



# CLIMATE & CLEAN ENERGY

FLORIDA IS FACING A CLIMATE CRISIS.  
FROM RISING SEAS TO WARMING  
TEMPERATURES AND MORE EXTREME  
WEATHER, WE NEED ACTION NOW.

# SOLAR POWER IN THE SUNSHINE STATE

Florida is the "Sunshine State," so it should come as no surprise that solar energy is our most commonly used renewable energy resource, providing roughly half of the state's renewable energy. Yet, Florida's solar infrastructure lags far behind where it should be. We currently receive only 5% of our power from renewable resources, 3% of which is solar energy.<sup>1</sup> Meanwhile, California generates upwards of 20% of its power from solar resources, proving that a swift transition to a renewable energy economy truly is possible.

Fortunately, the sun appears to be rising on Florida's solar potential due to both personal investments by customers and major plans for new utility-scale projects. Costs for solar panels have declined by 80% in the last decade, making solar competitive with any other form of power.<sup>2</sup> The explosive growth of solar technology offers an opportunity for the Sunshine State to become a national leader in clean energy.

To harness the full potential of solar power and ensure that the benefits of solar energy are shared equitably, Florida will need to invest in a combination of utility-scale solar projects, community-scale solar, and rooftop solar.

## PUBLIC SUPPORT FOR RENEWABLE ENERGY IS STRONG

Public support for solar has never been stronger, as evidenced by high-profile election wins for solar in two-state ballot amendment campaigns in 2016. In a recent poll, 73% of Floridians said they would be more likely to vote for a political candidate who supported increasing the development and use of renewable energy sources like solar energy, including 49% who said they were much more likely to support such a candidate.<sup>3</sup> Independent voters were the group most likely to support the adoption of solar energy as the state's primary energy source, with 57% in support.<sup>4</sup>

Other southeastern states like North Carolina and Georgia have been early leaders in solar deployment, but Florida now has a chance to emerge as a top solar state. Florida is poised to

reap the benefits of policies that move us toward a cheaper and more resilient energy grid that relies on clean energy sources like solar, avoiding risky and expensive investments in outdated fossil fuel resources. These benefits can be accomplished by:

- Expanding access to solar for all Floridians through practical leasing and financing options;
- Setting aggressive goals for clean energy deployment;
- Protecting Floridians' right to go solar;
- Opening up the state to community solar;
- Supporting the adoption of utility-scale solar pursued responsibly and equitably;
- Supporting resilience through solar and solar-plus-storage.

Achieving these policy goals will help provide Florida families and businesses with an affordable way to control rising energy bills, create thousands of new solar jobs, and reduce Florida's reliance on imported and polluting fossil fuels.

## EXPAND SOLAR ACCESS THROUGH FINANCING OPPORTUNITIES

The most effective ways to promote equitable access to solar include establishing low-income programs and expanding leasing and other financing opportunities. Florida is one of only four states that legally prohibits customers from choosing to finance their rooftop solar panels via power purchase agreement (PPA) arrangements with solar companies. These arrangements avoid large upfront costs for customers and lower performance risks by letting the customer pay only for the value of energy produced by the solar panels. Other southern states have removed similar prohibitions, as Georgia did in 2015 with Republican-sponsored legislation.

Florida would benefit from a common-sense approach that expands options for electricity customers to include the most popular forms of

financing used throughout the country. Allowing homeowners and businesses to choose clean energy—without the need for new subsidies or incentives—is a practical way to remove obstacles to a cleaner energy future for Florida’s economy and environment.

## **SET AGGRESSIVE GOALS FOR CLEAN ENERGY DEPLOYMENT**

Today, 25% of Americans live in a state committed to being powered by 100% clean energy in the near future. Florida, the fourth largest energy-consuming state, is not one of them. Florida is one of the most vulnerable states to the impacts of the climate crisis, and we now have the opportunity to lead on this issue by putting the state on a clear path to clean energy now.

The state needs comprehensive goals and energy planning processes to ensure that clean energy resources can fairly compete with traditional fossil fuel plants. Solar energy now competes on cost with gas and other alternatives, and leadership is necessary to ensure that Floridians receive the full benefits of the growing clean energy economy.

## **PROTECT FLORIDIANS’ RIGHT TO GO SOLAR**

The rapid growth of solar has been great news for customers who want to take advantage of reliable, sustainable, and lower-cost energy. Unfortunately, electric utilities have not welcomed the competition from inexpensive rooftop solar. Across the country, utilities are redesigning their customer rates to single out solar customers for additional fees, thus reducing the economic payback of investing in solar panels. Another tactic used by utilities is to shift customers towards new types of rates that ascribe a bigger portion of monthly power bills to fixed charges, reducing customers’ ability to invest in solar panels or energy efficiency improvements.

Utilities are also launching attacks on a popular rate policy known as “net metering,” which requires utilities to fairly compensate customers for the energy produced from their solar panels. That excess generation is sent to neighbors and replaces the fossil fuel generation that the utility would otherwise produce. It’s a win-win for solar

customers, their neighbors, and the environment. This simple crediting arrangement is one of the most important state policies for enabling Floridians to generate their power from the sun. It is also extremely popular—with 77% of Florida voters supporting the concept of net metering to give solar energy users a billing credit based on the net volume of power their solar panels feed back into the power grid.<sup>5</sup>

Utility companies have pushed the narrative that strong net metering policies shift the costs of maintaining the grid onto customers who do not own solar panels. In reality, research shows that the influence of net metering has a completely negligible effect on customer rates, especially at or below 10% solar penetration (Florida rooftop solar adoption is only at 0.5% penetration today).<sup>6</sup>

Florida’s strong net metering policies were developed to promote distributed rooftop solar adoption, which reduces electricity rates while increasing the reliability of the grid. In contrast, utilities’ new capital investments in expensive gas transmission, generation, and unnecessary grid upgrades will substantially increase rates for all customers by up to as much as 20% in Florida between now and 2030.<sup>7</sup>

Because utilities have monopoly control over the prices they pay for solar generation under net metering, Florida’s utility customers need policymakers to stand up for them and defend their right to be fairly compensated for the energy they provide to the grid with their private investment in rooftop solar systems.

