fire/EMS	Renovation and addition of the fire station facility on Stock Island. The fire station includes two (2) drive through apparatus bays and approximately 3,500 sq. ft. of office area and living quarters for the staff.	\$4,573,864
Conch Key Fire Station	Renovation of the existing building and a new addition. 1,713 sq. ft. lower level garage, 1,820 sq.ft. second floor that includes an office, bath, lockers and sleeping rooms. Site Work included parking, drainage, landscaping, existing demolition and fuel tank. Garage heightened and generator relocated.	\$2,300,951
Cudjoe Regional Wastewater Treatment Plant	Design and construction of the Cudjoe Regional Waste Water System. FKAAs and the County have an Interlocal Agreement for this wastewater project.	\$47,125, 082

**Table 21. Capital Improvement Projects in the Pipeline**

Project Planned	Project Improvements	Budgeted Amount	How recommendations in this Plan can influence capital project implementation
Higgs Beach Master Plan	Visitor & Nature Center, relocation of internal road and White Street enhancements, relocation of parking lots, bicycle lanes, expansion of beach area, relocation/expansion of children’s playground, addition/expansion of pedestrian sidewalks, addition of maintenance buildings, addition of volleyball courts and pickle ball courts, removal tennis courts, relocation of small dog park and revision of large dog park, revision of outdoor lighting fixtures, addition of sculpture garden, pond renovation.	\$1.9 Million appropriated for FY 2016, \$1.0 Million proposed for FY 2017	<ul style="list-style-type: none"> <li>• Ensure that energy efficient fixtures (e.g. LED bulbs, occupancy sensors) and water conserving fixture (e.g. low-flow toilets, faucet and shower fixtures) are used in maintenance, repair and construction activities.</li> <li>• Increase building insulation and upgrade to energy efficient windows where possible when making building repairs.</li> <li>• Use sustainable materials or recycled products where possible.</li> <li>• Ensure that sea level rise is considered for all larger-scale maintenance and renovation of facilities.</li> <li>• Continue using native plants and ecosystem appropriate flora in replanting efforts.</li> </ul>

**Table 21. Capital Improvement Projects in the Pipeline** *Continued*

Project Planned	Project Improvements	Budgeted Amount	How recommendations in this Plan can influence capital project implementation
Old Seven Mile Bridge	Extensive repairs to the bridge deck, flooring and beams.	\$2.7 Million proposed for FY 2016	
Big Pine Swimming Hole	Development of a passive recreational park, near MM29 on south side of US1. Improvements would be consistent with Liveable Communikeys Plan.	\$100,000 proposed for FY 2017; \$900,000 proposed for FY 2018	<ul style="list-style-type: none"> <li>• Consider future flooding from sea level rise in design of improvements.</li> </ul>
Freeman Justice Center Lobby Expansion	Interior expansion of approximately 800 square feet to the existing main lobby entrance, in a manner that when completed will match all existing finishes and treatments.	\$4,537 appropriated for FY 2016	<ul style="list-style-type: none"> <li>• Ensure that energy efficient fixtures (e.g. LED bulbs, occupancy sensors) and water conserving fixture (e.g. low-flow toilets, faucet and shower fixtures) are used in maintenance, repair and construction activities.</li> <li>• Increase building insulation and upgrade to energy efficient windows where possible when making building repairs.</li> <li>• Use sustainable materials or recycled products where possible.</li> </ul>
Cudjoe Regional X Paving	Road paving improvements.	\$3 Million appropriated for FY 2016, \$3 Million proposed for FY 2017	<ul style="list-style-type: none"> <li>• Consider future flooding from sea level rise in design of improvements.</li> </ul>
Marathon Library	Construction of a new library in Marathon.	\$820,000 appropriated for FY 2016, \$2.2 Million proposed for FY 2017	<ul style="list-style-type: none"> <li>• Ensure that energy efficient fixtures (e.g. LED bulbs, occupancy sensors) and water conserving fixture (e.g. low-flow toilets, faucet and shower fixtures) are used in maintenance, repair and construction activities.</li> <li>• Increase building insulation and upgrade to energy efficient windows where possible when making building repairs.</li> <li>• Use sustainable materials or recycled products where possible.</li> <li>• Ensure that sea level rise is considered for all larger-scale maintenance and renovation of facilities.</li> <li>• Continue using native plants and ecosystem appropriate flora in replanting efforts.</li> </ul>



