

## CAR.Committee

---

**From:** Cottingham, Lara - ARA <Lara.Cottingham@houstontx.gov>  
**Sent:** Friday, August 14, 2020 10:07 AM  
**To:** CAR.Committee  
**Subject:** CAR-1(2) presentation - Houston  
**Attachments:** 8.14.2020 Houston CAP Maui .pdf

Please see attached and let me know if you have any questions.

Thanks – Lara



**Lara Cottingham**  
**Chief of Staff & Chief Sustainability Officer**  
City of Houston  
Administration & Regulatory Affairs  
Department  
611 Walker, 13th Floor  
Houston, Texas 77002

Direct: 832-393-8503  
**Cell: 281-896-9358**  
Email: [Lara.Cottingham@houstontx.gov](mailto:Lara.Cottingham@houstontx.gov)  
**Schedule a meeting:**  
[www.calendly.com/laracottingham](http://www.calendly.com/laracottingham)



# HOUSTON CLIMATE ACTION PLAN

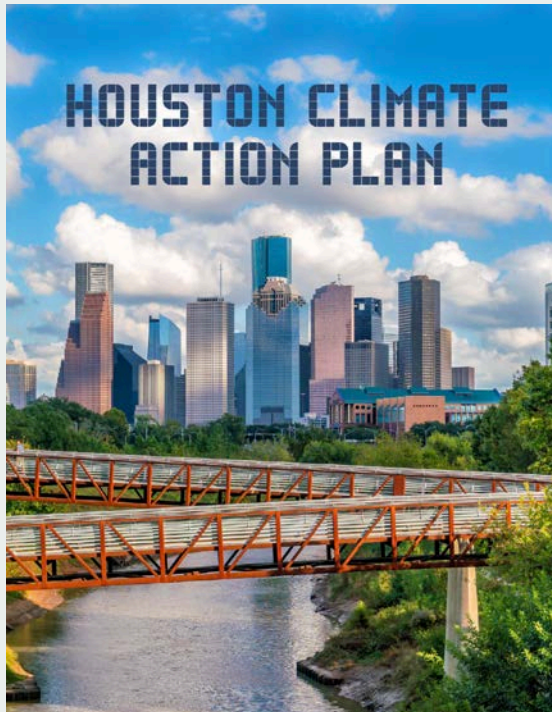


Lara Cottingham  
Chief Sustainability Officer - City of Houston  
August 17, 2020



# LAUNCH - APRIL 22, 2020

## HOUSTON CLIMATE ACTION PLAN



HOUSTON CHRONICLE • SUNDAY, MAY 3, 2020 • PAGE A22

### OPINION

EDITORIAL

## Climate Action Plan is vital first step

Energy capital of the world must lead way in fight to reduce greenhouse gas emissions.

By The Editorial Board

The novel coronavirus has put the world back on its heels, killing almost a quarter of a million people, plunging countries after countries into crisis and leaving us all facing an uncertain economic future.

Its impact has been swift, brutal and evident. And likely temporary. That's not the case with another existential threat for which there's no hope of a vaccine or prompt effective treatment.

Climate change is upon us. Drawing a lesson from the COVID-19 outbreak, we cannot ignore the mounting signs and do nothing in hopes that tragedy will pass us by.

Failing to mitigate climate change comes with increased sea level, extreme heat waves and protracted droughts that will have an untold impact on humanity, devastating nations and economies. Denialist Houston. We need to be prepared and make choices today to be ready for tomorrow.

That may seem like a lot to ask of the 800 pages in Houston's new Climate Action Plan. Houston is only one city and climate change is a global challenge requiring a global solution, but our city is unique. We're on the front lines, tied to the energy industry in a way that brings opportunity and responsibility.

Our oil and gas companies produce the fossil fuels that are the main drivers of climate change and the city is at the mercy of the severe storms that are exacerbated by a warming planet.

We're less than a month away from the start of hurricane season, one which according to forecasts, may be the second most active on record. As the city collectively holds its breath while up to 20 named storms form in the Atlantic, we can take solace in knowing that we're not sitting idly by.

work in the state's most business-friendly climate.

"Houston is not Los Angeles. It's very much a market-oriented city, where the private and public sectors must work together," Gavin Dillingham, program director for clean energy policy at the Houston Advanced Research Center, told the editorial board. "The intent of the plan is to give guidance and direction that can allow for successful implementation."

This means that more to 800 pages happens with the plan. Dillingham said, because it is a real compromise between the different interests that came together in its creation. A unique plan for a unique city. It's not perfect, but it's a good start for Houston, one that can be built on much faster because of that agreement among disparate groups.

Industry support is vital for the plan, and it shows some of its more aspirational goals within reach. Lara Cottrillman, the city's chief sustainability officer, told the editorial board.

"The city can do every single thing, and that's important, but when you have those big companies making commitments and following up on them, that's how you reduce emissions," she said. "Not just in Houston but in cities all over the world."

