

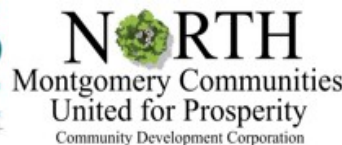
Acting on Climate Together to Make



and Montgomery County More Resilient

Community Driven Climate Action Plan Duck Hill, MS

MONDAY, MARCH 9, 2020



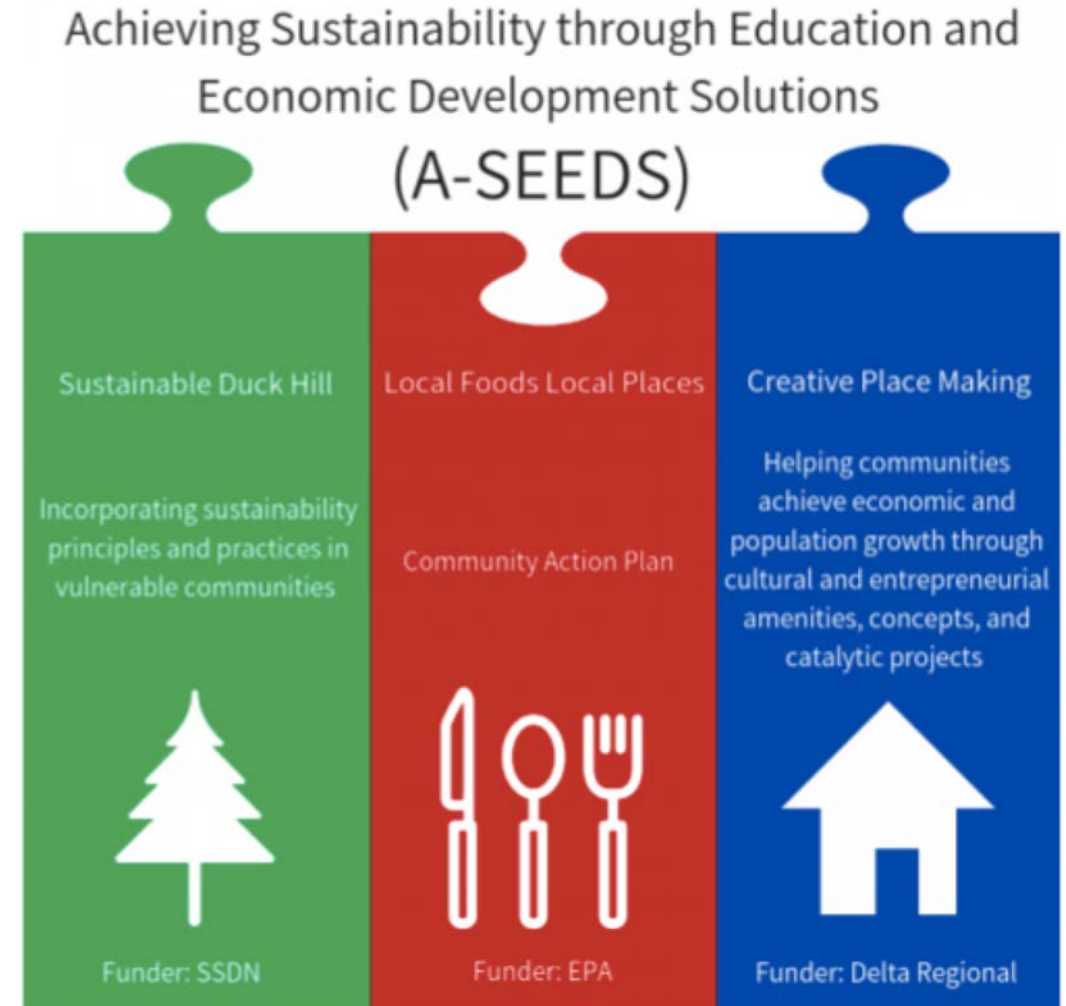


Background

Achieving Sustainability through Education and Economic Development Solutions (**A-SEEDS**) Initiative is a comprehensive and holistic model to make Duck Hill, MS a more sustainable and resilient city that leads to a healthy community with economic growth opportunities.

