

Community Development - Research

Creating Tools for Climate Change Mitigation in our Region

3/19/2020

Land Use Advisory Committee



Objectives

- Introduction to the climate change mitigation tools
- Scenario planning brainstorming session

Sustainability



“Providing leadership, information, and technical assistance to support local governments’ consideration of climate change mitigation, adaptation, and resilience”.

Calming the Storm: Localized Flooding in the Twin Cities Region

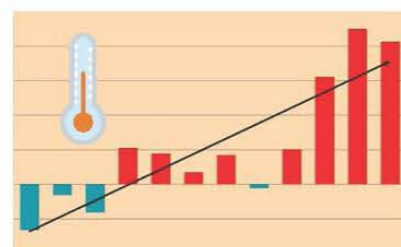
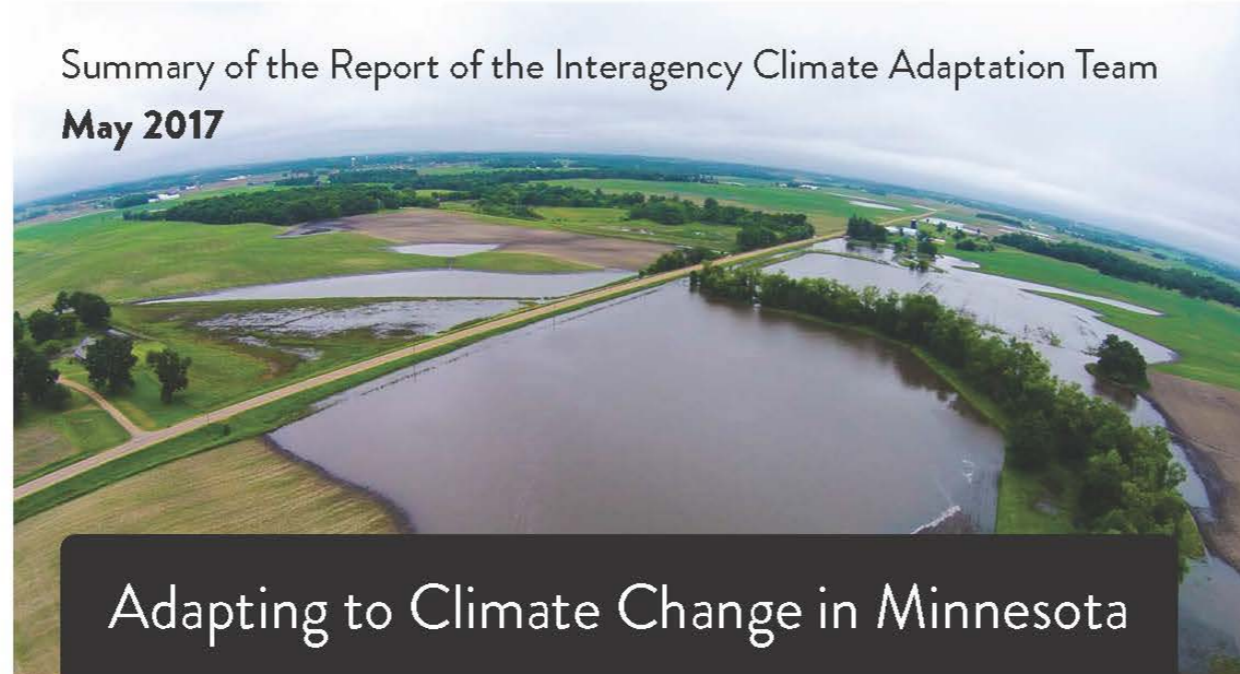
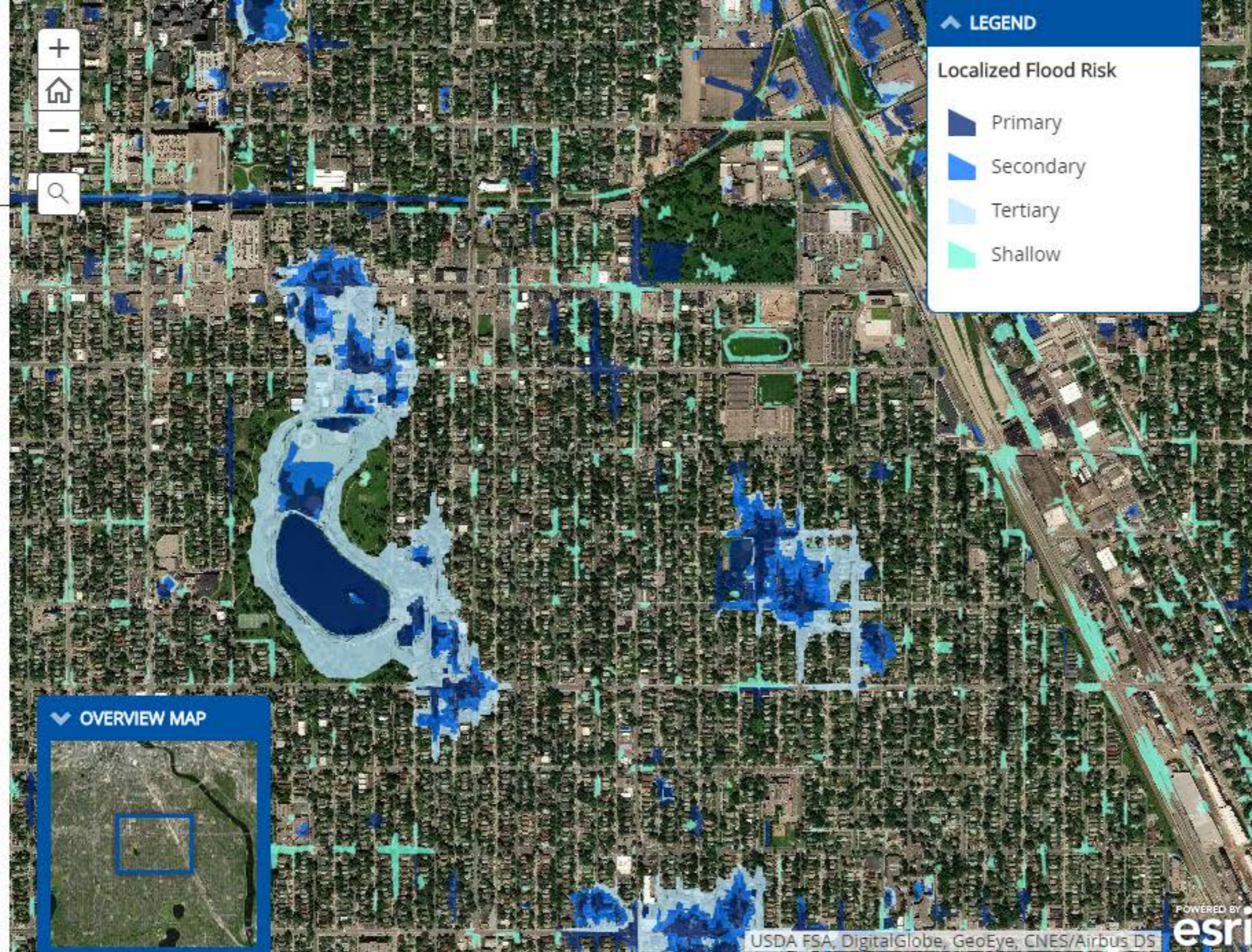
Mapping Localized Flood Risk

