

Climate Emergency Declaration Update

January 12, 2021





Discussion



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FLAGSTAFF IS MOBILIZING TO ADDRESS THE CLIMATE CRISIS



The facts

We are in a climate emergency. The world is on track to warm by 5° F this century unless we make big changes. Consequences will be severe, especially for vulnerable communities.

This will take all of us

The City will revise its Climate goals to reach carbon neutrality by 2030. This means reducing our community's impact to zero. Families, businesses, neighborhoods and institutions can all be part of the solution.



What does this mean?

A carbon neutral world means more walking and biking; less wasted food and more gardens; more energy from the sun and efficiency in our homes. We can get there!



To learn more: www.Flagstaff.AZ.gov/Climate

Background

Why We Act:

Climate change poses risks to everything from our health and infrastructure to local ecosystems



The Benefits of Action

- Enhances local habitat and recreational opportunities
- Improves quality of life, well-being, and the local economy
- Preserves vital ecosystems and species
- Supports for low-income and disadvantaged communities
- Promotes healthier lifestyles and public health
- Help avoid the runaway costs of climate change
- Saves households and businesses money
- Conserves natural resources
- Creates jobs



Why We Act



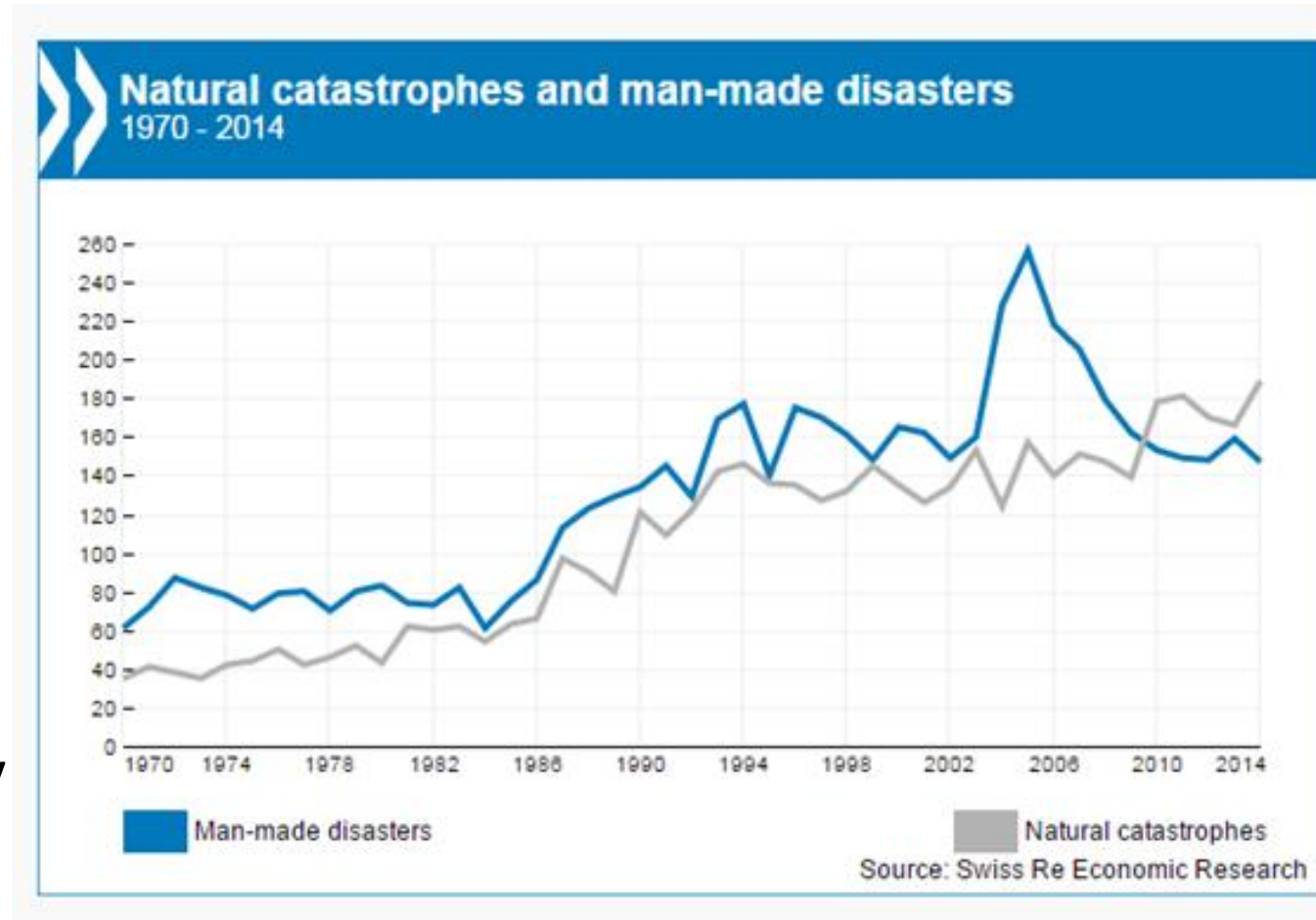
The Cost of Inaction