**Table 21. Capital Improvement Projects in the Pipeline *Continued***

Project Planned	Project Improvements	Budgeted Amount	How recommendations in this Plan can influence capital project implementation
Bernstein Park	Raise level of entire field by 18" to 24", add new restrooms, develop a new baseball field, soccer field, and basketball court, add new playground equipment, add a walking track, create a storm water retention system, remove the existing dwelling, and build a community center. The park is approximately six acres in size.	\$3.9 Million appropriated for FY 2016, \$1.1 Million proposed for FY 2017	<ul style="list-style-type: none"> <li>• Ensure that energy efficient fixtures (e.g. LED bulbs, occupancy sensors) and water conserving fixture (e.g. low-flow toilets, faucet and shower fixtures) are used in maintenance, repair and construction activities.</li> <li>• Increase building insulation and upgrade to energy efficient windows where possible when making building repairs.</li> <li>• Use sustainable materials or recycled products where possible.</li> <li>• Ensure that sea level rise is considered for all larger-scale maintenance and renovation of facilities.</li> <li>• Continue using native plants and ecosystem appropriate flora in replanting efforts.</li> </ul>
Jefferson Browne Building	Project management and construction of the facility.	\$1.0 Million appropriated for FY 2016, \$5.4 Million proposed for FY 2020	<ul style="list-style-type: none"> <li>• Ensure that energy efficient fixtures (e.g. LED bulbs, occupancy sensors) and water conserving fixture (e.g. low-flow toilets, faucet and shower fixtures) are used in maintenance, repair and construction activities.</li> <li>• Increase building insulation and upgrade to energy efficient windows where possible when making building repairs.</li> <li>• Use sustainable materials or recycled products where possible.</li> <li>• Ensure that sea level rise is considered for all larger-scale maintenance and renovation of facilities.</li> <li>• Continue using native plants and ecosystem appropriate flora in replanting efforts.</li> </ul>
Gulf Seafood	Project management.	\$7.0 Million appropriated for FY 2016	
Summerland Fire Station	Building a new fire station on Summerland Key or east Cudjoe.	\$3.1 Million appropriated for FY 2016, \$925,000 proposed for FY 2017	<ul style="list-style-type: none"> <li>• Ensure that energy efficient fixtures (e.g. LED bulbs, occupancy sensors) and water conserving fixture (e.g. low-flow toilets, faucet and shower fixtures) are used in maintenance, repair and construction activities.</li> <li>• Increase building insulation and upgrade to energy efficient windows where possible when making building repairs.</li> <li>• Use sustainable materials or recycled products where possible.</li> <li>• Ensure that sea level rise is considered for all larger-scale maintenance and renovation of facilities.</li> <li>• Continue using native plants and ecosystem appropriate flora in replanting efforts.</li> <li>• Consider future flooding from sea level rise in design of improvements.</li> </ul>

