



# Climate Adaptation & Resilience Plan

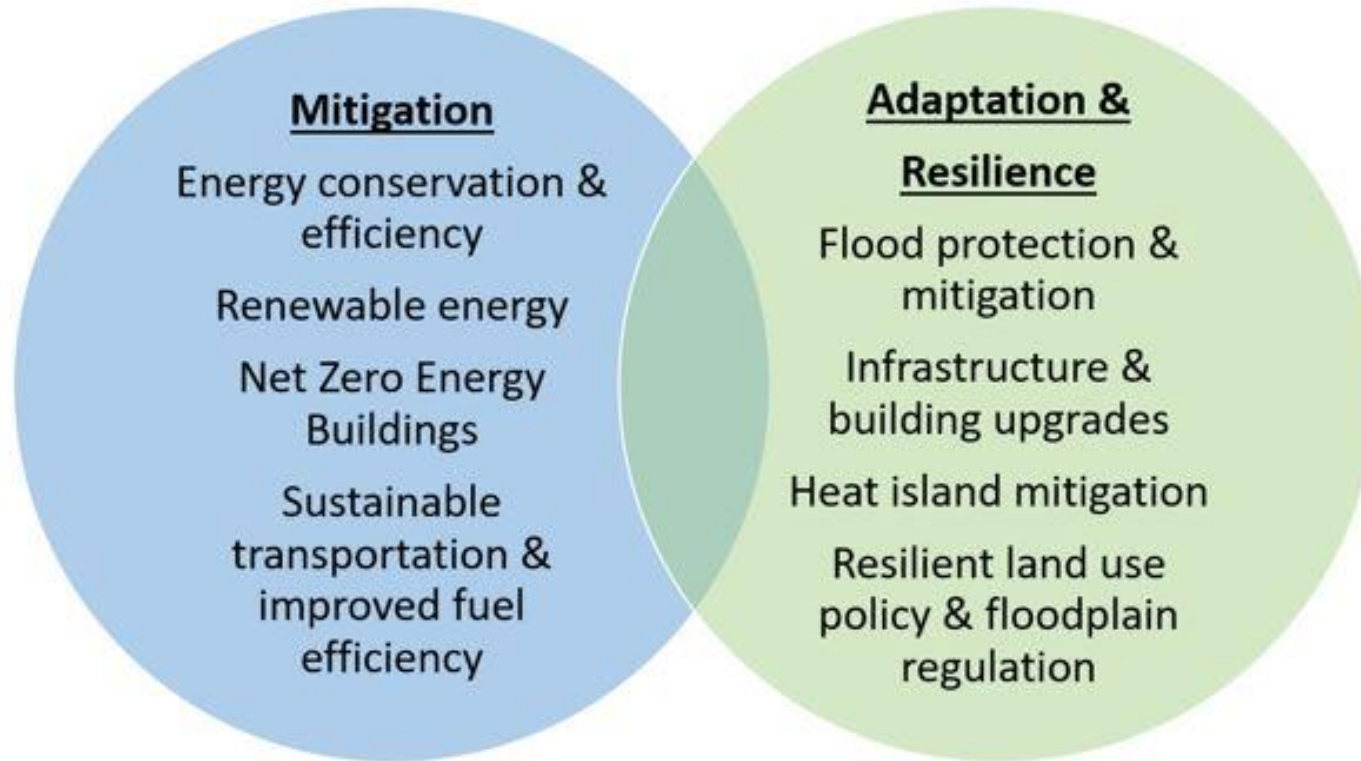
Action Item

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# Need for Climate Adaptation & Resilience Plan

## *Relationship with CECAP*



- Climate Mitigation (CECAP)
  - Reducing or eliminating GHG emissions that contribute to climate change.
- Climate Adaptation & Resilience
  - Increasing the ability to withstand, respond to and recover from climate disruptions and prepare for anticipated hazards.