Some of those large companies, including Shell and BP, are responding to market pressures and have identified the business case for decarbonization and taking climate change seriously. Their lack of Houston's Climate Action Plan sets down an important marker. Any plan comes with accountability — and Houstonians must hold both the city and its industry partners to its implementation goals.

This is an important step, and we commend Houston for taking on the challenge of reducing greenhouse gas emissions. After all, how can the world fight climate change effectively without its energy capital leading the way?

HOUSTON CHRONICLE

## HOUSTON CLIMATE WEEK

August 24-28

Join us for a series of conversations about Houston's Climate Action Plan!

Learn how you can help!

HOUSTON CHRONICLE • THURSDAY, APRIL 23, 2020 • PAGE A3

### CITY|STATE

## An eco-friendly goal for energy capital

Julianna Franklin, 10, left, and Autumn Stevens, 8, help carry water for baby goats on Hope Farms in Sunnyside after a five-hour Earth Day Facebook Live event on Wednesday.

By Dylan McGuinness

HOUSTON'S first Climate Action Plan calls on the city's 4,500 energy companies to lead the transition to renewable sources, while residents are asked to swap car rides for mass transit and work to cut down on the estimated seven pounds of waste each person discards every day.

The plan also calls for the city to adopt a new building code and develop a long-range plan for its waste collection system as part of a broad-based effort to reach carbon neutrality by 2050.

The 507-page plan, in the works for more than a year and published online Wednesday, is a strategy, not an ordinance, so it does not make any new rules. Instead, it identifies four areas to target emission reductions: transportation, energy transition, building optimization and materials management. It also identifies goals, strategies and targets for residents, businesses and the city to follow in each of those areas.

For example, the section on transportation, which accounts for nearly half of emissions here, includes a goal to shift the regional fleet to electric and low-emission vehicles. It lays out targets to get there, such as converting all non-emergency municipal vehicles by 2030 and increasing incentives and infrastructure for the private sector to do the same.

The section on energy transition released his Houston Climate Action Plan.



HOUSTON CLIMATE ACTION PLAN

# BACKGROUND



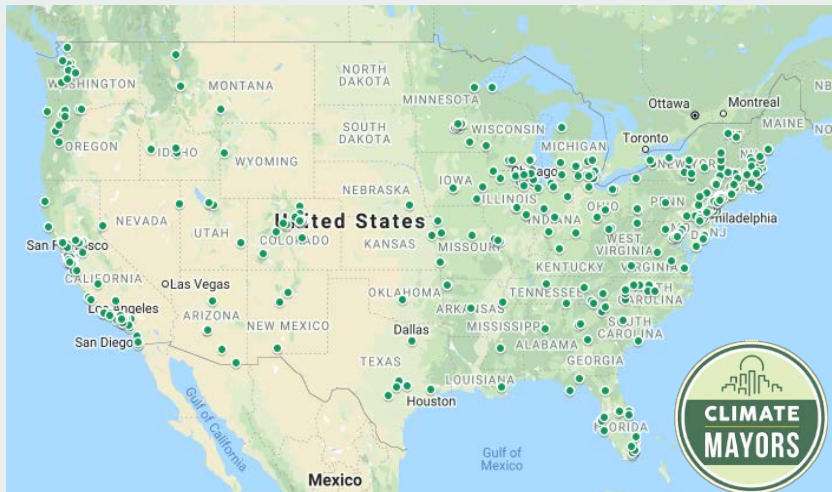
# CITIES AND CLIMATE



**Globally -- Houston is one of C40 96 “Mega-cities” committed to global climate action**

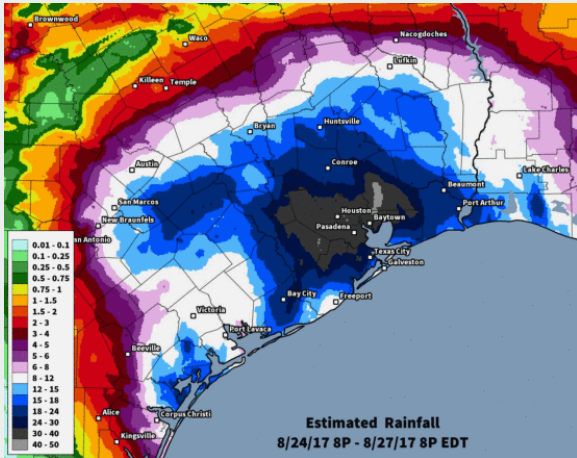
**Nationally -- 481 Climate Mayors represent nearly 20% of the U.S. population**

**Texas -- Dallas, Austin, San Antonio, and Houston are all launching climate action plans**



# CLIMATE IN HOUSTON

2015 Memorial Day Flood, 2016 Tax Day Flood, 2017 Hurricane Harvey, 2018 4<sup>th</sup> of July Flood, 2019 Tropical Storm Imelda, 2020...