**Table 21. Capital Improvement Projects in the Pipeline *Continued***

Project Planned	Project Improvements	Budgeted Amount	How recommendations in this Plan can influence capital project implementation
Training Academy-Crawl Key	Construction of a one story, 5,625 sq. ft. masonry and concrete building that will include two covered and closed garage bays, a training classroom, two offices, storage room, and two restrooms with showers, lockers, and changing areas. The building will have to be raised five feet for flood plain. A ramp and two stairs will be added on the outside for access.	\$1.8 Million appropriated for FY 2016	<ul style="list-style-type: none"> <li>• Ensure that energy efficient fixtures (e.g. LED bulbs, occupancy sensors) and water conserving fixture (e.g. low-flow toilets, faucet and shower fixtures) are used in maintenance, repair and construction activities.</li> <li>• Increase building insulation and upgrade to energy efficient windows where possible when making building repairs.</li> <li>• Use sustainable materials or recycled where possible.</li> <li>• Ensure that sea level rise is considered for all larger-scale maintenance and renovation of facilities.</li> <li>• Continue using native plants and ecosystem appropriate flora in replanting efforts.</li> <li>• Consider future flooding from sea level rise in design of improvements.</li> </ul>
PK Jail and Courthouse	Performance of a facility condition assessment at each site. Modernize and construct a new courthouse and jail facility on Plantation Key.	\$443,750 appropriated for FY 2016, \$10.6 Million proposed for FY 2017, \$6.2 Million proposed for FY 2018, and \$400,000 proposed for FY 2019	<ul style="list-style-type: none"> <li>• Ensure that sea level rise is considered for all larger-scale maintenance and renovation of facilities.</li> <li>• Ensure that energy efficient fixtures (e.g. LED bulbs, occupancy sensors) and water conserving fixture (e.g. low-flow toilets, faucet and shower fixtures) are used in maintenance, repair and construction activities.</li> <li>• Increase building insulation and upgrade to energy efficient windows where possible when making building repairs.</li> <li>• Use sustainable materials or recycled products where possible.</li> <li>• Continue using native plants and ecosystem appropriate flora in replanting efforts.</li> <li>• Consider future flooding from sea level rise in design of improvements.</li> </ul>
Sugarloaf Fire Station	Construction of new Sugarloaf Fire Station.	\$500,000 proposed for FY 2018 and \$3 Million proposed for FY 2019	<ul style="list-style-type: none"> <li>• Ensure that energy efficient fixtures (e.g. LED bulbs, occupancy sensors) and water conserving fixture (e.g. low-flow toilets, faucet and shower fixtures) are used in maintenance, repair and construction activities.</li> <li>• Increase building insulation and upgrade to energy efficient windows where possible when making building repairs.</li> <li>• Use sustainable materials or recycled products where possible.</li> <li>• Ensure that sea level rise is considered for all larger-scale maintenance and renovation of facilities.</li> <li>• Continue using native plants and ecosystem appropriate flora in replanting efforts.</li> <li>• Consider future flooding from sea level rise in design of improvements.</li> </ul>

## C. Recommendations for 5 Year Work Plan of Future Projects/Initiatives, Projected Benefits, and Costs

Table 22 contains several of the projects included in the 5-Year Work Plan of future projects and initiatives to be implemented by the County. These projects are derived from the sea level rise modeling, vulnerability analysis and GHG emissions inventory update conducted as part of GreenKeys!. Specific projects, which constitute 64 of the total 165 recommendations in GreenKeys!, are divided into three (3) sections: 1) Facilities projects, 2) Adaptation projects and 3) Other projects. The complete 5-Year Work Plan, which includes the projects listed in the tables below (as well as additional policy recommendations), is provided in Appendix I.

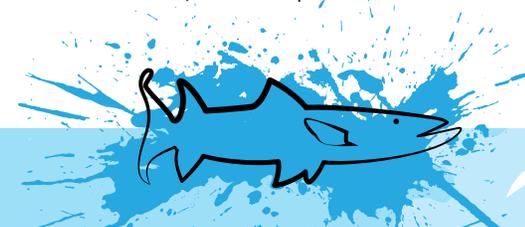
### i) Facilities Projects

Since 2005, Monroe County has made significant progress in reducing GHG emissions but it remains important for the County to continue implementing energy and GHG reduction strategies into the future. This will help the County meet future, more stringent, GHG reduction targets while also increasing the energy and water efficiency of County-owned facilities. All of these efforts contribute to increasing the overall sustainability of the County.

Equally, or more importantly, increasing the energy efficiency and water conservation capabilities of County facilities translates to significant cost savings for the County. Monroe County has an established track record of saving money through efficiency upgrades. For example, in 2012 the County implemented a number of energy conservation measures in several County buildings, including the Freeman Justice Center, Lester Building, Historic Courthouse, Jefferson Browne Building, and Chiller Plant. Not only did these measures reduce energy usage at these facilities by 23 percent, they also resulted in over \$70,000 in annual energy cost savings for the County.

