

CITY OF PENSACOLA
ENVIRONMENTAL ADVISORY BOARD
Thursday, September 6, 2018~2:00 p.m.
Vince Whibbs, Sr. Conference Room
1st Floor, City Hall

AGENDA

1. Call to Order/Quorum
2. Approval of Meeting Minutes—August 2, 2018
3. Updates:
 - a) 12th Avenue Tree Replacement and No Parking Enforcement—Kyle Kopytchak
 - b) Review of tree and landscaping regulations—Michael Lynch
 - c) Criteria for Tree Fund Grant Proposals
 - d) Sanders Beach Stormwater Drainage—Steve Elliott
 - e) Environmental Justice/Injustice—Calvin Avant
 - f) Water Quality of Bay/Gulf—Blaise Butts
 - g) Flooding/Toxin Issues in Tanyard—Gloria Horning
 - h) Environmental Impacts on Disenfranchised Communities—Gloria Horning
 - i) Renewable Energy Sources—Neil Richards, Robert Bennett
4. Old Business
5. New Business
 - a) Review—August 2, 2018 Draft Report—Climate Mitigation and Adaptation Task Force
 - b) EAB Member Bob Bennett's Comments on Draft Report
6. Reports and Announcements
7. Board Member Comments
8. Public Comments—Open Forum
9. Adjourn

The next meeting of the Environmental Advisory Board is October 4, 2018, unless changed.

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CITY OF PENSACOLA
ENVIRONMENTAL ADVISORY BOARD (EAB)

MEETING MINUTES

Thursday, August 2, 2018

Members Present: Neil Richards, Chairman, Kyle Kopytchak, Michael Lynch, Robert Bennett
Blase Butts

Members Absent: Calvin Avant, Dr. Gloria Horning, Steve Elliott

Others Present: City Council Member Sherri Myers, Don Kraher, Council Executive, Laurie
Murphy, Christian Wagley

1. Call to Order/Quorum: The meeting was called to order by Chairman Richards. A quorum was established.
2. Approval of Minutes—July 5, 2018

Motion made by Member Kopytchak to approve the minutes of the July 5, 2018 meeting, seconded by Member Bennett and was unanimously carried.

3. Updates:
 - a) 12th Avenue Tree Replacement and No Parking Enforcement—Member Kopytchak reported there was a second tree planted in the tree tunnel. Discussion occurred on the new development and construction getting ready to take place along 12th avenue in the tree tunnel and the potential damage that will occur to the root system of the trees in the tree tunnel. Also discussed measures that can be taken to enforce no parking/driving on right of way along 12th Avenue under the tree tunnel.

Motion made by Member Kopytchak to recommend to City Council to place signs on right-of-way on 12th Avenue Tree Tunnel to prohibit parking/driving on the right-of-way, seconded by Member Bennett and was unanimously carried.

- b) Review of tree and landscaping regulations—Member Lynch recognized Laurie Murphy to give an update on her review of the tree ordinance, the replacement of trees removed from the tree fund and a fair and equitable distribution in all districts of the city.

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City Council Member Myers indicated she would like to see the tree fund money used for reforestation of Carpenter's Creek to include removal of invasive species and replanting of native species plants, including pine trees, different types of wild magnolias and other native plants to replenish the riparian zone. It should not be used for beautification.

- c) Criteria for Tree Fund Grant Proposals—Chair Richards brought up the existing provision in the ordinance that provides for neighborhood grants to plant trees. He indicated that it has not been advertised or promoted, since it needs to be fine tuned. Some of the tree fund money needs to be shared throughout neighborhoods. City Council Member Myers thought it was a bad idea to plant trees and expect homeowners to take care of them and explained why. She thought they needed to be planted only on public land that the City controls. Chair Richards indicated that no one has used the grant feature, it is required to come before the EAB for a recommendation to City Council. The re-write of the Tree Ordinance was the first step, and then the fine tuning of how neighborhoods could apply for that money and where it can be used needs to be addressed, either in a new ordinance or fine-tuning of the existing tree ordinance.
- d) Sanders Beach Stormwater Drainage—No update given.
- e) Environmental Justice/injustice—No update given.
- f) Water Quality of Bay/Gulf—Member Butts reviewed his report on the amount of trash that has been collected at the various locations in the Pensacola Bay area and the significant number of water bottles collected.

He also brought up the need for water bottle filling stations at water fountains. You can retrofit an old water fountain for about \$500. A brand new one is less than \$1,000. It is a very viable thing and recommends water filling stations throughout the City. You have to look at the kind and placement for two main reasons, the quality of the water and vandalism. Further discussion was held concerning water quality at water fountains located at various city parks and who is responsible for testing and how testing is done.

Ocean Hour for the month of August will focus on counting plastic straws.