## Low vs **High Emission** Climate Projections:

	1970-1990	2050	2100
High Temp	99	104 - <b>106</b>	104 - <b>109</b>
Days above 100	1 day	12- <b>23 days</b>	14- <b>54 days</b>
Nights above 80	.6 nights	20- <b>50 nights</b>	30- <b>96 nights</b>
Heat Wave Length	2.5 days	15 - <b>27 days</b>	19 - <b>47 days</b>
Annual Rain Fall	Average remains the same, but extremes range from 5 to 30 (Harvey level event)		



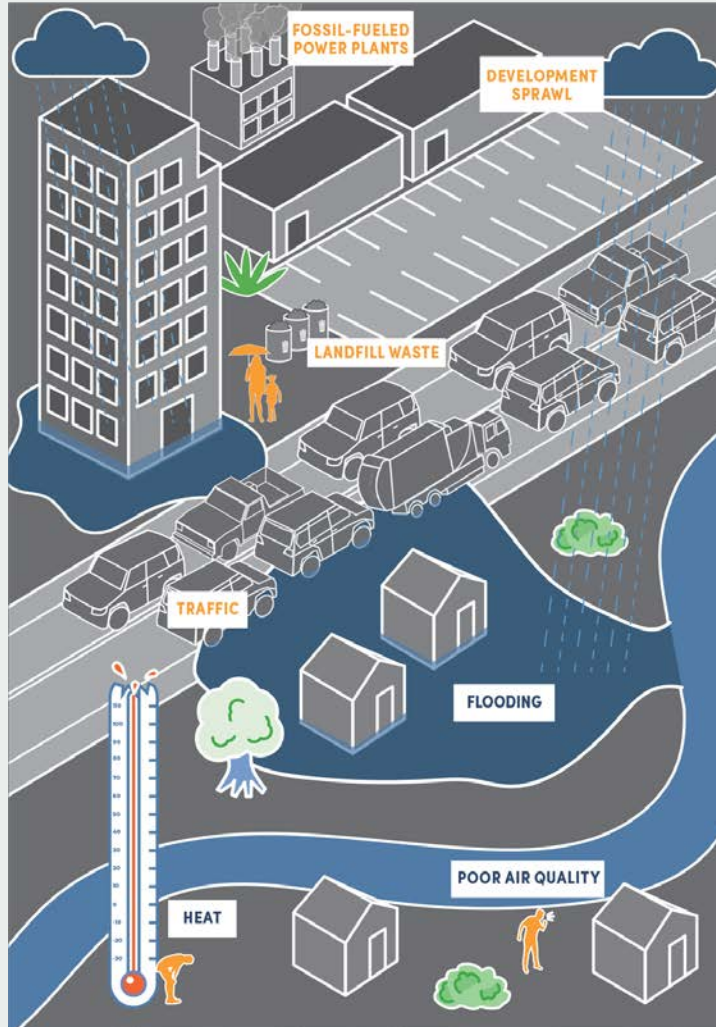


# SUSTAINABILITY + RESILIENCE



# MITIGATION VS ADAPTATION

## CLIMATE CHANGE CAUSES & IMPACTS



## SOLUTIONS: MITIGATION & ADAPTATION

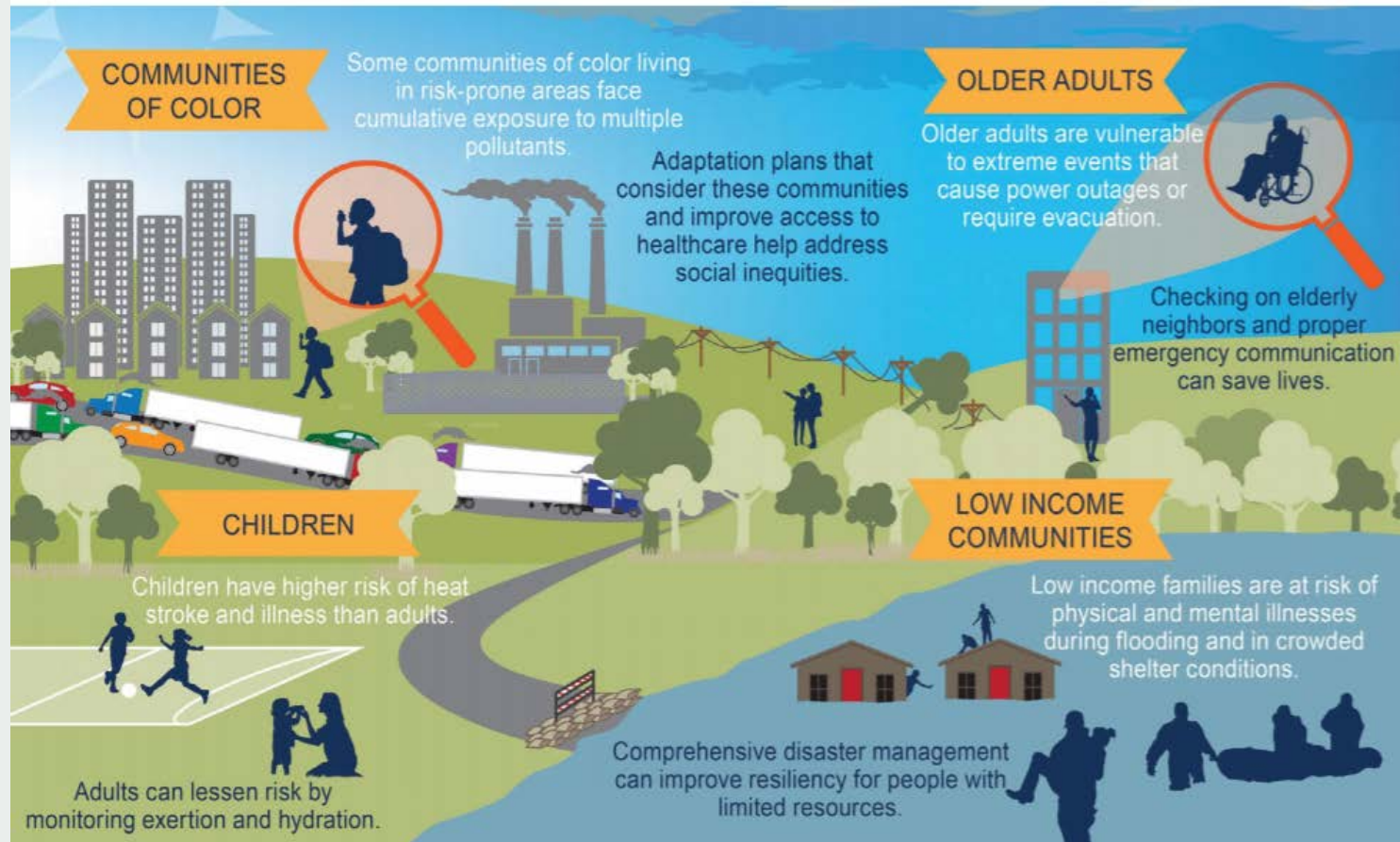




# COMMUNITY IMPACT

## CLIMATE VULNERABLE POPULATIONS: HEALTH IMPACTS

Populations vulnerable to adverse climate-related health threats (in white text) and adaptation measures that can help address disproportionate impacts (in blue text). Source: U.S. Environmental Protection Agency



# RESILIENT HOUSTON

---



Resilient Houston's 5 Chapters, 18 Goals and Targets, and 62 Actions intended to address and **ADAPT** Houston to multiple unexpected catastrophic events and/or chronic underlying stresses that are typically exacerbated during catastrophic events.

## RESILIENCE THEMES:

- a healthy place to live
- an equitable, inclusive, and affordable city
- a leader in climate adaptation
- a city that grows up, not out
- a transformative economy that builds forward