The following facilities projects are recommended to ensure that the County continues making progress on increasing efficiency and reducing the carbon footprint of County facilities.

These projects, along with other policy recommendations, are also provided in the 5-Year Work Plan in Appendix I.



**Table 22. Facilities Project Recommendations**

Facilities Project Recommendations	Timeframe	Energy/GHG Reductions (Y/N)	Adaptation/Resilience Benefits (Y/N)
Provide annual progress reports on the implementation of the GreenKeys! Sustainability Action Plan.	Year 1 and Ongoing	Y	Y
Create an internal and external Sustainability Newsletter for distribution.	Year 1 and Ongoing	Y	Y
Track utility data through FacilityDude program to target and further reduce energy inefficiencies.	Year 1	Y	N
Conduct next phase of energy auditing on County facilities and link upgrades to capital asset improvements. Install low-flow water conserving fixtures and energy saving features throughout County facilities.	Year 1	Y	Y
Develop energy saving policies for County facilities and hire, assign or contract for a County-wide Energy Manager.	Year 1	Y	Y
Expand County's use of renewable energy through the installation of electric vehicle charging stations and solar lighting. To monitor progress, develop a baseline for current renewable energy use.	Year 1	Y	Y

**Table 22. Facilities Project Recommendations Continued**

Facilities Project Recommendations	Timeframe	Energy/GHG Reductions (Y/N)	Adaptation/Resilience Benefits (Y/N)
Use baseline GHG emissions data moving forward for forecasting emissions reductions and for setting additional municipal and community reduction targets.	Year 1	Y	Y
Establish an interim GHG emissions reduction target for 2030, consistent with timeframe of County’s latest Comprehensive Plan, for a 40% reduction by 2030 as compared to the 2012 baseline.	Year 1	Y	Y
Create a web-based clearinghouse for best management practices, local data, tools, and tracking for the business community.	Year 1	Y	N
Create an Environmentally Preferable Purchasing (“EPP”) program. Develop procurement specifications for materials reuse, reduced packaging, materials with recycled content, and other waste management strategies.	Year 1	Y	Y
Create a list of funding sources to finance energy-efficiency and resiliency upgrades in residences and businesses (e.g. Property Assessed Clean Energy (“PACE”) or other financing strategies).	Year 1	Y	N
Develop a public education campaign to inform residents about energy and water efficiency and future flood risk and potential environmental change.	Year 1	Y	Y
Adopt a target for energy use from renewable sources for County buildings and facilities such as 10% by 2025 and explore financing alternatives such as leasing.	Year 2	Y	Y
Promote energy usage reductions in County facilities. Provide education and outreach; create competitive programs to achieve energy reductions; and publish or post County utility bills for the public to view.	Year 2	Y	Y
Increase lighting efficiency and promote retrofits for efficiency on County maintained and controlled roads.	Year 2	Y	Y
Engage public works and infrastructure managers in voluntary GHG reporting. This could include making materials available online to assist managers in this reporting or creation of a one page fact sheet for inclusion in the Monroe County Personnel Policies and Procedures Manual (dated November 18, 2014).	Year 2	Y	Y
Implement policies and programs to enhance electric vehicle infrastructure and make the Florida Keys “EV Ready.” This could include providing electric vehicle charging stations at community parking lots and/or working with vehicle manufacturers to install publicly accessible electric vehicle charging stations.	Year 2	Y	Y