Project Components:

- Sustainable Duck Hill
- Local Foods Local Places
- Creative Place Making

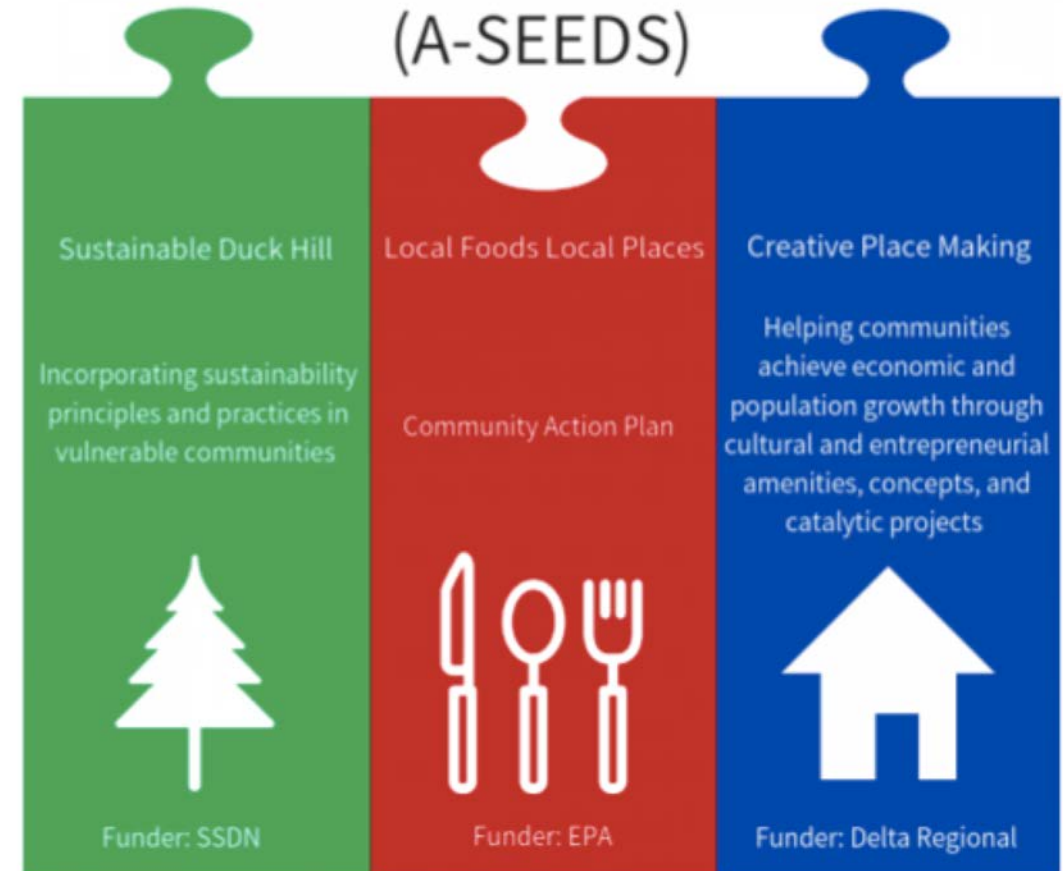




Background



Achieving Sustainability through Education and Economic Development Solutions (A-SEEDS)





Mission: To create a robust future in the face of climate change

How? Providing support, training, and assistance to make planning and management less vulnerable.

www.EcoAdapt.org





Project Overview

The **Duck Hill, MS Draft Community Driven Climate Action Plan** was derived from :

- Results of a series of workshops from September 26-27, 2018
- Community surveys that were collected from May-October, 2018
- Adaptation Strategy Workshops during July 26 & 27, 2019



Project Overview

Climate vulnerability assessments provide two kinds of information:

1. They identify which resources are likely to be most affected by changing climate conditions, and
2. They improve understanding as to why these resources are likely to be vulnerable.

