

Taking Climate Action in Charleston

Climate Action Plan 2021-2026



CITY OF CHARLESTON

Mayor's Office of Resilience and Sustainability

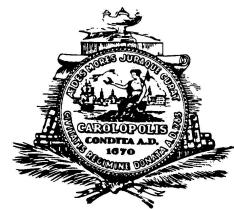




Photo credit: Charleston
Climate Coalition

Let's talk about climate

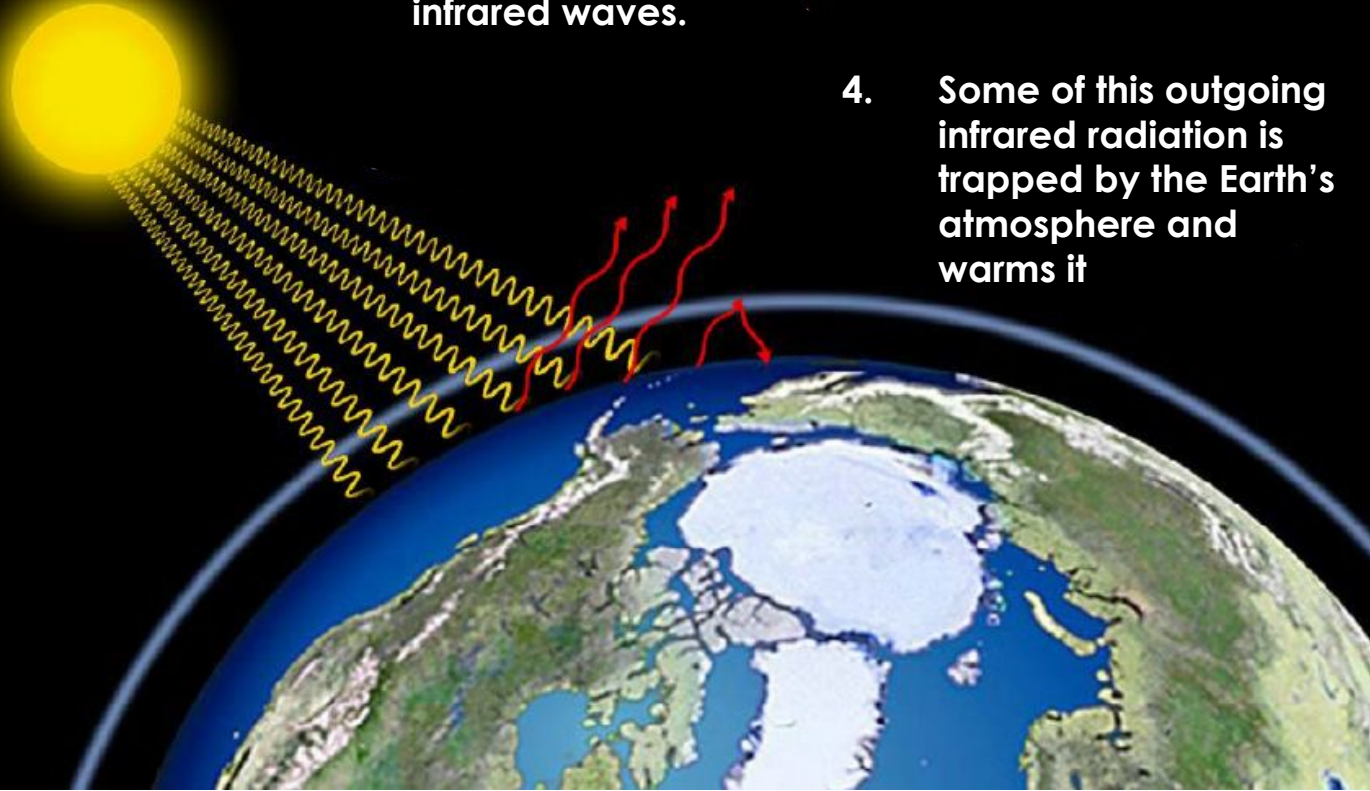
- The impacts of climate change in Charleston
- Charleston Climate Action Plan
- What you can do to help

An aerial photograph of a coastal marsh system. A prominent, winding river or tidal channel flows through the landscape, which is characterized by a mix of brownish and greenish-yellow marsh vegetation. In the bottom left corner, there is a dense, dark green forest. The top of the image shows a sandy beach area meeting the ocean under a clear blue sky. A semi-transparent blue banner with white text is overlaid across the middle of the image.

Impacts of climate change in Charleston

How is our planet warming?

1. Solar radiation in the form of lightwaves passes through the atmosphere.
2. Most of this radiation is absorbed by the Earth and warms it.
3. Some energy is radiated back into space by the Earth in the form of infrared waves.
4. Some of this outgoing infrared radiation is trapped by the Earth's atmosphere and warms it

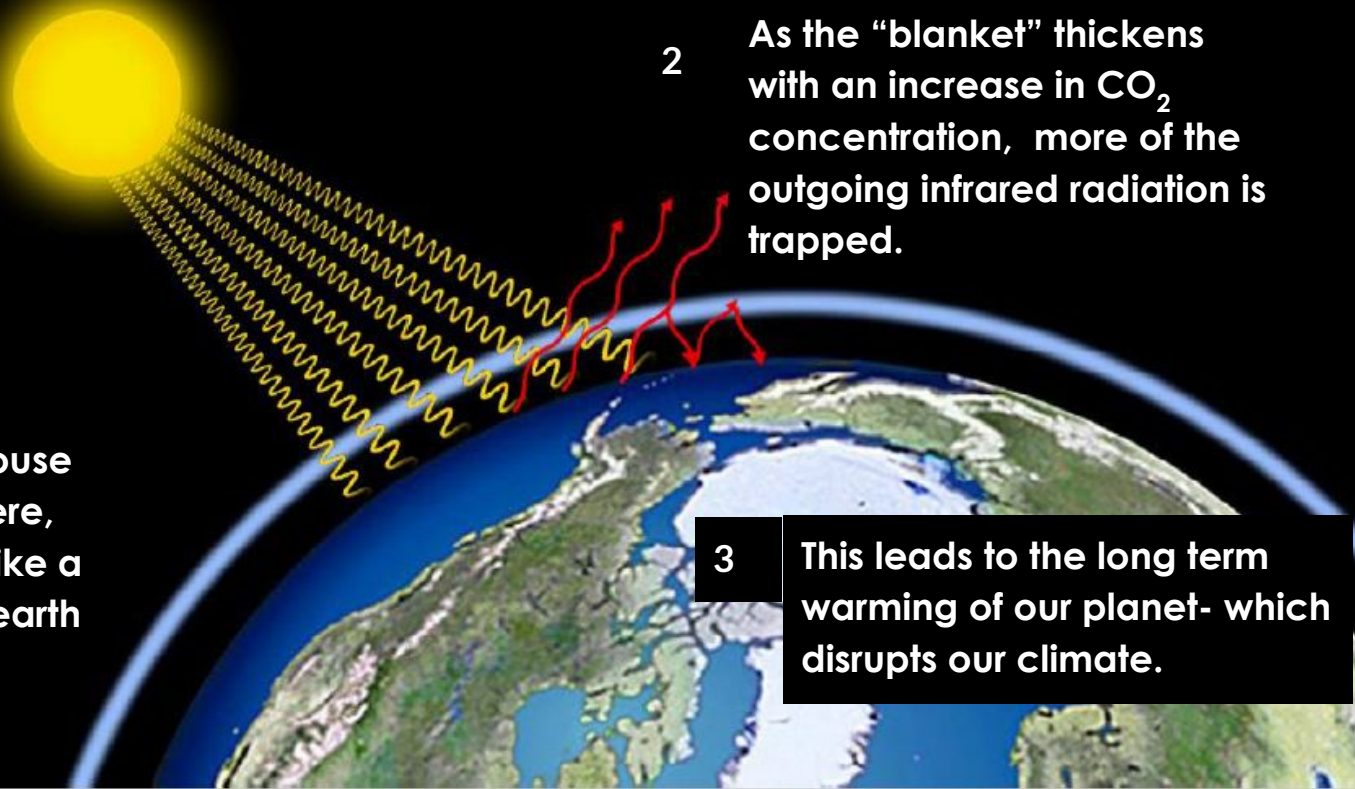


1 When we add greenhouse gases to our atmosphere, they buildup and act like a “blanket” around the earth that traps heat.

