



State And Local Commitments To Reduce GHG
Emissions in Accordance With Paris Agreement:
Obstacles and Opportunities in The Building Sector

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NAZCA Commitments by U.S. States, Counties & Cities

- Numbers:
 - 14 states and counties
 - 235 cities
- Types of commitments:
 - A rough survey reveals commitments around green bonds and other specific programs, and some commitments to reducing GHG emissions by a certain percentage by a certain year.
 - Global Covenant of Mayors for Climate & Energy
 - Participants in the Global Covenant of Mayors generally pledge to reduce GHG emissions, some U.S. cities have adopted the targets used in the EU of at least 20% reduction by 2020 or by at least 40% reduction by 2030.
 - The cities submit data on their progress as they implement their action plans.

Buildings: the intersection between impact and local control

■ Impact:

- Building-related emissions account for about one-third of global GHG emissions and could double by 2050.
- In the U.S., buildings use about 40% of energy produced and are responsible for about 30% of the nation's CO2 emissions.
- Energy use in buildings is often the largest source of GHG emissions in cities.
- Opportunity to take a long view as commercial buildings have lifespans of 50-90 years and include energy embodied in materials as well as energy consumed during its operation.

■ Local Control:

- Building codes are adopted at the state level and depending on the structure of authority in the state, sometimes at the county and/or municipal levels.
 - The state may also allow counties and/or municipalities to adopt more stringent building code provisions.

Nationwide Building Emissions Trends

- EPA's 2018 Greenhouse Gas Emissions Inventory
 - “Combined residential and commercial sector emissions have decreased by 6.5 percent since 2010.”
 - This trend is largely attributed to the decrease in days below 65° F when buildings are generally heated.
 - But EPA also attributes the decrease to “an increase in energy efficiency standards and the use of energy efficient products in residential and commercial buildings....”
- Increase in zero energy buildings
 - Net Zero Carbon Buildings Commitment
 - New buildings operate at net zero carbon by 2030.
 - 22 cities and four states and regions, including New York City, Newburyport, MA, Portland, San Francisco, San Jose, Santa Monica, Washington, DC.

Obstacles & Opportunities

- Charting the structure of state and local authority over building codes and related energy codes.
- Discuss how local governments are taking advantage of opportunities and working within limitations to make progress.
 - Review city climate action plans that include the building sector as case studies to assess the specific obstacles and opportunities in the building sector for meeting emission reduction goals
- Arrive at some recommendations for cities within specific states for how they might maximize GHG reductions in the building sector within the framework of authority in their state.

Case Studies

■ Austin, TX

- **Goal:** net-zero community-wide greenhouse gas emissions by 2050
- **Efforts involving buildings:** Revising the building code, driving energy efficiency, increasing transparency of energy costs in multifamily and commercial buildings, and powering all City-owned buildings with 100% renewable energy.

■ Boulder, CO

- **Goal:** reduce its greenhouse gas emissions by 80 percent or more below 2005 levels by 2050
- **Efforts involving buildings:** Accelerated Net-Zero Energy Code adopted, requiring new and remodeled residential and commercial buildings to meet net-zero emissions by 2031.
 - Passed Building Performance Ordinance and achieved 100 % compliance for first round.

■ Chicago, IL

- **Goal:** reduce greenhouse gas emissions by 80% by 2050
- **Efforts involving buildings:** energy efficiency retrofitting, using less energy-intensive building materials, educational programs and voluntary initiatives like the Green Office Challenge.

Thank you

