



Presentation to the DRCOG Board

Regional Climate Action

December 18, 2019



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***Agenda:***

- 1. Background***
- 2. Regional Impacts and opportunities***
- 3. DRCOG role***

***“Climate Change:  
Simple, Serious, Solvable”***

Scott Denning, Director of Education  
Atmospheric Science, Colorado State University

# *Simple*

- Increase in fossil fuel use during the past century
- Led to an increase in Greenhouse Gases (GHG)
- Led to an increase in temperature and weather events
- Impacts
  - Rapidly changing design standards for infrastructure (roads, stormwater, cooling)
  - Government Operations & Programs
  - Public Health Response

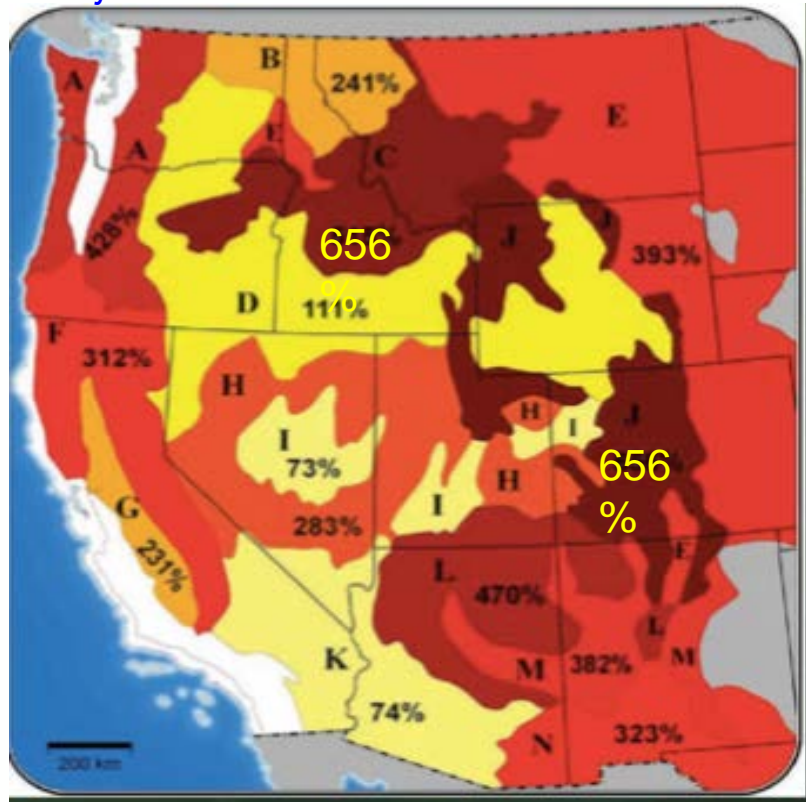


# Serious

Regional impacts to:

Water      Crops      Real Estate  
 Health & Quality of Life

*Projected Increase in Area Burned*



Denver 100 Degree Days	
20th Century	21st Century
36	46
Less than 1/year	More than 2/year

Denver Matches All-Time High of 105°F; Heat, Pollution Spread East This Weekend

*Bob Henson · June 29, 2018, 11:06 AM EDT*



**Above:** This photo provided by the Department of Homeland Security Emergency Management shows a wildfire burning near Forbes Park in southern Colorado, Thursday, June 28, 2018. Hot, dry and windy weather has raised the fire danger across much of Colorado as well as Utah and parts of Arizona and Nevada. (DHSEM via AP).

# Solvable

TRANSFORMING ENERGY SINCE 1977



NREL's research contributed to a:



**96%**

drop in solar energy costs related to improvements in cell design, module reliability, and materials



**78%**

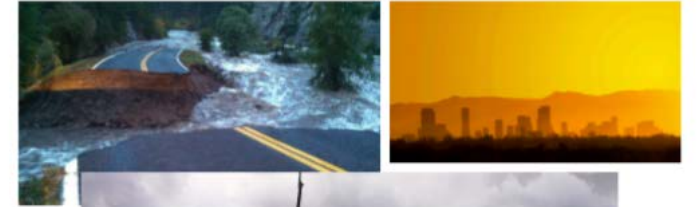
decrease in cellulosic ethanol costs due to new efficiencies from biochemical processes and fermentation catalysts