The local solar industry is reporting strong job growth, despite the many barriers it continues to face. But as solar grows and becomes more cost-competitive with traditional energy options in Florida, we expect more utility rate changes and attacks on net metering across the state. Policymakers should discourage this constant stream of bad-faith attacks which put a heavy burden on customers to be ever-vigilant in protecting their rights to get a fair return on their investment to preserve the economic value and affordability of new clean energy technologies.



# Solar companies employ more than 10,000 Floridians, 10% of whom are veterans. Solar employs more people in the U.S. than oil, coal, and gas combined.

## LEGALIZE AND PROMOTE COMMUNITY SOLAR

Under a community solar program, households can purchase or lease a “share” in a community solar project or start a project with their neighbors. Every month, subscribers receive a credit on their electricity bill for the energy produced by their share.

Currently, access to community solar is limited in Florida due to the absence of state legislation, either allowing non-utility entities to offer community solar arrangements or mandating that utilities make virtual net metering arrangements available to customers. To access community solar, your utility must agree to voluntarily offer a community solar program. Twenty states and the District of Columbia have some form of statewide community shared solar policy in place, although these vary from state to state. Community solar policies should be flexible enough to allow for a variety of ownership and contract models to meet

different consumers’ preferences and financial standing, such as an upfront payment model, a leasing agreement, and cooperative or community ownership. Community solar policies should add to existing renewable energy programs, not undermine them. Importantly, community solar offerings should ensure access for low-income customers who are most in need of solar savings. For example, the State of Illinois offers significant financial resources for community solar programs under the Illinois Solar for All Program, while simultaneously mandating community solar developers to engage in partnership with community-based organizations. The Illinois program also invests significant resources into education and job training.<sup>8</sup>

In many states, community solar programs rely on net metering to set the credit value of solar, meaning policies that defend the retail-rate compensation structure of net metering are important to the continued viability of these offerings.

## SUPPORT RESILIENCE THROUGH SOLAR AND STORAGE

Communities in Florida must become more resilient to the risks of extreme weather. During and after Hurricane Michael, 6,700 Floridians used emergency shelters, and more than 200 state shelters were opened after Hurricane Irma.<sup>9</sup> These critical facilities need resilient energy sources that can provide reliable power for extended periods and don't depend on a fuel supply to function effectively. Also, low-income communities and homeowners (especially seniors and those who are medically vulnerable) need access to solar plus storage technologies that keep the lights on even when the grid goes down.

Policymakers should look for ways to support emerging solar plus storage technologies that make Florida's communities safer and stronger in the face of extreme weather.

## SUPPORT ADOPTION OF UTILITY-SCALE SOLAR, PURSUED RESPONSIBLY AND EQUITABLY

Florida's largest monopoly electric utility companies all have plans to expand their solar footprints in the near future. Florida Power and Light (FPL) plans to develop eight gigawatts of solar capacity through 2030, while Duke Energy and Tampa Electric Company (TECO) have set 2022 goals of 700 megawatts and 600 megawatts, respectively.<sup>10</sup> Utilities are experimenting with a variety of financing and development strategies in order to achieve these goals.

Lawmakers should prioritize the needs and preferences of local residents in these utility-scale solar projects, with special sensitivity to low-income communities that already face disproportionate impacts from the siting of traditional energy resources. Utility-scale solar facilities produce jobs and energy without the pollution generally associated with energy generation, but they also have a land use footprint which may conflict with local uses or harm residents. Regulators and lawmakers can play a role in ensuring solar projects produce quality local jobs, generate cost savings and clean energy benefits for low-income residents, and are ultimately sited and built with community involvement in a robust public input process.

See *The State of Rooftop Solar in Florida* for more information about important policies protecting Floridians' solar rights.<sup>11</sup>

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<sup>1</sup> Florida Department of Agriculture and Consumer Services Office of Energy, Annual Report, 2019.

<sup>2</sup> International Renewable Energy Agency, Renewable Power Generation Costs in 2019, 2020.

<sup>3</sup> Bolger, Herbert, Florida Clean Energy Survey, Clean Energy Conservatives, April 16, 2019.

<sup>4</sup> Pew, Majorities See Government Efforts to Protect the Environment as Insufficient, PewResearch, May 14, 2018.

<sup>5</sup> Schorsch, Sunburn – The morning read of what's hot in Florida politics.

<sup>6</sup> Satchwell, Andrew. Mills, Andrew. Barbose, Galen. Financial Impacts of Net-Metered PV on Utilities and Ratepayers: A Scoping Study of Two Prototypical U.S. Utilities. Ernest Orlando Lawrence Berkeley National Laboratory, September 2014.

<sup>7</sup> Barbose, Putting the Potential Rate Impacts of Distributed Solar into Context. Lawrence Berkeley National Laboratory. Retrieved at: <https://emp.lbl.gov/sites/default/files/lbnl-1007060.pdf>

<sup>8</sup> Vote Solar, Grid Alternatives, Increasing Low-Income Access to Community Solar, 2017.

<sup>9</sup> Clean Energy Group, Resilient Southeast: Exploring Opportunities for Solar+Storage in Miami, FL. 2018.

