CIVIC
COMMUNITY VOICES
INFORMED CHOICES

An Issue Guide Addressing

Climate Choices for Coastal Communities

FAMU FLORIDA AGRICULTURAL AND MECHANICAL UNIVERSITY

UF IFAS Extension UNIVERSITY of FLORIDA

A Florida Cooperative Extension Program collaboratively led by faculty from Florida Agricultural and Mechanical University and the University of Florida

”The ocean around Florida is eight inches higher than it was in 1950 and will rise another six inches in just 15 years.”

Photo by Tyler Jones, University of Florida/IFAS

Introduction

Our climate is changing. The recent international climate science report states that we are changing the Earth’s climate, primarily through increased emissions of greenhouse gases such as carbon dioxide[1]. Already the average global surface temperature is nearly two degrees (F) warmer this century than last. The ocean around Florida is eight inches higher than it was in 1950[2] and will rise another six inches in just 15 years. As scientists learn more about the systems that govern ocean and atmospheric currents, their models become more accurate and the future projections become more likely.

Floridians are experiencing other changes due to climate change, too[3]. Sea level rise contributed to $500 million is lost property value in the Miami-Dade region alone. Coral reefs are dying in the warmer oceans, which could result in a substantial decline in tourism. Harmful algal blooms also contribute to economic losses along the coasts. By 2040, higher temperatures are likely to cause more than 1,000 deaths each year[4].

The public is becoming more aware and more concerned about these climate changes, with a slight majority (54%) saying climate change is a major threat to the country’s well-being. A survey in 2023 reports that nearly 70% of Americans favor the U.S. becoming carbon neutral by 2050 and prioritize developing renewable energy sources[5]. Most

1 Hoesung, L. et. al. Synthesis report of the IPCC sixth assessment report (AR6). Summary for Policy Makers.

2 Jurado, J. Florida’s sea level is rising. Accessed February 20, 2024.

3 Harris, A. The Florida Roundup, WUSF Public Media. February 28, 2022.

4 Raimi, D., Kingdon,C. and Keyes, A. Here’s how climate change will affect Florida in the next 20 years. Tampa Bay Times. January 29, 2020.

5 Tyson, A., Funk C., Kennedy, B. What the data says about Americans’ views of climate

Americans (75%) believe the U.S. should participate in international efforts to reduce the effects of climate change and 67% say large businesses and corporations are not doing enough to address climate change.

None of these projections are guaranteed. They are based on current trends, which can be changed with policy, vision, and commitment. Florida has been working on climate change resilience for many years and planning for impacts such as sea level rise and flooding. The Florida Department of Environmental Protection's Office of Resilience and Coastal Protection developed the Resilient Florida Program[6], which enhances efforts to protect inland waterways, coastlines, and shorelines as a natural defense against sea level rise through grants and investments. In addition, there are several regional climate compacts and collaboratives working to reduce greenhouse gas emissions, implement adaptation strategies, and build climate resilient communities by helping municipalities create complementary projects. Their plans link housing, transportation, and land-use planning with considerations for economic opportunities and environmental justice[7]. At the local level, communities are changing land-use plans, transitioning vehicles to renewable fuels, and reducing carbon emissions in many ways.

There are many things individuals can do to conserve energy and reduce their use of fossil fuels because nearly everything we do is somehow based on petroleum, from the food we eat to the clothes we wear, the vacations we take, and the power we use in our homes. But some things require community consensus or funding, and most

"...nearly 70% of Americans favor the U.S. becoming carbon neutral by 2050 and prioritize developing renewable

change. Pew Research Center. August 2023.
6 Resilient Florida Program. Accessed February 20, 2024.
7 The Southeast Florida Regional Climate Change Compact. New Southeast Florida climate plan urges greater participation and wider collaboration in advancing climate solutions. December 20, 2022.

