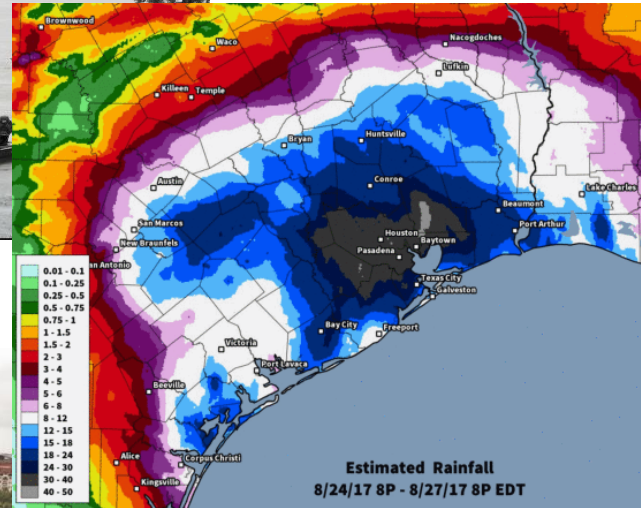




City of Houston Climate Action Plan

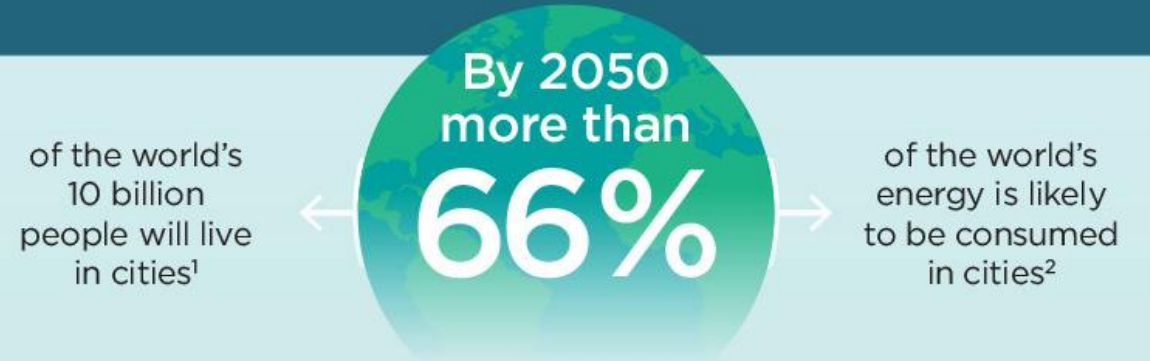
Southwest Multiservice Center Community Meeting
4/6/2019

