

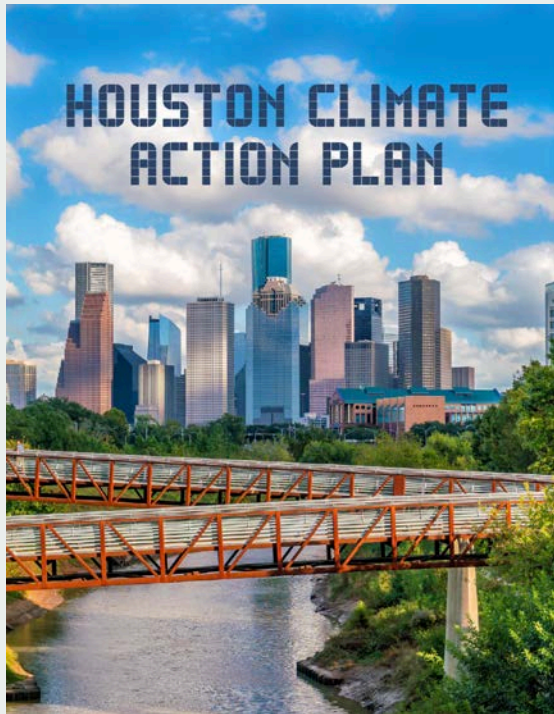


# HOUSTON CLIMATE ACTION PLAN



Quality of Life Committee - August 26, 2020  
Lara Cottingham, Chief Sustainability Officer

# LAUNCH - APRIL 22, 2020



## HOUSTON CLIMATE ACTION PLAN

### OPINION

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

#### 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 dread 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 overall impact on humanity, devastating nations and economies. Densifying 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 300 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, what up to 20 named storms from the Atlantic, we can take solace in knowing that we're not sitting idly by.



Photograph by Staff photographer

If greenhouse gas emissions are not reduced, intense storms and flooding — such as during Tropical Storm Isaias in September — will become commonplace.

The Climate Action Plan, introduced on the 50th anniversary of Earth Day, is the product of more than a year of discussions among the city and representatives from the business sector, academia, environmental organizations and the community. The goal is to reduce greenhouse gas emissions and bring the city to flow with the Paris Agreement goal of becoming carbon neutral by 2050.

Houston has one of the largest rates per capita of greenhouse gas emissions in the country, almost evenly split between transportation and energy for homes, businesses and industry.

The plan targets low-hanging fruit for reductions, including reducing vehicle emissions, transitioning from fossil fuels to alternative energy, optimizing energy use in buildings, and reducing waste and improving recycling.

Each area is broken into three goals, which range from easy attainable — such as shifting the city's non-emergency fleet to electric vehicles — to longer-term efforts including increased use of public transportation and making the city a leader in carbon capture technology and energy innovation.

More than 65 of the largest cities in the country have adopted a climate action plan, and while Houston's goal of being carbon neutral by 2050 is as ambitious as any of them, it doesn't include the kind of investment or regulations laid out in plans by other major cities, such as New York and Los Angeles. Instead, it took some of the best practices and adapted them to

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

"Houston is not Los Angeles. It's very much a market-oriented city, where the private and public sector must work together," Gavin Hilligman, 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 400 percent happen with the plan, Hilligman 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 takes some of its more aspirational goals within reach, Lara Cottingham, 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 is 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 diversification and taking climate change seriously. They're leading Houston's Climate Action Plan into an important market. 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?

### CITY|STATE

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

#### An eco-friendly goal for energy capital



Juliana Franklin, 10, left, and Autumn Stevas, 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**  
STAFF WRITER

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 water 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 releases his Houston Climate Action Plan.

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

**City climate plan enlists oil firms, residents in aim for carbon neutrality by 2050**

Triflue was lit on E-45 North when Mayor Sylvester Turner released his Houston Climate Action Plan.

## HOUSTON CLIMATE WEEK

August 24-28

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

Learn how you can help!