- g) Flooding/Toxin Issues in Tanyard—No update given on this item. However, City Council Member Myers brought up the extreme flooding of 9th Avenue and her

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frustration in the stormwater overview given by City staff during the budget meeting with regard to stormwater fees for use in creating vaults to improve water quality rather than reducing flooding. Stormwater and runoff are 2 separate issues that the Board discussed, including designing to 100 year rain events rather than 25 year rain events for requirements for volume and on-site retention. New construction is not the problem. You don't have a lot of retention ponds for older developments; you might have a pipe system to handle it. Only recently have people taken it a lot more seriously. Further discussion occurred on the cleaning of the stormwater drains and vaults and the frequency in which they are cleaned.

h) Environmental Impacts on Disenfranchised Communities—No update given.

i) Renewable Energy Sources—Brief update given by Member Bennett.

4. Old Business

a) Ocean Hour Weekly Beach Cleanup Report—previously covered under 3 f) above.

b) Review of Presentation to Mayor and City Council—September 26, 2017—Chair Richards reviewed the report he presented on the EAB accomplishments for the year to City Council.

5. New Business

Member Bennett indicated that the purpose of the EAB was to make recommendations to the Mayor and or City Council. It is incumbent on the Board to have a basic understanding of some of the issues, such as how bad is the flooding, what are the drainage issues, what are the drainage best practices, and other issues like the shoreline oyster shells, what's happening with the seagrasses. He proposed having someone come to address the EAB on environmental issues so that the Board has some understanding of the scope, the issues, and costs so that the Board can put forth some suggestions. Each one of the Board members can select a topic.

Member Butts suggested a presentation on seagrass from the Sea Grant Organization with the University of Florida.

Further discussion was held concerning stormwater studies and comments made by Laurie Murphy, Executive Director of Emerald Coastkeepers with regard to stormwater issues. Member Lynch indicated that Escambia County does have various studies on water basins in Escambia County that the Board could review for information.

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Chair Richards indicated he is anticipating getting the final draft report from the Climate Mitigation and Adaptation Task Force for the EAB review. Council Executive indicated that the final draft report will be released to all stakeholders at the same time, once the document is ready.

6. Reports and Announcements—

Member Lynch asked for an update on the potato vine beetle project on Carpenter Creek. Laurie Murphy provided an update on the project.

7. Board Member Comments—There were none.

8. Public Comments—Open Forum

Laurie Murphy reported that We Think Energy along with Gulf Coast Restoration and Emerald Coastkeepers are putting on a town hall environmental candidates forum, to talk about sea rise and climate change questions on August 14 at the downtown library at 5 p.m.

She also has the adopt a stream packet put together and at a future meeting would like to discuss the project.

Christian Wagley commented on the proposed CRA overlay districts that will be going to the City Council at their August meeting. With regards to stormwater, he suggested the Board start with Derrik Owens, Public Works Director for the City. He also suggested reviewing the ATKINS study that was done following the 2014 flood. The living shoreline seminar is tomorrow at UWF, starting at 8 a.m.

Chair Richards reminded the Board on August 9, Science Hour will be a presentation on Solar Energy for Homes by Sean Gunther from Gulf Power.

9. Adjourn—There being no further business to come before the Board, the meeting was adjourned at 2:22 p.m.

DRAFT Report
Climate Mitigation and Adaptation Task Force
City of Pensacola

Task Force Members:

Elaine Sargent, Chairman, 350 Pensacola
Laurie Murphy, Vice Chairman, Emerald Coastkeeper
Dr. Haris Alibašić, University of West Florida
Cynthia Cannon, AICP, Santa Rosa County
Carrie Stevenson, Escambia County
Christy Johnson, AICP, FDOT
Tim Haag, Emerald Coast Utilities Authority
Dr. Wade Jeffrey, University of West Florida, **Advisor**
Mark Gibson – Installation Environmental Program Director, NAS Pensacola

Revised August 2, 2018

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Introduction

The imperative for climate adaptation and mitigation planning stems from overwhelming evidence of climate change and the effects on coastal cities and regions. Researchers and scientists point to the changing climate as a direct result of human activities with devastating consequences for communities around the world. The climate-related threats include intense rain and flood events, sea level rise, droughts, and heat waves. Addressing climate change is imperative for communities to pursue and is based on unique characteristics of communities and local governments and threats they are facing.

The City of Pensacola and its regional partners, including counties and other local governments, are pursuing an aggressive and overarching climate-planning objective to address underlying climate change threats. The planning process included an appointment of the Climate Mitigation and Adaptation Task Force. The report produced by the Task Force provides a general outline of the direction for the City of Pensacola and the region to undertake specific actions to counter threats and impacts of climate change and extreme weather.

