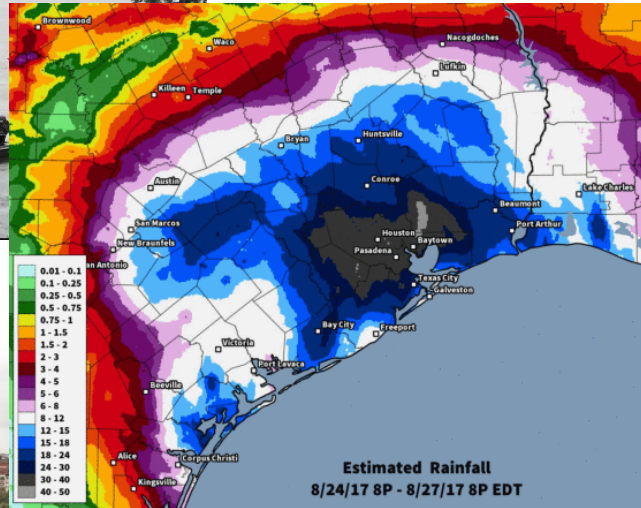




City of Houston Climate Action Plan

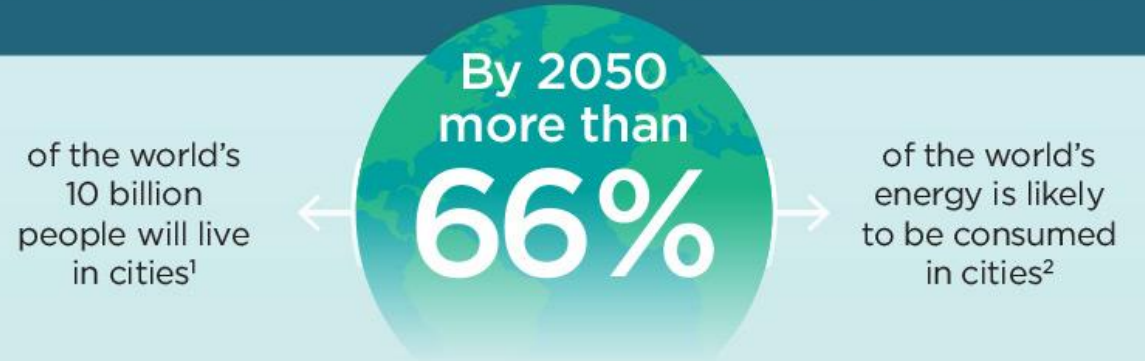
Metropolitan MSC Community Meeting
5/8/2019

Why Houston is taking Climate Action

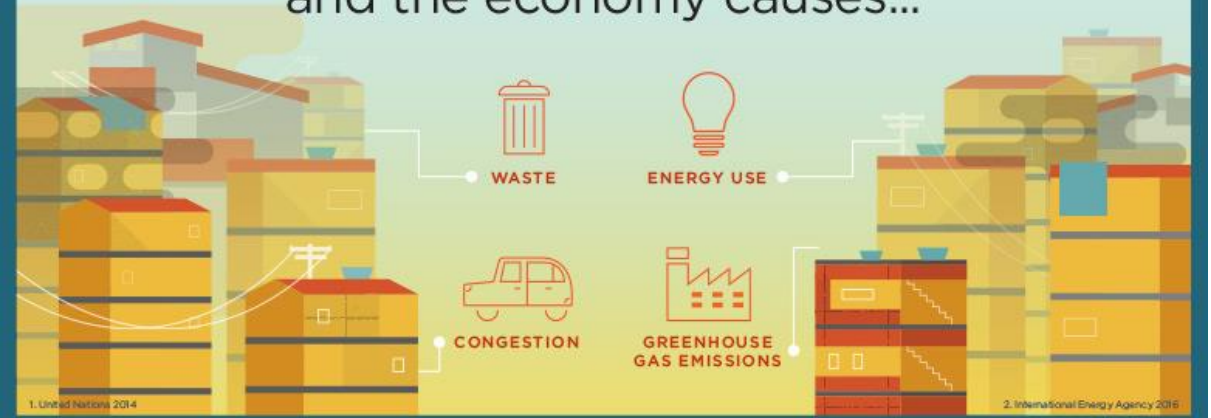


Hurricane Harvey

CITIES ARE BEING PUSHED TO THE LIMIT



Pressure on cities, their infrastructure and the economy causes...



Source: World Bank Group

Leading by Example

- **Renewable Energy:**

- The City is the largest municipal purchaser of renewable energy for city operations, receiving 92% of its power from renewable energy

- **Building Optimization:**

- Since 2004, the City has required all new buildings to be LEED Certified; currently have 37 LEED buildings
- Since 2007, the City has invested \$70 million in energy efficiency retrofits: 6 million square feet; achieving greenhouse gas emission reductions of 35%
- Converted ~175,000 streetlights to LED technology; reducing the City's streetlight energy usage by ~50%.