# BACKGROUND



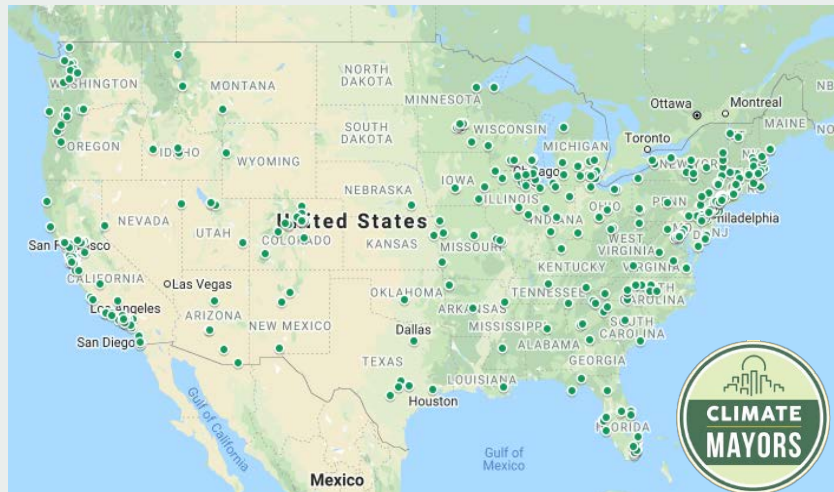
# CITIES AND CLIMATE



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

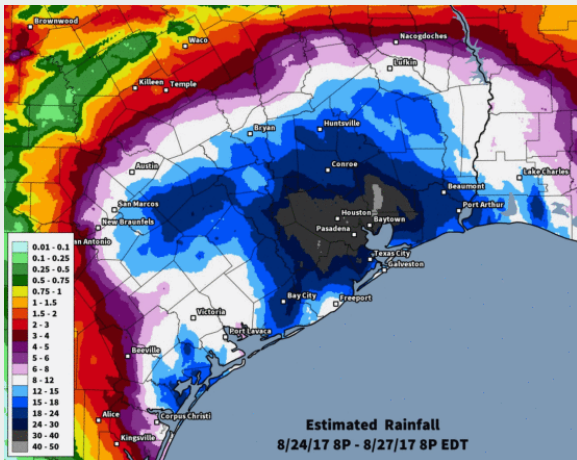
Nationally -- 481 Climate Mayors represent nearly 20% of the U.S. population

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...

