

# THE HIGH COSTS OF FLORIDA'S ENERGY INFRASTRUCTURE

Burdening Women of  
Color and their Families



## ACKNOWLEDGEMENTS

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## Executive Summary

The massive infrastructure required for the consumption, production and distribution of energy in Florida (including extraction sites, pipelines, compressor stations, and processing and refining sites) carries enormous risks for the health and safety of those who live nearby. Each year, Florida's energy industry pumps out thousands of metric tons of sulfur dioxide and nitrogen oxides, toxic emissions that can damage lungs and lead to chronic respiratory illness.

In addition to harmful emissions, each point in this supply chain carries catastrophic risk for surrounding communities, including death and serious injury from pipeline explosions. Damaged pipelines can leak, contaminating water and soil or causing fires. The threat of leaks or explosions is exacerbated by climate change, which increases the incidence of extreme weather events that can damage facilities. The risks of Florida's energy infrastructure are not distributed evenly throughout the state but are concentrated in a handful of counties with significant populations of uninsured women of color, many of whom work in low-wage jobs, exposing those with the most limited resources to the greatest risk of injury and illness.

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This lack of resources is driven by policy decisions of Florida's lawmakers who have failed to act to expand healthcare access or improve job quality in Florida's two dominant industries: tourism and hospitality, both of which tend to offer low wages and little to no benefits.

Expanding Medicaid eligibility under the Affordable Care Act would have helped the millions of low wage women whose employers do not provide health insurance. Increasing Florida's low minimum wage, enforcing laws against wage theft and other worker abuses, and repealing laws that prevent union organizing would reduce economic inequality in the state.

The refusal to make these changes exposes many of Florida's working families to higher healthcare costs and poorer health outcomes as uninsured families put off care until their health issues have become more serious and more expensive. This not only makes financial hardship and bankruptcy more likely for these families but drives up costs across the healthcare system.

The prevalence of low wage jobs and lack of worker protections increases the threat, making it difficult for workers to build the financial safety net that would allow them to withstand large, unexpected health costs.

While the location of energy infrastructure has the most direct effect on community health, the broader effects of climate change are also inequitably distributed. Low-income families are at high risk because of their limited ability to mitigate the effects of climate change, through air conditioning; retrofitting of housing; or relocation to less impacted areas. Climate change will also have an effect on the food supply, raising prices, and threatening the food security of those at the margins.

These effects are particularly harmful to women and children of color who are more likely to be in poverty than other populations. Pregnant women are particularly susceptible to the health effects of rising temperatures and may have difficulty evacuating in the case of flooding or other extreme weather events. Young children are also more susceptible to high temperatures and African American and Latinx infants have a much higher risk of death from low birth weight or maternal complications than white infants.

This confluence of threats—poverty concentrated in communities of color and especially impacting women; limited access to healthcare; and greater susceptibility to the risks of climate change more broadly—is especially acute in two central Florida communities. The Tampa metro area in Hillsborough County and the Orlando metro area in Orange County are home to two of the largest emitters of nitrous oxide in the state: the Big Bend plant in Apollo Beach and the Stanton Energy Center in Orlando. Both areas have large populations of low income women of color who lack health insurance. The two counties also have a large number of communities with physician shortages, exacerbating barriers to healthcare for those threatened by spills, explosions, and emissions.

## Recommendations

Policymakers in Florida must act to protect its most vulnerable citizens from both the chronic health impacts and the extraordinary risks posed by its energy infrastructure. This will require policies that both regulate the industry, provide communities with the resources necessary to mitigate the effects of emissions and climate change and improve access to healthcare and economic opportunity. As a starting point, we recommend that policymakers:

- Subsidize fortification and repair of homes in low-income communities threatened by the intense storms caused by climate change;
- Follow the lead of California, another coastal state, in establishing stringent standards for power plant emissions;
- Aggressively enforce environmental protection and occupational health standards in the energy industry, including requiring energy companies to invest in infrastructure maintenance and early warning systems to detect leaks and spills, and insisting on adequate safeguards for new construction;
- Establish programs to encourage primary care physicians to serve underserved populations
- Expand Medicaid eligibility;
- Increase Florida's minimum wage to support working families; and
- Rigorously investigate and prosecute of wage theft.