- **Transportation**

- 6.3% of the City's fleet is hybrid.
- Working to develop ambitious fleet electrification goals.



What is a Climate Action Plan?



What is a Climate Action Plan (CAP)?

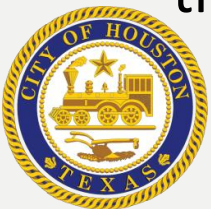
- A climate action plan should address the need to reduce greenhouse gas emissions, adapt to the impacts of climate change and deliver wider social, environmental, and economic benefits.
- **Objectives of plan are to:**
 - ❖ Decrease traffic congestion
 - ❖ Improve air quality
 - ❖ Provide better access to green space
 - ❖ Improve quality of life for all
 - ❖ **Be Equitable - all people will have the opportunity to benefit equally from the climate solutions, while also not having to take on an un-equal burden of climate impacts**
 - ❖ Reduce energy costs through energy efficiency and renewable energy
 - ❖ Increase resilience



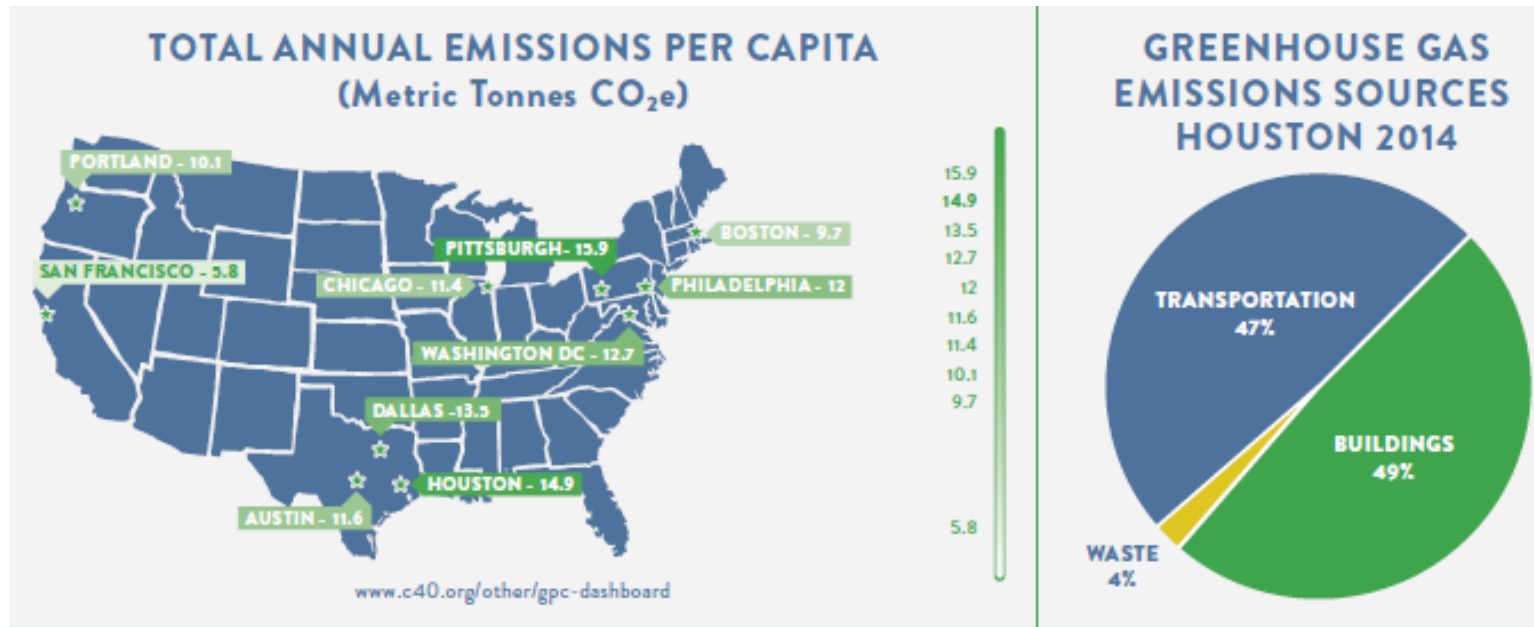
What are the focus areas of the plan?

There are four distinct areas the City is looking to decrease community greenhouse gas emissions. They include:

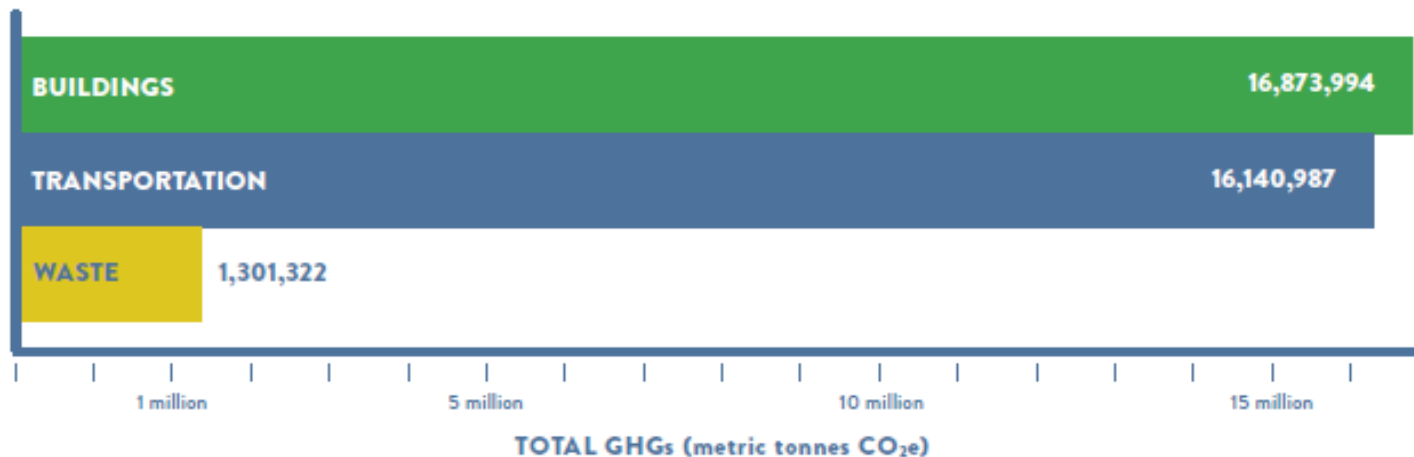
- **Building Optimization** – improving energy efficiency of residential, commercial and industrial operations
- **Decarbonization** – increasing the amount of renewable energy; using carbon capture and sequestration to reduce amount of greenhouse gases in the atmosphere
- **Waste** – reducing the amount of waste and trash to the landfill by reducing material consumption, recycling, up-cycling and composting
- **Transportation** – identifying transportation options and implementing land-use practices that promote opportunities for multiple, equitable transportation options, movement to electric vehicles and reducing the number of vehicle trips and miles traveled.



Houston Community Greenhouse Gas Emissions

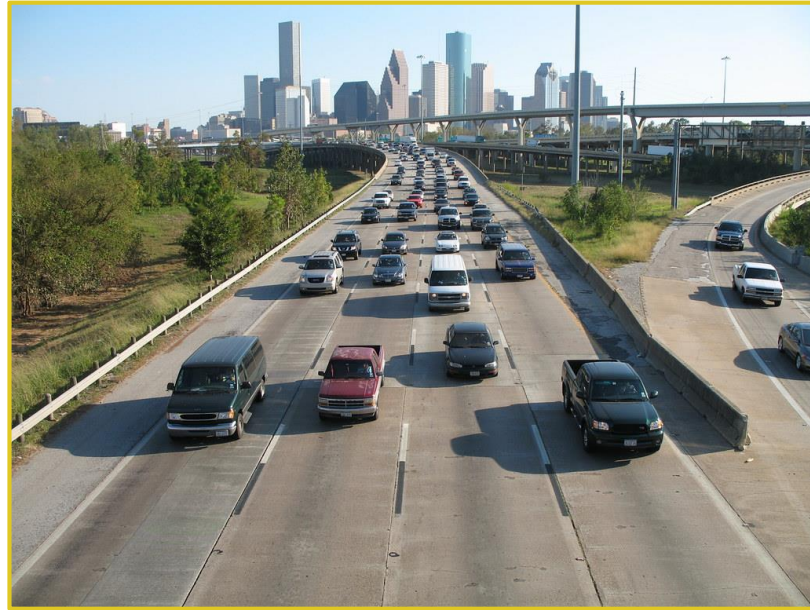


GHG EMISSIONS SOURCE (BY SECTOR)



On-Road Transportation in Houston

47.7% of
GHG Emissions
(2014)



33,075,213,027

miles per year

94% of
passenger trips
are taken in
automobiles
(ACS 2010-2014)



4%
Bus or Rail



2%
Walk

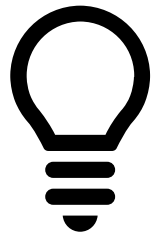


Equal to:
177 round-trips to the Sun or
Over 1.3 million trips around
Earth!



