

City Attorneys Saving the World: How Municipal Lawyers Can Help in the Fight Against Climate Change

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Climate change – what the facts show

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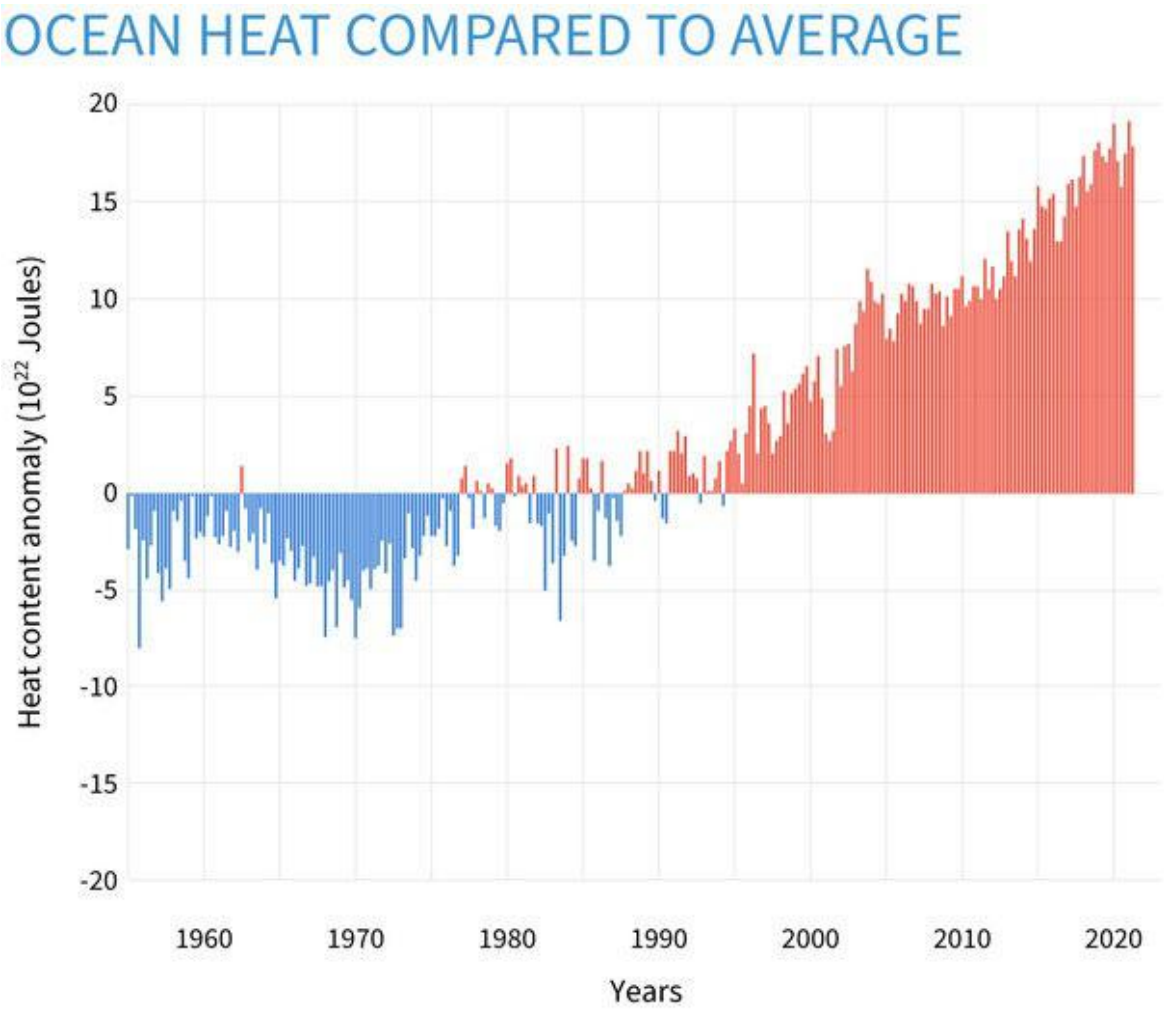
The ocean is warming

Water expands as it warms



Source: [Climate.gov]

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Glaciers and ice sheets are melting

Glacier collapse, Italian Alps, July 2022



Sea levels are rising

Submerged coastal village, Philippines, November 2019



Temperatures are setting records

The ten warmest Junes on record have all occurred since 2010

2022 Temperature Records		
Month	**Location**	**Temperature (Fahrenheit)**
January	Onslow, Australia	123.3
	Perth, Australia	11 days over 104
March/April	India	Hottest March since 1901
June	Phoenix	114
	North Platte, NE	108
	Biarritz, France	109.2
	Saltdal, Norway	88.9
	Isesaki, Japan	104.4
July	United Kingdom	104
	Abilene, TX	110
August	Chongqing, China	113
September	Sacramento, CA	116

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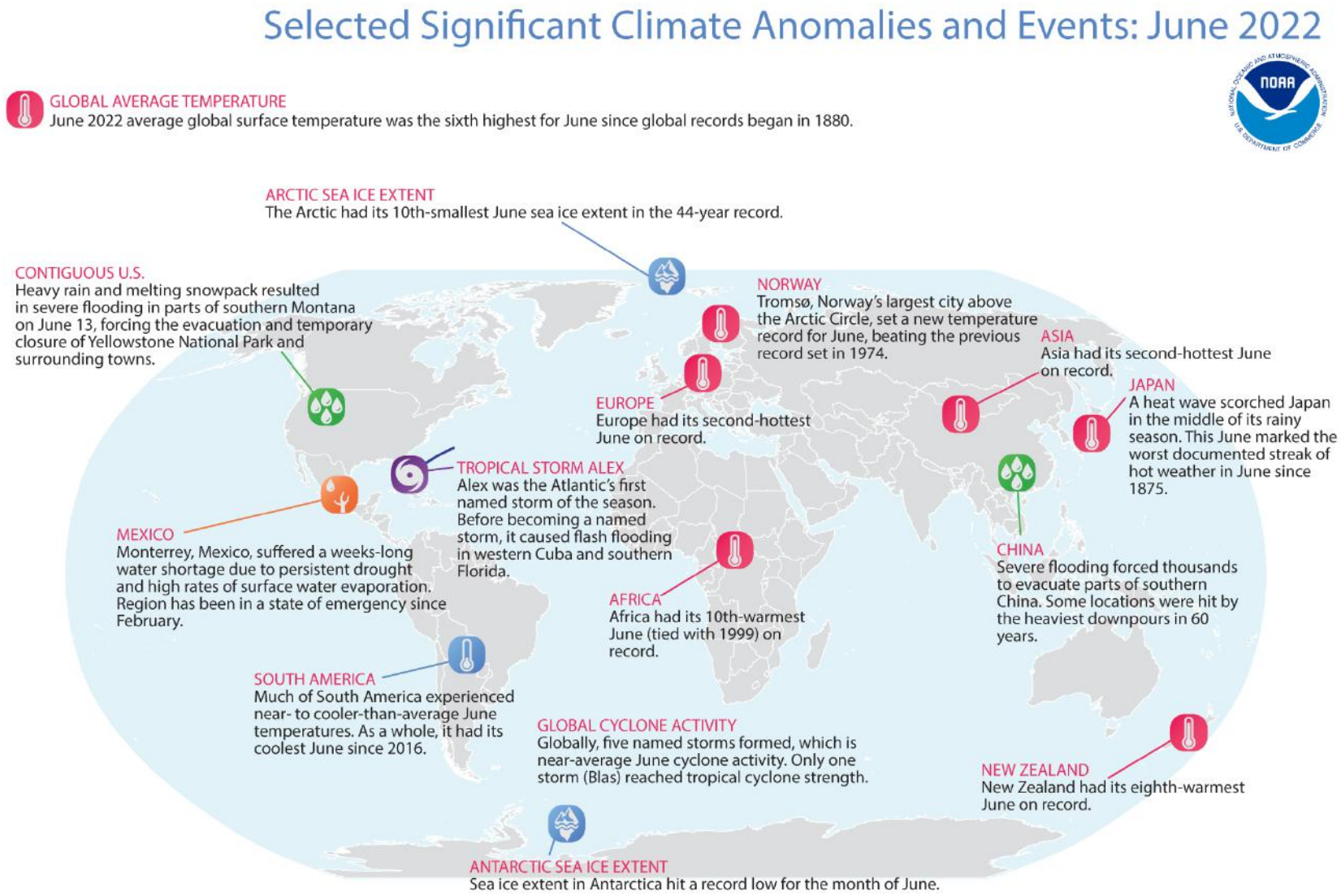
Signs of climate change around the world



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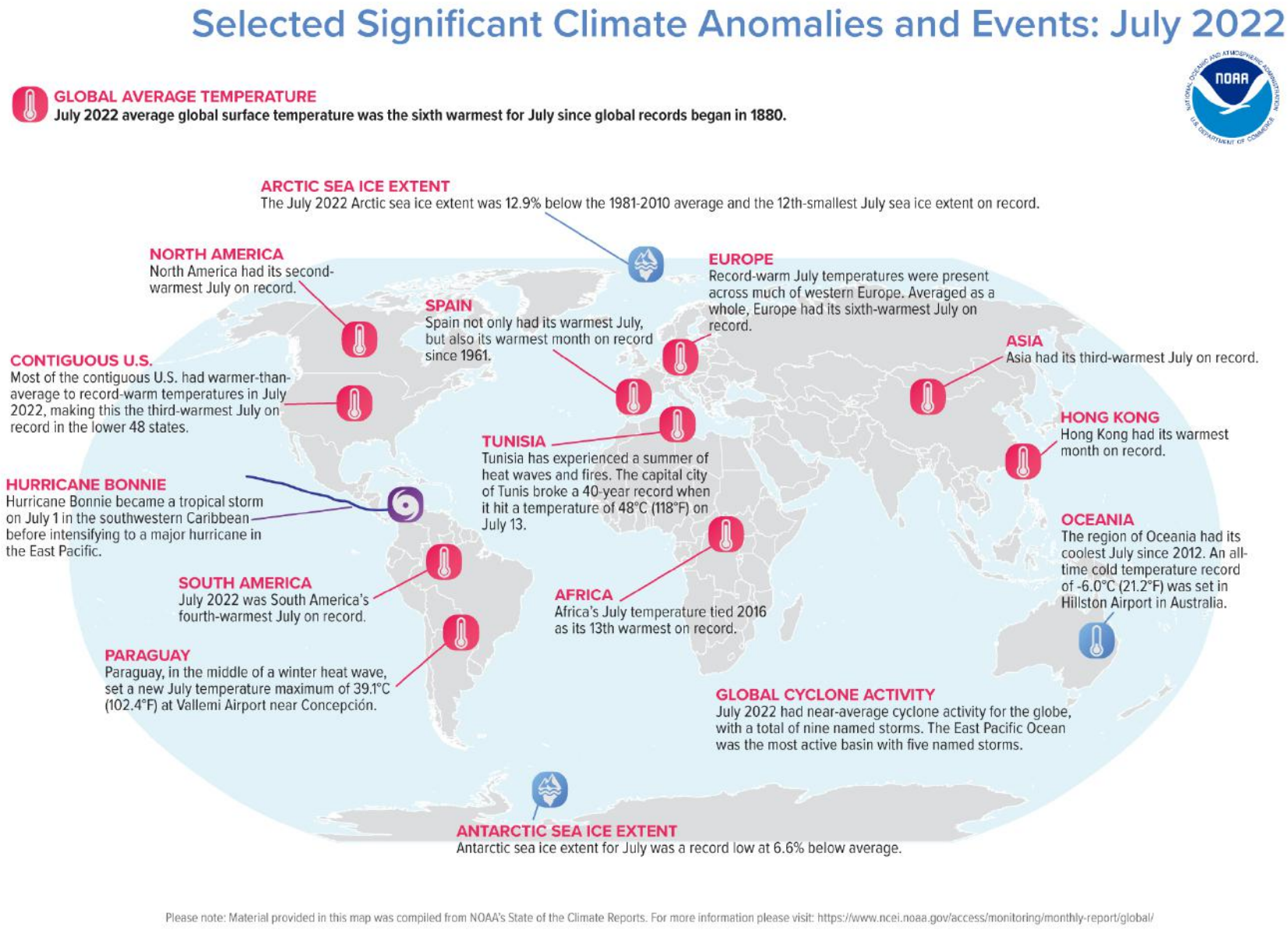

