



Commercial & residential
Composting program

What do you think?

Rethinking Tourism Industry

Rethinking waste management
municipal

Welcome
A to Z the
Climate Plan

Climate Action in Flagstaff

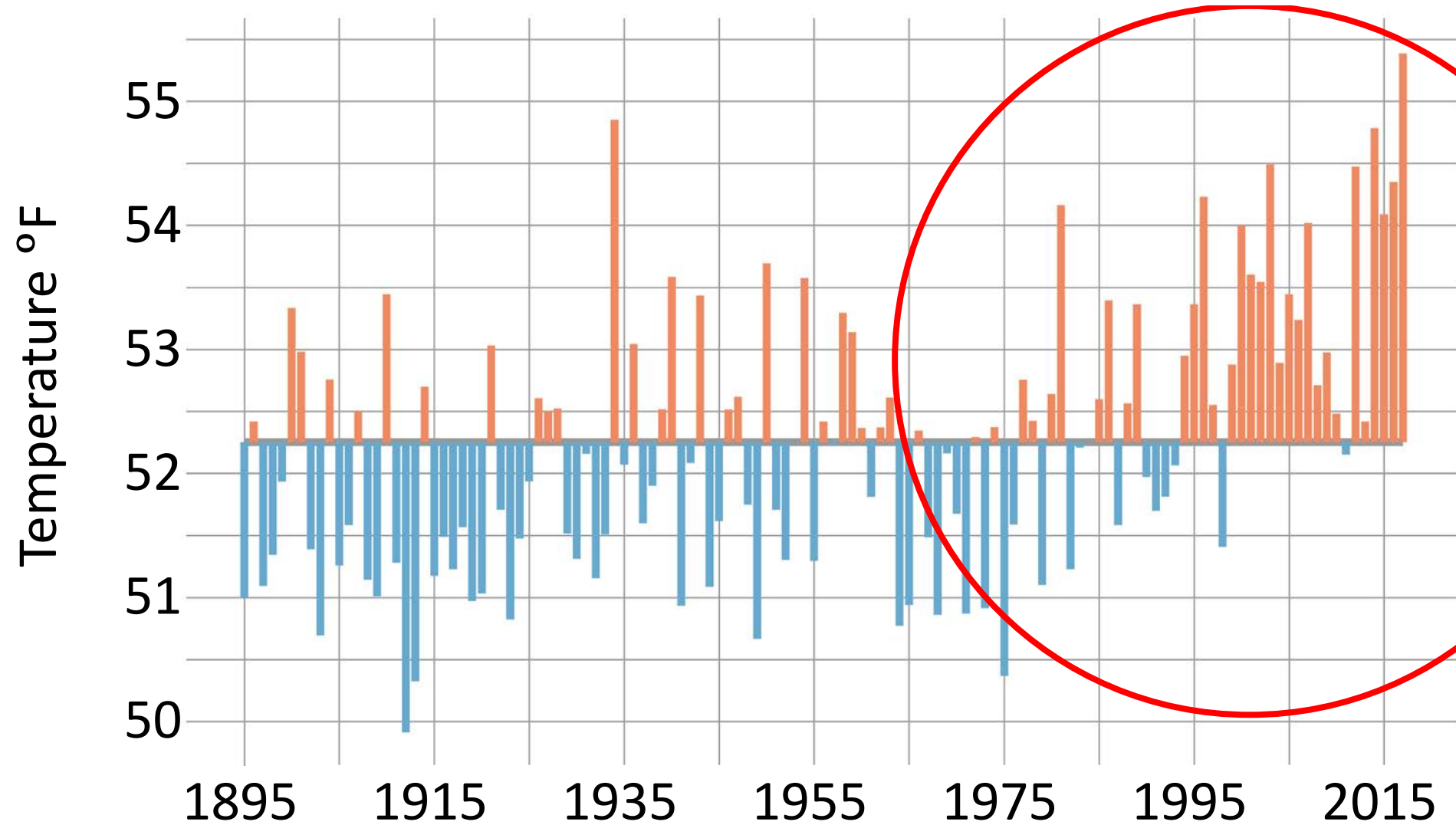
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City of Flagstaff

Agenda

- The Context
- The Climate Plan
- The Climate Plan and **Housing**

Climate Change is Here

Average Annual Temperature: Coconino County: 1895 - 2017



By 2050, we can expect:



Hotter temperatures

Lower snowpack

Less healthy forests and
increased high-severity
fire risk

Drier conditions

Vulnerabilities: What is at Risk?

Tourism & Economy



Water



Land Use & Housing



Health



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

Not all groups face the same threats



Climate change threats can vary depending on...

