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# Hallandale Beach's Climate Action Plan

## June 2021









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**"As a part of this younger generation I am disheartened by the lack of resolve in addressing this issue. However, it is not too late to prioritize the climate crisis. We are the last generation who can make a difference, and it can only happen if we all act now."**

Ria Wright, Hallandale Beach Youth Climate Activist



## Letter from Dr. Jeremy Earle, Hallandale Beach City Manager

I am pleased to present the City of Hallandale Beach's first Climate Action Plan, which outlines the ways we can all work together to become a cleaner, safer, and healthier community.

Climate change is a real threat. Temperatures and sea levels are rising, flooding is becoming more frequent, and the people who contribute to emissions the least are bearing the greatest impacts worldwide.

The world as we know will be impacted by our decisions today and in the years and decades to come. The City of Hallandale Beach has committed to being an active part of the solution in terms of taking the steps to reducing our emissions, embracing sustainability, and bringing climate change and its impact on people to the forefront of our decision making process.

The Hallandale Beach Climate Action Plan serves as a road map for how we as a community will reduce our greenhouse gas emissions 50% by 2030. A subsequent plan will be released in 2030 to outline our path to net-zero emissions by 2050.

Many of the actions in this Plan generate what are known as "co-benefits". Countless studies show that when we do things such as planting trees, investing in resources to reduce air pollution, and encouraging the construction of smart buildings, that we enhance the overall quality of life for residents.

It is clear that facing this challenge will require an enormous amount of hard work, collaboration, and cooperation between elected officials, residents and business owners, City staff and other stakeholders.

As you will see when you read this Plan, some of the things we need to do – such as investing in transportation infrastructure and supplying renewable energy – will require the involvement of other critical stakeholders outside our jurisdiction such as utility companies, the State of Florida, and the Federal Government. Each of us has a critical role to play in our collective future.

I am confident that as we address the climate change challenge together, with creativity and boldness, that our City will come together to build a more secure and just future.

Hallandale Beach is led by the notion of "Progress, Innovation, and Opportunity." It is with this mindset that we now begin. Please join us.

Best,



Jeremy Earle, Ph.D., AICP, FRA-RA



***"Each of us has a critical role to play in our collective future."***



City Manager  
**Dr. Jeremy Earle**



# Introduction

Around the world, there is scientific consensus that our climate is changing, signaled by rising temperatures, increased precipitation, sea-levels rising, and an increase in the frequency of extreme weather events<sup>1</sup>. Climate change is a local, national, and global issue affecting individuals and systems around the world. Climate change poses a serious threat not just to Florida's natural and built resources, but also the quality of life for our residents, our economy, and public health.

The City of Hallandale Beach has already begun to feel the impacts of climate change, including nearly annual King Tide flooding, increased extreme precipitation events, and 2020 being the hottest year on record so far for the State of Florida.

By 2050, Hallandale Beach is expected to experience 60 additional days per year with a heat index above 105 F (an increase from 1 day per year historically<sup>2</sup>), sea levels are projected to have risen by as much as 1.68 feet<sup>3</sup>, tidal flooding is expected to cause 40 times as many floods as we experience today<sup>4</sup>, the groundwater table will have risen nearly 1 foot<sup>5</sup>, and our beach will be eroding at a rate that requires an influx of 11,000 cubic yards of sand annually just to keep up<sup>6</sup>.

Although the responsibility to act on climate change is collective, cities can play a significant role in minimizing their carbon footprint and making their communities more resilient. Currently, more than 80% of Americans live in urban areas and globally cities account for more than 70% of world-wide carbon emissions<sup>7</sup>. Urban areas, including our City, are facing increasing costs of adapting to the impacts of a changing climate.

This places cities in a powerful position to address climate change. The design of cities – how we use land, how we design buildings, how we get around – impacts the amount of energy we use and the volume of greenhouse gas (GHG) emissions we produce. It is critical that cities like Hallandale Beach demonstrate that it is possible to dramatically reduce GHG emissions while creating a more vibrant and prosperous place to live, work, and play.

**While climate change is the greatest environmental challenge of the 21st century, it presents huge opportunities for creating a healthier, safer, and more equitable Net-Zero emissions world.**



King Tide Flooding



# Hallandale Beach 50by30 Mitigation Goals

On March 11, 2021 the **City of Hallandale Beach** joined the **Cities Race for Zero** and committed to reducing emissions 50% by 2030 and achieving Net-Zero emissions by 2050. This goal and timeline is science-based and informed by the IPCC Special Report 15 which stated that these targets, implemented worldwide, would be the only way to keep global temperatures down to 1.5°C and avoid some of the more catastrophic climate impacts.

Since the IPCC Special Report 15<sup>8</sup> was published in 2018, global atmospheric carbon dioxide concentrations in the atmosphere have reached 419 parts per million (ppm) (compared to 280 ppm pre-industrial levels). It is critically important that we not reach 450 parts per million in order to avoid reaching 2°C average global temperature increase. Average global temperature has already risen 1°C and at this rate of global emissions we're projected to reach 1.5°C by 2028 and 2°C by 2046. The increase in global atmospheric carbon dioxide and average global temperature is a major impetus for our City and cities around the world to take climate action NOW.

In addition to our overarching goal of reducing emissions 50% by 2030, the City also recognizes our fair-share science-based target of 63% reduction of emissions by 2030 as part of ICLEI150. The United States has put more carbon into the atmosphere than any other nation and that science-based target represents our fair-share of emissions reduction as a U.S. city of our size. The City will ambitiously pursue both emission reduction goals for 2030.

**This Plan presents a path forward over the next 9 years, providing an incremental process to act, adjust to changing technologies and conditions, and continue to build towards the ultimate goal of Net-Zero emissions by 2050 or before.**



## Hallandale Beach's Climate Action Plan



# Incorporating Equity

**Low income populations, people of color, people with disabilities, and other frontline communities suffer disproportionately more from climate impacts<sup>9</sup>.**

This is not because climate change risks are strategically seeking out these communities/people, but it is rather due to historic and present-day systemic and institutional inequities and the distribution of social, political, economic, and environmental resources and power. For example, communities with higher rates of many adverse health conditions, who are lower wealth, and/or who are more exposed to environmental hazards have a greater vulnerability to physical and environmental challenges<sup>10</sup>.

Creating a resilient community means addressing the social inequities that cause disparities in health outcomes, income, educational attainment, and more. This Plan hopes to reduce GHG but also to improve the quality of life for all in our community. Staff utilized Equity Toolkits from cities throughout the US to assess the potential benefits and burdens of each action included in this Plan. After identifying any benefits or burdens, staff included potential ways to ease burdens and/or equitably distribute benefits for each action and this is displayed in the “Equity Considerations” column of each Action Pathway table.

## What has Hallandale Beach done so far?

The City has been taking actions to improve water and energy efficiency for decades. However, to be reflective of the baseline for this Plan (2016) this timeline focuses on climate-related actions taken between 2016 and today.