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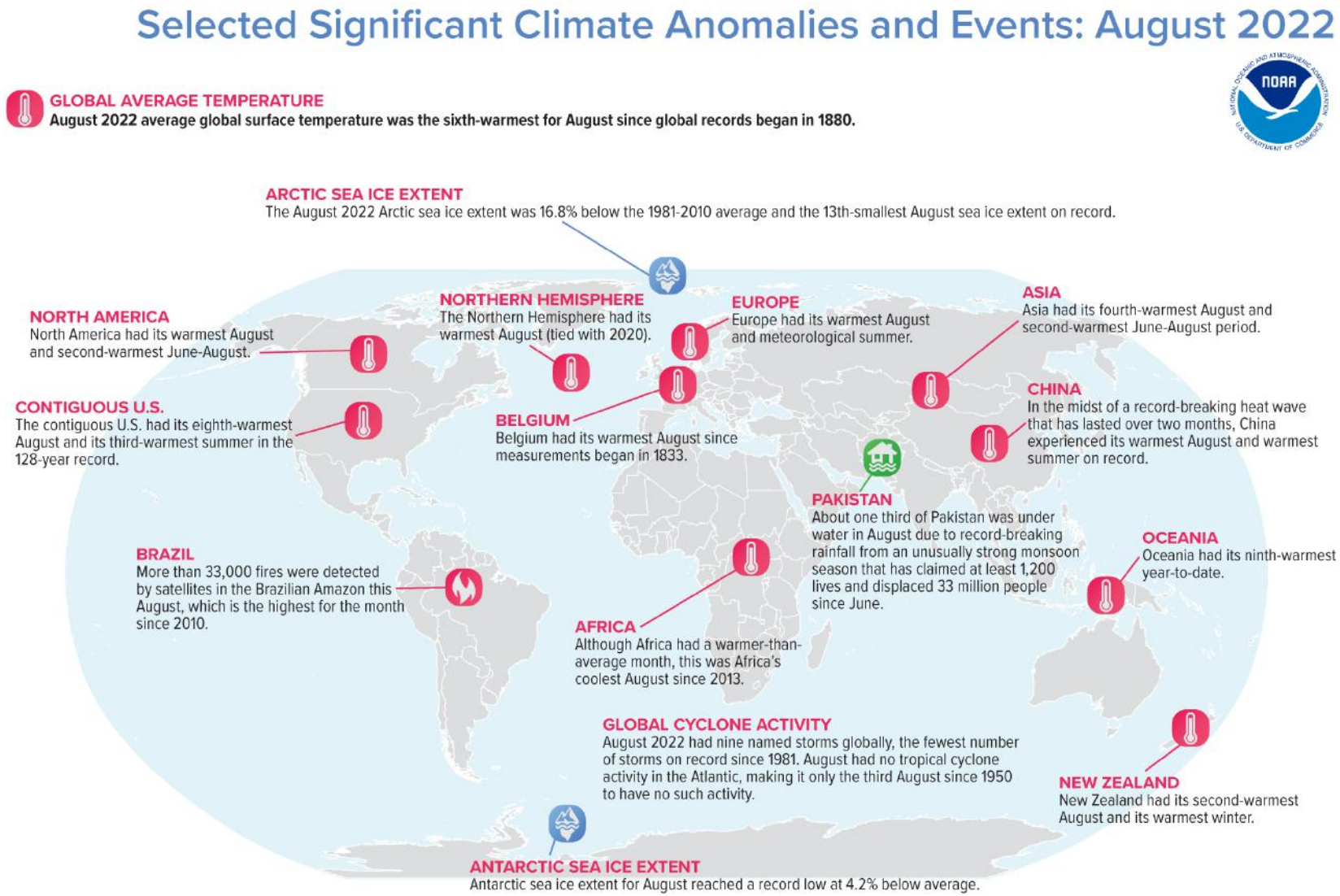

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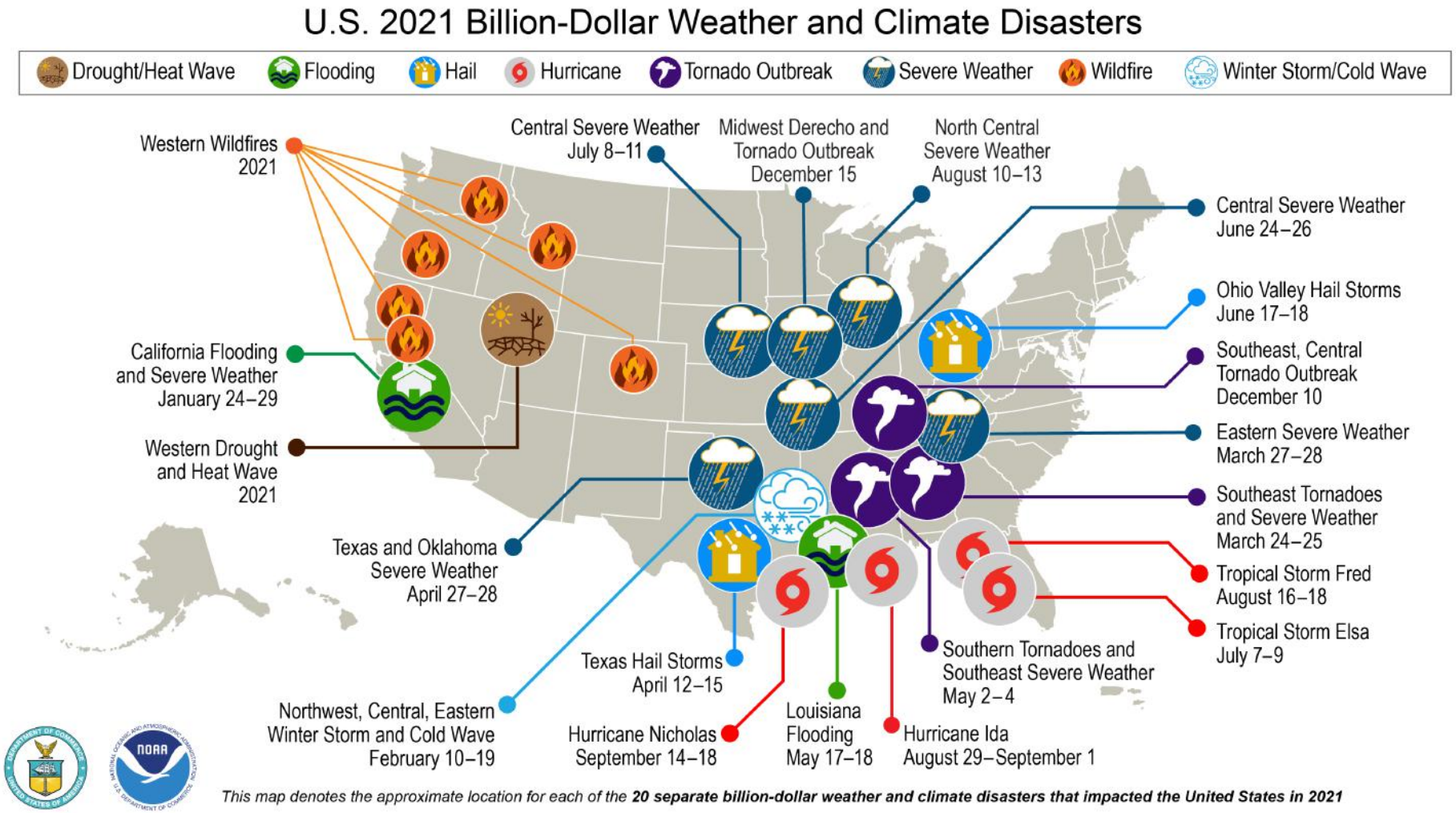
Signs of climate change in the US

Billion-dollar disasters



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Signs of climate change in the US



Boston – January 2022



Mariposa County, California – July 2022



Yellowstone National Park – June 2022



Medina Lake, Texas – June 2022

Extreme rainfall events in the South



Waverly, Tennessee, August 2021 – 20 fatalities



Eastern Kentucky, July/August 2022 – 39 fatalities

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Back-to-back hurricanes in September

September 19: Hurricane Fiona swamps Puerto Rico, knocking out power to island

September 24: Storm Fiona ravages Canada's east coast causing 'terrifying' destruction

September 29: Hurricane Ian batters the Gulf Coast







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Climate change – what the future holds

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The bad news in the IPCC report

Key takeaways from the 2022 Assessment Report of The International Panel on Climate Change

Widespread damage is already occurring

- People and other animals are already dying in heatwaves, storms and other disasters fueled by global warming.

We are breaching limits of adaptation

- There is a limit to how much we can adapt; eventually, conditions become so extreme that the associated risks are "intolerable."

Nature is in big trouble

- Every world region faces a high risk of more species losses and extinctions. At 1.5C warming, scientists expect 3-14% of the world's species on land could vanish.

Humans and society will struggle, too

- There is a rising risk of disease spread through spoiled food, tainted water, or pathogen-carrying insects such as mosquitoes.

We're running out of time

- "Any further delay... will miss a brief and rapidly closing window of opportunity to secure a liveable and sustainable future for all."

From Reuters: Key takeaways from the IPCC report on climate impacts and adaptation; IPCC: Climate Change 2022

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The Paris Agreement



Took effect in November 2016

Nearly 200 nations participate

US withdrew in 2017; rejoined in 2021

Participants periodically submit plans for curbing emissions, report on progress

Developed nations contribute to financing to help developing nations meet goals

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The significance of 1.5° Celsius

Overall goal of Paris Agreement:

- Limit global warming to well below 2° C (3.6° F) above pre-industrial levels
- Pursue limit of 1.5° C (2.7 ° F)

Earth is now at 1.1° C

Climate disasters are already frequent

Window is closing to limit increase to 1.5°

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The world at 2° Celsius

At 2° C, scientists warn:

- **99% of coral reefs would disappear**
- **West Antarctic ice sheet would be lost**
- **Sea level rise would submerge large portions of coastal cities worldwide**

(Source: KQED: Straight Talk on Temperature: Here's What 1.5 Degrees C Means)



REUTERS / Kim Kyung-Hoon





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The cost of mitigation versus the cost of the status quo

- Climate change mitigation is difficult and costly
- Not mitigating climate change will be even more costly:



Economic

Environmental





Human

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The effects on state and local governments