<sup>10</sup> Trabish, Florida's solar turnaround sparks concerns over limits on community projects, May 9, 2019.

<sup>11</sup> Solar United Neighbors, Votesolar, The State of Rooftop Solar in Florida, August 2020.





# SOLAR POWER POLICY RECOMMENDATIONS

- Expand access to solar for all customers in Florida by supporting the legalization of Power Purchase agreements (PPAs) and other practical financing mechanisms to help open solar energy access to all.
- Establish robust, statewide clean-energy goals.
- Protect the rights of solar customers to recoup their investments by preserving retail-rate net metering and rejecting discriminatory rates for solar customers.
- Support true community solar through legalization of virtual net metering.
- Support the adoption of responsible and equitable Utility-Scale Solar.
- Support resilience through solar and solar-plus-storage.

# TRANSPORTATION

Florida faces both challenges and opportunities in meeting the transportation needs of our growing population. The traditional pattern of low-density development and the transportation system that fuels it have had devastating impacts on Florida's environment and communities. Year after year, the annual "Dangerous by Design" study published by Smart Growth America lists Florida and its cities as having among the highest pedestrian fatality rates in the nation due to transportation networks that are solely oriented towards motorized vehicles.<sup>1</sup>

For decades, transportation planners at all levels of government have sought to solve traffic congestion by building more roads rather than investing in public transportation. When those roads become highly congested, the vicious cycle begins again, leading to the construction of even more roads. This pattern of development is not only ineffective but relies heavily on nonrenewable fossil fuels, is costly for Florida taxpayers, and destroys Florida's rich natural lands, water bodies, and wildlife. The time has come for a new transportation paradigm in Florida, emphasizing intermodal and public transportation options, smart planning, and promising new technologies.

## PUBLIC AND INTERMODAL TRANSPORTATION

Providing transportation alternatives for all—including pedestrians, cyclists, drivers, and transit users—could protect vulnerable natural resources from sprawl, create more walkable and livable communities, enhance public health, and improve our quality of life. Electrifying our transportation sector by promoting electric vehicle use and deploying charging infrastructure, particularly in urban areas and communities with poor air quality, would improve public health, benefit our environment, and support a just transition to clean, renewable energy sources.

Transportation solutions for the 21st century must provide a greater range of options for all. Practical public transportation solutions can be deployed to ease congestion and increase the usability of our transit networks. Florida's lawmakers should

expand funding for state agencies to operate more buses and trains at higher frequencies and expand overall funding for transit projects, such as rapid bus transit systems. Focusing on multiple transportation options has many positive benefits and protects vulnerable natural resources from sprawl and greenhouse gas emissions. Urban areas in particular stand to benefit from better transit options and active transportation alternatives.

## EXPANDING TRANSPORTATION OPTIONS

Unfortunately, our current transportation system focuses almost exclusively on motorized vehicles, leading to high rates of pedestrian fatalities and constraints on community members without the financial means to own and operate a personal vehicle. New roads generate urban sprawl, which consumes Florida's rich natural lands, drinking water, and wildlife. Transportation options and development patterns focused on producing walkable spaces make for more livable communities, enhance public health, and improve our quality of life.

Lawmakers can begin the process of rethinking how we plan our transportation infrastructure by requiring the Florida Department of Transportation's district offices to reduce their emphasis on road expansion projects as a solution to congestion issues. Regulators should scrutinize all new road projects, particularly in greenfield corridors in rural areas. New roads are not a long-term solution to congested traffic. Numerous studies have shown that while new road infrastructure may provide some short-term relief, ultimately, these projects only increase traffic overall as they encourage further development and automobile travel.<sup>2 3 4</sup> This dynamic of new roads spurring more traffic is called "induced demand."

Instead of repeatedly falling into the same induced demand trap, FDOT should focus on more transformational changes such as protected bike lanes and dedicated bus lanes. Many districts have yet to accommodate more effective and responsive solutions to mobility in their planning that are

more effective at developing successful mode shifts. There is an urgent need for projects that will increase our transit system's efficiency and create a more welcoming roadscape for cyclists and non-motorists. Not only would these changes make our streets safer for transit riders, pedestrians, and cyclists as a whole, but they would also help us achieve our climate goals by reducing greenhouse gas emissions. Re-evaluating planning metrics and standards for success in transportation planning must be done to change the culture and working practices at FDOT.

Policies supporting transit-oriented development should come hand in hand with more investment in our transit infrastructure. Planning for higher densities along public transportation corridors helps to maximize the effectiveness of public transit investments.

## **GETTING OFF THE ROADS TO RUIN: M-CORES TOLL ROADS**

Transportation planning should reflect local needs, not top-down mandates. Since transportation planning often begins at the local and regional levels, state lawmakers should work cooperatively with regional transportation planning efforts and provide funding, as appropriate, to implement locally vetted and supported plans.

Tragically, the three Multi-use Corridors of Regional Economic Significance (M-CORES) authorized by state leaders in 2019 represent a dangerous shift from thoughtful and cooperative planning efforts to a top-down approach that ignores the true needs of communities and is not economically viable.

The proposed toll roads would pave over some of Florida's last remaining undeveloped natural and agricultural lands, fragment wildlife corridors, stimulate sprawling development, and divert significant funding from existing transportation problems in urban areas. They would force a massive transfer of tax and toll dollars from heavily populated congested areas—where funds are needed most for transportation improvements—to rural, sparsely populated areas. The enormous economic, environmental, and social costs of this project would burden Floridians for generations.

