Not according to plan: Exploring gaps in city climate planning and the need for regional action

Methodological appendix

Geographic scope

To analyze the current landscape of decarbonization plans across the country, this report explores planning efforts in 50 cities. Decarbonization implementation represents an enormous task that not only spans multiple sectors of the built environment, but also traverses the public and private sector and many individual jurisdictions—which can complicate any consistent analysis of the strategies and actions that cities are leading. To help bound all this activity, the analysis focuses on implementation in 50 cities where decarbonization plans are readily available.

The cities cover all corners of the country and range in size, from New York and Los Angeles to Boise, Idaho and Madison, Wis. While this analysis does not cover every city with a decarbonization plan, selected cities represent a range of populations, geographic locations, and economic trajectories.

Cities in themselves do not reflect the full variety of jurisdictional issues at play in decarbonization (e.g., among urban and rural localities), but the analysis aims to focus on the single most comprehensive plan in each area. Each jurisdiction has a unique combination of factors that can influence plan implementation—from building codes to energy facilities—which speaks to the complexity of issues at play. An individual city does not represent or capture all of these unique factors across an entire metropolitan area, but it tends to carry the greatest economic weight, contain the most population, and generate the most GHG emissions. This analysis scratches the surface of these inter- and intra-regional differences, signaling the need for additional research.

Plan selection

This analysis does not concentrate on measuring actual changes in GHG emissions. Rather, it focuses on decarbonization implementation potential: the level of detail, transparency, and accountability in emissions reduction strategies and actions across the built environment, particularly from buildings, transportation, and electricity.

Once the 50 cities were selected, the research team identified the specific plan to analyze. The analysis concentrates on the most comprehensive decarbonization plan in each city—the document that primarily or solely focuses on implementing a comprehensive set of decarbonization pathways to reduce GHG emissions across multiple built environment sectors (typically including buildings, transportation, and electricity). The research team relied on the following definitions from the U.S. Environmental Protection Agency to examine these sectors:[i]

- Transportation: Emissions from the movement of people and goods by cars, trucks, trains, ships, airplanes, and other vehicles.

- Buildings: Emissions from all homes and commercial businesses (excluding agricultural and industrial activities).

- Electricity: Emissions from the generation, transmission, and distribution of electricity to customers.

While plans specific to individual departments or built environment sectors may have more detailed goals, measures, and strategies, this analysis identifies and assesses the document with the broadest topical coverage. In addition, the analysis concentrates on the most current decarbonization plan available, typically created or updated in the last two to three years. In cases where the most recent plan is still in draft form awaiting public comment, the draft plan is analyzed. Plans released after the research team's initial analysis, such as Portland, Ore.'s July 2022 Climate Emergency Workplan, are not analyzed. This analysis tries to examine a consistent type of plan in each city: one structured to be public-facing and implementable, which allows for clearer assessment.

The following table lists the cities selected and their respective decarbonization plans.

Cities and plans analyzed

1	Albuquerque, NM	Climate Action Plan
2	Atlanta, GA	City of Atlanta Climate Action Plan
3	Austin, TX	Climate Equity Plan
4	Baltimore, MD	Climate Action Plan
5	Boise, ID	Climate Action Roadmap
6	Boston, MA	Climate Action Plan
7	Charleston, SC	Climate Action Plan
8	Charlotte, NC	Strategy Energy Action Plan
9	Chicago, IL	Home | 2022 Chicago Climate Action Plan
10	Cincinnati, OH	2018 Green Cincinnati Plan (cincinnati-oh.gov)
11	Cleveland, OH	Cleveland Climate Action Plan
12	Columbus, OH	Climate Action Plan
13	Dallas, TX	Dallas Comprehensive Environmental and Climate Action Plan
14	Denver, CO	Climate Protection Fund Five-Year Plan
15	Detroit, MI	Sustainability Action Agenda
16	Hartford, CT	Climate Action Plan
17	Houston, TX	Climate Action Plan
18	Indianapolis, IN	Thrive Indianapolis
19	Kansas City, MO	Climate Protection and Resiliency Plan
20	Las Vegas, NV	Sustainability and Climate Action Plan_FINAL.pdf (clarkcountynv.gov)
21	Los Angeles, CA	pLAn | L.A.'s Green New Deal | Sustainability pLAn 2019 (lamayor.org)
22	Louisville, KY	Louisville GHG Emissions Reduction Plan
23	Madison, WI	Sustainable Madison
24	Memphis Area, TN	Memphis Area Climate Action Plan
25	Miami, FL	Miami Forever Carbon Neutral
26	Minneapolis, MN	Climate Action Plan
27	Nashville, TN	Metro Nashville Mayor's Office Sustainability Advisory Committee Report, 2021
28	New Orleans, LA	Climate Action for a Resilient New Orleans

29	New York City, NY	OneNYC-2050-A-Livable-Climate-11.7.pdf (netdna-ssl.com)
30	Oahu Island, HI	One Climate One O'ahu
31	Oklahoma City, OK	adaptokc
32	Orlando, FL	Green Works Orlando Community Action Plan
33	Philadelphia, PA	Climate Action Playbook
34	Phoenix, AZ	Climate Action Plan
35	Pittsburgh, PA	Climate Action Plan 3.0
36	Portland/Multnomah County, OR	Climate Action Plan
37	Providence, RI	Climate Justice Plan
38	Raleigh, NC	Community Climate Action Plan
39	Richmond, VA	RVAGreen: A Roadmap to Sustainability
40	Rochester, NY	Climate Action Plan
41	Sacramento, CA	Climate Action Plan
42	Salt Lake City, UT	Climate Positive 2040
43	San Antonio, TX	SA Climate Ready: A Pathway for Climate Action & Adaptation
44	San Diego, CA	Climate Action Plan
45	San Francisco, CA	Climate Action Plan
46	San Jose, CA	Climate Smart San Jose
47	Seattle, WA	Climate Action Plan
48	St. Louis, MO	Climate Action and Adaptation Plan
49	Tulsa, OK	City of Tulsa Sustainability Plan
50	Washington, DC	Sustainable D.C. 2.0 Plan