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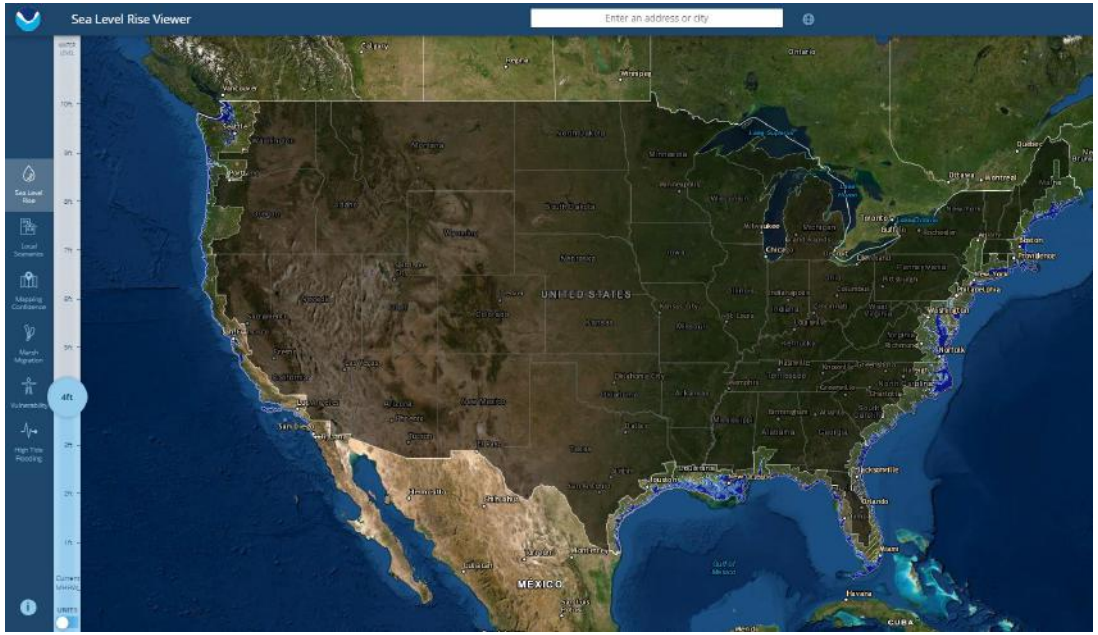
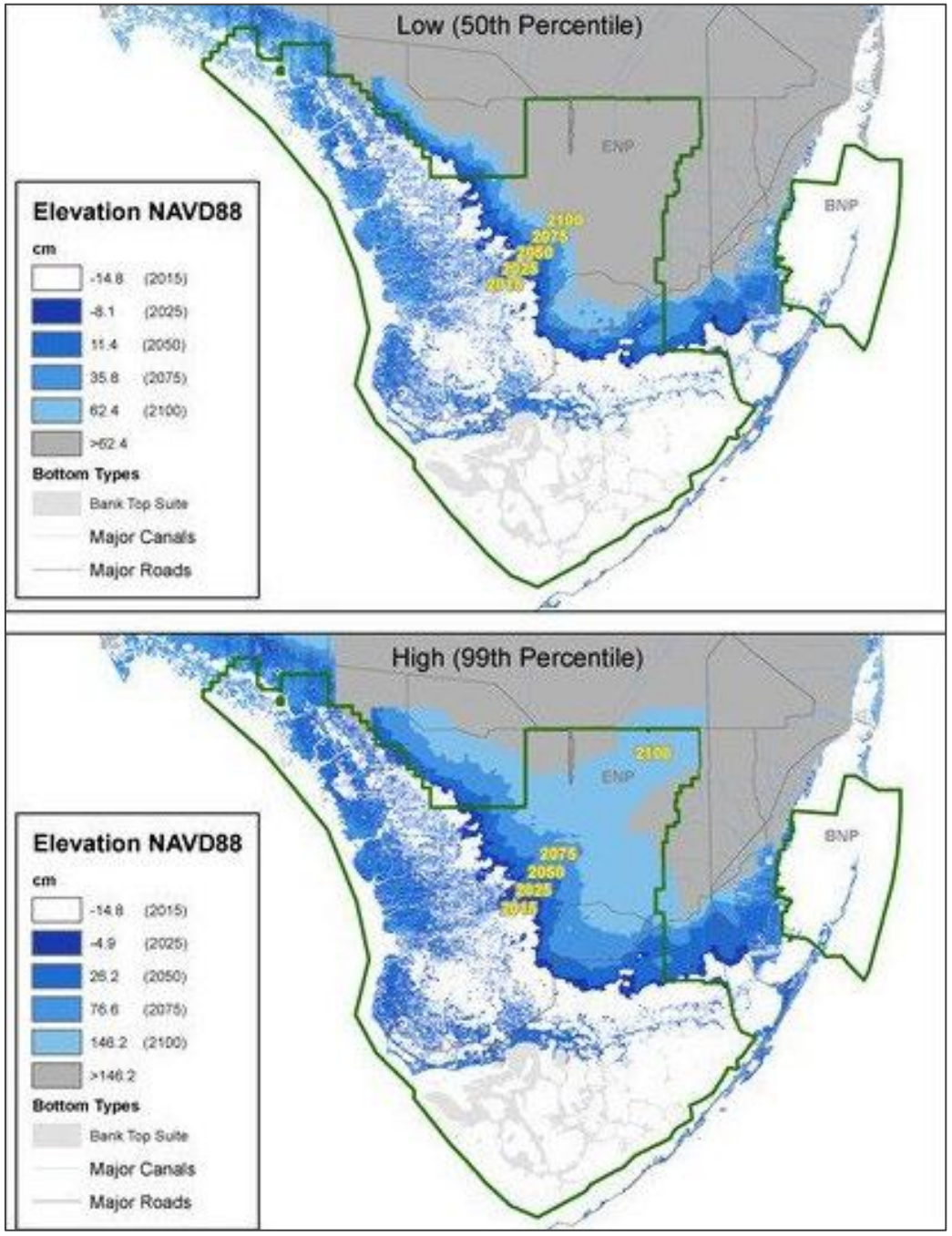
Rapid increases in sea levels

Right: Sea level elevation maps for South Florida based on median and high percentile projections. (Source: National Park Service)

Projected average sea level rise along US coastline, 2020 – 2050: 10 to 12 inches. (Source: NOAA)

More information: Sea Level Rise Viewer





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High tide flooding

- Typically 1.75 to 2 feet above daily average
- Water spills onto streets, bubbles up from storm drains
- Floods caused by storms in the past now happen more regularly



Potomac River Flooding, Alexandria, VA (NOAA)

Source: NOAA: High Tide Flooding

Location	Flood Days 2021	Projected 2050
Boston, MA	7	50-70
Providence, RI	6	45-70
Philadelphia, PA	8	40-65
Baltimore, MD	8	65-105
Washington, DC	5	55-85
Charleston, SC	7	70-90
St. Petersburg, FL	0	70-110
Grand Isle, LA	3	200-245
Corpus Christi, TX	4	110-150
San Diego, CA	9	25-50
Los Angeles, CA	3	15-30
San Francisco, CA	0	6-20
South Beach, OR	7	25-30
Seattle, WA	7	9-10
Honolulu, HI	0	1-8

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The disproportionate impact on minorities and lower-income populations

Hurricanes

- African American South

Extreme rainfall

- African American counties
- Working class counties
- Blue collar suburbs

Drought

- Rural Hispanic centers

Source: American Communities Project

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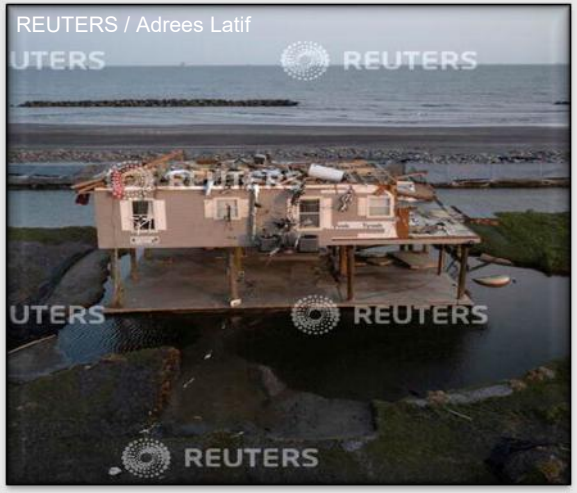
The potential for climate migration



Permanent out-migrations



Temporary migrations/fluctuations



In-migration

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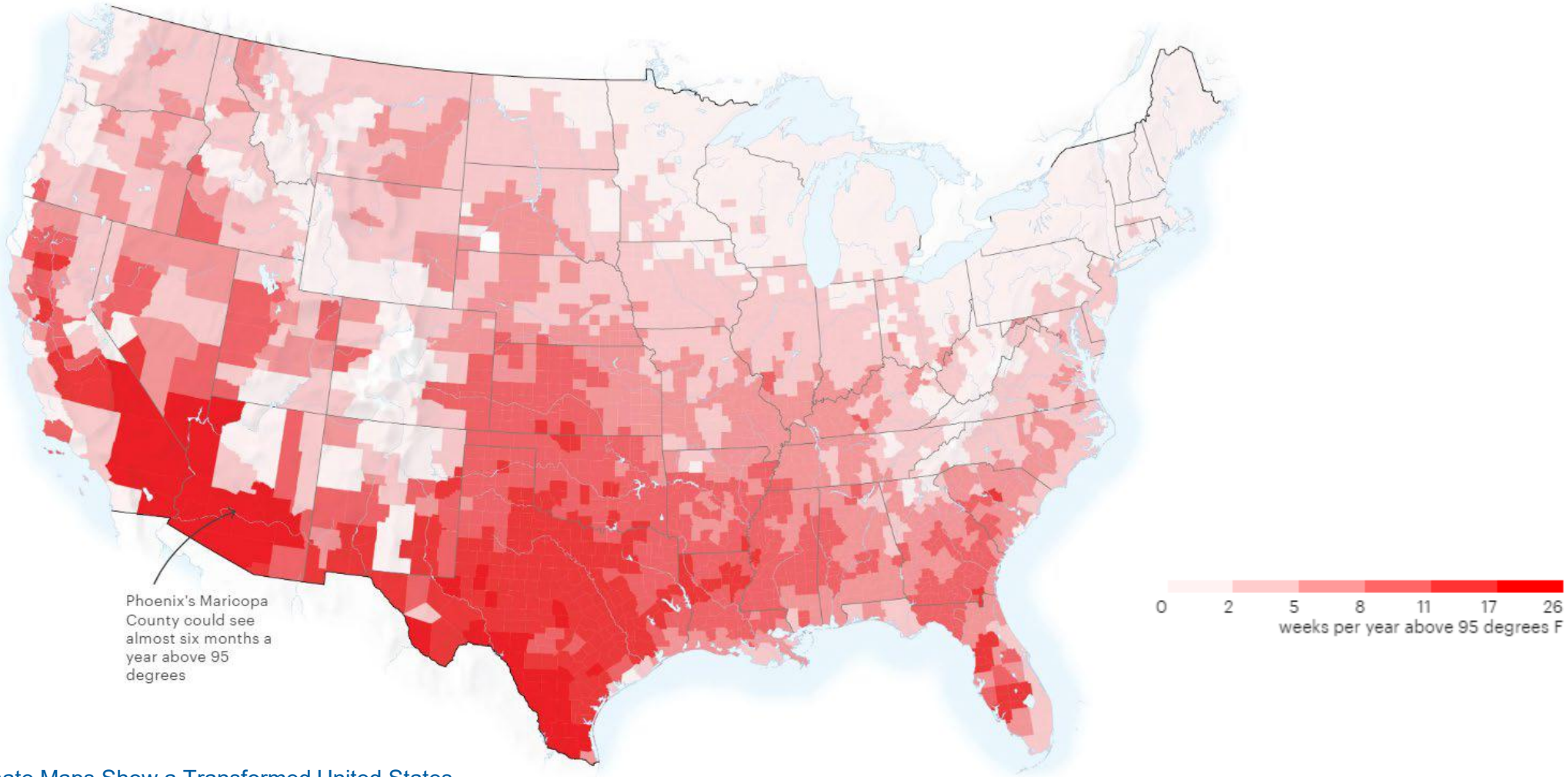
Extreme temperatures by county – 2040 to 2060

Under RCP 8.5 scenario (continuation of high emissions)



Source: [ProPublica: New Climate Maps Show a Transformed United States](#)
(*by Al Shaw, Abrahm Lustgarten, ProPublica, and Jeremy W. Goldsmith)*

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Extreme heat and humidity – 2040 to 2060

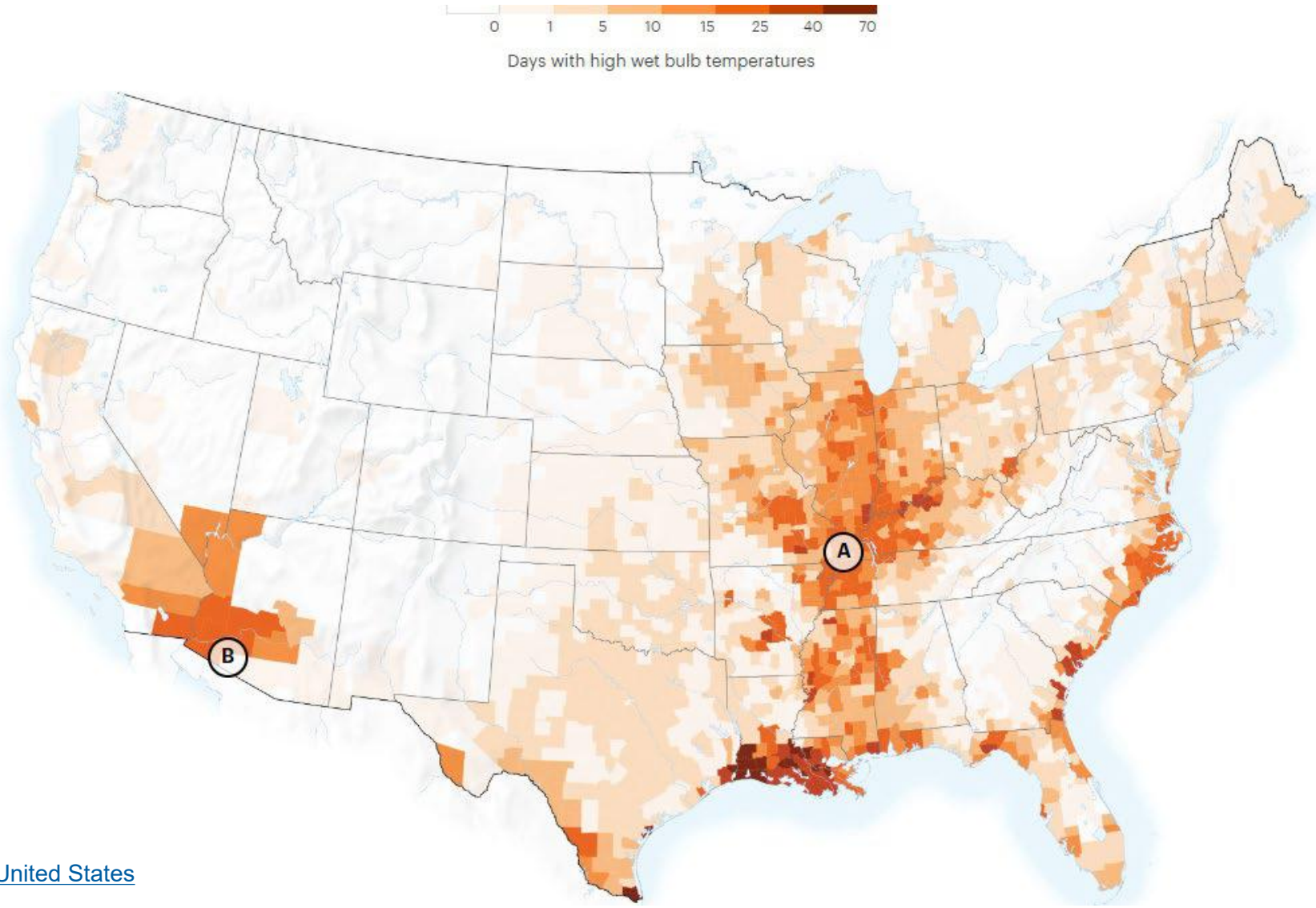
Under RCP 8.5 scenario (continuation of high emissions)

