SUSTAINABILITY ACTION PLAN

Osceola County, 2014-2019

October 2nd 2012

SUBMITTED BY:

CarbonSolutionsAmerica

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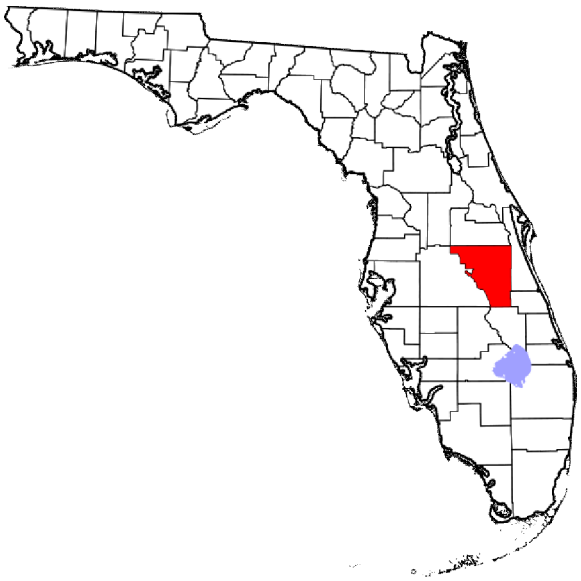
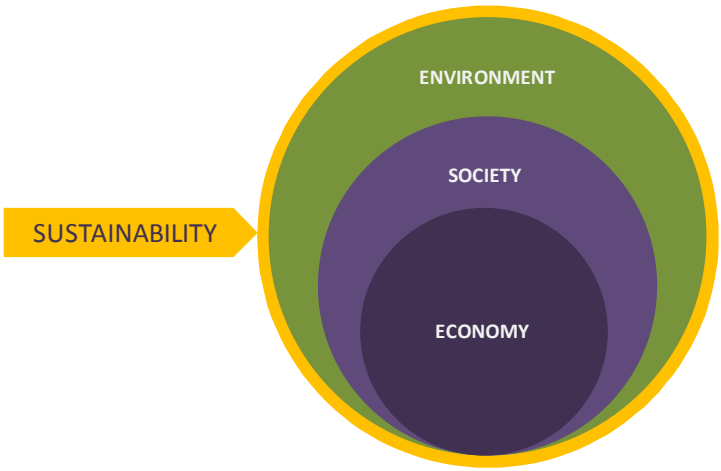
INTRODUCTION

OSCEOLA COUNTY, FLORIDA



Osceola County, Florida (the County) serves as the south/central boundary of the greater Central Florida metropolitan area encompassing approximately 1,506 square miles. It is home to two incorporated jurisdictions including the Cities of Kissimmee and St. Cloud as well as a variety of unincorporated areas, some of which include Celebration, Poinciana, and Harmony. According to the 2010 U. S. Census, Osceola County's population is 268,685 indicating a 55% growth change from 2000. Like many local governments across the U.S., Osceola County is experiencing growth which presents a variety of exciting opportunities and complex challenges. Growth brings with it new industries, enhanced business opportunities, jobs, and better amenities which can enhance standard of living. However, a higher standard of living can only be achieved if the challenges associated with growth such as the need for new infrastructure, increased strain on natural resources, and environmental pollution are carefully planned for and addressed.

OSCEOLA COUNTY SUSTAINABLE DEVELOPMENT



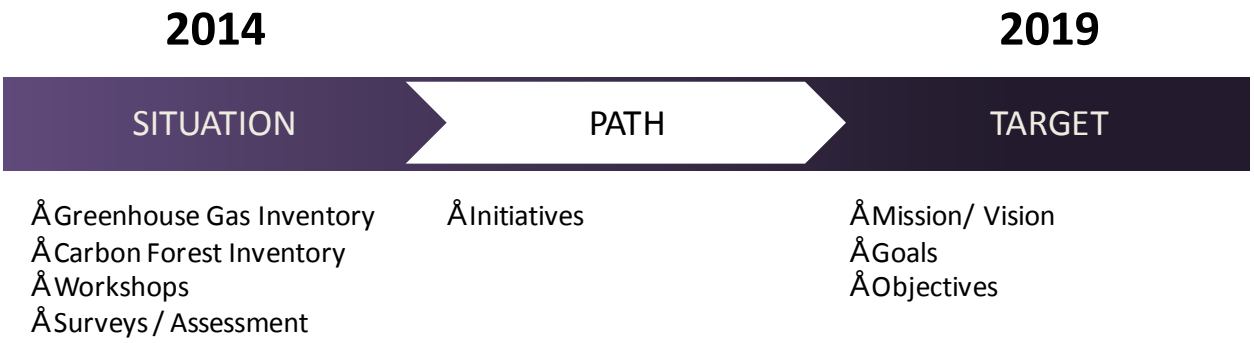
Osceola County intends to continue to foster growth in the community in a responsible and balanced way. It plans to do this using the model of Sustainable Development. Sustainable Development, as defined by the World Commission on Environment and Development, is a model for growth that strives to "meet the needs of the present without compromising the ability of future generations to meet their own needs" (Brundtland, 1987). The key to the Sustainable Development Model is "Triple Bottom Line," which requires social, economic, and environmental attributes be carefully considered as a community grows.

Image Source: http://en.wikipedia.org/wiki/File:Map_of_Florida_highlighting_Osceola_County.svg

The need for Sustainable Development is greater than ever and Osceola County is committed to using it as a framework to achieve social, economic, and environmental benefits. This Sustainability Action Plan (SAP) demonstrates the County's commitment to Sustainability and outlines a framework in which County leaders and staff plan to use Sustainability as a tool to achieve smart growth within the community for years to come.

Sustainability Action Planning Process

Osceola County developed a five year Sustainability Action Plan (SAP) set to commence in 2014. The SAP was developed using funding from the Department of Energy's Energy Efficiency and Conservation Block Grant (EECBG). The County hired consultants and formed a Steering Committee composed of leaders from various departments to complete background research and analysis to develop the SAP. As part of this process, the County and its consultants followed a Situation, Target, and Path planning methodology to answer three fundamental questions as they relate to Sustainability: 1) Where are we now, 2) Where do we want to go, and 3) How do we get there?



SITUATION (WHERE ARE WE NOW?)

During the Situation phase of the project, background research and analysis was conducted to determine where the County currently stands in the context of Sustainability. More specifically, the County conducted a Greenhouse Gas Emissions Inventory (GHGI), a Carbon Forest Inventory (CFI), and issued employee surveys; the results of which were presented during a series of strategic planning workshops. Results from the GHGI were used to benchmark energy and carbon emissions from County operations and to identify areas where energy could be used more efficiency.. This information was then used to develop energy reduction goals and design initiatives that will save energy and reduce operational expenditures over time. Results from the CFI were used to benchmark the amount of carbon being sequestered by native vegetation owned by the County. The CFI also explored the feasibility of developing forest carbon and wetland mitigation bank projects to generate carbon offsets and wetland mitigation credits. This was done to uncover ways the County could use existing land holdings to serve conservation purposes while also generating additional revenue. The GHGI and CFI reports are stand alone documents that are supplements to the SAP. Finally, employee surveys were

conducted to learn about past Sustainability initiatives the County implemented prior to the development of this plan.

TARGET (WHERE DO WE WANT TO GO?)

Findings from the GHGI, the CFI, and employee surveys were combined with feedback from strategic planning workshops held during the Situation phase of the project. Findings were used to develop strategic targets in the SAP. During the Target phase, the County Steering Committee and its consultants developed focus areas and measurable objectives to formulate a high level vision for the SAP over its five year time span. Please refer to **Appendix C** for a document that outlines SAP focus areas and objectives.

PATH (HOW DO WE GET THERE?)

Once the County's strategic vision and direction was defined, the Steering Committee continued to build on background research and findings to develop a series of initiatives. When implemented, these initiatives will help the County reach its targets and realize its 2017 vision for Sustainability. In total, the County developed 31 initiatives consisting of programs, policies, and capital projects that include implementing anti-idling policies, reducing fuel consumption, and implementing energy efficiency retrofits in County buildings. Please refer to **Chapters 1, 2, and 3** for descriptions of all SAP initiatives.

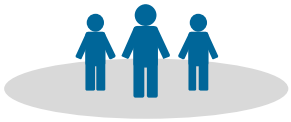
Structure of the 2014-2019 SAP

The results from each phase of the project have been combined into this 2014-2019 SAP. The SAP represents the first time the County has consolidated such a large body of background research with a strategic roadmap and a detailed implementation plan into one framework. In this context, the SAP is more than just a plan; it is the framework for a management system that can be used to implement initiatives that have the potential to add value to the County. Potential values can come in the form of energy reductions and expenditures, strengthened ability to manage and track Sustainability initiatives, creation of a platform allowing the County to demonstrate its commitment to Sustainability. The county plans to realize these values by concentrating its efforts on three areas of Sustainability. By focusing on the following areas the County will: 1) Enhance Institutional Capacity for Sustainability, 2) Optimize County Energy Performance and Resource Management, and 3) Optimize Community Energy Performance and Resource Management. This SAP is structured around each focus area. Specifically, the County has identified working groups or operational units around each area based on the type of skill required for each area as outlined below.

Working Group 1
County Leadership

Focus Area 1: Enhance Institutional Capacity

Enhance the human programmatic, and financial resources of the County to better implement Sustainability initiatives



Working Group 2
Municipal Operations

Focus Area 2: Optimize County Energy Performance and Resource Management

Reduce energy expenditures, save tax payer dollars, curb GHG and particulate emissions, and decrease dependency on non-renewable energy

Working Group 3
Community Planning

Focus Area 3: Optimize Community Energy Performance and Resource Management

Conserve and restore environmentally sensitive lands, optimize public transportation, and reduce solid waste streams

FOCUS AREA 1: ENHANCE INSTITUTIONAL CAPACITY

Presently, sustainability initiatives are being individually implemented within the County's various departments without systematic control or support. And while these actions move the County's operations toward sustainability, greater efficiency and results can be achieved if these efforts are unified. The Energy Efficiency and Conservation Block Grant (EECBG) that the County was awarded in November of 2010 was instrumental in getting many of these initiatives off the ground, garnering buy-in for sustainability efforts from the various departments, and developing the SAP. The support that comes from the EECBG funding, however, is set to expire at the end of the grant period on September 30, 2012. This will pose a challenge to the viability of the SAP to achieve its objectives and for sustainability to become an integral part of County's operations. To overcome this challenge and unify sustainability related actions, an institutional framework that will drive sustainability and ensure that the SAP is maintained into the future is needed. In order to realize the cost savings and other benefits that are forecasted through the implementation of specific initiatives, additional efforts will need to be made by the County's staff. Developing institutional capacity within the County through leadership and coordination of staff and resources to finance, and monitor the plan will be critical to the SAP's overall success. Once institutional capacity is developed, the County will have the needed resources to achieve the sustainability goals outlined within the Focus Areas 2 and 3 of the Plan.

FOCUS AREA 2: OPTIMIZE MUNICIPAL ENERGY PERFORMANCE & RESOURCES MANAGEMENT

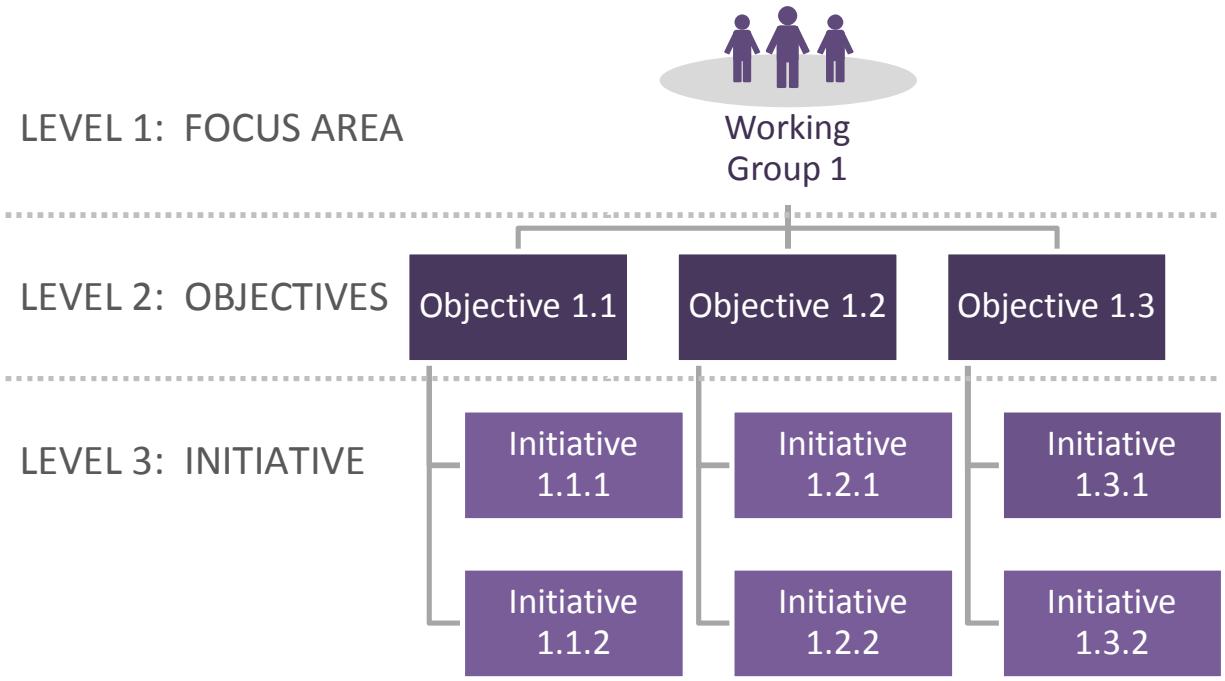
Focusing mainly on County Operations, an area where the County can make the greatest progress in becoming more sustainable; a large electricity user analysis was used to guide the development of energy efficiency objectives and initiatives. This analysis helped the Steering Committee focus on developing strategic actions within current County operations expected to have the most significant impacts. Four categories were used to organize these initiatives: 1) Electricity, 2) Fuel, 3) Renewable Energy, and 4) Water.