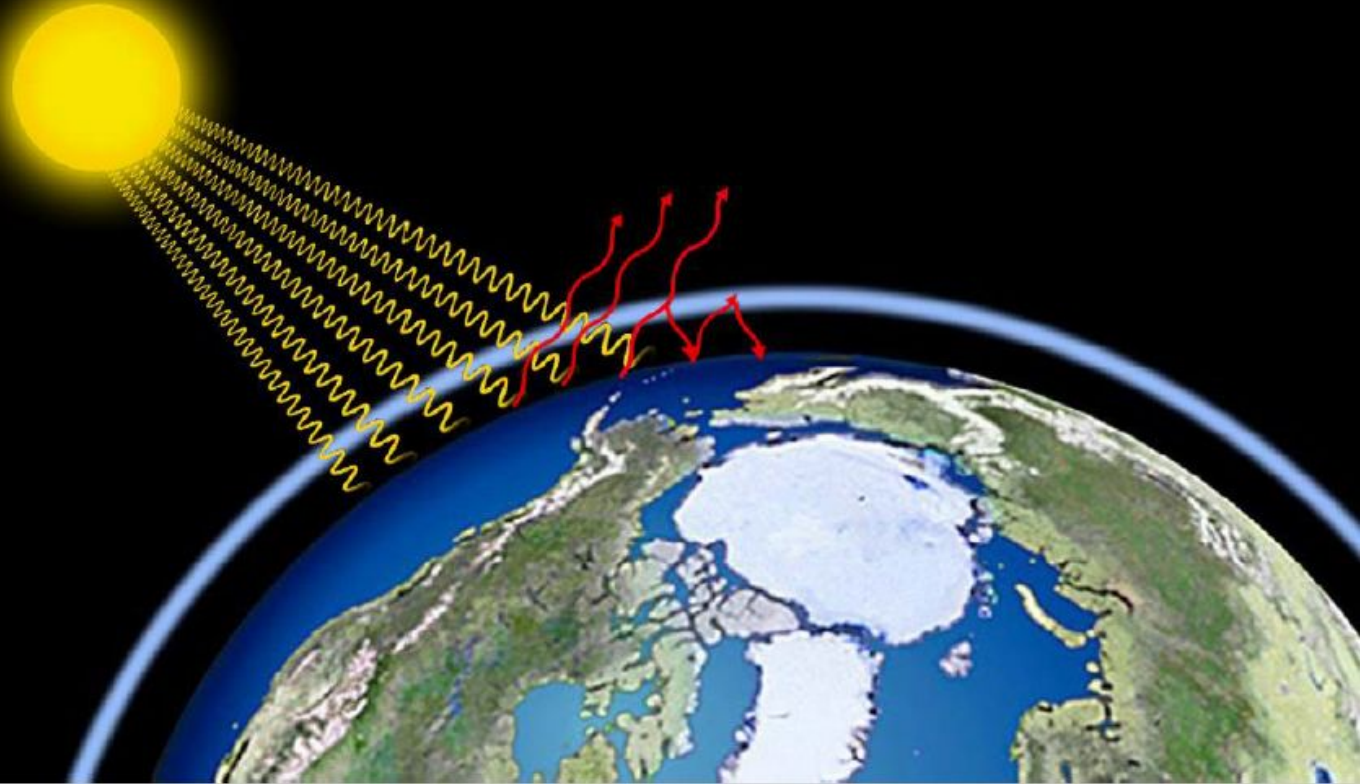
Adapted from The Climate Reality Project

2 As the “blanket” thickens with an increase in CO_2 concentration, more of the outgoing infrared radiation is trapped.

3 This leads to the long term warming of our planet- which disrupts our climate.



As a prime example, when humans burn fossil fuels for energy, we add more and more heat trapping gases into the atmosphere, thickening the “blanket”, making our planet warmer.





“We are the first generation to feel the sting of climate change, and we are the last generation that can do something about it.”

- Jay Inslee

Photo credit: Post and Courier

Global Impacts | Southeastern Australia

Smoke from
Australia's 2020
wildfires circled
around the globe.

Global Impacts | Bihar, India

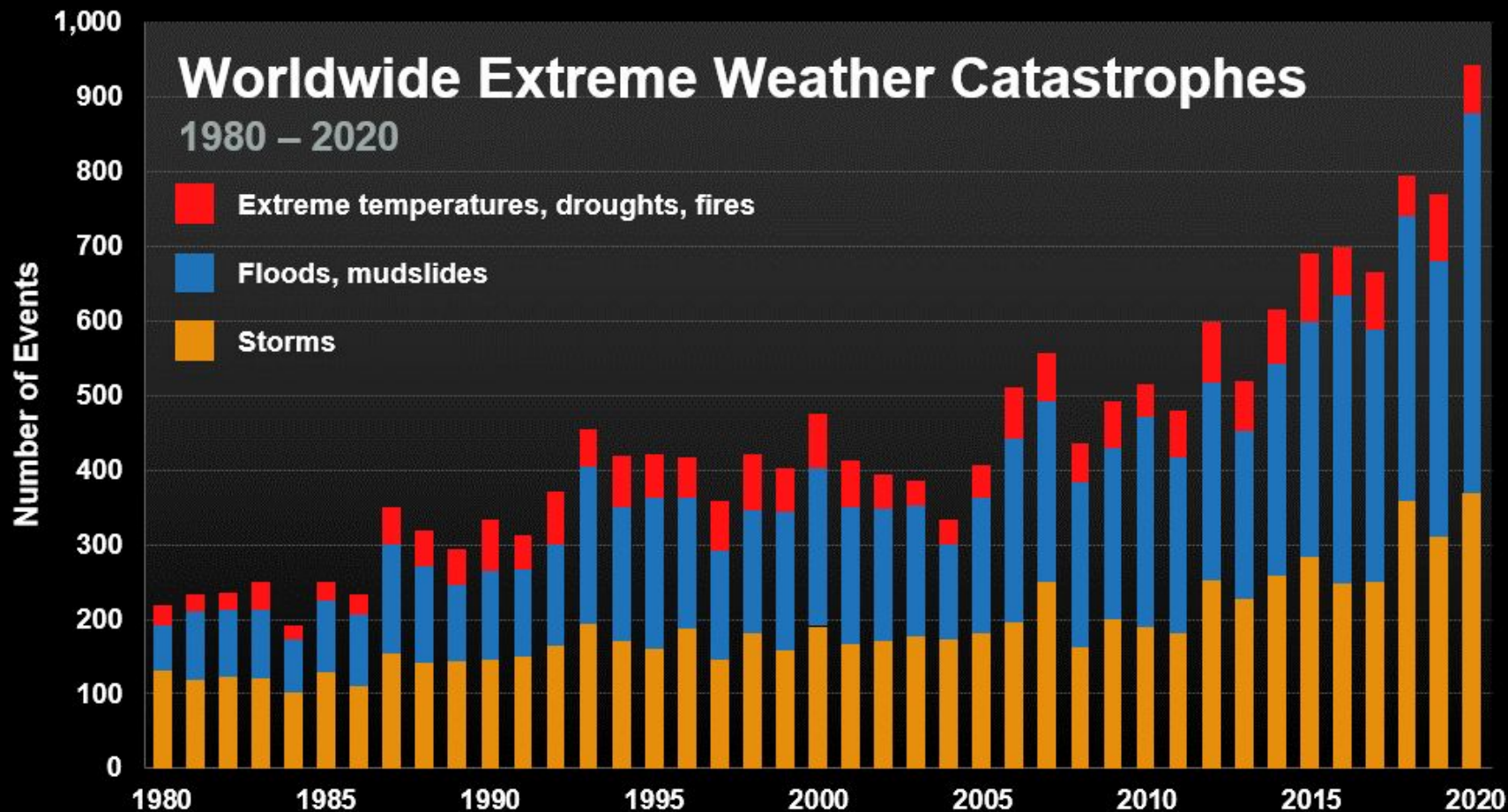
2020's monsoon rainfall in Bihar was 50% higher than usual.
India's super monsoon was 2020's deadliest climate disaster, **claiming 1,900 lives.**