Why Houston is taking Climate Action

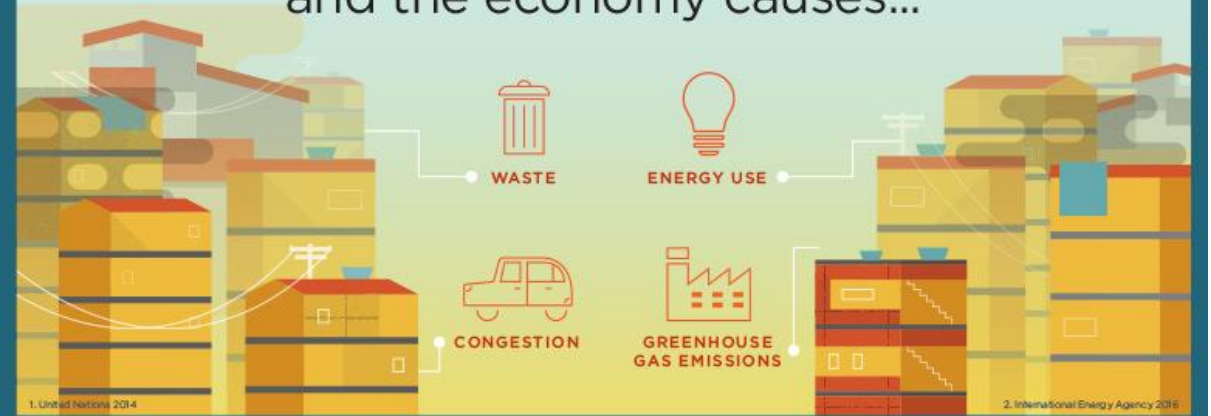


Hurricane Harvey

CITIES ARE BEING PUSHED TO THE LIMIT



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



Source: World Bank Group

Houston's Commitment to Climate Action



June 1, 2017: The U.S withdraws from the 2015 Paris Agreement

June 24, 2017: Mayor Turner, co-chair of Climate Mayors, commits to adopt Paris Agreement goals in Houston



407 US #ClimateMayors, representing 70 million Americans, have committed to adopt, honor and uphold the climate goals of the Paris Agreement