- *Age*
- *Health*
- *Income*
- *Race*
- *Gender*
- *Physical ability*
- *Neighborhood*

Climate action has numerous co-benefits



Enhancing local habitat and recreational opportunities.



Improving quality of life, well-being, and the local economy.



Supporting low-income and disadvantaged communities.



Promoting healthier lifestyles and public health.

Climate Plans work to answer various questions

- How will climate change impact Flagstaff?
- How do we contribute to climate change?
- What actions can be taken to reduce that impact?
- What can we do to prepare for future impacts and changes?
- How can we act equitably?
- How can the community benefit from this?

Flagstaff's Climate Action and Adaptation Plan

- Passed in November 2018, after an 18-month planning process
- Tackles BOTH mitigation and adaptation, in addition to equity
- Sets aggressive goals, and strategies and actions to achieve those goals

CAAP: 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

Ensuring climate actions benefit all

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

Goal 1: Reduce Our Impacts

MITIGATION =
Reducing greenhouse gas emissions

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

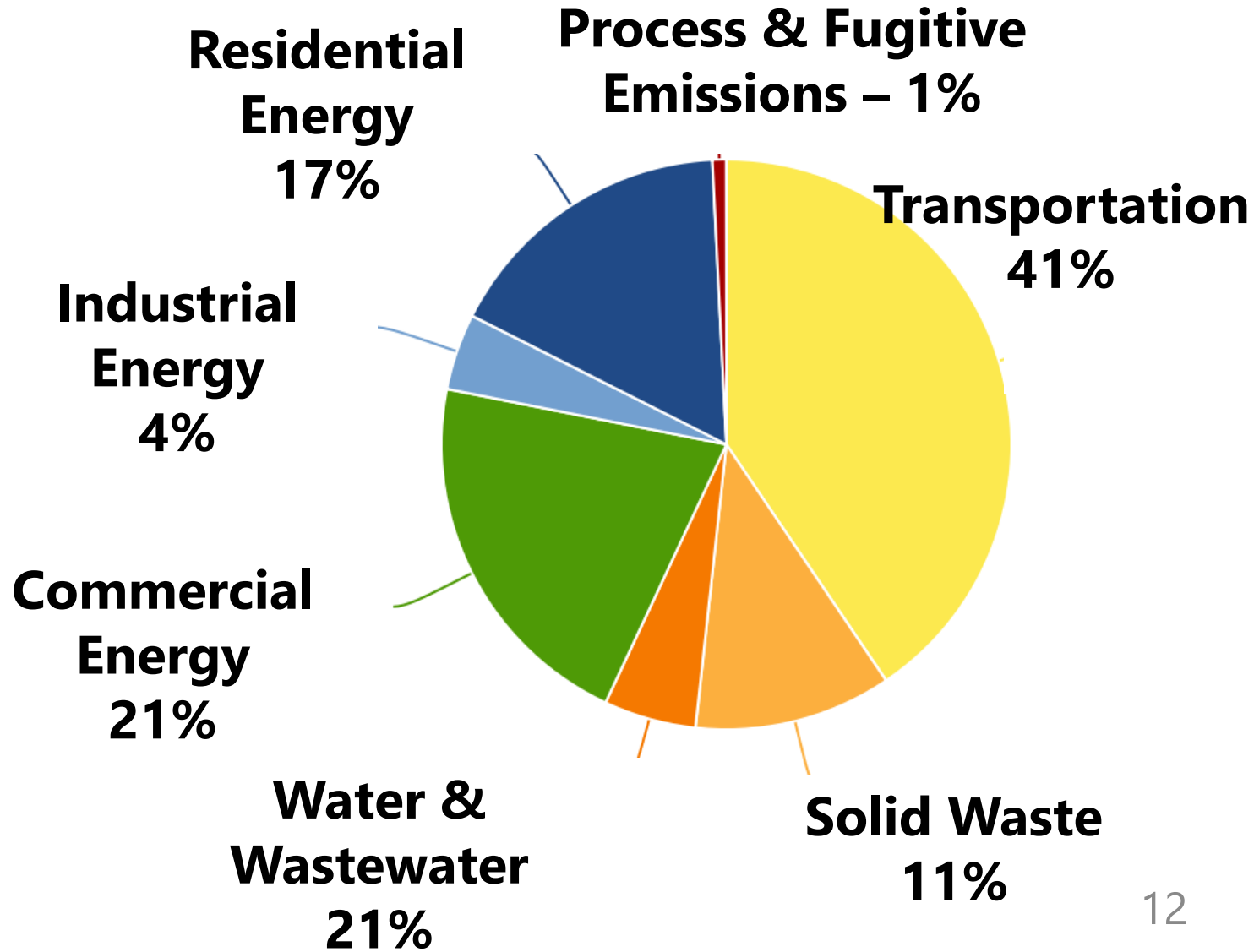
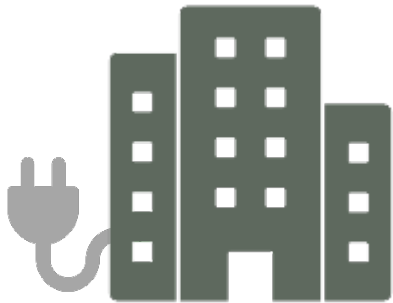
Greenhouse gas emissions
=
Gasses that lead to increases in the earth's temperature
=
Contributions to climate change