Community Climate Adaptation Strategies Development provide priority solutions to reduce the vulnerability of a place or person while prioritizing actions necessary to increase the resilience of the community.

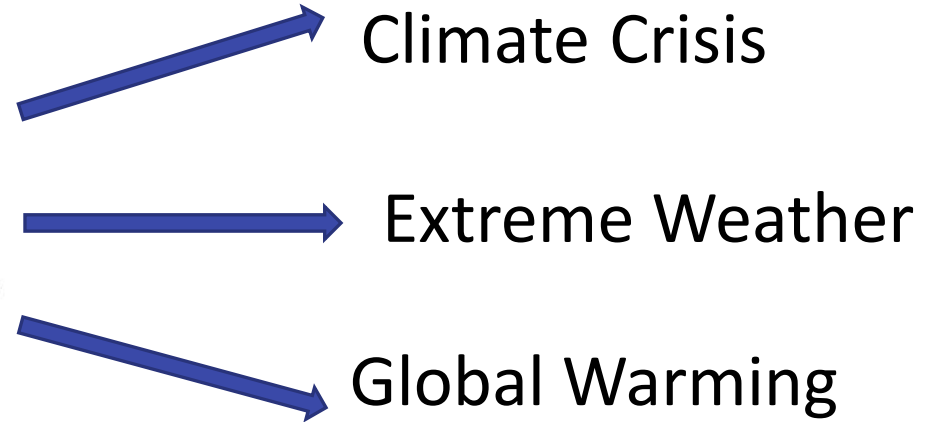
1. Helps identify and develop new or modify old strategies/actions/policy to overcome the vulnerabilities
2. Prioritizes strategies/action to increase resilience to the community.

Project Overview



? WHAT IS CLIMATE CHANGE?

Climate change is caused by burning of fossil fuels, such as oil and coal, which emits greenhouse gases into the atmosphere—primarily carbon dioxide.



THE SAME

? WHAT IS CLIMATE VULNERABILITY?

Climate vulnerability refers to the degree to which people or the things they value are susceptible to, or are unable to withstand, the adverse impacts of climate change. Many factors increase climate vulnerability such as income, age, health, and location.

? WHAT IS ADAPTATION?

Adaptation are actions that help you prepare for and adjust to new (climate) conditions, thereby reducing harm or taking advantage of new opportunities. (National Climate Assessment)



Why Engage in Adaptation Planning?

Adaptation planning **can help:**

- Shift the *way* you are implementing current actions
- Identify new approaches to management
- Prioritize no-regrets actions with high likelihood of success/impact
- Identify cross-resource opportunities that can be used to leverage funding, partnerships, etc.

