

Q&A: Professor explains what municipal governments are doing as climate change accelerates

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July 2023 was the hottest month globally since humans began keeping records. People all over the U.S. experienced punishingly high

temperatures this summer. In Phoenix, there were a record-setting 31 consecutive days with a high temperature of 110°F or more. July was the hottest month on record in Miami. A scan of high temperatures around the country often yielded some startlingly high numbers: Dallas, 110°F; Reno, 108°F; Salt Lake City, 106°F; Portland, 105°F.

Climate change is a global and [national crisis](#) that cannot be solved by [city governments](#) alone, but cities suffering from it can try to enact new policies reducing emissions and adapting its effects. MIT's David Hsu, an associate professor of urban and environmental planning, is an expert on metropolitan and regional climate policy. In one 2017 paper, Hsu and some colleagues [estimated](#) how 11 major U.S. cities could best reduce their [carbon dioxide emissions](#), through energy-efficient home construction and retrofitting, improvements in vehicle gas mileage, more housing density, robust transit systems, and more. As we near the end of this historically hot summer, MIT News talked to Hsu about what cities are now doing in response to record heat, and the possibilities for new policy measures.

Q: We've had record-setting temperatures in many cities across the US this summer. Dealing with climate change certainly isn't just the responsibility of those cities, but what have they been doing to make a difference, to the extent they can?

A: I think this is a very top-of-mind question because even 10 or 15 years ago, we talked about adapting to a changed climate future, which seemed further off. But literally every week this summer we can refer to [dramatic] things that are already happening, clearly linked to [climate change](#), and are going to get worse. We had wildfire smoke in the Northeast and throughout the Eastern Seaboard in June, this tragic wildfire in Hawaii that led to more deaths than any other wildfire in the

U.S.[plus record high temperatures]. A lot of city leaders face climate challenges they thought were maybe 20 or 30 years in the future, and didn't expect to see happen with this severity and intensity.

One thing you're seeing is changes in governance. A lot of cities have recently appointed a chief heat officer. Miami and Phoenix have them now, and this is someone responsible for coordinating response to heat waves, which turn out to be one of the biggest killers among climatological effects. There is an increasing realization not only among local governments, but [insurance companies](#) and the building industry, that flooding is going to affect many places. We have already seen flooding in the seaport area in Boston, the most recently built part of our city. In some sense just the realization among [local governments](#), insurers, building owners, and residents, that some risks are here and now, already is changing how people think about those risks.

Q: To what extent does a city being active about climate change at least signal to everyone, at the state or national level, that we have to do more? At the same time, some states are reacting against cities that are trying to institute climate initiatives and trying to prevent clean energy advances. What is possible at this point?

A: We have this very large, heterogeneous and polarized country, and we have differences between states and within states in how they're approaching climate change. You've got some cities trying to enact things like natural gas bans, or trying to limit greenhouse gas emissions, with some state governments trying to preempt them entirely. I think cities have a role in showing leadership.

But one thing I harp on, having worked in city government myself, is that sometimes in cities we can be complacent. While we pride ourselves on being centers of innovation and less per-capita emissions—we're using less than [rural areas](#), and you'll see people celebrating New York City as the greenest in the world—cities are responsible for consumption that produces a majority of emissions in most countries. If we're going to decarbonize society, we have to get to zero altogether, and that requires cities to act much more aggressively.

There is not only a pessimistic narrative. With the Inflation Reduction Act, which is rapidly accelerating the production of renewable energy, you see many of those subsidies going to build new manufacturing in red states. There's a possibility people will see there are plenty of better paying, less dangerous jobs in [clean energy]. People don't like monopolies wherever they live, so even places people consider fairly conservative would like local control [of energy], and that might mean greener jobs and lower prices. Yes, there is a doomscrolling loop of thinking polarization is insurmountable, but I feel surprisingly optimistic sometimes.

Large parts of the Midwest, even in places people think of as being more conservative, have chosen to build a lot of wind energy, partly because it's profitable. Historically, some farmers were self-reliant and had wind power before the electrical grid came. Even now in some places where people don't want to address climate change, they're more than happy to have wind power.

Q: You've published work on which cities can pursue which policies to reduce emissions the most: better housing construction, more transit, more fuel-efficient vehicles, possibly higher housing density, and more. The exact recipe varies from place to place.

But what are the common threads people can think about?

A: It's important to think about what the status quo is, and what we should be preparing for. The status quo simply doesn't serve large parts of the population right now. Heat risk, flooding, and wildfires all disproportionately affect populations that are already vulnerable. If you're elderly, or lack access to mobility, information, or warnings, you probably have a lower risk of surviving a wildfire. Many people do not have high-quality housing, and may be more exposed to heat or smoke.

We know the climate has already changed, and is going to change more, but we have failed to prepare for foreseeable changes that already here. Lots of things that are climate-related but not only about [climate](#) change, like affordable housing, transportation, energy access for everyone so they can have services like cooking and the internet—those are things that we can change going forward. The hopeful message is: Cities are always changing and being built, so we should make them better. The urgent message is: We shouldn't accept the status quo.

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