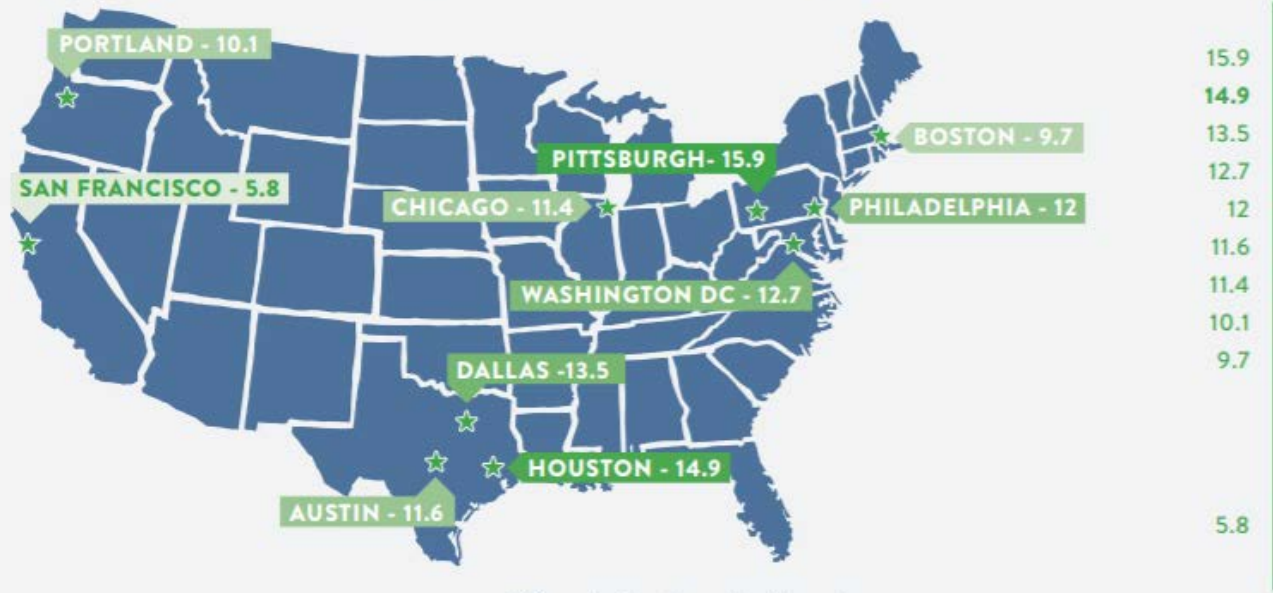


Low vs <b>High Emission</b> Climate Projections:			
	1970-1990	2050	2100
High Temp	99	104 - <b>106</b>	104 - <b>109</b>
Days above 100	1 day	12- <b>23 days</b>	14- <b>54 days</b>
Nights above 80	.6 nights	20- <b>50 nights</b>	30- <b>96 nights</b>
Heat Wave Length	2.5 days	15 - <b>27 days</b>	19 - <b>47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



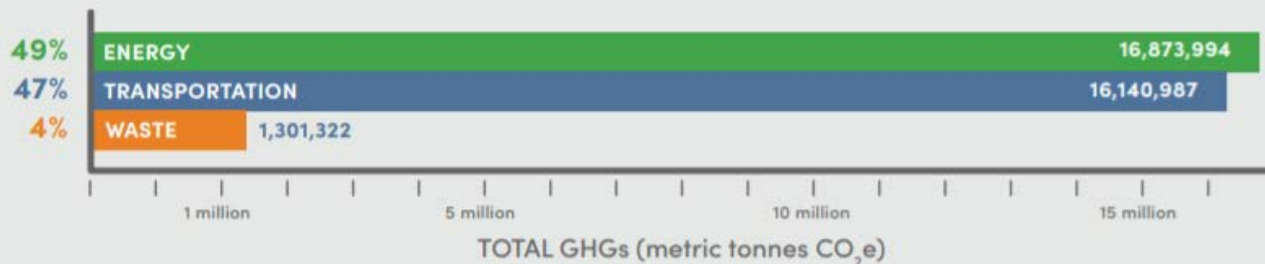
# BASELINE EMISSIONS

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



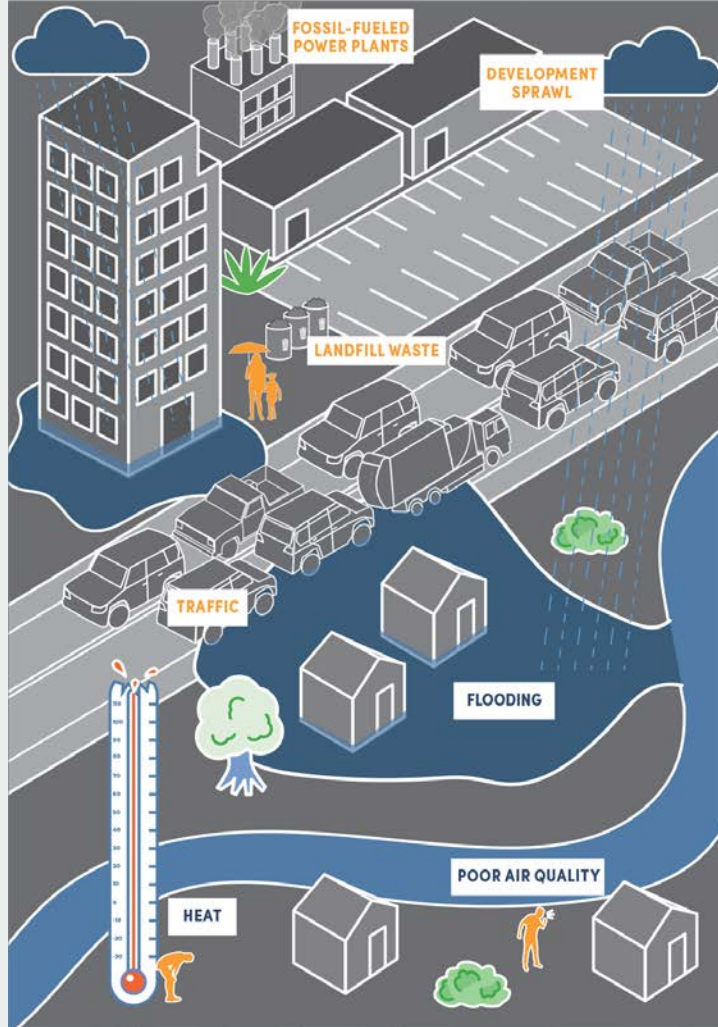
[www.c40.org/other/gpc-dashboard](http://www.c40.org/other/gpc-dashboard)