What is the Localized Flood Map Layer?

Our [Localized Flood Map For Climate Vulnerability Screening](#) was created using remote sensing data which determines the topography of the earth. The elevation information forms the basis for our localized flood map to determine areas that may experience localized flooding during short, high intensity rain events. An [interactive version of the map](#), similar to the map displayed to the right, is available on our CVA website.

How is localized flooding categorized?

Potential flood areas are categorized into three Flood Impact Zones (FIZ): Primary,



Our climate is changing

Climate change is already occurring in Minnesota and its impacts are affecting our state's environment, economy, and communities.



How we're adapting

Minnesota is taking many steps to increase climate adaptation in our state, including a wide range of planning, assessment, and implementation efforts.



Planning for the future

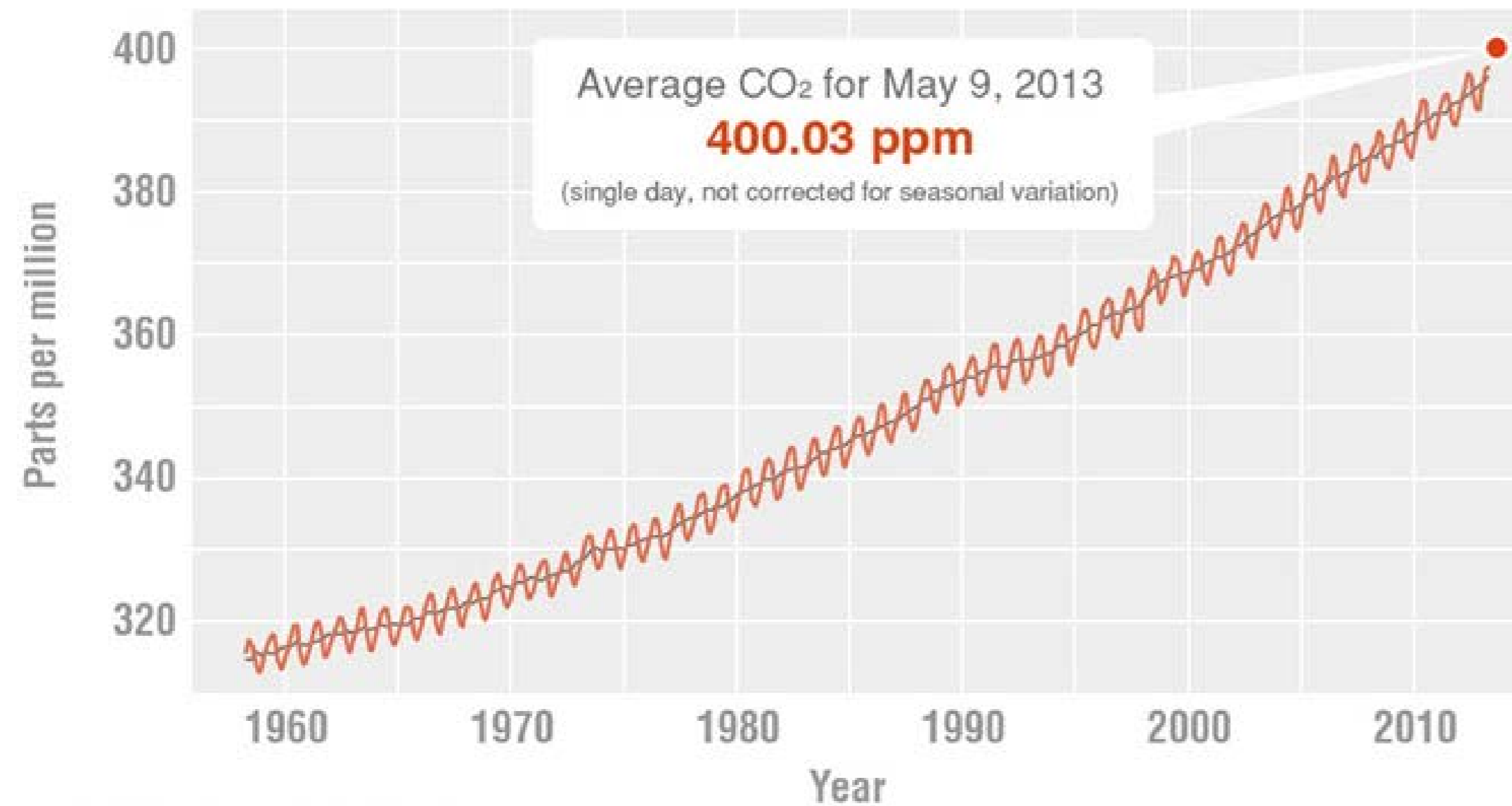
State agencies have developed five statewide climate adaptation indicators to help track Minnesota's progress in climate adaptation.



Metro Climate Stats



Carbon Dioxide Concentration



Credit: NOAA/Scripps Institution of Oceanography

Humans releasing greenhouse gas into the atmosphere are responsible for climate change

Climate change could cost Minnesotans billions

Hsiang, Solomon, et al. "Estimating economic damage from climate change in the United States." *Science* 356.6345 (2017): 1362-1369.





Estimates suggest that cities are responsible for 75 percent of global CO2 emissions, with transport and buildings being among the largest contributors.