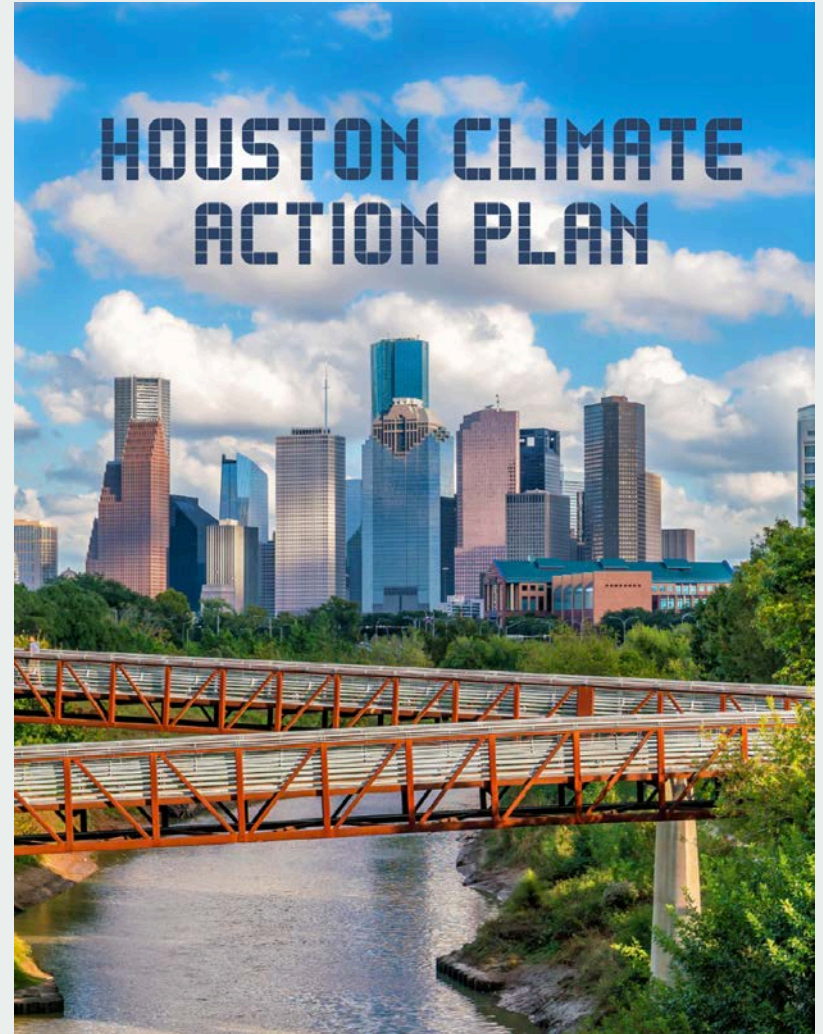
# HOUSTON CLIMATE ACTION PLAN

---

12 goals, 12 targets, 36 strategies, and 96 actions that Houston can implement to **MITIGATE** or reduce greenhouse gas emissions and reduce future climate risk.

## COMMUNITY BENEFITS:

- Improve mobility and transportation safety
- Improve air quality
- Reduce energy costs
- Enhance resilience
- Address environmental justice concerns
- Create more equitable communities
- Create jobs
- Regional economic growth