## GHG EMISSIONS SOURCE (BY SECTOR)



# SUSTAINABILITY + RESILIENCE

## CLIMATE CHANGE CAUSES & IMPACTS



## SOLUTIONS: MITIGATION & ADAPTATION



# HOUSTON CLIMATE ACTION PLAN





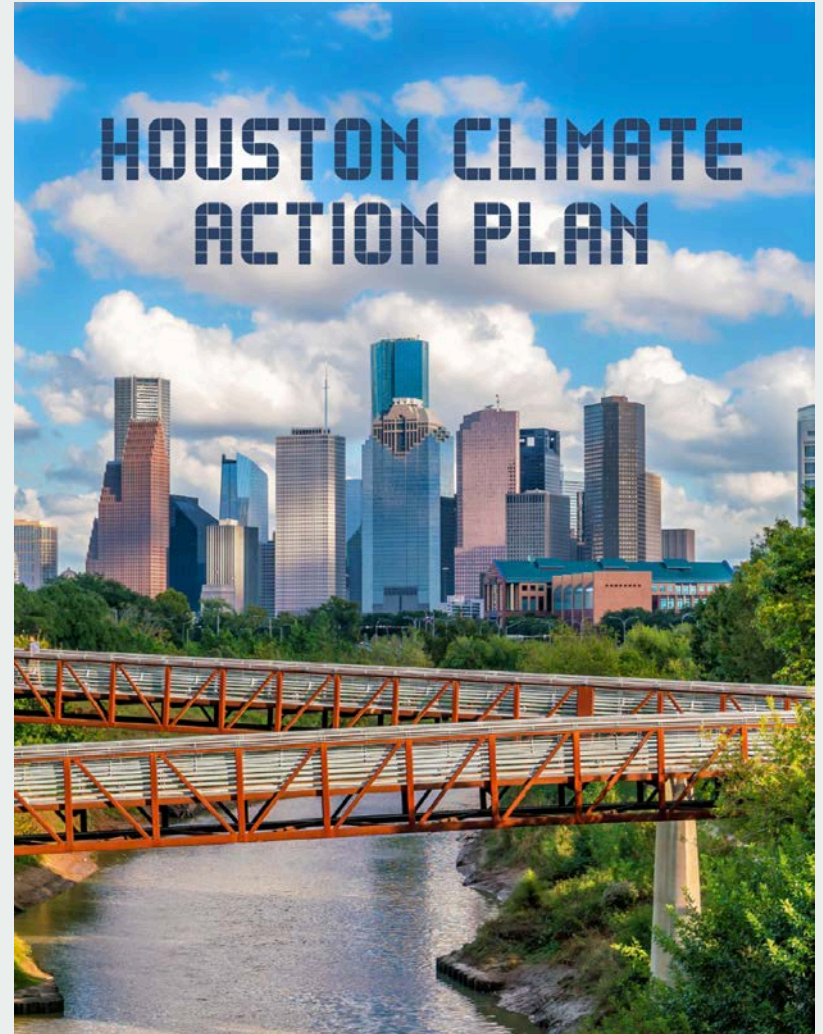
# HOUSTON CLIMATE ACTION PLAN

A science-based, community-driven strategy for Houston to reduce greenhouse gas (ghg) emissions, meet the Paris Agreement goal of carbon neutrality by 2050, and lead a global energy transition.