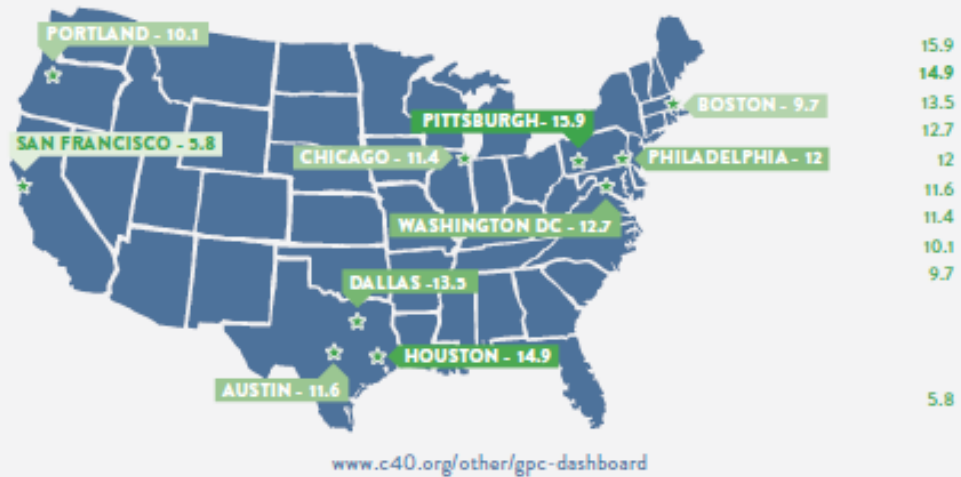


CLIMATEMAYORS.ORG

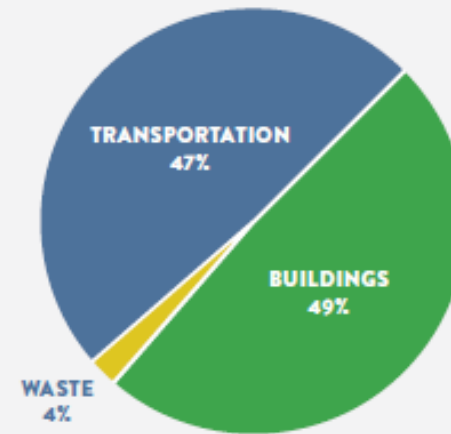


Houston Community Greenhouse Gas Emissions

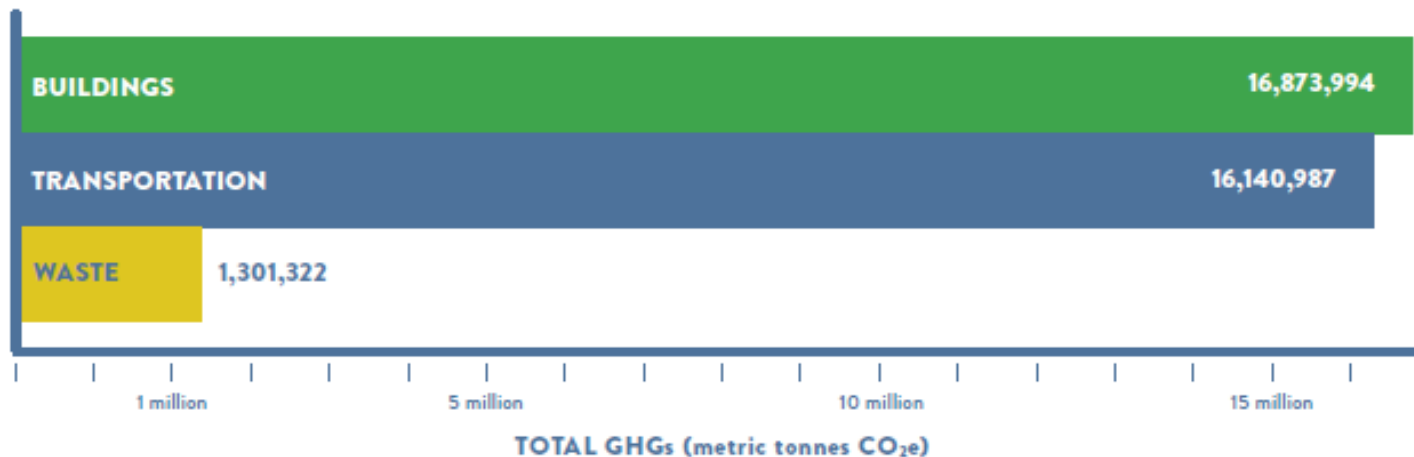
TOTAL ANNUAL EMISSIONS PER CAPITA (Metric Tonnes CO₂e)