**Table 22. Facilities Project Recommendations Continued**

Facilities Project Recommendations	Timeframe	Energy/GHG Reductions (Y/N)	Adaptation/Resilience Benefits (Y/N)
Conduct feasibility studies for alternative energy at County facilities. Partner with electric utilities for creative ways to deploy more solar.	Year 2	Y	Y
Start implementing an employee training program on energy efficiency, water conservation and sustainable office practices.	Year 2	Y	Y
Complete a “right size/right type” fleet analysis.	Year 2	Y	Y
Conduct a tree inventory and establish tree canopy goals County-wide to determine opportunities for increasing canopy on public and private lands for carbon sequestration benefits.	Year 2	Y	Y
Improve County waste management policy with tangible goals and baseline to track accomplishments. Track County recycling rates separately from other recycling programs and establish goal for increases. Adopt policy that the County will also achieve a 75% diversion rate of its own solid waste stream. Implement incentives or enforce regulations to ensure progress towards the 75% community waste reduction target.	Year 2	Y	N
Create a policy and goal to increase material salvage for County-owned full and partial building demolitions.	Year 2	Y	N
<p>Improve employee sustainability practices:</p> <ul style="list-style-type: none"> <li>• Conduct an internal employee survey to determine most effective and underutilized sustainability practices and modify policies to increase sustainable practices.</li> <li>• Create a “top ten list” of energy, water and waste management efficient practices for County employees and include in the Monroe County Personnel Policies and Procedures document.</li> <li>• Create a monthly email blast to employees on successes and case studies for sustainable practices.</li> </ul>	Year 2	Y	N
Inventory GHG emissions for County and Community-wide sectors every three (3) years.	Year 3	Y	Y
Improve infrastructure for increased physical activity and design routes that are integrated into the regional park system. Design or redesign parks to maximize space for physical activity.	Year 3	N	N

These projects, along with other policy recommendations, are also provided in the 5-Year Work Plan in Appendix I.

**ii) Adaptation Projects**

Over the past several years, the County has increased its focus on identifying the risks of climate change and sea level rise on its infrastructure and the community as a whole. The results of this GreenKeys! planning project provide the County with recommendations for adaptation projects based on identified vulnerabilities within the County. The adaptation projects in Table 23 below focus not only on individual structural improvements, but also include projects designed to ensure that natural habitats provide their maximum benefit against anticipated climatic changes and rising seas. These projects, along with other policy recommendations, are also provided in the 5-Year Work Plan in Appendix I.

**Table 23. Adaptation Project Recommendations**

Adaptation Project Recommendations	Timeframe	Energy/CHG Reductions (Y/N)	Adaptation/ Resilience Benefits (Y/N)
Hold three (3) community workshops to discuss sea level rise with stakeholders.	Year 1 and Ongoing	N	Y
Develop more accurate elevation data (LIDAR) County-wide.	Year 1	N	Y
Develop a geographic database to document nuisance flooding events.	Year 1	N	Y
Pilot project to conduct a Comprehensive Feasibility Study for Enhanced Stormwater and Tidewater Criteria (prioritizing areas) for near-term areas subject to inundation risk, including nuisance flooding (in two locations).	Year 1	N	Y
Perform further analysis with improved elevation data for the Bayshore Manor assisted living retirement home.	Year 1	N	Y
Build local government capacity to better understand local coastal hazard risks, and analyze the legal and policy factors that impact adaptation responses. (NOAA grant) End products will include: <ul style="list-style-type: none"> <li>• A participatory VCAPS<sup>3</sup> assessment for Monroe County;</li> <li>• HAZUS<sup>4</sup> damage valuations and visualizations for County;</li> <li>• Law and policy analysis of issues directly affecting local adaptation capabilities;</li> <li>• Regional analysis comparing how state and local regulatory environment impacts resilience planning and adaptation.</li> </ul>	Year 1	N	Y
Develop site level assessments that characterize resistance of above ground structures and associated electrical components to damage from extreme event flooding. (Coordination)	Year 1	N	Y
Conduct a County-wide roads analysis to identify near-term roads subject to inundation risk, including nuisance flooding. This will include researching where related green infrastructure would be appropriate. Increase the percentage of funding invested in green infrastructure.	Year 2	N	Y
Update vulnerability assessments on Monroe County buildings based upon GreenKeys! modeling data and updated LIDAR data.	Year 2	N	Y
Conduct additional study of a freeboard initiative to elevate and floodproof buildings within Monroe County.	Year 2	N	Y
Analyze available infrastructure energy and sustainability rating systems (e.g. Envision, Infrastructure Voluntary Evaluation Sustainability Tool (“INVEST”) or other design-related systems that consider sustainability and resiliency factors) to optimize planning for infrastructure, transportation, facilities and assets.	Year 2	Y	Y