# Need for Climate Adaptation & Resilience Plan

## *Climate Impacts*



Damage along Lorton Rd., Tropical Storm Lee, 2011



Tree damage at Alexandria residence, 2012 Derecho



Erosion along Difficult Run

IMPACT	Climate Drivers			
	Temp.	Precip. Variability	Severe Storms	Sea Level Rise
a. More frequent travel and delivery delays and disruptions (e.g., downed trees and power outages).	X	X	X	X
b. Increase in infrastructure (e.g., transportation, utility and water distribution) maintenance or replacement requirements.	X	X	X	X
c. Possible increase in drought events reducing availability of potable water.	X	X		
d. Increase in unhealthy outdoor air quality days.	X			
e. EMS: Increased demand for emergency management response to extreme weather events.	X	X	X	X
f. General economic impacts due to loss of production, repairs, emergency operations and insurance claims resulting from extreme weather events.	X	X	X	X
g. Possible changes in lifetime and maintenance of external building components (ex. roofs).	X	X	X	
h. Potential impact on reliability of electrical systems and grid due to heating and cooling.	X			
i. Possible increased flood risks to property and infrastructure in flood-prone areas.		X	X	X
j. Increased erosion and sedimentation due to high intensity runoff events.		X	X	
k. Loss or migration of tidal wetlands			X	X
l. Increased health impacts due to the exacerbation of existing health conditions (e.g. kidney, pulmonary and cardiovascular).	X	X	X	X
m. Increased health impacts due to excessive heat, vector-borne and communicable disease.	X	X	X	X
n. Energy: Seasonal changes in demand; increased short-term disruptions.	X		X	
o. Expansion of flood-prone areas and increase in flood frequency in tidal and nontidal areas due to changes in precipitation patterns.		X	X	
p. Increased tidal flooding due to sea level rise and/or tidal surges.			X	X

Downed utility pole in Great Falls, 2012 Derecho



FCFRD swift water rescue in Vienna, Aug. 2018 flood event

Stranded delivery van in Annandale, Jul. 2019 flood event



# Need for Climate Adaptation & Resilience Plan

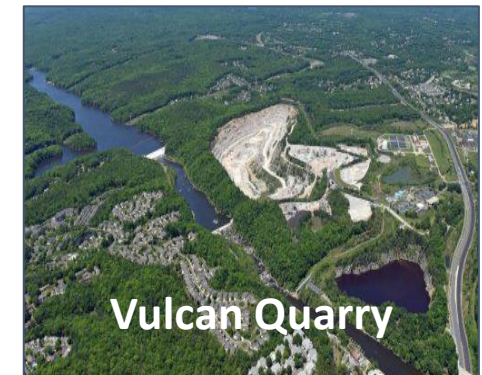
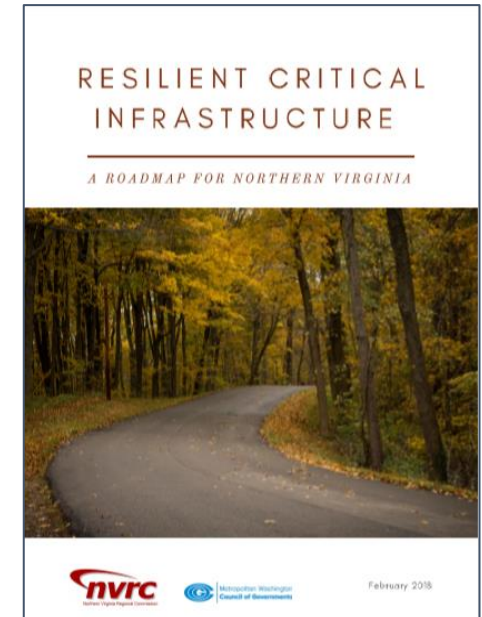
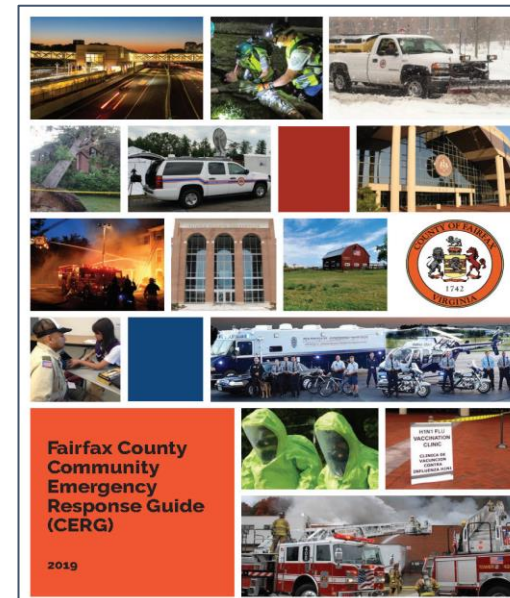
## *Building on Regional, Local Initiatives*