GREENHOUSE GAS EMISSIONS SOURCES HOUSTON 2014

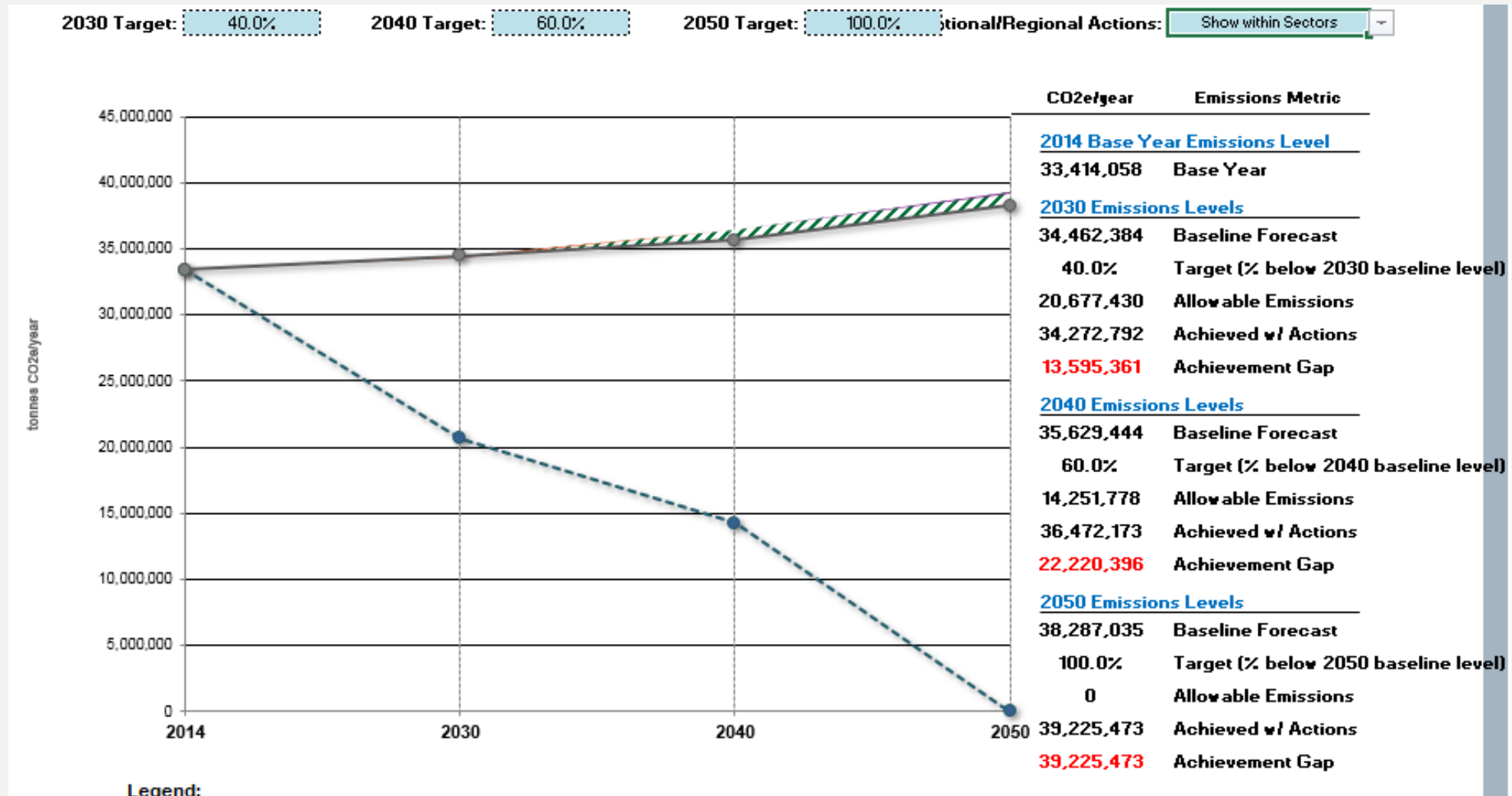


GHG EMISSIONS SOURCE (BY SECTOR)



Goals of the Houston CAP

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



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



Process for Plan Development

1

COMMIT & COLLABORATE



- Establish Plan Governance and Coordination
- Equitable Engagement and Communications

2

DEFINE & ANALYZE



- Data Gathering
- Climate Risk Prioritization
- Evidence-Based Scenario Development

3

PRIORITIZE & IMPLEMENT



- Initial Implementation Planning
- Accelerate Actions
- Monitor, Evaluate and Revise

Technical Assistance:



HARC

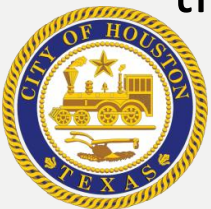
C4O
CITIES
CLIMATE LEADERSHIP GROUP



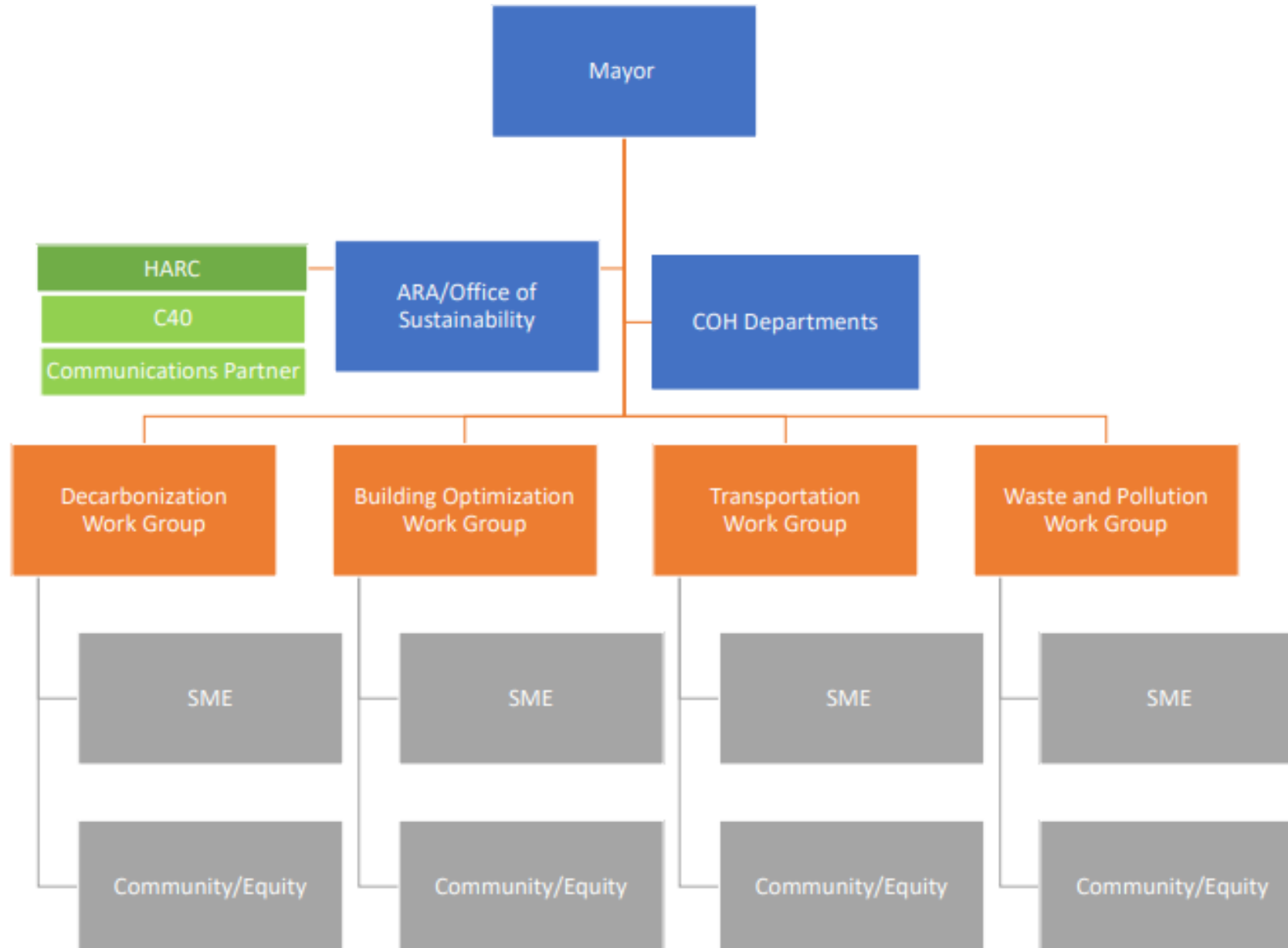
What are the focus areas of the plan?

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.