**Table 23. Adaptation Project Recommendations Continued**

Adaptation Project Recommendations	Timeframe	Energy/GHG Reductions (Y/N)	Adaptation/Resilience Benefits (Y/N)
Develop adaptation alternatives for most vulnerable County facilities and infrastructure to be impacted the earliest (based on low and high 2030 sea level rise scenario).	Year 2	N	Y
Complete Phase 2 of the NOAA grant creating digital record of Elevation Certificates for homes, buildings and facilities. Create a policy to ensure that the County uses, integrates, and improves the Elevation Certificate record to promote higher confidence in flood risk assessments.	Year 2	N	Y
Identify intact corridors for future tidal wetland migration corridors as a potential criterion for future land purchase and flood mitigation initiatives within Monroe County. For example, land acquisition priorities.	Year 2	N	Y
Provide outreach on “demonstration” projects (e.g. Stock Island Fire Station and Bayshore Manor) to provide examples of benefits. Distribute information about GreenKeys! planning efforts at County events.	Year 2	Y	Y
Discuss emergency prevention and response, including nuisance flooding and sea level rise, with County residents at the neighborhood level.	Year 2	N	Y
Identify areas for habitat maintenance where the removal of exotics could improve the quality of that area to serve as a natural or soft protection option. Establish maintenance schedule that factors in benefits of managing habitats as a natural defense strategy against sea level rise impacts.	Year 3 and Ongoing	N	Y
Conduct an analysis of where maintaining living shorelines would be beneficial. Identify and map natural inundation buffers which could also provide sea level rise adaptation benefits.	Year 3	N	Y
Create a database of all elevation data for County and utility facilities and assets.	Year 3	N	Y
Calibrate the Sea Level Affecting Marshes Model (“SLAMM”) results with historic land cover change and field observations and coordinate with land acquisition.	Year 3	N	Y
Develop a ranking process to identify the most vulnerable neighborhoods first. Develop criteria to establish levels of service each road gets subjected to based upon a tolerable level of nuisance flooding.	Year 3	N	Y
Work with local animal services/rescue/control organizations to ensure pet safety health issues in the face of sea level rise.	Year 3	N	N
Develop adaptation alternatives for vulnerable County facilities based on low and high 2060 sea level rise scenario.	Year 4	N	Y
Enhance coordination with the development and real estate communities to provide information about projected sea level rise impacts and solutions from the GreenKeys! planning process. Schedule annual briefings with the predominant industry associations to increase communication.	Year 4	N	Y
Ensure that climate change and sea level rise information is available to all groups and in multiple languages.	Year 4	N	Y

**Table 23. Adaptation Project Recommendations Continued**

Adaptation Project Recommendations	Timeframe	Energy/GHG Reductions (Y/N)	Adaptation/Resilience Benefits (Y/N)
Analyze available “resiliency” construction standards (e.g. Resilience STAR™, the Institute for Business and Home Safety’s FORTIFIED Home™, FORTIFIED Commercial, FORTIFIED Safer Business, FORTIFIED for Safer Living®, RELi or others) to determine which will be most appropriate for County regulations.	Year 4	N	Y
Address impacts of climate change and sea level rise on disadvantaged social groups, values and symbolic places. Target an annual community workshop aimed at underserved and underrepresented populations on sea level rise and resilience.	Year 4	N	Y
Utilize the tidal flood vulnerability maps for roads as a guide for a public outreach campaign to develop a photographic record that documents date, time and severity of nuisance tidal flooding events.	Year 5	N	Y
<sup>3</sup> Vulnerability, Consequences, and Adaptation Planning Scenarios (“VCAPS”) builds on concepts of hazard management and vulnerability and uses participatory modeling techniques to organize and document dialogue and learning. <sup>4</sup> HAZUS uses Geographic Information Systems (“GIS”) technology to estimate physical, economic and social impacts of disasters. It graphically illustrates the limits of identified high-risk locations.			