United Nations
Environmental Panel



Challenges



Technical expertise required



Expensive



Staff time



Uncertainty

Metro Climate Stats



Inventory



Scenario Planning



← Decisions at multiple scales →

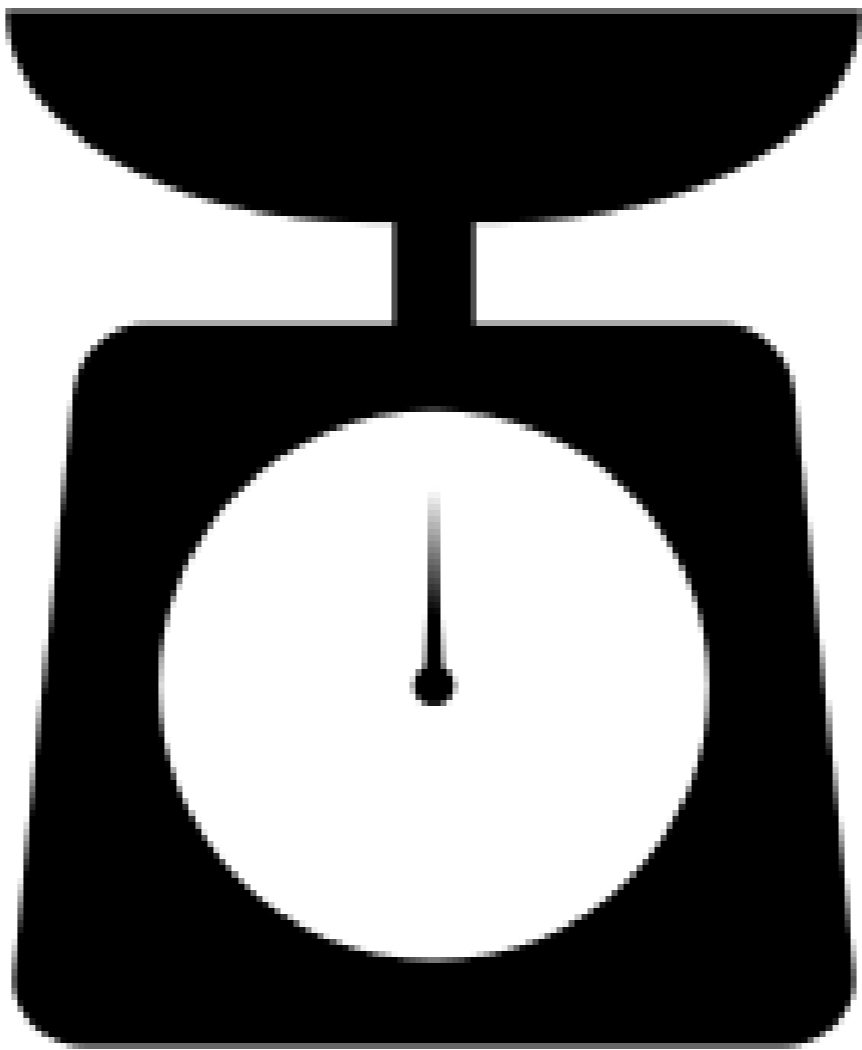
Greenhouse emissions planning occurs at multiple scales