Global Impacts | Ashland, Oregon

Across Oregon, more than 2,300 homes had burned in wildfires by mid-September 2020.



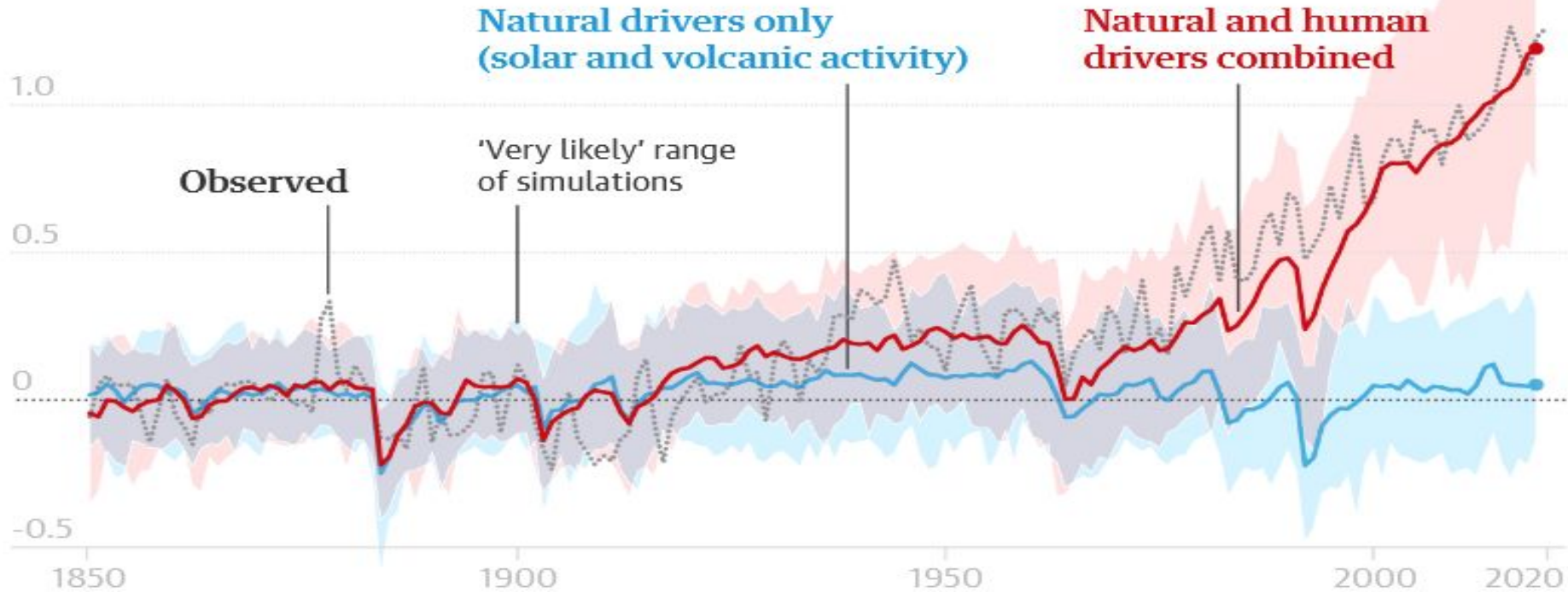


Data: 2017 Munich Re, Geo Risks Research, NatCatSERVICE. As of 2021.

Adapted from The Climate Reality Project

Global impacts of carbon emissions

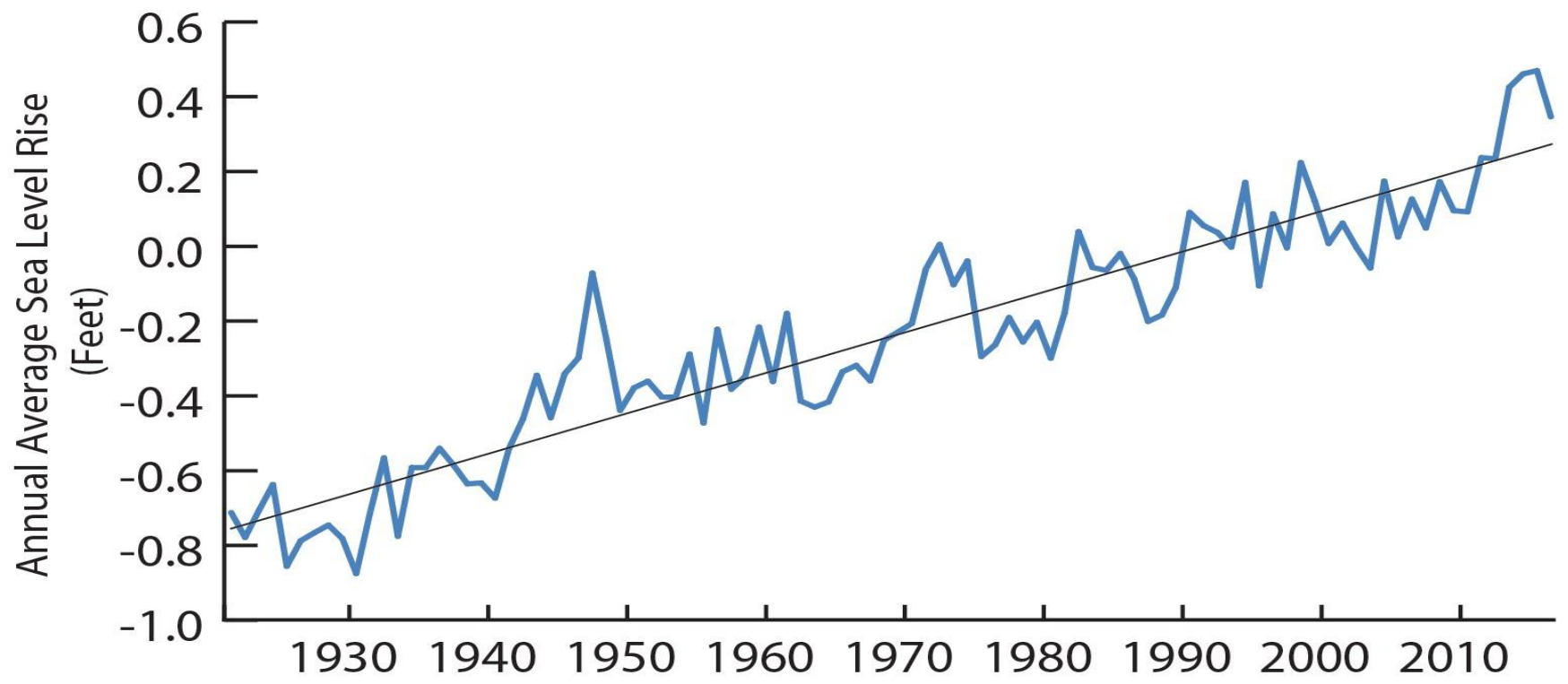
1.5C change in global surface temperature relative to 1850-1900