Task Force Goals and Objectives

The goals and objectives of the Climate Mitigation and Adaptation Task Force shall include, and are not limited to:

Advance adaptation and mitigation strategies to enhance the City's and regional resilience and preparedness for withstanding the likely adverse effects of climate change, including flooding resulting from heavy precipitation, rising sea levels, intense hurricanes, heat waves, and other extreme weather events;

Promote a program of education, incentives, and public outreach to encourage residents, business owners, governments, and organizations to participate in the Climate Adaptation and Mitigation Plan;

Generate suggestions to obtain federal and state grants, investments in energy efficiency and other financial resources to offset program costs. Measures may include initiatives to conserve energy and reduce greenhouse gas (GHG) emissions within government operations and incentives for homeowners, businesses and organizations to save energy, reduce costs and decrease GHG emissions.

The Climate Change Threats to Northwest Florida and the City of Pensacola

Climate change is a driving force in Florida's growing weather extremes. Florida is becoming hotter and more humid (Climate Central, 2016, July 13). Northwest Florida is threatened by sea level rise, record-breaking heat indexes, increasing frequency and duration of extreme heat and drought, heavier rain, wildfires, inland and coastal flooding, storm surges exacerbated by stronger hurricanes, and decreasing freshwater availability (Climate Central and ICF International 2015) (Carter et al. , p. 397).

These risks threaten natural and built environments, the economy, and human health. Our region has already been affected by the kind of economic and social disruptions that extreme heat, heavy rain, and flooding can create. As noted in the Climate Central report and projections, Pensacola faces several risks associated with global warming, including sea level rise, multiplying extreme flood risk in the Pensacola region (Strauss et al. 2014, p. 51).

A Blueprint for Addressing Climate Change at the Municipal Level

Local governments are typically the first responders when an extreme weather event affects their communities. Coastal communities in particular have long dealt with the aftermath of disastrous hurricanes and floods, with devastating consequences to local economies. Continuing and expanding the efforts to be better prepared to proactively address these events will result in a highly resilient community.

Planning for Energy Efficiency and Climate Change Mitigation

GHG emissions have undeniably been affecting the climate. The reduction of GHG emissions can decrease the extent and severity of climate change. Remaining at the status quo or increasing GHG emissions will escalate changes in climate. Climate change mitigation includes actions to decrease GHG emissions, reducing the ultimate magnitude of climate change. Some of these actions also have the potential to contribute to cost savings, green jobs, and local economic development. The City of Pensacola and surrounding area can take actions to assess energy use and GHG emissions to achieve the carbon footprint reductions.

The recommendations provide a *blueprint* for moving forward:

- Adopt a pledge to reduce the GHG emissions and join and actively participate in programs that provide planning tools such as: The Northwest Florida Clean Cities Coalition, Transformative Actions Program (TAP), Be Ready Alliance Coordinating for Emergencies (BRACE), United States Geological Survey (USGS) Sea-level Rise Simulation and Inundation Models, USGS Wetland Change Models, USGS Surface Elevation and Shoreline Erosion Models, and the Gulf Tools for Resilience Exploration Engine (Gulf TREE) through Northern Gulf of Mexico Sentinel Site Cooperative.
- The mayor should join the Mayors Climate Protection Agreement in solidarity with other cities in Florida. Joining the Climate Protection Agreement will support a mitigation initiative to reduce future impacts of climate change through pledge reductions in GHG emissions.
- Join the International Council for Local Environmental Initiatives (ICLEI)—Local Governments for Sustainability. ICLEI provides guidance for local climate action, including ClearPath™ —“an online software platform for completing greenhouse gas inventories, forecasts, climate action plans, and monitoring at the community-wide or government-operations scales.” (iclei.usa.org/clearpath/)
- Commit to meet a 30% renewable energy target by 2030 for city-owned facilities and operations, with a goal of 100% renewable by 2040.
- Support and encourage energy efficiency efforts, including the ENERGY STAR® labeling program and Leadership in Energy and Environmental Design™ (LEED).
- Encourage the start of a special adaptation action area group similar to the Southeast Florida Regional Compact. This group could be called the Northwest Florida Regional Compact and would study the outcome of adaptation strategies.
- Complete an inventory of city-wide GHG emissions and prepare a climate adaptation plan, as have many municipalities and counties around the state.
- Incorporate language about climate change in updated comprehensive plans, and pass local laws or codes that uphold those values.

- Include the following sectors: transportation, water resources/utilities, natural resources, agriculture, and disaster risk as part of the climate change planning process.
- Reduce GHG emissions from municipal facilities and operations, including increasing energy efficiency and conservation measures. In addition to reducing negative environmental impact, these efforts may provide for cost avoidance and savings.
- Install or purchase renewable energy, such as solar panels or other renewable power on municipal buildings, and incorporate LEED design.
- Educate the public about the changing climate, and involve and engage local citizens and volunteers in the processes of adaptation and mitigation. Encourage and incentivize local businesses and residents to reduce their energy consumption.
- Support regional and statewide policies to promote and develop renewable energy systems, net-metering, and installation of solar and geothermal projects.