Categories and criteria evaluated in each plan

Once selected, each plan is evaluated across several categories to better gauge the city's capacity and ability to decarbonize. Plans are analyzed across five categories: overarching plan goal, sector strategies, ownership, funding and finance, and equity. Within each of these categories, the analysis relies on a set of 25 criteria to consistently score each plan. The number and type of criteria vary depending on the category evaluated, but all aim to determine the plan's level of detail and precision.

'Overarching plan goal' criteria	
1	Local GHG emissions data is transparently reported on a public website or through the Climate Disclosure Project.
2	Plan's GHG emissions reduction target meets or exceeds previously announced jurisdictional pledge.
3	Plan includes ways to consistently monitor and track progress.
4	Plan is regularly updated with new projections (or states it will be regularly updated if it is a new plan).

5	Plan identifies interim GHG emissions reduction goals.
6	Plan aims for net-zero GHG emissions by 2050 or earlier.

‘Sector strategies’ criteria	
1	Plan spans three-plus built environment sectors, including electricity, buildings, and transportation.
2	Sectors have quantifiable, measurable strategies.
3	Plan sets deadlines for each sector-specific strategy.
4	Plan measures progress toward sector-specific strategies.
5	Plan identifies timelines and/or phasing for each strategy.

‘Ownership’ criteria	
1	Plan identifies related plans and/or past plans (if they exist).
2	Plan development process engages cross-sectoral partners.
3	Plan identifies a centralized entity (other than just “the city” or “the mayor”) to coordinate implementation.
4	Plan engages cross-sectoral partnerships in implementation.
5	Plan aligns with other existing plans, or contains strategies to coordinate implementation across related plans.
6	Plan identifies lead implementors and partners for each strategy.

‘Funding and finance’ criteria	
1	Plan integrates funding considerations across different strategies.

2	Plan identifies existing funding sources or financing approaches.
3	Plan proposes new funding sources or pilots innovative funding approaches where needed.
4	Plan identifies cost estimates or potential funding sources for each strategy.

'Equity' criteria	
1	Plan explicitly mentions equity considerations.
2	Plan fully embeds equity throughout its content and sector-specific strategies.
3	Plan development process engages community stakeholders around equity.
4	Plan embeds equity into metrics and evaluation.

Plan scoring

To determine the scores for each question, the research team read through each plan individually. We consistently evaluated criteria based around the idea of advancing actionable strategies. For instance, when evaluating the "overarching plan goal," the analysis not only considers the overall GHG emissions reduction goals listed, but also delves deeper into the measures and benchmarks used to gauge progress toward these goals, including whether they are publicly updated and easily accessible. There are six criteria in this category; the analysis determines whether the plan is "detailed" for each of these criteria—assigning a value of 1 if so and 0 if not—and then aggregates these scores for the respective category.

The analysis then highlights plans' level of detail in two primary ways. First, the analysis shows "Individual Criteria Scores," which report the number of plans that satisfy each criterion (i.e., scored a "1") under a given category. Second, it shows "Cumulative Category Scores," which report the number of plans that satisfy multiple criteria (i.e., scored a "1") under a given category.

Cumulative category scores for each plan are then characterized as "least detailed," "less detailed," or "most detailed." The first table below lists the tiers, and the second table shows the number (and share) of the 50 city plans that fall under each.

Categories analyzed for each decarbonization plan

Overarching Plan Goal (0-6)	Sector strategies (0-5)	Ownership (0-6)	Funding/Finance (0-4)	Equity (0-4)

0-2 Least Detailed 3-5 Less Detailed 6 Most Detailed	0-2 Least Detailed 3-4 Less Detailed 5 Most Detailed	0-2 Least Detailed 3-5 Less Detailed 6 Most Detailed	0-1 Least Detailed 2-3 Less Detailed 4 Most Detailed	0-2 Least Detailed 3-5 Less Detailed 6 Most Detailed

Scores for all 50 decarbonization plans, by number and share for each category

	Overarching plan goal	Sector strategies	Ownership	Funding/Finance	Equity
Least Detailed	7	12	0	14	8
Less Detailed	27	24	34	28	28
Most Detailed	16	14	16	8	14
Least Detailed	14%	24%	0%	28%	16%
Less Detailed	54%	48%	68%	56%	56%
Most Detailed	32%	28%	32%	16%	28%

Interviews

In addition to an analysis of plans, the author team also conducted interviews with planners and other leaders across more than a dozen of the cities to give context and nuance that individual planning documents cannot communicate. With an eye toward geographic and economic diversity, these interviews complemented the analysis by providing additional information, but did not impact the plan scoring process. Interviews provided real-time knowledge of the challenges and opportunities facing city leaders around plan development, measurement and evaluation, community outreach, funding and financing, inter- and intra-jurisdictional coordination, and more.

[i] US EPA. "Overview of Greenhouse Gases." Overviews and Factsheets, December 23, 2015. https://www.epa.gov/ghgemissions/overview-greenhouse-gases.