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November Climate Action Commission Meeting

Prince George's County Climate Action Plan

November 20, 2020

Agenda

- Welcome & Introductions
- Climate Action Planning
  - Best practices in climate action planning
  - Climate mitigation
  - Climate adaptation & resilience
  - Designing an effective engagement process & an actionable plan
- Discuss Working Group Membership
- Review and Discuss Proposed Approach
- Discussion & Next Steps

Introductions - Cadmus

Exceed client expectations. Engage, challenge, and reward our team.

Grow and prosper. Make a difference.

Since 1983 Employee-owned social good consultancy

33 years of helping our clients address complex challenges in a highly collaborative environment

Started with **2** Co-Founders, now **500+** strong

16 offices

Expertise in sustainability, climate resilience, financing, stakeholder engagement, and serving a variety of clients across the US and internationally

Our Team

Ben Butterworth
Co-Project Director

Debra Perry
Co-Project Director

Farrah Anderson
Project Manager

Dave Hampton
Climate Adaptation & Resilience Lead

Climate Action Planning Overview

Best Practices in Climate Action Planning

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What is a Climate Action Plan?

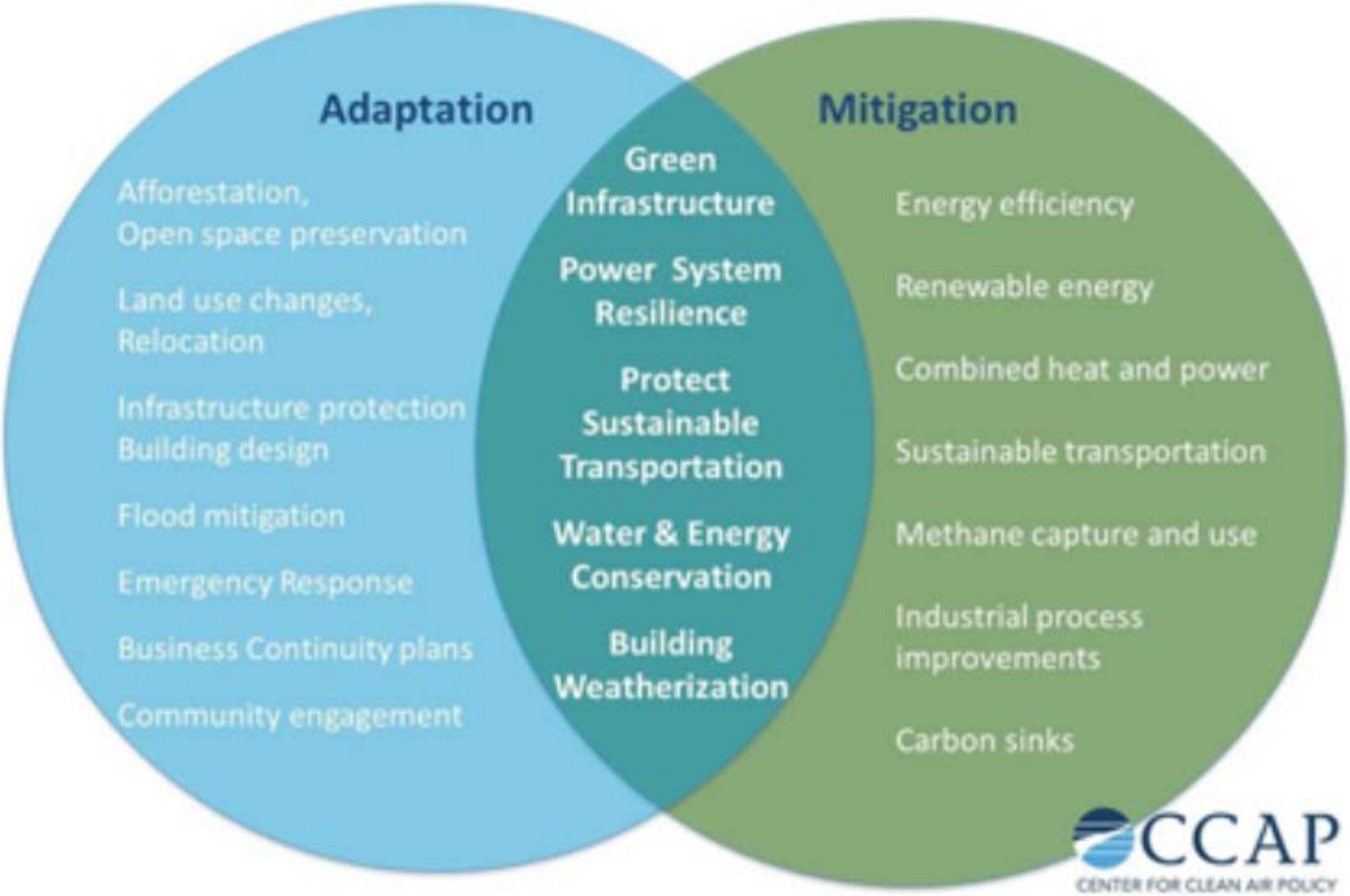
- Comprehensive roadmap that outlines the specific activities a community will take to:
  - **Reduce** greenhouse gas emissions
  - **Prepare** a community for the impacts of climate change

- Actions to reduce emissions and prepare for the impacts of climate change are often structured in a way to simultaneously improve **quality of life** and enhance **economic vitality**

Climate Adaptation vs. Mitigation

Adaptation : Taking steps to live with the effects of global warming

Mitigation: Slowing the rate of global warming



Source: CCAP

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General CAP Process

Overview of high-level CAP planning process for communities as outlined by Local Governments for Sustainability (ICLEI).