Planning for Resilience and Climate Change Adaptation

The City of Pensacola has the opportunity and responsibility to start planning to ensure the community is resilient to climate change. The first course of action is to better understand what changes are likely at the local (and regional) level and to continue to make sure to prepare for these changes. Climate change *adaptation* refers to the actions organizations adopt and implement to reduce the impacts of the climate changes that either have already occurred or will inevitably occur. *Resilience* is the capacity of communities and organizations to withstand stress and catastrophe, and to recover and adapt successfully in the face of threats or disaster.

Below are some of the initiatives that the City of Pensacola can undertake to increase the community's resilience to climate change impacts:

- Develop emergency management plans and Federal Emergency Management Agency (FEMA) all-hazard mitigation plans that include climate change projections and adaptation strategies, and participate in the National Flood Insurance Program as well as FEMA's Community Rating System (CRS). The City of Pensacola is currently ranked 7 out of 10 on the FEMA CRS scale, resulting in a 15% annual discount in flood insurance for all insured properties. Surrounding communities have reached levels 5 (Pensacola Beach, Santa Rosa County) and 6 (Escambia County). The City should continue making a concerted effort to improve its CRS rating. Acting on the suggestions made in this report would contribute significantly to improving this rating.
- Consider current and subsequent updates to sea level rise (SLR) projections to inventory and map municipal infrastructure that may be vulnerable to climate change, and make plans and budget to replace, move or harden, or add supportive infrastructure at appropriate times as those models indicate.
- Utilize local authority to protect open space, wetlands, and riparian buffers to increase resilience to extreme weather events.
- Become an active participant on the policy board of the Pensacola and Perdido Bay's Estuary Program; encourage climate resilience strategies in addition to water quality management and improvement.
- Incorporate Better Site Design, Low Impact Development (LID) and green infrastructure principles into local codes and planning decisions to increase resilience of streams, bayous and floodplains to

heavy precipitation events. Protect the natural riparian (natural shoreline) zones of these water bodies and incentivize restoration of living shorelines instead of hardening (stone, wood and concrete seawalls). Utilize Escambia County's LID Reference Manual and create incentives for its use within the City and region.

- Use a watershed-level rather than site-level approach to manage stormwater runoff and flooding. Wide-scale watershed management can reduce impacts of flooding from stormwater downstream through the use of better urban planning and design principles including a multi-jurisdictional approach.
- Encourage higher density development where appropriate as an urban stormwater best-management practice. More compact development patterns generate less stormwater runoff overall than low-density development.

Areas of Emphasis for Climate Preparedness— Comprehensive Plan Climate Mitigation and Adaptation Element

Goal: Achieve a sustainable, climate resilient community by promoting energy efficiency and greenhouse gas reduction strategies; protecting and adapting public infrastructure, services, natural systems and resources from climate change impacts; and continuing to coordinate and communicate locally and regionally to monitor and address the changing needs and conditions of the community.

Greenhouse Gas Emissions Reduction Goals

Objective: Mitigate the causes of climate change while providing clean energy solutions and a more energy efficient way of life for residents, business interests, and visitors.

Policy Recommendations:

- The City of Pensacola shall mitigate its contribution to global climate change by reducing municipal operations greenhouse gas emissions to 30% by 2030, based on the data from the City's inventory of GHG emissions. The long-term goal shall be zero GHG emissions. The City will continue to regularly monitor and track the progress of programs and initiatives that contribute to the final reaching of these goals.
- The City of Pensacola shall encourage research for increasing the proportion of electricity generated by alternative and renewable energy sources within the City, such as solar, wind, geothermal and ocean energy technologies.
- The City of Pensacola should plan for and facilitate the development of infrastructure that provides public access to alternative fuels and electric vehicle charging stations by 2025. Actions should include:

Preparing for deployment and optimal distribution of a regional system;

Negotiating inter-local agreements with County, State, and private entities to share existing and proposed infrastructure; and

Incentivizing and improving processes and programs for installation of alternative fuel and electric vehicle charging infrastructure (including city-owned parking lots and buildings).

Transportation

Objective: Advance transportation and land-use choices that reduce fossil fuel use and vehicle miles traveled; improve the mobility of people, goods, and services; provide a diverse, efficient and equitable choice of transportation options; and increase the City's resilience to the impacts of climate change.