In giving the green light to M-CORES, state leaders overrode long-standing transportation planning principles intended to establish the need and financial feasibility for projects. Neither has been demonstrated for M-CORES. Task Force reports for each of the three corridor areas provide no data demonstrating any need for new roads (greenfield corridor development) or expansion of existing roadways. The significant environmental and economic impacts led task force members to emphasize the importance of a "no build" option and further request that the overly aggressive and politically motivated deadlines for construction initiation and completion be extended or removed. Facing extremely lean budget years to come due to the COVID-19 pandemic, lawmakers should redirect hundreds of millions of dollars dedicated to M-CORES to current priorities and infrastructure upgrades that address the needs of our current population. State lawmakers should re-evaluate the program, including potential for a full repeal.

## **ELECTRIC VEHICLES**

Electric vehicles (EVs) represent an essential component of Florida's transportation future that should be deployed in conjunction with public transit and other transportation options. EVs are poised to assume a significant role in transportation over the next five to ten years as they achieve price parity with non-electric vehicles.<sup>5</sup> Models consistently show that electrifying the motor vehicle fleet will be necessary to decarbonize the transportation sector and achieve targets like zero emissions by 2050.<sup>6</sup> The growth of EVs will have an overall positive impact on the market. Future transportation plans should consider financing tools and opportunities that account for a diversity of transportation modes, including an increase in EVs, when examining future road construction projects and their financing needs.

Florida lags other states in government support for transportation electrification and utility investment, ranking 30th in per capita deployment of EV charging infrastructure. Florida also lacks EV manufacturing employment and investment, which provide economic opportunities neighboring states are well-positioned to seize.

State lawmakers are beginning to set plans to

accommodate EVs and charging infrastructure with the passage of SB 7018 in 2020. The law tasks the Florida Department of Transportation (FDOT), Public Service Commission (PSC), and Florida Department of Agriculture and Consumer Services Office of Energy with identifying barriers and opportunities to advance EV adoption, including state policy and utility engagement recommendations. The master plan's outcome has the potential to put Florida on the road to become a national EV leader.

Future planning must examine the deployment of necessary charging infrastructure, the absence of which can present a risk during emergency evacuation situations. State and local governments can help advance charging infrastructure deployment by providing incentives, opportunities, and mandates to deploy charging stations for residential use, particularly in multi-family residences constructed using public funds.

State and local governments can also advance our transportation system's electrification by electrifying their vehicle fleets, particularly their heavy-duty diesel fleets. Heavy-duty vehicles such as buses and trucks comprise only about 5% of all vehicles on the road. Yet, they generate more than 25% of greenhouse gas emissions from the transportation sector, and significant amounts of air pollution can cause adverse health impacts. Electric vehicle alternatives to these heavy-duty diesel vehicles exist. Replacing vehicles with electric alternatives should be a major component of transition plans. State and federal grant programs can help to fund this transition to clean fleets. For example, right now, Florida school districts have the opportunity to leverage \$166 million in settlement funds from the lawsuit settling Clean Air Act violations by Volkswagen to expand electric vehicle usage. The Florida Department of Environmental Protection is allocating the majority of these "VW Settlement" funds to support electric school bus projects within the 23 select air quality criteria counties that suffer from documented air quality problems.

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<sup>1</sup> Smart Growth America, National Complete Streets Coalition, 'Dangerous By Design 2020 Report', 2020.

<sup>2</sup> Litman. *Generated Traffic and Induced Travel Implications for Transport Planning*. Victoria Transport Policy Institute, 2017.

<sup>3</sup> Milam et al., 'Closing the Induced Vehicle Travel Gap Between Research and Practice', *Transportation Research Record: Journal of the Transportation Research Board*, 2017, DOI 10.3141/2653-02.

<sup>4</sup> Kulash, *Selected Traffic and Transit Issues SR 836 Extension Dade County, Florida*. December 24, 2018.

<sup>5</sup> Steve Hanley, *UBS Predicts EV Price Parity In 2024*, CleanTechnica, 10/22/2020.

<sup>6</sup> Rogelj J, et al. 2015 Energy system transformations for limiting end-of-century warming to below 1.5 °C *Nat. Clim. Change* 5 519-27. 2015.



# TRANSPORTATION

## POLICY RECOMMENDATIONS

Florida can improve transportation for current and future residents and visitors by making thoughtful investments in options that respect the protection of natural resources, community character, and livability, and reduce our carbon emissions. State lawmakers can achieve these goals through the following policies and directions:

- Fund and support the electrification of Florida's school bus fleets on a continuing basis, even after the Volkswagen Settlement funds are spent through both funding and planning assistance for school districts.
- Fund transportation alternatives for all, including pedestrians, cyclists, and transit and vehicle users.
- Examine needs for future maintenance and infrastructure development that considers a change in vehicle type and usage at the state (FDOT), regional, and local planning levels.
- Expand EV charging stations, including for medium and heavy-duty vehicles, concentrating on high population density areas where there is a demonstrated need, while ensuring equitable access for all. Plan for the deployment of DC rapid charging infrastructure along evacuation routes and major highway corridors.
- Redirect M-CORES funding to alternative modes of transportation, and address the backlog of infrastructure upgrades. Re-evaluate the program with an eye towards full repeal.
- Incentivize technology development and provide opportunities for the needed infrastructure to support more EVs. Consider promoting EV-friendly building, parking, and zoning codes mandating the provision of charging opportunities.
- Fully fund the Florida Forever conservation programs to protect critical water and land areas that may be impacted by future transportation and developments. Promote more compact urban development that requires less consumption of land and resources and supports multiple modes of transportation.

