

HOW BUILDINGS AFFECT THE CLIMATE

WHAT IS CLIMATE CHANGE?

- The earth's climate is experiencing rapid changes like increasing ocean temperature, melting glaciers, extreme weather patterns and season shifts. ([EPA](#))
- These changes are caused by too much greenhouse gases, or GHGs in our atmosphere. GHGs are like a warm blanket around the earth. The more GHGs in the atmosphere, the thicker the blanket, and the warmer the earth can get.
- Although we are already seeing the effects of climate change, we can prevent worse future conditions if we reduce the amount of GHGs or emissions we put into the atmosphere.

HOW DO BUILDINGS CONTRIBUTE TO CLIMATE CHANGE?

- Every building needs materials like, concrete, steel, and insulation-materials that require high amounts of GHGs to produce. ([RMI](#))
- Each pound of concrete releases 0.93 pounds of GHGs throughout its lifetime. As a result, any building containing concrete releases almost its entire weight in emissions once built. ([Princeton](#))
- Any building that requires energy like gas or electricity also increases GHGs in the atmosphere because 80% of energy is still produced by fossil fuels. ([DOE](#))

HOW CAN BUILDINGS HELP PREVENT FUTURE CLIMATE CHANGE?

Everyone needs homes, schools, and places to work and shop. We just need to make these buildings better. By using energy efficient designs and technologies, we can transform buildings into climate solutions. ([DOE](#))



This approach to reducing energy use, and lowering GHGs, is called decarbonization. It includes things like:

- Adding green space or solar panels to rooftops
- Using natural solutions, like trees and sunlight, for shade and lighting
- Using sustainable building materials or reusing materials
- Switching to electric appliances
- Switching to energy-efficient lighting and appliances

HOW CAN BUILDINGS PROTECT US FROM CLIMATE CHANGE?

As climate change continues, we will need buildings to shelter us from extreme weather.

Buildings that are up to date in their upgrades are more likely to withstand extreme heat and cold events. During these extreme temperature events, it is imperative to keep your community in temperature-safe buildings.

As the earth warms, wildfires will increase in intensity and frequency. These wildfires can expose us to dangerous amount of outdoor pollutants that can deteriorate our long term health. During these wildfire events, it is important for your community members to have upgraded buildings that can filter and clean our air quickly and effectively.