Wet bulb effect:

- Heat + excessive humidity
- Body can no longer cool itself by sweating

By mid-century:

- **A** – Missouri will feel like Louisiana feels today
- **B** – Southwestern Arizona will see soaring wet bulb temperatures



Source: [ProPublica: New Climate Maps Show a Transformed United States]

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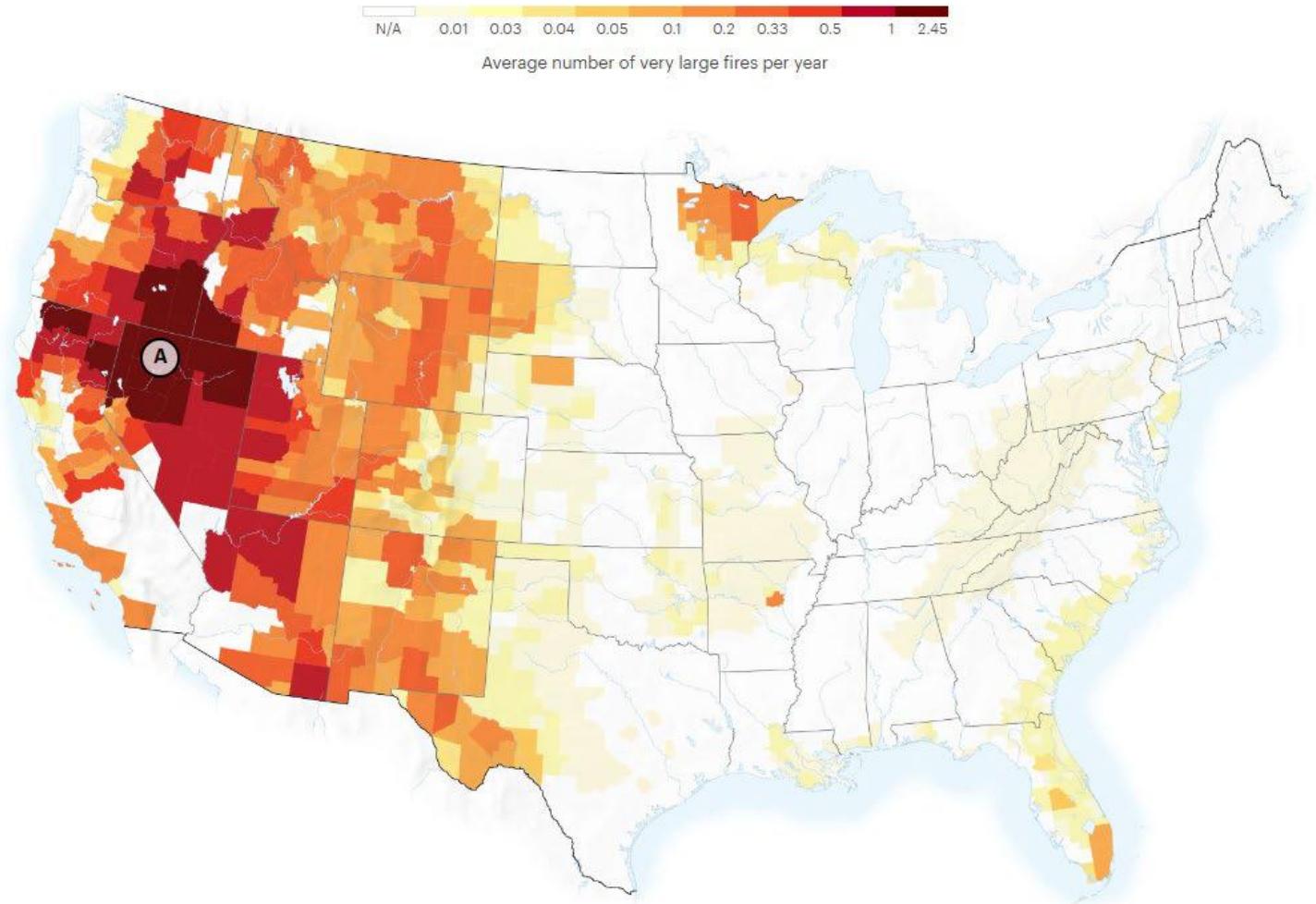
Large wildfires – 2040 to 2071

Under RCP 8.5 scenario (continuation of high emissions)



Source: [ProPublica: New Climate Maps Show a Transformed United States](#)
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Very large fires:

- Over 12,000 acres
- Greater likelihood in West, Northwest, and Rockies
- But also in parts of FL, AR, and MN

Epicenter:

- **A** – Northern Great Basin (Nevada and neighboring states)
- Weather cycles turn grassland into fuel for fires

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Other projections – 2040 to 2060

Sea level rise

- 3 of the 8 largest US metro areas are in some of the most affected counties:
  - Miami, Boston, New York

Farm crop yields

- Winners: Places like North Dakota will see longer growing seasons
- Losers: In parts of TX and OK, yields may drop by >70%

Economic damages

- Financial toll larger than COVID-19 in:
  - populous cities with expensive real estate, like Houston and Miami
  - rural places like Gulf County, FL

Source: ProPublica: New Climate Maps Show a Transformed United States

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The counties most at risk

County	Heat	Wet Bulb	Farm Crop Yields	Sea Level Rise	Very Large Fires	Economic Damages
Beaufort County, SC	6	9	8	7	3	9
Pinal County, AZ	10	6	8	1	6	7
St. Martin Parish, LA	7	10	8	4	3	7
Colleton County, SC	6	9	8	6	3	8
Wakulla County, FL	7	9	8	4	1	9
Assumption Parish, LA	6	9	7	7	2	9
Jefferson Davis Parish, LA	7	10	8	4	1	8
Livingston Parish, LA	7	9	8	6	1	8
St. John the Baptist Parish, LA	6	9	8	6	2	8
Jackson County, MS	6	9	8	4	3	8

Source: [ProPublica: New Climate Maps Show a Transformed United States]

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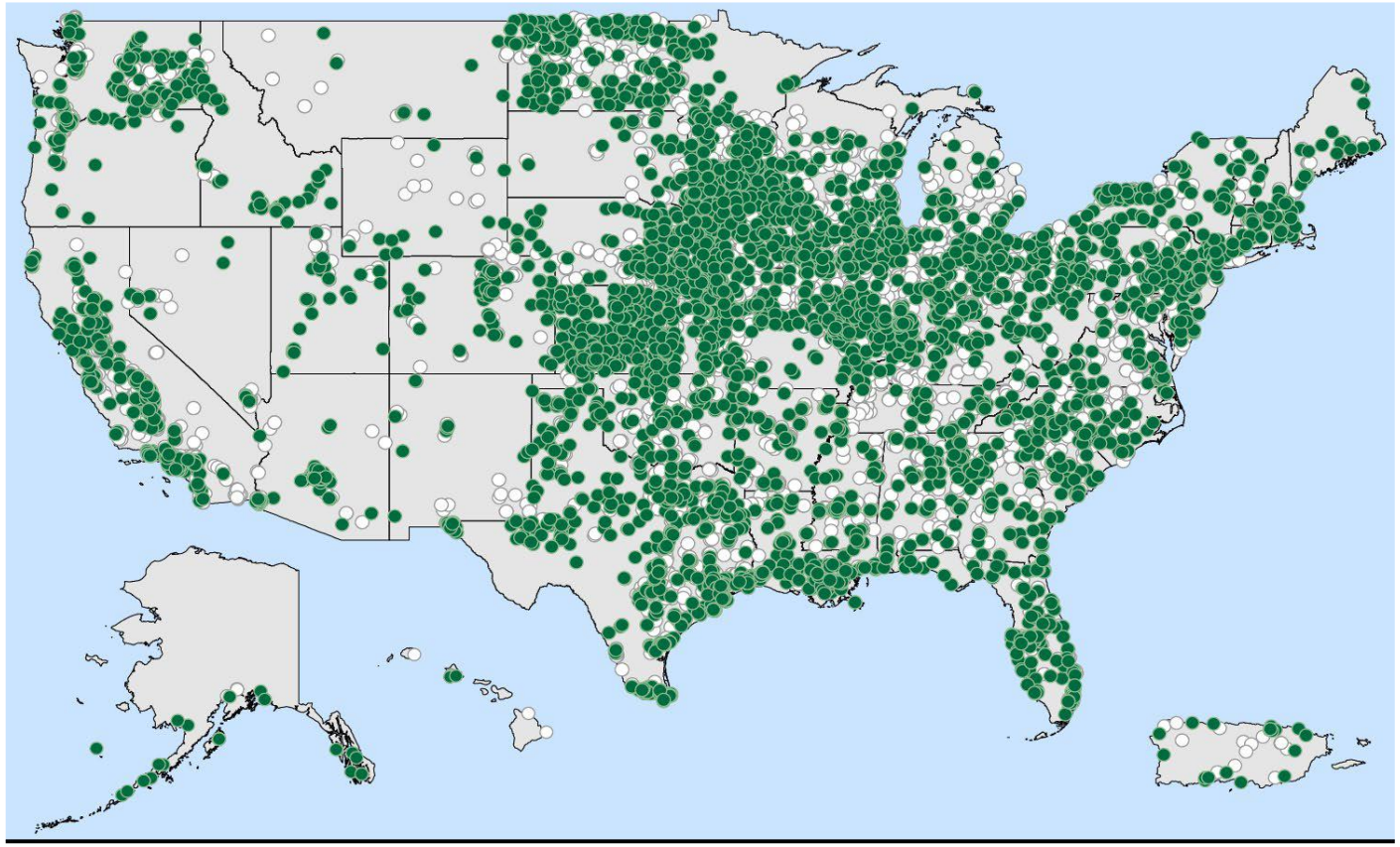
Combining manmade hazards with natural hazards

Facilities in areas at risk for flooding, storm surge, wildfire, or sea level rise

- 11,000 EPA-regulated facilities with extremely hazardous chemicals
- 31% in areas at risk for climate-related disasters



Risk Management Plan (RMP) facilities that GAO analyzed (10,420)

Located in an area with one or more of these natural hazards (3,219)

Located in an area without one or more of these natural hazards or where hazards are unknown (7,201)

Sources: GAO analysis of Environmental Protection Agency, Federal Emergency Management Agency, National Oceanic and Atmospheric Administration, and U.S. Forest Service data; U.S. Census Bureau (map). | GAO-22-104494