# CLIMATE RESILIENCE

Florida's high summer temperatures and 1,200 miles of coastline make our state especially vulnerable to the harmful impacts of the global climate crisis. Floridians are already experiencing a litany of worsening environmental conditions: drought, extreme rain, inland flooding, increasing temperatures, sea level rise, saltwater intrusion, storm surge, coastal inundation, and harmful algal blooms. The impacts of a warming planet will affect every facet of our society, economy, and lives. To adequately prepare our communities, it is essential to understand the changes already underway.

## CLIMATE DISRUPTION AND PUBLIC HEALTH THREATS

Globally, **sea levels are rising** due to thermal-expansion of ocean water (the same amount of water takes up more volume as it warms up), polar ice-melt, and changes to the flow of ocean currents. Compared to global sea level rise rates, Florida's sea levels are rising faster than average, due primarily to temperature-driven changes to the flow of Gulf Stream currents.<sup>1</sup> In South Florida, sea levels are rising six times faster than previous records indicated. At the present rate, Florida could face seven feet of sea level rise or more by 2100 according to widely accepted scientific models by the United Nations International Panel on Climate Change.<sup>2</sup>

This rise in sea level would submerge large areas of the most densely populated parts of the state, exposing homes and businesses to major flood risks, displacing millions of people, endangering our freshwater aquifers and drinking water supplies, overloading our aging wastewater systems, and threatening to undo billions of dollars in infrastructure and investments.

Florida is home to 20 of the top 25 cities most vulnerable to coastal flooding, and 22 of the top 25 cities identified by the Federal Emergency Management Agency (FEMA) as having socially vulnerable communities.

**More intense hurricanes** and the destructive forces they exert have fundamentally shaped Florida's history, from the infamous hurricanes of

1926 and 1929 to Hurricanes Andrew and Irma. In 2017, Irma took 87 lives in Florida, and the storm's damage cost state agencies and county governments roughly \$1.7 billion.

With greenhouse gas emissions driving temperatures ever upward, ocean waters are warming as well and providing optimal conditions for more intense and slower-moving hurricanes.<sup>3</sup> Tropical storms and hurricanes have intensified during the past 20 years and are projected to be even more damaging in the future. The combination of higher sea levels and slower, more powerful storms massively increase the destructive potential of storm surge.

Evaporation increases as the atmosphere warms, which drives up humidity, average rainfall, and the frequency of heavy rainstorms in many places—but contributes to drought in others.<sup>4</sup> These **extremes in rainfall**, and the resulting **drought** or **heavy-flooding** conditions, can depress agricultural yields, impact water supplies, and induce more frequent inland flooding events.

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**"Social vulnerability" is broadly defined as the susceptibility of social groups to the adverse impacts of natural hazards, including disproportionate death, injury, loss, or disruption of livelihood. Social vulnerability considers the social, economic, demographic, and housing characteristics of a community that influence its ability to prepare for, respond to, cope with, recover from, and adapt to environmental hazards.**

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Florida is already experiencing **rising temperatures**. By 2070, temperatures in most areas of the state will likely rise above 95°F between 45 and 90 days per year, compared with less than 15 days per year today.<sup>5</sup> Higher humidity will also further increase the heat index and associated negative health impacts. Extreme heat is among the deadliest climate-related disasters in the United States, killing more people on average

than hurricanes, lightning, tornadoes, earthquakes, and floods combined. More than 600,000 Florida residents are vulnerable to extreme heat.<sup>6</sup>

By 2070, Miami-Dade County alone could see half of its year falling into what is considered **"danger days"** when heat and humidity create temperatures above 105°F.<sup>7</sup> These extreme conditions pose a serious, sometimes deadly, challenge for people living in homes that are not weatherized or who work outdoors, including farmworkers, construction workers, and firefighters. Extreme heat events can result in increased emergency room visits due to heatstroke, asthma attacks, and other negative health impacts. When this happens to Floridians who are already struggling financially, the increased medical bills and financial burden can be overwhelming and cause long-term harm. United Way's 2020 ALICE (Asset Limited Income Constrained Employed) report found that, **"In 2018, 47% of our population is at high risk of falling into financial ruin."** No question things are worse now and they went on to say, **"one can only imagine what these families are dealing with in the wake of the COVID-19 pandemic."**

Rising temperatures also increase household energy costs, while making the energy grid less

reliable at the same time. A household's **"energy burden"** is the percentage of their income dedicated to paying for energy. Electricity bills that exceed 6% of a household's income are considered "unaffordable."<sup>8</sup> As temperatures rise, more energy is needed to maintain healthy temperatures through air conditioning, leading to higher energy bills and energy burden. Unaffordable energy burden can lead to difficult trade-offs among essential household needs such as food, rent, clothing, and medicine for thousands of Florida households. When many households need to run their air conditioners at the same time in order to endure the heat, the combined energy demand can also render transmission lines more prone to failure and present the risk of **brownouts** (a drop in voltage in an electrical power supply system).

## DISPROPORTIONATE IMPACTS

Climate change promises to impact every person on Earth, but these impacts will not be distributed equally. Specific identifiable communities will feel the impacts of climate change first and hardest. **"Frontline communities"** are Black, Latinx, Indigenous, low-income, and rural communities that have been and continue to be disproportionately harmed by environmental pollution, climate



Workers clearing debris from Hurricane Michael in 2018

change impacts, the siting of harmful land uses and transportation facilities that fragment and harm neighborhoods, and the disruption of natural systems.