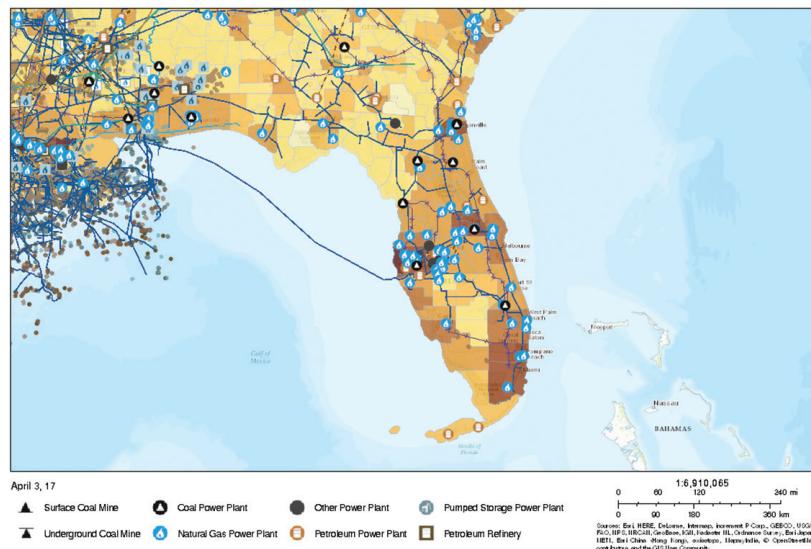
## Florida's Energy Infrastructure Concentrated in Vulnerable Communities

In 2014 the state of Florida produced millions of units of natural gas and crude oil, and consumed trillions more,<sup>1</sup> transported from other states over a network of over 5,000 miles of pipeline.<sup>2</sup>

The massive infrastructure necessary to produce and transport this amount of energy, including extraction sites, pipelines, compressor stations, and processing and refining sites, carries enormous risks for the health and safety of those who live nearby. Each year, Florida's energy industry pumps out thousands of metric tons of sulfur dioxide and nitrogen oxides,<sup>3</sup> toxic emissions that can damage lungs and lead to chronic respiratory illness.<sup>4</sup>

In addition to harmful emissions, each point in this supply chain carries catastrophic risk for surrounding communities, including death and serious injury from pipeline explosions. Damaged pipelines can leak, contaminating water and soil or causing fires. The leading cause of catastrophic damage to pipelines is excavation and corrosion of the nation's aging network.<sup>5</sup> Corrosion alone caused over 1,400 pipeline accidents resulting in injury, death or property damage between 1986 and 2012.<sup>6</sup> The threat of leak or explosion of pipelines is exacerbated by climate change, which increases the incidence of extreme weather events that can damage facilities.

The risks of Florida's energy infrastructure are not distributed evenly throughout the state but are concentrated in a handful of counties. As can be seen on the map below, many of the state's power plants and pipelines are concentrated in three counties; Hillsborough, Polk, and Orange.<sup>7</sup>



Two of those counties, Hillsborough and Orange, have large populations of low income, uninsured women of color. One in five women of color in those counties is uninsured and one in four is below the poverty level.<sup>8</sup>

This means that Florida has concentrated much of its energy infrastructure in counties with significant populations of uninsured women of color, exposing those with the most limited resources to the greatest risk of injury and illness.

The negative effects of energy infrastructure add to the other inequities that have a disproportionate impact on women of color and their families. Women of color are more likely to work in low income

occupations without access to health benefits, paid time off, or predictable scheduling. Limited access to reproductive healthcare has the largest impact on those without the resources to travel farther or take additional days off work to seek out providers of family planning, prenatal, and abortion services. As the primary caregivers for both children and aging relatives, women are disproportionately affected by policies that impact childhood health, in-home care, and transportation. Each of these inequities reinforces the others, shaping the overall conditions of communities and limiting the degree to which progress on any one factor can improve lives because of the persistence of the others.

## Disparate Impact of Climate Change

While the location of energy infrastructure has the most direct effect on community health, the broader effects of climate change are also inequitably distributed. Low income families are at high risk because of their limited ability to mitigate the effects of climate change, through air conditioning; retrofitting of housing; or relocation to less impacted areas. Climate change will also have an effect on the food supply, raising prices, and threatening the food security of those at the margins.<sup>9</sup>

These effects are particularly harmful to women and children. Women are more likely to live in poverty than men,<sup>10</sup> and pregnant women are particularly susceptible to the health effects of rising temperatures and may have difficulty evacuating in the case of flooding or other extreme weather events.