### Regional

- Resilient Critical Infrastructure: A Roadmap for Northern Virginia (NVRC, 2018)
- 2030 Regional Climate and Energy Action Plan (COG, expected Oct. 2020)

### Local

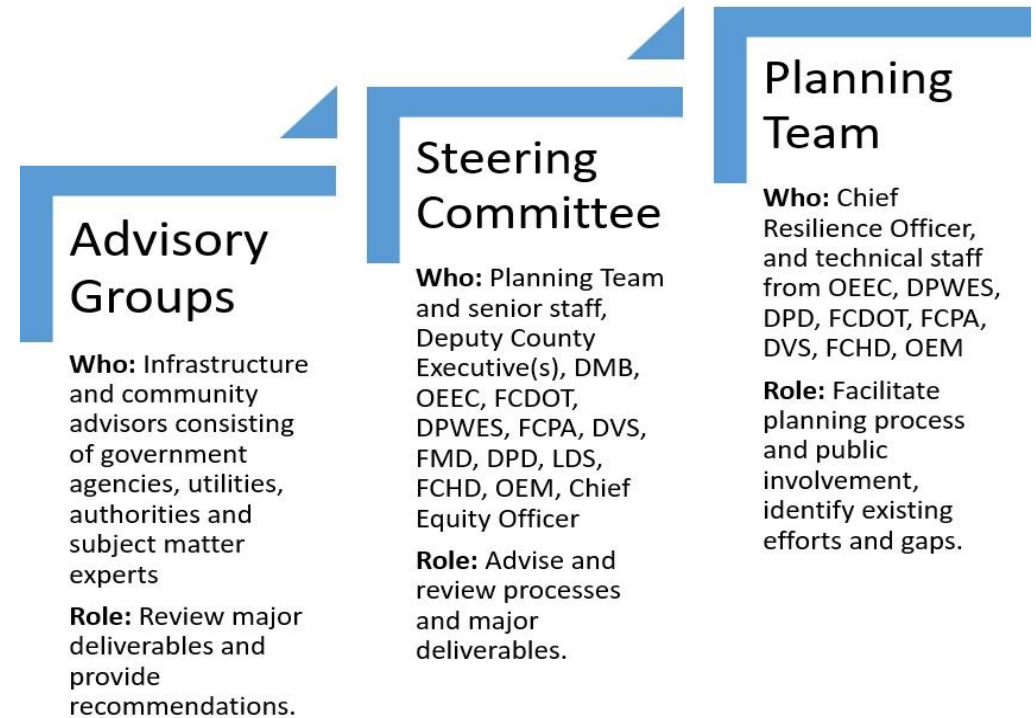
- Flood Risk Management
  - LiDAR mapping and modelling (DIT)
  - Stormwater infrastructure (DPWES)
- Facility Use and Design
  - Emergency shelters (FMD, FCPA)
- Health and Human Services
  - Climate Health Initiative (FCHD)
  - Community Emergency Response Guide (OEM)
- Drinking Water Supply
  - Water supply storage facilities (Fairfax Water)