Building Energy in Houston

49.2% of
GHG Emissions (2014)



Over 26 million megawatt hours of electricity consumed

or around
\$2.3 billion in electricity bills



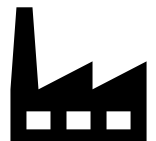
60%

Commercial/
Institutional



33%

Residential



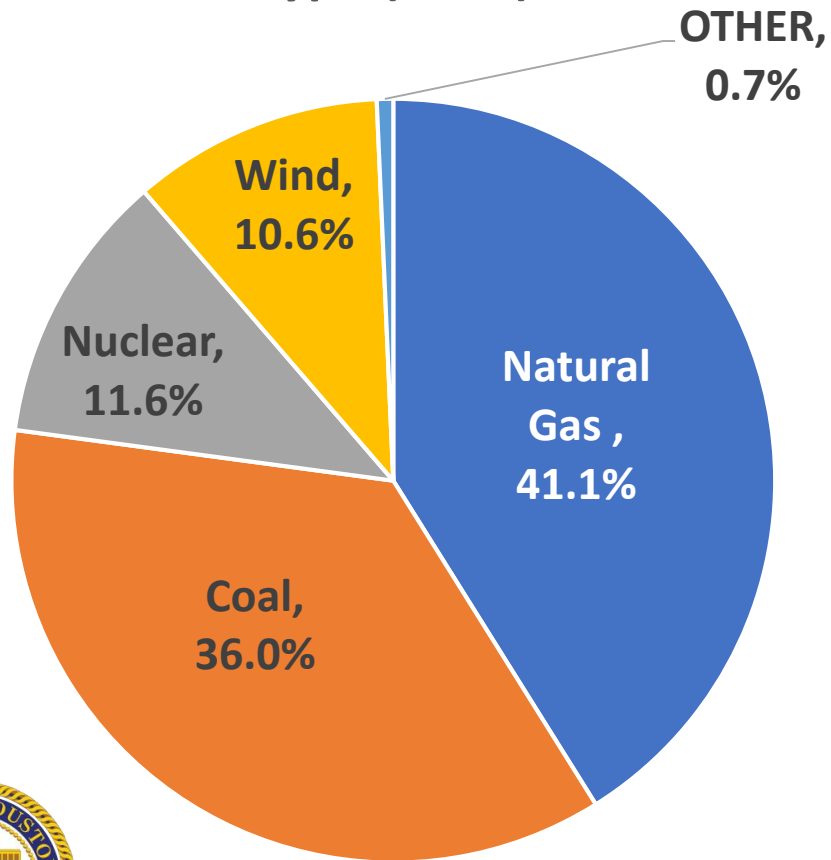
7%

Manufacturing
Industry

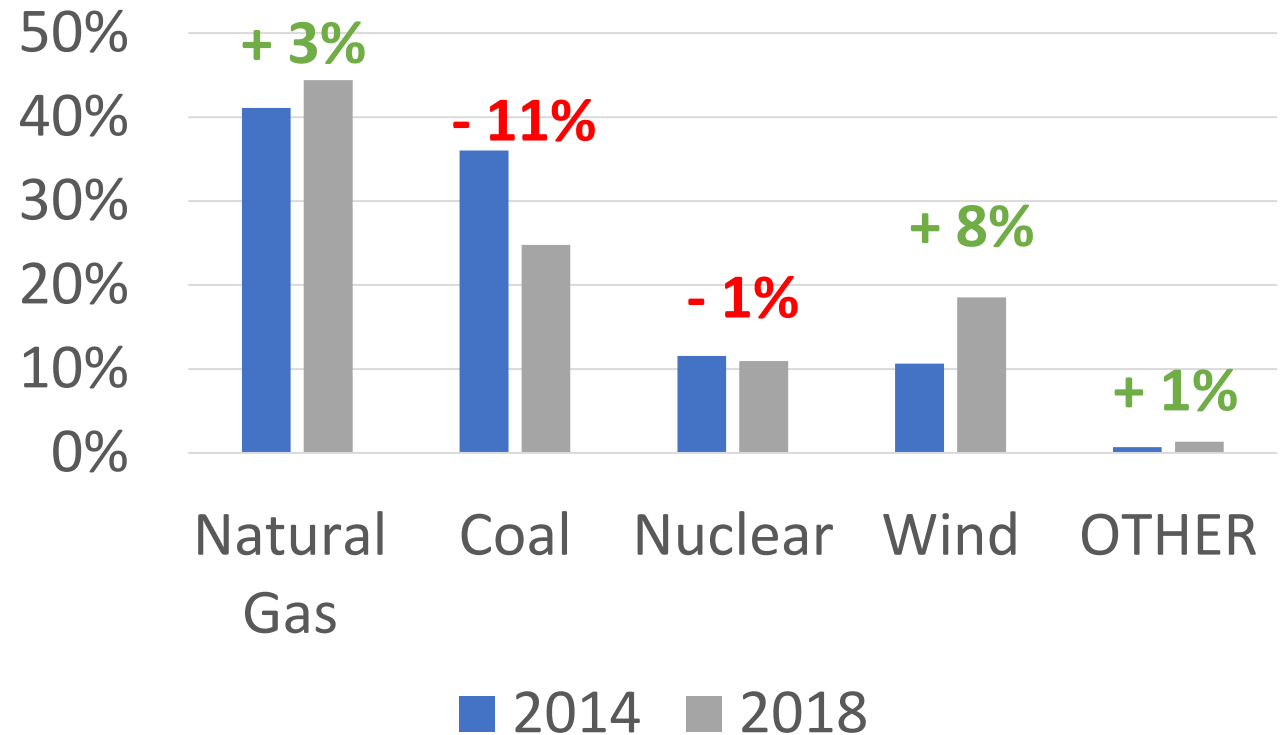


Texas Electric Grid Information

Texas Energy Generation by Fuel Type (2014)