2016	Adopted the Southeast Florida Regional Climate Change Compact’s Unified Sea-Level Rise Projections
2017	Passed a Resolution committing to the Paris Climate Accord
2018	Passed the City’s Sustainability Action Plan
2019	Passed a Resolution committing to the GHG reduction goals in the IPCC Special Report 15
2019	Passed an internal policy requiring Sea-Level Rise design and construction standards for City infrastructure and capital projects
2020	Completed the City’s First GHG Inventory <sup>11</sup> (2016 baseline)
2020	Divested the City’s investment funds from fossil fuels
2020	Adopted the City’s Vulnerability Assessment and Adaptation Plan
2020	Disclosed GHG emissions via CDP International and Joined the Global Covenant of Mayors for Climate & Energy
2020	Began stakeholder engagement for the City’s Climate Action Plan
2020	Adopted the updated Southeast Florida Regional Climate Change Compact’s Unified Sea-Level Rise Projections and committed to building infrastructure to withstand the projected Sea-Level Rise for the project’s lifespan
2021	Joined the Cities Race to Zero committing to 50% reduction in GHG by 2030 and Net-Zero Emissions by 2050





## Developing this Plan

Before the drafting this Plan, the City engaged our community on the topic of the Climate Action Plan for a year. Starting in June 2020, the City requested responses to a Climate Action Survey which asked residents to rank potential mitigation projects and share input. The survey was shared through the City's social media, website, LED billboard outside City Hall, email newsletters, water bill inserts, at City Commission meetings, at a series of Climate Change educational webinars hosted by the City, and in-person at Hepburn Center food distribution events. The City received 116 responses to this survey between June and October 2020. While the survey included some open-ended questions, staff realized that this route of engagement limited community ownership of the Plan.

In October 2020, the City launched a digital 24/7 and translatable online engagement tool at [www.haveyoursayhallandale.org](http://www.haveyoursayhallandale.org). The intent of this tool was to allow for much more open-ended brainstorming and to allow for greater accessibility. Utilizing this tool allowed for the City's engagement on the Climate Action Plan to be less about confirming interest in pre-determined projects and more about identifying features of the community that could benefit from crowdsourced climate actions. The link to [www.haveyoursayhallandale.org](http://www.haveyoursayhallandale.org) was shared through the City's social media, website, LED billboard outside City Hall, email newsletters, water bill inserts, at City Commission meetings, in the South Florida Sun Times newspaper, and via printed multi-lingual postcards left at common gathering points in the community such as laundromats, restaurants, and the City's Minibus system. As of June 1, 2021, there have been 325 individuals who have visited the website and 59 individuals engaged on the site.

On March 26, 2021 the results of the survey and input from [www.haveyoursayhallandale.org](http://www.haveyoursayhallandale.org) were presented to City staff as part of a 4-hour brainstorming meeting focused on operationalizing and adding detail to the projects/actions suggested by the public. This meeting allowed for synergies from other City plans and planning efforts to be identified to facilitate funding and grant requests. The City also held a virtual public meeting on June 21, 2021 to review the draft Climate Action Plan. The draft of the Plan was also posted on the [www.haveyoursayhallandale.org](http://www.haveyoursayhallandale.org) website and shared through communication channels. Members of the community attended the public meeting and shared comments and asked questions. This final draft of the Climate Action Plan incorporated as many of their comments as possible.

All public input is included in the appendix of this Climate Action Plan in an effort to be as transparent as possible.

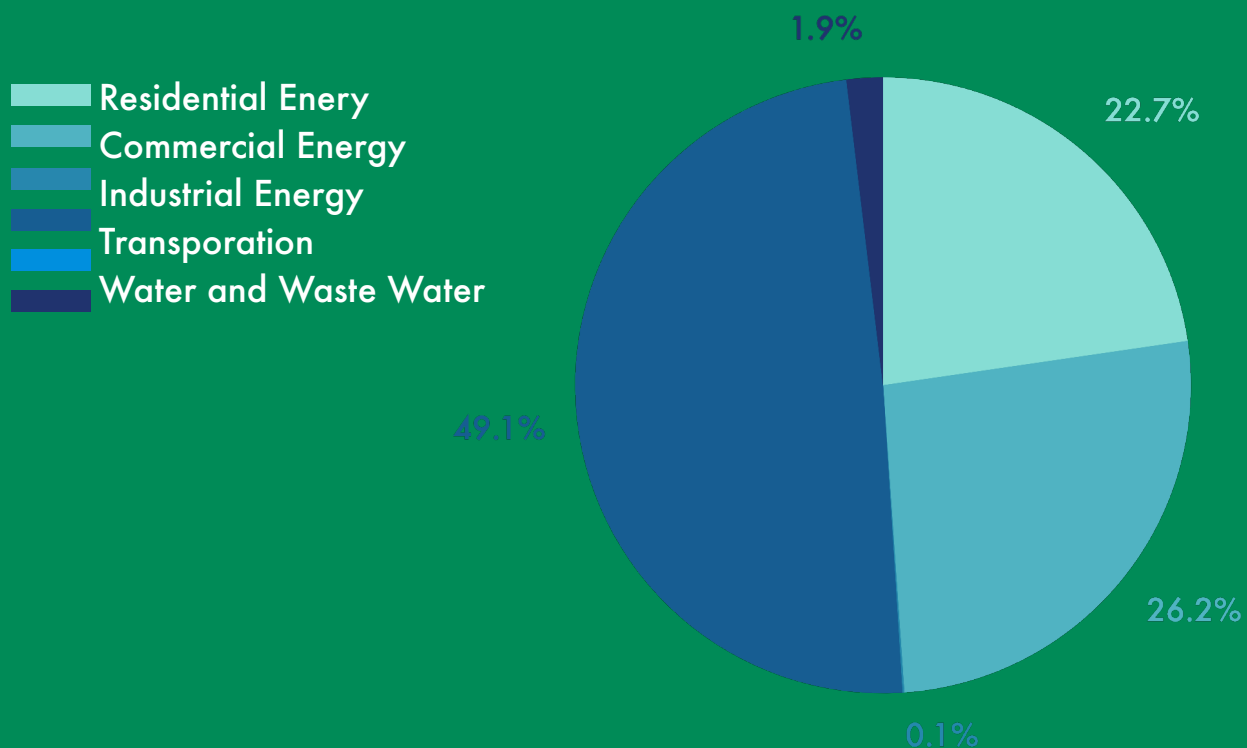


# Hallandale Beach's Greenhouse Gas Emissions

Since the early 1990's U.S. Cities have developed community-wide and local government operations GHG inventories based on accounting protocols created by ICLEI. Known as the U.S. Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions and the Local Government Operations Protocol, these standards created a credible and defensible methodology which accelerated the number of inventories created and provides consistency within and across U.S. communities. In 2014, ICLEI partnered with the World Resources Institute and C40 Climate Leadership Group to create the Global Protocol for Community Scale GHG Emissions, which allows communities around the world to compare their emissions footprint.