FOCUS AREA 3: OPTIMIZE COMMUNITY ENERGY PERFORMANCE & RESOURCES MANAGEMENT

Community energy performance and resources management are addressed in final focus area of the SAP. Because sustainable development must extend beyond County operations to impact the lives of residents and businesses in the community, specific categories were used to organize these initiatives: 1) Natural Resources - areas of concentration included vegetative communities, 2)Transportation - roadways and infrastructure, and 3) Waste-minimization and recycling.

STRATEGIC OBJECTIVES AND INITIATIVES

This SAP is structured using a focus area, objective, and initiative framework. Focus areas set a high-level vision for a particular area of Osceola County's community. For example, the intent of *Focus Area 2: Optimize County Energy Performance & Resources Management* is to reduce energy expenditures, save tax payer dollars, curb GHG and particulate emissions, and decrease our dependence on non-renewable energy. The focus areas are supported by sets of objectives. These objectives outline specific targets (e.g. reduce potable water usage by 15% by 2017). Each objective is supported by one or more initiative. Initiatives propose actions (e.g. conduct water use audit) that will achieve the overarching target.



SAP Implementation Approach

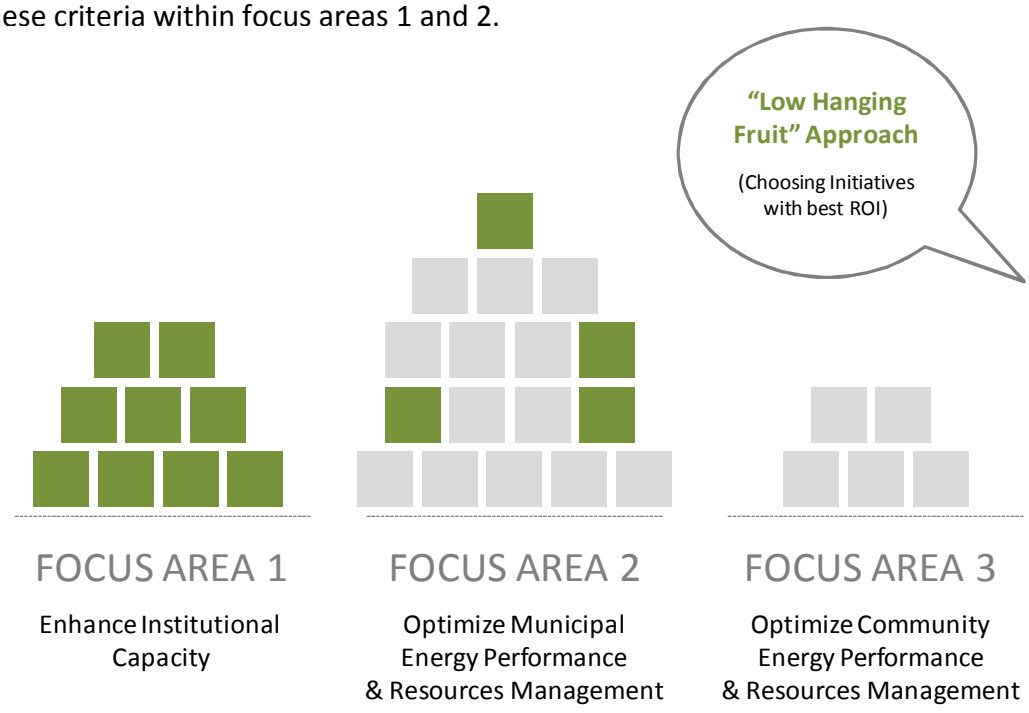
The County and its consultants developed a total of thirty one (31) initiatives to meet strategic objectives within each focus area. In the figure below each initiative is represented with a box. A total of 9 initiatives were developed for the Institutional Capacity Focus Area, 17 for the Optimize Municipal Energy & Resource Management Focus Area, and 5 for the Optimize Municipal Energy & Resource Management Focus Area. These initiatives include programs, policies, and capital projects that have been researched and categorized into two groups: 1) initiatives requiring further conceptual development and 2) initiatives that are shovel-ready.

Initiatives Requiring Further Conceptualization

Initiatives requiring further conceptualization warrant further study before they can be responsibly evaluated by the BOCC for implementation, budget approval and future inclusion in the plan. These initiatives will be placed into a database along with associated background information so they may be revisited in the future.

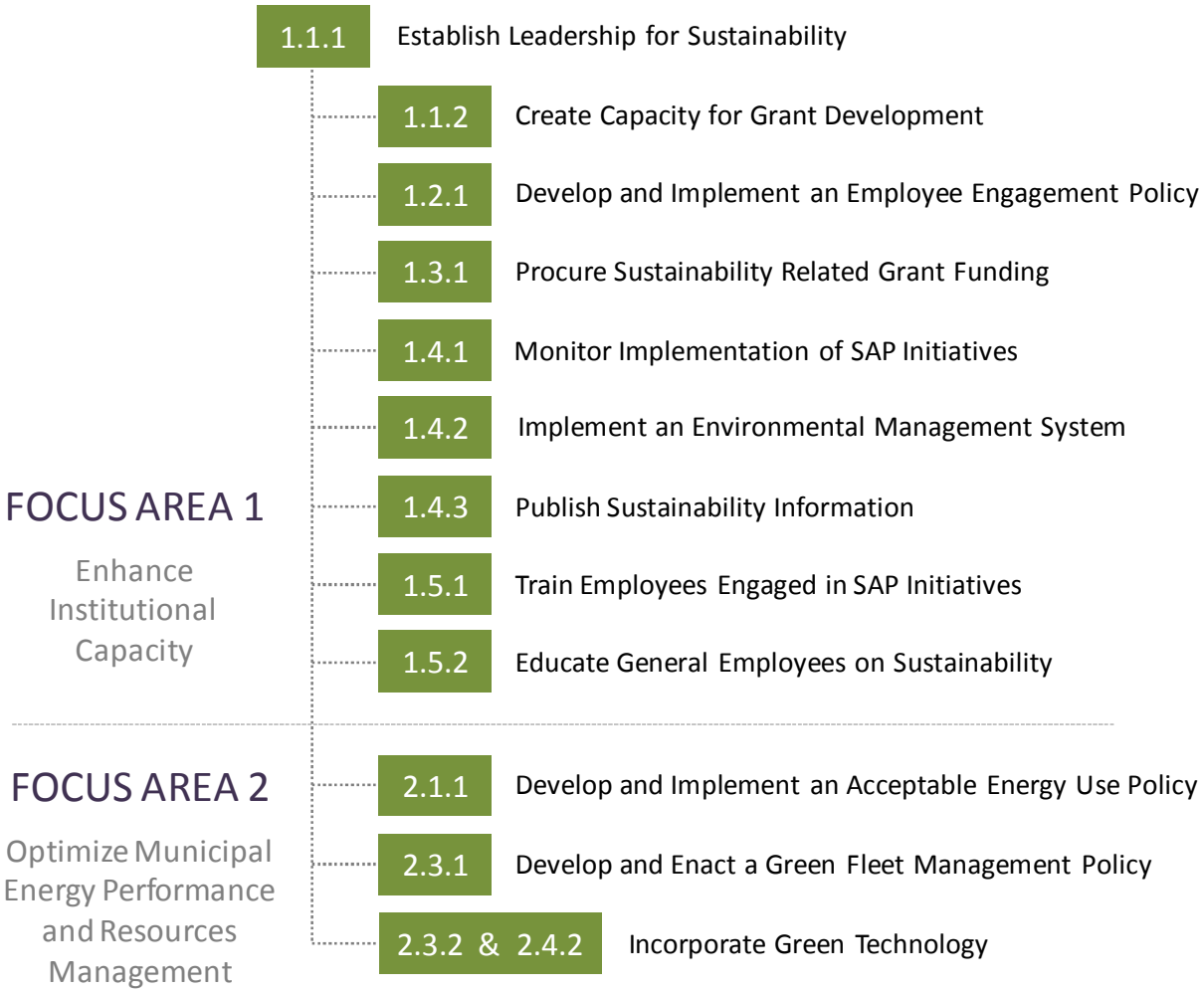
Shovel Ready Initiatives

Initiatives that are shovel-ready have had sufficient due diligence and research previously conducted in preparation for current presentation and approval. All shovel ready initiatives were prioritized using a "Low Hanging" fruit approach. These initiatives demonstrate low up-front investment and short pay-back periods or best return on and were given highest priority. As shown on below, CSA and the Steering Committee selected a total of thirteen (13) initiatives using these criteria within focus areas 1 and 2.



ESTABLISH LEADERSHIP FOR SUSTAINABILITY

Out of those thirteen initiatives, *Initiative 1.1.1: Establishing Leadership for Sustainability* is critical to the realization of the SAP. By supporting this initiative, the BOCC will provide the foundation the County needs to implement the SAP and ensure that it does more than just sit on the shelf. The team or person acting as the coordinator(s) for sustainability will be responsible for subsequently implementing the remaining nine (9) initiatives outlined under *Focus Area 1: Enhance Institutional Capacity*. That team or individual will be responsible for developing employee engagement policies designed to bring new cost saving initiatives to the BOCC and most importantly secure grant funding for sustainability related initiatives. It will also be responsible for monitoring initiatives as they are being implemented, communicating initiative results to the Board of County Commissioners (BOCC), publishing success stories, as well as training employees and educating staff to drive Sustainability and energy reduction measures in their departments.



ACCEPTABLE ENERGY USE POLICY, GREEN FLEET MANAGEMENT POLICIES, AND GREEN TECHNOLOGY FLEET ADAPTATION

Within *Focus Area 2: Optimize Municipal Energy Performance and Resources Management*, Initiatives 2.1.1, 2.3.1, 2.3.2 and 2.4.2 will be overseen and managed by the future sustainability coordination team or individual. Initiatives 2.1.1 and 2.3.1 are programmatic in nature and will not require significant resources to implement. These initiatives will require approximately $10,000 in material costs over a one year period in the form of print material and marketing information to spread the word regarding policies to existing County staff. *Initiative 2.1.1: Develop and Implement an Acceptable Energy Use Policy* was developed based on research from members of the Steering Committee with assistance from CSA. This initiative will include the development of a formal policy designed to set thermostats to an industry standard settings across all County buildings, implement energy saving measures for computer monitors, and reduce the use of non-essential appliances throughout County buildings. The processes suggested within *Initiative 2.3.1: Develop and Enact a Green Fleet Management Policy* (General Fleet) and *Initiative 2.4.1: Develop and Enact a Green Fleet Management Policy* (Sheriff Department Fleet) began when Steering Committee members met to narrow down initiatives to be included in the SAP. The green fleet management policy initiative will ensure that idling is reduced, that vehicles are subject to routine maintenance including proper tire pressure maintenance. It will promote carpooling, and enact employee incentive programs to encourage fuel savings. All are low cost measures that can realize significant savings. Initiative 2.3.2 and 2.4.2 will require an upfront investment of $10,000 to install solar panel technology in existing General Fleet and Sheriff Department Fleet vehicles. This technology will reduce battery and alternator replacement costs in vehicles that idle frequently. It will also reduce fuel consumption and generation financial savings by increasing the amount of time vehicles can be left without the engine running. It will do so by relying on the solar panels to maintain electrical charge to the vehicle's systems.

1 INSTITUTIONAL CAPACITY

FOCUS AREA 1:
ENHANCE INSTITUTIONAL CAPACITY

INTENT Enhance the human, programmatic, and financial resources of the County to better implement sustainability initiatives

ORGANIZATIONAL ATTITUDE & STRUCTURE

LEADERSHIP

Objective 1.1: **Establish a Means to Implement SAP Initiatives**
Initiative 1.1.1: Establish Leadership for Sustainability
Initiative 1.1.2: Create Capacity for Grant Development

EMPLOYEES

Objective 1.2: **Improve the Employee Sustainability Engagement Index by 20%**
Initiative 1.2.1: Develop and Implement an Employee Engagement Policy

SKILLS & RESOURCES

FUNDING

Objective 1.3: **Fund SAP Initiatives**
Initiative 1.3.1: Procure Sustainability Related Grant Funding

MONITORING

Objective 1.4: **Track and publically disclose SAP initiative metrics, GHG emissions, energy consumption annually**
Initiative 1.4.1: Monitor Implementation of SAP Initiatives
Initiative 1.4.2: Implement an Environmental Management System
Initiative 1.4.3: Publish Sustainability Information

TRAINING & EDUCATION

Objective 1.5: **Provide Training and Education Annually to County Employees Directly Engaged in SAP Initiatives**
Initiative 1.5.1: Train Employees Engaged in SAP Initiatives
Initiative 1.5.2: Educate General Employees on Sustainability

INTRODUCTION

WHAT IS INSTITUTIONAL CAPACITY?