How Flagstaff Contributes to Climate Change

#1
Car Emissions



#2
Powering Buildings



Goal 2: Prepare for Change

Adaptation = preparing for change and adapting our systems to help us thrive in new situations.

City Goal 2:

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

What might people struggle to adapt to?

- *Rising rents?*
- *Increased wildfires?*
- *Changing forests?*
- *New flooding regimes?*
- *Changes to animal migration?*
- *Changes to winter tourism?*

Goal 3: Help the Most Vulnerable

Climate Equity:

- The just distribution of the benefits of climate protection
- Alleviation of unequal burdens created by climate change.

City Goal 3:

Address climate change in a manner that prioritizes those most impacted and ensures that climate action benefits all.

What groups might be most negatively affected by climate change?

What stops people from accessing climate programs?

How can we better serve vulnerable groups?

How can we ensure climate actions don't harm already-struggling groups?



Flagstaff's
Climate Action & Adaptation Plan
establishes a clear **road map** of
priority actions and projects.

CLIMATE ACTION & ADAPTATION PLAN

Focus Areas



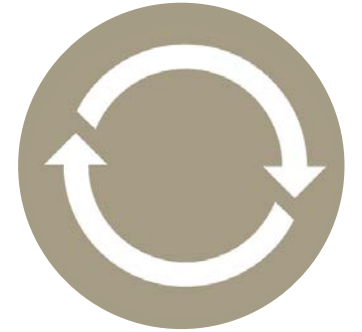
Energy



Natural
Environment



Water
Resources



Waste &
Consumption



Public Health
Services



Transportation
& Land Use



Economic Prosperity
& Recreation

We must utilize all available levers



Housing and Climate Change

1. Impacts

- Resilience
- Equity
- Greenhouse gas emissions

2. Climate action

- Building energy
- Transportation

Housing + Climate Change: Resilience + Equity

- Health and housing
 - Exposure to unhealthy air (smoke, allergens)
 - Heat issues for vulnerable community members
 - Access to parks, walkable neighborhoods, trails, outdoors
 - Transportation options
 - Mental stress
 - Access to services

Housing + Climate Change: Resilience + Equity

- Increased volatility
 - Increased incidences of disasters, economic disruptions
 - Increased energy price volatility
 - This volatility can lead to increased vulnerability for those already struggling

Housing + Climate Change: Resilience + Equity

- Rising demand for housing in Flagstaff
 - Extreme heat challenges in Central Arizona will get worse
 - Increased visitation to Flagstaff; potential increase in demand for second homes or short term rentals
 - Exacerbation of existing housing issues
 - Increasing vulnerability as housing prices rise
 - Increasing vulnerability and greenhouse gas emissions as people are pushed to outlying areas