Hallandale Beach used the U.S. Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions, version 1.1 for the Community-Wide inventory. The Local Government Operation portion of this inventory was completed under ICLEI Local Government Operations Protocol, Version 1.1.

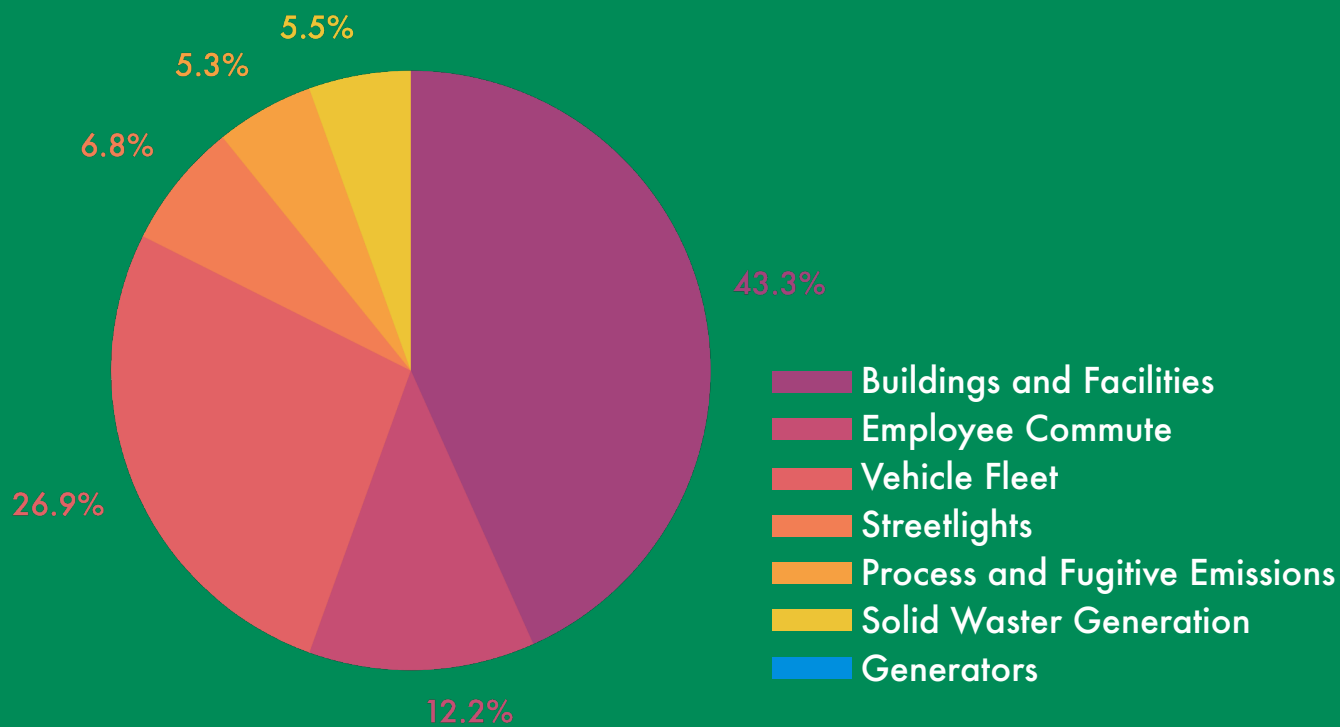
In 2016, community-wide emissions from Hallandale Beach totaled 460,733 mtCO<sub>2</sub>e. Emissions from the City are embedded within the community-wide totals. For example, emissions from government buildings are included in the "Commercial" sector and emissions from City fleet vehicles are included in the "Transportation". Government operations are therefore a subset of total community emissions.





The City has also completed an emissions forecast based on projections of current data and expected future trends such as population growth. The emissions forecast is a “Business as Usual” (BAU) forecast, a scenario estimating future emissions levels if no further local action (i.e. projects within this Climate Action Plan) were to take place. The forecast indicates that, if we do not act, GHG emissions will continue to increase. Under the BAU scenario, by 2040 our community-wide emissions are projected to have increased 14.3% to 526,691 mtCO<sub>2</sub>e. The greatest emission growth potential is projected to occur in transportation and solid waste generation.

The emissions from City-operations in 2016 totaled 9,623 mtCO<sub>2</sub>e.



Golden Isles





# Goals of the Climate Action Plan

This Plan is motivated by one major goal: to achieve a 50% reduction in community wide GHG emissions of Hallandale Beach by 2030. However, **reducing emissions should not be viewed simply as a math problem**. Climate change, and the actions we take to lessen it, have the power to impact people's lives both positively and negatively. Staff has taken time to consider potential benefits and burdens that each action in our Plan could have on members of our community, including those who are disadvantaged due to systemic and institutional inequities. Part of the review of this Plan prior to it being finalized was public comment regarding our equity considerations for each action.

To support this Plan not being a mere math problem to be solved, we have eight (8) additional quality of life goals which are aimed at improving quality of life for all our residents.