Institutional capacity refers to the ability of an organization to produce results required to meet targets and objectives. When developing institutional capacity, an organization must identify a set of actions it will take to strengthen its ability to meet those targets and objectives.

This SAP is based on an institutional capacity-building framework proposed by Allan Kaplan, an international development practitioner. According to his concept, institutional capacity development consists of five elements:

1. **Conceptual framework** - An organization's working understanding of the world. It must be knowledgeable of external factors and their influence to be able to make decisions in relation to them.
2. **Organizational attitude** - refers to the ability of an organization to see itself as an active player that has the ability to effect change and progress.
3. **Vision and strategy** - refers to the ability of an organization to establish a specific vision and strategy to guide the focus of its efforts.
4. **Organizational structure** - refers to an organizational structure where roles and functions are clearly defined and communication flow is unhindered.
5. **Skills and resources** - Tangible qualities such as access to funding, training and individual skills that allow the organization to function and achieve its goals.

ASSESSING THE COUNTY'S INSTITUTIONAL CAPACITY

To date, sustainability initiatives, whether referred to as such or not, have been developed and implemented separately and among various Osceola County departments. The Osceola Energy Initiative (OEI)[1] is a County grant funded program and has recently been at the forefront of the County's sustainability initiatives. After being awarded $2.36 million in grant funding, this program has helped to promote and implement energy efficiency initiatives in the community. Additionally, departments such as Building Maintenance and Public works have been implementing their own measures to reduce energy use and waste. However, institutional capacity and coordination responsible for driving the County's sustainability initiatives is lacking, a finding that came from the strategic planning process for this SAP.

To address this deficiency, this plan seeks to outline measures that will help the County develop its institutional capacity by targeting the following three elements: Organizational Attitude, Organizational Structure, and Skills and Resources respectively. The Vision and strategy element is addressed through the creation of this plan but should be continually maintained and updated by the County into the future. The plan indirectly addresses the Conceptual framework by exploring the various external influences on the County's operations but ultimately relies on the County to continue to maintain an understanding of its external environment.

[1] http://www.osceola.org/osceola_energy_initiative/281-17661-0/home_page.cfm

ORGANIZATIONAL ATTITUDE & STRUCTURE

Leadership

2019 OBJECTIVE	QUALITATIVE BENEFITS	5 YEAR ESTIMATE*
Establish a means to implement SAP initiatives	Unified approach, clear leadership, greater support to existing staff, enhanced coordination	Cost: $475,000

* Comprised of estimate(s)for: Initiatives 1.1.1, and 1.1.2

A collection of ideas and initiatives is of no use if there is no centralized body tasked with overseeing their organization and implementation. As it stands, the County's sustainability initiatives are fragmented and are compartmentalized inside its various departments. What is needed is a system wide approach to implementing sustainability measures across all departments. More can be accomplished when resources are shared between departments and efforts are not duplicated.

Initiative 1.1.1 Establish Leadership for Sustainability

The County is presented with three options to establish leadership and coordination for sustainability. It can 1) use existing resources (e.g. form a sustainability team composed of current County employees), 2) contract an outside consultant to administer the County's sustainability program, or 3) hire a Sustainability Coordinator.

Leadership for Sustainability Options

1 Use Existing Resources

2 Hire Outside Consultant

3 Hire a Sustainability Coordinator

Each of the options has advantages and disadvantages as described in the table below:

	Advantages	Disadvantages
Option 1 Use Existing Resources	• It is the cheapest option • Existing staff has the most intimate knowledge of the County's current operations.	• Existing staff may already be tasked with a heavy existing workload and unable to dedicate sufficient time to the sustainability program • It may be more challenging for existing staff to develop innovative solutions when working within a familiar framework and observing the organization from within.
Option 2 Hire an Outside Consultant	• Would have a dedicated project team to spend most of its time working on the County's program. • It would provide an independent perspective that is more conducive to generating fresh and innovative ideas. • A consultant who specializes in sustainability would also be more up to date on the latest developments and practices in the sustainability field.	• Greater expense to the County • A consultant would not be as familiar with the intricacies of the County's operations as an internal team would.
Option 3 Hire a Sustainability Coordinator	• Offers the advantage of having an individual who is familiar with the workings of the County's operations as well as the latest sustainability practices. • The sustainability manager would be able to dedicate sufficient time to the program.	• Option would require the greatest commitment from the County in the terms of hiring a full time employee and incurring the expense.

Any of the options will represent a step forward for the County's sustainability efforts. The chosen form of leadership will act as the coordinating body of the County's sustainability program. It will be tasked with the development, introduction, and administration of sustainability initiatives. It will also gather ideas from and communicate new policies to the various departments. The coordinating body or individual will work with the department heads in order to coordinate their actions and apply individualized solutions within their departments.

To ensure that initiatives are carried out properly, it is important for this coordinating body or individual to have some form of administrative authority. In addition to authority, oversight should operate independently of the departments it is tasked with overseeing in order to be impartial.

The coordinating body or individual will stay informed on the latest developments (regulations, methods and technologies) in the field of sustainability. It will also be responsible for monitoring the progress of the sustainability initiatives, updating the County's leadership on progress being made, and ensuring that the County is on target to meet its sustainability goals.

Initiative 1.1.2 Create Capacity for Grant Development

The County currently has a grant writer at its disposal that can seek out sustainability related funding and submit grant applications to secure that funding. This initiative recommends the County to take advantage of this resource to secure grant funding for sustainability applications. It can do so by educating department leaders on the availability of this resource so that they can take advantage of its financial support for their sustainability initiatives. The grant writer would be provided with a list of SAP initiatives as well as the contact information of the department leaders responsible for their implementation. This will ensure that communication continues and funding for initiatives is pursued.

ORGANIZATIONAL ATTITUDE & STRUCTURE

Employees

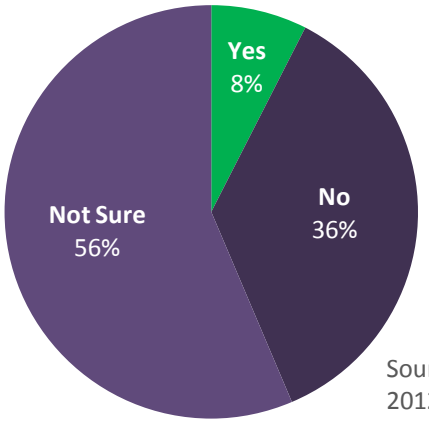
2019 OBJECTIVE	QUALITATIVE BENEFITS	5 YEAR ESTIMATE*
Improve the Employee Sustainability Engagement Index by 20%	Increase awareness, increase buy-in, promote sense of ownership, generate new ideas	Cost: $9,000

* Comprised of estimate(s) for: Initiative 1.2.1

Initiative 1.2.1 Develop and Implement an Employee Engagement Policy

A policy of employee participation will provide the driving force necessary in the development of new ideas and initiatives, such as ways to cut energy use and reduce waste in company operations. Many employees have great ideas on how to improve efficiency of County operations because they see waste occurring first hand. Allowing the employees to aid in the development of new policies can reduce resistance to the implementation of new initiatives. Employees are less likely to feel like policies are being imposed on them if they have had a hand in developing them and are intimate with the reasons for their implementation.

Does your department have an official employee engagement policy on sustainability?

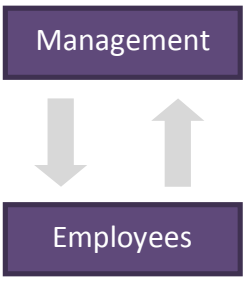


Source:
2012 SAP County Employee Survey (Q3, 133 respondents)

Results of the County Employee survey conducted in April and May of 2012 show that a large portion of employee respondents do not have a sustainability engagement policy in their department. A greater portion (56%) are not familiar with whether or not their department has such a policy and only 8% answer positively to their department having an official employee engagement policy on sustainability.

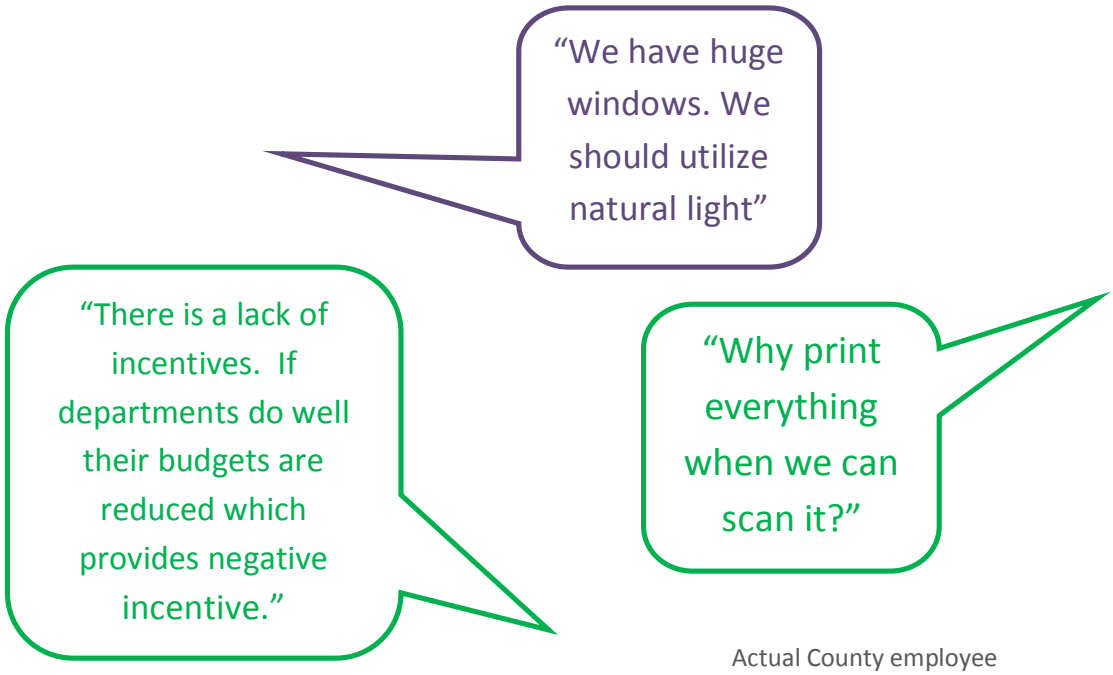
Employee Idea Submission and Incentive Program

Communication is a key part of any sustainability program. It is instrumental in the identification of problems and development of new sustainability initiatives. A channel of communication between management and employees allows decision makers to gain valuable insight into the County's daily operations and collect valuable employee suggestions. Both of these items can be used to intelligently guide the development of new policies that reduce energy consumption and make the County more sustainable.



A stream of communication that flows in both directions leads to greater buy-in and more effective sustainability policies

An anonymous suggestion system that collects ideas from employees can be used collect ideas from various department personnel. In order to encourage the submission of suggestions, the County will explore using an incentives system that awards employees that submit, and the best ideas of all submissions could get implemented.



Actual County employee recommendations from the 2012 SAP County Employee Survey

SKILLS & RESOURCES

Funding

2019 OBJECTIVE	QUALITATIVE BENEFITS	5 YEAR ESTIMATE*
Fund SAP initiatives	Averted cost to County, opportunities for recognition, improved return on investment	Funding: $300,000

* Comprised of estimate(s) for: Initiative 1.3.1

Initiative 1.3.1 Procure Sustainability Related Grant Funding

Federal and state governments have made it a priority to provide funding opportunities to local governments and entities that are engaged in aspects of Sustainable Development. These opportunities include energy efficiency, greenhouse gas reductions, water conservation, recycling, and habitat conservation. There are a variety of organizations that have a track record of funding municipal governments to develop sustainability and energy management plans. Some of these organizations include the Department of Housing and Urban Development (HUD), the Environmental Protection Agency (EPA), and the National Renewable Energy Laboratory (NREL).[2]

To take advantage of this opportunity, the County should use its grant procurement capacity to seek out, apply for, and secure funding specifically for its sustainability related initiatives. It is estimated that the County can secure $75,000 in annual funding for years two through five of this plan through careful communication with department leaders and by increasing communication regarding resources as they become available.