The cost of doing nothing will be much higher than acting, particularly when factoring in the social costs associated with loss of lives, species, health, and habitats.

Globally the cost of inaction rose from 1.3 trillion in 2010 to over 5 trillion in 2020.

Natural catastrophes are significantly increasing as are the costs for emergency response and mitigation.

- The economic impacts of the 2010 Schultz Fire is \$133 - \$147 million



Climate Change in Flagstaff

Climatic Impacts

- Hotter temperatures.
- Increased risk of disease or illness
- Less snowpack
- More rainfall instead of snowfall
- Increased wildfire risk
- Increased damage from forest pests
- More severe drought conditions as temperatures rise
- Lower water quality of reservoirs

Community impacts

- Public health impacts
- Change in tourism patterns -> impacts on jobs
- Climate migration -> housing pressure



The 2018 Climate Action and Adaptation Plan (CAAP)

Passed in November 2018, the CAAP has three overarching goals:

Mitigation

Reducing contribution to climate change (greenhouse gas emissions)

Goal 1: Reduce Flagstaff's community greenhouse gas emissions by 80% by 2050

Adaptation

Preparing for change

Goal 2: Prepare the city's communities, systems, and resources to be more resilient to climate change impacts.

Equity

Fair and just distribution of resources, access and opportunity.

Goal 3: Address climate change in a manner that prioritizes those most impacted.