INVENTORY

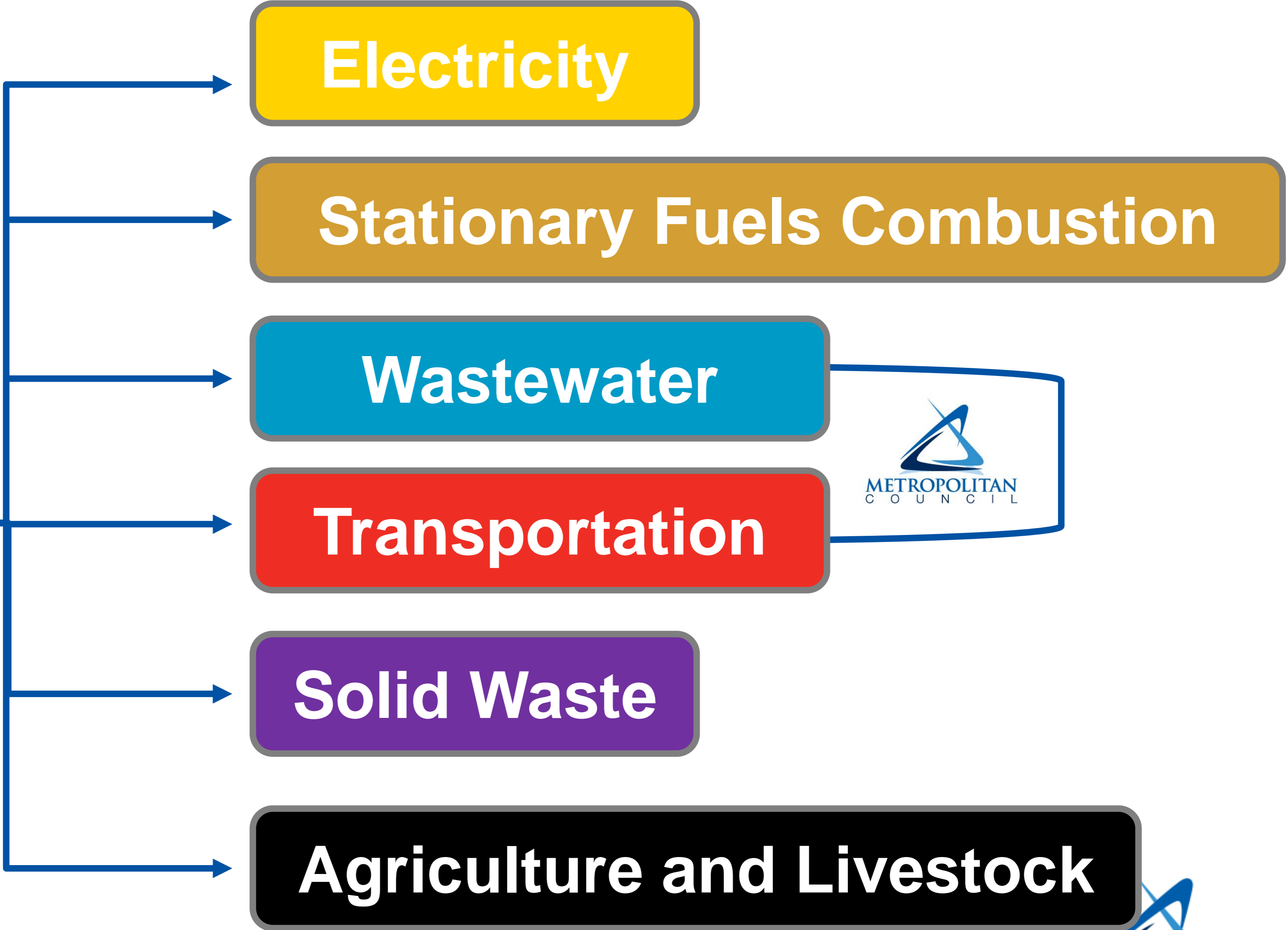


Identifying sources of greenhouse gas emissions at the community level

Quantifying the greenhouse gas emissions



INVENTORY





