DECARBONIZATION:

Phasing out fossil fuels in cities' buildings, transportation, and energy systems on the path to net-zero carbon emissions





DEFINING A CITY'S PATH TO NET-ZERO CARBON EMISSIONS:

In order to prevent the worst impacts of climate change, carbon emissions have to stop—reducing them is not sufficient. This means global carbon emissions need to reach net zero.

NET-ZERO EMISSIONS, sometimes also called carbon neutrality, is the achievement of balance between the carbon output and the carbon reductions of a given entity, like a city. Net-zero emissions cannot be achieved without decarbonization.

DECARBONIZATION is the process of phasing out fossil fuel use in buildings, transportation, and energy systems. At a community level, this includes everything from generating renewable power and electrifying buildings and vehicles, to creating bicycle- and pedestrian-friendly streets that reduce residents' need to use gas-powered transportation.

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Efficient and electrified new buildings

Existing building retrofits

Clean and resilient power grid

Transportation improvements

COMPREHENSIVE DECARBONIZATION

Additional reductions needed to achieve carbon neutrality

FUTURE→

NET ZERO EMISSIONS

A DECARBONIZED CITYSCAPE COULD LOOK LIKE...





Existing buildings retrofitted and electrified



Clean and resilient power grid





WHY CENTER EQUITY? The equity imperative for local governments

With any new policy, there is an imperative that local governments center equity in process, goals, and outcomes. Status quo government action often creates, codifies, and exacerbates inequities.

When approaching decarbonization, communities should investigate the specific 'why' for doing the work equitably. The answer, different for every community, should provide the guiding charge for resulting initiatives.



GOING BEYOND CARBON REDUCTION:

Equitable process and outcomes

Equitable outcomes require equity-centered processes that prioritize the unique expertise and perspective of communities.

"Centering equity" in decarbonization policies means that there are emission reduction goals AND explicit, specific, and co-equal equity goals. This is done to address the priorities and pain points of historically marginalized communities that have borne the burden of inequities



GOING BEYOND CARBON REDUCTION:

Equitable process and outcomes



Equitable outcomes created and measured Continued co-creation and followup evaluation processes

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EQUITABLE OUTCOMES:

Community protections and opportunities in decarbonization



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potentially higher energy

TRANSPORTATION

Provide communities with low-cost, convenient, and safe low- or no- carbon transportation options

- Widespread and safe bicycle and pedestrian infrastructure
- Electrified, accessible public transportation
- Electrified municipal and/or commercial fleet policies
- Congestion pricing analysis
- Electric Vehicle infrastructure
- Transit oriented development (TOD)
- Zero carbon freight requirements



RENEWABLE ENERGY

Clean up the energy grid through distributed energy resources and best-practice resilient energy systems

- Large, off-site renewable energy projects
- Power purchase agreements
- Rooftop solar installation and/or readiness requirements
- Battery storage and grid connectivity
- Community choice aggregation
- Community solar projects
- Grid-interactive efficient buildings









NEW BUILDINGS

Ensure newly constructed buildings are highly efficient and electrified

- Building code updates/overlays
- Reach or stretch codes
- Green building standards or incentives
- Fossil gas infrastructure prohibition ordinances



EXISTING BUILDINGS

Require or incentivize electrification and efficiency improvements for existing buildings

- Point of sale/rental energy disclosure requirements
- Benchmarking and Transparency
- Beyond Benchmarking policies (audits, retuning)
- Building Performance Standards
- Incentives to replace gas appliances with efficient and electric appliances at end-of-life
- Indoor air quality standards and incentives