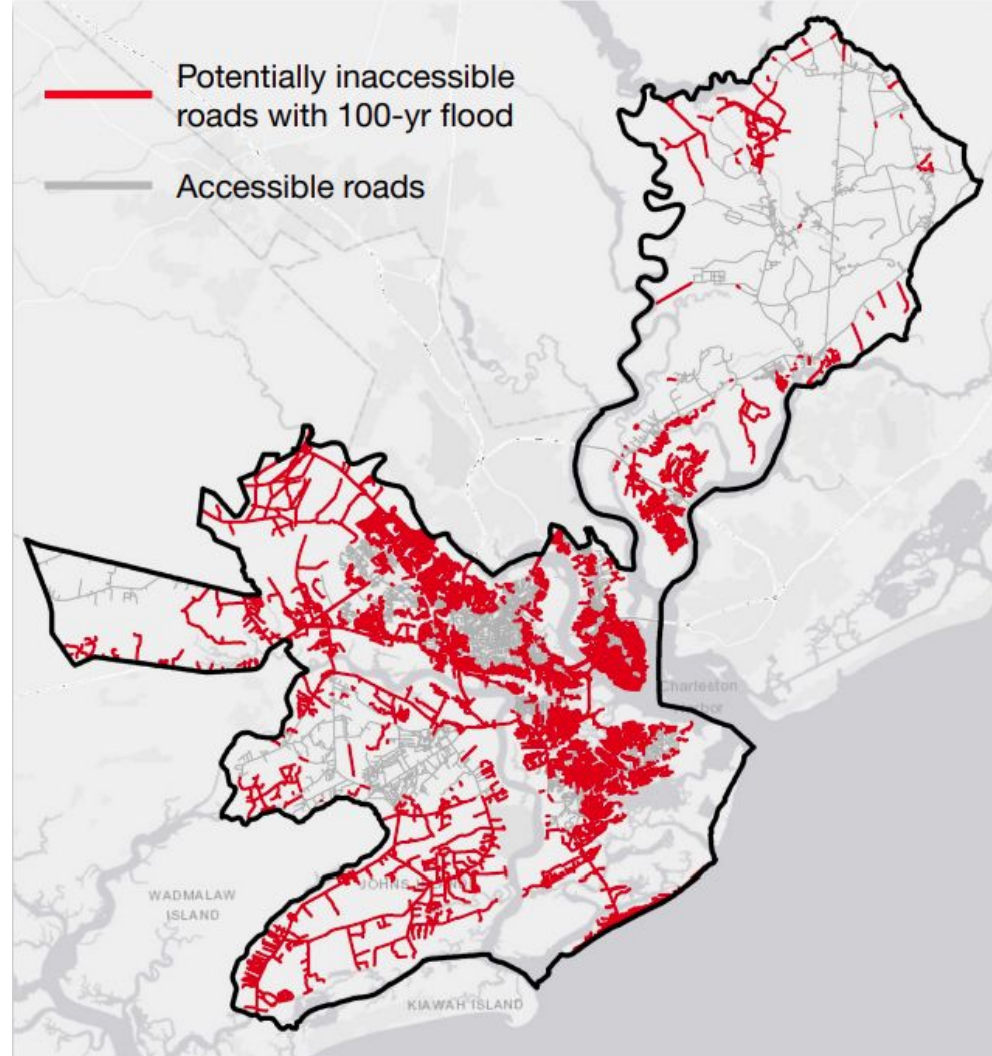
Guardian graphic. Source: Intergovernmental Panel on Climate Change

Local data

FIGURE 1: OBSERVED SEA LEVEL RISE IN CHARLESTON HARBOR
NOAA Charleston Tide Station



Potentially inaccessible roads due to flooding from large storm



Video: Possible Future Impact

<https://www.youtube.com/watch?v=ttvxt7UhIA4>

Nobody can predict the future, however we can use data and technology to make simulations



Southern-facing view across Spring & Cannon streets, towards Courtenay Dr.

Image courtesy Climate Central & Google Earth



Battery, White Point Garden, King St area

Image courtesy Climate Central & Google Earth



Cathedral of St. John the Baptist

Image courtesy Climate Central & Google Earth



NE Concord St. from St. Adgers' Wharf

Image courtesy Climate Central & Google Earth



Charleston's Climate Action Plan

The Charleston Climate Action Plan

A 5-year strategic framework to reduce carbon pollution.