# Overview of Climate Adaptation & Resilience Plan

## *Major Planning Elements & Structure*

- Climate projections
- Policy audit
- Vulnerability and risk assessment
- Climate adaptation and resilience strategies
- Implementation roadmap
- Technical report and outreach materials
- Community and stakeholder outreach



# Infrastructure Advisory Group

Local/State/Regional	Utilities & Authorities	Buildings	Transportation
COG	Columbia Gas	Engineers & Surveyors Institute	Transportation Advisory Commission
FCPS	Comcast	National Association of Industrial and Office Properties	WMATA
NVRC	Cox	Northern Virginia Building Industry Association	
State Agency (e.g. representative from VDCR, VDEM, VDEQ, or VDOT)	Dominion Energy		
	Fairfax Water		
	NOVEC		
	Verizon		
	Washington Gas		

# Community Advisory Group

State/Regional	Board-Appointed	Other
GMU	Community Action Advisory Board	350 FAIRFAX
NVSWCD	Environmental Quality Advisory Council (2)	Faith Alliance for Climate Solutions
	Braddock District Representatives (2)	Federation of Citizens Associations
	Dranesville District Representatives (2)	Green Business Partner
	Hunter Mill District Representatives (2)	League of Women Voters
	Lee District Representatives (2)	Multicultural Advisory Group
	Mason District Representatives (2)	NAACP
	Mount Vernon District Representatives (2)	Northern Va. Chamber of Commerce
	Providence District Representatives (2)	Sierra Club
	Springfield District Representatives (2)	Small Business Commission
	Sully District Representatives (2)	Tyson's Partnership Representative

# Proposed Framework & Timeline

*Conditional on Board approval of resources, additional staff and ability to ride COG contract*