Climate Action Planning: Organizational Structure

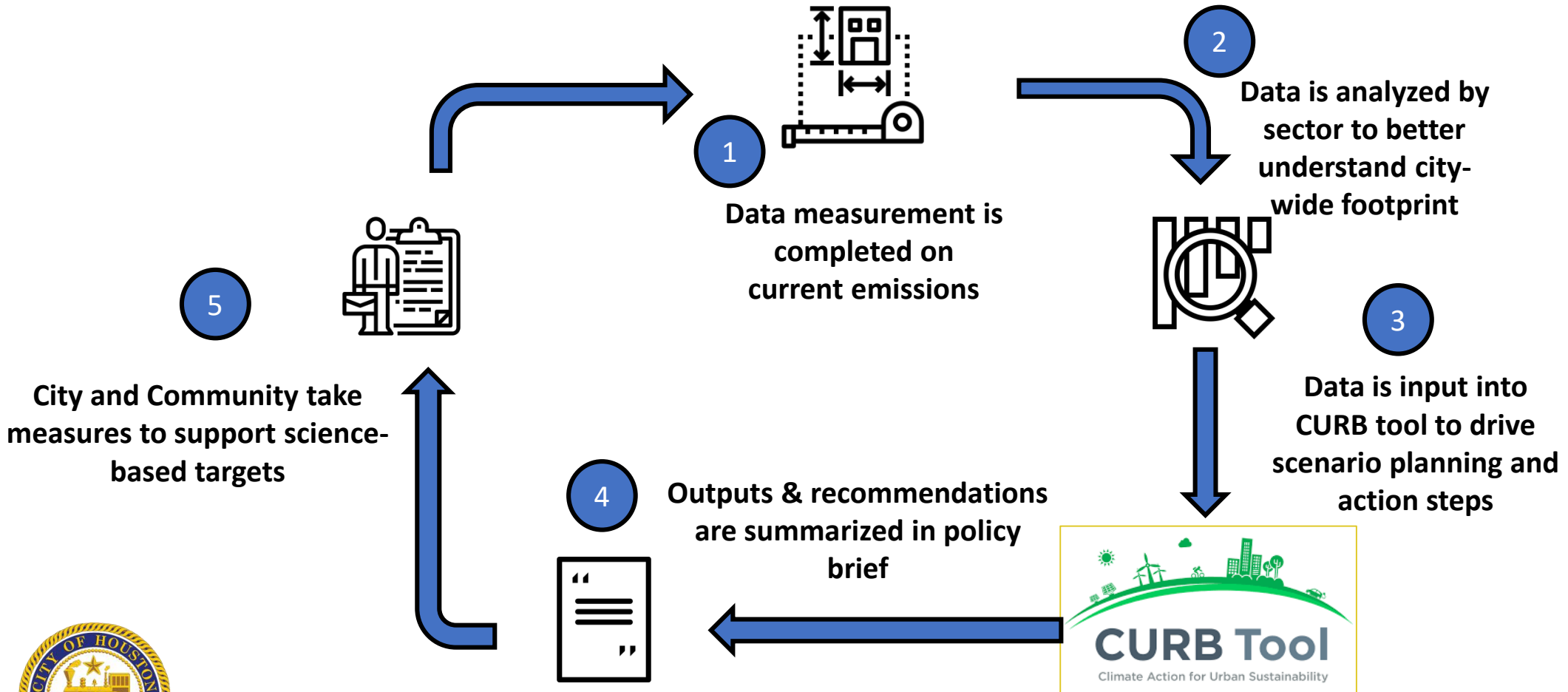


CAP Example Policies and Programs

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



Using Scenario Planning to Drive Policy



Overview of CURB Model



- **The CURB tool** is an integrated model that measures GHG emissions among 6 different sectors



Private Building Energy



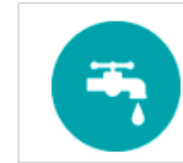
Municipal Buildings & Lighting



Electricity Generation



Solid Waste



Water & Wastewater



Transportation

- ❖ Model is **data-driven and city-specific** with 500+ data fields to complete
- ❖ CURB uses population growth, GDP growth or International Energy Agency's methodology to estimate future emissions
- ❖ 100+ cities have adopted the CURB model, allowing for comparability and benchmarking