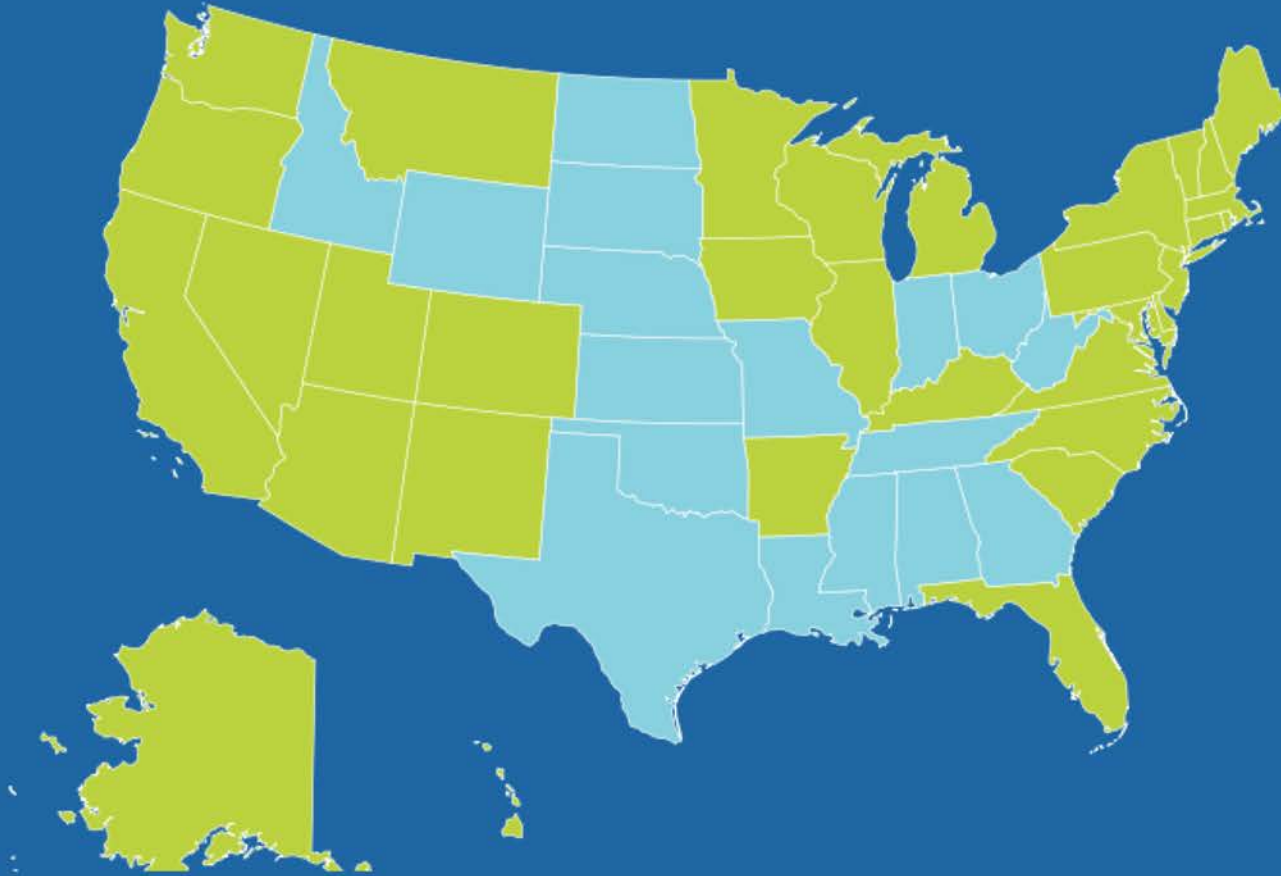


Mississippi does not climate adaptation plan

STATE AND LOCAL CLIMATE

Climate action planning activities in US states, regions, and localities, including projects developed through the Center for Climate Strategies.

Plan Complete
Plan In-Progress
No Plan



Source: <http://www.climatestrategies.us>



A Changing Climate



Temperature



Precipitation



Drought



Extreme Events



* Designed by TownMapsUSA.com





HEAT

Future Projections

- Future heat projections are expected to increase between 2-6 degrees Fahrenheit by 2100.
- It is well documented that air pollution (ground level ozone) increases the amount and severity of respiratory illness and generally increases with air temperature.

RISKS



HEALTH PROBLEMS

- Heat Stroke
- Increased vector-borne diseases (malaria, dengue, zika, ticks etc.)



RESPIRATORY PROBLEMS

- Increased ground-level ozone (an air pollutant) that is harmful to human health
- Increased hospital admissions due to respiratory illnesses, emergency room visits for asthma, and lost school days is expected



INCREASED ENERGY USAGE

- Increased AC use
- Increased percentage of salary dedicated to cooling costs

SOLUTIONS



PLANT MORE TREES

- Trees reduce local heat, provide cooling shade, and help clean local air



REDUCE POLLUTION

- Reduce fireplace and wood stove use, avoid using gas-powered lawn and garden equipment.
- Avoid burning leaves, trash and other materials.
- Decrease usage of cars through car-pooling or biking.



GREEN INFRASTRUCTURE

- Cooler roof technologies (green, white, and reflective roofs)
- Solar panels





Future Projections

- Future rain projections are expected to increase with increased heavy rain events in the Spring, Summer, and Fall causing flash local flooding.
- Important to note is the implications for impacts to human health by the forecast in rising precipitation.