## Phase I – Initiation

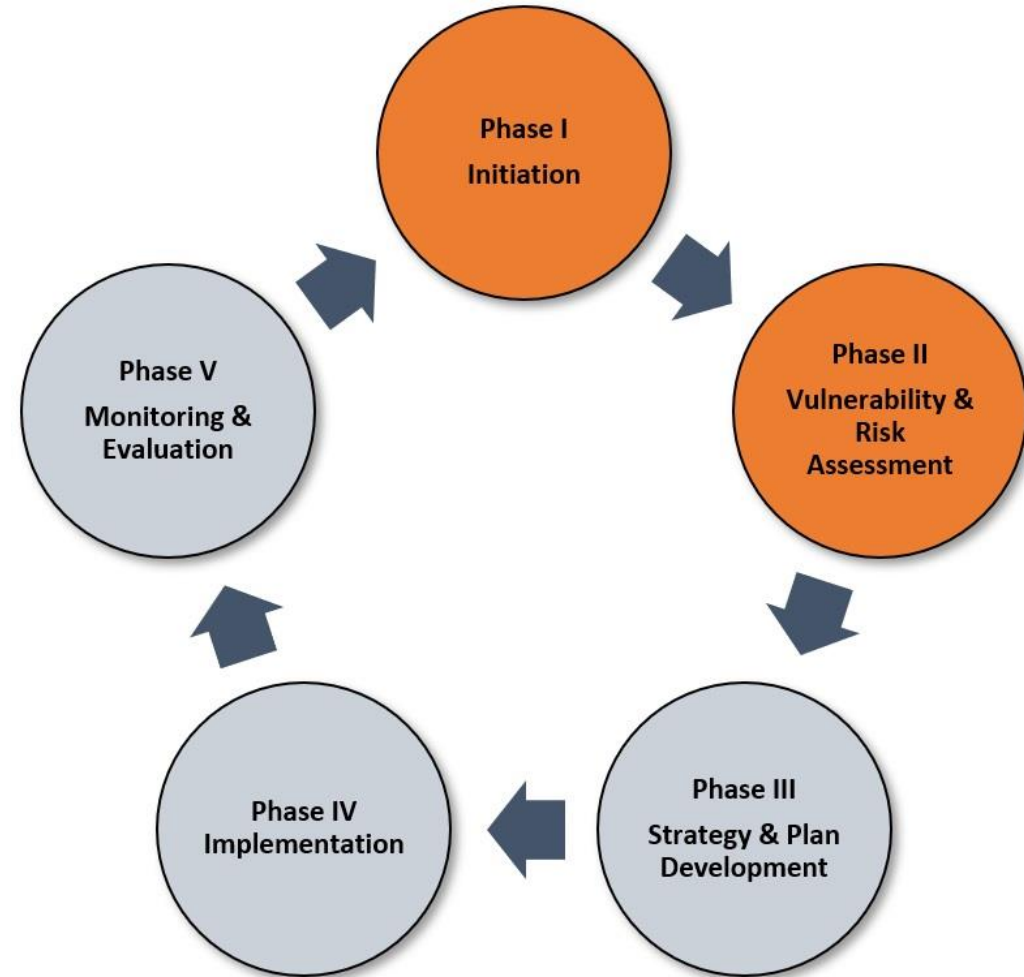
September 2020 – February 2021

1. Recruit and hire staff
2. Negotiate contract
3. Convene advisory groups
4. Host kickoff meetings

## Phase II – Vulnerability & Risk Assessment

February - July 2021

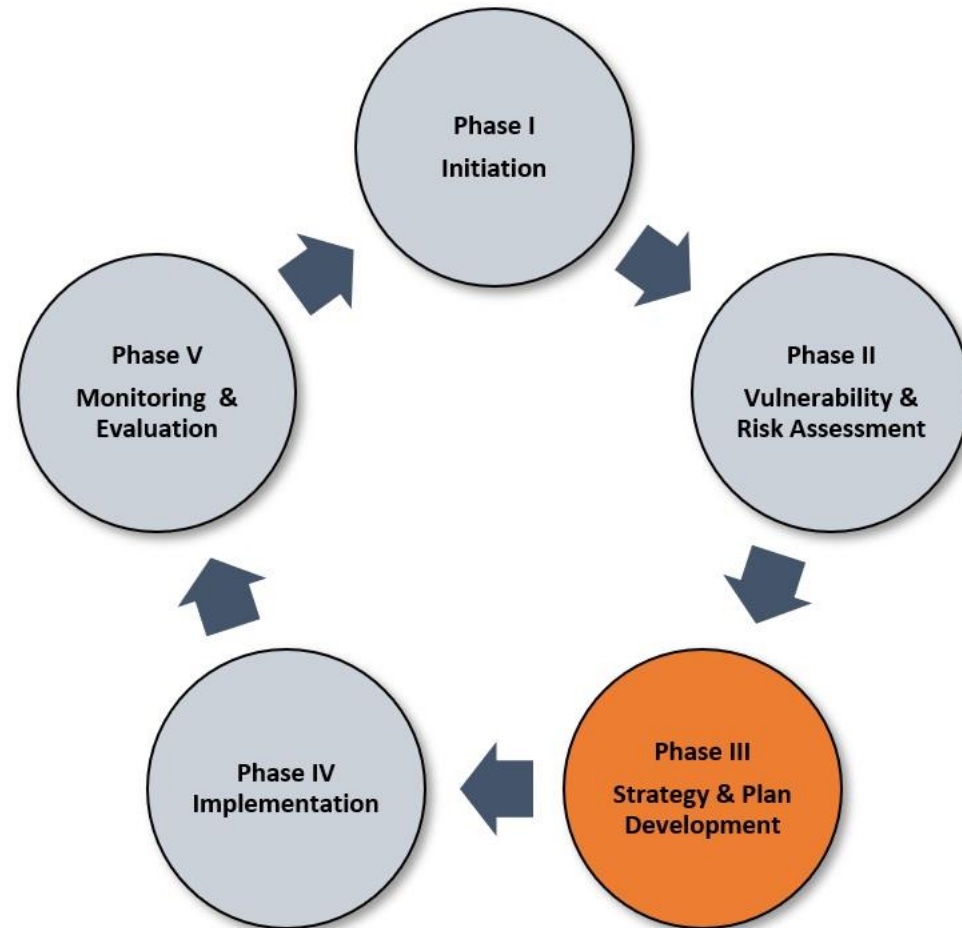
1. Develop climate projections for Fairfax County
2. Identify climate vulnerabilities and risks across sectors, communities
3. Audit existing policies and plans
4. Identify community-wide priorities