Changes in the Texas Grid Generation (2014 vs. 2018)



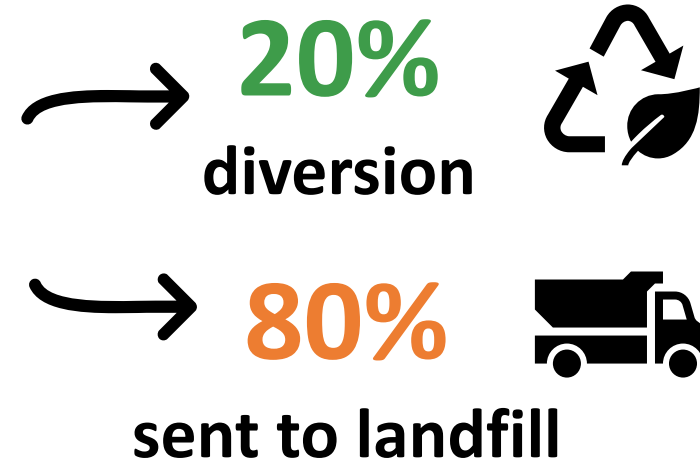
(*OTHER includes solar, hydro, biomass, landfill gas, coke, etc.)

Solid Waste Energy in Houston



2.4% of
GHG Emissions
(2014)

**Over
2.6 million**
tons of total waste
generated



2,555
pounds of waste
per person
every year
(Source: TCEQ)