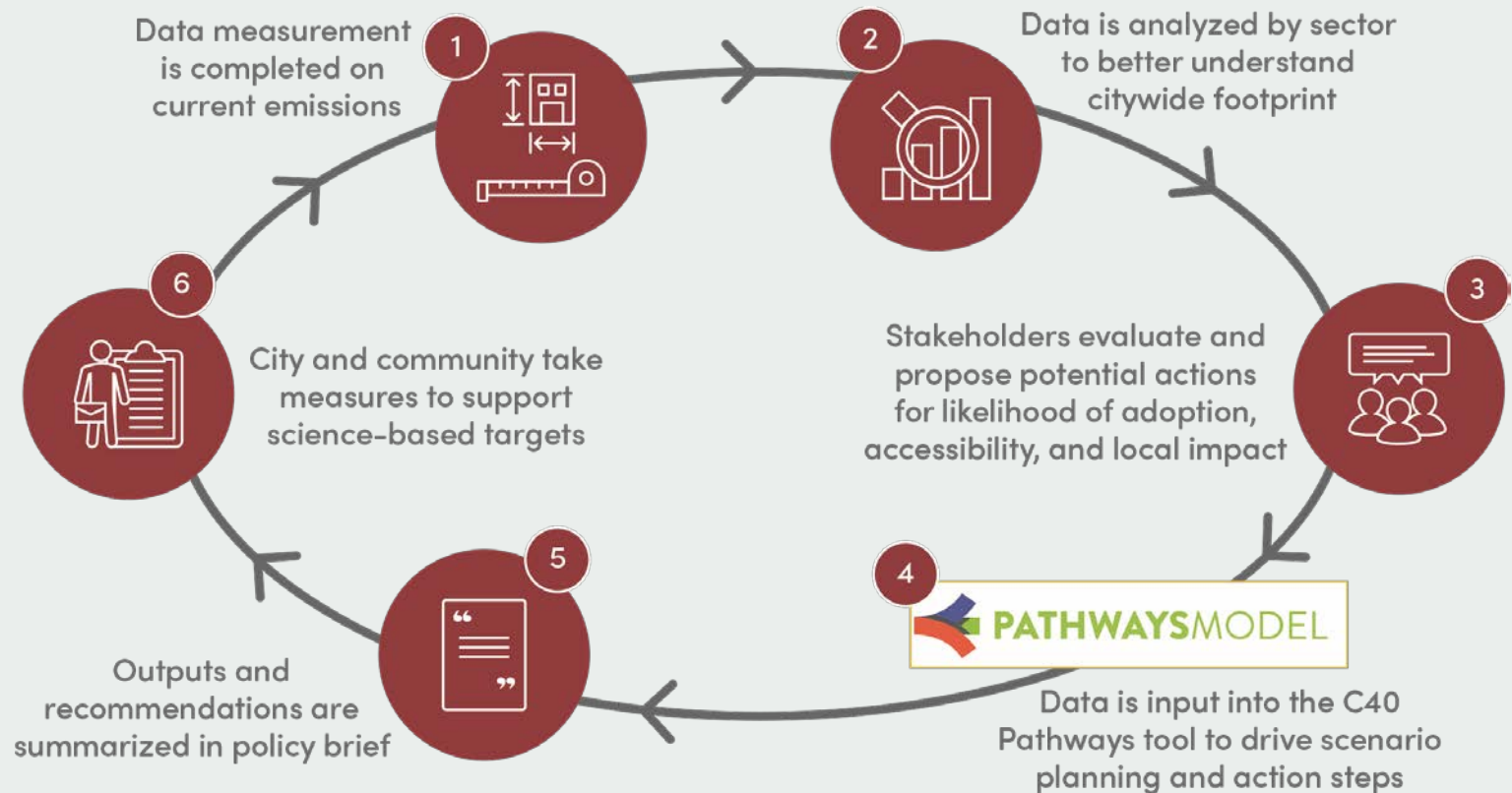




# THE PLANNING PROCESS



# A DATA AND STAKEHOLDER-DRIVEN PROCESS



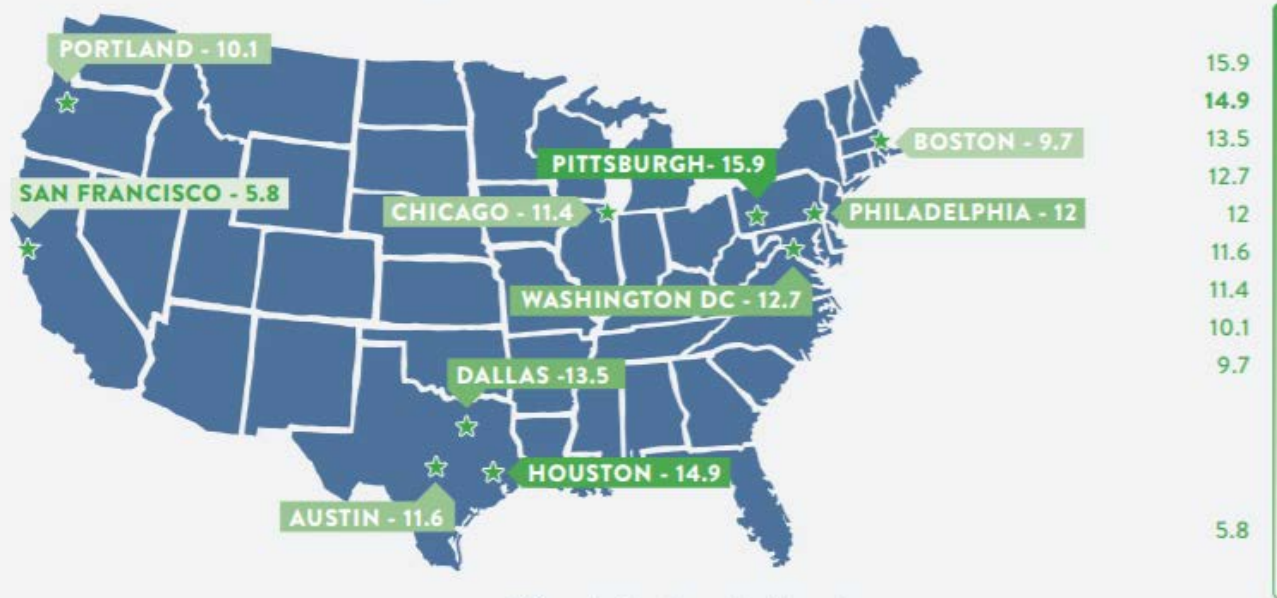
## Update Schedule:

- **GHG inventory updated annually**
- **CAP updated every 4-5 years**
