



## Building Your Energy Team: Houston, Texas

### Summary

In 2018, Houston, Texas, hired a fellow through the Environmental Defense Fund's Climate Corps program. During the three-month summer program, the fellow supported the Office of Sustainability by setting the city on course to improve energy and greenhouse gas emissions, tracking and drafting a green fleet policy that lay the groundwork for the Houston Climate Action Plan.<sup>1</sup>

### Houston, Texas

- **Population:** 2.3 million people
- **Size:** 667 mi<sup>2</sup>, 23 million ft<sup>2</sup>
- **Greenhouse Gas (GHG) Emissions:** 34.3 MMT CO<sub>2</sub>e\*
- **Total Electricity Use:** More than 26 million MWh\*
- **Goal:** Carbon neutrality by 2050.

\*2014 citywide data, including all sectors.

Source: Houston Climate Action Plan (2020), [greenhoustontx.gov/climateactionplan/](https://greenhoustontx.gov/climateactionplan/).

### Houston's Energy Team and Goals

In 2017, the mayor of Houston, who at the time was also Chair of Climate Mayors,<sup>2</sup> directed the city's Office of Sustainability to develop a strategy to reduce its GHG emissions and become carbon-neutral by 2050.<sup>3</sup> In response to the mayor's leadership, Houston released its first climate action plan in 2020 (Figure 1). The plan outlines a set of goals, strategies, and actions across four focus areas: transportation, energy transition, building optimization, and materials management. Since the plan's release, a top priority of the Office of Sustainability has been to develop and implement the actions outlined in the Houston Climate Action Plan.

Prior to Hurricane Harvey in 2017, the Office of Sustainability was primarily focused on reducing emissions and energy-related costs associated with municipal operations. After the hurricane, one of the costliest weather events in U.S. history,

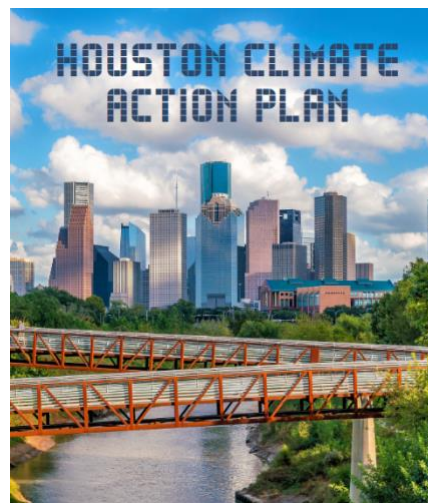


Figure 1. Houston released the Houston Climate Action Plan in May 2020.

<sup>1</sup> Houston Climate Action Plan (2020), [greenhoustontx.gov/climateactionplan/](https://greenhoustontx.gov/climateactionplan/).

<sup>2</sup> Climate Mayors, "Climate Mayors Announces New Chair, Houston Mayor Sylvester Turner" (2021), [climatemayors.org/climate-mayors-announces-new-chair-houston-mayor-sylvester-turner/](https://climatemayors.org/climate-mayors-announces-new-chair-houston-mayor-sylvester-turner/).

<sup>3</sup> Houston Climate Action Plan (2020), [greenhoustontx.gov/climateactionplan/](https://greenhoustontx.gov/climateactionplan/).

the purview of the office expanded to include actions to reduce community-wide emissions, including development of the Houston Climate Action Plan.

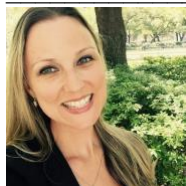
To this end, the Office of Sustainability collects information from across city departments and provides resources to support all 18,000 city staffers and Houston's 2.3 million residents, empowering them to champion environmental sustainability in both city operations and community-wide. This broader approach is one way Houston is working to combat climate change and showcase its commitment to climate action.

## Climate Corps Fellow's Support and Impact

To enhance Houston's existing capabilities, the city hosted a fellow through the Environmental Defense Fund's Climate Corps, an innovative fellowship program designed to train future sustainability leaders: [edfclimatecorps.org](https://edfclimatecorps.org). For 8–12 weeks each summer, this national program places current or recent graduate students from across diverse disciplines with public and private institutions to help them meet their energy and climate goals. Private-sector hosts hire fellows directly at a salary of at least \$1,250/week. Public-sector hosts may apply for a full or partial subsidy from the Environmental Defense Fund to help offset the cost of hosting a fellow. Houston's Chief Sustainability Officer credits the program's effectiveness to the education, experience, and preparation fellows bring to their roles. She says hiring interns or fellows to tackle discrete tasks can allow local governments with limited resources to achieve their goals.

In 2018, the Office of Sustainability hired Climate Corps fellow Andrea Morgan to work on energy and climate initiatives in support of its forthcoming Houston Climate Action Plan. At that time, Morgan was a candidate for dual masters' degrees in public policy and environmental engineering at the University of California, Berkeley and brought her expertise as a licensed professional engineer and experience at the U.S. Environmental Protection Agency to the city.

After analyzing the city's energy data, Morgan identified overreporting of the city's energy use by its electric utility by nearly 200 million kilowatt-hours. As a result, she suggested Houston develop a dashboard to improve the accuracy of Houston's electricity usage tracking that would automatically identify and correct errors and make the data accessible to city staff. In addition, Morgan developed a simple GHG emissions calculator to simplify municipal data tracking and allow city staff to more easily see changes in emissions over time. Finally, she drafted a green fleet policy to address transportation emissions after reviewing the city's GHG inventory.<sup>4</sup>



"I can't say enough about our great experience with Climate Corps fellows. I've worked with three fellows through the program and am impressed by the quality of their work and their ability to immediately bring value to our team."

– Lara Cottingham, Chief Sustainability Officer, Houston, Texas

## Demonstrated Impacts

- Since Morgan's fellowship, Houston developed and uses an Electricity Analytics Dashboard to track electricity consumption and cost data by all city departments.
- The city leveraged the overreporting that Morgan identified in discussions with the city's retail electric provider about billing system improvements. The city's retail electric provider committed

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<sup>4</sup> Climate Corps, "City of Houston: Andrea Morgan" (2018), [edfclimatecorps.org/engagement/city-houston-andrea-morgan-2018](https://edfclimatecorps.org/engagement/city-houston-andrea-morgan-2018).

to developing an application programming interface that will push utility data directly into the U.S. Environmental Protection Agency's ENERGY STAR® Portfolio Manager.

- Morgan's GHG calculator—which the city uses to track annual municipal emissions—is now essential to measuring progress on goals set in the Houston Climate Action Plan.
- The city is finalizing Morgan's draft green fleet policy to guide further adoption of zero- and low-emission vehicles. The city's fleet now includes 37 electric and plug-in hybrid vehicles and 434 hybrid vehicles.

Houston's example shows how a fellow can support a city's energy and climate goals, and how other public-sector entities might benefit from utilizing similar programs to enhance their energy team's capacity and capabilities.

### **For More Information**

Check out the [Building Your Energy Team](#) webpage to find the full series of case studies, as well as position description templates and a list of national programs you can leverage to recruit new members to your team. For questions, please contact [stateandlocal@hq.doe.gov](mailto:stateandlocal@hq.doe.gov).

For more resources about how to optimize your organizational expertise and culture to maximize energy and cost savings, and hundreds of other resources to support the energy priorities of states, local governments, and K-12 school districts, visit the State and Local Solution Center:  
<https://www.energy.gov/scep/slsc/state-and-local-solution-center>.

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