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## **PUBLIC HEALTH THREATS**

The World Health Organization estimates that there will be an additional 250,000 yearly deaths from vector-borne diseases and heat stress between 2030 and 2050.<sup>9</sup> As temperatures rise in Florida, warm waters are creating the ideal environment for thermophilic flesh-eating bacteria (amoeba and parasites) to thrive. In 2017 and 2018, the Florida Department of Health reported 92 cases and 20 fatalities related to flesh-eating amoeba. In the late summer of 2020, a brain-eating amoeba triggered a water advisory in eight Texas cities.<sup>10</sup>

The climate crisis is a global crisis with compounding effects. The ongoing COVID-19 pandemic has illuminated the importance of investing in sustainable public health programs, which are essential to improving communities' quality of life and resilience to disaster events like disease outbreaks and extreme weather. The Florida Department of Health (FDOH) currently participates in the BRACE (Building Resilience Against Climate Effects) program led by the Centers for Disease Control and Prevention. BRACE provides a framework that health officials can leverage to create solutions for health-related impacts due to climate change. While the program is an excellent resource for FDOH, it is underfunded compared to other participating entities.

## **CLIMATE RESILIENCE**

Climate resiliency is a lens through which all infrastructure investments and public policy must be examined. **"Resiliency"** encapsulates a broad spectrum of social and physical infrastructure improvements needed to help communities and industries overcome the shocks and stressors that come with an increasingly warmer planet. Policies and investments to support disaster preparedness and community adaptation to sea level rise, increasing temperatures, and displacement are essential.

While resilience is often associated with the ability to withstand and "bounce back " from a crisis, for many communities recovering to a status quo that was already failing to meet the community's needs is insufficient. True resilience helps prepare communities for a future that is safer, more just, and more sustainable than what exists today.

As described above, Floridians are already experiencing the harmful impacts of the climate crisis. From increased flooding and saltwater intrusion contaminating our drinking water supplies to more frequent high-temperature days, the climate crisis is already affecting every aspect of our lives.

There is no doubt that Florida must adapt to the impacts of climate change already underway, but we cannot simply adapt our way out of this problem. The state's future demands we not cause further harm by addressing only the immediate impacts of the challenge at hand. Lawmakers must address the root cause of climate change: greenhouse gas emissions.

## **SOLUTIONS**

Florida must immediately begin **comprehensive assessment and planning efforts**. The first step to being resilient involves identifying and assessing the risks to vulnerable and frontline communities throughout Florida. State agencies must expand the planning agenda to develop a comprehensive statewide response. Fifteen states already have climate adaptation or resilience plans (with five more states currently developing them). The state's lack of action has prompted many

local governments to develop their own local or regional adaptation and action plans, such as the Southeast Florida Regional Climate Compact, the Tampa Bay Regional Resiliency Coalition, the East Central Florida Regional Resilience Collaborative and others that are in the works.

Lawmakers must direct state agencies to **adopt inclusive and equitable resilience practices**, such as policies mandating or incentivizing climate resilience in insurance, transportation, and building codes.

When making critical infrastructure investments, lawmakers, agencies, and local governments must **prioritize community needs**. A growing number of communities and organizations are calling for a statewide fund for climate adaptation and mitigation of greenhouse gases. A state fund could use a blend of public and private investment and financing options to support innovative transportation, energy, and flood control infrastructure projects in areas that need them the most.

A statewide fund could provide low-interest or interest-free loans, loan guarantees, and other financing products to allow the state to prioritize and advance on critical adaptation and mitigation priorities. The result would be an expanded investment in future-ready infrastructure, including community solar projects, energy efficiency improvements, septic to sewer conversions, acquisition of open-space, implementation of nature-based solutions, and many other critical projects. The question of who reaps the benefits of this funding cannot be ignored. Historically, infrastructure investments have left lower income communities and communities of color behind, and many commonly used methods for determining how to allocate infrastructure funding can serve to entrench discrimination, particularly models which prioritize property values. Funding must be distributed in a transparent and equitable manner.

Finally, Florida must promote and invest in **energy efficiency and relief programs to combat high energy burden**. As temperatures rise, households will continue to need more and more energy to provide life-saving air conditioning unless energy efficiency retrofits are deployed. Energy efficiency

and weatherization programs can significantly reduce utility bills in the long-term and reduce the energy burden much more effectively than bill assistance. High energy bills can come as a result of inadequate insulation, inefficient cooling equipment, old appliances, and other factors. Improving home efficiency can reduce bills for highly burdened households; however, many of these improvements are beyond the reach of families who do not own their homes. Although renters pay high utility bills, they are rarely eligible for the efficiency improvement programs that make the biggest difference. In Florida, energy efficiency programs are required by law, specifically the Florida Energy Efficiency and Conservation Act; however, the Public Service Commission has historically set low goals due to their reliance on outdated cost benefit analysis. The American Council for an Energy Efficient Economy's 2020 Utility Energy Efficiency Scorecard ranked the state's three largest investor-owned electric utilities (Tampa Electric Company, Duke Energy Florida, and Florida Power & Light) at 46th, 48th, and 51st out of the 52 largest utilities nationwide in terms of program performance and savings.

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<sup>1</sup> Valle-Levinson, Spatial and temporal variability of sea level rise hot spots over the eastern United States, Dutton, Martin, Geophysical Research Letters, Volume 44-Issue 15, 2017.

<sup>2</sup> Southeast Florida Regional Climate Change Compact's Sea Level Rise Ad Hoc Work Group, Unified Sea Level Rise Projection Southeast Florida, 2019.

<sup>3</sup> Princeton University, Human-caused warming will cause more slow-moving hurricanes, warn climatologists, Science Daily, April 22, 2020.

<sup>4</sup> Obeysekera, J., et al. "Implications Of Climate Change On Florida's Water Resources." Florida's Climate: Changes, Variations, & Impacts, 2017 Nov.