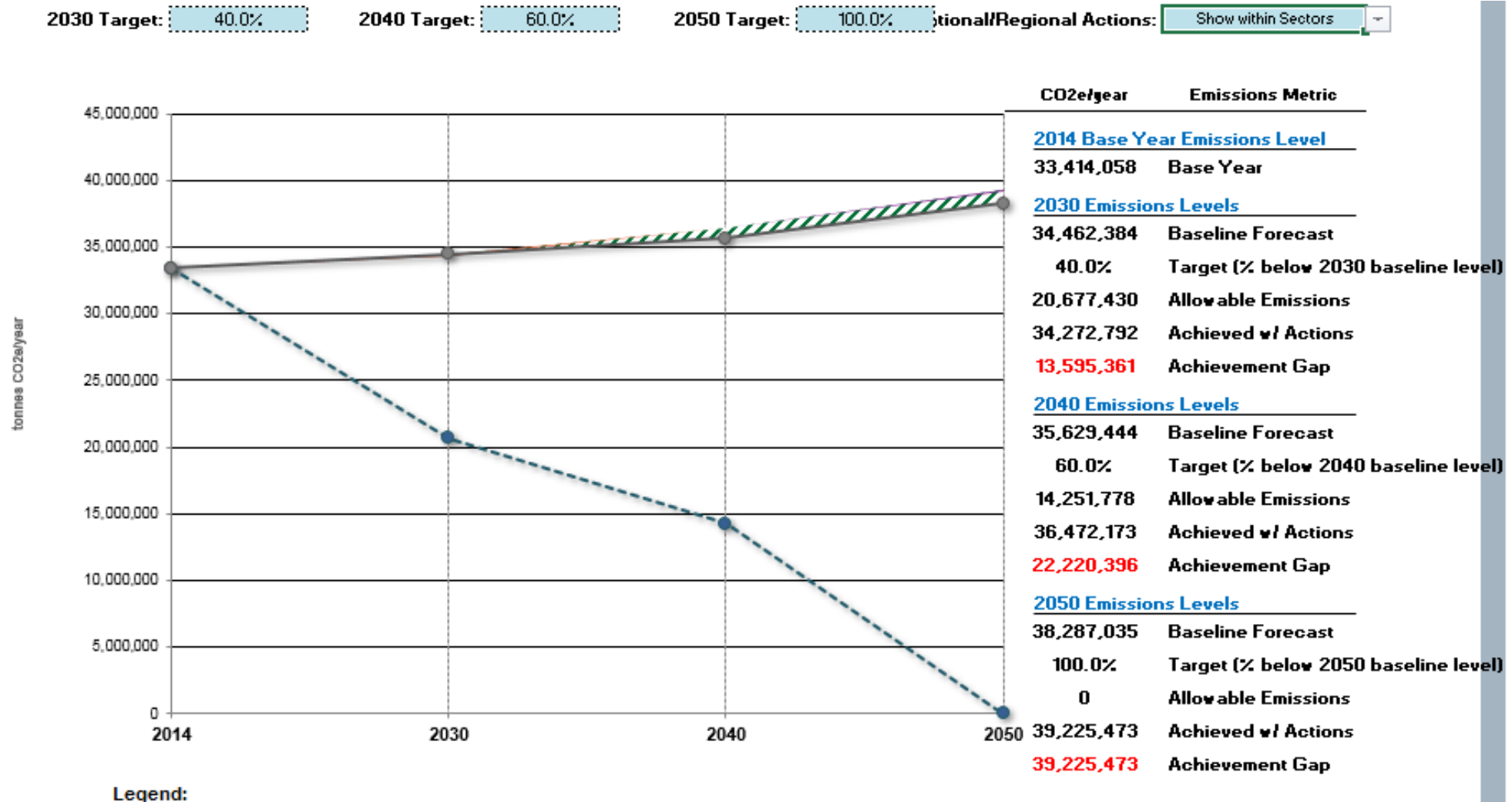


Atascocita WM Facility (Source: Houston Chronicle)