Flagstaff's Greenhouse Gas Emissions

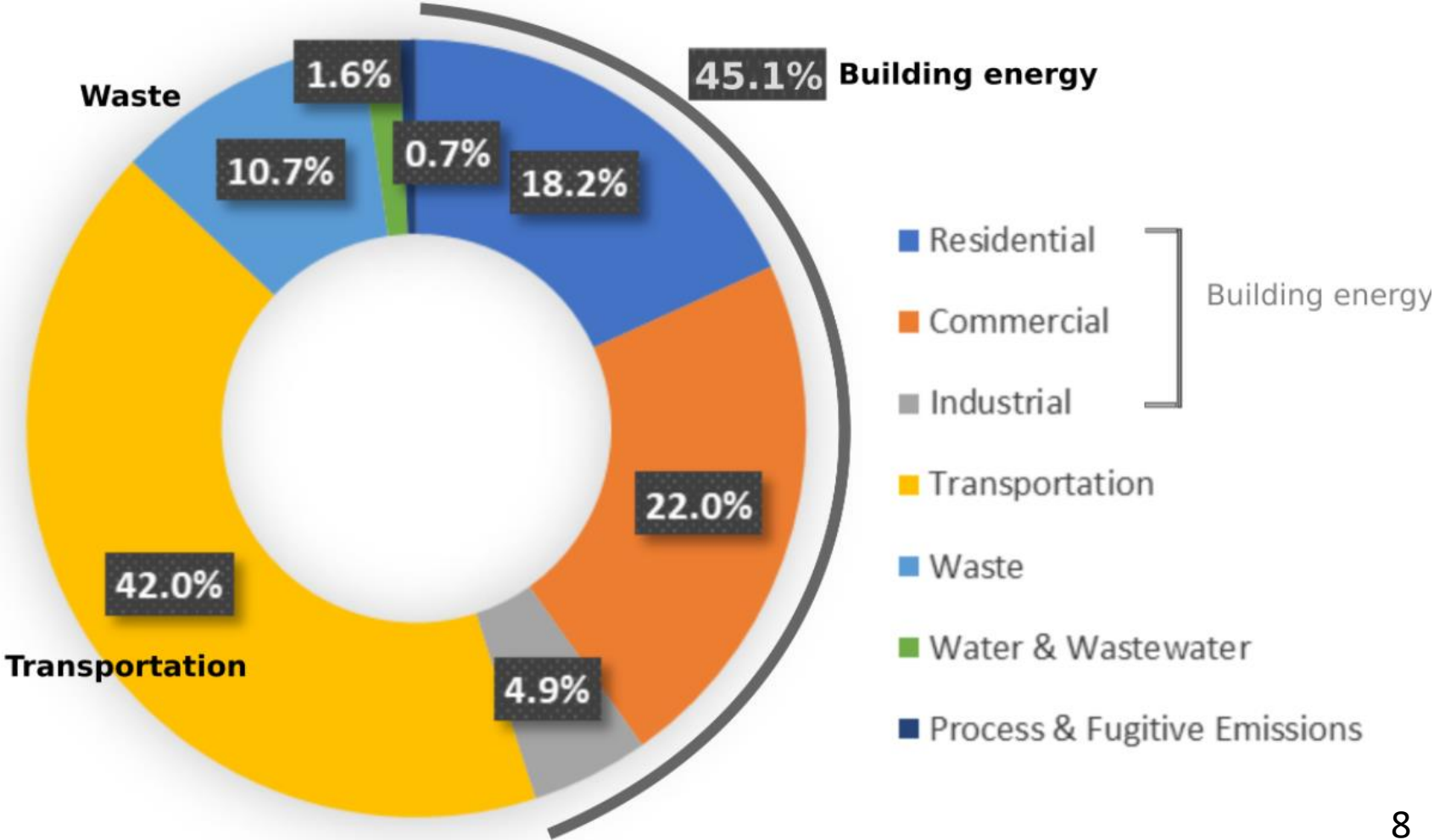
#1
Powering
Buildings



#2
Car Emissions



Community Emissions by Sector: 2016 and 2018 Average



The Climate Emergency Declaration

The Climate Emergency Declaration

September 20, 2019: Flagstaff community members gathered signatures for a petition requesting a Climate Emergency Declaration be declared

June 23, 2020: The Climate Emergency Declaration Resolution 2020-09 was adopted by City Council, unanimously