SCENARIO PLANNING

SCENARIO PLANNING

SCENARIO PLANNING

Bike lanes?

Transit?

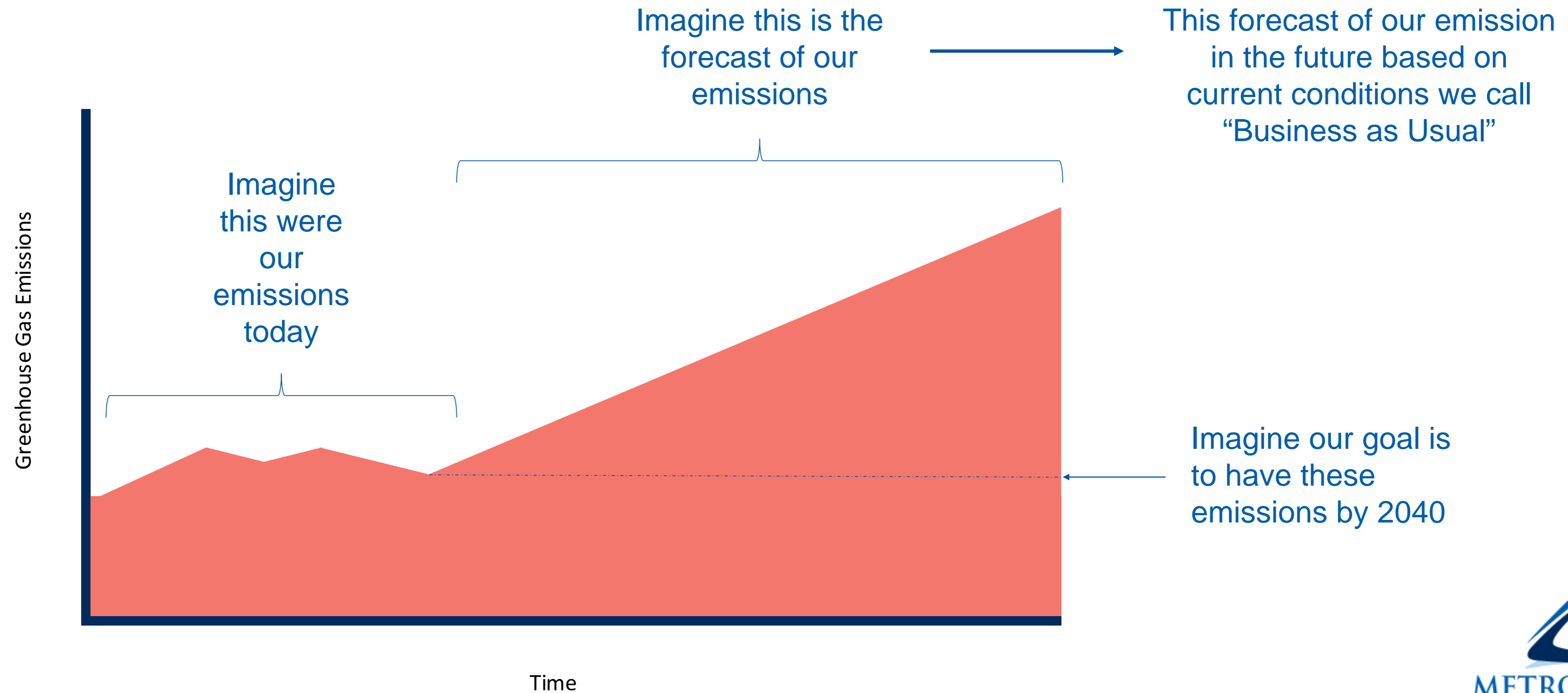
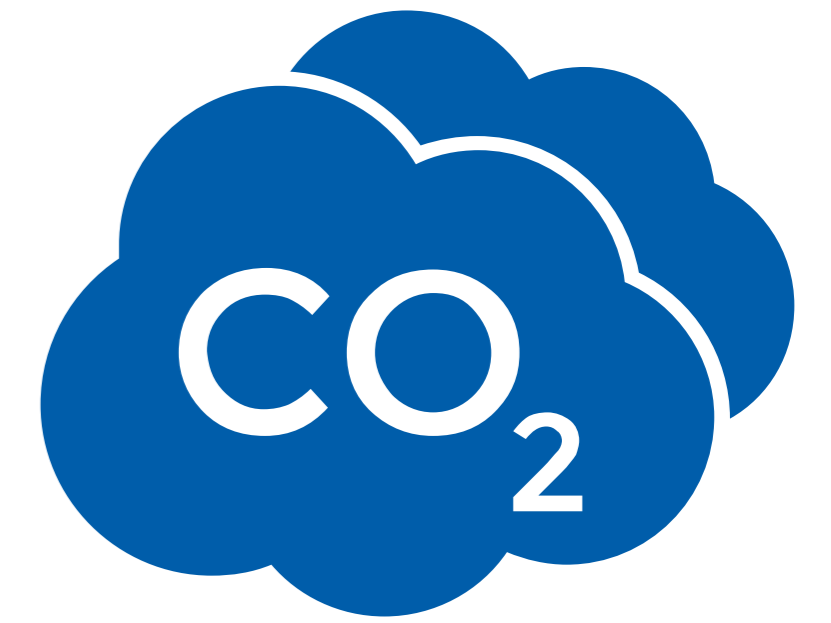
Compact communities?

