

A Brief Overview of Carbon Emissions, Renewable Energy, and Tempe's Climate Action Plan



Tempe

Making waves in the desert

What is a “Climate Action Plan”?

- A detailed and strategic framework for measuring, planning, and reducing greenhouse gas emissions and related climate impacts.
- Includes an inventory of existing emissions, reduction goals or targets, and analyzed and prioritized reduction actions.
- A roadmap for making decisions and understanding how to achieve the largest and most cost effective solutions in alignment with other city goals and priorities.



Why Develop a Climate Action Plan?

- A Climate Action Plan helps to develop strategies to conserve resources and make quality of life improvements such as:
 - Develop energy efficiency programs to lower utility costs.
 - Increase light rail, bus, and bike paths to reduce pollution and traffic congestion while also reducing greenhouse gas emissions.
 - Implement an urban tree program to provide shade, reduce carbon, and reduce urban heat island impacts.





What are Carbon Emissions and Why is Reducing Them Important?

- The burning of fossil fuels (coal, oil, natural gas) releases carbon dioxide and other greenhouse gases which:

- Trap heat
- Warm the atmosphere
- Create extreme weather patterns
 - Impact water supply
- Change the growing season for crops.
 - Contribute to climate change.





What Is the Difference Between Renewable and Non-Renewable Energy Sources?

- Renewable energy sources such as solar, wind, and biofuels are energy sources that:
 - Are powered by natural resources
 - Can be replenished in a lifetime
 - Do not contribute to pollution, health impacts, or poor equality
 - Do not produce carbon emissions
- Non-renewable energy sources such as oil, coal, and gas are energy sources that:
 - Are limited resources and will run out
 - Contribute to pollution, health impacts, and poor air quality
 - Increase carbon emissions which contribute to climate change



What Would the Proposed Targets Mean for Tempe?

The proposal: *The City of Tempe will be “carbon neutral” in its operations by 2050 and utilize 100% renewable energy sources for municipal energy use by 2035.*

(Refers to city government use only, not community members’ use.)

- Carbon neutrality = no net release of carbon dioxide into the atmosphere due to municipal use.
- Common causes of carbon dioxide emissions in city government include:
 - Transportation (city vehicles burning fossil fuels)
 - Water treatment process
 - Electricity use in city buildings, streetlights, water treatment



A comprehensive municipal carbon reduction plan could include many approaches:

- Energy efficiency investments to decrease the amount of electricity the city uses
- Shifting 100% of the city's electricity use to renewable sources
- Gradually replacing fossil fuel-powered city vehicles with electric models
- Other new methods as technologies become available