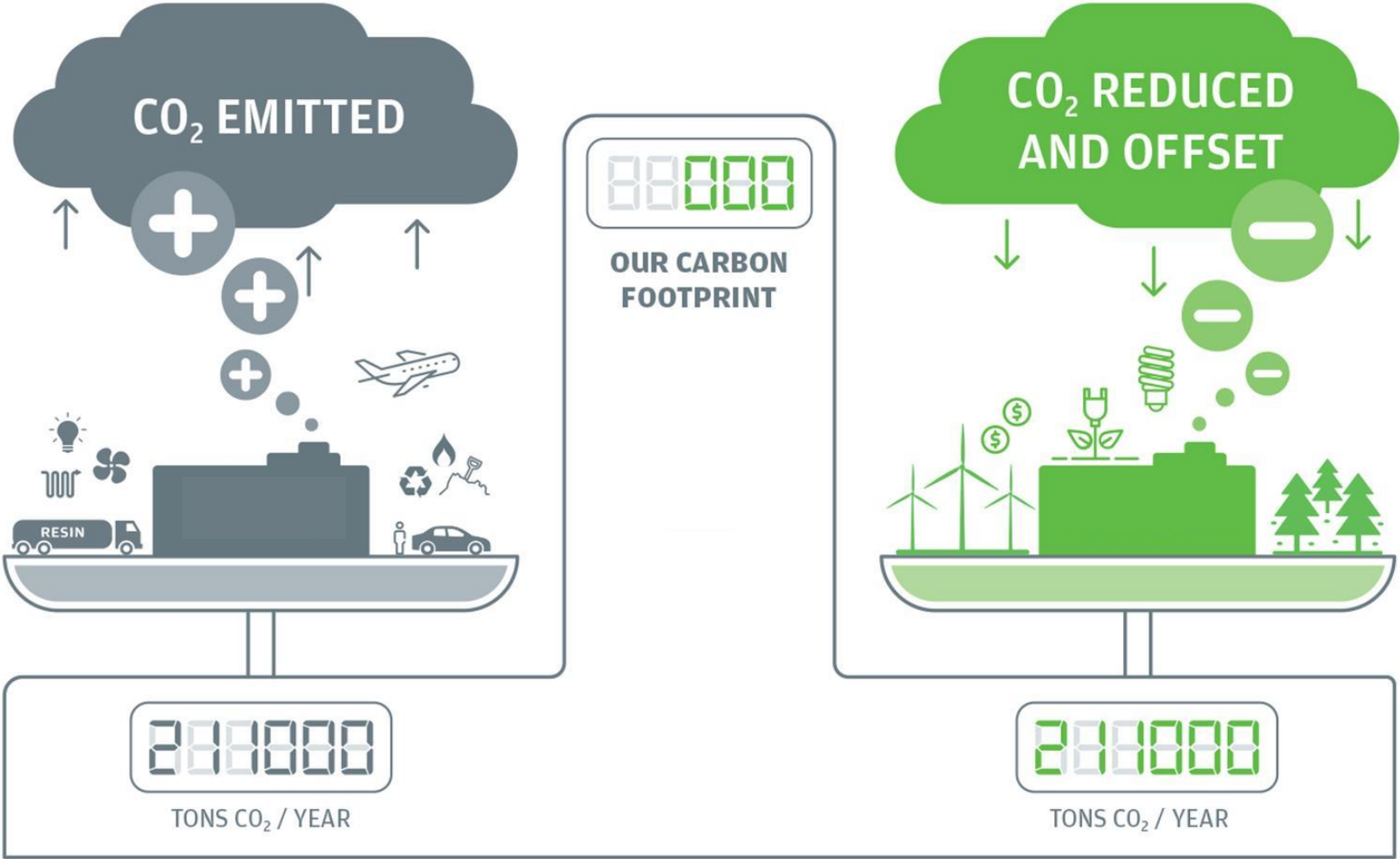




Climate Emergency Declaration

1. Dramatic increase in ambition to combat climate change
2. Commits to City-wide climate emergency mobilization
3. Commits to educating residents and especially youth
4. Underscores the need for full community participation
5. Commits to keeping vulnerable communities at the forefront of decision making
6. Joins a nationwide call for mobilization
7. **Advance the Climate Action and Adaptation Plan's goals to achieve carbon neutrality by 2030**
8. Calls on all governments to initiate a transition

Carbon Neutrality



The Path to Carbon Neutrality

- Requires sustained and focused commitment
- Requires re-aligning systems
- Requires bold action and **big shifts**
 - Aligning decisions through the carbon neutrality lens
 - Aligning organizational strategies and operations through the climate neutrality lens
- Requires revisiting existing policies
- Requires prescriptive measures in key sectors



The Path to Carbon Neutrality – Actions Update

Since the Climate Emergency Declaration...

- Conducting technical analysis and impact scenarios for the 2030 carbon neutrality goal
- Conducting community engagement
- Seeking technical assistance from internal and external partners
- Updating strategies and actions in the CAAP
- Determining the social cost of carbon
- Establishing an investment framework
- Advancing priority actions in the CAAP



Community Input

Sustainability staff has engaged with nearly 1,400 community members on the commitments of the Climate Emergency Resolution and preliminary targets to reach carbon neutrality:

- Community Forum
- Social Media
- Radio/print/web-based infographics and ads
- Climate Emergency Forums
- Presentations to organizations, groups, and City Commissions