# Proposed Framework & Timeline (continued)

*Conditional on Board approval of resources, additional staff and ability to ride COG contract*



## Phase III – Strategy & Plan Development

May 2021 – June 2022

1. Develop, assess and prioritize climate adaptation and resilience strategies using stakeholder input
2. Develop implementation roadmap, outreach materials
3. Develop Climate Adaptation & Resilience Plan
4. Seek stakeholder, community feedback
5. Finalize plan, incorporating feedback
6. Seek plan approval

# Abridged Schedule

	2021											2022						
	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J
<b>Adaptation and Resilience Plan Kick-Off Meetings</b>	█																	
<b>Vulnerability and Risk Assessment</b>	█	█	█	█	█	█												
<b>Strategy and Plan Development</b>				█	█	█	█	█	█	█	█	█	█	█	█	█	█	█
<b>BOSEC Review and Endorsement of Final Report</b>																	█	
<b>Adoption by the Board of Supervisors</b>																		█

# Adaptation & Resilience Plan Development

## *Required Resources and Services*

- An estimated **\$640,000\*** in FY 2020 Carryover funding is required to procure contractual services. These services will include:
  - Technical analysis & plan development
    - Vulnerability & risk assessment
    - Strategy development & evaluation
    - Publication of technical report & supporting documents
  - Community outreach
    - Facilitation of public meetings
    - Development of online resources

*\*Estimated cost of contractual services is tied to proposed framework, timeline*

- An additional **\$371,400.75** in annual funding is required to provide for two new staff positions within the OEEC. Staff will:
  - Include a Division Manager, Climate and Resiliency Services (S31), and a Senior Community Specialist (S29)
  - Oversee and facilitate plan development and implementation

# Glossary

- **BOSEC** – Board of Supervisors Environmental Committee
- **CECAP** – Community-wide Energy and Climate Action Plan
- **COG** – Metropolitan Washington Council of Governments
- **DIT** – Dept. of Information Technology
- **DMB** – Dept. of Management and Budget
- **DOT** – Dept. of Transportation
- **DPD** – Dept. of Planning and Development
- **DPWES** – Dept. of Public Works and Environmental Services
- **DVS** – Dept. of Vehicle Services
- **FCFRD** – Fairfax County Fire and Rescue Dept.
- **FCHD** – Fairfax County Health Dept.
- **FCPA** – Fairfax County Park Authority
- **FCPS** – Fairfax County Public Schools
- **FMD** – Facilities Management Dept.
- **FY** – Fiscal year
- **GHG** – Greenhouse gas
- **GMU** – George Mason University
- **LDS** – Land Development Services
- **LiDAR** – Light Detection and Ranging
- **NAACP** – National Association for the Advancement of Colored People
- **NOVEC** – Northern Virginia Electric Cooperative
- **NVRC** – Northern Virginia Regional Commission
- **NVSWCD** – Northern Virginia Soil and Water Conservation District
- **OEEC** – Office of Environmental and Energy Coordination
- **OEM** – Office of Emergency Management
- **VDCR** – Virginia Dept. of Conservation and Recreation
- **VDEM** – Virginia Dept. of Emergency Management
- **VDEQ** – Virginia Dept. of Environmental Quality
- **VDOT** – Virginia Dept. of Transportation
- **WMATA** – Washington Metropolitan Area Transit Authority