<sup>5</sup> What Climate Change Means for Florida, US Environmental Protection Agency, EPA 430-F-16-011, August 2016.

<sup>6</sup> Florida Department of Health Division of Community Health Promotion, Health Effects of Summer Heat in Florida, National Center for Environmental Health, August 2015.

<sup>7</sup> Union of Concerned Scientists, Killer Heat Interactive Tool July 8, 2019.

<sup>8</sup> American Council for an Energy-Efficient Economy, Understanding Energy Affordability, <https://www.aceee.org/sites/default/files/energy-affordability.pdf>

<sup>9</sup> World Health Organization, Climate change and health, February 1, 2018. <https://www.who.int/news-room/fact-sheets/detail/climate-change-and-health>

<sup>10</sup> Johnson, Lauren. Moshthagian, Artemis. "8 Texas cities were alerted to a brain-eating amoeba found in water supply," CNN, September 26, 2020.

# CLIMATE RESILIENCE

## POLICY RECOMMENDATIONS

- Conduct a statewide greenhouse gas inventory and climate impacts assessment to establish a baseline against which progress on emissions reductions can be measured.
- Develop a comprehensive Climate Action Plan for the State of Florida.
- Adopt a “Health in All Policies” approach, requiring integration of public health equity considerations into policymaking across sectors to improve the health of all communities and people, identify gaps in public health, and achieve health equity.
- Require state agencies to:
  - develop and implement an ongoing collaborative process to identify solutions and provide a comprehensive climate change planning report to inform the statewide Climate Action Plan on a recurring basis;
  - develop equity plans using the Equitable and Just National Climate Agenda Principles or the Southeast Florida Climate Compact framework (Social Equity Archives) to ensure that frontline communities have necessary resources to recover from, and prepare for, climate impacts; and
  - incorporate sea level rise, potential greenhouse gas emissions, climate gentrification, social vulnerability analyses, displacement, and other climate impacts into their planning processes.
- Require the Department of Economic Opportunity (DEO) or other relevant state agency to perform an ongoing review on how growth management and



sprawl may disproportionately impact communities of color, rural, and low-income communities in light of potential changes resulting from anticipated impacts of climate change.

- Promote and fund coastal risk assessments and feasibility studies to implement infrastructure projects that address these issues.
- Develop Multiple Lines of Defense (MLODS) strategies that incorporate grey and green infrastructure.
- Provide funds for local governments to update municipal planning and development codes for flood management.
- Adopt an ambitious Renewable Portfolio Standard or other statewide clean-energy goals: 75% by 2030 and 100% by 2035.
- Provide clean energy infrastructure for local government buildings, schools, public housing, and other facilities.
- Fund the Florida Forever program and environmental restoration efforts to spur the creation of parks and the preservation of healthy open spaces for flood control and carbon sequestration purposes.
- Establish a clean energy and green infrastructure fund with a fair and transparent project review process, metrics to meet social, environmental, and economic measures, and a substantial investment plan informed by input from local government and community leaders.
- Provide grants and low-interest loans for low- and middle-income households to convert from septic to sewer, and deploy energy efficiency retrofits as well as weatherization in a socially and racially equitable manner.
- Provide additional grant opportunities for regional compacts to implement NNBF projects and solutions.



# NO FRACKING, NO DRILLING

Florida's best source of energy and wealth is not in the ground. There are no fossil fuel resources in the state that can be extracted without significant risk to public health and the environment. Our state has more to lose from the impacts of the climate crisis than virtually any other.

The risks to human health, the environment, and the natural resources which our economy relies upon heavily outweigh the value of gas and oil resources that remain buried. Florida contributes a scant amount to oil and gas production in the United States and does not contribute coal. Florida's reserves for potential future oil production are estimated to be less than one-tenth of 1% of our national reserves, and the quality of our oil is considered poor.<sup>1</sup> Moreover, the majority of existing reserves are located in areas with a porous limestone bedrock and high water table, meaning any spills that do occur cannot be easily contained. As the Sunshine State, Florida can best contribute to its own and the national portfolio of energy resources by focusing on renewable energy like solar and leaving our fossil fuel resources in the ground, both on and offshore.

Today, nearly 70% of Florida's electricity needs are met by burning gas, making us already dangerously over-dependent on this single source of energy. As of 2018, about 12% of Florida's net generation was coal-fired. As one of the states most vulnerable to climate change and sea level rise, Florida should make policy decisions to support renewable energy rather than encourage our dependence on fossil fuels.

Oil prospectors have identified the Sunniland Trend, which underlies Big Cypress National Preserve and Everglades National Park, along with the Jay Field in the Panhandle as areas of interest for risky well stimulation and fracking activities.<sup>2</sup> In turn, more than 91 local governments in Florida have passed resolutions or ordinances opposing fracking. The majority of Floridians now live in a municipality that has either banned fracking or called for a ban on fracking at the state level.<sup>3</sup> Simply put, there is no place for fracking, unconventional well stimulation, or drilling of any kind in the state of Florida.

## OFFSHORE OIL & GAS DRILLING

Floridians are united in their opposition to nearshore and offshore oil and gas exploration. That commitment is evidenced by the 2018 amendment to Florida's constitution to prohibit oil and gas drilling in nearshore waters. Similarly, the Eastern Gulf of Mexico has been off limits to drilling since the bipartisan Gulf of Mexico Security Act (GOMESA) passed in 2006. That moratorium is set to expire on June 30, 2022, potentially leaving Florida's Gulf coast vulnerable to the dangers of drilling. The 2010 Deepwater Horizon disaster and its lingering economic and environmental effects remind us just how devastating an oil spill can be.