Technical Analysis and Preliminary Emission Reduction Targets

Target Areas

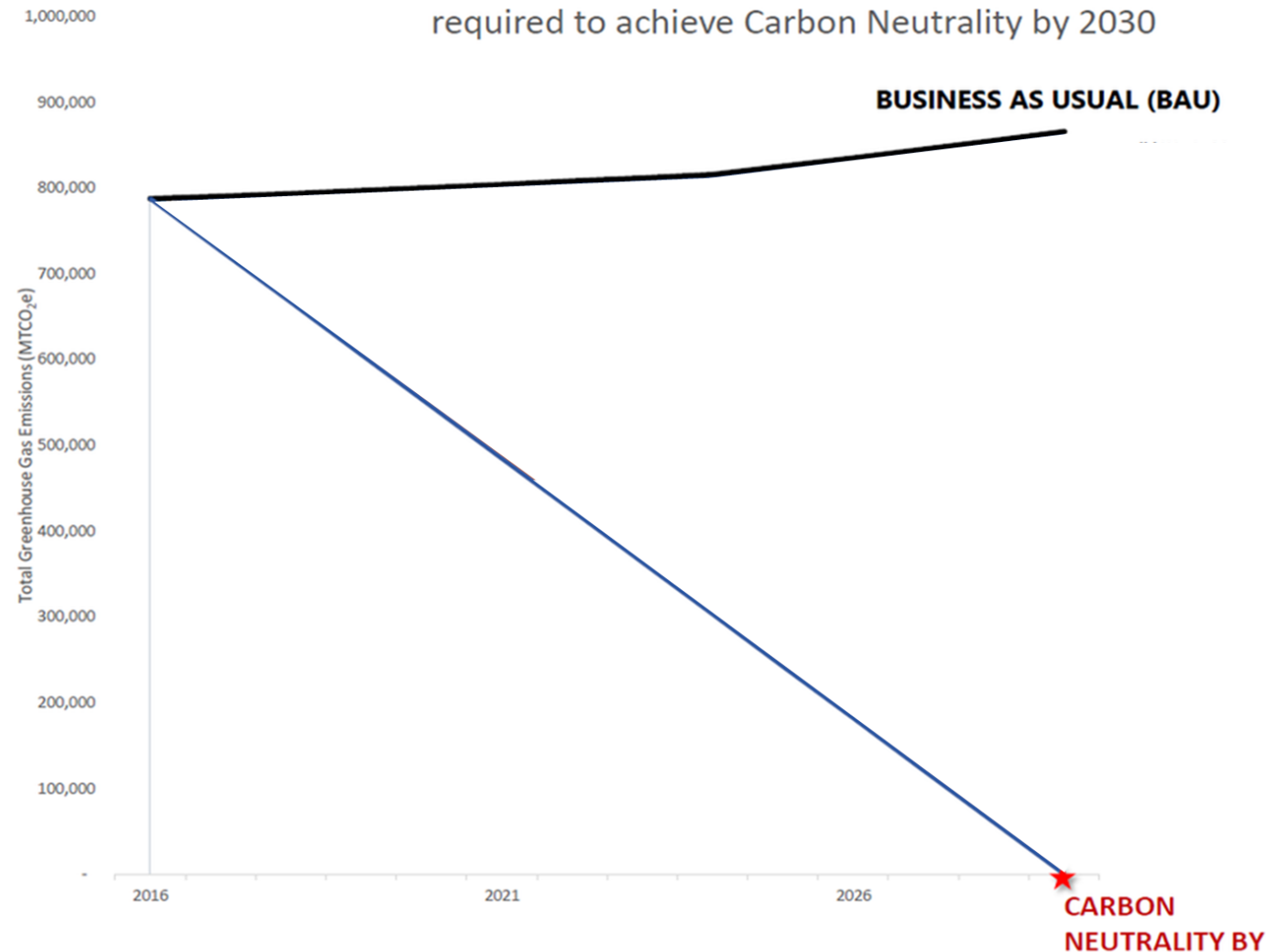
- Cleaner Electricity
- Reducing Energy Demand
- Building Fuel Switching
- Improved Materials Management and Landfill Operations
- Transportation Shift
- Electric Mobility
- Carbon Sequestration





Emission Reduction Target Areas

Preliminary sector-based emission reduction targets and sequestration required to achieve Carbon Neutrality by 2030



- Cleaner Electricity
- Reducing Energy Demand
- Building Fuel Switching
- Improved Materials Management and Landfill Operations
- Transportation Shift
- Electric Mobility
- Carbon Sequestration

Cleaner Electricity Target Area

What this means

100% of our electricity will come from renewable sources that don't emit greenhouse gasses.

- Municipal goal: 100% renewable by 2025.
- Community goal: 100% clean/renewable by 2030.