- **Resilient Houston KPI Dashboard**



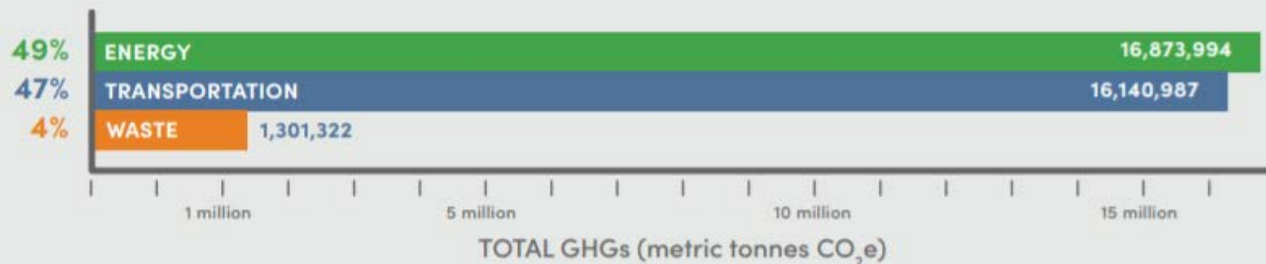
# BASELINE EMISSIONS

## TOTAL ANNUAL EMISSIONS PER CAPITA (Metric Tonnes CO<sub>2</sub>e)



[www.c40.org/other/gpc-dashboard](http://www.c40.org/other/gpc-dashboard)