These projects, along with other policy recommendations, are also provided in the 5-Year Work Plan in Appendix I.

**iii) Other Projects**

Several other projects are recommended which do not specifically relate to County facilities or adaptation. These projects are recommended to further the County’s commitment to improved sustainability, GHG emissions reduction through renewable energy deployment and expanded use of alternative modes of transportation, green infrastructure and tree canopy conservation, and invasive species control efforts.

**Table 24. Other Project Recommendations**

Other Project Recommendations	Timeframe	Energy/GHG Reductions (Y/N)	Adaptation/Resilience Benefits (Y/N)
Maintain and enhance programs, like canal restoration, to improve water quality nearshore and offshore to reduce environmental stressors exacerbated by sea level rise and increasing ocean temperatures.	Year 1 and Ongoing	N	Y
Continue canal restoration, sea level rise, and land acquisition programs.	Year 1 and Ongoing	N	Y
Develop a Sustainability Handbook for business owners on the County’s GreenKeys! website.	Year 1	Y	Y
Develop a feasibility analysis for a public bike share program in more urbanized areas.	Year 2	Y	N
Adopt a plan (e.g. green business plan) designed to improve the resource efficiency of the community’s businesses including manufacturing, automotive and marine repair.	Year 2	Y	N
Encourage specific product bans to significantly advance progress toward waste reduction goals.	Year 2	Y	N

**Table 24. Other Project Recommendations Continued**

Other Project Recommendations	Timeframe	Energy/CHG Reductions (Y/N)	Adaptation/ Resilience Benefits (Y/N)
Expand Community Supported Agriculture (“CSA”) programs throughout the County to promote local agricultural products (e.g. Dock-to-Dish and Annie’s garden).	Year 2	Y	N
Promote local agricultural programs (e.g. bees).	Year 2	N	N
Investigate re-certification of STAR.	Year 3	Y	Y
Enhance public information campaign on waste reduction targets and available recycling programs. This should include creating or updating policies and incentives reducing the generation of fats, oils, and grease and their beneficial reuse.	Year 3	Y	N
Create or support promotional campaigns to bank locally, buy locally, or buy from small and independent businesses/retailers	Year 3	Y	N
Create a green business challenge for local businesses and recognize resource reduction.	Year 3	Y	N
Achieve recognition as a Bicycle Friendly Community or Walk Friendly Community.	Year 4	Y	N
Develop a ride sharing program for Monroe County employees to identify potential carpool candidates.	Year 4	Y	N
Establish a target to reduce per capita vehicle miles travelled. Create vibrant neighborhoods where a certain percentage of residents can easily walk or bicycle to meet all basic daily, non-work needs and have safe access to transit.	Year 4	Y	N
Encourage the sale of locally-caught fish by charter boat captains and allow sale of locally-caught fish at docks or to restaurants.	Year 4	Y	N
Implement programs to improve pedestrian and bicycle safety (e.g. targeted speed and red light enforcement using radars or cameras in areas where frequent violations or collisions have occurred; targeted crosswalk right-of-way enforcement; targeted bicycle traffic law obedience enforcement; bicycle lane encroachment enforcement; or school zone enforcement).	Year 4	Y	N
Research the feasibility of pursuing “blue carbon” payments for conserved and restored seagrass areas and pursuing future revenue opportunities from “blue carbon” payments associated with conservation and assisted migration of mangrove habitats.	Year 5	Y	N
Identify strategies to provide better public transportation options through improved connectivity, extended routes, expanded hours, increased reliability and more education of available services.	Year 5	Y	N
Create a healthy hazardous product initiative that includes: <ul style="list-style-type: none"> <li>• Educating residents about proper use and disposal of hazardous products, and making information about more sustainable household products available.</li> <li>• Hosting green cleaning workshops and awareness programs.</li> </ul>	Year 5	N	N
Begin implementing results from studies and analyses conducted in earlier years.	Year 5	Y	Y

These projects, along with other policy recommendations, are also provided in the 5-Year Work Plan in Appendix I.