Source: Local Governments for Sustainability (ICLEI)

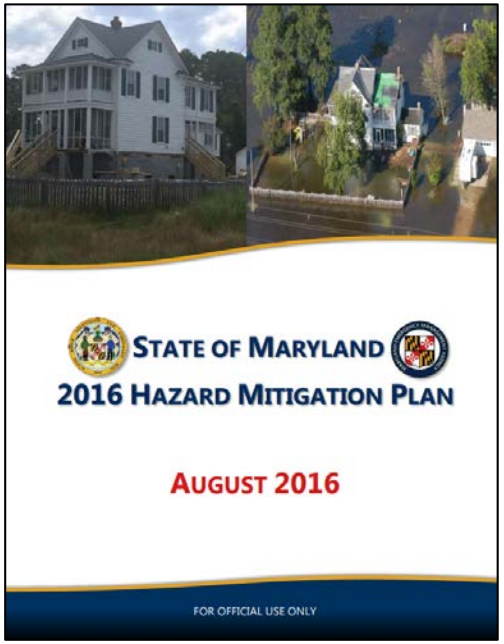
Global and Regional Context

- **Global:**
  - Paris Agreement adopted in 2015
  - *Keep the global temperature rise this century well below 2 degrees Celsius above pre-industrial levels.*

Source: UN News

- **Maryland:**
  - Greenhouse Gas Emissions Reduction Act of 2009 (GGRA)
    - 25% reduction below 2006 levels by 2020
    - 2015 update: 40% below 2006 levels by 2030
  - 2019 GGRA Draft Plan and 2016 Hazard Mitigation Plan

- **Metro Washington:**
  - MWCOG Climate and Energy Action Plan (2020)
    - 50% below 2005 levels by 2030
    - Becoming a Climate Ready Region and making significant progress to be a Climate Resilient Region by 2030



Source: Maryland Emergency Management Agency

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Role of Local Jurisdictions

- **Why is Climate Action Plan needed at County level?**
  - Tailored to needs of local community
  - Tailored to goals of local community
  - Identifies actions and implementation steps within control of stakeholders in local community

- **Lack of Federal Leadership**
  - 2017: U.S. ceased all participation in the Paris Agreement
  - County Climate Coalition, We Are Still In, Global Covenant of Mayors

Examples of Actions by Sector

Example of types of actions by sector to be considered in a CAP from UN Habitat For A Better Urban Living

SECTORAL

Building:
Reduction of energy and water consumption in new and existing homes, businesses and public buildings; incentives for green building; resilience to adverse weather (such as heat and flooding).

Energy:
Demand management (domestic and business); renewable energy generation; distributed energy systems; resilience of infrastructure; emergency plans for supply disruption.

Transport:
Options for mass transit; cleaner fuels; active/non-motorized transport (walking and bicycling); climate proofing transit infrastructure; congestion pricing and other forms of demand management for private vehicles.

Waste:
Reducing, reusing and recycling waste; waste to energy; resilience of landfills to natural disasters.

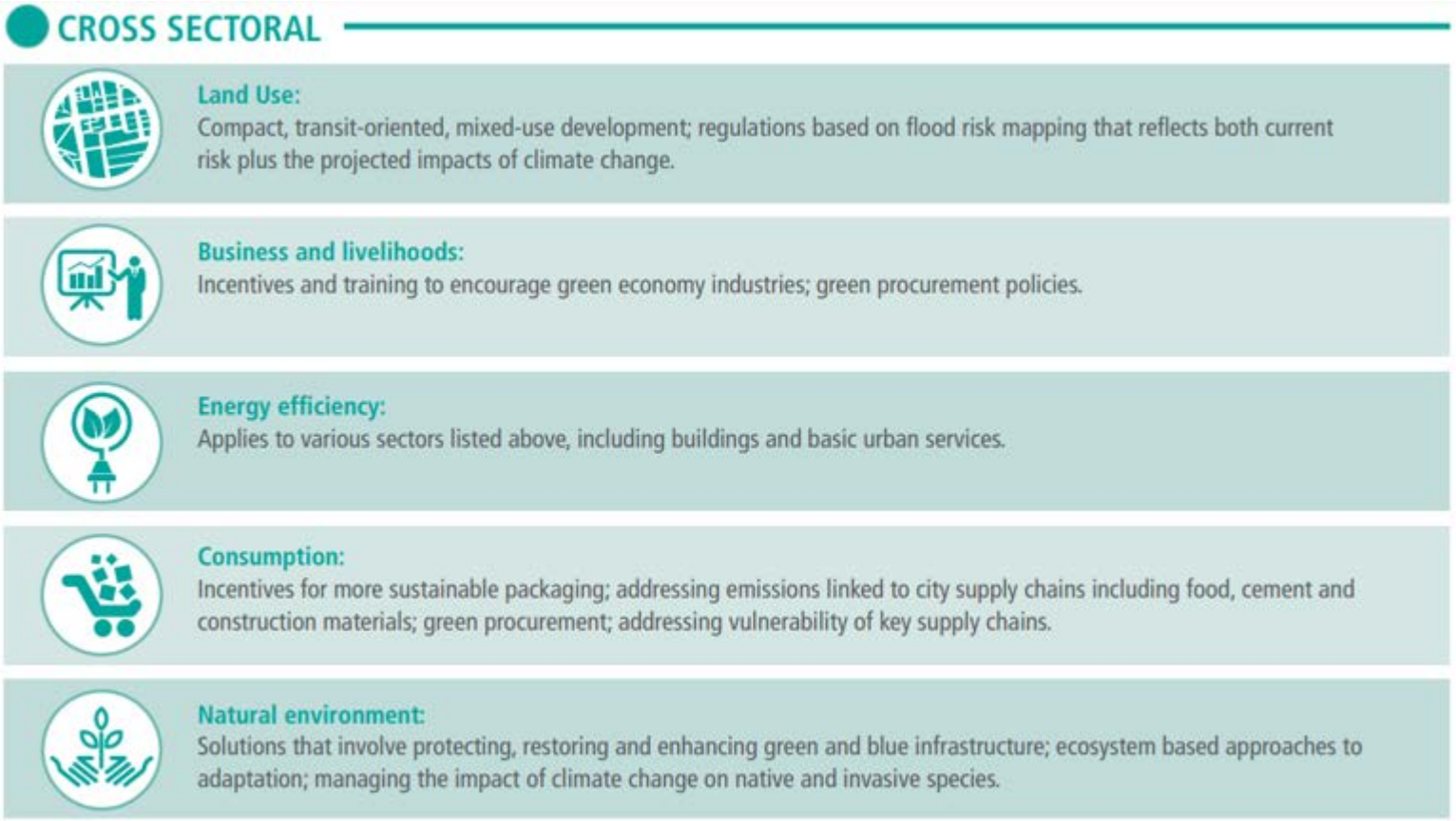
Water:
Demand management (domestic and business); water reuse and recycling; resilience of infrastructure; energy efficient water treatment; emergency plans for supply disruption.