Buildings



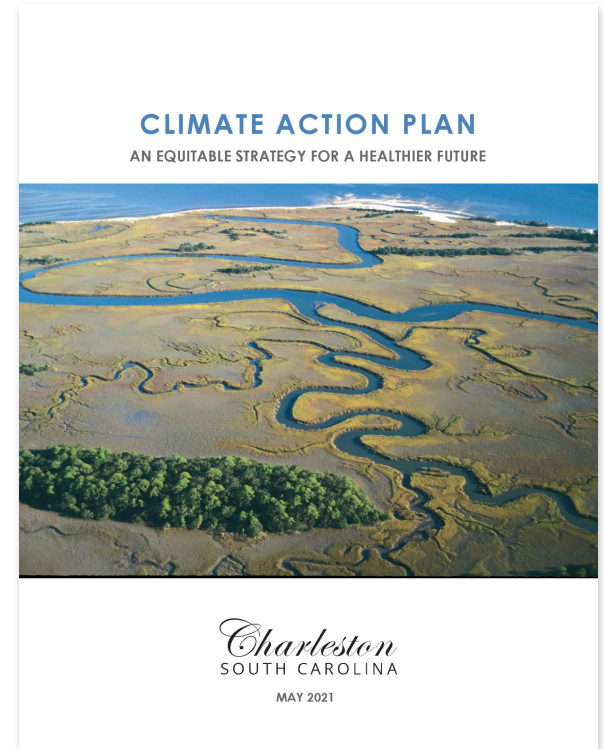
Transportation



Waste



Carbon sinks



CLIMATE ACTION PLAN

AN EQUITABLE STRATEGY FOR A HEALTHIER FUTURE



Charleston
SOUTH CAROLINA

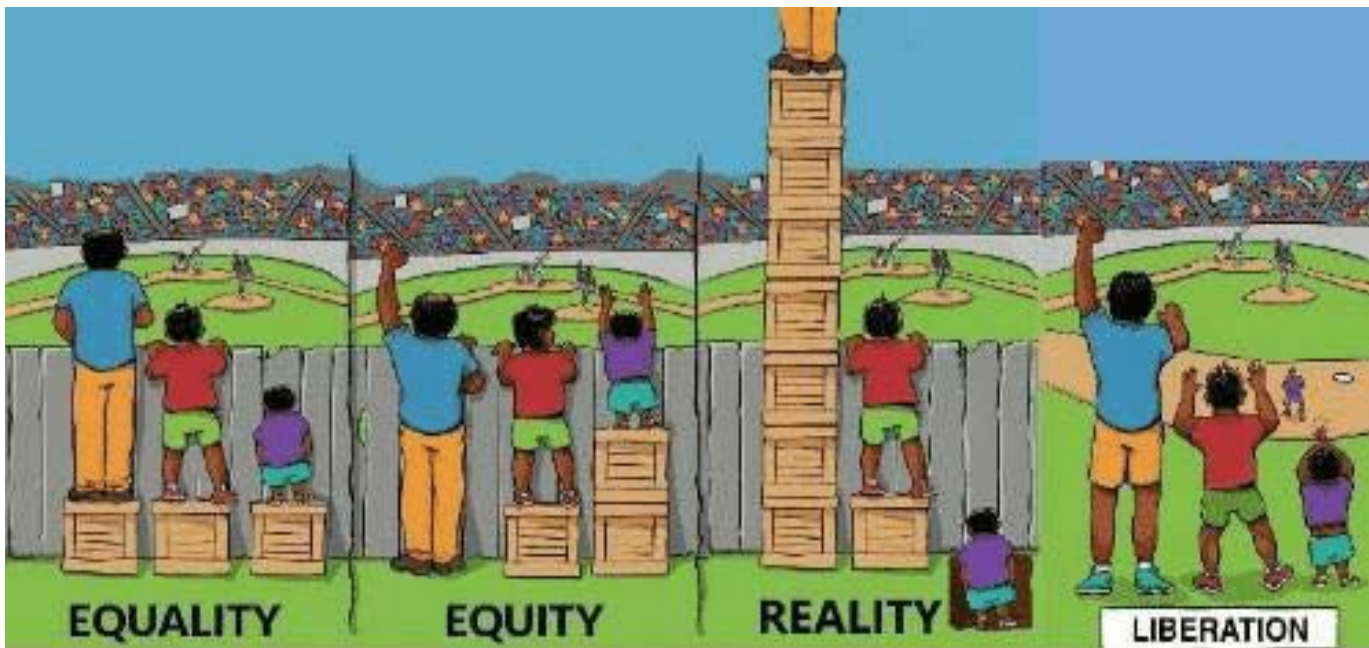
MAY 2021

5 year action plan

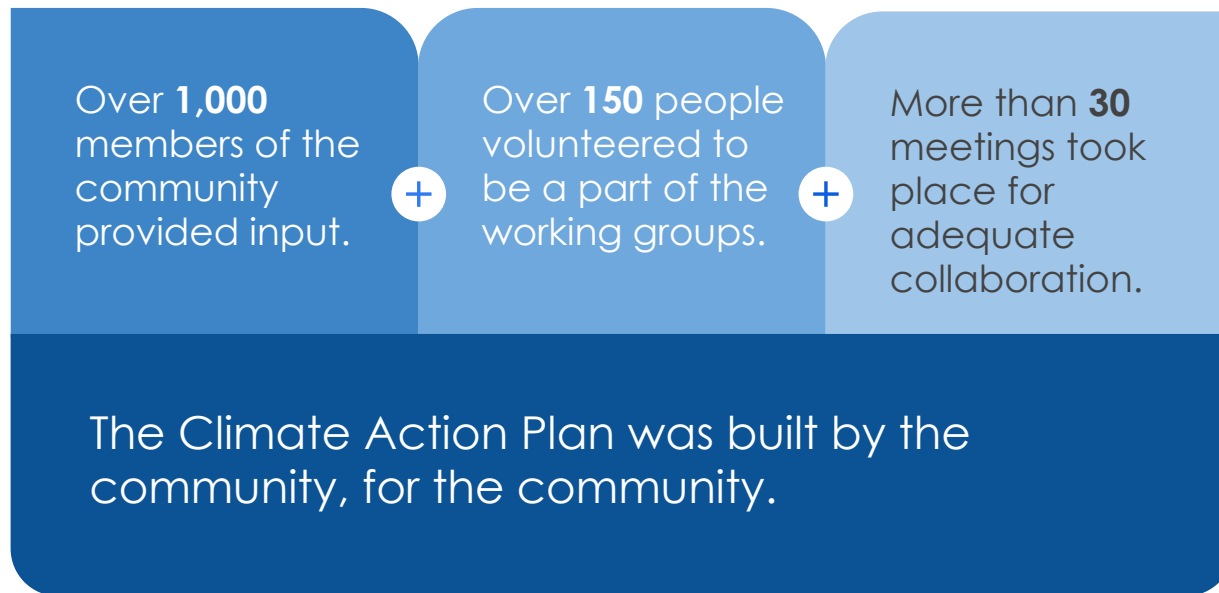
- Reflects the latest science
 - Aligns with industry standards
 - Aligns with other City plans
 - Emphasizes the importance of ongoing, equitable community engagement
-

Climate Action Rooted in Social Equity

At-risk communities bear the brunt of climate impacts

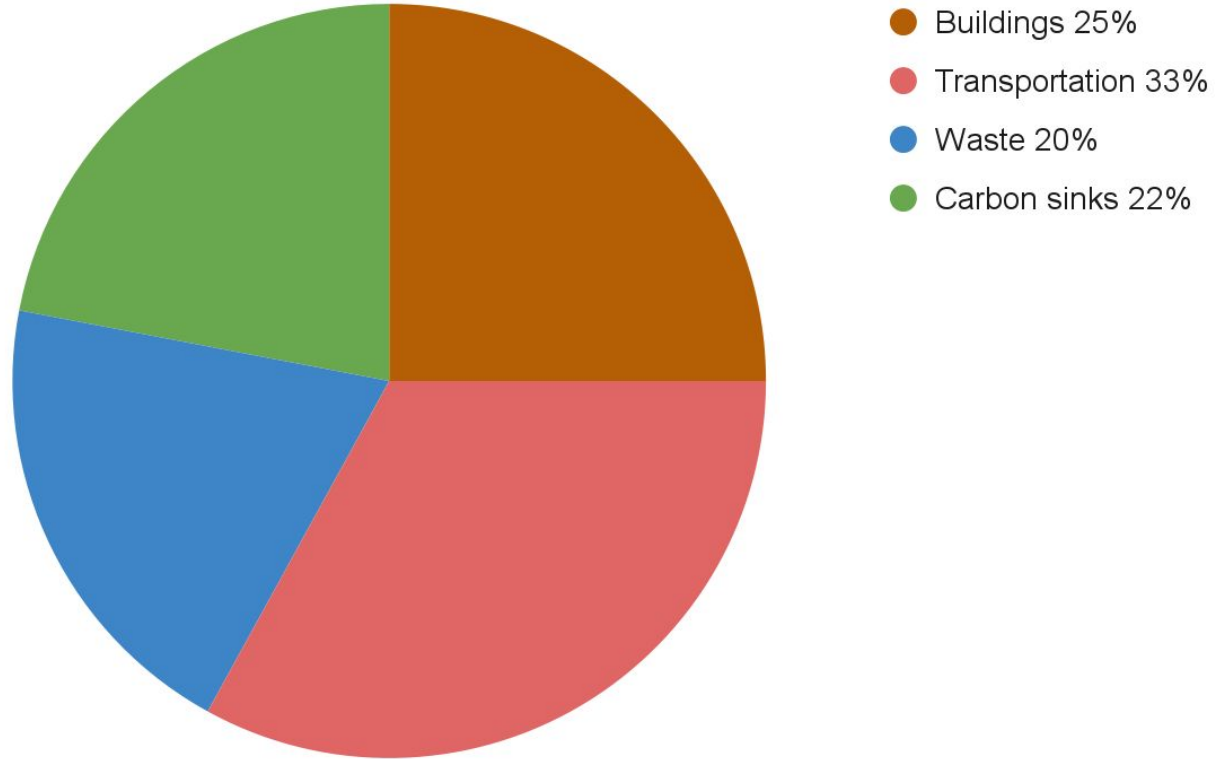


The Climate Action Plan prioritizes inclusivity



Special thanks to all of the volunteers who contributed their time in a working group!