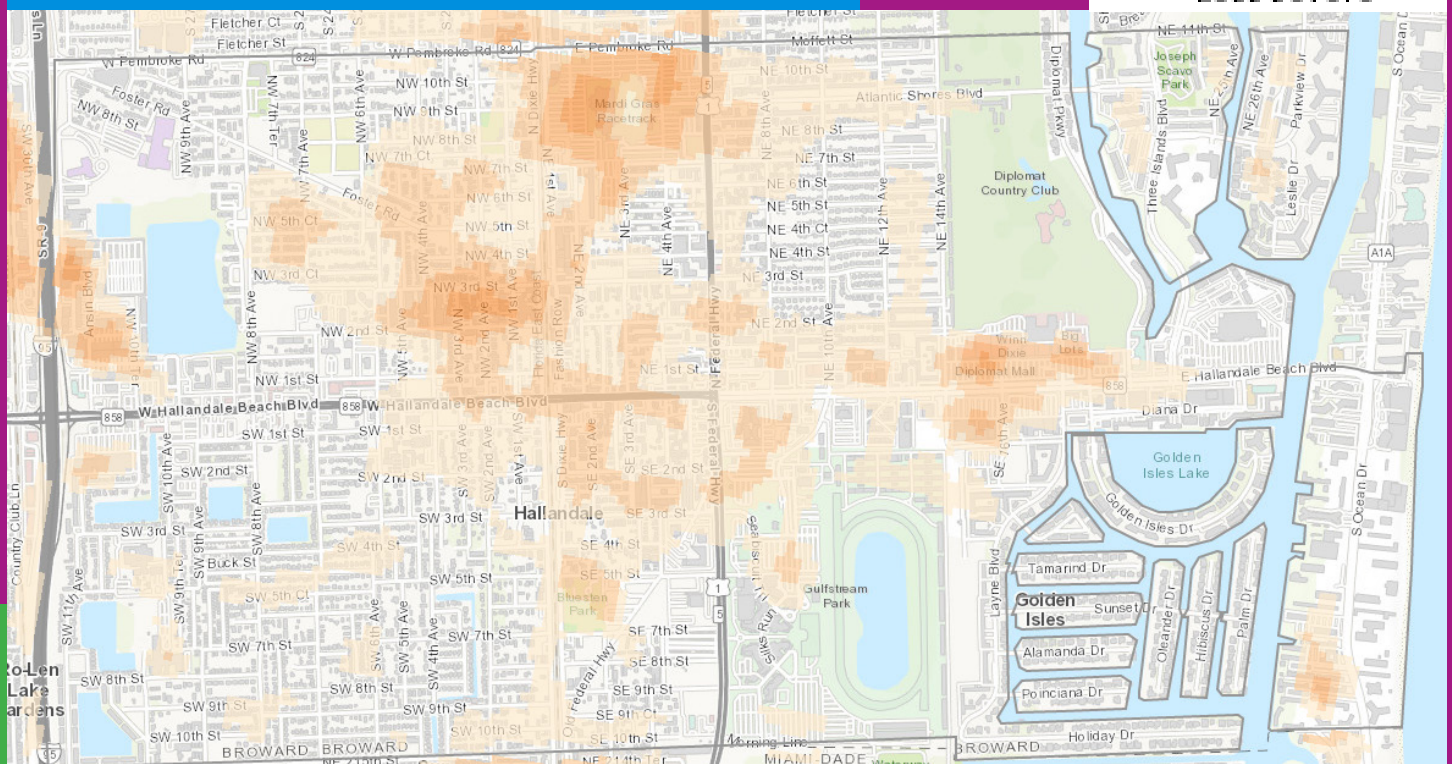
## Major Goal

- Reduce community-wide emissions 50% by 2030

## Quality of Life Goals

- Improve the City's WalkScore® (currently 56)
- Reduce the average ambient temperature in areas of extreme urban heat island effect in the City
- Encourage the creation of 100 more certified wildlife habitats in the City
- Reduce barriers to EV ownership
- Empower our residents to repair & reuse things
- Employ members of our community to implement the Plan
- Achieve SolSmart Gold Designation to reduce solar soft costs
- Reduce overall solid waste generated in the City, diverting most of what remains to recycling and compost

Urban Heat Islands in Hallandale Beach. Source: Trust for Public Land



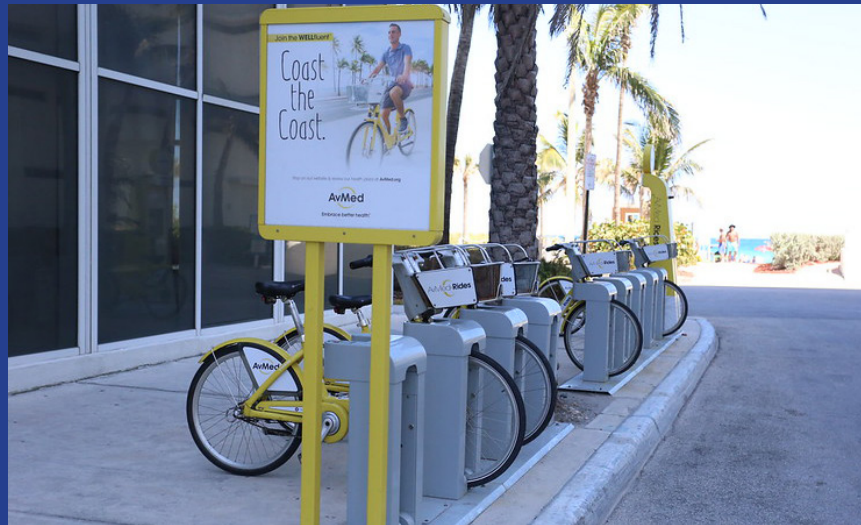


# Action Pathways

This Plan focuses on 6 Action Pathways to achieve 50% reduction in greenhouse gas emissions by 2030.

## These Action Pathways include

- Energy & Buildings
- Low Emissions Mobility
- Community Waste
- Community Greening
- Government Operations
- Engagement & Partnerships



The following tables include the action itself, the projected GHG impact, a timeline, potential partners, and equity considerations. In the tables below we utilize colors to signify the GHG emissions reduction potential of each action. Green GHG impact cells signify a high reduction potential, yellow cells signify moderate reduction potential, and red signify less reduction potential.

## Energy & Buildings

As a growing City, sustainable building design, existing building efficiency improvements, and the incorporation of renewable energy to meet building energy demands are key considerations in the effort to minimize the impacts of climate change.

Buildings of all types (residential, commercial, and industrial) require energy for cooling, lighting, operating equipment, and appliances. The amount of energy consumed is influenced by the number of occupants, the activities taking place in the building, the age of construction of the building itself, and the materials within them.

This chapter is a roadmap for addressing climate change in Energy & Buildings and identifies actions that will guide progress over the next nine years. Energy consumed in buildings accounts for 48.9% of Hallandale Beach's total GHG emissions (2016 baseline).

**Improving the efficiency of our building stock and switching to renewable energy will contribute significantly to achieving our goals.**



## Energy & Buildings (continued)

A household's energy burden is the percentage of income spent on energy bills. A high energy burden is considered to be above 6% and a severe energy burden is above 10%. A quarter of low-income households in the Miami Metro Area have an energy burden of above 11%.

Our Electricity Utility, Florida Power and Light (FPL) currently sources 26% of its local energy from carbon-free sources (nuclear & solar) with the vast majority (72%) of its energy coming from fossil gas.

Actions	GHG Impact	Timeline	Potential Partners	Equity Considerations
EB-1 Require solar photovoltaics for new and substantially improved residential and commercial buildings, capacity required to be determined.		Short-Term	Broward County Solar Co-Op & Solar United Neighbors	Provide an alternative pathway for homeowners who can prove a high energy cost burden, low-to-middle income, or existing tree canopy. Also provide alternative pathway for affordable housing developments.
EB-2 Establish partnerships to provide low-interest loans for solar and energy efficiency improvements		Short-Term	Solar Energy Loan Fund, Broward County, & PACE Providers	Work to find a solution to support these improvements for homeowners who are unbanked, underbanked, or residing in a generational family home with no mortgage.
EB-3 Revise City Building Code by 2030 to require all new buildings be built to Net-Zero standards		Long-Term	Developers & Community Based Organizations	Ensure that community listening sessions and inclusive outreach guides the details of this change
EB-4 Promote the use of community solar programs in single and multi-family housing		Ongoing	Florida Power and Light (FPL)	Ensure the community knows about this through the Climate Change Ambassadors Program[i] & through multi-lingual print/digital outreach
EB-6 Establish building performance standards and benchmarking for existing buildings over 20,000 square feet and rental units		Long-Term	Florida Sustainability Directors Network, FPL, CRA, & Property Managers	Ensure we effectively communicate the cost savings/payback of energy efficiency
EB-7 Advocate for Florida Building Code changes that align with net-zero emissions by 2050		Ongoing	Florida Sustainability Directors Network, International Code Council	
EB-8 Support a National Price on Carbon		Ongoing	Citizens Climate Lobby	Advocate for the cost of carbon to not be passed down to the individual consumer wherever possible
EB-9 Explore all possible options to deploy floating Solar PV on Chaves Lake		Ongoing	FPL	Ensure the electricity generated services the homes in the immediate area; track any impact the panels have on ambient temperature and mitigate should it increase ambient air temperature
EB-10 Support the Florida Public Service Commission in establishing more rigorous energy efficiency standards and renewable energy goals for Florida utilities		Ongoing	Florida Sustainability Directors Network, Southeast Sustainability Directors Network, Southeast Alliance for Clean Energy	Be deliberate in our requests that any goals or standards would benefit, and not cause harm to communities and people who are energy-cost burdened
EB-11 Support the Federal Government's efforts to electrify buildings and transition to carbon-free electricity by 2035		Ongoing	Urban Sustainability Directors Network, Southeast Sustainability Directors Network, Southeast Alliance for Clean Energy	Advocate for those who are energy cost burdened to be not financially impacted by this transition