Source: US Government Accountability Office

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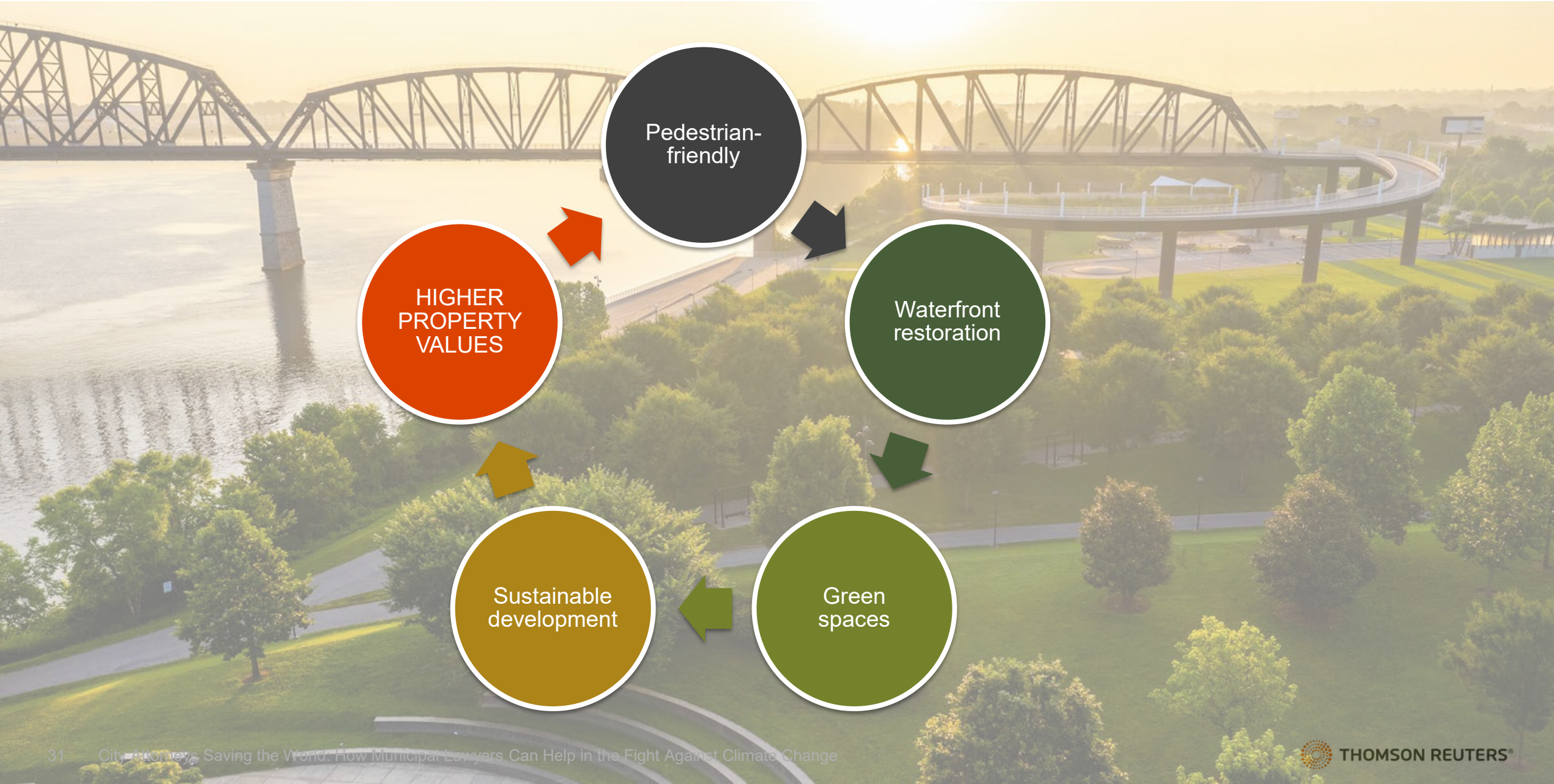
The risk of climate gentrification



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Signs of progress



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Signs of progress

…at the federal level

The new climate bill:

- Part of the Inflation Reduction Act (HB 5376)
- $375 billion for climate crisis, including funding for:
  - renewable energy production
  - tax breaks for purchase of electric vehicles
- Impact on GHG reductions:
  - 42% reduction by 2030 (from peak 2005 levels)
  - White House goal: 50%

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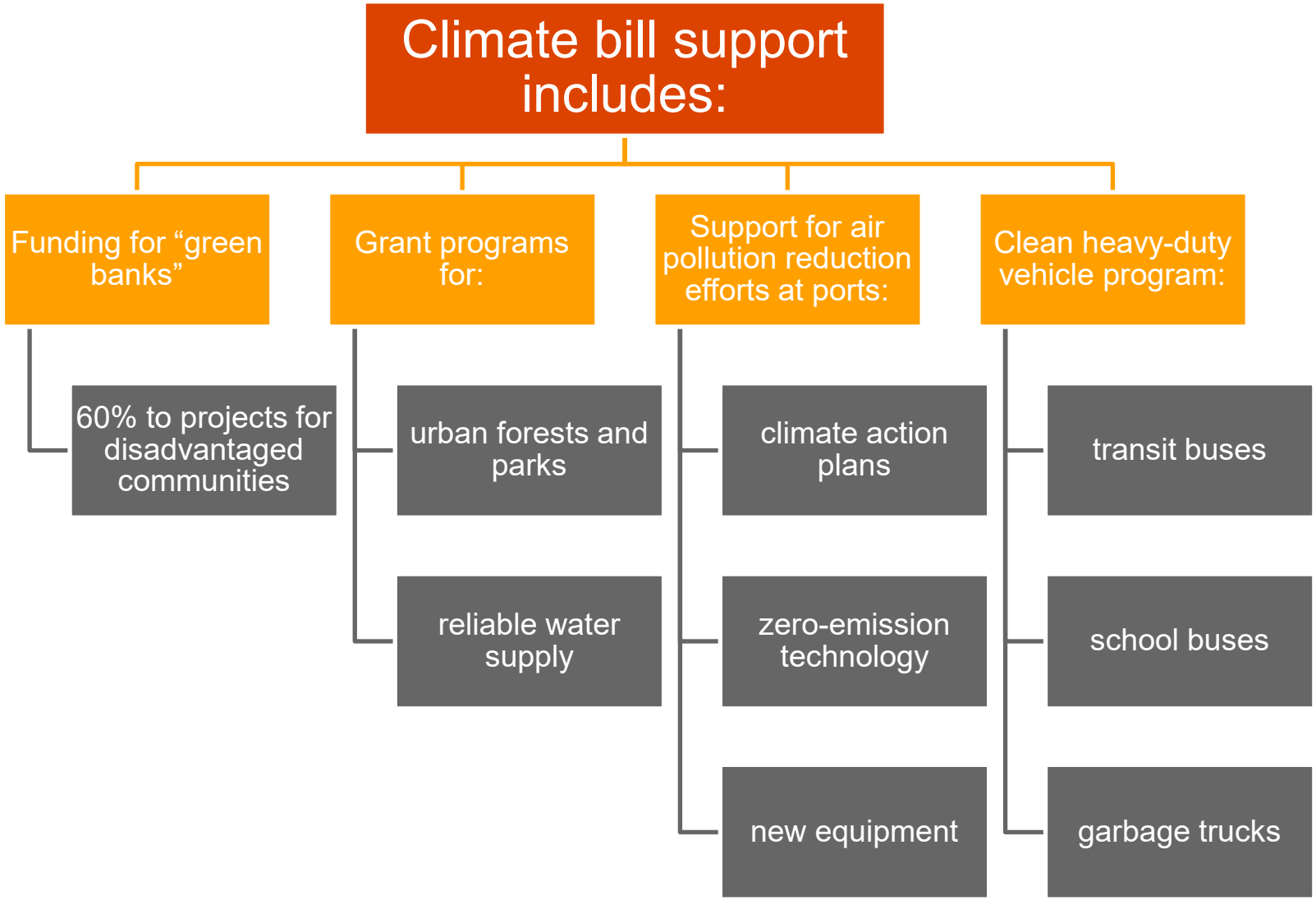
Help for state, local, and tribal governments



Source: Governing Magazine; see also Columbia Law School: Cities & The Inflation Reduction Act

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Signs of progress

….at the state level

California

All new car/light truck sales must be zero-emission by 2035

11% of US light-duty vehicle sales are in CA

17 other states have followed CA's lead on other vehicle rules

Other climate policy leaders (per RMI State Climate Scorecards):

- Colorado
- Illinois
- New Jersey
- New York
- Washington

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The best net zero pathway options for states

RMI's top five

Investing in clean electricity infrastructure

Replacing air conditioners, furnaces, water heaters with heat pumps

Prioritizing electric vehicles

Shifting industry from fossil fuels to clean electricity

Capturing methane and fixing fossil fuel leaks

(See RMI: Sprinting Ahead: Just Five Policies Get States About Two-Thirds of the Way to Key Climate Goals.)

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Signs of progress

…at the local level

Climate Action Plans – adopted by:

- Over 600 local governments in US (Brookings)
- 35 of the 50 largest cities in US (Ballotpedia)

Recent examples:

City/Name of Plan	Key Goals
Austin Climate Equity Plan	Net zero GHG emissions by 2040
Columbus Climate Action Plan	45% GHG reduction by 2030 (from 2013); carbon neutral by 2050
Memphis Area Climate Action Plan	51% GHG reduction by 2035 (from 2016); 71% by 2050
Miami Forever Carbon Neutral	60% GHG reduction by 2035 (from 2018); net zero by 2050
Raleigh Community Climate Action Plan	80% GHG reduction by 2050 (from 2007)
San Francisco's Climate Action Plan 2021	61% GHG reduction by 2030 (from 1990); net zero by 2040

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Climate action plans

Not just for big cities

Smaller US cities with CAPs	
City	*2020 population*
Grand Marais, Minnesota	1,426
Aspen, Colorado	7,721
Greenville, South Carolina	69,648
Bloomington, Indiana	84,691
Beaverton, Oregon	98,567
Richmond, California	110,051

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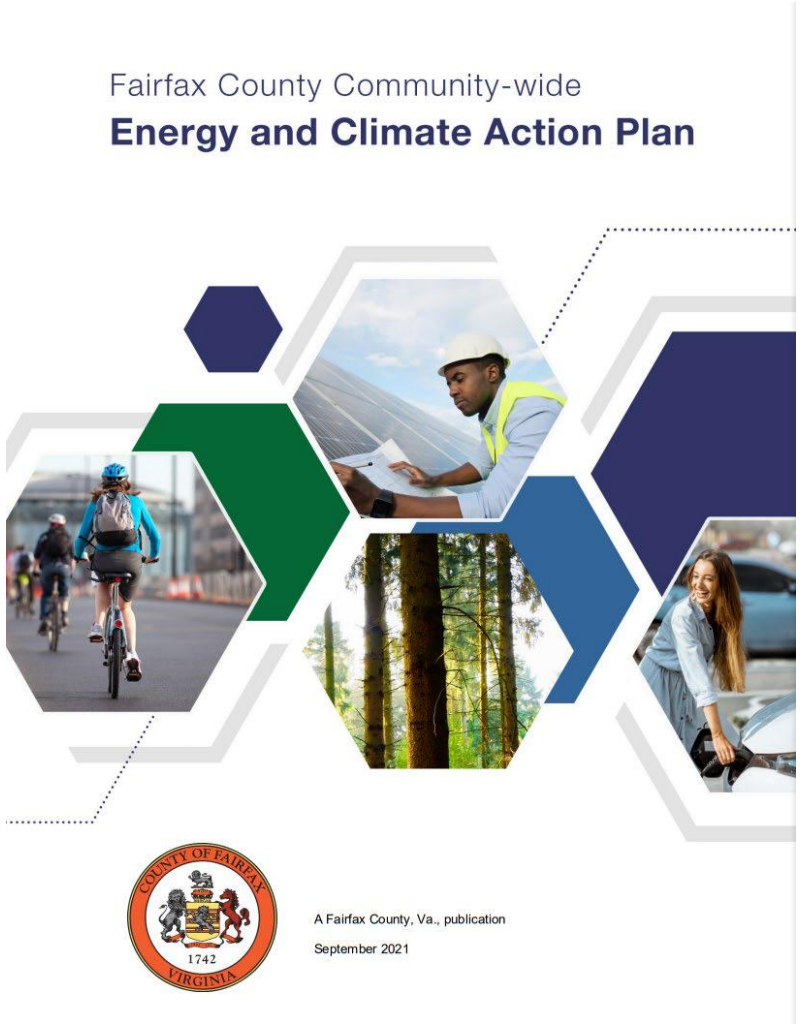
A climate action plan example

Fairfax County, Virginia



Goals include:

- By 2030:
  - retrofitting at least 100,000 housing units with energy efficiency measures
  - increasing transit and non-motorized commuting to 30% (including teleworking)
  - increasing zero-emission vehicles to at least 15% of all light-duty vehicle registrations
  - expanding tree canopies to 60%, with a minimum of 40% tree canopy coverage in every census block
- By 2040:
  - diverting at least 90% of waste from landfills and incineration

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Signs of progress

…in places like Phoenix

- “Cool corridors program” – aims to add much-needed shade in disadvantaged neighborhoods
- “Cool pavement” – piloting use of paving materials that reflect rather than absorb sunlight
  - see City of Phoenix: Cool Pavement Program



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Sources of help

Nonprofits supporting local government efforts to fight climate change

C40 CITIES

Network of mayors from across the world

CLIMATE MAYORS

Bipartisan network of US mayors

RESILIENT CITIES NETWORK

Works to protect cities from climate change and other urban challenges

Local Governments for Sustainability

Global network of local governments devoted to sustainability challenges

RMI

Research/analysis on urban transformation, buildings, transportation and more

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The Chancery Lane Project

- Based in the UK
- Brings legal professionals across the world together to collaborate on contract clauses to tackle the climate crisis
- See TCLP: About The Chancery Lane Project
- To join the effort: TCLP: Get Involved