[2]Grant Agency Websites:
Department of Energy (DOE) - http://www.energy.gov/
Department of Housing and Urban Development (HUD) - http://portal.hud.gov/portal/page/portal/HUD
Environmental Protection Agency EPA - http://www.epa.gov/
National Renewable Energy Laboratory (NREL) - http://www.nrel.gov/

SKILLS & RESOURCES

Monitoring

2019 OBJECTIVE	QUALITATIVE BENEFITS	5 YEAR ESTIMATE*
Track and publically disclose SAP initiative metrics, GHG emissions, energy consumption annually	Improved transparency, data based decision making, substantiated marketing claims and citizen support	Cost: $104,000

* Comprised of estimate(s) for: Initiative 1.4.1

Initiative 1.4.1 Monitor Implementation of SAP Initiatives

Sustainability Data Tracking Database - An energy use database was developed during the strategic planning process. The database contains electricity, fuel, natural gas, and other important energy related metrics that were used to develop the greenhouse gas inventory for the SAP. The new database forms the scientific underpinning for the SAP and its continued maintenance is critical for a variety of reasons. First, the database was used to identify target areas of inefficiency and develop the objectives and initiatives outlined in County Operations section (Chapter 2) of the SAP. As the database is updated in the future, it will help the County measure the success of programs and projects allowing staff to adapt its management practices. Finally, the database will also provide data that can be communicated to promote the SAP and so the Board of County Commissioners can remain informed on the status of important initiatives. The purpose of this objective is to ensure that the County has appropriate procedures in place to maintain the database and use it to support the SAP into the future.

A data tracking program would require that the following actions to be completed:

- The County will use standardized data requests for each utility provider or data source specifying the format in which data is expected, the timeline in which data is required, and other pertinent information. The County will submit data requests to the utility or data source.
- Upon receipt raw data will be entered into the database and subsequently sorted using existing algorithms built into the database.
- Sorted data will be forwarded in its digital form to staff responsible for implementing a project in their department, and staff will load data into existing tools used for tracking projects such as EPA Portfolio Manager software and perform necessary analysis.

- Staff will compare results against the County's baseline for a given project and results will be communicated to SAP staff, Board of County Commissioners, and the community as dictated.

To assist with the monitoring of SAP initiatives, the County may consider taking advantage of consultant services. These services, estimated to cost $26,000 per year ($104,000 total for four year period starting year 2 of this plan), will ensure that the County is provided with an impartial monitoring and analysis of the progress of the SAP's initiatives. The monitoring may also be absorbed into the responsibilities of the staff coordination team, or the Sustainability Coordinator position; depending upon the option the County establishes for leadership.

Evaluate Initiatives Based on Objectives Criteria–Every initiative in the SAP ties into a specific objective. Objectives allow the sustainability leadership team or individual to monitor the progress of the SAP, and by using objective specific metrics, to quantify this progress.

As part of this initiative, the sustainability leadership team or individual can use these objectives in conjunction with the Sustainability Data Tracking Database to track progress of the SAP and to provide updates to the Board of County Commissioners.

Initiative 1.4.2 Implement an Environmental Management System

An Environmental Management System (EMS) is "a set of processes and practices that enable an organization to reduce its environmental impacts and increase its operating efficiency." Most EMSs consist of a basic framework commonly referred to as Plan, Do, Check, Act (PDCA) that facilitates a cycle of planning, implementation, and review to meet targets and objectives. The County can implement an EMS for Sustainability that uses the PDCA process. The EMS would ideally have one person designated to oversee the system, should the County choose to integrate this into their standard practices. The County may choose to develop and certify the EMS in accordance with International Standards Organization (ISO) 14001 family of standards for Environmental Management Systems. However, doing so will incur additional expenses associated with third party verification.

Initiative 1.4.3 Publish Sustainability Information

Following the collection, analysis, and review of sustainability data, the County can summarize and publish this information on Osceola County's website. This will engage the public in the sustainability process and inform them of what progress has been made by the County in achieving its initiatives. This will allow visitors to compare Osceola County to other counties undertaking sustainability actions.

SKILLS & RESOURCES

Training & Education

2019 OBJECTIVE	QUALITATIVE BENEFITS	5 YEAR ESTIMATE*
Provide training/education annually to County employees directly engaged in SAP Initiatives	More knowledgeable and engaged staff, increased ability to problem solve, enhanced program buy in	Cost: $40,000

* Comprised of estimate(s) for: Initiatives 1.5.1, and 1.5.2

Initiative 1.5.1 Train Employees Engaged in SAP Initiatives

Some actions in this plan can be undertaken by County staff using existing knowledge and others will require specialized training. For specialized actions, such as conducting energy audits, it may not be feasible for the County to train existing staff to conduct them. However, staff can be trained about the process and the best way to help write future requests for proposals and scopes of work. Doing so will help the County better define its needs when procuring professional services, products, and equipment. Increasing staff knowledge can result in higher quality bids, more accurate pricing, and cost savings. The County's training program for employees engaged in SAP initiatives can be comprised of the following four components:

1 SAP Orientation

SAP orientation training will be geared towards new and existing employees that will be involved in implementing the SAP or have an expressed interest in Sustainability. Its purpose will be to orient employees to the SAP and its commitment.

2 Green Building Workshops

Green building training will be geared towards existing employees involved in implementing SAP initiatives. Its purpose will be to help staff understand the green building process, rating systems and technologies.

3 Energy & Water Use Auditing Training

Energy audit training will target staff working on energy conservation initiatives and help them understand the energy auditing process and learn the most effective way to procure energy audit related services. More advance levels of training will include training staff to conduct energy audits and helping them achieve certified energy manager (CEM) certification provided by the America Association of Engineers.

4 EMS Workshops

Environmental Management System Seminars will be geared for staff who have been assigned tasks as part of the SAP. The purpose of workshops will be to hold periodic meetings to keep updated on task assignments, progress, and obstacles.

Initiative 1.5.2 Educate General Employees on Sustainability

Employees not directly engaged in SAP initiatives can be given the opportunity for education in voluntary workshops hosted by the sustainability leadership team or individual on the plan's initiatives and the definition of sustainability. This can be an opportunity to collect employee feedback, collect their ideas and address their questions.

2 OPTIMIZE MUNICIPAL ENERGY PERFORMANCE & RESOURCES MANAGEMENT

FOCUS AREA 2:
OPTIMIZE MUNICIPAL ENERGY PERFORMANCE & RESOURCES MANAGEMENT

INTENT Reduce energy expenditures, save tax payer dollars, curb GHG and particulate emissions, and decrease the dependence on non-renewable energy.

ELECTRICITY / NATURAL GAS

BUILDINGS

Objective2.1:	**Decrease Portfolio Rating to National Average (EPA)**
Initiative 2.1.1:	Develop and Implement an Acceptable Energy Use Policy
Initiative 2.1.2:	Develop and Implement an Energy Efficient Appliance Procurement Policy
Initiative 2.1.3:	Conduct Energy Efficiency Retrofits
Initiative 2.1.4:	Implement a Computer Power Management System
Initiative 2.1.5:	Implement an EPA Energy Star Portfolio Manager Program

INFRASTRUCTURE

Objective 2.2:	**100% LED Traffic Signals. Develop Plan to Install LED Street Lighting.**
Initiative 2.2.1:	Retrofit Inefficient County Street Lights with Efficient LEDs
Initiative 2.2.2:	Retrofit Inefficient County Traffic Signals with Efficient LEDs

FUEL

GENERAL FLEET

Objective 2.3:	**Increase Fleet MPG 10% by 2019, and Secure NAFA Sustainable Fleet and Government Green Fleet Awards**
Initiative 2.3.1:	Develop and Enact a Green Fleet Management Policy
Initiative 2.3.2:	Incorporate Green Technology
Initiative 2.3.3:	Purchase Efficient and Smaller Class Replacement Vehicles

FOCUS AREA 2:
OPTIMIZE MUNICIPAL ENERGY PERFORMANCE & RESOURCES MANAGEMENT

FUEL (continued)

SHERIFF DEPARTMENT

Objective 2.4: **Increase Fleet MPG 8% by 2019, and Secure NAFA Sustainable Fleet and Government Green Fleet Awards**

Initiative 2.4.1: Develop and Enact a Green Fleet Maintenance Policy
Initiative 2.4.2: Incorporate Green Technology
Initiative 2.4.3: Purchase Efficient and Smaller Class Replacement Vehicles

RENEWABLE ENERGY

ALL COUNTY OPERATIONS

Objective 2.5: **Increase Share of Renewable Energy in Portfolio to 5% by 2019**

Initiative 2.5.1: Develop a Renewable Energy Pilot Program

WATER

ALL COUNTY OPERATIONS

Objective 2.6: **Reduce potable water usage by 15% by 2019**

Initiative 2.6.1: Conduct a Water Use Audit
Initiative 2.6.2: Conduct a Plumbing Fixture Equipment Audit
Initiative 2.6.3: Conduct an Irrigation Landscape Review

ELECTRICITY / NATURAL GAS

Buildings

2019 OBJECTIVE	QUALITATIVE BENEFITS	5 YEAR ESTIMATES (FOR ALL INITIATIVES)*		
		Savings	Cost	Net
Decrease Portfolio Rating to National Average (EPA)	Recognition for energy efficient buildings	$210,000	$25,000	$185,000

* Comprised of estimate(s) for: Initiative 2.1.1

Initiative 2.1.1: Develop and Implement an Acceptable Energy Use Policy

Promoting energy efficiency is like collecting the "low hanging fruit" when it comes to reducing energy use and greenhouse gas emissions. Behavioral and operational modifications remain a more cost effective way to reduce energy use and should be implemented prior to making cost intensive capital investments. And even after capital investments are made, energy efficient behavior must be maintained in order to ensure that the savings continue.

Everyday actions of County employees have a direct impact on the energy usage of the County's buildings. Adopting a policy that provides energy savings and garners support from employees is the objective of this initiative. The following are examples of energy-saving behaviors that this initiative supports:

- Setting the refrigerator temperature lower
- Turning off lights in unoccupied areas
- Unplugging chargers, small appliances, and electronics when not in use
- Using appliances less
- Adjusting a thermostat to an energy efficient temperature
- Using natural lighting in place of artificial lighting

Should the County choose to pursue this initiative, it will need to develop a policy of communicating the benefits of energy savings to its employees. It may evaluate the use of an incentive based system that awards departments which achieve the highest energy efficiency gains to see if it will achieve greater results.

While the preceding items focus on employee behavior as a method to increase energy efficiency, the following three components target specific operational elements to reduce energy use:

Implement Energy-Saving Temperature Setpoint –Establishing an efficient temperature setpoint for County buildings offers a great potential for savings. A setpoint that exceeds the recommended range for human comfort puts an extra load on the HVAC system resulting in higher energy use and greater stress on HVAC components. As a rough rule, for every degree reduction in winter temperature setpoint and every degree increase in summer temperature setpoint yields a 1 to 2 % reduction in energy costs.[3] The temperature setpoint needs to balance the needs of building occupants and energy efficiency. And while people have various temperature preferences based on factors such as their metabolic rates and physical conditions, a standard called the ANSI/ASHREA Standard 55[4] provides guidance for winter and summer setpoint temperatures that are within a range that a majority of building occupants find acceptable. A model based on Orlando area historic weather averages provides the following ASHRAE setpoint recommendations:

Monthly Temperature Averages and ASHRAE Setpoint Recommendations for Orlando Area

Month	Avg. High	Avg. Low	Outdoor Mean Temp	ASHRAE Indoor Recommendation	Cool/Heat Median Indoor Temp.	Indoor HVAC Set Point	Record High	Record Low
Jan	71°F	49°F	60°F	68°F-77°F	72°F	72°F	87°F (1991)	19°F (1985)
Feb	74°F	52°F	63°F	69°F-78°F	73°F	72°F	90°F (1962)	26°F (1996)
Mar	78°F	56°F	67°F	70°F-79°F	74°F	72°F	92°F (1994)	25°F (1980)
Apr	83°F	60°F	72°F	72°F-80°F	76°F	75°F	96°F (1968)	38°F (1987)
May	88°F	66°F	77°F	73°F-82°F	77°F	75°F	100°F (1962)	48°F (1992)
June	91°F	72°F	82°F	75°F-84°F	79°F	75°F	100°F (1998)	53°F (1984)
July	92°F	74°F	83°F	75°F-84°F	79°F	75°F	101°F (1998)	64°F (1981)
Aug	92°F	74°F	83°F	75°F-84°F	79°F	75°F	100°F (1980)	64°F (1957)
Sept	90°F	73°F	82°F	75°F-84°F	79°F	75°F	98°F (1988)	56°F (1956)
Oct	85°F	66°F	76°F	73°F-82°F	77°F	75°F	95°F (1986)	43°F (1957)
Nov	79°F	59°F	69°F	71°F-80°F	75°F	72°F	89°F (1992)	29°F (1950)
Dec	73°F	52°F	63°F	69°F-78°F	73°F	72°F	90°F (1978)	20°F (1983)

[3] http://www.albany.edu/facilities/documents/TempSetPointPolicy.pdf
[4] http://www.ashrae.org/resources--publications/bookstore/standard-55

When buildings are unoccupied, the temperature setpoint can be higher during cooling months and lower during heating months than recommended for occupied buildings. Doing this creates additional savings. Universities across the country, such as SUNY University at Albany and Cabrini College[5], are applying such a policy to reduce their Scope 2 emissions and save on energy costs. By setting their temperature setpoint to 65 °F in winter and 78 °F in summer, these institutions are realizing extra energy savings.