# What are Net-Zero Buildings?

Net-Zero Buildings have Net-Zero energy consumption. This means that the total amount of energy used by the building on an annual basis is equal to the amount of renewable energy created on-site or renewable energy sources off-site. The design of Net-Zero Buildings will generally incorporate energy efficiency measures such as passive solar design, multiple paned windows, insulating heavily, and high-efficiency appliances.

## Low Emissions Mobility

In Hallandale Beach, emissions from transportation are the largest emissions source and account for nearly half of the community's GHG emissions. **To reduce transportation emissions, we need to encourage a shift to walking, cycling, and public transportation as well as electrify the vehicles left on the road.** Internal Combustion Engine vehicles rely heavily on fossil fuels, which in turn contributes to the release of carbon dioxide and NOx emissions into the atmosphere. Tailpipe emissions from vehicles also contribute to poor air quality, especially in the western part of our City. According to the Environmental Protection Agency's Environmental Justice Screening and Mapping Tool's Environmental Justice Index, the NW Quadrant west of NW 8th Ave are in the 95-100th<sup>12</sup> national percentile for Diesel Particulate Matter, PM 2.5, Air Toxics Respiratory Hazard Index & in the 90-95th national percentile for ozone.

**Improved local air-quality is a common co-benefit of many climate actions we can take to reduce our transportation related emissions.** By encouraging our residents to rely more on zero-tailpipe emissions transportation like our soon-to-be electric minibus, bikes, walking, and driving battery EVs we can reduce emissions and reduce the air pollution burden of our community at the same time.







More than 200,000 Americans die prematurely every year as a result of motor vehicle pollution from our roads and highways. Pollution from our roads and highways disproportionately harms people of color and lower income communities.

	Actions	GHG Impact	Timeline	Potential Partners	Equity Considerations
MT-1	Improve city-owned bus shelters by adding trash receptacles, fans, working lights, more routine cleaning, shade where shade is lacking, and ADA accessibility		Mid-Term	Broward MPO, Broward County Transit, & Florida Department of Transportation	Ensure that these improvements are made throughout the City and not just in areas where we receive more complaints.
MT-2	Develop street standards incorporating protected bike/pedestrian areas/lanes to make streets safer and more welcoming to pedestrians and cyclists		Mid-Term	Broward MPO, Broward County Transit, & Florida Department of Transportation	Ensure that these standards also include improvements for ADA accessibility & that they are applied city-wide. Engage Climate Change Ambassadors in providing safety information related to mixed mobility transportation.
MT-3	Deploy micro-mobility such as e-scooters and e-bikes (and their chargers where appropriate) throughout the transit network in the City		Short-Term	Private businesses	Look into micro-mobility options which can also be deployed for non-able-bodied residents/visitors. Deploy micro-mobility city-wide.
MT-4	Require EV charging in all new commercial development and redevelopment, including multi-family housing		Short-Term		Encourage EV charging at commercial developments to either be free or market rate; encourage the state to regulate the cost of EV charging to avoid price gouging.
MT-5	Establish an incentive for existing residential and multi-family commercial buildings for electric panel upgrades and EV chargers		Mid-Term		Ensure the value of the incentive is fair across different types of development; Time deployment of this incentive with MT-7; Ensure the community knows about this incentive program through the Climate Change Ambassadors Program & through multi-lingual print/digital outreach
MT-6	Establish long-term bike parking requirements		Short-Term	Community-based organizations	
MT-7	Provide incentives for low-to-moderate income residents who buy used EVs		Mid-Term	Department of Motor Vehicles	Ensure the community is educated about this through the Climate Change Ambassadors Program & through multi-lingual print/digital outreach.
MT-8	Install EV chargers at all City buildings and parks and also along public right of way where feasible		Mid-Term	Local vendors	Provide level 2 charging for free in as many locations as possible
MT-9	Replace our current minibus fleet with electric busses			Broward County & Florida Department of Transportation	Keep the minibus fare-free
MT-10	Develop and Adopt a Bike & Pedestrian Master Plan for the City		Short-Term	Community stakeholders and organizations	Ensure the Plan is community-driven and human-centered. Incentivize resident stakeholders who primarily use bike/pedestrian infrastructure to get around to share their lived experience and expertise.
MT-11	Ensure our minibus fleet includes technology to reliably track the minibus in real time via mobile phone app		Short-Term	Broward MPO & Broward County	Provide easy-to-read paper schedules at bus stops for residents without smartphones



# Community Waste

**After Buildings & Transportation, Community-Generated Waste was the third largest emitting sector in our 2016 GHG Inventory, accounting for 1.9% of our total emissions.**

Each thing that we throw away has GHG emissions related to its production, transportation to us, and its decomposition/disposal. These full environmental costs of an item are often referred to as a “lifecycle cost”.

This section focuses specifically on those emissions related to items being disposed of.



**If food waste was a country, it would be the third largest emitter of Greenhouse Gas Emissions.**  
**Americans currently waste 40% of our food.**

Actions	GHG Impact	Timeline	Potential Partners	Equity Considerations
W-1 Mandate recycling city-wide		Short-Term	Private Haulers	
W-2 Promote individual, building-wide, and/or commercial composting including participation in compost pick-up services provided by local vendors		Short-Term	Local Compost Pick-Up Businesses	Consider issuing an RFP and creating a drop-off location for low-income residents who wish to compost but cannot pay the monthly cost
W-3 Host Repair Fairs		Mid-Term	Local Businesses & Craftspeople	Prioritize the inclusion of local vendors & BIPOC owned businesses to be featured at the Repair Fairs
W-4 Develop targeted campaigns for recycling material with the highest emissions reduction impact		Short-Term	Climate Change Ambassadors	Ensure the community is educated about proper recycling through the Climate Change Ambassadors Program & through multi-lingual print/digital outreach
W-5 Encourage the recovery or destruction of high Global Warming Potential refrigerants by EPA Certified Refrigerant Reclaimers in commercial businesses		Short-Term	EPA Certified Refrigerant Reclaimers & Commercial Businesses	Ensure the community is educated about the importance & payback of this action through the Climate Change Ambassadors Program & through multi-lingual print/digital outreach
W-6 Promote the reuse of goods through sharing information for landfill alternatives using online platforms like Freecycle		Ongoing	Freecycle , Human Services, & Community Based Organizations including Thrift Stores and houses of worship	Ensure the community is aware of these alternatives through the Climate Change Ambassadors Program & through multi-lingual print/digital outreach
W-7 Explore options to reduce single-use plastic consumption within City given existing state preemption.		Ongoing	Surfrider Broward, Debris Free Oceans, Hallandale Beach Chamber of Commerce, and other Organizations	Ensure members of the small business community and also differently abled residents are part of the conversation before anything is passed.