Health:
Air quality improvement measures, including reductions of short lived climate pollutants; heat wave (or cold snap) health action plans; prevention of spread of diseases affected by climate change.

Source: UN Habitat

Examples of Cross-Sectoral Actions

Example of cross-sectoral actions to be considered in a CAP from UN Habitat For A Better Urban Living



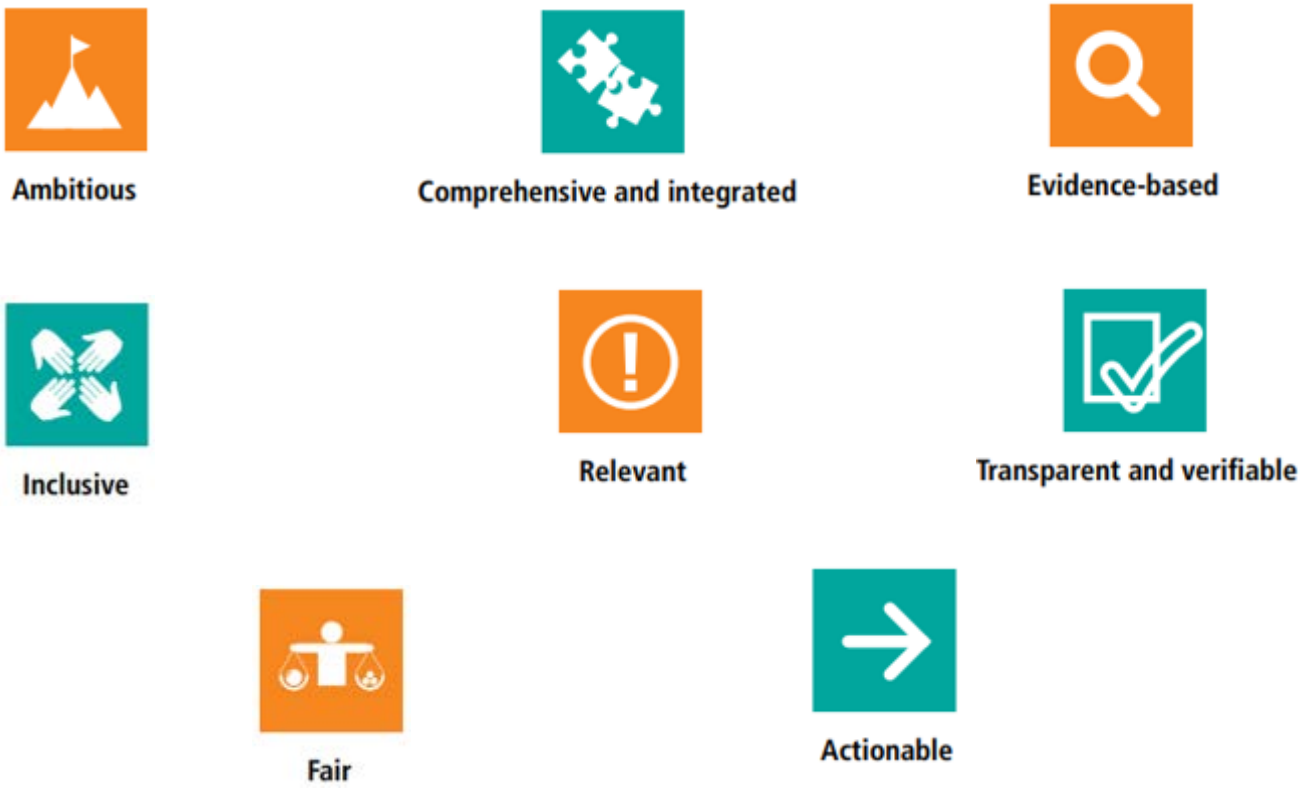
Source: Adapted from UN Habitat

Best Practices in Climate Action Planning

1. Establish a clear CAP development process early
2. Establish guiding principles early
3. Engage community early
4. Understand spheres of control
5. Leverage all approaches to governing
6. Focus the list of actions
7. Identify Implementation Leads

Establish Guiding Principles

Example list of guiding principles for CAP development from UN Habitat For A Better Urban Living