Policy Recommendations:

- The City of Pensacola shall continue to encourage mixed land uses which promote functional, walkable mixed-use development designs and projects by providing flexibility in development review and requirements for these projects, revising the zoning and land development codes to support such projects, and promoting the adoption of land development codes that support and establish sustainable development patterns, especially in areas identified as high risk to sea level rise. Discourage and/or prevent development in flood zones and areas near wetlands and coastal zones. Reduce future development in areas prone to flooding. Preserve and grow mixed-use and dense development neighborhoods in low hazard (non-historically flooded) areas, making essential services and businesses accessible through multimodal means of transportation.
- The City of Pensacola shall continue to seek to diversify fuel options for public transit and fleet vehicles, expand infrastructure for charging electric and hybrid electric vehicles and incentivize parking for alternative fuel vehicles. Adopt a policy that discourages expansion of roadways that add more lanes to grow capacity. Focus on the maintenance and the improvements of "vital streets" or existing roads where appropriate. Evaluate the adoption of a complete streets concept, looking at street design from a pedestrian/biking perspective as well as the importance of traffic calming. Any new road project would need to meet the following criterion before approval: Roadway will serve as a connector between areas to reduce driving miles, consequently decreasing carbon footprint and emissions.
- The City of Pensacola shall review and support new city codes that help to create more bicycle and pedestrian-friendly infrastructure for our communities.

Built Environment

Objective: Improve the climate resilience and energy-efficiency of new and existing buildings and public infrastructure, and develop adaptation strategies for areas vulnerable to climate change-related impacts.

Policy and Initiative Recommendations: The City of Pensacola shall encourage greener, more efficient and climate resilient construction practices.

- Build all new construction of city or public facilities to LEED standards.
- Utilize national guidelines and performance benchmarks for sustainable land design, construction and maintenance practices, as developed by The Sustainable Sites Initiative™ (SITES).
- Reevaluate the base finish floor elevation standards concerning projected sea level rise scenarios and flooding potential.
- Install solar panels on City buildings.
- Use ENERGY STAR rated appliances and HVAC equipment within City buildings.
- Incorporate building design specifications city-wide for commercial and residential developments to increase resistance to impacts from more intense storm events.
- Encourage all building/construction personnel to have National Pollutant Discharge Elimination System (NPDES) training and erosion/sediment control training.

- Encourage sustainable practices for site design, construction and maintenance. These regulations help reduce urban runoff and mitigate the effect of new development, redevelopment, or infill development on the existing drainage system. Develop a new unified Stormwater Building Code. The new code would contain requirements to protect the City's drainage system during construction, as well as post-construction stormwater management requirements.
- Develop permeable surfaces and green incentives for residents and businesses throughout the City of Pensacola. Encourage stormwater fee reduction based on beneficial pervious surface area and development incentives during the process of applying for development permits for zoning upgrades. Explore grant opportunities to provide direct funding to property owners and/or community groups for implementing a range of green infrastructure projects and practices. Develop a rebate program or provide installation financing to provide funding, tax credits or reimbursements to property owners who install specific practices, and promote an awards and recognition program that would provide marketing opportunities and public outreach for exemplary projects. This may include financial incentives.

Policy Recommendations:

- Work cooperatively to review and re-evaluate current zoning codes, regulations and policies according to sustainable community development practices, such as those outlined in the criteria recommended by the United States Green Building Council's Leadership in Energy and Environmental Design for Neighborhood Development (LEED-ND) certification, or by application of a national rating system for local governments, such as the STAR Community Index™ (STAR), and NPDES stormwater permit.
- Identify areas of frequent "nuisance flooding" and create a public database for future reference, which will dis-incentivize construction in historically and newly flooded area.
- Create an Inland Flooding Adaptation Action Area.
- Create a mechanism for transfer of ownership for properties in high hazard areas to create green space and mitigate flood risks.
- Limit public expenditures in coastal high hazard areas.
- Reduce development density in high flood zones/coastal high hazard areas.

Policy Recommendation: The City of Pensacola shall continue to review policies and promote programs which advance GHG reduction and energy conservation strategies; promote compact, transit-oriented, pedestrian-friendly development; further green construction practices and the design of climate-sensitive and energy efficient buildings; encourage cluster development in order to retain or create native vegetative communities; and address the resilience and survivability of buildings and infrastructure to rising sea levels, tropical storms, storm surge, and other climate change impacts, thoroughly evaluate and re-evaluate coastal land use.

Policy Recommendation: The City of Pensacola shall evaluate the costs and benefits of adaptation alternatives in the location and design of new infrastructure as well as the fortification or retrofit of existing infrastructure.

Policy Recommendation: Assess and quantify the multiple environmental, social, and economic benefits of green infrastructure, as trees, forests, wetlands, and waterways provide natural protection and increase resilience by improving air quality, providing shade, reducing heat, storing surface water and retaining stormwater runoff through green stormwater initiatives. Furthermore, conservation and expansion of green infrastructure decisions should include measurements of meeting the GHG mitigation targets, public health, and safety goals, and climate change adaptation priorities.