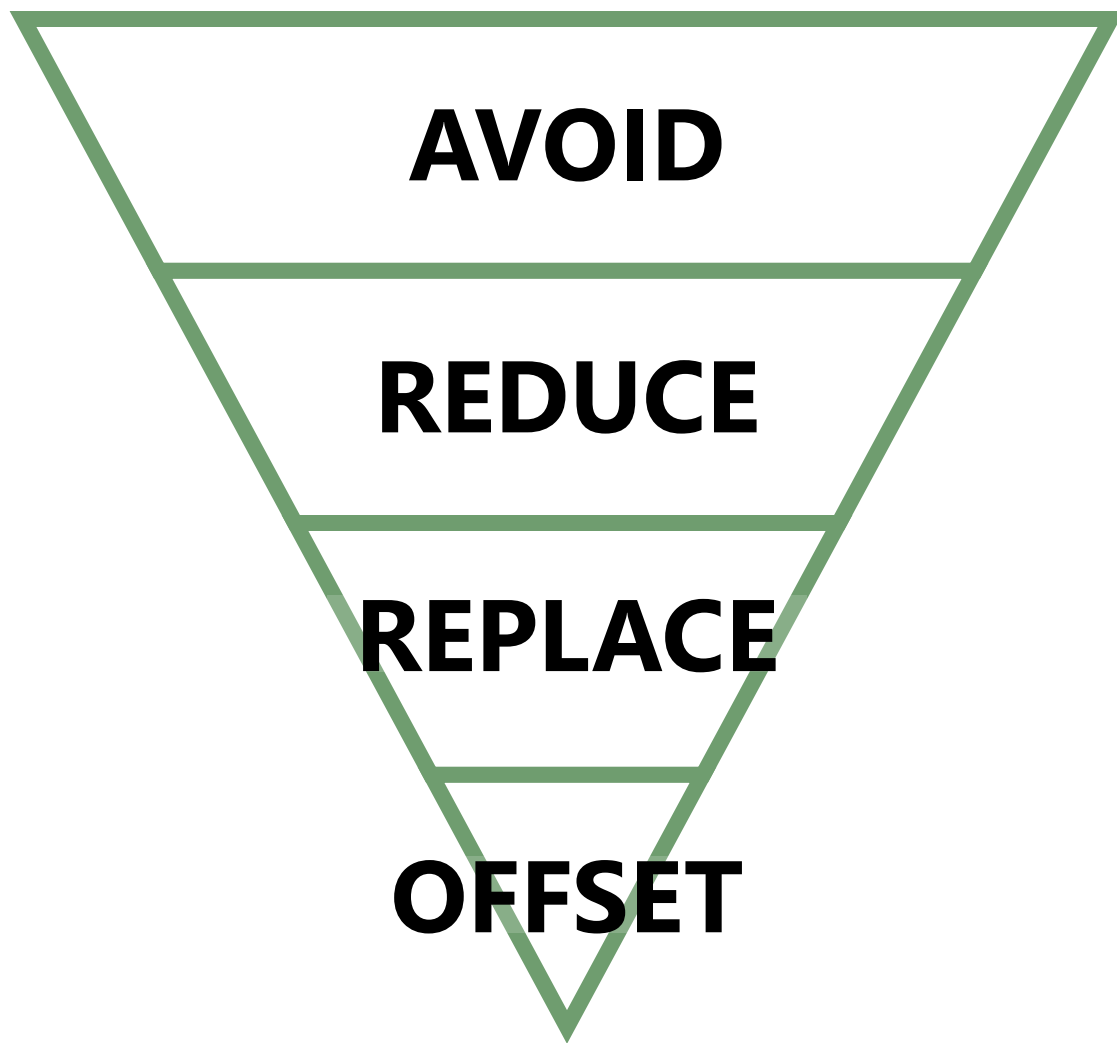
Housing + Climate Change: Emissions

- Energy burdens
 - Low-income families already spend a far greater proportion of their income on energy
- Energy use in housing
 - Different housing profiles have different energy usage profiles
 - Depends on housing age, size and type (single-family vs. multi-family)

Housing + Climate Change: Emissions

- Energy use in transportation
 - High housing prices leading to housing / population changes
 - Increased transportation emissions as people travel further to get to jobs in Flagstaff
 - Increased vulnerability as more of a family's budget goes to transportation
 - Transportation emissions are a function of land use decisions

Housing + Climate Change: Climate Action



BUILDING ENERGY

AVOID carbon-intensive activities
(and rethink operations)

REDUCE energy usage by using more
energy-efficient technology

REPLACE fossil-fuels with electric fuels
and renewable energy

OFFSET carbon emissions that cannot
be eliminated

Housing + Climate Change: Climate Action



AVOID

REDUCE

REPLACE

OFFSET

TRANSPORTATION

AVOID carbon-intensive trips

REDUCE energy use for each trip through energy-efficient travel: busses, carpooling, biking

REPLACE fossil-fuels with electric fuels

OFFSET carbon emissions that cannot be eliminated

Climate Action: Building Energy

- Reduce energy use
 - Existing homes:
 - Energy efficiency building retrofits
 - Electrification (moving from natural gas to electric)
 - Renewable energy
 - New homes:
 - Building codes
 - Electrification and renewable energy incentives
- Shift the grid
 - 100% renewable energy for the community

Climate Action: Transportation

- Walkable, dense, multi-use neighborhoods
 - Reduced energy use within housing units
 - Reduced energy use for transportation
 - Health benefits
 - Improved resilience
- Transportation electrification
 - Electric vehicles: cars, bikes, busses

Questions and Discussion

Thank you!

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