Source: Adapted from UN Habitat

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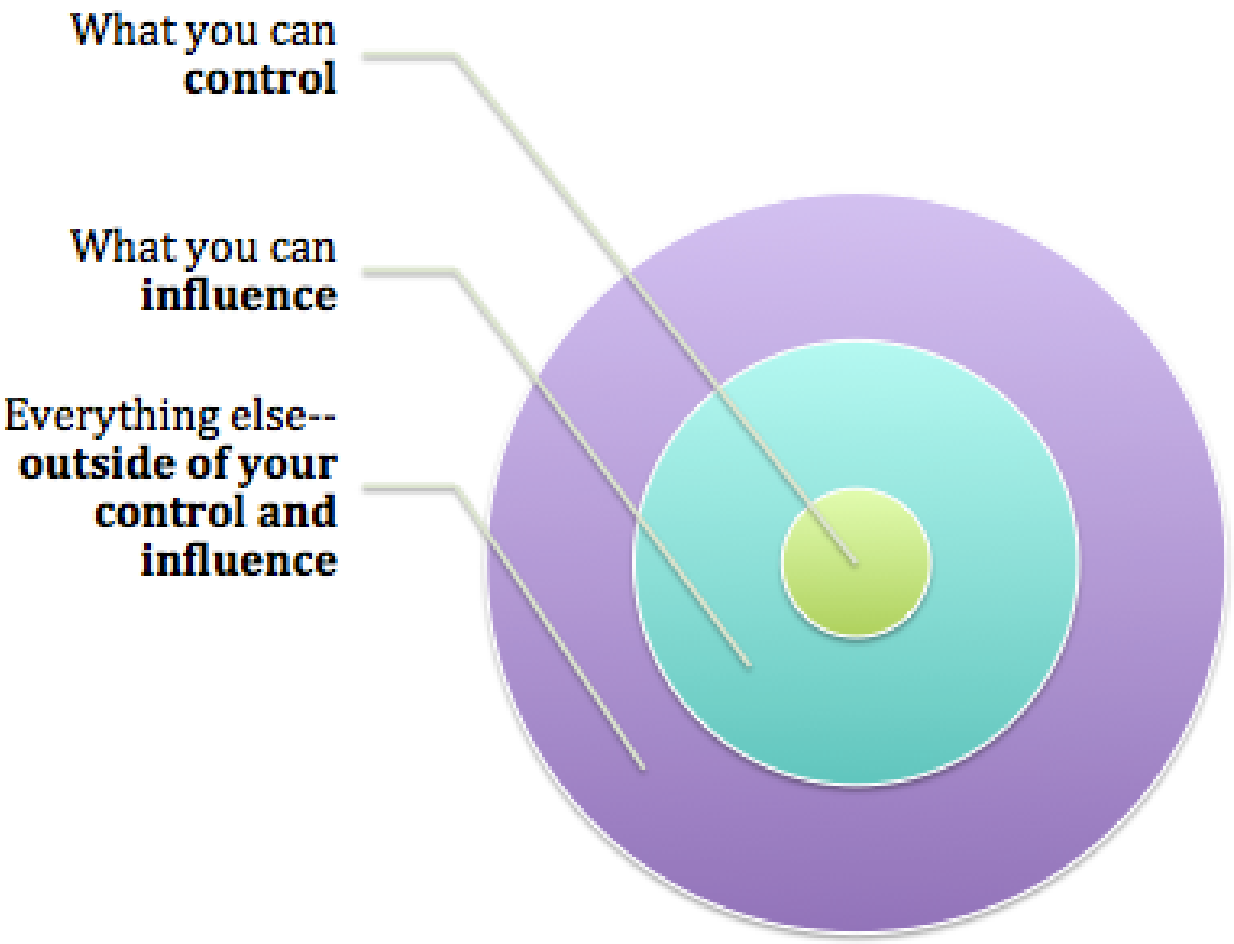
Engage Community Early

Source: City of Sunnyvale

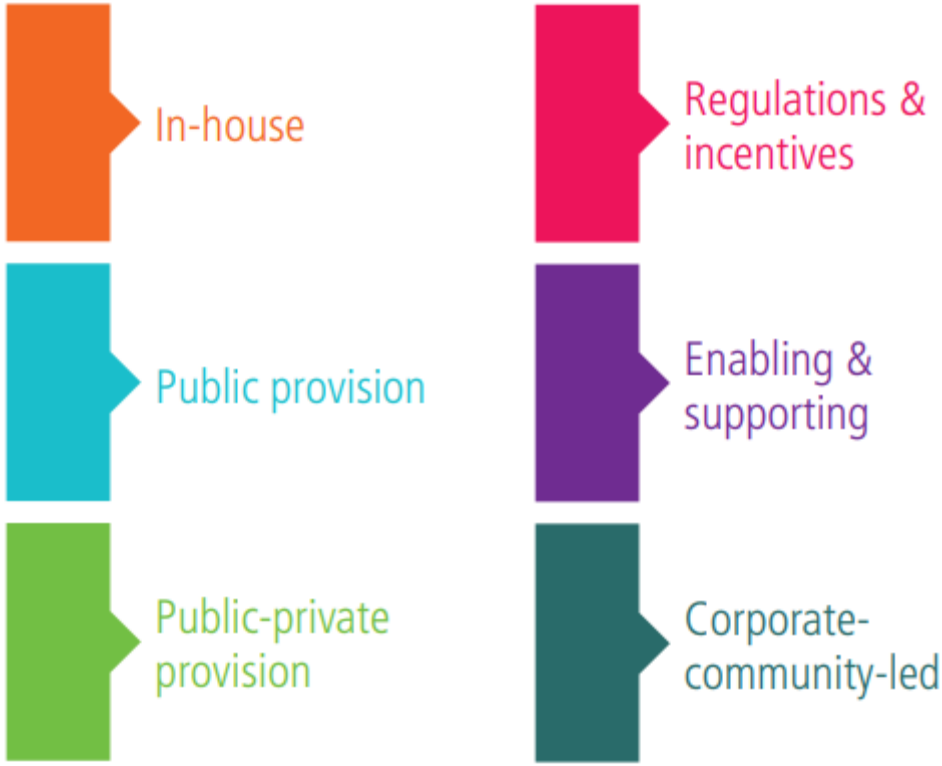
Understand Spheres of Control



Source: Education Week

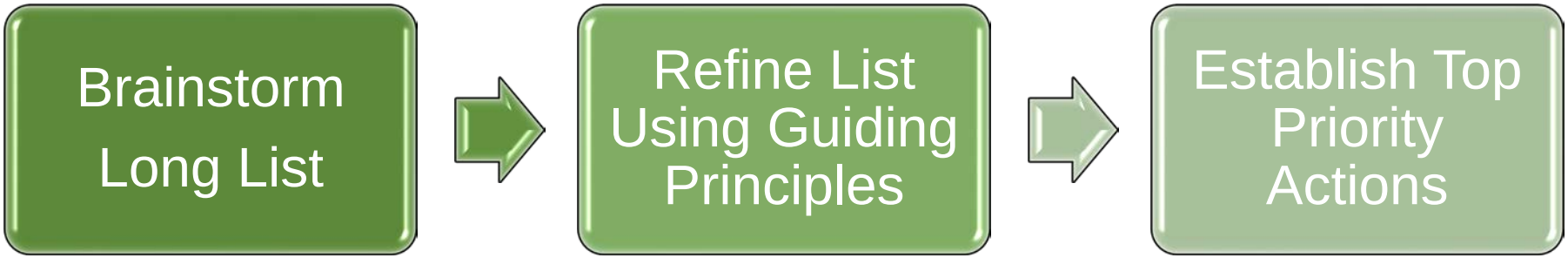
Leverage All Approaches to Governing

- *An effective plan will reflect the various modes of governing that counties and their partners can employ when taking climate action*
- Example list of approaches, policies, and mechanisms for CAP development from UN Habitat For A Better Urban Living