**90%**

fall in wind energy costs from advances in blade design, turbine gearboxes, and controls

## THE REPORT OF THE COLORADO LOCAL RESILIENCE PROJECT



Convened by  
The Colorado Climate Network and  
The Colorado Municipal League

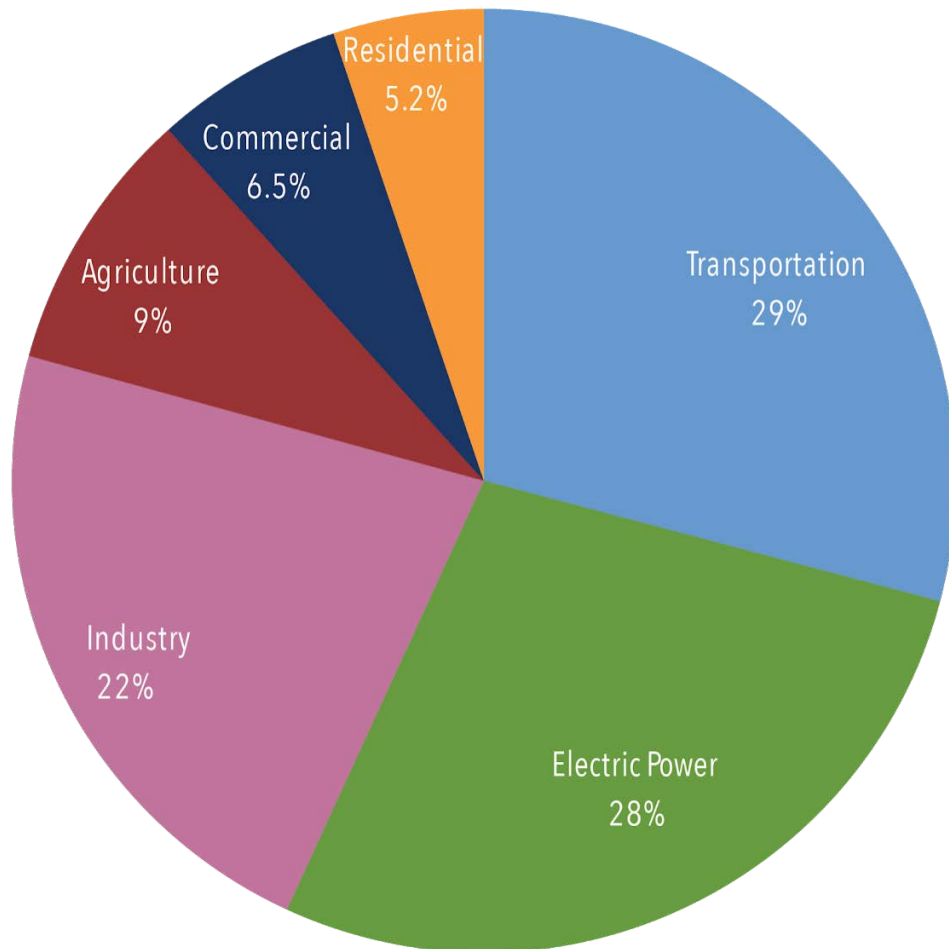
April 2015

Colorado  
Climate  
Network  
supporting local programs

CML  
COLORADO MUNICIPAL LEAGUE  
The Voice of Colorado's Cities and Towns

# GHG Emission Sources

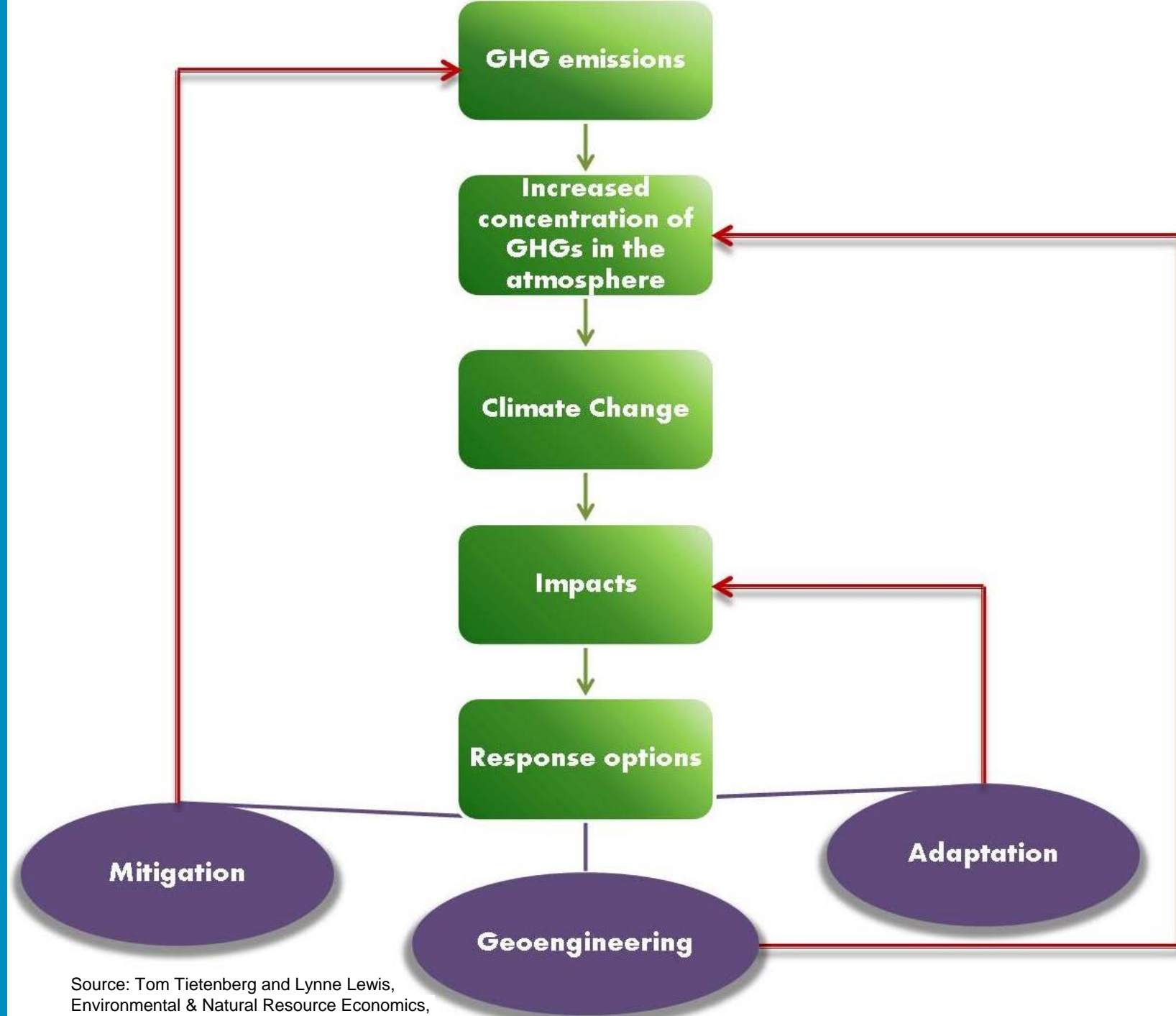