The Climate Action Plan has 51 action items



Co-Benefits

Every action in the Climate Action Plan has two or more additional benefits for Charlestonians, such as:

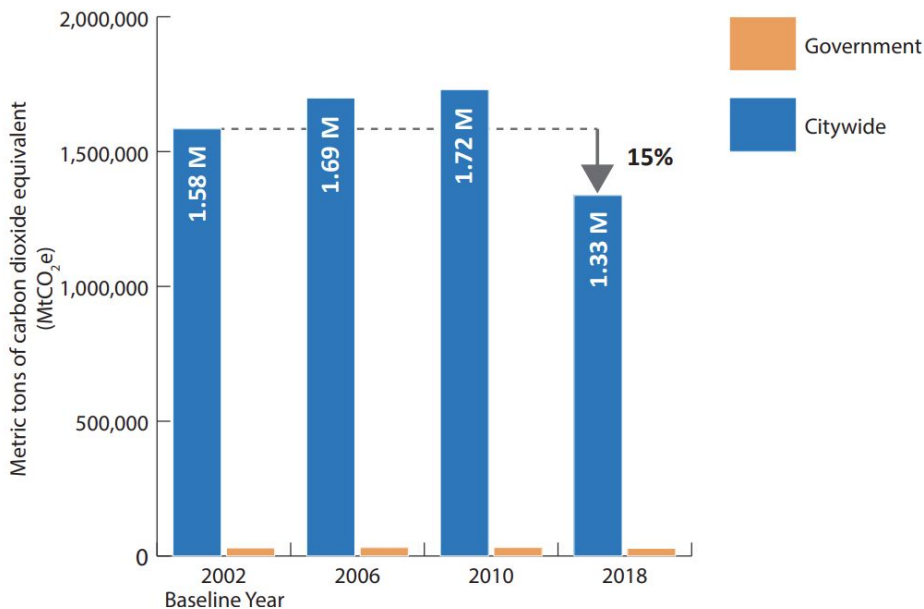
- Cost savings
- Improve mobility
- Improve public health / air quality
- Ecosystem protection / water quality
- Safety
- Economic development and retention
- Enhance climate adaptation
- Historic preservation
- Cultural preservation
- Raise awareness and role model
- Beautification

Emissions reduction targets

- Net zero emissions by 2050
- 56% reduction by 2030



FIGURE 1: CITYWIDE VS. GOVERNMENT ANNUAL GHG EMISSIONS



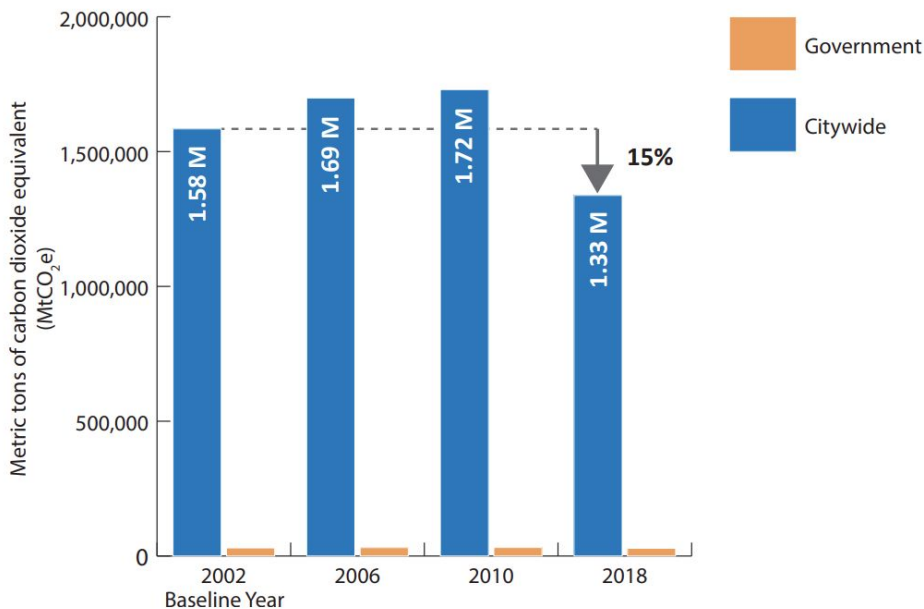
Emissions reduction targets

WE NEED YOUR HELP!

- Net zero emissions by 2050
- 56% reduction by 2030



FIGURE 1: CITYWIDE VS. GOVERNMENT ANNUAL GHG EMISSIONS



Small changes add up!

Take Climate Action Today, Charleston

View checklist on last page of plan.

Post it in your home.



<https://www.charleston-sc.gov/DocumentCenter/View/29235/Take-Climate-Action-Today-Charleston>

TAKE CLIMATE ACTION TODAY, CHARLESTON

CREATING A MORE RESILIENT
AND SUSTAINABLE FUTURE.

A CHECKLIST FOR CLIMATE ACTION AROUND YOUR HOME



You can make a difference by taking action in your home with small changes. Here are some suggestions of how you can help right now. The actions with the highest impact are marked .




SUSTAIN YOUR LIFESTYLE

- ☐ Consume foods which are grown locally and/ or are grown organically. Join a [farm share](#) and shop at [farmers' markets](#). Plant fruits and vegetables in your own garden or participate in a [community garden](#). Eat at restaurants that feature local and seasonal foods, including [seafood](#) and [dairy](#). Try "meatless Mondays". Avoid food waste.
-  ☐ Eat a plant rich diet. [Reduce your consumption of meat](#).
- ☐ Buy [local products](#).
- ☐ Support [environmentally-conscious businesses](#).
- ☐ Communicate with your elected officials regarding new and emerging solutions. Attend the City's [Resiliency and Sustainability Advisory Committee](#) public meetings.

PROTECT YOUR AIR, WATER AND CARBON SINKS

-  ☐ [Plant trees](#), especially where they'll provide shade for your house, and [native plants](#) for their resilience.
- ☐ Reduce pesticide and fertilizer use. Enrich your soil with compost. [Purchase compost](#) from Charleston County.
- ☐ Properly dispose of waste including pet waste. It should not go down the storm drain.
-  ☐ Participate in marsh restoration programs like [SC Oyster Restoration](#) and [From Seeds to Shoreline](#) (at school).



REDUCE YOUR WASTE

- ☐ Buy only items that are necessary and that you are sure you will use. Focus on enduring purchases instead of disposable items.
- ☐ Avoid single-serving packaging, especially plastic. Buy in bulk with reusable bags or jars.
-  ☐ [Compost](#) your organic (food, yard) waste.
- ☐ Take your own reusable bags to the store.
- ☐ Donate unused clothes and electronics to charity.
- ☐ Opt-in for electronic catalogs and billing statements. [Try these 4 tips](#) to stop junk mail.
- ☐ Use extra paper as scrap paper and print double sided.
- ☐ Recycle. Find out [what can be recycled](#). View Charleston County's recycling [pick up schedule](#).