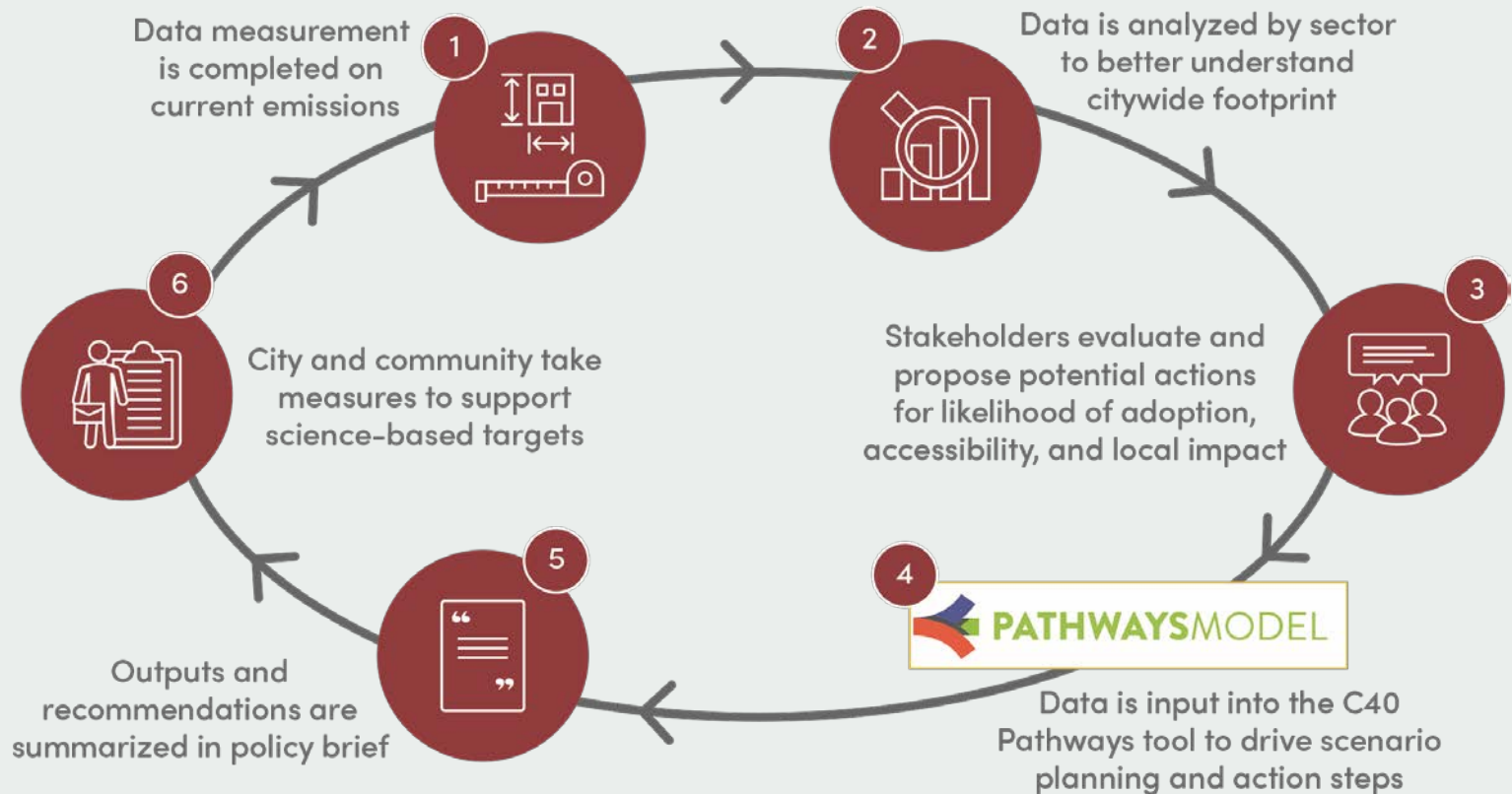
12 goals, 12 targets, 36 strategies, and 96 actions