- The City of Pensacola shall utilize the City Tree Ordinance fund to maximize the benefits of trees throughout the community to absorb carbon dioxide, rebuild urban riparian zones, provide passive cooling for buildings, and provide shade for more walkable streets.
- The City of Pensacola shall continue to maintain annual certification as a Tree City USA Community in partnership with the Florida Forest Service and the Arbor Day Foundation. Tree City USA designation demonstrates the commitment of the city in protecting, conserving, and managing trees on the city-owned property to ensure that the benefits of healthy, native, urban forests and trees are fully utilized.
- The City of Pensacola shall partner with other area organizations by joining the Six Rivers Cooperative Invasive Species Management Area (CISMA) as a partner-member. The Six Rivers CISMA Partnership is comprised of local, private, and public partners who work together to control invasive species in the NW Florida region. The City of Pensacola has many wetlands and stormwater treatment areas that are predominantly comprised of invasive species. Controlling these species followed by the establishment of native species will improve the effectiveness of stormwater management in wetlands.

Emergency Planning

Objective: Ensure exceptional planning and coordinated emergency preparedness and post-disaster management in the context of climate change.

Policy and Initiative Recommendations:

- The City of Pensacola shall coordinate with Escambia County and regional planning agencies to ensure adequate planning and response for emergency management in the context of climate change by maximizing the resilience and self-sufficiency of, and provide access to, public structures, schools, hospitals and other shelters and critical facilities.
- The City of Pensacola shall develop plans and monitor programs to address the impacts of climate change on households and individuals especially vulnerable to health risks attributable to or exacerbated by rising temperatures, to include low-income families and the elderly.
- The City of Pensacola shall continue to communicate and collaboratively plan with other local, regional, state and federal agencies on emergency preparedness and disaster management strategies. This includes incorporating climate change impacts into updates of local mitigation plans, water management plans, shelter placement and capacity, review of significant traffic ways and evacuation routes, and cost analysis of post-disaster redevelopment strategies.
- The City of Pensacola shall work to encourage dialogue between residents, businesses, insurance companies and other stakeholders, through public education campaigns and workshops to increase understanding regarding the potential impacts of climate change on our coastal communities and evaluate the shared costs of action or inaction in human, ecological and financial terms.
- The City of Pensacola shall work with the Florida Division of Emergency Management and other agencies to incorporate sea level rise and increasing storm surge impacts into the remapping of potential hazard areas in coastal zones by 2020. Revised hazard area designations should better reflect the risks to communities associated with climate change and allow reevaluation of suitability for development or redevelopment in these areas.

- The City of Pensacola shall cooperatively develop model codes and policies to encourage post-hazard redevelopment in areas with less vulnerability to storm surge, inundation, flooding, sea level rise and other impacts of climate change, and incentivize locally appropriate mitigation and adaptation strategies.

Local Utilities

Objective: Ensure the resilience of existing water resources, and water-and wastewater infrastructure to the impacts of climate variability and change to protect water quality and quantity, and minimize the potential for flood damage and water shortages, while improving the energy efficiency of utilities and reducing carbon emissions and climate impacts. Work with energy provider utilities on mitigation of climate change by transitioning to zero GHG emission energy sources (e.g., renewable energy).

Policy Recommendations:

- The City of Pensacola shall, by 2020, coordinate with local service providers to ensure that water and wastewater service planning and policy development consider methods for reducing utilities' "carbon footprint," including the best management practices recommended in American Waterworks Association Florida Vision 2030, which have been recognized by utilities as appropriate utility responses to climate change. Also, additional means of reducing demand for traditional energy sources at the water and wastewater treatment facilities, such as through the production of energy through cogeneration systems, should be explored.
- The City of Pensacola shall develop, implement and coordinate water conservation initiatives, in partnership with water and wastewater utilities, as part of long-term water supply planning, and seek the continued support of the Northwest Florida Water Management District and other agencies. Recognizing the fragility of our community's sole water source, the Sand-and-Gravel Aquifer, the City should strive to protect the groundwater resource along with both existing and future public drinking water supply wells. The City should consider a uniform approach, in conjunction with Escambia County, to protection of the groundwater resource and the drinking water supply by adoption of the County's Wellhead Protection Areas (WHPAs) and the applicable development standards for those WHPAs.
- The City of Pensacola shall support recurring and continued development of local integrated models and continuous data collection, to help predict and track the impacts of sea level rise on groundwater levels, saltwater intrusion, and drainage infrastructure through enhanced development and application of local aquifer and hydraulic models and the use of down-scaled climate models.
- The City of Pensacola shall work in coordination with local utilities to maintain and advance infrastructure protection, utility location, and adaptation through infiltration and inflow program development to reduce the flow of groundwater and stormwater to wastewater collection and treatment facilities.
- The City of Pensacola shall work with utility services to investigate the feasibility of relocating above-ground utilities underground in areas vulnerable to high winds and frequent power disruption due to storms.
- The City of Pensacola shall send to electric utilities that provide power to the area within the City of Pensacola a formal statement declaring the City's desire to receive electric energy from zero GHG emission sources (e.g., renewable energy). The City shall also send a request to these utilities to transition to renewable energy sources, with a goal of zero GHG emissions. Furthermore, the City shall request a long-term plan from these utilities for making this transition.