Hallandale Beach Garbage Collection



# Community Greening

Climate change impacts, such as extreme weather events can cause damage to both physical infrastructure and natural systems which can disrupt municipal services and poses a multitude of challenges.

Natural systems provide a wide range of goods and services that benefit humans like drinkable water, pollination, flood regulation, and clean air. These “ecosystem services” support us in many ways, by enriching our health and well-being, offering recreational, aesthetic, and spiritual opportunities, and strengthening our economy. For instance, the existing tree canopy in Hallandale Beach is estimated to:

- Remove 13 tons of air pollution annually, valued at \$130,000
- Absorb 9 million gallons of stormwater runoff per year, valued at \$81,000
- Store approximately 12,000 tons of carbon, valued at over \$2 million each year
- Sequesters approximately 746 tons of CO<sub>2</sub>, valued at \$127,000.

If the City was to increase tree canopy to 35%, we would realize at minimum an additional \$1.2 million worth of ecosystem services. Trees and green infrastructure also reduce the ambient air temperature in urban areas, improving the public health, public safety, and reducing electricity demand related repercussions of extreme heat locally.

**Protecting and enhancing Hallandale Beach’s greenspaces builds resilience and can allow for natural and built resources to better cope with impacts of climate change and help to minimize disruptions to municipal services.**

Actions	GHG Impact	Timeline	Potential Partners	Equity Considerations
G-1 Plant shade trees, especially in heat island areas of the City		Short-Term	UF Agricultural Extension Office	Provide multi-lingual literature on how to trim trees, offer workshops on tree-trimming, establish an Urban Forestry program/Pledge that will focus on trees planted in right-of-way
G-2 Establish an Urban Forestry program to employ and train local residents		Short-Term	UF Agricultural Extension Office; International Society of Arboriculture	Train & employ local residents to become certified arborists, utilizing trees planted in right-of-way as practice
G-3 Promote community gardens and other forms of urban agriculture		Mid-Term	Urban Health Partnerships, Dania Beach PATCH, & community-based organizations	Assess current code to remove obstacles to urban agriculture; establish an easy & affordable process to get urban agriculture approved; consider providing sargassum compost to community gardens directly
G-4 Expand the Community Wildlife Habitat Program		Ongoing	Broward County & National Wildlife Federation	Ensure the community is educated about this through the Climate Change Ambassadors Program & through multi-lingual print/digital outreach. Create a small-grant program to cover the certification costs for low-to-middle income residents.
G-5 Promote waterway, coastline, and street litter clean-ups		Ongoing	Community organizations	Ensure that these litter clean-ups happen City-wide and not just in areas with the most complaints



Native Plant Giveaway



# Government Operations

**The City of Hallandale Beach has been working to make government operations more sustainable for decades, especially since 2018 with the adoption of the City's Sustainability Action Plan.**

The progress made in the implementation of the Sustainability Action Plan situates us in a position to lead by example. Actions such as transitioning our fleet to EVs (including our minibus), increasing energy efficiency, converting streetlights to LED, and changing out fixtures to save water and electricity are already underway.

We plan to take this even further by adding installing rooftop solar PV, participating in community solar, taking the time to listen to our residents more, and many other actions. The list to the left is not exhaustive in all the ways in which we are and plan to reduce our GHG emissions but is a useful list to show the community many of the projects we have up our sleeve.

Actions	GHG Impact	Timeline	Potential Partners	Equity Considerations
GO-1 Commit to City Operations being powered by 100% renewable energy by 2040		Long-Term	State of Florida, FPL, Department of Energy	
GO-2 Install 1 MW of solar on City Facilities		Short-Term	Local Vendors	Prioritize hiring vendors from local and/or BIPOC owned businesses
GO-3 Participate in FPL Solar Together for remaining energy consumption need of City Facilities		Mid-Term	FPL	
GO-4 Replace any natural/fossil gas appliances or infrastructure in City Facilities with electric alternatives by 2040		Mid-Term	Local Vendors	Prioritize hiring vendors from local and/or BIPOC owned businesses
GO-5 Deploy GPS tracking for fleet vehicles to right-size our fleet		Mid-Term	Local Vendor	
GO-6 Replace 100% of light-duty administrative fleet vehicles with EVs		Ongoing	Climate Mayors	Promote the auction of EVs to local residents once they need to be replaced
GO-7 Replace Police Vehicles with Hybrids until pursuit rated EVs are available and look for opportunities to use EVs when pursuit rated is not required.		Ongoing	Climate Mayors	Promote the auction of hybrids to local residents once they need to be replaced
GO-8 Add more Sustainability staff to the City Manager's Office of Grants Management, Sustainability, & Innovation		Short-Term	AmeriCorps and/or Civilian Climate Corps	Hire locally whenever possible
GO-9 Amend internal Sustainable Practice Policy to include requirements to only purchase HVAC and refrigerator equipment with refrigerants with a global warming potential of less than 150		Short-Term	EnergyStar and EIA Global	
GO-10 Review options and plan for future renewable/ clean energy options for emergency backup power at City Facilities		Long-Term	Florida Department of Emergency Management	Do a review of any potential options to ensure there is no burden on our local community in terms of environmental justice
GO-11 Create a Fleet Electrification Plan which includes medium and heavy-duty vehicles wherever feasible		Mid-Term	Southeast Alliance for Clean Energy & Electrification Coalition	Take into consideration the air quality benefits when determining the maximum number of medium and heavy-duty vehicles that can be transitioned
GO-12 Utilize cool pavement in public projects		Short-Term		Prioritize this work in heat island areas of the City
GO-13 Experiment with carbon sequestering cement in public projects utilizing cement and report back regarding the quality and feasibility of scaling up the use of this type of material		Short-Term	Private Businesses	
GO-14 Require movement of traffic (MOT) for pedestrians and ADA access be reviewed and sufficient for future development and city projects		Short-Term	Accessibility Advisory Board & Broward County	Ensure members of the community who use pedestrian infrastructure, both able-bodied and differently-abled, approve of the way in which this requirement will be written and implemented
GO-15 Improve access to cooling centers		Long-Term	Broward County & Commercial Businesses throughout the City	Prioritize cooling centers in areas facing high indoor heat burden, air pollution, or urban heat island effect; ensure that the cooling centers are viewed as a safe space to community members



Since 2016, the City has reduced its electricity consumption 15%. Energy efficiency projects and building retrofits can reduce our emissions and power bills.