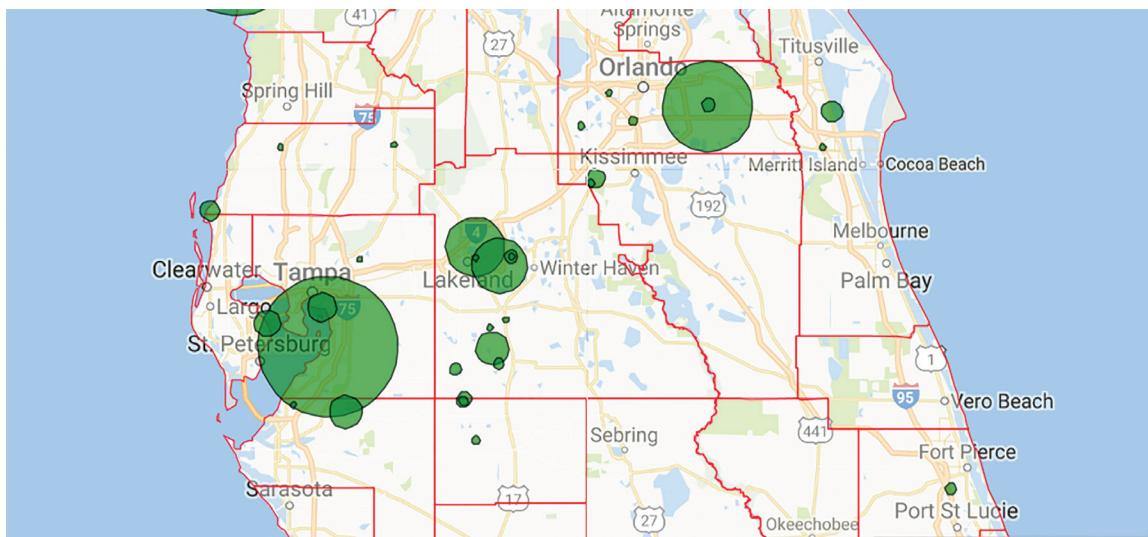
Young children are also more susceptible to high temperatures and African American and Latinx infants have a much higher risk of death from low birth weight or maternal complications than white infants.<sup>11</sup> Those with allergies or cardiovascular and respiratory conditions are also at greater risk from increased ozone, particulate matter and allergens in the air, which can aggravate health issues.<sup>12</sup>

## Tampa and Orlando

This confluence of threats—poverty concentrated in communities of color and especially impacting women; limited access to healthcare; and greater susceptibility to the risks of climate change more broadly—is especially acute in two central Florida communities. The Tampa metro area in Hillsborough County and the Orlando metro area in Orange County both have large populations of low income women of color who lack health insurance. The two counties also have a large number of communities with physician shortages, limiting healthcare access even for those who have insurance.

These factors increase the harm resulting from the concentration of power plants in these areas. This concentration includes two of those with the greatest emissions in the state: the Stanton Energy Center in Orlando, which released an amount of nitrous oxide equivalent to nineteen thousand metric tons of carbon dioxide in 2015<sup>13</sup>; and the Big Bend plant in Apollo Beach which released over forty six thousand metric tons of carbon dioxide equivalent in 2015.<sup>14</sup> The emissions from these and other power plants in central Florida are represented by the green bubbles in the map below.<sup>15</sup>

This report will detail the ways in which the health effects of these emissions increase the burden on communities already facing a host of other challenges. It ends with recommendations on how state lawmakers can work to address these challenges as well as work to prevent the damage done by the state's energy infrastructure.



## Florida's Low Wage Economy

In the wake of the global financial crisis and resulting recession, the counties of central Florida saw a dramatic increase in poverty.<sup>16</sup> Even as the state began to pull out of recession, the number of families struggling to make ends meet continued to increase.<sup>17</sup> The United Way estimates that a Florida family of four must make at least \$53,856 annually in order to meet basic needs.<sup>18</sup> Using this threshold, the organization found that over forty four percent of Florida households—more than 3 million families—could not afford basic needs.<sup>19</sup> While the state's employment levels have improved, nearly half of the state's jobs pay less than \$15 per hour, well under the amount necessary to support a family.<sup>20</sup>

Florida's low wage economy is driven by the tourism and hospitality industries. Nowhere is that more evident than in Orlando where half of all families are under the minimum salary needed to meet basic needs.<sup>21</sup> About 12 percent of Orlando workers work in retail or food preparation and service jobs where the median wage is less than \$11 an hour.<sup>22</sup> One in five Orlando workers in these jobs is either an African American or Latinx woman.<sup>23</sup> It should come as no surprise then that one in five women of color in Orlando is below the poverty level. The same is true of twenty nine percent of non-citizen women.<sup>24</sup>

The numbers are similar in Tampa where the same jobs make up about 10 percent of all metro area workers; offer a median wage below \$11; and are 13 percent African American or Latinx women.<sup>25</sup>

These low wage jobs are encouraged by Florida lawmakers who maintain a state minimum wage that is barely above the federal level of \$7.25 per hour<sup>26</sup> while supporting laws designed to keep workers from organizing unions that would allow them to negotiate better wages and benefits.<sup>27</sup>

Further, Florida has no agency dedicated to the enforcement of minimum wage laws or investigation of claims of wage theft. This is true despite the fact that Florida's dominant industries (retail, tourism and construction) are those most often accused of failing to pay employees the wages they've earned.<sup>28</sup>

The combination of low wages and lax enforcement of basic worker protections means that many Floridians, particularly women of color, lack the ability to build a savings account or afford basic home repair and maintenance. This can have catastrophic consequences in the event of a pipeline fire or explosion.