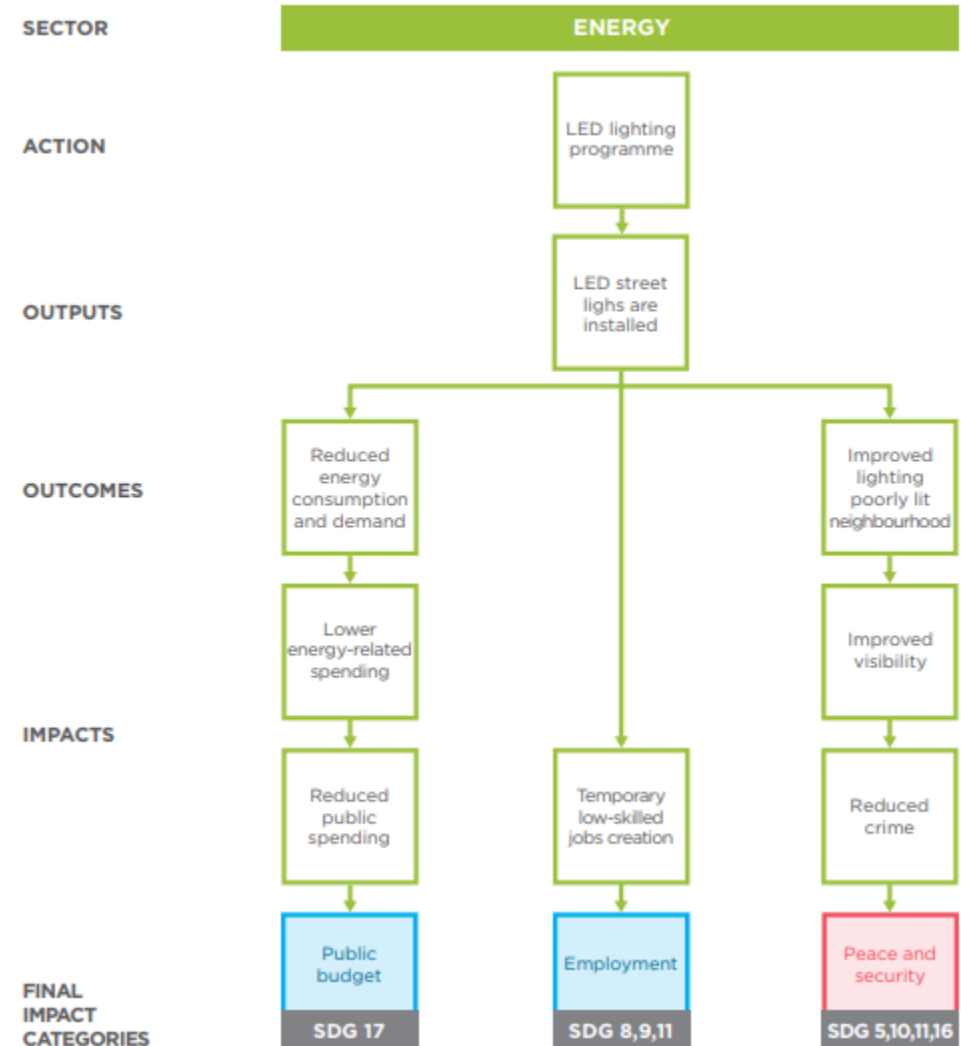


Thinking Through Climate Action Planning

- 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

Click to add text

Source: C40 Climate Actions Impact Framework



Schedule



Timeline



Schedule of Planned Events

- **Date: March 19, 2019**
Event Name: Climate Action Plan Community Meeting
Location: Sunnyside Multiservice Center / 9314 Cullen / Houston, TX 77051
Time: 6:00 pm – 08:00 pm
- **Date: April 1, 2019**
Event Name: Climate Action Plan Community Meeting
Location: Acres Homes Multiservice Center / 6719 W. Montgomery / Houston, TX 77091
Time: 6:00 pm – 08:00 pm
- **Date: April 6, 2019**
Event Name: Climate Action Plan Community Meeting
Location: Southwest Multiservice Center / 6400 High Star / Houston, TX 77074
Time: 10:00 am – 12:00 pm
- **Date: April 16, 2019**
Event Name: Climate Action Plan Community Meeting
Location: Denver Harbor Multiservice Center / 6402 Market Street / Houston, TX 77020
Time: 6:00 pm – 08:00 pm
- **Date: May 2, 2019**
Event Name: Climate Action Plan Community Meeting
Location: Northeast Multiservice Center / 9720 Spaulding / Houston, TX 77016
Time: 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

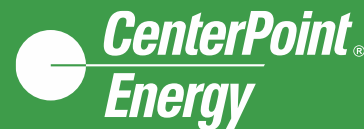
Chief Sustainability Officer

Lara.Cottingham@houstontx.gov

832-393-8503



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



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