Source: Adapted from UN Habitat

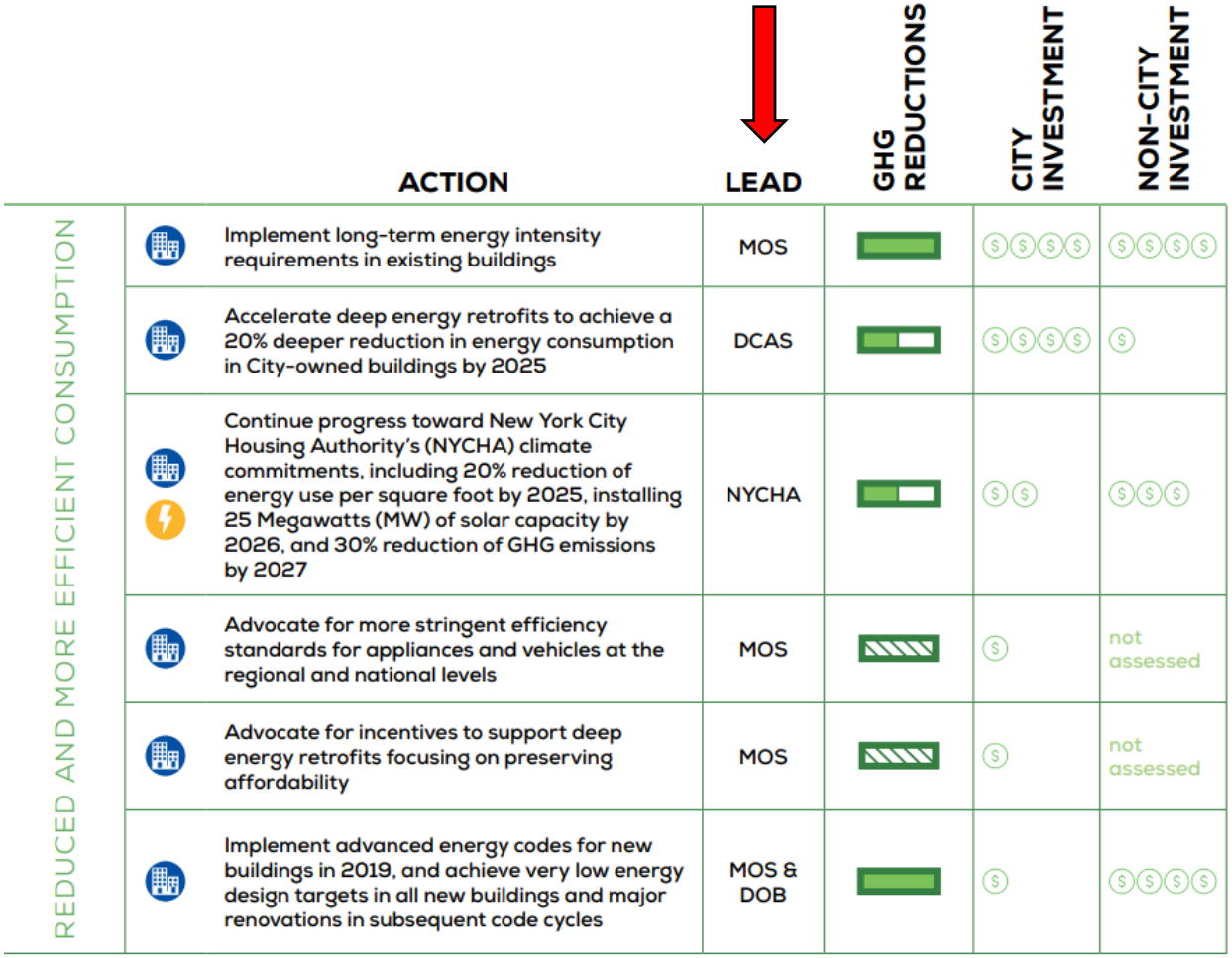
Focus The List of Actions



- **“CAP 1.0 vs. CAP 2.0”**
  - **CAP 1.0:** Laundry list of actions with no clear path to implementation
  - **CAP 2.0:** Focused list of actions with clear implementation leads and steps

Identify Implementation Leads

Example of clearly identifying implementation leads associated with each action from City of New York 1.5^{0}C Plan



	ACTION	LEAD	GHG REDUCTIONS	CITY INVESTMENT	NON-CITY INVESTMENT
REDUCED AND MORE EFFICIENT CONSUMPTION	Implement long-term energy intensity requirements in existing buildings	MOS		$$$$	$$$$
	Accelerate deep energy retrofits to achieve a 20% deeper reduction in energy consumption in City-owned buildings by 2025	DCAS		$$$$	$
	Continue progress toward New York City Housing Authority's (NYCHA) climate commitments, including 20% reduction of energy use per square foot by 2025, installing 25 Megawatts (MW) of solar capacity by 2026, and 30% reduction of GHG emissions by 2027	NYCHA		$$	$$$
	Advocate for more stringent efficiency standards for appliances and vehicles at the regional and national levels	MOS		$	not assessed
	Advocate for incentives to support deep energy retrofits focusing on preserving affordability	MOS		$	not assessed
	Implement advanced energy codes for new buildings in 2019, and achieve very low energy design targets in all new buildings and major renovations in subsequent code cycles	MOS & DOB		$	$$$$

Source: City of New York 1.5^{0}C

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Climate Action Planning Overview