RISKS



FLOODING

- Local flash flooding events
- Ditch and biological treatment systems unable to process nutrients
- Inflow into sanitary and combined sewer



SOIL EROSION

- Difficulties in harvesting crops due to more runoff
- Increased rainfall erosivity and likely less soil moisture



MOLD AND OTHER PESTS

- Increased rain can draw more pests indoors and possible mold causing health problems

SOLUTIONS



GREEN INFRASTRUCTURE

- Plant rain gardens
- Create natural overflow areas for river and creek
- Remove impervious areas (that do not allow water to naturally be absorbed)



REDUCE POLLUTION

- Rotate crops
- Conserve natural areas to absorb rainfall

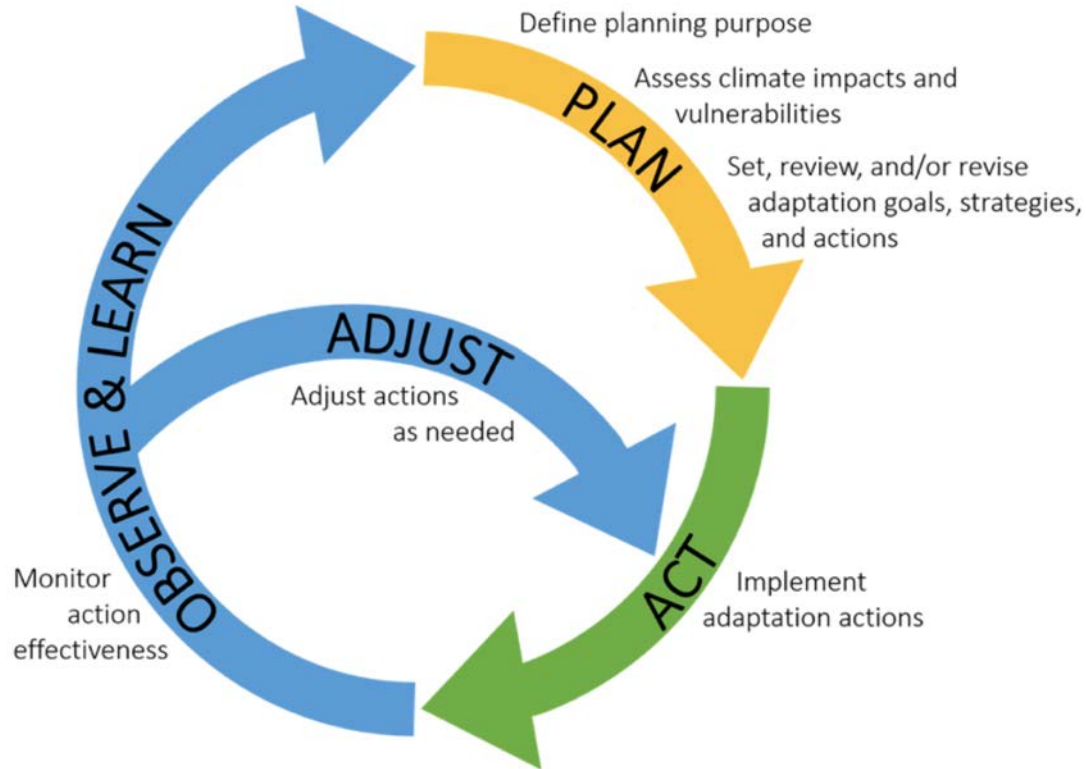


PROTECT INFRASTRUCTURE

- Increase insulation and ventilation in the home
- Install roof gutters and rain barrels



Climate Change Adaptation Cycle



Objectives of a Climate Action Plan

1. Understand connections between extreme weather events and local planning and actions in your community
2. Identify individual and community vulnerabilities
3. Develop and prioritize actions and opportunities that reduce vulnerabilities and reinforce strengths for your community



Preparing for extreme weather/climate can help communities!