# Engagement and Partnership

Actions are only as good as their implementation. Implementation will not be effective without necessary partnerships and outreach.

**To prepare for the complex issue of climate change it is important to act with a whole-society approach.** This can and should be achieved through continuous engagement with the public. For this Plan to be successful, the City will need to engage and mobilize all residents and stakeholders to garner extensive community support.

Building on existing partnerships will expand and strengthen collaboration at all levels of society. This collaboration must happen internally within organizations and communities, but also across sectors, breaking down silos and improving information sharing to make it easier for partners from across the community to leverage one another's success and build momentum.



Actions	GHG Impact	Timeline	Potential Partners	Equity Considerations
EP-1 Establish a green business certification in partnership with the Hallandale Beach Chamber of Commerce		Short-Term	Hallandale Beach Chamber of Commerce & Local Businesses	Establish this program in such a way that there are different levels of certification & that small businesses are not excluded but rather are highlighted more often
EP-2 Establish a Sustainable Homes initiative similar to the Green Business Certification for households to participate in and gain recognition		Short-Term	HOAs, Condo Associations, Neighborhood Groups, Community-based organizations	Ensure activities in the Sustainable Homes initiative are accessible to people of varying income and homeownership situations
EP-3 Create a local Climate Change Ambassadors program to encourage the community to participate		Ongoing	Community-based organizations faith-based organizations, & schools	Encourage volunteers to be part of the program but also hire local members of underserved communities who are interested in climate change to do part-time outreach.
EP-4 Host community conversations throughout Plan implementation			Community-based organizations & schools	The focus of these meetings should be City staff listening to the lived experience of our community members
EP-5 Increase outreach, including educational signage, about the benefits of the City's carbon-cutting actions and what residents/businesses can do		Mid-Term	Local language interpreters	Ensure all print/digital outreach materials are provided in languages spoken throughout the City and are accessible to those with disabilities
EP-6 Promote co-working, thrift stores, plant-based restaurants, and ride-share hub type businesses in the City		Ongoing	Economic development agencies, various businesses within the gig economy, & developers	

## Next Steps

**50by30: Hallandale Beach's Climate Action Plan was created to provide a framework to reduce GHG emissions and to improve quality of life for our community. What's next?**

- Engage in community conversations with anyone who lives, works, or plays in Hallandale Beach about local climate change impacts and how we can work together to reduce emissions/improve quality of life.
- Prioritize and begin implementation of actions included in this Plan.
- Conduct GHG inventories every 3 years to monitor progress towards our Net-Zero by 2050 goal.
- Provide an annual progress report to the community.
- Update the full Plan at least once every 5 years and ensure the Plan keeps up with new science and technology.
- Recognize that slowing climate change starts with each one of us- we must act collectively, and we must act individually.

GHG Emissions Update Year	Year in which the GHG update will be published
2016	2020
2021	2022
2024	2025
2027	2028
2030	2031



*Let's get started  
Hallandale Beach!*



# Timeline

	Action	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
EB-1	Require solar photovoltaics for new and substantially improved residential and commercial buildings, capacity required to be determined.										
EB-2	Establish partnerships to provide low-interest loans for solar and energy efficiency improvements										
EB-3	Revise City Building Code by 2030 to require all new buildings be built to Net-Zero standards										
EB-4	Promote the use of community solar programs in single and multi-family housing										
EB-6	Establish building performance standards and benchmarking for existing buildings over 20,000 square feet and rental units										
EB-7	Advocate for Florida Building Code changes that align with net-zero emissions by 2050										
EB-8	Support a National Price on Carbon										
EB-9	Explore all possible options to deploy floating Solar PV on Chaves Lake										
EB-10	Support the Florida Public Service Commission in establishing more rigorous energy efficiency standards and renewable energy goals for Florida utilities										
EB-11	Support the Federal Government's efforts to electrify buildings and transition to carbon-free electricity by 2035										
MT-1	Improve city-owned bus shelters by adding trash receptacles, fans, working lights, more routine cleaning, shade where shade is lacking, and ADA accessibility										
MT-2	Develop street standards incorporating protected bike/pedestrian areas/lanes to make streets safer and more welcoming to pedestrians and cyclists										
MT-3	Deploy micro-mobility such as e-scooters and e-bikes (and their chargers where appropriate) throughout the transit network in the City										
MT-4	Require EV charging in all new commercial development and redevelopment, including multi-family housing										
MT-5	Establish an incentive for existing residential and multi-family commercial buildings for electric panel upgrades and EV chargers										
MT-6	Establish long-term bike parking requirements										
MT-7	Provide incentives for low-to-moderate income residents who buy used EVs										
MT-8	Install EV chargers at all City buildings and parks and also along public right of way where feasible										
MT-9	Replace our current minibus fleet with electric busses										
MT-10	Develop and Adopt a Bike & Pedestrian Master Plan for the City										
MT-11	Ensure our minibus fleet includes technology to reliably track the minibus in real time via mobile phone app										
W-1	Mandate recycling city-wide										
W-2	Promote individual, building-wide, and/or commercial composting including participation in compost pick-up services provided by local vendors										
W-3	Host Repair Fairs										
W-4	Develop targeted campaigns for recycling material with the highest emissions reduction impact										
W-5	Encourage the recovery or destruction of high Global Warming Potential refrigerants by EPA Certified Refrigerant Reclaimers in commercial businesses										
W-6	Promote the reuse of goods through sharing information for landfill alternatives using online platforms like Freecycle										
W-7	Explore options to reduce single-use plastic consumption within City given existing state preemption.										

Action	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
G-1 Plant shade trees, especially in heat island areas of the City										
G-2 Establish an Urban Forestry program to employ and train local residents										
G-3 Promote community gardens and other forms of urban agriculture										
G-4 Expand the Community Wildlife Habitat Program										
G-5 Promote waterway, coastline, and street litter clean-ups										
GO-1 Commit to City Operations being powered by 100% renewable energy by 2040										
GO-2 Install 1 MW of solar on City Facilities										
GO-3 Participate in FPL Solar Together for remaining energy consumption need of City Facilities										
GO-4 Replace any natural/fossil gas appliances or infrastructure in City Facilities with electric alternatives by 2040										
GO-5 Deploy GPS tracking for fleet vehicles to right-size our fleet										
GO-6 Replace 100% of light-duty administrative fleet vehicles with EVs										
GO-7 Replace Police Vehicles with Hybrids until pursuit rated EVs are available and look for opportunities to use EVs when pursuit rated is not required.										
GO-8 Add more Sustainability staff to the City Manager's Office of Grants Management, Sustainability, & Innovation										
GO-9 Amend internal Sustainable Practice Policy to include requirements to only purchase HVAC and refrigerator equipment with refrigerants with a global warming potential of less than 150										
GO-10 Review options and plan for future renewable/clean energy options for emergency backup power at City Facilities										
GO-11 Create a Fleet Electrification Plan which includes medium and heavy-duty vehicles wherever feasible										
GO-12 Utilize cool pavement in public projects										
GO-13 Experiment with carbon sequestering cement in public projects utilizing cement and report back regarding the quality and feasibility of scaling up the use of this type of material										
GO-14 Require movement of traffic (MOT) for pedestrians and ADA access be reviewed and sufficient for future development and city projects										
GO-15 Improve access to cooling centers										
EP-1 Establish a green business certification in partnership with the Hallandale Beach Chamber of Commerce										
EP-2 Establish a Sustainable Homes initiative similar to the Green Business Certification for households to participate in and gain recognition										
EP-3 Create a local Climate Change Ambassadors program to encourage the community to participate										
EP-4 Host community conversations throughout Plan implementation										
EP-5 Increase outreach, including educational signage, about the benefits of the City's carbon-cutting actions and what residents/businesses can do										
EP-6 Promote co-working, thrift stores, plant-based restaurants, and ride-share hub type businesses in the City										