Climate Mitigation

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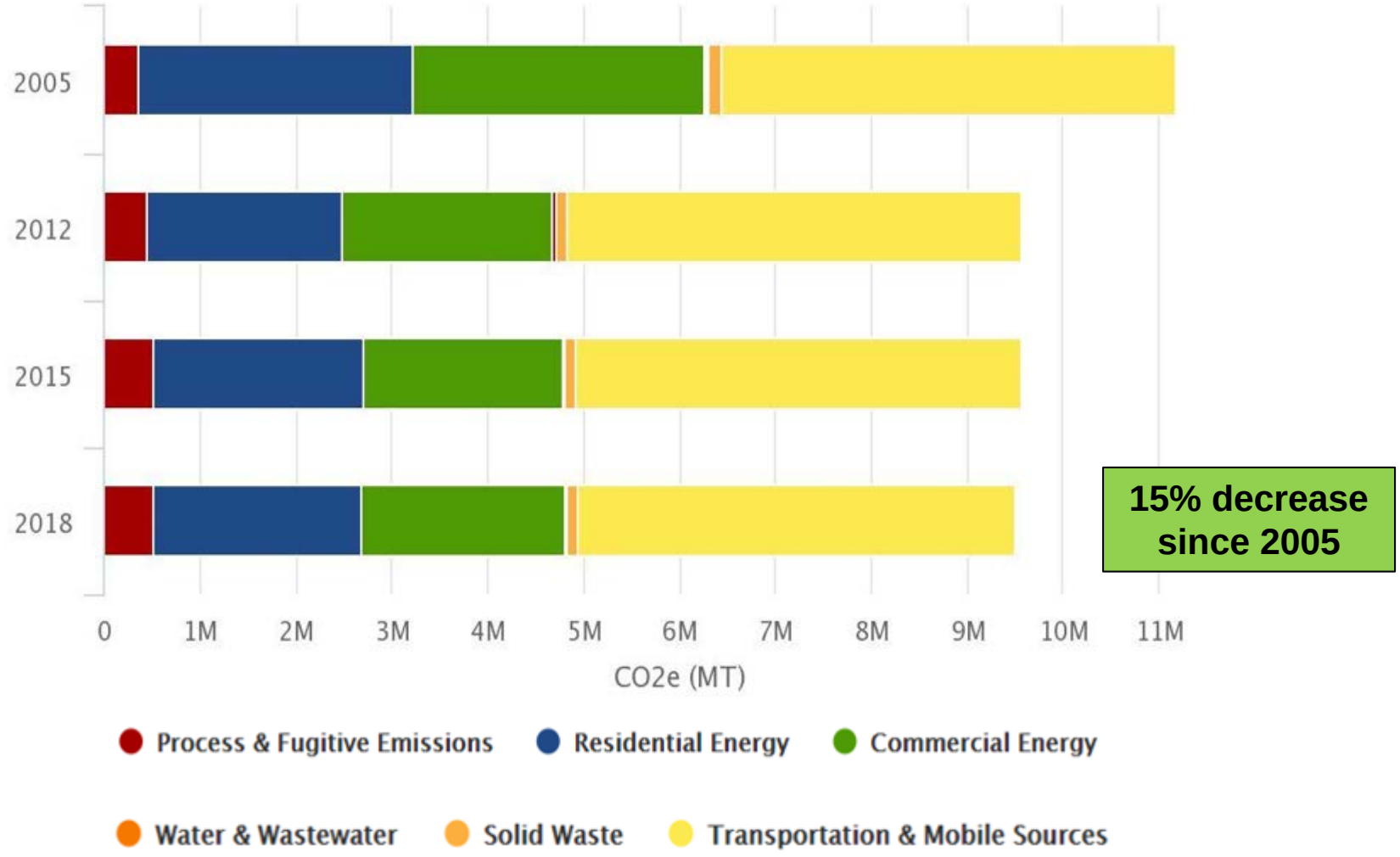
Where Do GHG Emissions Come From in Prince George's County?



15% decrease since 2005

Source: MWCOG CEAP

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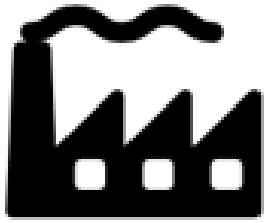
Main Sources of GHG Emissions

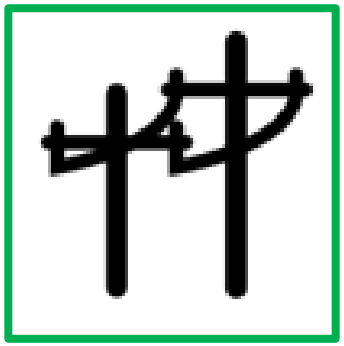
Electricity Generation: Coal + natural gas power plants



Buildings: Natural Gas + Heating Oil to provide space and water heating

Transportation: *Gasoline and diesel to power cars + trucks*

Key Actions at State Level



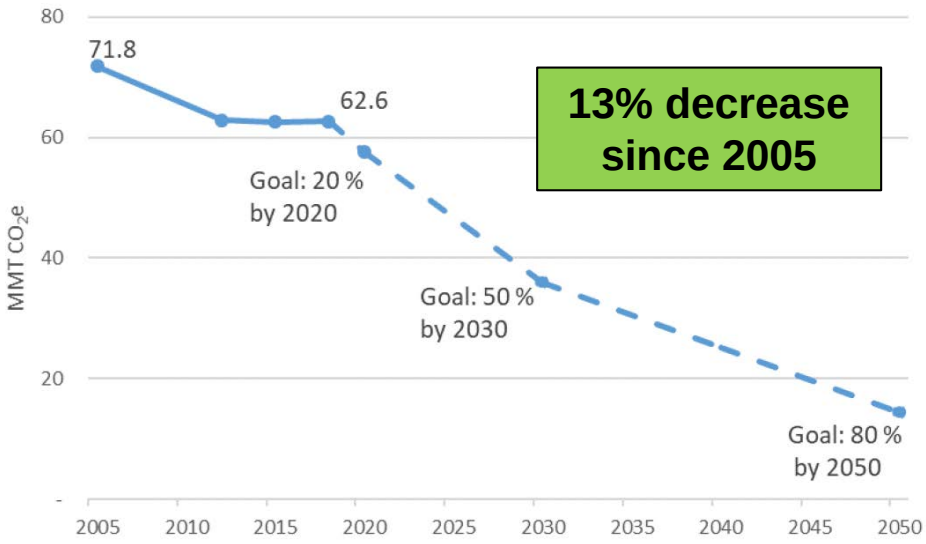
- Renewable Portfolio Standard (RPS): 50% of electricity from renewable sources by 2030

- 1 of 11 states to adopt California's stricter vehicle emission standards (California Low Emission Vehicle Standards III). Sets emissions standards for criteria pollutants as well as GHGs. By 2025:
  - 75% less smog-forming pollutants
  - 34% less GHG emissions
  - 10% of new vehicles sold must be Zero Emissions Vehicles (ZEVs)