US Greenhouse Gas Emissions, 2017 *US EPA*



- Urban areas tend to have higher emissions from electricity and heating
- Efficiency and renewable energy is driving emissions down
- Transportation emissions continue to increase

# Co-Benefits of Mitigation & Adaptation

Mitigation and Adaptation can be addressed with similar strategies

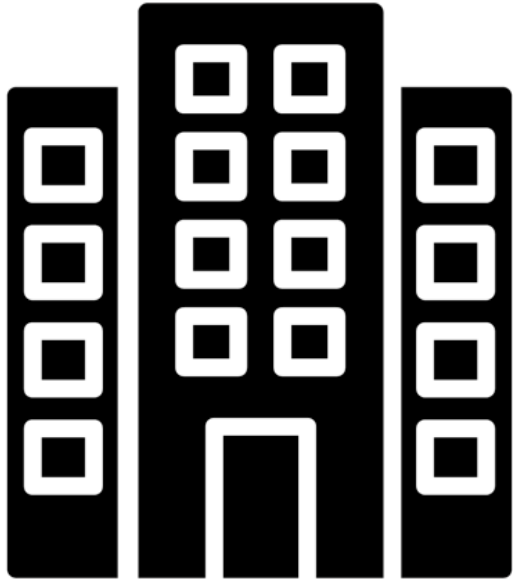


Source: Tom Tietenberg and Lynne Lewis, Environmental & Natural Resource Economics, (Boston, [Mass.]: Pearson, 2015)