Photo by Tyler Jones, University of Florida/IFAS

”Improving public bus and train infrastructure will help improve efficiency in urban regions”

people find it easier to make changes if they know everyone else will, too. Visionaries claim we are at the cusp of considerable change, and while the transition might be bumpy, there are many ways everyone can support the development of a new and more sustainable society.
For example, recognizing that some industries will decline as fossil fuels phase out, new jobs are being created that support a greener economy. Already jobs in renewable energy are growing faster than those in oil and gas (237% compared to 19%)[8]. These new jobs require training the workforce, increasing the need for new programs in community colleges for jobs such as building windfarms, installing rooftop solar panels, repairing electric cars, and monitoring hyper-efficient heating and cooling systems.

Since buildings emit nearly 40% of our carbon dioxide emissions[9], improving energy efficiency in buildings is an important goal in most cities. This means better insulation, energy efficient appliances, and creating new buildings that are designed to use less energy with careful window placement, a carbon-storing wooden structure, or a green roof.

A great deal of attention has been spent on our transportation system. Improving public bus and train infrastructure will help improve efficiency in urban regions; improved pedestrian and bicycle safety will help reduce reliance on automobiles for short distances. Even mixed-use urban planning helps reduce carbon by placing destinations closer to homes. Electric vehicles represent another aspect of the future when electricity is not produced from fossil fuels.
Communities are important to us. Our homes and neighborhoods are a reflection of who we are and what we care about. They provide us with shelter and friends, but also gardens and basketball courts. Our communities make possible full and fulfilling lives.

How should our community consider climate change? Which iconic structures should be protected? How are people impacted by rising energy and insurance costs? How can public health be improved when the days are hotter and disease-carrying mosquitoes more abundant? Planning for reducing carbon emissions, preparing for rising seas, creating green jobs, and protecting those who are most vulnerable can involve everyone.

8 Kamenetz, A. COLUMN: New climate legislation could create 9 million jobs. Who will fill them? The Hechinger Report. February 9, 2023.
9 Theordor, B. Greenhouse Gas Emissions in Federal Buildings. Whole Building Design Guide. August 4, 2016.

Photo by Tyler Jones, University of Florida/IFAS

No matter what priorities you and your neighbors have for your community, this discussion is likely to focus on who bears the responsibility for investing in the needed changes, and which changes are the highest priority for limited public dollars to create the community in which you want to live.

This gathering is an opportunity to learn about possibilities and listen to the concerns that other community members express about the strategies your community can take to address the changing climate. Please be considerate of others' opinions; hearing a diversity of ideas will help surface new solutions and important constraints. While it is helpful to understand the problem, it is not helpful to blame any industry or group. Society as a whole has greatly benefited and advanced from the fossil fuel era. You can help the moderator by allowing everyone to speak and by listening with respect.

The discussion today has organized possible community actions and their trade-offs into three broad goals:

1. **Nature-based solutions slow change or reduce impacts.**
2. **Resilient communities adapt to unforeseen change.**
3. **Protect livelihoods with wise investment and concern for the vulnerable.**

Our purpose here is to generate discussion, learn from each other, and explore what we could do together. What is a reasonable next step? Who is willing to join in that next activity?

About This Issue Guide

The purpose of this document is to help us talk productively about the look and livability of our community.

Deliberative Dialogue

It's not a debate. It's not even about reaching agreement. It's about looking for a shared direction and seeking common ground for action by carefully listening to one another while sharing our thoughts and what we care about.

Option 1: Use nature-based solutions

Photo by Tyler Jones, University of Florida/IFAS

In this option, we recognize that some of the least controversial and most long-lasting solutions are those that work with nature. By sequestering carbon in forests, wetlands, and soil, we could eventually reduce the amount of carbon in the atmosphere. Similarly, plant roots can hold soil, protect dunes, buffer coastlines, and prevent erosion when flood waters rise. This option also includes actions that enable us to care for the other organisms that live near us—by exploring what is our obligation to plants and animals that also are contending with a changing climate. It takes time for nature-based solutions to become established, however, and landowners have to agree to them. Would they make a big enough difference?