- Climate related jobs (restoration, new business)
- Solar energy and energy efficiency programs
- New economic green opportunities (new corps)
- Sustainable homes and diets
- Healthier residents
- Resilient communities



VULNERABILITY ASSESSMENT



Binford High School & Gym (Medium/ High Vulnerability)



Residential Homes (Medium/ High Vulnerability)



Elderly Residents (Medium/ High Vulnerability)



Church/Historical sites (Medium Vulnerability)



Bogue Creek (Low Vulnerability)



Route 51 (High Vulnerability)



Affordable Housing (Medium Vulnerability)



Energy Efficiency (Medium Vulnerability)



Electric Power Infrastructure (High Vulnerability)



Water Utilities Infrastructure (High Vulnerability)



VULNERABILITY ASSESSMENT



Health Care Access/Hospital (**High Vulnerability**)



Open Space and Parks (**Medium Vulnerability**)



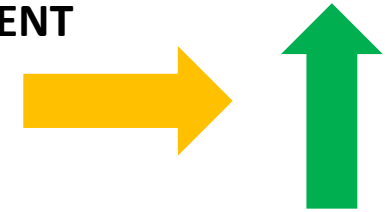
Agriculture (**Medium Vulnerability**)



DRAFT CLIMATE ACTION PLAN

Energy Efficiency.

ABILITY TO INCREASE RESILIENCE
ABILITY TO IMPLEMENT



1. Educate residents on available energy efficiency programs and retrofitting homes
2. Use existing program and resources such as “Low Income Home Energy Assistance Program” (LIHEAP) for weatherization for seniors and veterans





Open Space and Parks

ABILITY TO INCREASE RESILIENCE
ABILITY TO IMPLEMENT



3. Encourage less manicured grass and more natural yards
4. Set up a community land trust and invest in conservation of land and parks
5. Plan community gardens, encourage natural yards and build hoop house for winter growing
6. Build public parks for youth and drive sustainability and economy



DRAFT CLIMATE ACTION PLAN



Agriculture

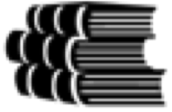
ABILITY TO INCREASE RESILIENCE
ABILITY TO IMPLEMENT



7. Train farmers on sustainable and climate-resilient farming, crop rotation, and other methods to prevent soil erosion
8. Farm locally for food access and healthy options

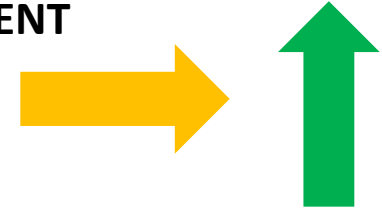


DRAFT CLIMATE ACTION PLAN



Education

ABILITY TO INCREASE RESILIENCE
ABILITY TO IMPLEMENT



9. Teach climate change solutions in schools, libraries, and/or churches to promote local action
10. Work with the community to implement community outreach- “each one reach one” to pass on knowledge of sustainability and climate solutions
11. Implement “Farm to School” programs
12. Start recycling and composting education programs



DRAFT CLIMATE ACTION PLAN



Voting Rights

13. Ensure you are counted in the census

14. Vote on all elections and get an identification card and/or driver's license

ABILITY TO INCREASE RESILIENCE
ABILITY TO IMPLEMENT



DRAFT CLIMATE ACTION PLAN



Bogue Creek

ABILITY TO INCREASE RESILIENCE

ABILITY TO IMPLEMENT



15. Clean up and restore for erosion protection

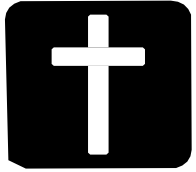
16. Conservation of lands around creeks to prevent sedimentation

17. Dredge creek tributaries and make water reservoirs to prevent flooding during extreme events

18. Map tributaries for public awareness



DRAFT CLIMATE ACTION PLAN



Churches

ABILITY TO INCREASE RESILIENCE



ABILITY TO IMPLEMENT



19. Use churches as short-term cooling centers
20. Connect churches to lead community resilience and connect to the scripture “Green Bible”
21. Develop an emergency plan with churches to help and check on community members after a disaster