GHG Reduction Targets

- ***State:***
  - *In 2015, the Greenhouse Gas Emission Reduction Act (GGRA) was updated with a target of 40% below 2006 levels by 2030*
- ***Region:***
  - *In 2020, the MWCOG Board of Directors approved a reduction goal of 50% below 2005 levels by 2030*
- ***County:***
  - *In 2008, County Council adopted a resolution identifying the goal of reducing countywide GHG emissions 80% below 2008 levels by 2050*

Metropolitan Washington GHG Trends and Goals



Source: MWCOG CEAP

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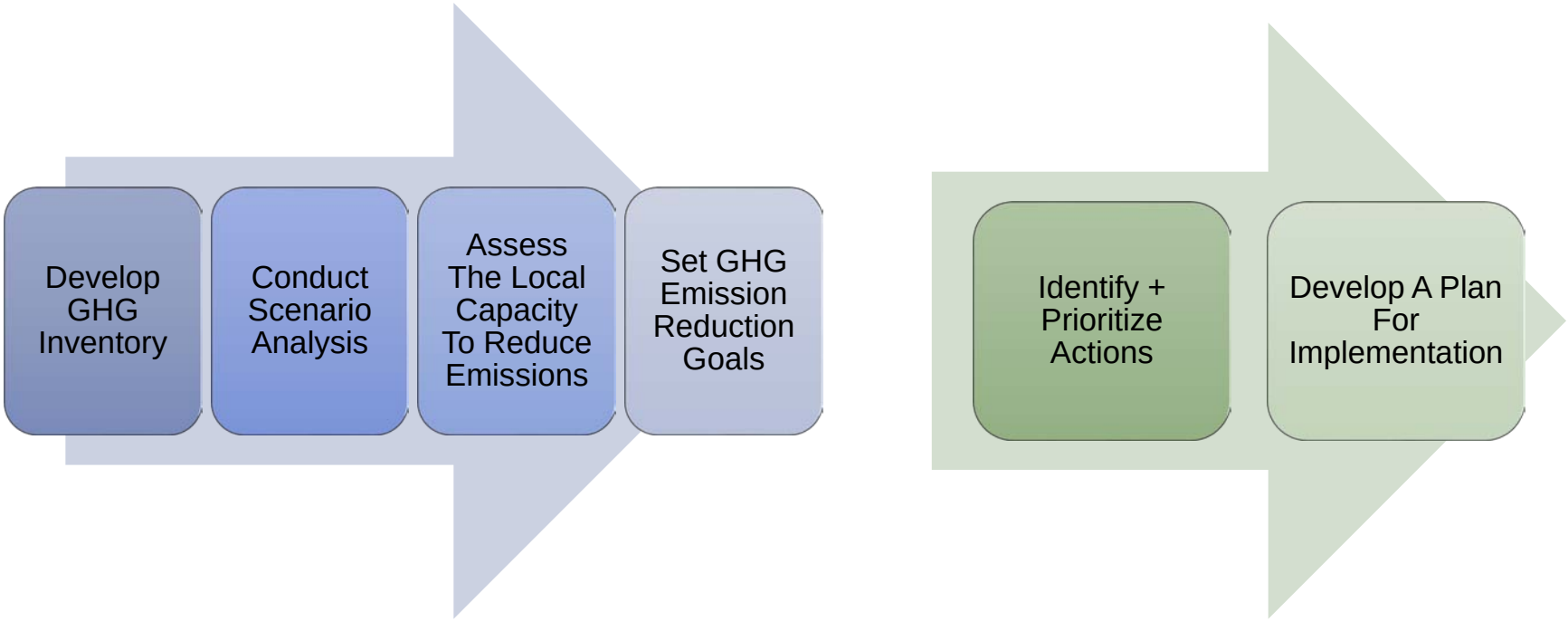
Mitigation Process

Example of high-level steps in CAP mitigation process from UN Habitat For A Better Urban Living



Source: Adopted from UN Habitat

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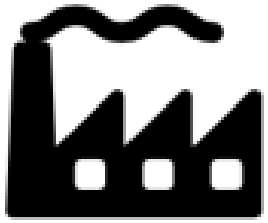
Examples of Mitigation Actions

- Form Community Choice Aggregation
- Establish solar requirements in new construction



- Leveraging existing incentives for energy efficient and/or building electrification
- Adopt stretch codes requiring increased energy efficiency in new construction

- Expanding electric vehicle charging infrastructure on public properties
- Adopt smart growth zoning principles that increase walkability and bikeability of neighborhoods