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More sources of help

Affiliated with Columbia University Law School

Sabin Center for Climate Change Law

- Cities Climate Law Initiative works with local governments on local carbon mitigation policies
- Provides legal research, policy drafting, amicus briefs, webinars for policymakers

Legal Pathways to Deep Decarbonization (LPDD) Project

- More than 50 model laws focused on reducing GHG emissions
- Over 2,000 other adopted or proposed laws for reducing emissions

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City attorneys as climate change fighters

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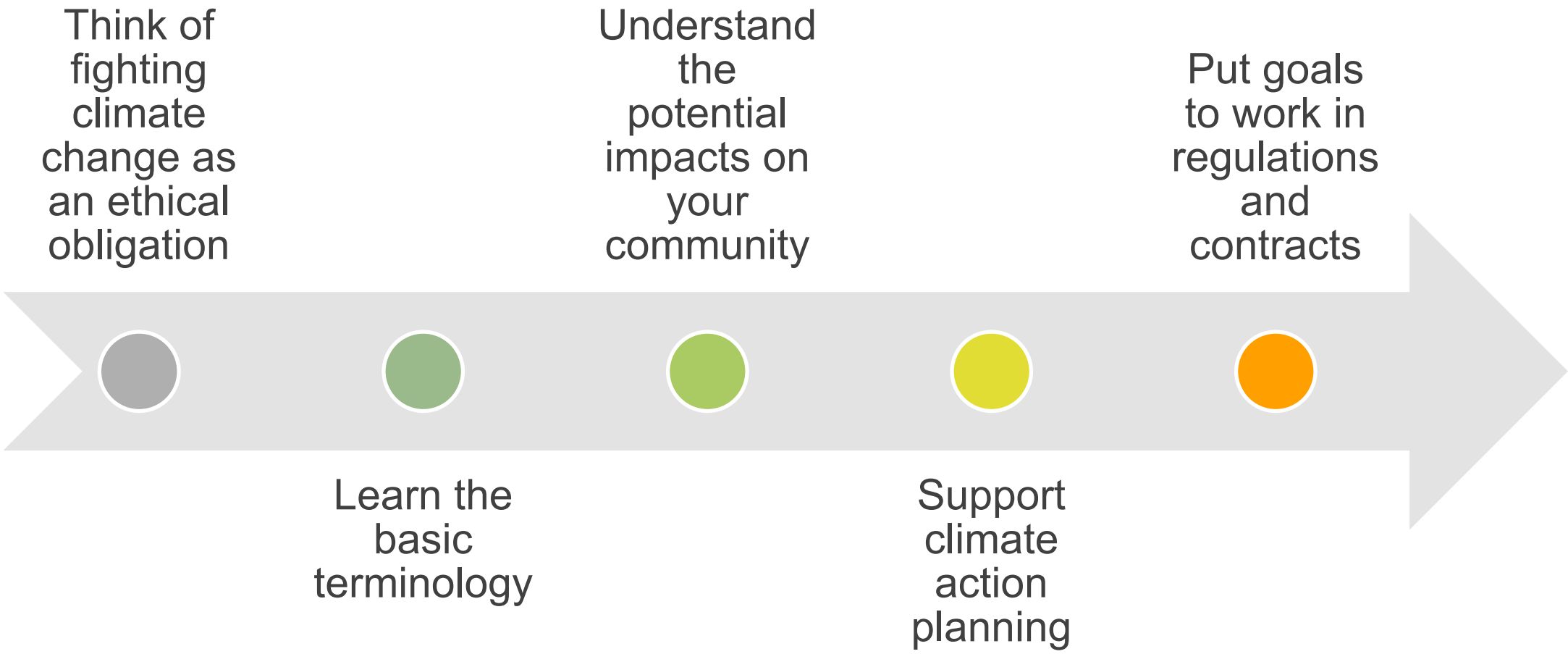
How city attorneys can be climate change fighters



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The ethics of fighting climate change

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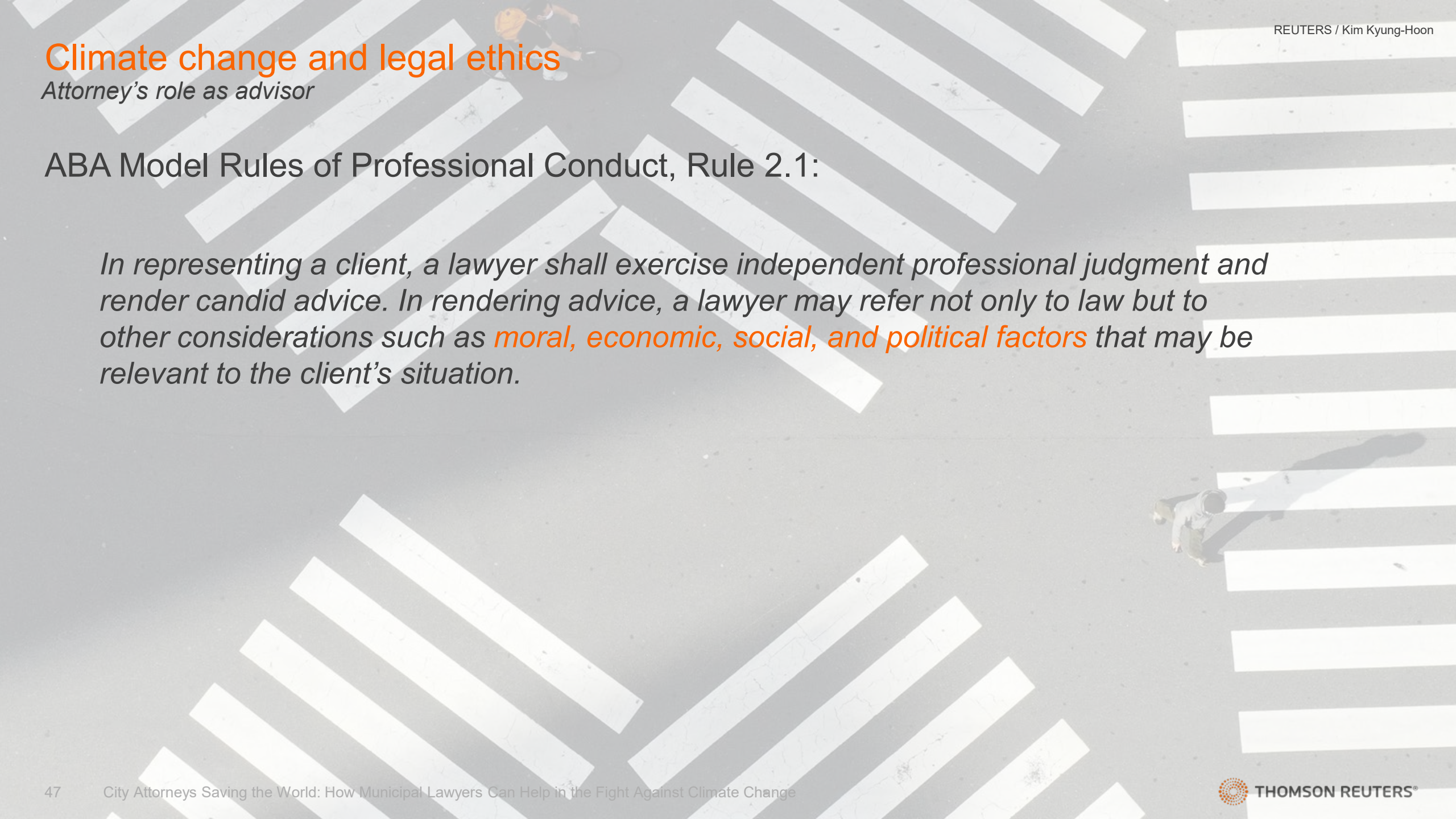

REUTERS / Kim Kyung-Hoon

Climate change and legal ethics

Attorney's role as advisor

ABA Model Rules of Professional Conduct, Rule 2.1:

In representing a client, a lawyer shall exercise independent professional judgment and render candid advice. In rendering advice, a lawyer may refer not only to law but to other considerations such as moral, economic, social, and political factors that may be relevant to the client's situation.

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Becoming conversant in climate change terminology

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Climate change terminology

A talk with the experts

[short video of kids explaining climate change terms here]

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Fossil fuels

Fossil fuels:

- Come from the remains of plants and animals buried underground as the earth evolved
- Include coal, crude oil, and natural gas
- Release carbon dioxide when consumed



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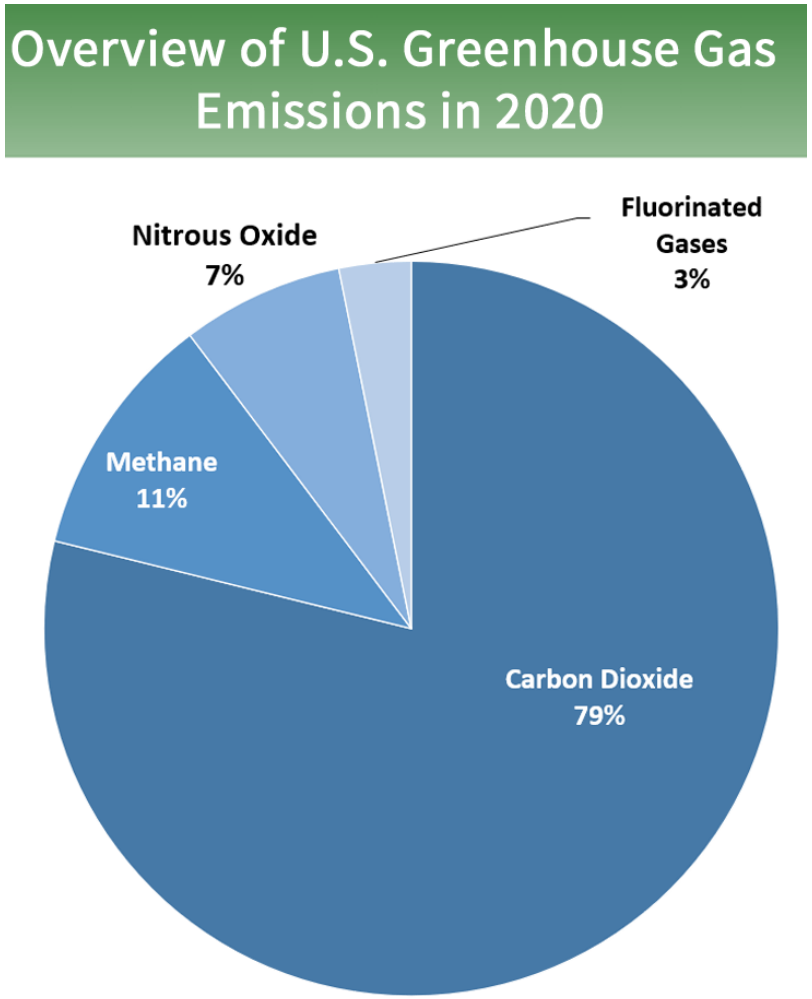
Greenhouse gases

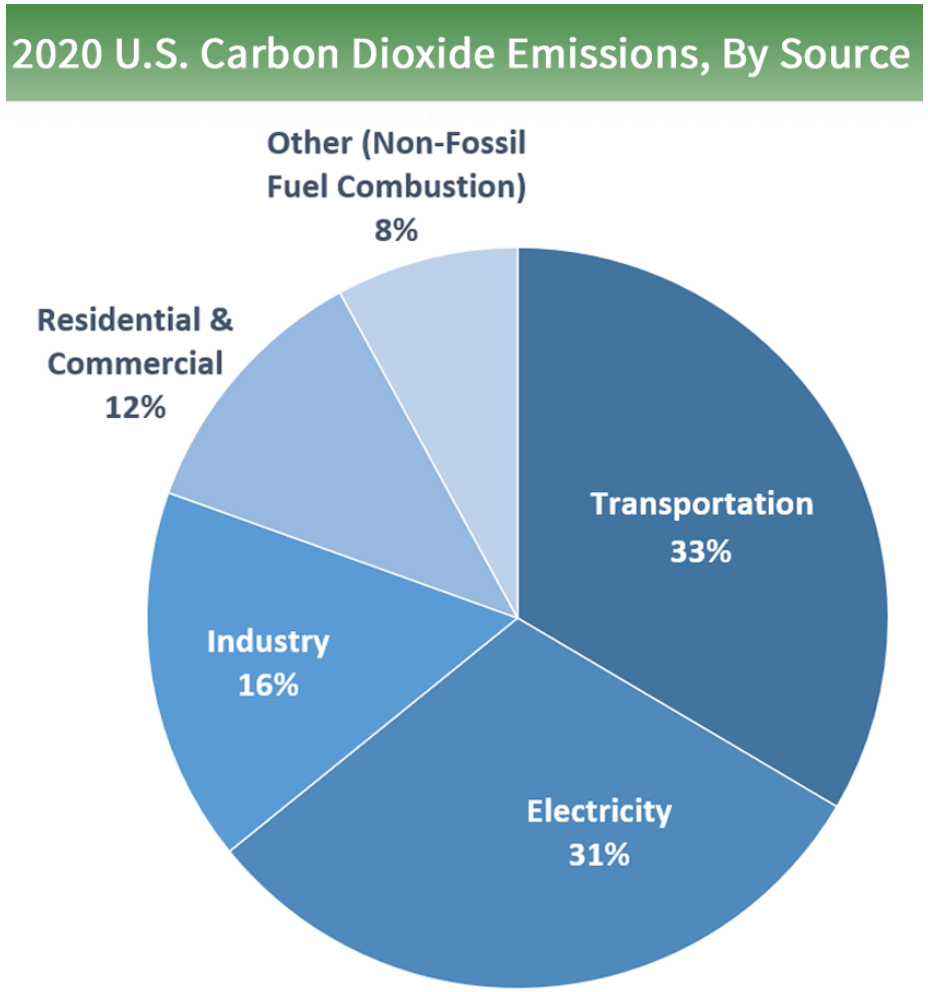
Greenhouse gases:

- Trap heat in the atmosphere
- Occur naturally to keep the earth warm and habitable

Human activities, like burning fossil fuels:

- Increase GHG levels
- Are a major cause of global warming





EPA: Overview of Greenhouse Gases

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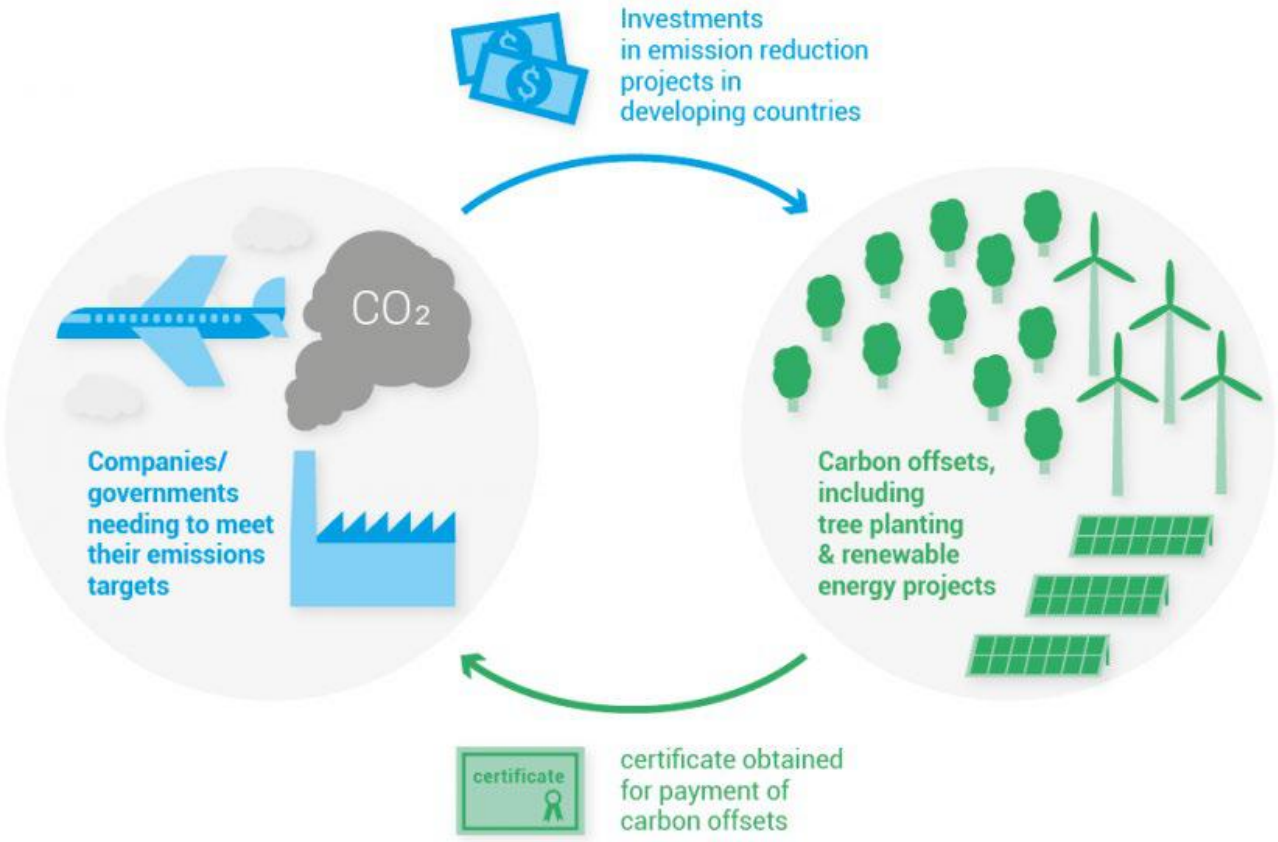
Carbon offsets



www.unep.org

- The goal:
  - cancel out emissions in one place by supporting emissions reductions in another
- Options can include:
  - tree planting
  - investing in carbon removal technology

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The problem with carbon offsets

- Not a long-term solution
  - one-to-one emissions vs. offsets means continuing GHG emissions
- Forestation projects:
  - require very large amounts of dense old-growth trees to make a significant difference
  - may take homes away from indigenous or disadvantaged
  - may be vulnerable to wildfires
- Sequestration technology to remove GHGs from the air
  - still in its infancy
  - can’t be relied on as the silver bullet

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Net zero

- A balance between GHG emitted into the air and GHG removed
- Best way to reach true net zero – avoid and reduce GHG emissions
- Offsetting alone won't solve the problem
  - Target using offsets only for residual emissions after all reasonable reduction efforts



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Recognizing potential impacts in your community

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Climate scenarios and local impacts

Regional phenomena

- Sea level rise/high tide flooding
- Frequency of heatwaves, wildfires, storms, extreme rainfalls

Specific local impacts

- Low-lying areas
- Neighborhoods with basement apartments
- Low-income neighborhoods

Climate migration

- Outbound
- Inbound

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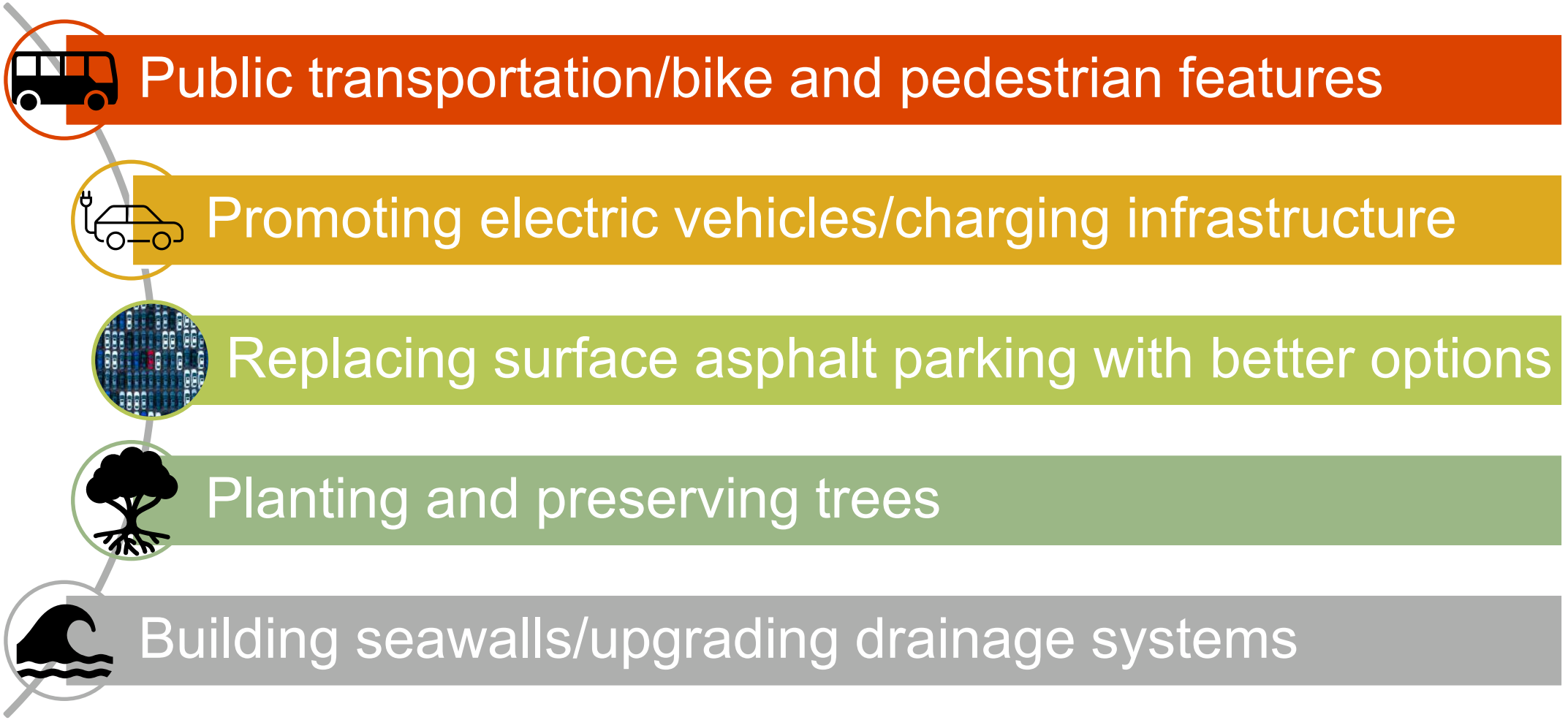
Taking the right actions

Identifying short- and long-term measures to withstand climate events

Depending on location and other factors, steps may include:



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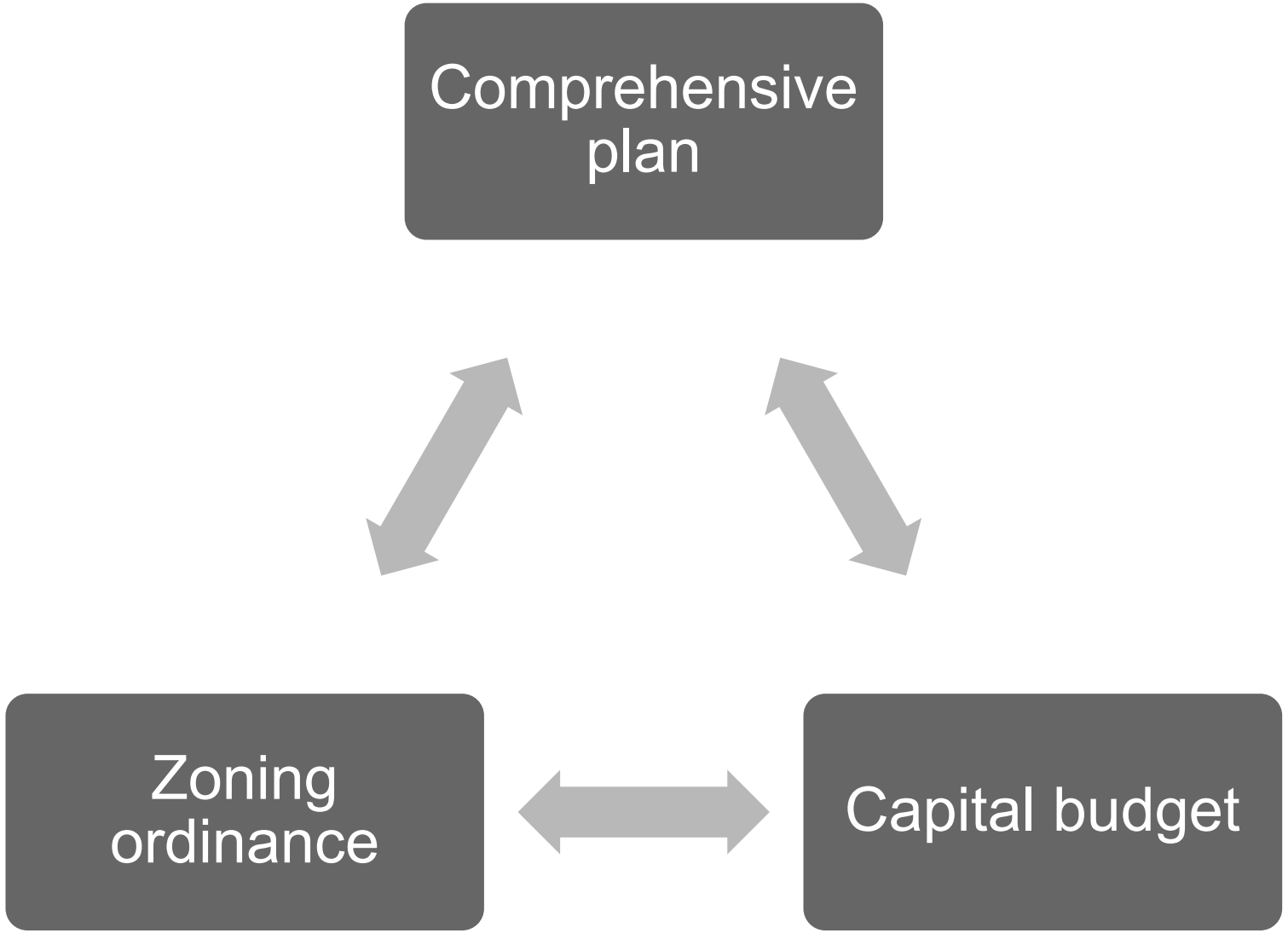
Planning and budgetary effects