The likelihood of such an explosion is increased by extreme weather events, which are themselves more likely as a result of climate change. Intense storms also pose a threat to the homes and

communities of those without the financial safety net necessary to rebound from a natural disaster. As happened in New Orleans in the aftermath of Hurricane Katrina, many families risk losing not only their homes but their connections to neighbors and friends scattered by the destruction.<sup>29</sup>

## Access to Healthcare

Before the Affordable Care Act went into effect, many Floridians lacked access to healthcare coverage with 20 percent of the population uninsured in 2011.<sup>30</sup> In 2012, forty three percent of Latinx and twenty five percent of African Americans under 65 had no healthcare provider.<sup>31</sup>

Governor Rick Scott vehemently opposed the Affordable Care Act, leading the effort to legally challenge the law in court which eventually resulted in a Supreme Court case that upheld the law but made Medicaid expansion, a key provision, optional. Despite opposition from the state's political leadership, 1.7 million Floridians had enrolled in the federal insurance marketplace by January 2017,<sup>32</sup> helping to bring Florida's uninsured rate down to 15 percent.<sup>33</sup>

Still, the refusal to expand left nearly half a million Floridians without coverage. Forty eight percent of them are people of color and forty five percent are women.<sup>34</sup>

Lack of healthcare access impacts both health and economic security. A Kaiser Family Foundation study found that adults without insurance were significantly less likely to receive regular healthcare and more likely to either delay or avoid needed care or medication because of an inability to pay. As a result many do not seek treatment until their health issues have become more serious and more expensive than they would have been with preventive or timely care, leading to higher rates of hospitalization and mortality and driving up costs not only for families but throughout the healthcare system.<sup>35</sup>

**The combination of decreased access to preventive and timely care, lack of a financial safety net and exposure to harmful emissions or serious injury resulting from a pipeline explosion can result in healthcare costs that may bankrupt low-income families.**

For women, access to reproductive healthcare, including safe abortion, is particularly vital. The ability to choose whether and when to have children increases women's workforce participation and educational attainment and improves outcomes for children already in the household.<sup>36</sup> The Guttmacher Institute estimates that publicly funded family planning centers prevented nearly 50,000 unintended pregnancies in Florida in 2014 alone. Sixty four percent of that funding came from Medicaid.<sup>37</sup>

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## Primary Care Shortages

Even with health insurance, residents must have access to providers in order to get the care they need. However, Florida has less than half of the primary care physicians required to meet its healthcare needs.<sup>38</sup> Among the communities with the worst shortage of primary care physicians is Pine Hills, a predominantly African American<sup>39</sup> community in Orange county. In a community of over sixty six thousand, there are 4.5 primary care providers, one-fifth of what is needed.<sup>40</sup> Nearly twenty seven percent of Pine Hills residents live below the poverty level<sup>41</sup> and the community is one of several in Orange County with a primary care shortage. The table below lists the central Florida communities with the greatest shortage of primary care providers.<sup>42</sup>

County	Area	Estimated Underserved Population	Total Full-Time Equivalent Clinicians
Hillsborough	Town and Country	27,635	1
Hillsborough	East Mango	23,153	0
Hillsborough	Suitcase City	28,661	10
Hillsborough	West Tampa	28,378	8.7
Hillsborough	Port of Tampa	12,563	0.1
Hillsborough	East Tampa/Ybor City	28,199	2
Hillsborough	Dover	12,396	9.29
Hillsborough	Southwest Hillsborough	54,759	5.8
Orange	Oak Ridge	25,822	2.6
Orange	Alafaya	14,942	0
Orange	Apopka/Winter Garden	19,319	8.61
Orange	Pine Hills	53.123	4.5
Orange	Parramore	7,022	6.31
Osceola	Osceola County	55,160	11.8

## Recommendations

Policymakers in Florida must act to protect its most vulnerable citizens from both the chronic health impacts and the extraordinary risks posed by its energy infrastructure. This will require policies that both regulate the industry, provide communities with the resources necessary to mitigate the effects of emissions and climate change and improve access to healthcare and economic opportunity. As a starting point, we recommend that policymakers:

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