Considerations

- Financing for both small and large projects.
- Municipality: Will need 19 – 30 MW for the municipality goal.
- Community: APS plans to achieve 65% carbon-free electricity by 2030. Closing this gap requires 147+ MW of new solar.
- Equity concerns

Supporting actions

- Solar United Neighbors – *launching next week!*
- The Red Gap Ranch solar project – *planning stage.*
- Alliance with APS – *codified in 2020*

Reducing Building Energy Demand

What this means	We need to reduce GHG emissions from heating, cooling and powering buildings by 80% by 2030.
Considerations	<ul style="list-style-type: none">• State legislation now limits the restrictions we can put on new natural gas infrastructure.• Tied to fuel switching and renewable energy.• Important green jobs and economic development benefits.
Supporting actions	<ul style="list-style-type: none">• Adopt progressively more aggressive building codes, requiring new buildings to be net zero energy by 2030.• Retrofits for 12,500 existing homes by 2030.• Continue and expand energy efficiency training for local contractors

Building Fuel Switching

What this means

Shifting our fuel from fossil fuels to electricity on everything from water heaters and stoves to industrial processes.

- Electricity continue to get cleaner over time: solar is now the cheapest energy source in history.

Considerations

- Important green jobs and economic development benefits.
- Stronger policy and programming support from the ACC is needed.

Supporting actions

- 12,500 electrification retrofits by 2030.
- Electrification of City owned buildings.

Improved Materials Management and Landfill Ops.

What this means	First, we'll reduce both consumption and waste. As a second step, diverting more materials from the landfill through reuse and recycling will further reduce emissions.
Considerations	<ul style="list-style-type: none">• Solid waste accounts for 10% of our emissions.• Embedded emissions from consumption, which are difficult to measure and therefore not measured, could increase our community emissions by as much as 60%.
Supporting actions	<ul style="list-style-type: none">• Landfill gas collection and flare system - <i>2030 launch</i>.• Studying the feasibility of large-scale digestion at the landfill – <i>would start in 2035</i>.• Composting: drop-off by 2025. Pick-up by 2028.• Possible solar installation on capped landfill sections.

Transportation Shift

What this means	<p>Compared to today, we'll depend far less on cars, reducing vehicles miles traveled (VMT) in private vehicles by 50%.</p> <ul style="list-style-type: none">• We'll take many more trips by walking, biking and the bus.
Considerations	<ul style="list-style-type: none">• Steering Committee: we need to commit to aggressive change, making difficult choices and full transformation.• \$600k + per year for Active Transportation programming.• \$90 million for bike and pedestrian capital improvements.
Supporting actions	<ul style="list-style-type: none">• The Active Transportation Master Plan.• Creating more space for safe biking and comfortable walking.• Increased density and mixed use will shift us to do more within our neighborhoods, taking shorter and fewer trips.

Electric Mobility

What this means

Electrification is...

- Embracing new mobility: e-bikes, bike share, hoverboards, etc
- Electric busses for MountainLine and NAU fleets.
- Electric vehicles.

Considerations

- Electrification is not a silver bullet: the priority must be decreasing our dependence on personal vehicles.
- Rapidly evolving technologies can lower carbon and spatial impacts.
- Electrification should prioritize the vehicles traveling the most, like fleet vehicles that get high annual mileage.

Supporting actions

- Installing EV charging stations at City facilities.
- Building code EV requirements – 2020 update as a start.

Carbon Sequestration

What this means

Carbon sequestration is the process of capturing and storing atmospheric carbon dioxide, to remove it from the atmosphere.

Considerations

- The amount of carbon sequestration needed will depend on the impacts of the other target areas.
- We need to study the feasibility of various land management practices in our high desert environment.

Supporting actions

- Red Gap Ranch as a possible site for an innovative sequestration project.
- Smaller-scale regenerative agriculture, meadows, forests as sequestration sinks.

The Climate Neutrality Plan: A Living Document

The Climate Neutrality Plan must be a living document to address:

- Constantly changing conditions, be it social, economic, and or environmental
- Advances in technology
- State and federal programs and directives
- Needs of our vulnerable populations
- Impacts of community action and partner action
- Funding availability



What's Next?

Timeline

3/9/21 – Draft Climate Neutrality Plan to City Council for feedback

4/6/21 – Climate Neutrality Plan to City Council for adoption

Additional Actions January - August

- APS Electric Vehicle Charging Stations
- 2030 investment scenario
- Solar United Neighbors
- HEPA Filter Program
- Energy conservation audit solicitation
- Sustainable building resolution update
- Carbon neutrality development plans
- Anti-idling ordinance for loading zones



Thank you.

Questions?