Examples of what might be done	Some trade-offs and consequences to consider
1. Take steps to protect the urban forest by creating tree ordinances, becoming a Tree City, or establishing a Tree Advisory Committee and a tree mitigation fund.	Policies create mandatory rules, which could reduce incentives for landowners and have limited enforceability.
2. Use living shorelines to buffer storms, reduce erosion, and protect low-lying areas from rising seas.	Vegetation requires care to maintain and can block views of the water. Living shoreline permits could limit what homeowners can do with their property.
3. Restore tidal flows and natural creeks with vegetated floodplains to protect communities from sea level rise.	More creeks could threaten established or future residences and businesses and increase mosquito habitat.
Additional actions?	

Option 2: Create resilient communities

In this option, we recognize the most important things we can do first to protect our communities from risks associated with change. That can mean addressing rising sea levels and relying less on fossil fuels. Of course, risks and benefits are not equally shared, so some people will be more vulnerable than others, and some will benefit more. These solutions will require broad agreement within the community and will increase costs to some segments.

Photo by Tyler Jones, University of Florida/IFAS

Examples of what might be done	Some trade-offs and consequences to consider
1. Update coastal land-use plans and building codes with sea level rise projections and modify existing structures (e.g., raise roadbeds and bridges, move or strengthen buildings, move dwelling spaces off the first floor). Relocate vulnerable structures; migrate communities inland.	Stronger regulations may limit development, some of which may have greater resilience. Properties of the wealthy will be more likely to be saved than those of the poor. Relocation and migration incur huge costs. Modifying existing structures could cost even more.
2. Rebuild the storm and wastewater systems to accommodate more water and rising sea levels, moving water out of communities and reducing leaks.	Construction would significantly inconvenience those who live and work in the region during the months of repair work.
3. Reduce reliance on fossil fuels by improving pedestrian and bicycle options in towns.	More lanes for bikes infringe on private property. Sidewalks can be unsafe and unpleasant as it gets hotter.
Additional actions?	

Option 3: Protect our economy and livlihoods


Photo by Marisol Amador, University of Florida/IFAS

In this option, we recognize that some businesses need support to operate in a changing environment. Also, some businesses and individuals are more vulnerable or less able to adjust than others. They deserve greater protection. The COVID pandemic demonstrated that shortfalls in one area can be magnified through the system and affect the economy in many ways; maintaining a stable economy is good for everyone. This is the way America has always approached challenges—with perseverance and resolve. But we have a history of protecting bigger and more established businesses, rather than supporting novel and original ideas.

Examples of what might be done	Some trade-offs and consequences to consider
1. Promote and incentivize business ventures that provide green jobs that address climate change.	This would limit funding for other new ideas. Those with the connections and history would most likely get the resources, instead of the most needy, which may not be fair.
2. Support businesses and programs that want to adapt their operations for a changing climate, such as changing hours of operation; using more efficient lighting, heating, and cooling systems; making deliveries by bicycles or electric cars; or training low-income youth for jobs in solar energy.	This is not how the free market works. Why should the public pay for business improvements when profits go to business owners and investors?
3. Incentivize upgrades to create more energy-efficient properties	The public would be paying for business improvements.
Additional actions?	

What can we expect from a deliberative forum?	What should we not expect?
A civic and respectful atmosphere	Minds to be changed
Listening to understand diverse ideas and differences of opinion	Consensus
Welcoming atmosphere for participation	An action plan
Exploring the nuances and ambiguities of the issue	Quick solution
Deepened understanding	
Realizing areas of agreement and disagreement	
Identifying possible next steps for decision makers and/or citizens	
Future dialogue considerations	

CIVIC is an Extension program of both Florida Agricultural and Mechanical Unversity and the University of Florida IFAS Extension that builds capacity in communities to work toward their improved well-being. Through deliberative discussions and town hall meetings, CIVIC activities provide information and engage communities in the hard work of discussing contentious issues that require community-scale solutions. Learn more at: https://programs.ifas.ufl.edu/civic/

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