To take advantage of the opportunities for savings and Scope 2 emission reductions that an energy-efficient temperature setpoint offers, the County should institute a policy that adheres to the ANSI/ASHREA Standard 55. This part of the initiative has been recommended by the County's Chief Facilities Operations Engineer, Curt Diehl, as a part of an overall operations cost reduction plan.

Non-Essential Appliances – Appliances such as personal space heaters, toasters, and small refrigerators can be found throughout County buildings. In the Administrative and Courthouse buildings alone, there are an estimated 48 small refrigerators and 23 personal space heaters. Often, these appliances are a non-essential addition to the appliances provided by the County to its employees, and represent an extra demand for electricity. The electricity demand comes from actual usage, "vampire" power (power that is drawn while appliances are not in use), and the additional demand some appliances place on HVAC systems (e.g. personal space heaters and portable A/C units). Some of these appliances even present a fire hazard, as is the case of personal heaters. By removing non-essential appliances the County can realize financial savings and reduce the Scope 2 emissions associated with their use.

The County should set up a policy to restrict (on a case to case basis) the use of non-essential appliances in County buildings to take advantage of the benefits of this initiative. The County can support this initiative by working with the various departments to balance the needs of energy efficiency and ensure that this policy does not negatively affect the working conditions of its employees.

Daytime Custodial Services – Maximizing the amount of time buildings remain unoccupied leads to lesser HVAC and lighting energy use. One of the more innovative energy savings solutions being implemented by various organizations is shifting space cleaning activities from their traditional night time slot to daytime hours. Advancements in vacuum technology and cleaning chemicals allow cleaning crews to do their jobs with less disruption (from noise and odor) to building occupants.

In order to take advantage of this opportunity to save energy costs, the County should evaluate the use of daytime custodial services. In its evaluation, it must take into consideration the needs of the various departments and the disruption it may cause to their employees.

[5]http://www.cabrini.edu/About/Leadership-and-Administration/Administrative-Offices-and-Departments/Facilities/Temperature-Set-Point-Protocol/

Initiative 2.1.2: Develop and Implement an Energy Efficient Appliance Procurement Policy

Inefficient appliances by definition consume more energy than efficient ones. During long service periods, this difference in energy use can be magnified significantly, resulting in greater energy costs and power generation emissions. While it is often not cost effective to replace existing appliances with more efficient ones, an opportunity presents itself when it comes time to replace appliances at the end of their life cycle. Choosing the most efficient replacement becomes critical to maximizing returns on investment. To aid with that selection, efficiency information of appliances is readily made available for comparison purposes through programs such as EPA's Energy Star.[6] And while municipalities have existing specifications in their product procurement policies, placing a greater emphasis on the energy efficiency of products in the selection process is important to realizing savings for County operations in the long term.

Should the County pursue this initiative, it will need to revise its product procurement policies to place greater weight on the energy efficiency of the products it procures. The policy will give preference to those products that balance the needs of the County and achieve the greatest energy efficiency.

Initiative 2.1.3: Conduct Energy Efficiency Retrofits

Investments into building systems present a great opportunity to reduce the remaining percentage of energy usage that cannot be lowered by energy efficient behavior alone. Even if every occupant minimizes their energy usage, buildings are still tasked with providing air conditioning, lighting, sanitation and power needs to their occupants. Making those physical processes more efficient can be achieved through investments into energy efficiency retrofits.

Examples of relatively *low* cost energy saving retrofits include:

- Weatherization (e.g. air sealing, insulation)
- Lighting upgrades (e.g. LED lighting)
- Motion sensor installation

Examples of relatively *high* cost retrofits include:

- HVAC system upgrades (e.g. Demand Control Ventilation Systems)
- Water heater upgrades

During the development of this plan, the County has expressed interest in implementing Demand Control Ventilations System technology in the buildings that currently do not utilize this technology.

Demand Control Ventilations (DCV) Systems control the amount of outside air brought into buildings. They work by monitoring the occupancy of buildings through sensors and ensure that

[6] http://www.energystar.gov/index.cfm?c=products.pr_find_es_products

1) sufficient amounts of fresh air are being supplied to building occupants and that 2) unnecessary quantities of outside air are not being heated or cooled. Energy savings vary, but are greatest for large spaces, such as auditoriums, where these types of systems can achieve as high as 60% in energy cost savings.

Indoor LED Lighting In addition to DCV systems, the County is also interested in exploring the use of Light-Emitting Diode (LED) technology for indoor lighting applications. The County currently uses this technology in one of its parking facilities, but hopes to implement it in its indoor office environments and at other County facilities. Combined, these two technologies present an opportunity to generate great financial and energy savings for the County.

To take part in this initiative, it is recommended that the County evaluates the application of various types of building retrofits that present energy saving opportunities and offer the greatest return on investment. And to help overcome the high investment costs of these technologies, the County should actively secure grant funding to help subsidize their implementation.

Initiative 2.1.4: Implement a Computer Power Management System

Computer Power Management (CPM) systems can remotely monitor and control the power usage of all computers connected to a network. They give network administrators the power to efficiently manage the use of electricity by putting computers to sleep during off hours and adjusting their power settings as required. Some can even manage the power of network devices such as routers, switches, IP pones and wireless access points. If properly implemented, these systems can work without interruption to work flow and allow computers to receive security and system updates. Many such solutions exist and a list of selected Computer Power Management providers can be found on the EPA's Energy Star website.[7] The savings of implementing this technology are estimated to range from $20 to $70 of electricity cost savings per PC per year.

To take advantage of the potential of this technology to reduce electricity usage and Scope 2 emissions, the County should work to integrate a CPM system into its IT operations.

Initiative 2.1.5: Implement an EPA Energy Star Portfolio Manager Program

Improved data management and tracking can result in direct energy efficiency reductions and cost savings because it empowers building managers to make informed decisions regarding the way they operate their building portfolio. Case studies from the U.S. Environmental Protection Agency demonstrate that sound data management and tracking programs have help entities reduce energy consumption anywhere from 5% - 25% (EPA, 2008).[8]

Should the County choose to pursue this initiative, it can reduce energy use in its building portfolio by utilizing the EPA's free Portfolio Manager[9] benchmarking tool to track energy use throughout various County buildings and facilities. The County can do this by incorporating building data from the energy inventory database into the Portfolio Manager software. The analysis from this activity will benchmark County buildings against similar buildings across the nation using a building energy use index. This activity will also enable the County to monitor and track energy performance and each building and track the success of future energy retrofits as they are implemented. As the County progresses in this action, it can evaluate the pros and cons associated with enrolling in the Energy Star Challenge and becoming and EPA Energy Star Partner. See LEED 2009 Existing Buildings: Operations and Maintenance Rating System, Energy and Atmosphere Credit 1, "Optimize Energy Performance," for additional guidance regarding the EPA Energy Star Portfolio Manager Program.

[7] http://www.energystar.gov/index.cfm?c=power_mgt.pr_power_mgt_comm_packages
[8] http://www.energystar.gov/index.cfm?c=business.bus_upgrade_manual
[9] http://www.energystar.gov/index.cfm?c=evaluate_performance.bus_portfoliomanager

ELECTRICITY / NATURAL GAS

Infrastructure

2019OBJECTIVE	BENEFITS	5 YEAR ESTIMATES (FOR ALL INITIATIVES)*			
		Savings	GHG Reductions	Cost	Net
100% LED Traffic Signals. Develop Plan to Install LED Street Lighting.	Less service disruptions, lower pollution from power plants	$147,000	476 MT CO_2e	$65,000	$82,000

* Comprised of estimate(s) for: Initiative 2.2.2

Initiative 2.2.1: Retrofit Inefficient County Street Lights with Efficient LEDs

Many local governments in the United States and abroad are making the switch to Light-Emitting Diode (LED) street lighting as the technology becomes more affordable and LED lighting quality improves. LED lighting offers energy and maintenance savings advantages over the High Pressure Sodium (HPS) technology being used in street lighting today. LEDs also provide more reliable service as they last up to 5 times longer than HPS light bulbs.[10]

The challenge to make this switch is that the County does not own a majority of its streetlights, but rather leases them from utility providers. The utilities therefore have to make the initial investment in their infrastructure, something that so far has remained cost prohibitive, before offering LED technology and its savings to the County. If the County chooses to go forward with this initiative, it is recommended that it works with utilities to develop a plan to integrate this technology in the future as the economics of adaptation become more favorable.

Initiative 2.2.2: Retrofit Inefficient County Traffic Signals with Efficient LEDs

The County is on track to replace all of its existing incandescent traffic signal lamps with efficient LED lamps over the next four years.LED traffic lamps can be more than 90% more efficient than their incandescent counterparts and have lower electricity costs and maintenance costs. Their lower energy usage results in lower greenhouse gas and particulate emissions at the power source. The expected cost to make the switch is $65,000 and will lead to an estimated $42,000 annual savings in electricity and maintenance costs once all of the lights are replaced.

[10] http://www.uemp.org.za/uemp_docs/Urban_seed_update_vol2_no3.pdf

FUEL

General Fleet

2019 OBJECTIVE	BENEFITS	5 YEAR ESTIMATES (FOR ALL INITIATIVES)*		
		Savings	Cost	Net
Increase Fleet MPG 10% by 2019, and Secure NAFA Sustainable Fleet and 100 Best Fleets Awards	Greater recognition (fleet awards), lower fleet maintenance costs	$243,500	$25,000	$218,500

* Comprised of estimate(s) for: Initiatives2.3.1, and 2.3.3

Initiative 2.3.1: Develop and Enact a Green Fleet Management Policy

Proper vehicle maintenance and driving techniques have a great potential to reduce fuel and maintenance expenditures and can lead to financial savings for the County. A fleet that is operating efficiently is a fleet that has less wear and tear on its vehicles, and costs less to repair. Incentivizing County employees to practice fuel efficient driving and bring in their vehicle for regular maintenance is the cornerstone of this initiative.

If the County chooses to develop and enact a Green Fleet Management Policy it is recommended that the policy incentivize the following items:

- Idling reduction
- Car pooling
- Efficient route planning
- Efficient driving behavior
- Efficient vehicles selection (e.g. using the smallest vehicle class feasible)
- Regular vehicle maintenance (including tire pressure maintenance)

Incentives can either be financial incentives (e.g. gift cards) or recognition type incentives (e.g. recognition awards) or a combination of both. A competition between departments that recognizes the most fuel efficient departments can be another type of motivator.

Initiative 2.3.2: Incorporate Green Technology

Modifying behavior is half of the solution to reduce fuel consumption. Technology is the other half. New technologies exist that give fleet managers the tools to monitor fuel usage, vehicle maintenance information and vehicle deployment in great detail. Alternative fuel technologies go even further, by getting rid of the reliance on petroleum based fuels entirely.

Global Positioning System (GPS)Fleet Tracking Technology allows fleet managers to track vehicle locations along with parameters such as vehicle acceleration, speed, and deceleration in

real-time. By collecting this information, fleet managers have the ability to assign more efficient routes for fleet vehicles and identify opportunities for carpooling. In addition, they can observe which drivers are driving efficiently and reward them for their behavior. Actions can be taken to discourage inefficient driving and to prevent unnecessary idling.

Fuel Control Systems provide an automated way to collect fuel usage (e.g. miles per gallon), vehicle information (e.g. odometer reading, engine hours, error codes), and user information (e.g. user name and ID) when users fill up their vehicles. Some systems can even communicate with the tire pressure monitoring systems found in modern vehicles to detect whether or not the tires are over or under inflated. Using this technology, fleet managers can greatly reduce the number of human errors in their records. Additionally, they will also be able to catch vehicle problems earlier and conduct vehicle maintenance on schedule. By addressing maintenance items that can reduce vehicle fuel efficiency (e.g. dirty air filters, low tire pressure) earlier, the County can achieve additional fuel savings.

If incorporated into fleet operations, these two tools would allow the County to monitor their fuel usage (and subsequently their vehicle greenhouse gas emissions) and develop future fuel efficiency initiatives based on reliable data. The greatest efficiency gains will be realized when these systems are used in conjunction with the Green Fleet Management Policy and are applied effectively by a fleet management team.

Alternative Fuels – Propane, compressed natural gas (CNG), electric power, and bio-fuels are common alternative fuels being adopted by fleets around the country. Alternative fuels offer benefits such as lower maintenance costs and lower emissions while increasing U.S. energy security. By taking advantage of Federal and State grants, many municipalities are offsetting the greatest disadvantage of using these types of fuel: their high implementation costs.