Public Health

Climate change influences public health in Florida through higher average temperatures and an increase of the frequency, intensity, and duration of extreme weather—heat waves, heavy rains, drought, tornadoes, hurricanes, and storm surge. The impacts to public health include an increase in aeroallergen-related asthma and other respiratory diseases, vector-borne and water-related diseases, heat-related deaths and illnesses, and mental health issues related to dealing with disasters such as hurricanes and flooding. Power grid/power outages and infrastructure failures due to severe weather compound the effects on public health. All communities are impacted, but the most vulnerable are the poor, the elderly, young children, the sick, households of color, and people with disabilities. (Luber, G. et al., 2014, pp. 221-233)

Objective: Prepare and protect the public from adverse health impacts of climate change.

Policy Recommendations:

- The City of Pensacola and City subcontractors shall follow Federal guidelines and best practices to prevent injuries, cognitive difficulties, and other hazards related to working outside in weather extremes such as high temperature and humidity. The guidelines may require providing shade, rest, or cooling to outdoor workers. The City shall also encourage local businesses to follow the recommendations.
- The City of Pensacola shall increase the resilience of critical infrastructure when appropriate to support human health and well-being.
- The City of Pensacola shall work with other governmental agencies and the Escambia County Health Department to support drinking water quality monitoring and source water protection.
- The City of Pensacola shall work with other governmental agencies and the Escambia County Health Department to support enhanced surveillance of mosquitos to mitigate vector-borne disease. Long-term and consistent vector mosquito surveillance can create a baseline to identify periods with heightened risk.
- The City of Pensacola shall partner with the Escambia County Health Department, emergency management organizations such as BRACE, and public utilities to prepare and protect the safety, health and well-being of the public in the event of a hurricane or other severe weather event.
- The City of Pensacola shall partner with Escambia County and the Escambia County Health Department to notify the public of heat advisories, pollen alerts, and other climate-related health warnings.

Outreach

Objective: Increase opportunities in the community to learn about climate change, participate in decision-making, engage in a green economy, utilize green infrastructure, study health impacts, and reduce population vulnerability.

Policy Recommendations:

- The City of Pensacola shall continue to engage stakeholders, regional, state and federal partners, academia, practitioners and climate scientists, in exchanging information, best practices, and policy solutions regarding local climate change impacts and mitigation and adaptation strategies.

- The City of Pensacola shall promote partnerships between local government agencies, universities, professionals and practitioners, to foster an environment for connecting scientific research and education with practical applications that will contribute to the resilience and adaptation within the built and natural environments to the impacts of climate change. Work with University of West Florida and University of Florida Institute of Food and Agricultural Sciences (UF IFAS) Extension faculty to promote climate education events.
- The City of Pensacola shall partner with innovative construction projects to showcase the changes they incorporate in new construction to mitigate for flooding and other climate impacts.
- The City of Pensacola shall promote partnerships between local middle and high school career and academic academies to encourage student internships and learning opportunities to develop and educate local talent in the green jobs sector.

Beulah Middle School Pre-Engineering/STEM

Escambia High Engineering Academy

Pine Forest High Home Builders Association of West Florida Green Construction Trades Academy

West Florida High School Academies of Civil Engineering & Architecture, Cox
Telecommunications, and Gulf Power

Washington High School Marine Science Academy

Economic Development and Resilience

Policy Recommendations:

- The City of Pensacola shall encourage the development of green industry and business which diversify the local economy and contribute benefits towards a sustainable future.
- The City of Pensacola shall continue to develop plans and programs in coordination with local municipalities, power companies, and private partners to reduce GHG emissions and create green job opportunities throughout the community, by
Expanding the market for energy efficient products and services;
Supporting alternative and renewable energy production through innovative financing; and
Promoting and incentivizing energy conservation retrofits.
- The City of Pensacola shall seek to strengthen the local economy by promoting green economic growth and green-collar work training programs in order to: create resilience; reduce reliance on fossil-fuel-based economies; provide a positive focus for economic development; advance the use of sustainable materials, technologies and services; and encourage local jobs in sustainable businesses which offer a living wage and make it possible for regional climate change goals to be met.
- The City of Pensacola shall review codes and regulations to enable and encourage eco-industrial development and business practices in line with the concept of the circular economy. Specifically, businesses models and land development patterns should be supported which promote by-product exchanges (so that one company's waste stream is another's source of raw materials) as to more efficiently use resources (materials, water, energy) throughout society.