***Local Governments in the  
Region are Active***

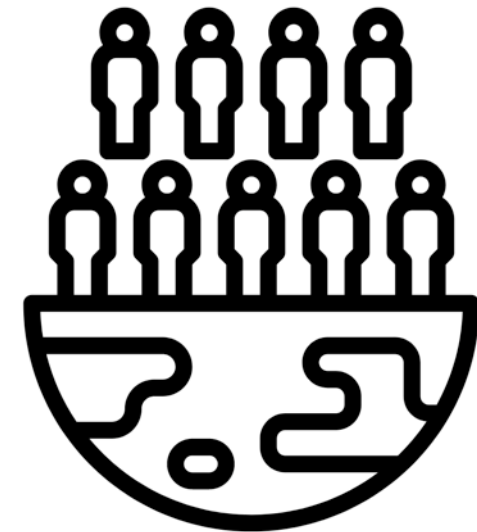


U.S. cities and counties are actively addressing climate change.

2,228 cities, towns, and counties

Population = 116M

Active in 1 or more climate initiatives





**Commit** to local climate action

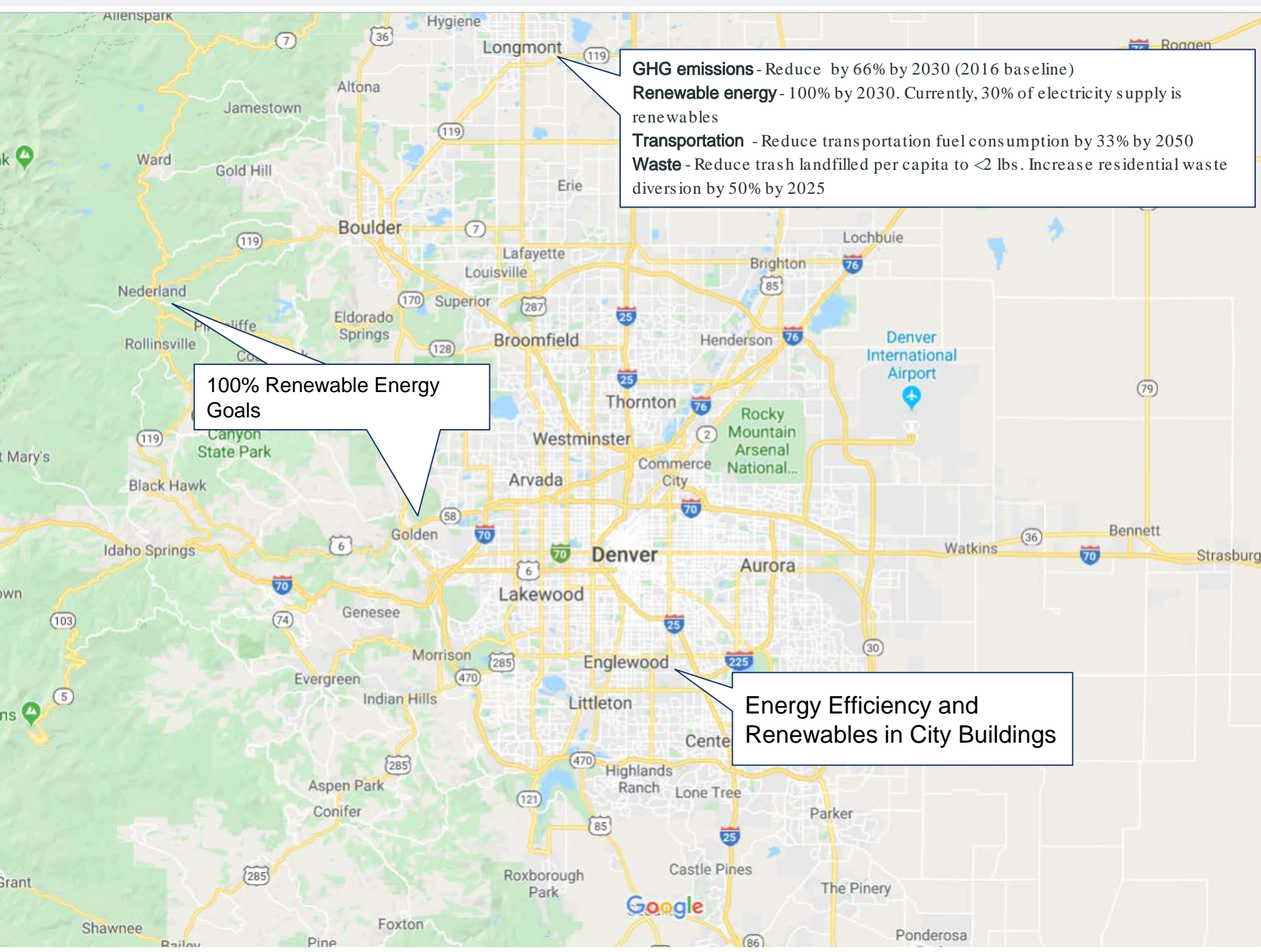
**Measure** local climate impacts

**Develop** goals / targets to reduce impacts and or address risks



**Execute** of strategies through implementation of policies and programs

**Evaluate** economic, environmental, and social benefits



**GHG emissions** - Reduce by 66% by 2030 (2016 baseline)  
**Renewable energy** - 100% by 2030. Currently, 30% of electricity supply is renewables  
**Transportation** - Reduce transportation fuel consumption by 33% by 2050  
**Waste** - Reduce trash landfilled per capita to <2 lbs. Increase residential waste diversion by 50% by 2025

100% Renewable Energy Goals

Energy Efficiency and Renewables in City Buildings



# *Regional Opportunity*

- Global Covenant of Mayors for Climate and Energy - call for applications
- Apply climate action within existing U.S. regional governance structures
- Four regions selected for technical support
  - Washington D.C.
  - Kansas City
  - Chicago
  - Denver



# ***Regional Efforts Increasing***

- Regional approach can best serve multi-purpose, multi-jurisdictional efforts
- Denver region is one of four US regions selected to receive technical assistance
  - Metro-DC conducting 3rd iteration of Regional Climate Planning
  - Chicago and Kansas City have made investments and commitments
- DRCOG is a natural venue to have this conversation for the Denver region
  - Timely, to match state level climate planning efforts



***A regional approach is a natural evolution of the climate discussion***

- Regional approach can go further, faster, and cheaper
- Match action to the scale of systems