## CONVENTIONAL DRILLING

Florida is not and has never been an oil rich state. Yet, for decades, prospectors have used conventional oil and gas drilling techniques hoping to get rich quick by finding the nation's next big oil deposit beneath the Florida peninsula. They had little success, finding only a limited supply in the Panhandle and Southwest Florida. What little reserves they found have been on the decline since the early 1980s. And although the scale of conventional oil and gas drilling in Florida has been comparatively small, those operations result in leaks, spills, and contaminations at various points along the drilling process.

Unfortunately, conventional operations are not adequately equipped to extract oil safely. Data collected by the Florida Department of Environmental Protection reveals 14 spills associated with oil drilling in Florida from June 15 to December 2019, contaminating the surrounding environment with almost 15,000 gallons of wastewater, more than 300 gallons of oil, and nearly 3,500 gallons of wastewater mixed with oil. These spills were concentrated in Santa Rosa and Collier counties.

## FRACKING

As oil and gas deposits declined elsewhere in the country, drilling companies began to implement unconventional extraction techniques to boost

production, at the high cost of polluting water supplies. The real treasure beneath the Florida peninsula is not oil. The risks that unconventional drilling techniques pose to our state's water supplies far outweigh the benefits.

Fracking originated as a term to describe hydraulic or acid fracturing. It involves injecting millions of gallons of highly pressurized water, usually mixed with sand and chemicals, deep into the earth to crack the rock and release oil or gas deposits. Another method—known as “matrix acidizing”—involves injecting acidic chemicals into underground rock formations, but at lower pressure, with the chemicals dissolving rather than fracturing the rock to release oil and gas. All fracking techniques use a combination of toxic chemical and produce large volumes of wastewater.

## THE DEFINITION MATTERS

Legislation that seeks to ban all forms of fracking in Florida must not only refer to “hydraulic fracturing” but also “well-stimulation” for oil and gas production or recovery. Legislation must cover any process that seeks to change the permeability of the underground geologic formation by fracturing or dissolving the rock, at either a high or low pressure, to improve the flow of oil and gas (hydrocarbons) from the formation into the well.

## RISK ASSOCIATED WITH FRACKING

Nearly 75% of chemicals used in fracking have been proven harmful to the skin, eyes, respiratory system, and digestive system. Nearly half of these chemicals also affect immune, cardiovascular, and brain/nervous system functions, and a quarter cause cancer and congenital disabilities.<sup>4</sup> Aside from direct contact with fracking chemicals, fracking operations also form ground-level ozone, which creates smog when combined with particulate matter. Higher levels of ozone and smog can irritate the lungs, aggravate asthma, and reduce lung function, affecting sensitive populations such as children and disproportionately impacting low-income and Black, Latinx, and Indigenous communities.<sup>5</sup>

In Florida, as in many states, the chemicals used in drilling operations can be withheld from public knowledge under trade secret provisions. The driller decides what is a “trade secret” without an independent evaluation, leaving communities in the dark about chemicals that may affect their health.

## WATER QUALITY IMPACTS

Spills and leaks resulting from the transport, storage, and injection of hazardous chemicals pose a serious threat of contaminating our drinking water supplies and water resources. Thousands of water contamination cases reported across the country show that fracking has caused illness in humans and livestock deaths.<sup>6</sup> Leakage from waste pits has caused contamination of nearby underground water sources with toxic chemicals known to cause cancer, like benzene. Besides posing a grave threat to water quality, fracking also uses vast amounts of fresh water.

## ECONOMIC IMPACTS

Environmental disasters have an enormous impact on Florida's tourism-based economy. From the BP Deepwater Horizon disaster of 2010 to the devastating algal blooms in the Indian River Lagoon and Caloosahatchee Estuary in 2013, 2016, and 2018, regional ecological disasters can cause statewide economic impacts. Additionally, studies have shown that homes with private drinking wells within one kilometer of a fracking well lose up to 22% of their property value.<sup>7</sup>

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<sup>1</sup> Glab, Edward. Energy Pro: Florida Is Not A Big Oil State. So Why Drill?. 2015. WLRN.

<sup>2</sup> FracTracker Alliance, Oil and Gas Activity in Florida, January 2017.

<sup>3</sup> Floridians Against Fracking, Local Resolutions and Ordinances, 2018.

<sup>4</sup> Colborn, T. et al, Natural Gas Operations from a Public Health Perspective, Human and Ecological Risk Assessment: An International Journal, 17:5, 1039-1056, DOI: 10.1080/10807039.2011.605662, 2011.

<sup>5</sup> Bienkowski, B. “Poor Communities Bear Greatest Burden from Fracking,” Scientific America, May 6, 2015.

<sup>6</sup> Bamberger M, Oswald RE, Impacts of gas drilling on human and animal health. New Solut. 2012;22(1):51-77. doi: 10.2190/NS.22.1.e., 2012.

<sup>7</sup> McMahon, J. Pollution Fears Crush Home Prices Near Fracking Wells, 2014. Duke University Study cited in <http://www.forbes.com/sites/jeffmcmahon/2014/04/10/pollution-fears-crush-home-prices-near-fracking-wells/>

# NO FRACKING, NO DRILLING POLICY RECOMMENDATIONS

- Prohibit all forms of fracking within Florida.
- In the absence of a statewide ban on fracking, protect local government home rule by preserving their authority to define more stringent regulations through zoning and land-use plans.
- End new permitting of oil and gas drilling and shift Florida's energy focus to renewable energy.
- Prohibit utilities in Florida from engaging in speculative purchasing of oil and gas resources outside of the state.
- Work with Florida's congressional delegation to permanently ban offshore oil and gas drilling off Florida's coast.