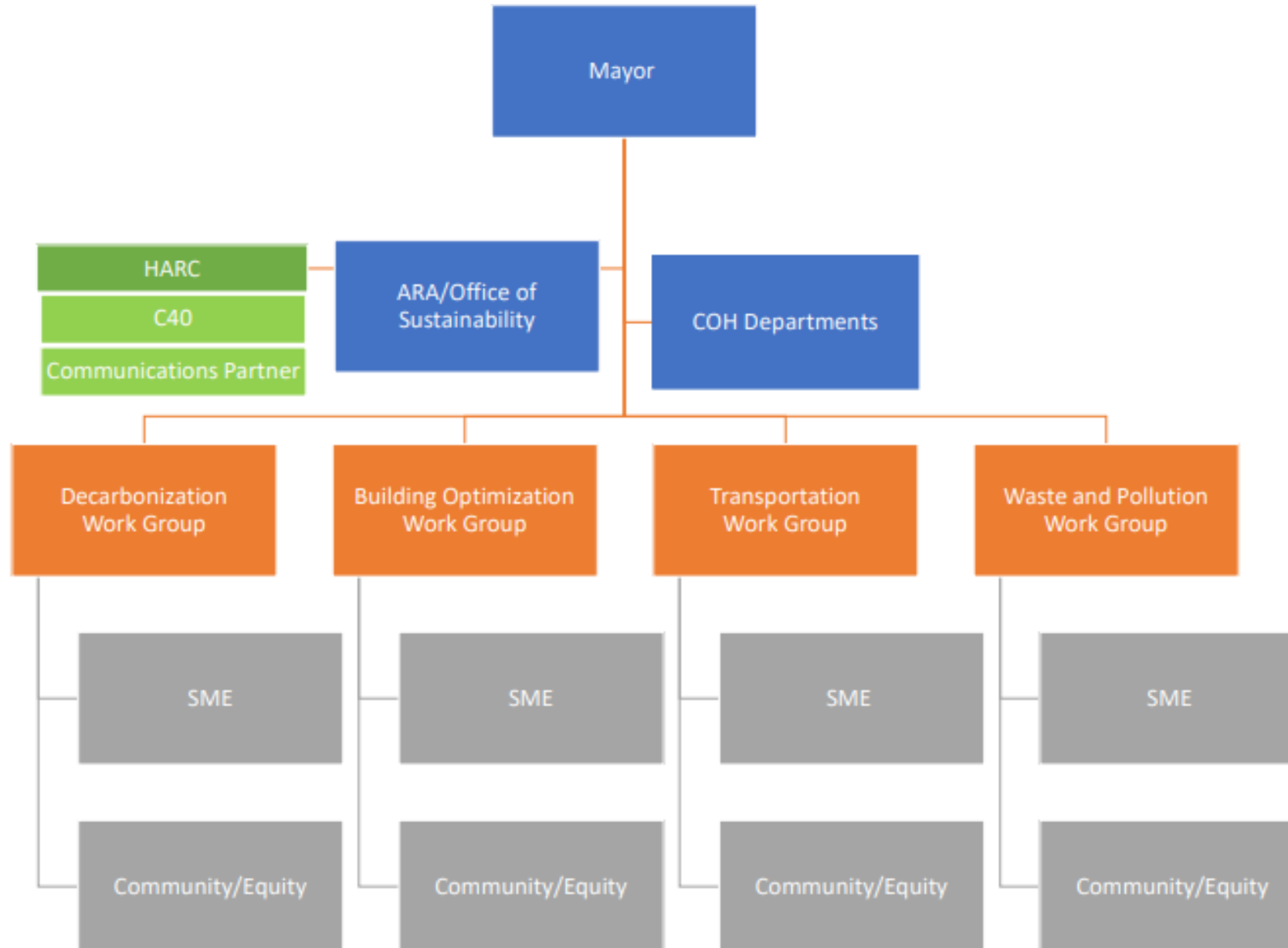


Goals of the Houston CAP

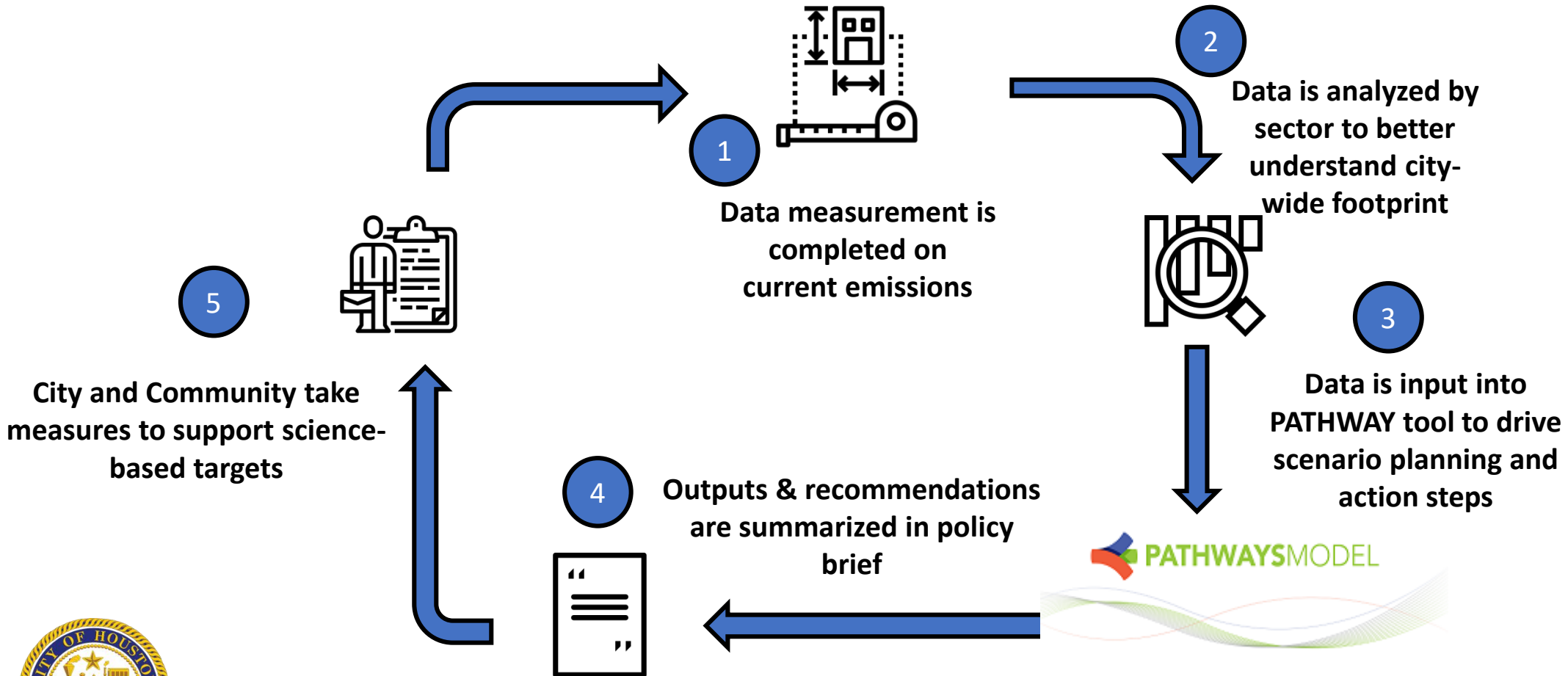
- **Goal:** Lay the foundation for actions that will make the City carbon-neutral by 2050.