## COMMUNITY BENEFITS:

- Advance mobility and transportation safety
- Improve air quality
- Reduce energy costs
- Address environmental justice concerns
- Create more resilient, equitable communities
- Spur regional economic growth



# A DATA AND STAKEHOLDER-DRIVEN PROCESS



## Update Schedule:

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



# STAKEHOLDER ENGAGEMENT

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



# CARBON NEUTRAL BY 2050

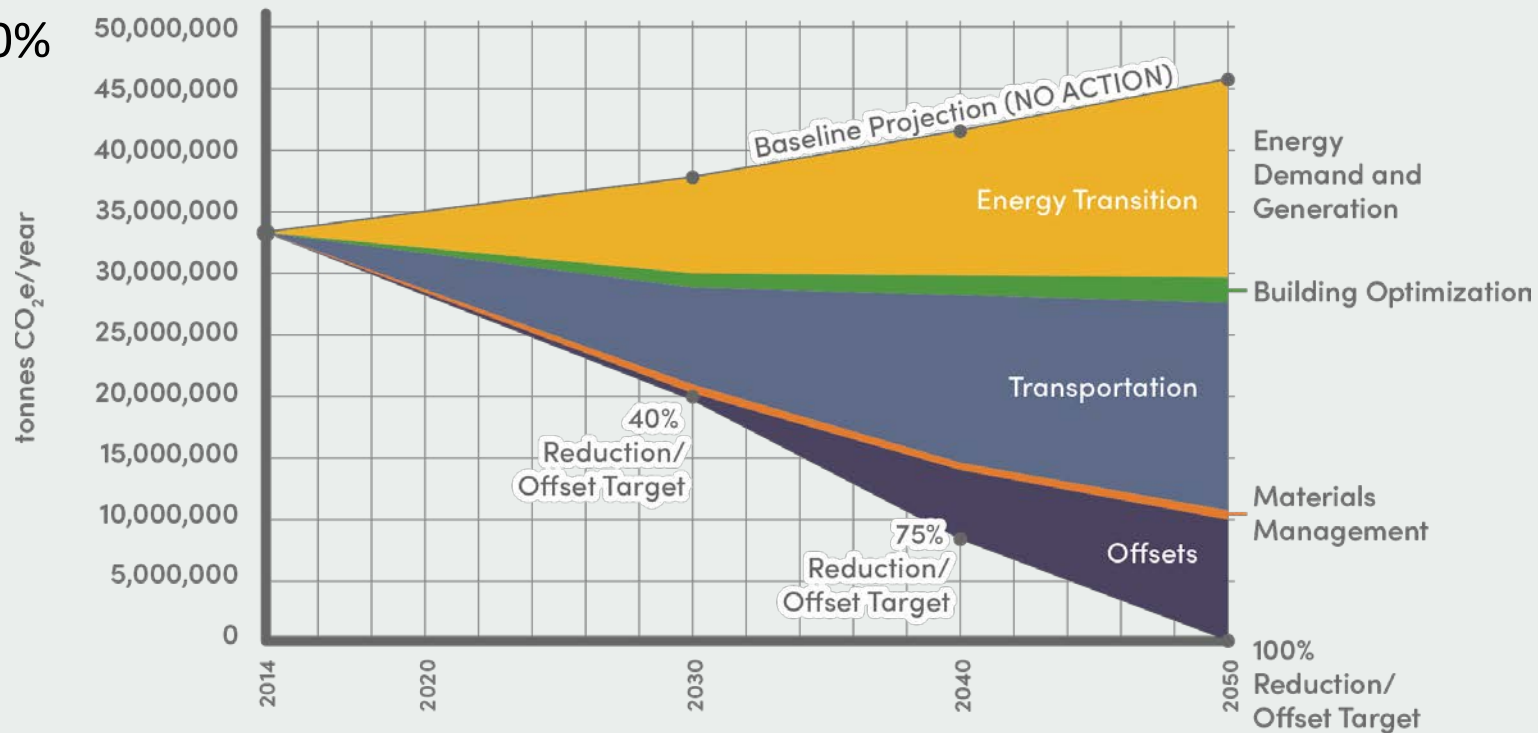
## INTERIM TARGETS:

2030: 40%

2040: 75%

2050 100%

## MODELING EMISSIONS REDUCTION POTENTIAL OF CAP ACTIONS



\*Base Year = Measured





# 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.

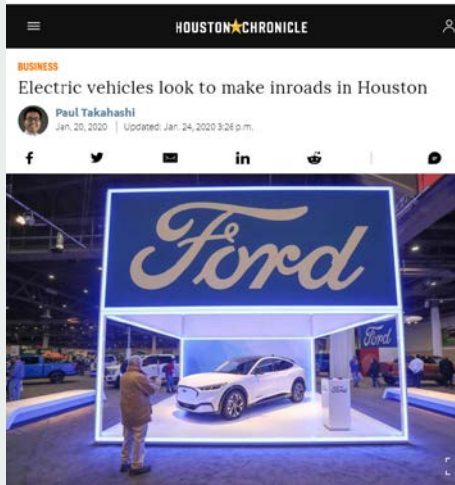




# IMPLEMENTATION



# PLAN IN ACTION



- bp partnership
- METRONext
- Walkable Places Ordinance
- 100% Renewable Energy
- Community EV Charging
- 4.6 million native trees
- 50 Energy 2.0 Companies
- Electrify City Fleet Vehicles
- Double the number of Clean Energy Projects via PACE

Energy & Science  
**Built by Oil's Riches, Houston Goes 100% Green Years Earlier**  
 By David Wathe  
 May 22, 2020, 10:11 AM CDT  
 Updated on May 22, 2020, 7:36 AM CDT

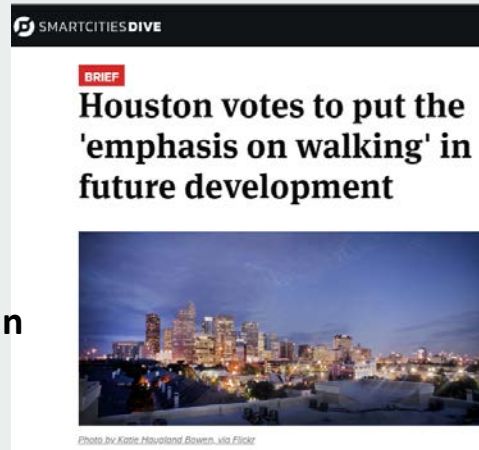
► Five-year contract with NRG Energy to power city properties  
 ► Mayor seeks to broaden out image of city beyond oil and gas



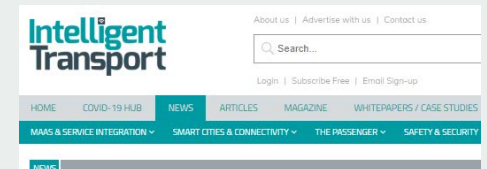
Houston Mayor Sylvester Turner Photographer: F. Carter Smith/Bloomberg

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 to amp up EV efforts through community strategy

The City of Houston has identified vehicle electrification as a key strategy in its Climate Action Plan.



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.



# SUSTAINABILITY ORDINANCE

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## **Establish a Climate Action Plan (CAP) Sec. 2-523:**

- Require the city to establish, adopt, implement, and regularly update a CAP (at least every 5 years) and greenhouse gas (GHG) inventory (at least 4 years)

## **Establish an Official Office of Sustainability Sec. 2-521. That will**

- Coordinate city-wide ghg emissions, climate, energy, and sustainability reporting,
- Educate the public and private sectors regarding best practices to reduce ghg emissions from building, energy, transportation, and materials management activities
- Develop policies and procedures to guide city departments in implementing the CAP and reducing municipal ghg emissions
- Establish an open, inclusive, public process for engaging the diverse ethnic, cultural, and economic communities in the development, implementation and update of the CAP

## **Departmental Requirements Sec. 2-526:**

- Require city departments to designate a sustainability liaison and coordinate with the Sustainability Office on emission reduction programs and the CAP



# QUESTIONS?

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## CONTACT INFORMATION:

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THANK YOU!

Learn more:

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



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