DRAFT CLIMATE ACTION PLAN



Cultural Heritage

ABILITY TO INCREASE RESLIENCE



ABILITY TO IMPLEMENT



22. Preserve Duck Hill's cultural heritage by "Sharing Stories" on farming, food preservation, midwifery, and other traditional cultures.
23. Share through technology and youth
24. Promote Duck Hill's history to preserve landmarks and encourage tourism
25. Promote preservation through rural churches



DRAFT CLIMATE ACTION PLAN



Emergency Services

ABILITY TO INCREASE RESILIENCE

ABILITY TO IMPLEMENT



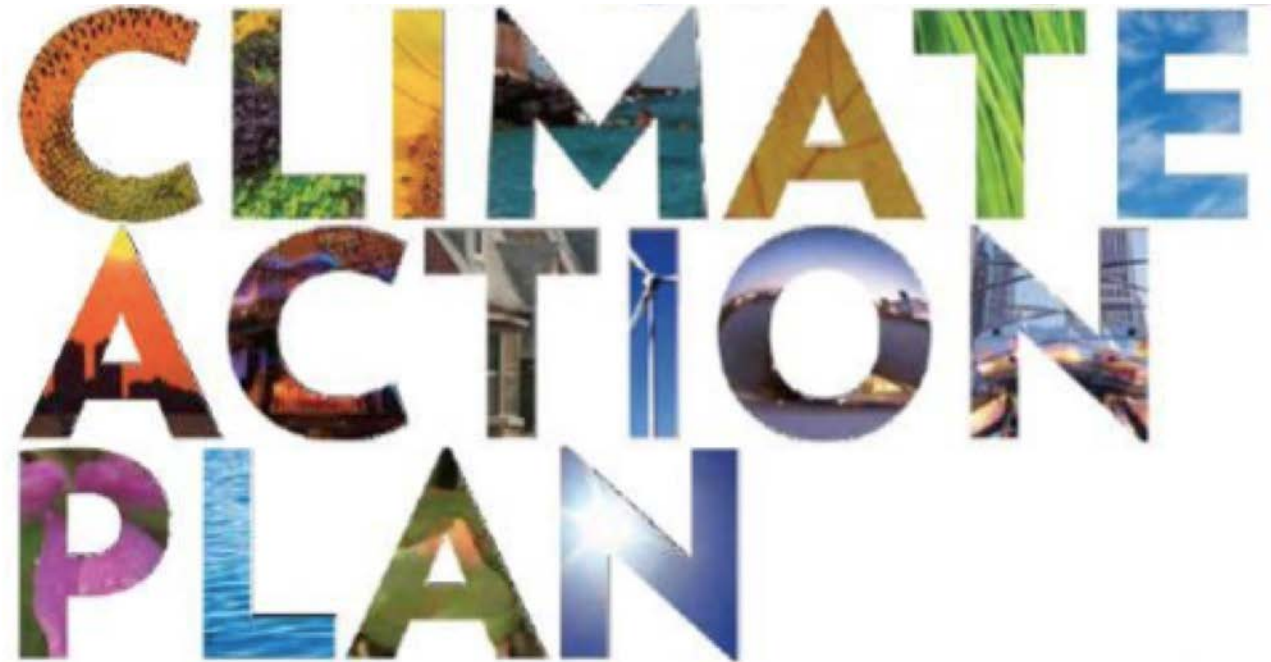
26. Need for a mobile 911 system

27. Developing a county emergency management plan



Next Steps

- Gather comments for the Draft Climate Action and Implementation Plan. (Late Winter/Early Spring 2020)
- Implement recommended actions into comprehensive plans (Spring 2020)



OUR CITY. OUR FUTURE.



Results to the Community

resilience:

“an ability to recover from or adjust easily to misfortune or change.”

—Merriam-Webster Dictionary



Source: Chandra et al, 2011, RAND



QUESTIONS?

Thank you for helping us put the puzzle pieces together!