Climate Action Planning: Organizational Structure



Using Scenario Planning to Drive Policy



CAP Example Policies and Programs

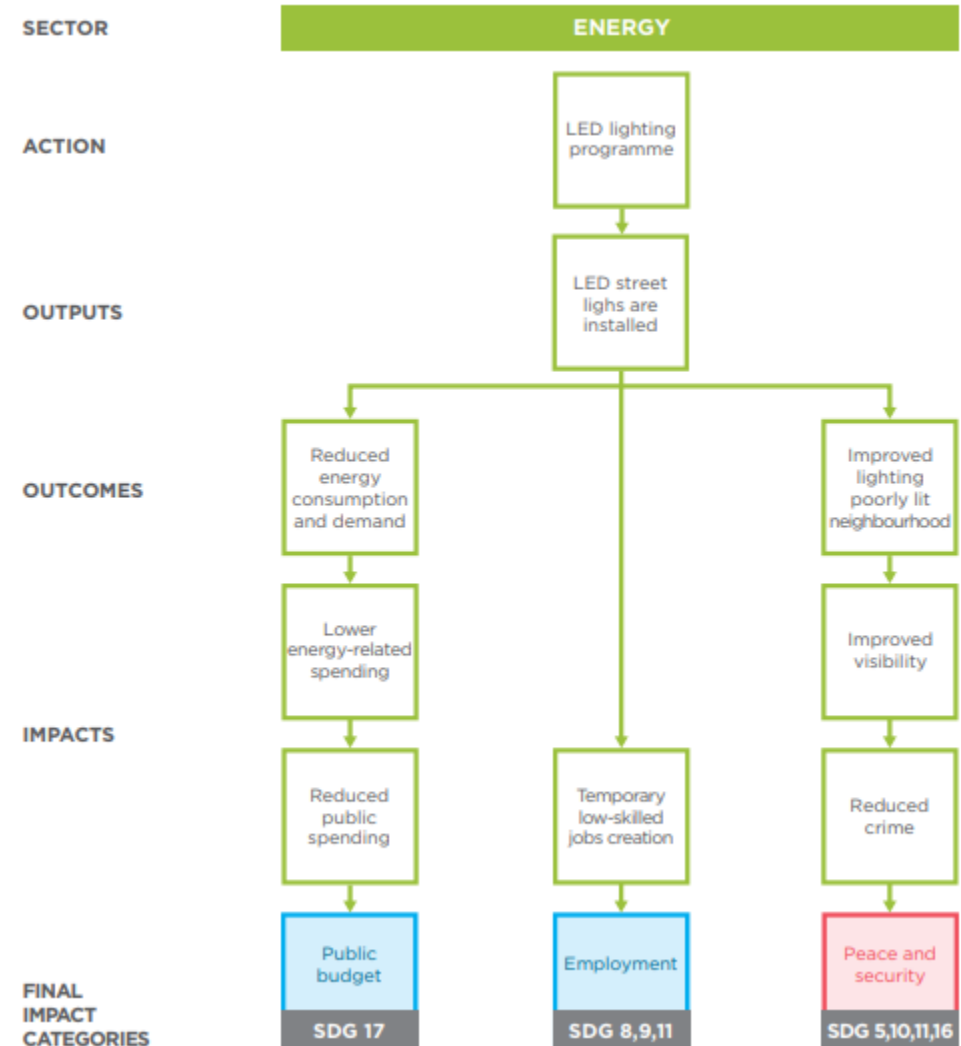
Policy/Program	Sector	Sub-sector
Deploy City-wide EV charging network	Transportation	Electric Personal Vehicles
Procurement of buses take into account air quality and GHG improvements of electric buses	Transportation	Electric Buses
Adjust parking fees (congestion pricing) or adjust availability of parking to reduce traffic congestion	Transportation	Parking Management
Ensure building codes are continually improved and updated over time	Building Optimization	Codes
Develop voluntary building benchmarking and energy auditing program that complements utility incentive programs	Building Optimization and Decarbonization	Clean Energy
Expand single stream recycling program for Houston residents	Waste	Solid Waste
Continuous improvement of building codes and permitting for solar + battery installations in residential and commercial properties; solar ready homes	Decarbonization	Renewable Energy
Work with community partners to increase rate of tree planting	Decarbonization	Green Infrastructure
Implement residential and commercial water conservation program	Building Optimization	Water



Thinking Through Climate Action Planning

- This is an example used by C40 to help structure thinking around the Outputs, Outcomes and Impacts of each Action.
- An action is the policy/program in place that will lead to a GHG reduction

Source: C40 Climate Actions Impact Framework



Schedule



Timeline



Schedule of Planned Events

Climate Action Plan Community Meetings:

1. **Sunnyside, March 19, 2019**
2. **Acres Home, April 1, 2019**
3. **Southwest Multiservice Center, April 6, 2019**
4. **Denver Harbor, April 16, 2019**
5. **Northeast Multiservice Center, May 2, 2019**
6. **May 8, 2019: Metropolitan Multiservice Center / 1475 W. Gray / Houston
6:00 pm – 08:00 pm**



Previous and Upcoming Events can be found at <http://greenhoustontx.gov/climateactionplan/events.html>

Other Ways to Engage

- **Take the Climate Action Plan Survey**
 - <https://www.surveymonkey.com/r/HoustonCAP>
- **Host a Meeting** – Engage your friends and family - You can host your own CAP meeting
 - <http://greenhoustontx.gov/climateactionplan/host-a-meeting.html>



Climate Action Plan Breakout Session

- Purpose
 - Get participants to discuss programs and policies being considered.
 - Prioritize policies and programs that will have the greatest impact.
 - Discuss the equity issues that may arise with the program and policy ideas.
- Activity Instruction
 - Please use the provided markers, sticky notes and dots to provide comments and prioritize the policies and programs listed on the table matrix.
 - Use the sticky notes and the table matrix to provide comments for each policy and program based on the listed criteria found on the matrix.
 - Use the colored dots to vote on the policies and programs that participants see as the best approach for the climate action plan.



Thank you! Questions?

Contact Information:

Lara Cottingham

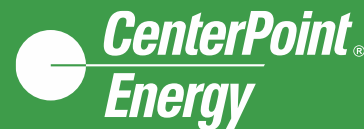
Chief Sustainability Officer

Lara.Cottingham@houstontx.gov

832-393-8503



Learn more:
<http://bit.ly/Houston-CAP>



HARC