Task Force Findings and Recommendations

- Incorporate a Climate Mitigation and Adaptation Element into the City's Comprehensive Plan (as opposed to updating each element of the Comp plan with climate adaptation and mitigation policies).
- Seek funding to develop a Climate Action Plan or Climate Resilience Plan.
- Conduct a Vulnerability Assessment and establish resilience strategies based on those findings. Utilize the existing Florida Department of Economic Opportunity (FDEO) Vulnerability Assessment of Escambia County, which includes detail related to the City of Pensacola.
- Reestablish and fund the City of Pensacola Office of Sustainability (or similar program) to implement the Climate Action Plan and to provide an annual review and assessment of climate adaptation and mitigation of policies and strategies.
- Engage the Environmental Advisory Board (or appropriate entity) to work with City Council and city planning staff to ensure the city's Land Development Code addresses mitigation and adaptation policies.
- Pursue grant opportunities for City and regional partners to develop climate adaptation programming.

Addendum

Community Concerns and Priorities

- Develop Task Force priorities, for example, clean energy solutions, to start discussion with the community.
- Gather community feedback on the Task Force's proposed climate change policies and establish priorities based on that feedback.
- Create and implement a community-wide survey (see Satellite Beach report) and prioritize action areas based on resident feedback.
- Create a page on City website dedicated to climate resilience information.

Appendix

Resolution of the Pensacola City Council Creating a Climate Change Task Force: Resolution No. 29-14. (2014, August 28). www.cityofpensacola.com/AgendaCenter/ViewFile/Agenda/_08282014-689

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Other Resources

American Institute of Architects commentary on climate change mitigation
www.aia.org/resources/77941-the-architects-critical-role-in-climate-chan

C40 Programmes: Compact of Mayors. *C40 Cities*. www.c40.org/programmes/compact-of-mayors

Escambia Low Impact Design BMP Manual (2016)
myescambia.com/our-services/natural-resources-management/water-quality-land-management/low-impact-design

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Broward County Climate Action Plan — Local Strategy to Address Global Climate Change
www.broward.org/NaturalResources/Documents/BrowardCAPReport2015_FINAL_DRAFT_01252016.pdf

City of Punta Gorda Adaptation Plan
www.cakex.org/sites/default/files/Punta_Gorda.pdf

Community Resiliency in the City of Satellite Beach
[www.satellitebeach.org/Residents-Visitors/City Documents/City Sustainability Plan 5-3-2017.pdf](http://www.satellitebeach.org/Residents-Visitors/City_Documents/City_Sustainability_Plan_5-3-2017.pdf)

8/20/18 Comments to the

Draft Report "Climate Mitigation and Adaption Task Force City of Pensacola dated August 2, 2018.

I have five observations I would like the Task Force to consider:

1. Legal Implications: I strongly suggest that any document of this type be reviewed by competent legal counsel if any endorsement by the City Council is proposed. Based on my training in preparing advisory reports and recommendations I avoid the words will, shall, should, ensure, assure, etc. that asserts action. In adopting such a document, the City Council may be inadvertently opening itself up to future litigation if it does not act on the such action worded recommendations. I have redlined changes to the draft to illustrate my comments.
2. Prioritization of Recommendations: The document has at least 76 or more recommendations (recognizing that some recommendations suggest multiple actions) as all equal even though some may be significant and other minor or cosmetic. I suggest that the recommendations be prioritized. There is no practical way the City has the time, money, or staff to address 76 or more recommendations. Therefore, the top ten or so recommendations I recommend be highlighted. This will help the City Council focus on a limited number of key issues raising the potential of implementation.
3. Outcome Metrics: The recommendations are said to address mitigation measures for climate effects. It is not clear to me that all of them do so in a substantive fashion or are just feel good statements. I recommend that each recommendation or at least each group of recommendations identify a measurable, tangible, set of metrics and outcomes in dollars, taxes saved, lives saved, areas of habitat saved, property value increase, tons of CO₂ reduced, etc.
4. There is also a specific recommendation that the City should move forward with installing solar panels on its buildings. This is an expensive proposition that does not economically pay for itself for decades in Florida especially with its restrictive regulations. Has the cost to the taxpayer been considered and is this the better and higher priority use of limited City funds compared to other recommendations. How many committee members are willing to make the same solar energy commitment without cost considerations?
5. It is recommended that "Engage the Environmental Advisory Board (or appropriate entity) to work with City Council and city planning staff to help the city's Land Development Code address mitigation and adaptation policies".: The City has well developed planning processes. Another body involved with no outcome responsibly will only act as delay, confusion, and interference.

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