Electrifying vehicles?

Advanced biofuels?



What is Greenhouse Gas Emissions Scenario Planning?



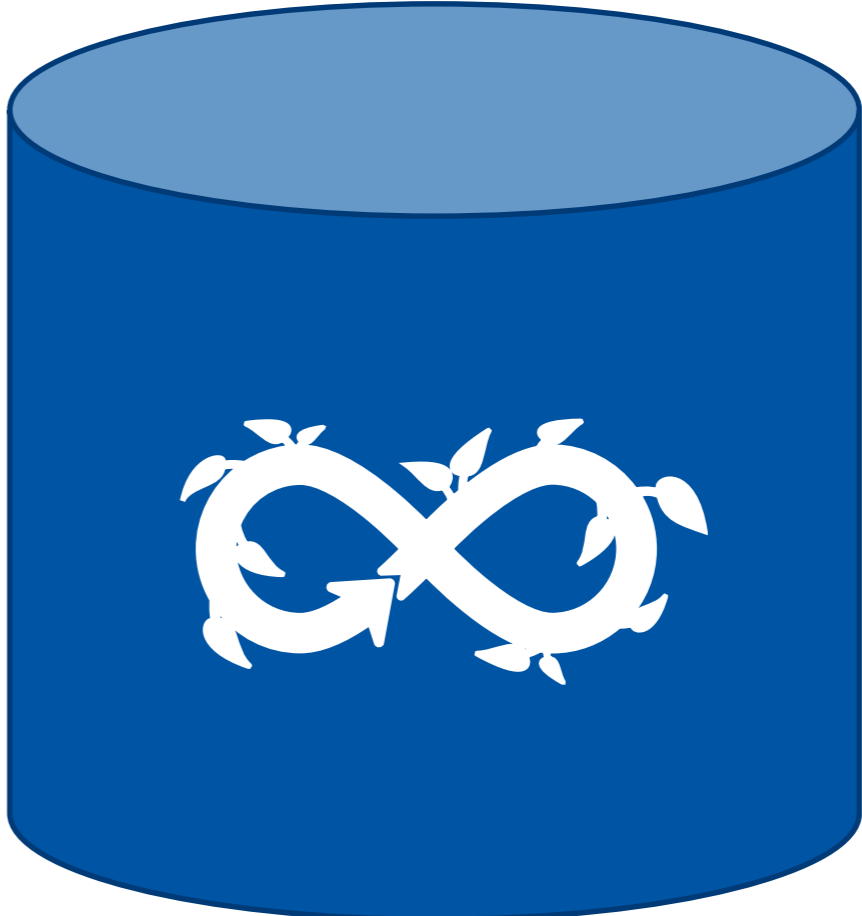
Climate Solutions



**Land-Use
& Transit**



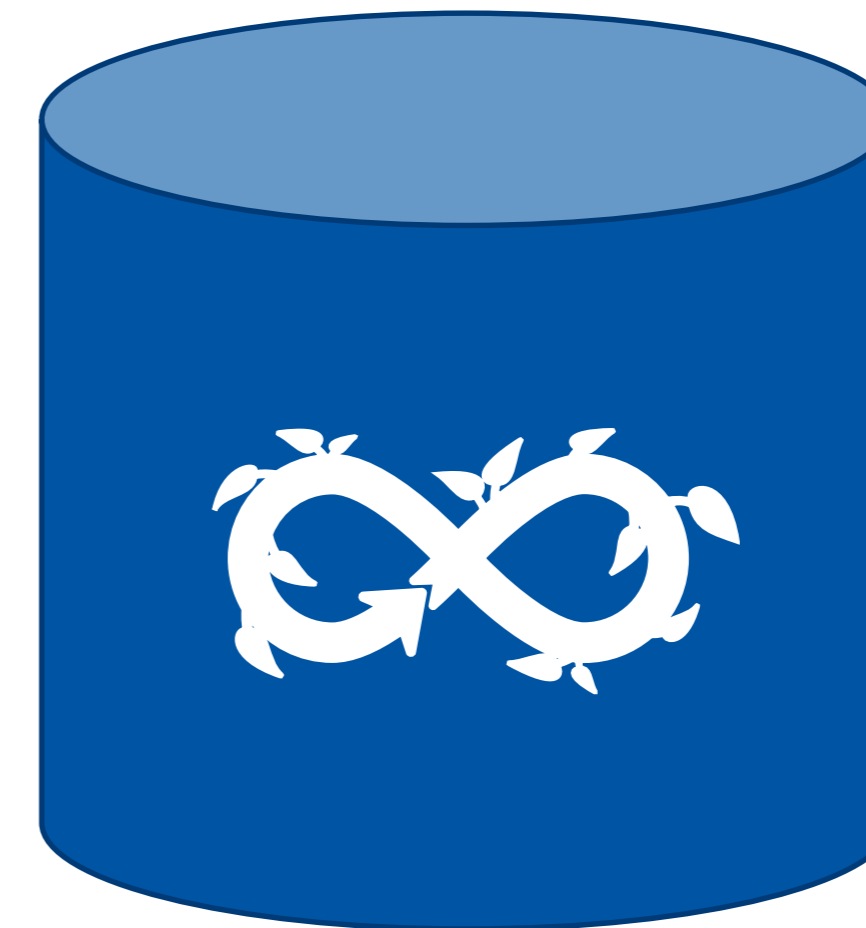
**Emerging
Technologies**

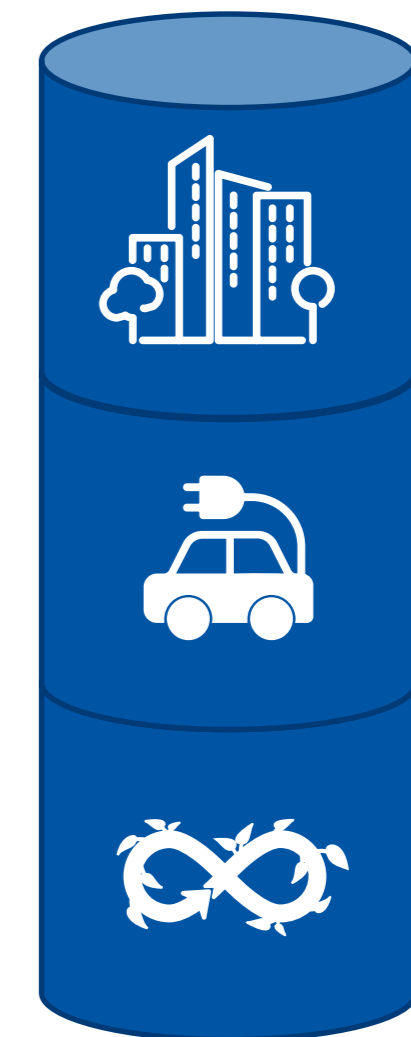