## GHG EMISSIONS SOURCE (BY SECTOR)





# CARBON NEUTRAL BY 2050

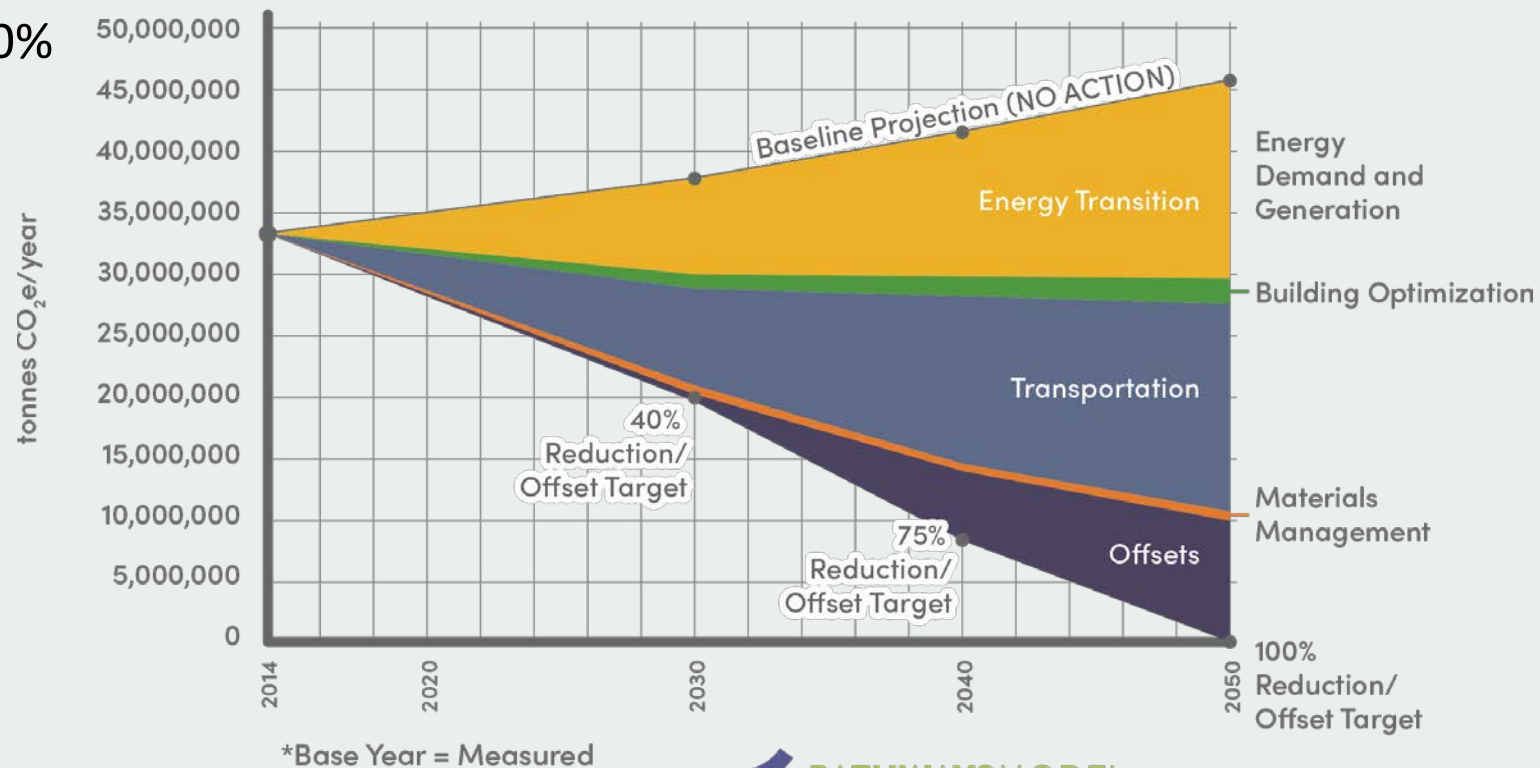
## INTERIM TARGETS:

2030: 40%

2040: 75%

2050 100%

## MODELING EMISSIONS REDUCTION POTENTIAL OF CAP ACTIONS



 PATHWAYSMODEL



# STAKEHOLDER ENGAGEMENT

- +30 stakeholder meetings
- 25 working group meetings
- 500+ one-on-one
- 700+ comments from 400 individuals and organizations