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Legal implications of local government climate action

Where the city attorney's assistance may be needed

- Acquiring property/eminent domain
- Intergovernmental agreements
- Grant funding
- Affordable housing/environmental justice
- Zoning regulations/building codes

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Developing climate action plans

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Climate action plans – getting started

- Consider a joint plan or using the same consultant as other nearby governments
- Select a qualified consultant/negotiate a contract
- Adopt a scope of work (see Asheville, NC's here)
- Acknowledge specific issues the community faces
- Scale the CAP to community's size and abilities
- Build buy-in from community/engage stakeholders
- Look for outside funding possibilities:
  - grants
  - foundations
  - public utilities
  - public-private partnerships

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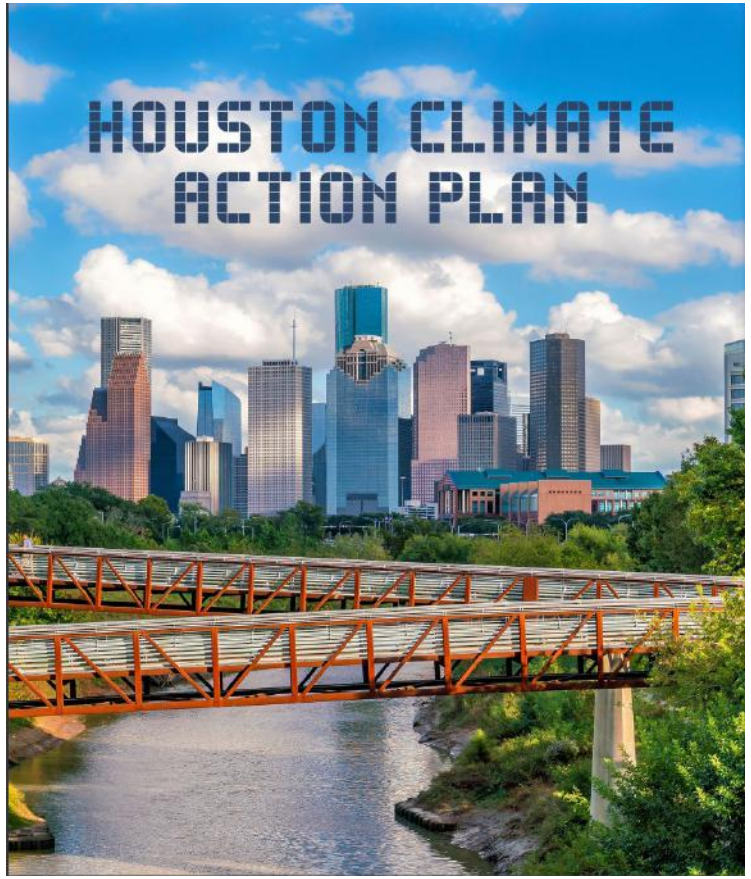
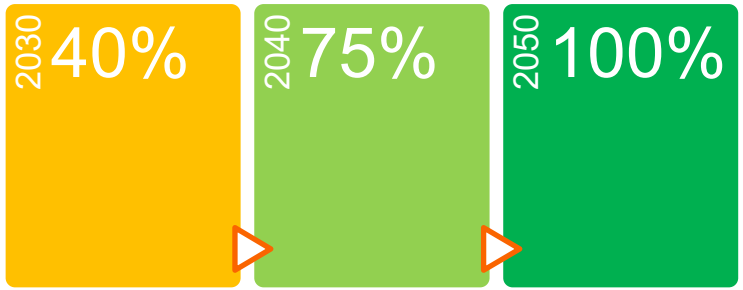
Making CAPs meaningful



Houston's emissions reduction goals



Four strategy categories



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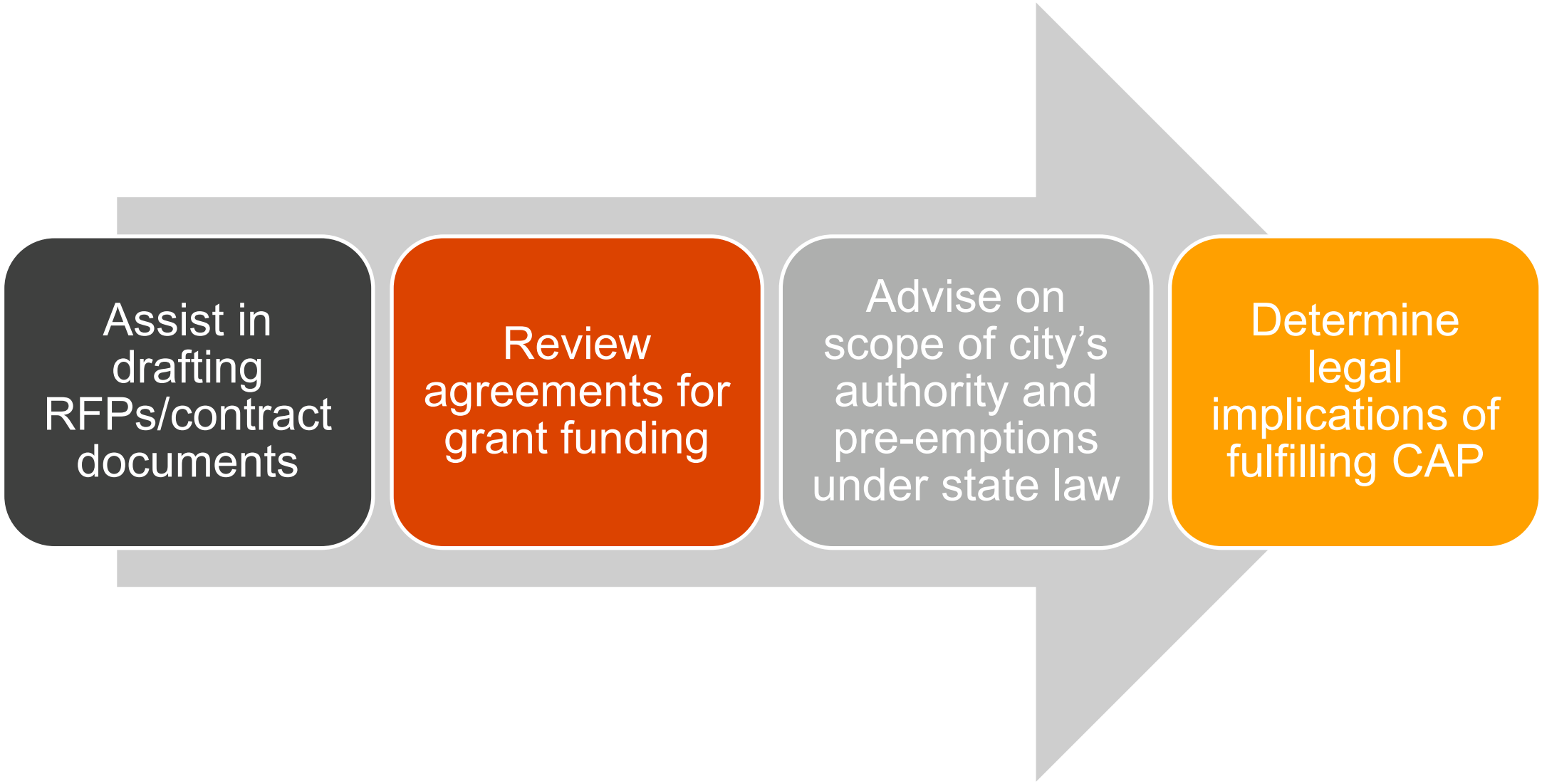
Climate action plans – the city attorney's role



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Putting goals to work in regulations and contracts

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Get contractors on board

- Include net zero targets in:
  - bid invitations;
  - RFPs and RFQs; or
  - other bid and procurement documents
- Pre-qualify contractors to limit the pool to those demonstrating a commitment to green practices in:
  - construction;
  - manufacturing; or
  - service delivery

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Use a net zero mindset

Net zero target:

The city's ultimate long-term goal for zeroing out GHG emissions

Net zero objectives:

Project-specific goals to be achieved under a contract

Net zero benchmarks:

Specific measures a contractor must take to fulfill net zero objectives

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Climate goals in construction contracts

Construction contract climate clause options:

- Requiring contractor to meet defined net zero objectives, including reaching net zero benchmarks at various stages

  (See sample clause in presentation materials or on Practical Law at Contract Clauses for Government: Net Zero Objectives)

- Rewarding contractor for meeting net zero objectives

  (See sample clause on Practical Law at Contract Clauses for Government: Net Zero Incentives)

- Prescribing construction waste practices to help:
  - reduce landfill waste and associated GHG emissions
  - avoid waterway pollution

  (See sample clause on Practical Law at Contract Clauses for Government: Construction Waste Management)

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Climate goals in procurement contracts

Seek sources that:

- Require less transportation
- Use recycled or responsibly sourced materials/components
- Reflect supplier's/manufacturer's commitment to sustainability

ESG ratings as an evaluation tool

- Corporate responsibility for:
  - environmental sustainability;
  - social issues; and
  - governance.
- Online services provide ESG ratings
  - example: Sustainalytics

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Climate goals in facility management contracts



Retrofitting facilities with energy-efficient appliances, systems, and lighting



Reducing single use plastics in dining facilities



Landfill management practices to reduce GHG emissions

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Climate goals in planning and zoning

Congratulations! Chances are your city is doing some climate-friendly things like these.



Preserving open spaces



Planting and preserving trees



Incorporating bike lanes/pedestrian features

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Climate goals in planning and zoning

Newer considerations

Encouraging higher use of electric vehicles with:

- Free parking on streets and in public garages (see LPDD's model ordinance)
- Designated parking spaces with charging stations at privately owned facilities (see LPDD's model ordinance)



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Climate goals in planning and zoning

A harder challenge - densification

Addressing the effects of single-family large-lot zoning:

- Some state laws and local zoning allow for two or more homes on lots previously limited to single family
- Aimed primarily at affordability but has overlapping environmental benefits
- Examples:
  - Minneapolis 2040 Plan - Allows up to 3 units on lots previously limited to SFRs
  - Portland's Residential Infill Project: - "Deep affordability bonus" allows up to 6 units on a site when half are affordable for low-income households
- States requiring cities to allow accessory dwelling units (to varying extents):
  - California, New Hampshire, Oregon, Washington, Vermont

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Climate goals in building codes

Assuring that buildings are resilient and energy-efficient

Codes focusing on energy-saving construction and operations

- "Stretch codes" that emphasize higher energy savings (see New Buildings Institute: Stretch Codes)
- Requiring new dwellings to include charging infrastructure (see LPDD Model Code)

Requirements for recycling of construction and demolition waste

- Example: Austin, Texas: Construction and Recycling Ordinance

Landscaping standards

- Relying on low maintenance trees/plantings to provide shade

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Selling local government climate policies

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Selling the policies

And getting around political controversies

- De-emphasize terms and reference that trigger negative reactions
- Stress that climate-related actions will result in:
  - long-term economic benefits
  - healthier and safer living environment
  - preservation of natural resources and scenic beauty for future generations



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Practical Law Resources

- Contract Clauses for Government: Construction Waste Management
- Contract Clauses for Government: Net Zero Objectives
- Contract Clauses for Government: Net Zero Incentives
- Practice Note, UNFCCC, the Kyoto Protocol, and the Paris Agreement
- Practice Note, ESG Disclosure & Sustainability Reporting Frameworks: ESG Data and Ratings Providers
- Environmental, Social, and Governance (ESG) Toolkit: US
- Practice Note, Green Bonds and Local Infrastructure Projects



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