MAKE YOUR HOME MORE RESILIENT

- ☐ [Adopt a storm drain](#) to help maximize the amount of water that can flow into drains and protect water quality.
- ☐ Connect a [rain barrel](#) to your gutter system.
- ☐ [Rainproof](#) your home and install a rain garden, native plants, a green roof, or permeable pavement.
- ☐ Establish a household emergency plan and kit for storms, heat emergencies and other disasters.

LIGHTEN YOUR TRANSPORTATION FOOTPRINT

-  ☐ Reduce single-destination and single-occupant trips.
-  ☐ Walk, [ride a bike](#), use public transit, or carpool. Use tools like [LowcountryGo](#), or [plan your CARTA route](#) online or in the easy [Transit app](#).
- ☐ Use the most efficient vehicle when feasible.
- ☐ Avoid idling your vehicle, such as in the carpool pick-up.
- ☐ Ride in a more efficient or alternative fuel car, such as a hybrid or electric vehicle.

USE ENERGY EFFICIENTLY AND RENEWABLY

-  ☐ Get a free energy assessment from [Dominion](#) or [Berkeley Electric](#). Or use the [SC Energy Saver Tool](#).
-  ☐ Perform energy efficiency improvements, like insulation. Utilize free weatherization programs (if income qualified) such as [Energy Conservation Corps](#) and [Palmetto CAP](#).
-  ☐ Consider installing solar on your home. Do an [initial assessment](#). Get the facts about [how solar works](#) and understand [consumer information](#).
- ☐ Use CFL and LED bulbs, they save energy and last longer.
- ☐ Unplug electronics and turn off lights. Use power strips.
- ☐ Adjust your thermostat to save while asleep or away from home. Install a programmable thermostat.
- ☐ Replace refrigerators and other appliances with those labeled ENERGY STAR®.
- ☐ Only run the dishwasher, dryer and washer when full.
- ☐ Wash clothes in cold water and hang out to dry.
- ☐ Take shorter showers. Install a low-flow showerhead.



Protect Your Air, Water, and Carbon Sinks

What we can do

Plant trees and native
plants

“Right tree, right place”





Protect Your Air, Water, and Carbon Sinks

What local government is doing

- Charleston's Street Tree Program helps you plant trees
- Tree plantings in winter, Arbor Day in December



Reduce your waste

What we can do

- Compost our food waste
- Use [resources available online](#) to get started





Reduce your waste

What local government is doing

- 2016 Charleston restaurant composting pilot program
- **New!** Charleston composting food scrap drop off program- Started January 2022
- **New!** Charleston County compost bins- Spring 2022





Make your home more resilient

Adopt a storm drain

- Monitor
- Clear
- Report

Benefits

- Reduces flooding
- Reduces pollution
- Beautification





Make your home more resilient

Install rain gardens and cisterns

- [Charleston Rainproof](#) has resources to get us started
- Visit examples in City parks!

Benefits

- Reduces flooding
- Protects water quality
- Beautification





Reduce your transportation footprint

**What local government is
doing**

Holy Spokes Bike Share



Photo: Post & Courier



Reduce your transportation footprint

What we can do

- Walk
- Ride a bike
- Use public transit
- Carpool
- Use electric vehicles when possible





Use energy efficiently & renewably

Discounted

- Energy efficient light bulbs
- Smart thermostats

Free


- Energy saving tips
- Free energy assessments



**Dominion
Energy®**



**Berkeley Electric
Cooperative**

Your Touchstone Energy® Cooperative 

Sustain Your Lifestyle



Sustain Your Lifestyle



Land Use Change

Aboveground changes in biomass from deforestation, and belowground changes in soil carbon

Farm

Methane emissions from cows, methane from rice, emissions from fertilizers, manure, and farm machinery

Animal Feed

On-farm emissions from crop production and its processing into feed for livestock

Processing

Emissions from energy use in the process of converting raw agricultural products into final food items

Transport

Emissions from energy use in the transport of food items in-country and internationally

Retail

Emissions from energy use in refrigeration and other retail processes

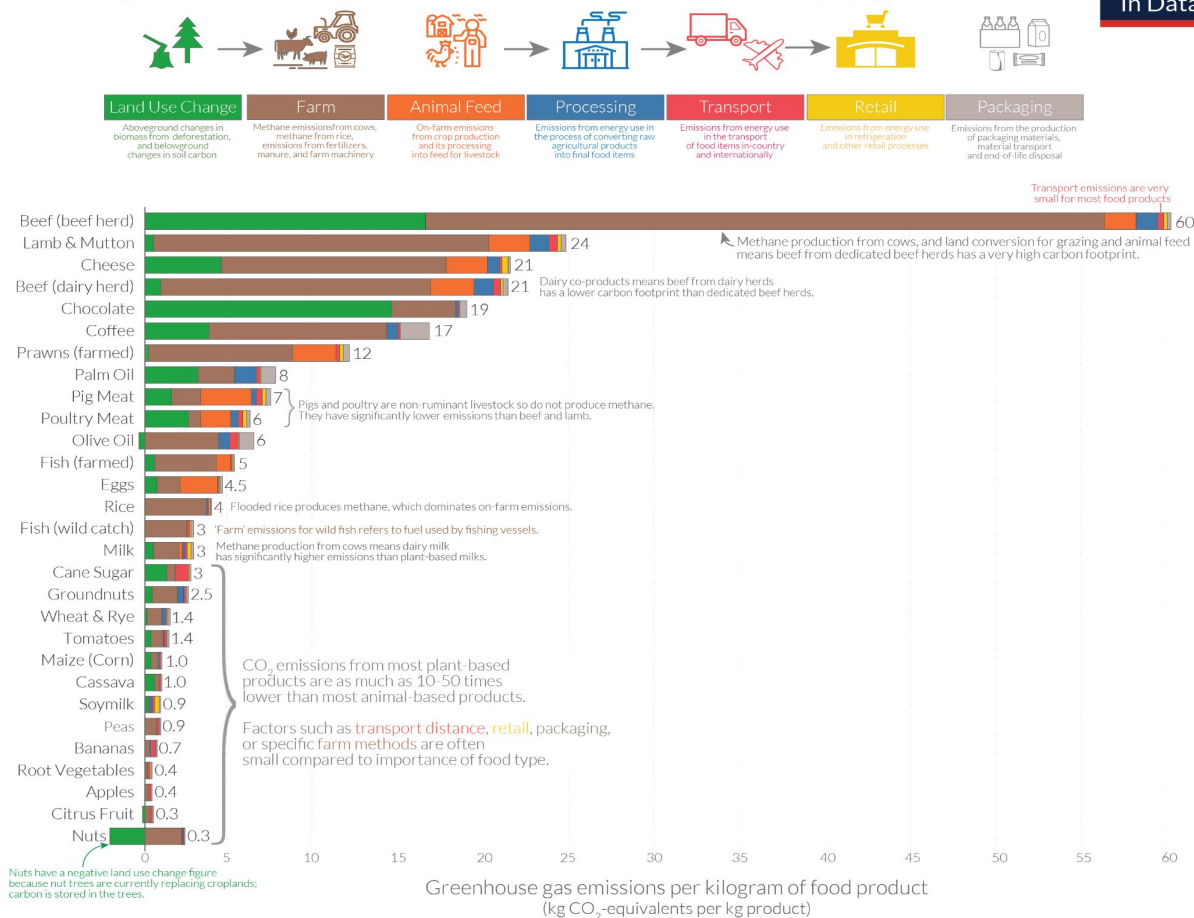
Packaging

Emissions from the production of packaging materials, material transport and end-of-life disposal

Sustain Your Lifestyle

Food: greenhouse gas emissions across the supply chain

Our World
in Data



Note: Greenhouse gas emissions are given as global average values based on data across 38,700 commercially viable farms in 119 countries.