To take advantage of the benefits of alternative fuels, it is recommended that the County conduct a feasibility study and plan for their implementation into their General Fleet. To gather financial resources to pay for this initiative, the County can explore possibilities of securing Federal grants (e.g. the American Recovery and Reinvestment grant) and State grants. The County will work with the local Clean Cities Coalition and other alternative vehicle organizations to promote this technology. This initiative supports Policies 1.5.5: Alternative Fuel Vehicles (AFVs), Policy 1.5.6: Grant monies for AFVs and Policy 1.5.7: AFV organizations of the Osceola County's 2025 Comprehensive Plan.[11]

Initiative 2.3.3: Purchase Efficient and Smaller Class Replacement Vehicles

Vehicles class type has a direct impact on fuel efficiency performance. Generally, smaller vehicles go farther on a gallon of fuel than larger vehicles using a similar type of propulsion technology. And while hybrid and electric vehicles achieve new levels of efficiency, their higher cost (when it is not offset by a subsidy) does not justify the fuel savings in the short term. In the case of municipal fleets, where the vehicle replacement period is short (less than ten years),

[11] http://www.osceola.org/files/websites/PlanningandEnvironmentalServices/00017309_comprehensive_plan_documents/Comprehensive_Plan_2025/07_Conservation%20Element.pdf

smaller internal combustion vehicles offer a greater savings than their hybrid and electric powered counterparts.

For these reasons, this plan recommends the integration of smaller efficient internal combustion vehicles into the fleet where feasible. In County operations where larger vehicles are not required, obsolete larger class vehicles will be replaced with smaller class ones. Savings from this will be realized in the lower upfront cost of smaller vehicles and fuel savings over the vehicle's service life.

FUEL

Sheriff Department

2019 OBJECTIVE	BENEFITS	5 YEAR ESTIMATES (FOR ALL INITIATIVES)*
Increase Fleet MPG 5% by 2019, and Secure NAFA Sustainable Fleet and 100 Best Fleets Awards	Lower fleet maintenance costs, less downtime due to failed batteries	Savings $432,000 / Cost $2,700 / Net $429,300

* Comprised of estimate(s) for: Initiatives 2.4.1, 2.4.2, and 2.4.3

Initiative 2.4.1 Develop and Enact a Green Fleet Maintenance Policy

Police fleets vehicles, first and foremost, must be dependable and policies that aim to reduce fuel and maintenance costs must take this into consideration. Dependability and fuel efficiency, however, are not mutually exclusive. A proper vehicle maintenance policy can satisfy both of these demands. Performing regular tire pressure and air filter maintenance can improve a vehicle's fuel economy up to 3 and 6 percent respectively according to the United States Environmental Protection Agency. Keeping a vehicle properly tuned can offer an additional 4% fuel economy increase.[12] A comprehensive maintenance program can offer financial savings from lower fuel usage and maintenance costs. By reducing fuel consumption, it also reduces the greenhouse gas emissions of a fleet.

In order to take advantage of the benefits of this initiative, it is recommended that the County develop and implement a green fleet maintenance policy to enhance its existing vehicle maintenance policy for the Sheriff Department vehicle fleet. This policy will target areas of vehicle maintenance that have the greatest potential to reduce fuel consumption and emissions while remaining cost effective.

Initiative 2.4.2 Incorporate Green Technology

Police fleets present a great opportunity for fuel savings. Police vehicles cover many miles every year and spend a larger portion of their service life idling. Even a small improvement in fuel efficiency can lead to high financial savings. Having realized this, many police fleets across the country are beginning to integrate green technology into their operations. Solar panels and alternative fuel propulsion are two types of technologies that have been realizing fuel savings for police fleets.

[12] http://www.fueleconomy.gov/feg/maintain.shtml

Solar Panels – Unlike conventional solar photovoltaic panels being installed on roofs of buildings, the solar panels being installed by police departments are of the portable kind. These panels cost around $60, are around 5-watts in size and are installed on the rear deck (under the rear window) of patrol cars, with direct wiring to the vehicle's battery. The solar panels provide a trickle charge to the battery, compensating for the electric drain that occurs when the vehicle's engine is not running and law enforcement equipment, such as a radio system, is drawing power. Relying on the solar panels on stationary patrols rather than the engine to provide power saves fuel and reduces stain on the engines, alternators and batteries. By consuming less fuel the vehicles reduce less greenhouse gas emissions. And while the solar panels do not provide enough power to run the vehicle's air conditioner, they supply adequate power in cooler weather.

A City of Kingsland mechanic installs a solar panel on the rear deck of a patrol car.

Image Source: http://jacksonville.com/news/georgia/2010-07-30/story/kingsland-patrol-cars-going-solar

SOLAR PANELCASE STUDY

Ohio State Highway Patrol's integration of solar panels into their fleet is one example of their effectiveness. The Patrol equipped 1,150 of their Ford Crown Victoria cruisers with these panels, and has realized 16.4 percent savings ($1 million) in fuel costs from fiscal year 2007 to fiscal year 2008, with the increase of stationary patrols.[13] Other departments are following suit. After hearing about the successful use of solar panels by the Ohio State Patrol, the Kingsland, Georgia Police Department has installed this technology on 45 of their patrol vehicles.

If the County chooses to pursue this initiative, it will need to develop a solar panel installation plan and install solar panels in its Sheriff Department vehicles. This is expected to generate an annual $64,000 in fuel cost savings. Additional savings will be realized from lower alternator and battery maintenance costs.

Alternative Fuels – Propane, compressed natural gas (CNG), electric power, and bio-fuels are common alternative fuels being adopted by fleets around the country. Alternative fuels offer benefits such as lower maintenance costs, lower emissions while increasing U.S. energy security. By taking advantage of Federal and State grants, many municipalities are offsetting the greatest disadvantage of using these types of fuel: their high implementation costs.

[13] http://statepatrol.ohio.gov/doc/7.09.CommColumn.pdf

Many policy departments have been converting their police vehicles to run on CNG. By making these conversions and installing natural gas refueling stations fleets take advantage of low natural gas prices to realize financial savings on fuel costs. CNG prices vary by location, but can range from $1.50 to $1.75 per gallon. At these rates and the high price of crude oil, municipalities like the Trussville, Alabama Police Department are estimating a savings of $17,000 a year per converted vehicle.[14]

Should the County pursue this initiative it will need to perform a feasibility study and plan for the implementation of CNG technology and other alternative fuels into its Sheriff Department fleet. To gather financial resources to pay for this initiative, the County should explore possibilities of securing Federal grants (e.g. the American Recovery and Reinvestment grant) and State grants. The County should work with the local Clean Cities Coalition and other alternative vehicle organizations to promote this technology. This initiative supports Policies 1.5.5: Alternative Fuel Vehicles (AFVs), Policy 1.5.6: Grant monies for AFVs and Policy 1.5.7: AFV organizations of the Osceola County's 2025 Comprehensive Plan.[15]

Initiative 2.4.3 Purchase Efficient and Smaller Class Replacement Vehicles

Non pursuit vehicles in the Sherriff department can be downsized to take advantage of the higher fuel efficiency of smaller vehicles. Cars used for parking enforcement duty or to transport sheriff officials are prime candidates. By replacing aging vehicles with smaller fuel efficient ones, the department can realize savings from the lower upfront cost and lower fuel usage over the vehicle's service life.

[14] http://blog.al.com/spotnews/2012/05/trussville_police_save_big_by.html

[15] http://www.osceola.org/files/websites/PlanningandEnvironmentalServices/00017309_comprehensive_plan_documents/Comprehensive_Plan_2025/07_Conservation%20Element.pdf

RENEWABLE ENERGY

All County Operations

2019 OBJECTIVE	BENEFITS
Increase share of renewable energy in portfolio to 5%	Partial insulation against energy price increases. Support of local green industry.

Initiative 2.5.1 Develop a Renewable Energy Pilot Program

Renewable energy has the potential to reduce the County's emissions and reduce its long term energy costs. The relatively stable cost of maintaining renewable energy systems helps hedge against fluctuations in energy prices. Additionally, renewable energy projects help support local industries and create long-term "green collar" employment opportunities.

It is recommended that the County identify renewable energy pilot programs and conduct an assessment of areas where renewable energy technologies may be applied. The County can use this assessment to work with vendors and conduct research to learn more about the pros and cons of each technology to determine the overall return on investment of each option. Some of the County's utility providers, such as Orlando Utilities Commission, offer renewable energy solutions for commercial and municipal applications. It is recommended that the County explore these options. To support this process, the County has the option to actively seek out renewable energy technology grants that can help fund its pilot programs.

If the County chooses to implement renewable energy technology, it can set up monitoring programs to monitor system performance. Some examples of potential renewable energy technologies to be considered include, but are not limited to, small scale wind turbines, solar hot water heaters and rooftop installations, hydrogen fuel cells, and bio-digesters.

WATER

All County Operations

2019 OBJECTIVE	BENEFITS
Reduce potable water usage by 15%	Scope 2 energy and emission reductions. Water cost savings

Initiative 2.6.1 Conduct a Water Use Audit

Reducing water consumption has the double benefit of lowering both water and energy consumption. Energy and water are interlinked throughout the water use cycle. Energy is used to power the infrastructure that delivers the water to our homes, to make that water potable by filtering and treating it, and to heat the warm water we use. Greater water consumption also places a bigger load on sewage treatment plants that have to process this water at the end of the cycle. Reducing water usage helps prevent salt water intrusion into underground water reservoirs and contributes towards healthier natural systems. Therefore, reducing water usage in the County provides broader benefits, including emissions reductions, than water cost savings alone.

If the County chooses to explore water conservation opportunities and estimate the potential savings they have to offer, it is recommended that it conduct a Water Use Audit. The baseline analysis will attempt to distinguish between potable and reclaimed water. If the audit uncovers water use anomalies, the County may consider installing sub-meters to identify problems. See LEED 2009 for Existing Buildings: Operations and Maintenance, Water Efficiency Credit 1.1, "Water Performance Measurement" for resources and calculations that may be helpful in conducting a baseline water use analysis.

The intent of this initiative is to lay a foundation for the adaptation of water conservation initiatives. Initiatives such as using rain water through water capture systems (e.g. cisterns) have the potential to reduce potable water usage in landscape applications. Indoor systems that capture "grey" water from shower and sink use can remove the need to use potable water for toilet/urinal flushing purposes. With a water use audit in place, the County will be able to intelligently apply these and other water conservation initiatives to reduce its potable water usage.

Initiative 2.6.2 Conduct a Plumbing Fixture Equipment Audit

The County can use trained staff to conduct a plumbing fixture audit. Staff could survey existing plumbing fixtures including, but not limited to toilets, faucets, and shower heads to identify areas where water conservation measures can be implemented. They can also survey

opportunities where HVAC water and condensate capture may be applicable. Examples of simple water conservation measures include automatic controls and low flow fixtures. Staff can also review HVAC cooling tower operations to ensure that they are optimized for water conservation. See LEED 2009 for Existing Buildings: Operations & Maintenance, Water Efficiency Credit 2.1 and 4 "Plumbing Fixture and Fitting Efficiency and Cooling Tower Water Management" for additional resources when developing this program.

Initiative 2.6.3 Conduct an Irrigation Landscape Review

The County may also use trained staff to conduct an assessment of landscape irrigation systems and landscape planting and design. Landscape irrigation system audits can be designed to detect leaks or breaks in irrigation lines as well as to identify opportunities where irrigation systems can be updated with automated controls. High priority should be given to ball-field and park irrigation systems. Landscape audits will be designed to determine if irrigated landscapes are using gray or potable water sources and to ensure that drought tolerant native species are being utilized to the fullest extent possible. Audits can also identify areas where turf grass can be replaced with drought tolerant native plant species to reduce irrigation demand and they will identify areas where rain barrels and other types of catchment projects can be implemented. See LEED 2009 for Existing Buildings: Operations & Maintenance, Water Efficiency Credit 3 "Water Efficient Landscaping," for useful information on how to conduct a plumbing fixture.

3 OPTIMIZE COMMUNITY ENERGY PERFORMANCE & RESOURCES MANAGEMENT

FOCUS AREA 3:
OPTIMIZE COMMUNITY ENERGY PERFORMANCE & RESOURCES MANAGEMENT

INTENT — Conserve and restore environmentally sensitive lands, optimize public transportation, and reduce solid waste stream

NATURAL RESOURCES

VEGETATIVE COMMUNITIES

Objective 3.1: Increase the Sustainability Land Index 5% by 2019
Initiative 3.1.1: Maintain Land Management, Acquisition, and Restoration Practices
Initiative 3.1.2: Expand Urban Tree Planting Program

TRANSPORTATION

ROADWAYS AND INFRASTRUCTURE

Objective 3.2: Reduce per Capita Travel Time (Time Spent in Traffic) by 5% by 2019
Initiative 3.2.1: Incorporate Advanced Signal Control Technology

WASTE

WASTE MINIMIZATION AND RECYCLING

Objective 3.3: Achieve a 65% County Recycling Rate by 2019
Initiative 3.3.1: Develop and Implement Waste Minimization and Recycling Policies
Initiative 3.3.2: Develop and Implement Waste Minimization and Recycling Programs

NATURAL RESOURCES

Vegetative Communities

2019 OBJECTIVE	BENEFITS
Increase the Sustainability Land Index by 5%	Ecosystem health, recreational opportunities, and use change mitigation

Initiative 3.1.1 Maintain Land Management, Acquisition, and Restoration Practices

The Conservation of Natural Resources element[16] of Osceola County's 2025 Comprehensive Plan sets a goal to "…responsibly use, enhance, protect, and restore natural resources including air, water, land, wildlife, and wildlife habitats to maintain an environment that supports a healthy population and promotes the well-being of all citizens."This initiative supports that goal through three policy elements of management, acquisition and restoration:

Management– Land Management seeks to protect natural resources from biological and physical threats, enhance their development and ensure general public's access to them for recreational and economic uses.