  - Energy generation
  - Transportation
  - Waste
- Leverage resources and collective efforts
- Create economies of scale
- Resolve lack of human and financial resources for smaller municipalities
- Co-benefits to improve regional air quality and address social inequities



# *Regional Climate Action Plan*

## *Aligning with Metro Vision*

***Purpose: Develop a Regional Climate  
Action Assessment and Commit to Action***

### ***Steps:***

*Inventory of Regional GHG emissions from energy supply and demand, transport, waste, and land use change*

*Assess Regional Climate Risks: drought, fire, heat, extreme winter conditions, flood, and hail*

*Develop a Plan to reduce absolute regional GHG emissions and address regional climate vulnerability*

*Compile potential strategies for common approaches; with additional options for individual action*





# ***Regional Climate Action Plan***

## ***Aligning with Metro Vision***

### ***Similar to Metro Vision - Regional Action Would Not:***

*Be prescriptive to individual cities or counties*

*Limit actions of individual cities and counties*

### ***Regional Action Would:***

*Create stakeholder-driven common foundational efforts while maintaining options for individual action*



# ***Commitment Components***

*Complete GHG inventory every 2 years*

*Set an “ambitious” target to reduce GHG*

*Develop climate action plan*

*Assess and address climate risks*



# *Next Steps*



# Key Project Milestones

Workshop #1 October 9, 10

Developing a Regional **Greenhouse Gas (GHG) Inventory**

Discussed Regional **Climate Risks and Assessed Regional Vulnerability**

Workshop #2 Planned for March 2020

Review Regional **Greenhouse Gas (GHG) Inventory**

Set Regionally Appropriate Target to Reduce **Greenhouse Gas (GHG) Inventory**

Initiate Regional **Climate Action Plan**

By September 2020

Finalize Regional **Climate Action Plan**





***Thank you***