# GOALS AND STRATEGIES







# TRANSPORTATION



**GOAL 1** Shift Regional Fleet to Electric and Low-Emission Vehicles.



**GOAL 2** Reduce Vehicle Miles Traveled (VMT) Per Capita.



**GOAL 3** Provide Equitable and Safe Mobility Choices.



# ENERGY TRANSITION



**GOAL 1** Grow Houston's Investment  
in Renewable and Resilient Energy Systems.



**GOAL 2** Make Houston The Leader  
In Carbon Capture Technology and  
Energy Innovation.



**GOAL 3** Restore, Protect,  
and Enhance Houston's Natural Ability to  
Capture and Store Carbon.







# BUILDING OPTIMIZATION



**GOAL 1** Reduce Building Energy Use and Maximize Savings.



**GOAL 2** Expand Investment in Energy Efficiency.



**GOAL 3** Invest in Skilled Local Jobs to Optimize Building Operations.





# MATERIALS MANAGEMENT



**GOAL 1** Reduce Waste and Transform the Circular Economy.



**GOAL 2** Optimize Waste Operations and Create Power From Waste.

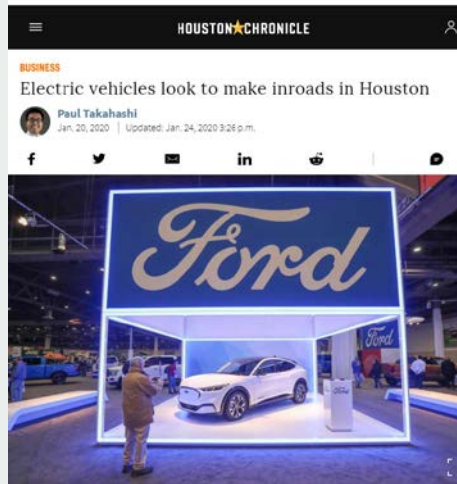


**GOAL 3** Ensure Safe and Cost-Effective Long-Term Disposal Capacity.





# PLAN IN ACTION



## Energy & Science Built by Oil's Riches, Houston Goes 100% Green Years Earlier

By David Wiethe  
May 22, 2020, 10:11 AM CDT  
Updated on May 22, 2020, 11:36 AM CDT

- Five-year contract with NRG Energy to power city properties
- Mayor seeks to broaden out image of city beyond oil and gas



Houston Mayor Sylvester Turner Photographer: F. Carter Smith/Bloomberg

The oil and natural gas capital of the world is going all-in on solar power.

Houston will begin a new five-year contract in July with [NRG Energy Inc.](#) to power all of its city-owned properties, from fire stations to airports, with renewable energy. The move means the nation's fourth-largest city will reach its goal of 100% renewable power five years sooner than anticipated.



Tyra Brown uses one of the city's downtown parking meters as Olga Valdez, parking compliance officer, stands by.



City of Houston's Office of Sustainability, in coordination with Evolve Houston, has issued a Request for Information (RFI) for a community-wide strategy for publicly-accessible electric vehicle (EV) support equipment and City-owned fleets.

- Evolve Houston
- 2021 Building Code
- Walkable Places Ordinance
- Parking Minimums
- 100% Renewable Energy Contract
- Community EV RFI



# BP PARTNERSHIP

- Without a federal or state-wide ghg reduction mandate, zoning, or municipal owned utilities, **PARTNERSHIPS ARE ESSENTIAL**
- Data and Stakeholder Driven Process
- **\$2 Million – unrestricted – for CAP Implementation**
  - Climate Action Plan Program Coordinator
  - Climate Equity and Engagement Coordinator,
  - Working group projects

Houston Climate Action Plan released

HOUSTON CLIMATE ACTION PLAN



## BP will slash oil production by 40% and pour billions into green energy

By Hanna Ziady, CNN Business

Updated 11:59 AM ET, Tue August 4, 2020



## Is oil giant BP finally ready to 'think outside the barrel'?

New CEO Bernard Looney has a bold plan to move BP into clean energy and out of oil. Some critics say they've heard it all before.

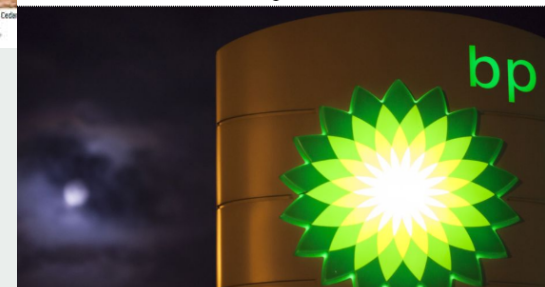
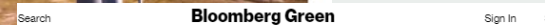
By Vivienne Walt  
August 19, 2020 3:58 AM CDT



A worker on a wind turbine at the Cedar Point Wind Farm in Ohio. Photo: iStockphoto.com



Lekela Power



Energy & Science

## BP Shows Oil Majors How to Green a Polluting Company

Ambitious targets plot path for CEO's vision of a low carbon future

By Akshat Rathi and Will Mathis

August 5, 2020, 3:31 AM CDT

Updated on August 5, 2020, 8:38 AM CDT

# QUESTIONS?

---

## CONTACT INFORMATION:

LARA COTTINGHAM

CHIEF SUSTAINABILITY OFFICER

[LARA.COTTINGHAM@HOUSTONTX.GOV](mailto:LARA.COTTINGHAM@HOUSTONTX.GOV)

832-393-8503

THANK YOU!

Learn more:

[WWW.GREENHOUSTONTX.GOV](http://WWW.GREENHOUSTONTX.GOV)



HARC

