

Climate Mitigation vs. Climate Adaptation & Resilience



Fairfax County is proactively working to address both the causes of climate change and its various impacts. Combating climate change requires holistic action in both climate mitigation and climate adaptation and resilience.







WHAT IS CLIMATE MITIGATION?

“Climate mitigation” targets the cause or drivers of climate change. This can be done in two ways: 1) by preventing or reducing greenhouse gas (GHG) emissions, like emissions from cars or fossil fuel powered plants, or 2) by increasing “sinks” that capture and store carbon, like trees.

By reducing GHG emissions and increasing carbon sinks, we can reduce our carbon footprint and do our part in the worldwide effort to avoid additional warming.



Examples of climate mitigation:

- Switching to renewable energy sources 
- Embracing active or alternative transportation options, like biking 
- Protecting and expanding tree canopy 
- Improving energy efficiency of our buildings 
- Responsible waste management 
- Zero emissions vehicles 

What are Greenhouse Gases?

Greenhouse gases, such as carbon dioxide and methane, are gases that can trap the sun's radiation in the atmosphere, warming the Earth's surface (like a greenhouse) and contributing to climate change.

WHAT IS CLIMATE ADAPTATION & RESILIENCE?

“Climate adaptation and resilience” means adjusting to and preparing for the effects of a changing climate. Even with strong mitigation efforts in place, the impacts of climate change are already being felt. Action is needed to prepare our residents, infrastructure, and systems for the impacts of climate change by reducing our vulnerabilities and enhancing our ability to prepare for and cope with climate hazards.



Examples of building climate resilience:

- Flood-proofing and retrofitting buildings to withstand stormwater 
- Fortifying critical infrastructure against severe storms 
- Building understanding of local climate risks and best practices through community education programs 
- Providing local aid to enhance access to resources 
- Improving community resilience 
- Restoring streams and wetlands 

HOW ARE CLIMATE MITIGATION AND CLIMATE RESILIENCE CONNECTED?

Both climate mitigation and climate adaptation and resilience are necessary to thrive in a future with increasing extreme weather events. Even with bold mitigation goals, the climate will continue to change in the coming decades, and so adaptation is necessary to prevent and reduce harm. On the other hand, adaptation does not address the causes of climate change, so mitigation is crucial to limit the source emissions. Climate mitigation and climate resilience are also connected because many strategies, such as increasing tree canopy or providing renewable energy diversification, serve both purposes.

WHAT IS FAIRFAX COUNTY DOING TO ADVANCE CLIMATE MITIGATION AND RESILIENCE?

MITIGATION



County Plan:

- Community-wide Energy and Climate Action Plan ([CECAP](#)) / [Carbon-Free Fairfax](#)



Goal:

- Reduce GHG emissions that contribute to climate change
- Reduce GHG emissions by 50% by 2030, 75% by 2040, and achieve carbon neutrality in the community by 2050



Lead:

- Community-led, because ~95% of emissions are from the community



Key Actions:

- Improve energy efficiency of buildings
- Increase the use of renewable energy in the community
- Support electric vehicle adoption
- Reduce waste generation and increase waste diversion
- Preserve, restore, and expand natural systems, green spaces, and soil quality

ADAPTATION & RESILIENCE



County Plan:

- [Resilient Fairfax](#)



Goal:

- Help Fairfax County prepare for and increase resilience to climate hazards



Lead:

- County-led, because the government is responsible for infrastructure and service upgrades



Key Actions:

- Integrate climate resilience into countywide plans
- Incorporate climate considerations into infrastructure decisions
- Create a network of safe and resilient spaces
- Build community capacity to adapt to climate events
- Protect and restore natural resources



Some Strategies are both!

Some strategies, like green infrastructure, can support with both mitigation and adaptation. Green infrastructure can act as a "sink" to store carbon (mitigation), helps retain stormwater (adaptation) and lessens extreme heat by providing shading and cooling (adaptation).