It is recommended that the County apply Best Management Practices (BMP's) to its existing land holdings. It also recommended that it continue the development and management of policies that protect natural resources on residential and commercial properties.

Acquisition– Through acquisition of new land parcels, a larger portion of the County's natural resources can be placed under its direct management and give it more power to meet its land management objectives.

It is recommended that the County continue its land acquisition programs, including Save and Value Our Environment (SAVE), which was established by Ordinance 04-28. Doing so will allow it to "identify potential restoration, enhancement, and preservation projects in floodplains and wetlands adjacent to surface waters to improve the quality of runoff into these surface water areas" as specified in the 2025 Comprehensive Plan.[17]

Restoration

It is recommended that the County restore or enhance degraded natural lands that it acquires. This can be supplemented by a program that monitors these lands annually and removes

[16]http://www.osceola.org/files/websites/PlanningandEnvironmentalServices/00017309_comprehensive_plan_documents/Comprehensive_Plan_2025/07_Conservation%20Element.pdf
[17]http://www.osceola.org/files/websites/PlanningandEnvironmentalServices/00017309_comprehensive_plan_documents/Comprehensive_Plan_2025/07_Conservation%20Element.pdf

exotic/nuisance vegetation. By doing so, the County will comply with Policy 1.10.5: Restoration of degraded natural lands of its 2025 Comprehensive Plan. Additionally, where applicable, it is recommended that the County work to restore parcels to their historic natural conditions.

Initiative 3.1.2 Expand Urban Tree Planting Program

Trees provide offer many benefits to urban environments. Urban trees provide shade for buildings which can reduce electricity demand needed for cooling, filter water and help reduce storm water erosion. Studies have been shown that trees can raise property values and improve the well-being of local residents. Trees also sequester carbon from the atmosphere, a service which can be applied to offset carbon emissions.

It is recommended that the County explore innovative approaches to expanding its urban tree planting program through 1) direct investment and 2) through participation of its citizens and business community. It should investigate other tree planting programs in the U.S. to determine models that help residents and businesses better understand the benefits tree plantings can offer them. This research can be applied to increasing tree density in areas that stand to benefit most from this initiative.

TRANSPORTATION

Roadways and Infrastructure

2019 OBJECTIVE	BENEFITS
Reduce per capita travel time (time spent in traffic) by 5%	Improved commuting time, less particulate emissions

Initiative 3.2.1 Incorporate Adaptive Signal Control Technology

The County has recently implemented an Advanced Traffic Management System (ATMS). An ATMS is a tool that uses sensors and software to aid traffic engineers in managing and analyzing real-traffic conditions. The goal of an ATMS is to reduce traffic congestion by optimizing the traffic flow on the existing road network. The use of this system lowers commuting time, reduces accidents, results in the overall idling time for vehicles and leads to lower emissions.

Adaptive Signal Control Technology (ASCT)is a supplement to an ATMS. Conventional signal systems rely on pre-programmed schedules to vary signal timing. These become outdated as traffic patterns change over the course of time and expensive field surveys are required to recalibrate signal timing. ASCT improves on this, by automatically adjusting the timing of traffic lights in real-time to accommodate traffic patterns and reduce congestion. This technology does so by processing data obtained from strategically placed sensors, calculating optimal signal timing, and updating the traffic signals to the improved timing pattern. It can improve traffic time by more than 10 percent and by 50 percent or more in areas with outdated signal timing.

To evaluate the benefits of using ASCT to manage traffic flow, the County will be implementing an ASCT pilot project within the next two years. This project will be funded partially by a state grant and will allow the County to evaluate the effectiveness of this technology before it applies ASCT on a larger scale.

WASTE

Waste Minimization and Recycling

2019 OBJECTIVE	BENEFITS
Achieve a 65% County recycling rate.	Recognition, Reduced landfill contribution, promotion of green industry

Initiative 3.3.1 Develop and Implement Waste Minimization and Recycling Policies

Waste prevention is the best approach to reducing waste, ahead of recycling according to the EPA.[18] Reducing the use of materials in the first place is favorable to recycling because recycling consumes extra energy in the process of converting discarded material into its usable state.

Various policy options exist when dealing with waste reduction ranging from small scale policies (e.g. setting County's printers to double-sided printing as a default setting and reusing scrap paper) to large scale policies (e.g. putting a tax on plastic bags and encouraging the use of reusable shopping bags).

To implement a Waste Reduction Policy, it is recommended that the County evaluate and institute policies that are most applicable to its operational challenges and meet the needs of the community as well as County employees and operations. It will monitor these policies and adjust them accordingly to meet the County's waste reduction objectives.

In addition, the County should evaluate and implement the following policies that target procurement of products, commercial recycling, and construction waste management:

Environmentally Preferable Products Procurement Policy- According to the EPA, the term environmentally preferable refers to ""products or services that have a lesser or reduced effect on human health and the environment when compared with competing products or services that serve the same purpose." The environmental impact of products is evaluated using criteria such as "raw materials acquisition, product manufacturing, packaging, distribution, reuse, operation, maintenance, or disposal of the product or service."[19] An environmentally preferable product procurement policy's goal is to displace a portion of conventional products being used with products that are environmentally preferable. As an example, a typical policy would include provisions for products to be: 1) made from recycled content, 2) biodegradable, and 3) non-toxic.

[18] http://epa.gov/region4/recycle/faqs.htm#Best
[19] http://www.epa.gov/epp/pubs/about/faq.htm

By increasing the share of environmentally preferable products in its operations, the County would be reducing its impact on the amount of energy and resources used in the creation, distribution, and disposal of the products that it uses. It would also be supporting the market for recycled products, an action that works in tandem with the goal to increase the recycling rate in the County. As an added benefit, by sourcing environmentally preferable products from local suppliers, the County can reduce the distance products need to travel (reducing energy use and emissions) and promote local green businesses.

It is recommended that the County develop an environmentally preferable product procurement policy that balances the needs of the environment and its operational requirements. Typically, environmentally preferable products demand a price premium. By purchasing large quantities of these products, this additional cost can be significantly magnified. For this reason, in developing this policy, the County should weigh the benefits of environmentally preferable with their cost effectiveness in order to ensure that the policy is sustainable.

For support in developing this initiative, the County can refer to the LEED 2009 for Existing Buildings: Operations & Maintenance, Materials and Resources Credits 1-2, "Sustainable Purchasing," text. It outlines calculations that will help the County determine baseline waste levels. These calculations can be used along with the WasteWise Re-Track program to benchmark the County's waste production and track the future performance of expanded recycling and waste reduction initiatives. An additional resource is the Green Purchasing Plan developed by the U.S. General Services Administration.[20]

Commercial Recycling Policy - Currently, there is no commercial recycling program in place in Osceola County. Businesses are not mandated to recycle and if they choose to do so they must to set up an individual contract with a recycling services provider. This poses a challenge to increasing the recycling rate in and meeting the recycling goals of the County.

The County should explore ways to expand recycling from new County residence recycling program to the commercial sector. It should also study the effects a mandatory recycling program would have on the commercial sector and the County's waste stream.

Construction Debris Waste Management Policy - There are a variety of ways to improve waste management practices during the construction activities. For new construction, construction contracts can be revised to direct contractors to use materials that have recycled content, are non-toxic and locally procured. For demolitions, contractors can be directed to perform soft demolitions, where buildings are deconstructed rather than demolished. Demolition means any wrecking activity directed to the disassembling, dismantling, dismembering and/or razing of any structure. Deconstruction includes recycling and recovery and soft-stripping of non-structural components/parts with emphasis on reuse (salvage).

[20] http://www.gsa.gov/graphics/fas/GSA_Green_Purchasing_Plan.pdf

To reduce the environmental impacts associated with its construction activities the County should develop policies that combine mandates and incentives for construction techniques that minimize waste and maximize recycling

Initiative 3.3.2 Develop and Implement Waste Minimization and Recycling Programs

To reduce waste and increase recycling rates, the County should enhance existing waste management programs and develop new programs that will expand recycling to residents and businesses that currently do not have access to recycling.

Soil Amendments from Vegetative Waste Program- Over the past several years, the County's Bass Road Resource Recovery Site has been supplying County residents, local community gardens, and elementary school gardens with gardening soil.[21] This material is created from the County's yard waste grinding operations and is provided free of charge. To create the gardening soil, vegetative grindings are processed to create soil amendments that are then mixed with a soil base. This program benefits the community by reducing the amount of waste that goes to landfills, the costs of soil maintenance to the local community, and the energy associated with the manufacture of garden soil.

The program is not without its challenges. During the processing process, the operation produces an unintended odor that extends to the neighboring residential area. Dealing with this issue is an integral part of this initiative and is critical to the success of this program. It is recommended that the County continue to work with affected residents to make sure their concerns are addressed and the negative effects of this program are minimized.

To increase the benefits provided by this program, the County should increase the volume of vegetative waste it processes. It should continue to explore new sources or vegetative waste and new applications for the garden soil that the program generates.

Manufactured Home Communities Recycling Program - The County is planning to expand accessibility to recycling by placing recycling containers in manufactured home communities. These areas are not going to be covered by upcoming curb side recycling service planned to launch later this year. Under this initiative, the County will put together a plan to place single stream roll off containers in manufactured home communities. The single stream feature will make it easier for residents to recycle by not requiring them to separate the recyclables by material types (the separation of materials will occur at the recycling processing facility). By implementing this initiative, the County will be able to capture and recycle a portion of waste stream that previously went directly to the landfill. This will reduce the overall volume of trash going to the County's landfills, the energy associated with their disposal, and increase the amount of recovered materials for useful applications.

Implement EPA WasteWise Program - The WasteWise program is a free, voluntary resource offered by the EPA.[22] It is designed to help entities reduce municipal solid waste and select

[21] http://www.osceola.org/solidwaste/108-6983-0/bass_road_resource_recovery_site.cfm
[22] http://www.epa.gov/epawaste/conserve/smm/wastewise/index.htm

industrial wastes. To take advantage of this program, it is recommended that the County join WasteWise and gain access to free technical assistance and the WasteWise Re-Track program, a free online tool used to track waste related data. Once a member, the County will also be eligible to participate in the various WasteWise challenge programs. Achieving recognition through these programs will help the County secure recognition for their waste reduction initiatives.

Traffic Sign Refurbishment Program - As part of the effort to reduce waste and costs, the County's Public Works department has been operating a Traffic Sign Refurbishment Program. Under this program, existing signs that are due for replacement are refurbished, saving the expense of purchasing brand new signs. This is done by replacing the exterior finishes and the signage markings on top of the existing structure. With over 44,000 traffic signs in the County and an average replacement period of 7 years per sign this results in hundreds of signs being refurbished every month. And while not every sign is in a condition to be refurbished, over 80% of signs receive this treatment, at a savings of around $30 per sign. This results in an estimated $181,000 in savings every year and reduces Public Works' waste stream.

It is recommended that the County continue and seek ways to expand this program. It should evaluate the feasibility of using refurbishing to reduce waste and generate savings in the operations of its other departments.

APPENDIX A

SURVEY: DEPARTMENT HEADS

Dear Steering Committee Member,

As a consultant to Osceola County, Carbon Solutions America is excited to be working with you on the development of the Sustainability Action Plan (SAP) for the County. As part of this process we ask that you complete a brief survey on your respective department's past experiences and accomplishments working with sustainability initiatives (i.e., energy consumption reduction measures and promotion of sustainable policies) as well as plans for future initiatives. We also would like to learn about the types of challenges your department has faced and your recommendations in regards to making Osceola County more sustainable.

The following is a list of categories that we will focus on in the development of the SAP for Osceola County. It is important to note that the scope of the SAP will cover the operations within the county and not the broader community. Please focus on the categories relevant to your department and policies when providing your response to the survey.

Sustainability Action Plan Categories					
1	2	3	4	5	6
Energy efficiency in buildings and fleets	Resource conservation	Land use and development of greenhouse gas reduction	Natural area preservation	Recycling and waste reduction	Education and outreach

Sincerely,

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SUSTAINABILITY ACTION PLAN DEVELOPMENT SURVEY

Please provide your name and department:

Name: _____ Department: _____

Q1	Please provide a description of formal sustainability initiatives that your department has undertaken and is undertaking. In giving your description, focus on the Sustainability Action Plan Categories listed above that are most relevant to your department and policies.

Response:

Q2 What are some sustainability related actions and initiatives that you would like to achieve / enact in the future?

Response:

Q3 What are the challenges that you have faced and foresee facing in the future when dealing with sustainability initiatives?

Response:

Q4 What are some recommendations that you have for developing sustainability initiatives in Osceola County?