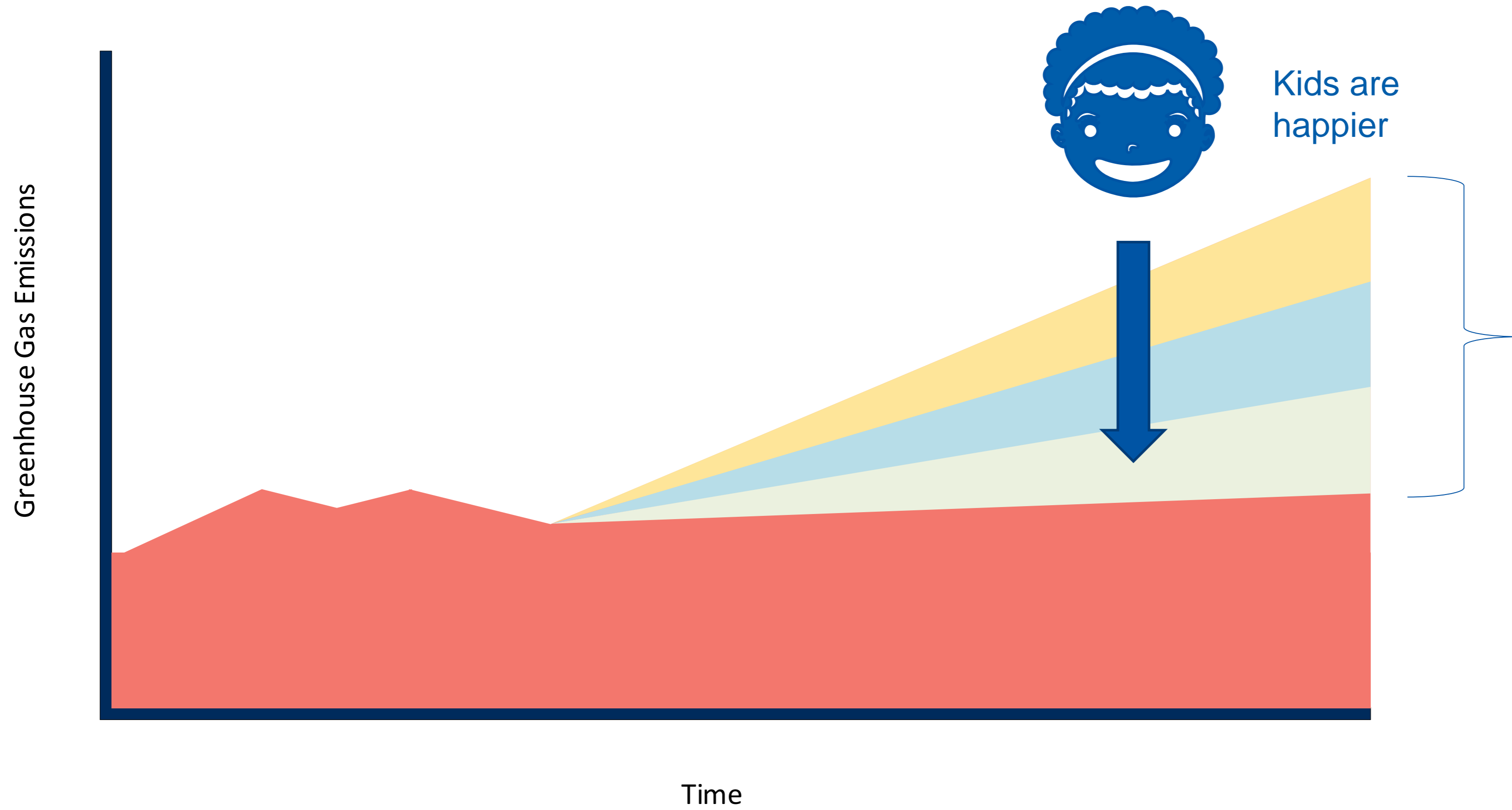


**Building
Energy
Efficiency +
Multi-Sector
Solutions**

These are the strategies to accomplish decarbonization with each bucket

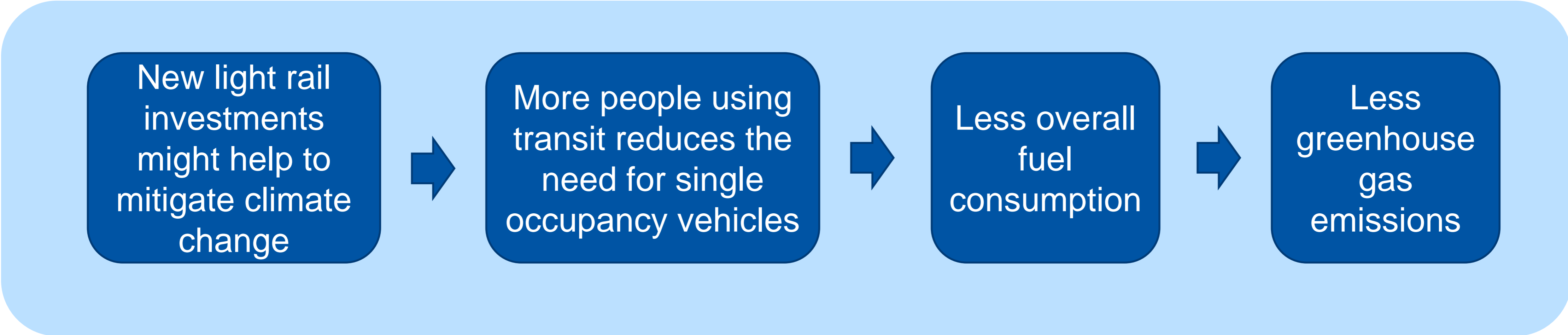
- Region-wide Up zoning
- Transit Oriented Development
- Urban growth boundaries





Ambitious action is necessary to meet our climate goals

It is not only about greenhouse gas emissions



How can we analyze this through an equity lens?



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Brainstorming

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