# Acknowledgements

**50by30: Hallandale Beach's Climate Action Plan was made possible by the contributions of our community and dedicated City staff.**

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Anabelle Lima-Taub, Commissioner  
Michelle Lazarow, Commissioner  
Sabrina Javellana, Commissioner

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## **Photo Credit:**

Photos on pages 1-4 by Alina Zaliznea



Dune and Dune Educational Sign



Complete Street on NE 14 Ave

# Glossary and Acronyms

## Key Terms

**Adaptation:** measures taken to adapt areas or structures to climate change impacts themselves such as sea level rise.

**Carbon-free Electricity:** electricity produced by a resource that generates no carbon emissions.

**Climate Action Plan:** a set of strategies intended to guide efforts on climate change mitigation.

**CO<sub>2</sub>e:** Carbon dioxide equivalent, a standard unit for measuring greenhouse gas emissions. Used to express the impact of each different greenhouse gas in terms of the amount of CO<sub>2</sub> that would create the same amount of warming. That way, a greenhouse gas emission inventory can all be expressed as a single unit.

**Co-benefits:** benefits of an action to the community in addition to reducing greenhouse gas emissions.

**Cooling Center:** a location, typically air-conditioned or cooled building that has been designated as a site to provide respite and safety during extreme heat. These may be government-owned buildings such as libraries or schools, or private businesses such as a coffee shop, shopping mall, or movie theatre.

**Cool Pavement:** road surfaces that use additives to reflect solar radiation unlike conventional dark pavement.

**Energy Cost Burden:** the percentage of household income that goes towards energy costs (electricity, home heating/cooling, and transportation).

**Equity:** involves trying to understand and give people what they need to enjoy healthy lives. This differs from the commonly conflated "equality" which aims to ensure everyone gets the same things in order to enjoy full, healthy lives.

**Frontline communities:** communities experiencing the first and worst of climate change consequences, specifically those most impacted by the energy and transportation systems and their resulting pollution. Frontline communities include, but are not limited to communities of color, low-income communities, indigenous communities, and communities surrounded by extractive energy production.

**Greenhouse Gasses:** Gasses emitted into the atmosphere by both natural and human-made sources that contribute to the warming of the Earth's climate by trapping heat in the atmosphere. The most common of these gasses are superheated water vapor, carbon dioxide, and methane.

**Health Disparities:** preventable differences in the burden of disease, injury, violence, or opportunities to achieve optimal health that are experienced by socially disadvantaged populations. Populations can be defined by factors such as race or ethnicity, gender, education or income, disability, geographic location (e.g. rural or urban), or sexual orientation.

**Heat Island Effect:** the tendency of average temperatures in urban areas to be higher than in surrounding rural areas. This is caused by human activities and the ability of concrete to retain heat throughout cooler parts of the day.

**Micro-mobility:** transportation over short distances provided by lightweight, usually single-person vehicles such as bicycles and scooters.

**Mitigation:** reducing emissions of and stabilizing the levels of heat-trapping greenhouse gasses in the atmosphere

**MtCO<sub>2</sub>e:** The standard unit of measure for greenhouse gasses. This measurement was designed to make the impact of various greenhouse gasses uniform to that of a metric ton of carbon dioxide, and therefore easier to measure.

**Net-Zero Emissions:** Balancing carbon emissions with the purchase or generation of renewable energy, achieved through reducing carbon emissions with increased consumption of renewable energy.



# Glossary and Acronyms (continued)

**Renewable Energy:** energy generated from natural sources that are not depleted when used. These natural sources are continuously replenished or constant on a human timescale. Renewable energy can be generated by sunlight, wind, water, and underground heat sources.

**Resilience:** the ability of a community to anticipate, accommodate, and positively adapt to or thrive amidst changing climate conditions or hazard events and enhance quality of life, reliable systems of economic viability, & conservation of resources for present and future generations<sup>13</sup>.

**Urban Heat Islands:** urbanized areas that experience higher temperatures than outlying areas.

## Acronyms

**ADA:** Americans With Disabilities Act

**BIPOC:** Black, Indigenous, (and) People of Color

**CO<sub>2</sub>:** Carbon dioxide

**EV:** Electric vehicles, including plug-in hybrid vehicles and full battery electric vehicles

**FPL:** Florida Power and Light

**GHG:** Greenhouse Gas Emissions

**ICLEI:** Local Governments for Sustainability

**IPCC:** United Nations Intergovernmental Panel on Climate Change

**MtCO<sub>2</sub>e:** Metric tons of carbon dioxide equivalent

**Solar PV:** Solar photovoltaics, solar installations intended to supply power/electricity

## Appendix

### Survey Results

### HaveyoursayHallandale Results

### Public Comments from June 21 Public Meeting

1. [IPCC Fifth Assessment Report, Summary for Policymakers \(2014\)](#)
2. [Union of Concerned Scientists Killer Heat Factsheet for Florida's 23rd Congressional District](#)
3. [Southeast Florida Regional Climate Change Compact Sea Level Rise Projection Guidance Report \(2020\)](#)
4. [Union of Concerned Scientists Encroaching Tides Report](#)
5. Broward County Groundwater Elevation Maps – Predicted Changes and Planned Updates (2020)
6. [Hallandale Beach Vulnerability Assessment and Adaptation Plan](#)
7. [C40 Why Cities?](#)
8. [IPCC Special Report on Global Warming of 1.5°C](#)
9. [Fourth National Climate Assessment](#)
10. Learn more about Social Vulnerability to Environmental Hazards [here](#)
11. [Hallandale Beach Greenhouse Gas Inventory \(2016\)](#)
12. The outputs recorded in percentile are relative to the national average. For example, if an area scores in the 90-100th percentile for exposure to a given environmental indicator, this signals that 87% of block groups in the United States have lower concentrations of that indicator. The EJScreen tool then combines the prevalence of the indicator with the underlying demographics of the block group to create a measure of risk.
13. Definition from the Urban Sustainability Directors Network



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