Response:

END OF SURVEY - THANK YOU FOR COMPLETING THIS SURVEY!

APPENDIXB
SURVEY: EMPLOYEES

Dear Osceola County Employee,

As a consultant to Osceola County, Carbon Solutions America is excited to be working with the County on the development of its Sustainability Action Plan (SAP). The SAP will communicate Osceola County's goals and objectives for making its operations more sustainable by focusing on the six categories listed below. As part of this process for the development of the SAP we ask that you complete this brief survey. We value your responses and look forward to incorporating them into the plan that will make Osceola County more sustainable.

Sustainability Action Plan Categories					
1	2	3	4	5	6
Energy efficiency in buildings and fleets	Resource conservation	Land use and development of greenhouse gas reduction	Natural area preservation	Recycling and waste reduction	Education and outreach

Sincerely,

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INTRODUCTION TO SURVEY

The County is currently working to create a Sustainability Action Plan to include measurable goals for the County's future. A Steering Committee, comprised of departmental leaders, will be participating in Workshops over the next few months to help define and refine these goals, make them realistic, and prepare them for presentation to the Board for approval. The employee survey's purpose is to supplement the utility, lands, and consumption data we have already compiled and to provide room for creative responses, rather than just statistics.

Q1.*Please provide the name of your department in the box below:*

Department: _____

DEFINITION OF SUSTAINABILITY

The United States Environmental Protection Agency provides the following definition of sustainability:

> *"Sustainability is based on a simple principle: Everything that we need for our survival and well-being depends, either directly or indirectly, on our natural environment. Sustainability creates and maintains the conditions under which humans and nature can exist in productive harmony, that permit fulfilling the social, economic and other requirements of present and future generations.*
>
> *Sustainability is important to making sure that we have and will continue to have, the water, materials, and resources to protect human health and our environment."*

SURVEY QUESTIONS

Q2. How frequently does your department promote conservation efforts or sustainable employee behavior?

A. Very frequently **B.** Frequently **C.** Infrequently **D.** Very Infrequently **E.** Never

Q3. Does your department have an official employee engagement policy on sustainability?

A. Yes **B.** No **C.** Not Sure

Q4. If your department engages employees in conservation, how effective is it in changing behavior?

A. Very effective **B.** Somewhat effective **C.** Not very effective **D.** Not sure
E. Not applicable

Q5.Would you like to see your department change its stance on employee sustainability efforts?

A. Yes (Please specify) **B.** No **C.** Not sure

Description:

Q6.In what areas does your department actively encourage conservation by staff? Select all that apply.

A. Waste and recycling **B.** Energy use **C.** Commuting **D.** Purchasing / Procurement **E.** Water use **F.** Food and drink **G.** Business Travel **H.** None of these

Q7.Does your department or the County do any of the following to encourage sustainability outside the workplace? Select all that apply.

A. Telecommuting **B.** Low-energy commuting **C.** Home energy-efficiency
D. None of these

Q8.In the workplace, what incentives does your department or the County use to promote sustainable actions? Select all that apply.

A. Provides recycling bars **B.** Promotes reusable dishware **C.** Official policies **D.** Informal recognition **E.** Sponsored events **F.** Green teams **G.** Awards
H. Competitions **I.** Bonuses **J.** None of these

Q9.In which of the following areas of employee travel does your department or the County promote or require efforts to reduce travel impacts? Select all that apply.

A. Air travel **B.** Rental cars **C.** Hotel stays **D.** Food **E.** Entertainment
E. None of these

Q10.Related to business travel, how does your department or the County promote sustainable actions? Select all that apply.

A. Promote alternatives to travel **B.** Teach about impacts and options
C. Promote green vendors **D.** Mandate impact reduction
E. Incentivize impact reduction **F.** Provide tools to measure impact **G.** None of these

Q11.How does your department or the County share sustainability goals and strategies with employees? Select all that apply.

A. Email **B.** Meetings **C.** Memos **D.** Intranet **E.** Social Media **F.** Conversation **G.** None of these

Q12.Does your department or the County have a method for employees to share sustainability ideas with each other?

A. Yes **B.** No **C.** Not sure

Q13.What types of sustainability data does your department collect? Select all that apply.

A. Employee efforts **B.** Organization's footprint **C.** Travel emissions
D. Commuting emissions **E.** Not sure
F. Other (please specify): _____

Q14.How important does your department feel that Osceola County government operations become more sustainable?

A. Very important **B.** Important **C.** Somewhat important **D.** Not important

Q15.Are you aware of any department or Osceola County sustainability policies or initiatives?

A. Yes (please specify) **B.** No

Description:

Q16.What policies/initiative do you recommend Osceola County government to adapt to become more sustainable, either as a whole or within your individual department? (Please rank your suggestions in order of importance).

Description:

Q17.What challenges have you experienced in your department related to the adoption or execution of sustainability initiatives and/or policies?

Description:

Q18.In addition to financial reporting, do you think Osceola County should release reports on their environmental performance?

A. Yes **B.** No **C.** Not sure

COMMUTER SURVEY

Q19.*Please provide general information*

Town Department: _____

Home Zip Code: _____

Q20.What is the distance of your commute?

(Enter the distance of your commute in miles. The distance entered should represent ONLY 1 way distance from home to work.)

Distance: _____

Q21.How do you typically commute to and from work?

(Indicate the method in which you commute to and from work and the number of days you use each method during a typical five (5) day work week (choices should sum to 5 days.)

Drive Alone:	O Use - Number of days a week: _____ O Do not use
Carpool / Dropped Off:	O Use - Number of days a week: _____ O Do not use
Rail:	O Use - Number of days a week: _____ O Do not use
Bus:	O Use - Number of days a week: _____ O Do not use
Walk:	O Use - Number of days a week: _____ O Do not use
Bicycle:	O Use - Number of days a week: _____ O Do not use
Town Vehicle:	O Use - Number of days a week: _____ O Do not use
Other: _____	O Use - Number of days a week: _____ O Do not use

Q22.If you selected "Car Pool / Dropped Off" in Question 19, please provide the following:

Vehicle Make (i.e. Ford):

Vehicle Model (i.e. Escape):

Vehicle Year (i.e. 2009):

Number of persons (over age 16) accompanying you:

Q23.If you selected "Drive Alone" or "Town Vehicle" in Question 21, please provide the following: (This information will only be available to the County's consultant and will NOT be viewed by members of your department or affiliated with your personal information in any way**)**

Vehicle Make (i.e. Ford):

Vehicle Model (i.e. Escape):

Vehicle Year (i.e. 2009):

Q24.If you selected "Drive Alone" or "Town Vehicle" in Question 19, indicate reasons for doing so:

- O Work late or have irregular hours
- O Run personal errands before and/or after work
- O Lack of transit stops near my work and/or home
- O Nobody from work lives in my area
- O Childcare commitments
- O Live in close proximity to work
- O Other (please specify): _____

Q25.If you selected "Other" in Question 21, please briefly describe the method of transportation used. Please include the number of days you used the "Other" method of transportation.

Description:

Q26.Please only select your top 4 choices below. Which of the following incentives might encourage you to try or continue to use an alternative mode to get to work?

- O Preferred parking spaces for car pools
- O Free ride home in the event of an emergency or overtime
- O Option to set aside pre-tax dollars to cover commuting costs
- O Match list of potential ride share partners
- O Employee recognition program for alternative transportation
- O Bicycle parking
- O Locker rooms with showers
- O On-site childcare, dry cleaning, fitness center, banking or other services
- O Opportunity to telecommute or work from home
- O Nothing, I prefer to commute by car
- O Other (please specify): _____

Q27.How likely would you be to try the following ways of getting to work?

	Do now	Likely	Not likely	Not an option
Car pool or van pool	O	O	O	O
Bus	O	O	O	O
Train	O	O	O	O
Bicycle	O	O	O	O
Walking	O	O	O	O
Telework	O	O	O	O
Compressed work week	O	O	O	O

END OF SURVEY - THANK YOU FOR COMPLETING THIS SURVEY!

Survey questions were based on the Brighter Planet Employee Engagement and York University Campus Sustainability surveys.

APPENDIXC

COST BENEFIT WORKSHEETS

FOCUS AREA 1: **ENHANCE INSTITUTIONAL CAPACITY**

			BENEFITS (5 Year)			COSTS	NET
Intent	**Category**	**2019 Objective**	**Estimated Savings ($)**	**GHG Reductions (MT CO_2e)**	**Additional Benefits**	**5 Year Estimated Cost**	**5 Year Net**
Enhance the human, programmatic, and financial resources of the County to better implement Sustainability Initiatives	**ORGANIZATIONAL ATTITUDE & STRUCTURE**		**$0**	**N/A**		**$484,000**	**-$484,000**
	1.1 Leadership	Establish a means to implement SAP initiatives	$0	N/A	Increased awareness, increase buy-in, promote sense of ownership, generate new ideas	$475,000	-$475,000
	1.2 Employees	Improve the Employee Sustainability Engagement Index by 20%	$0	N/A	Unified approach, clear leadership, greater support to existing staff, enhanced coordination	$9,000	-$9,000
	SKILLS & RESOURCES		**$300,000**	**N/A**		**$104,000**	**$196,000**
	1.3 Funding	Fund SAP initiatives	$300,000	N/A	Averted cost to County, opportunities for recognition, improved return on investment	$0	$300,000
	1.4 Monitoring	To track and publically disclose SAP initiative metrics, GHG emissions, energy consumption annually	$0	N/A	Improved transparency, data based decision making, substantiated marketing claims and citizen support	$104,000	-$104,000
	1.5 Training & Education	Provide training and education annually to County employees directly engaged in SAP initiatives	$0	N/A	More knowledgeable and engaged staff, increased ability to problem solve, enhanced program buy in	$40,000	-$40,000

FOCUS AREA 2: **OPTIMIZE MUNICIPAL ENERGY PERFORMANCE & RESOURCES MANAGEMENT**

			BENEFITS (5 Year)			COSTS	NET
Intent	**Category**	**2019 Objective**	**Estimated Savings ($)**	**GHG Reductions (MT CO_2e)**	**Additional Benefits**	**5 Year Estimated Cost**	**5 Year Net**
Reduce energy expenditures, save tax payer dollars, curb GHG and particulate emissions, and decrease our dependence on non-renewable energy.	**ELECTRICITY/NATURAL GAS**		**$357,000**	**476**		**$90,000**	**$267,000**
	2.1 Buildings	Decrease Portfolio Rating to National Average (EPA)	$210,000	N/A	Recognition for energy efficient buildings	$25,000	$185,000
	2.2 Infrastructure	100% Efficient (LED) Lighting	$147,000	476	Fewer service disruptions, lower pollution from power plants	$65,000	$82,000
	FUEL		**$675,500**	**N/A**		**$27,700**	**$647,800**
	2.3 General Fleet	Increase Fleet MPG 10%, and Secure NAFA Sustainable Fleet and 100 Best Fleets Awards	$243,500	N/A	Greater recognition from fleet awards, lower fleet maintenance costs	$25,000	$218,500
	2.4 Sheriff Department	Increase Fleet MPG 5%, and Secure NAFA Sustainable Fleet and 100 Best Fleets Awards	$432,000	N/A	Savings on alternator & battery replacement costs, Less downtime due to failed batteries.	$2,700	$429,300
	RENEWABLE ENERGY		**N/A**	**N/A**		**N/A**	**N/A**
	2.5 All County Operations	Increase share of renewable energy in portfolio to 5%	N/A	N/A	Partial insulation against energy price increases. Support of local green industry	N/A	N/A
	WATER		**N/A**	**N/A**		**N/A**	**N/A**
	2.6 All County Operations	Reduce potable water usage by 15%	N/A	N/A	Scope 2 energy and emission reductions. Water cost savings	N/A	N/A

FOCUS AREA 3: **OPTIMIZE COMMUNITY ENERGY PERFORMANCE & RESOURCES MANAGEMENT**

			BENEFITS (5 Year)			COSTS	NET
Intent	**Category**	**2019 Objective**	**Estimated Savings ($)**	**GHG Reductions (MT CO_2e)**	**Additional Benefits**	**5 Year Estimated Cost**	**5 Year Net**
Conserve and restore environmentally sensitive lands, optimize public transportation, and reduce solid waste stream.	**NATURAL RESOURCES**		**N/A**	**N/A**		**N/A**	**N/A**
	3.1 Vegetative Communities	Increase the Sustainability Land Index 5%	N/A	N/A	Ecosystem health, recreational opportunities, land use change mitigation	N/A	N/A
	TRANSPORTATION		**N/A**	**N/A**		**N/A**	**N/A**
	3.2 Roadways and Infrastructure	Reduce per capita travel time (time spent in traffic) by 5%	N/A	N/A	Improved commuting time, less particulate emissions	N/A	N/A
	WASTE		**N/A**	**N/A**		**N/A**	**N/A**
	3.3 Waste Minimization and Recycling	Achieve a 65% County recycling rate in line with objectives of Florida House Bill 7243	N/A	N/A	Recognition, Reduced landfill contribution, promotion of green industry	N/A	N/A