Data source: Poore and Nemecek (2018), Reducing food's environmental impacts through producers and consumers. *Science*. Images sourced from the Noun Project.

OurWorldinData.org - Research and data to make progress against the world's largest problems.

Licensed under CC-BY by the author Hannah Ritchie.

Sustain your lifestyle

What we can do

- Eat more plant-based diet
- Reduce consumption of meat & dairy
- Seek out more local vegetables



Sustain your lifestyle

How to get there

- [Free recipes online](#)
 - purplecarrot.com
- [Vegan restaurants](#)
- Try “Meatless Mondays”
- [Shop at your local Farmers Market](#)



CHARLESTON FARMERS MARKET

EVERY SATURDAY 8AM – 2PM
MARION SQUARE

CELEBRATING THE LOWCOUNTRY'S BOUNTY OF
FRESH LOCAL PRODUCE AND HOMEGROWN CREATIVITY

PRODUCED BY THE CITY OF CHARLESTON OFFICE OF CULTURAL AFFAIRS
WWW.CHARLESTONFARMERSMARKET.COM

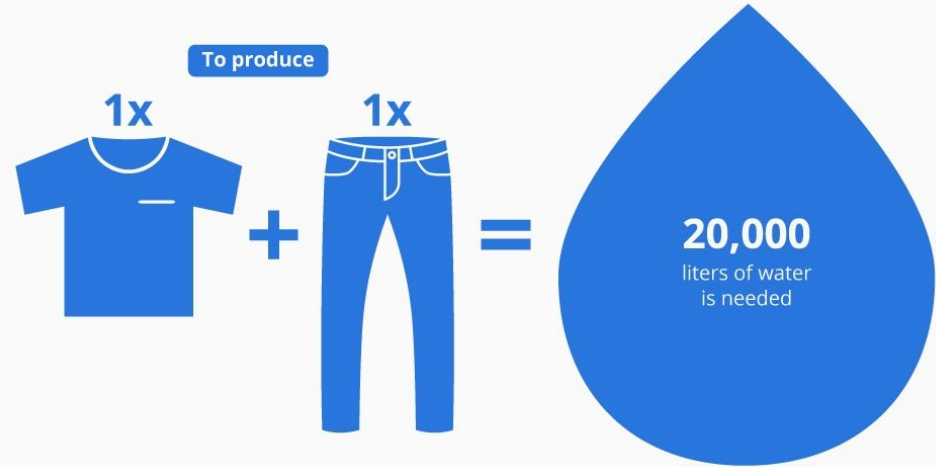
Shift Your Mindset

Perspective

- Moving away from consumerism, and towards conservation
- Have a clear vision of what you would like the future to look like and change your behavior to better align with that vision.

The Insatiable Thirst of Fashion

Estimated water required in the production of cotton clothing items*



CC BY ND
@StatistaCharts

* Items depicted: one t-shirt and one pair of jeans
Source: Oxfam

statista

You Can Help

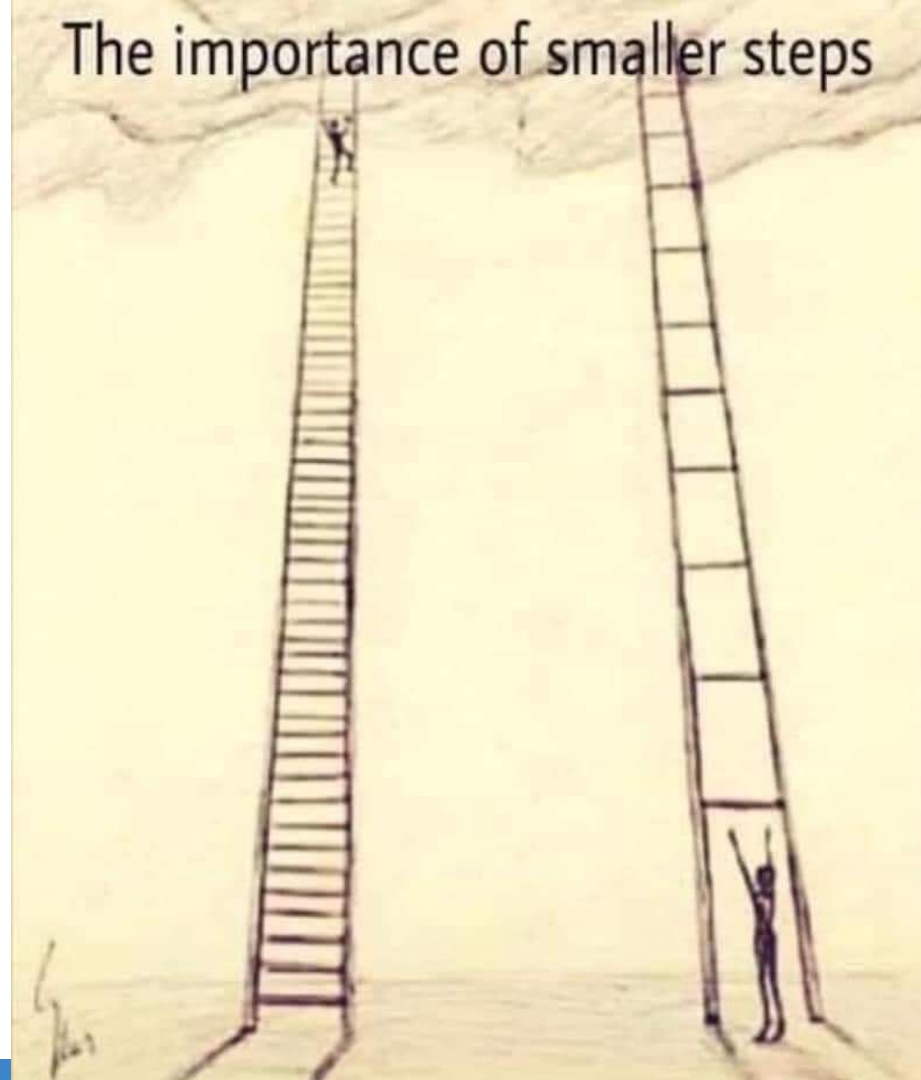
Government can't meet climate goals alone.

We can all take individual action to help address the climate crisis.

Encourage small group action too, like at a business, club or house of worship.

Take small steps.

The importance of smaller steps



Take Climate Action - Be a part of the solution!

- Learn more online: www.charleston-sc.gov/sustainability
- Talk about it!
 - Include climate change in everyday conversations.
- Become a Climate Ambassador
- Check these resources for more information



[@SustainableCharleston](#)



[@SustainabilityCHS](#)

Commit to taking one action today.

I challenge you to sign the pledge and commit now to take at least ONE action!

Scan the QR code on your smartphone, or visit the link below to fill out the Climate Action Pledge form

tinyurl.com/2p4esnv9



Will you commit to being part of the solution?

www.charleston-sc.gov/sustainability



You Can Help!

An aerial photograph of a coastal marsh with a prominent, winding river. The river is a deep blue color, contrasting with the brownish-green marshland. The river meanders through the landscape, creating several sharp turns. In the background, a sandy beach and the ocean are visible under a clear blue sky. The foreground shows more of the marshy terrain with smaller, interconnected water channels.

Thank you!

www.charleston-sc.gov/sustainability