Climate Action Planning Overview

Climate Adaptation & Resilience

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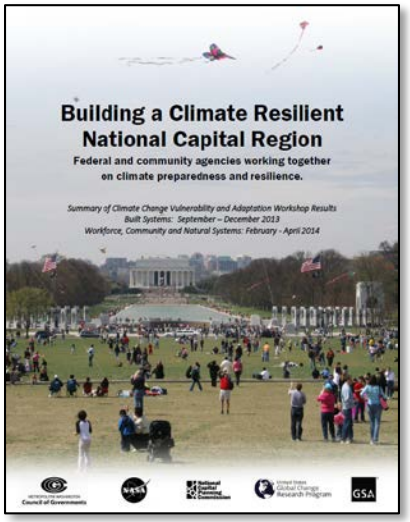
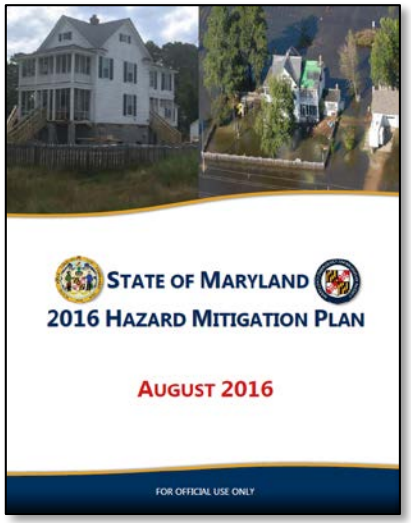
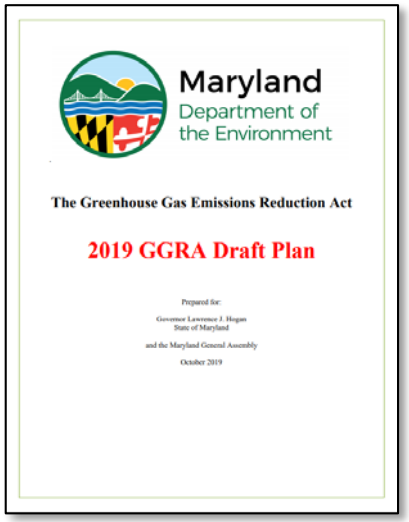
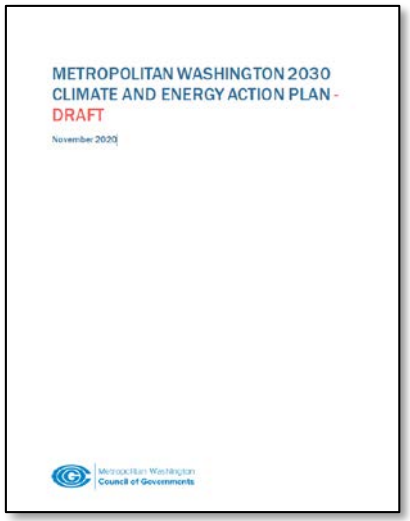
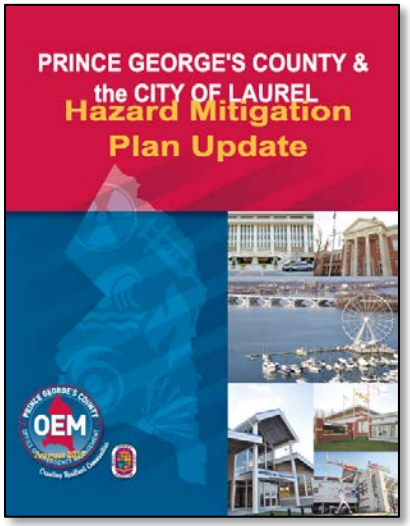
Previous Plans

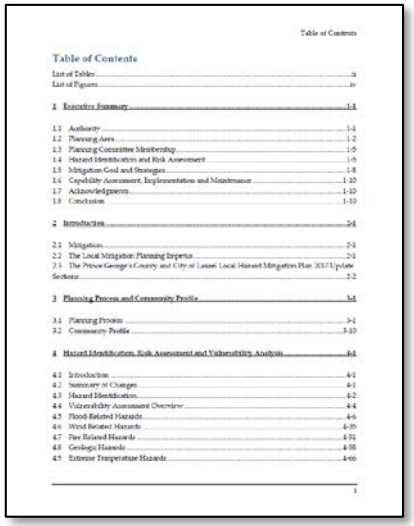












Vocabulary

Risk

likelihood of harm based on both hazard and exposure

risk = hazard x exposure

Table ES-3: Risk Level of Hazards in Metropolitan Washington

Hazard	Probability	Consequence	Risk
Extreme Heat	3	3	9
Drought	2	3	6
Flooding (Flash and Riverine)	3	3	9
Coastal Flooding	3	2	6
Lightning/Thunderstorm	3	2	6
Extreme Winter Conditions	2	3	6

But back to WHAT?

Resilience

capacity of systems to "bounce back" and recover from shock or stress.

- Systems – infrastructure
- Social – at-risk groups
- Environmental

Adaptive capacity

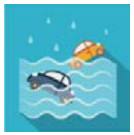
capacity of systems, institutions, humans and other organisms to *adjust* to potential damage, to take advantage of opportunities, or to respond to consequences.

Adaptation

addresses impacts of climate change through preparation and planning to handle the negative results of climate change

Top Climate Hazards / Risks

1. Severe Storms (Flood)
2. Severe Storms (Wind-related)



3. Flooding: Riverine

4. Tornadoes

5. High Winds
6. Hurricanes / Tropical Storms (Wind)

7. Winter Storms / Blizzards

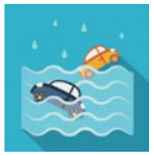
Source: [Prince Georges County HMP]

Others:

- Extreme Heat/Drought
- Lighting/Thunderstorm
- Coastal Flooding, Sea Level Rise

3 feet of projected flooding near Oxon Creek.
Source: [Climate Central]

Example Climate Adaptation Actions by Hazard



Flooding

- **Increase awareness of flood insurance** for properties for vulnerable residents
- **Improve outreach to targeted communities and** around flood prep & recovery

Localized flooding in Prince George's County. Source: WUSA9

Extreme Winter Conditions

- **Retrofit critical facilities and infrastructures with distributed energy resources** to improve resilience during power outages.

Extreme Heat and Drought

- **Expand the tree canopy to mitigate the Urban Heat Island Effect (UHIE),** targeting medium-density residential areas and prioritizing impervious areas.
- **Work with first responders and health institutions to track County heat-related illnesses and fatalities** by collecting zip code, ambulance, and emergency room data during extreme heat events.
- **Promote xeriscaping, rainwater capture, grey water and water-efficient appliances & fixtures.**

Climate Vulnerability & Prioritization Example

Example of risk matrix to assist in climate vulnerability + prioritization from the Community Resilience Building Workshop Guide

Identify and prioritize infrastructural actions.

Example of a **Risk Matrix** filled in with infrastructural actions, priorities, and level of urgency.

Community Resilience Building Workshop Risk Matrix

H-**M**-**L** priority for action over the **S**hort or **L**ong term (and **O**ngoing)
V = Vulnerability **S** = Strength

Features	Location	Ownership	V or S	Top 4 Hazards (tornado, floods, wildfire, hurricanes, snow/ice, drought, sea level rise, heat wave, etc.)				Priority	Time
				Coastal Flooding SLR/Storm Surge	Inland Flooding and Rain Events	Ice and Snow	Wind	H - M - L	Short Long Ongoing
Infrastructural									
Town Campus	Specific	Town	V	Verify risk from flooding events; Identify alternative locations during peak flooding; Verify maintenance plan annually				H	S
Evacuation Routes - Roads	Town-wide	Town/State	V	Install highly visible signage for evacuation routes; Develop and implement communication program				H	S
Electrical Distribution System	Multiple	CL&P/Town	V	Within floodplain area, establish plan to address protection and long-term relocation of equipment		Upgrade transformers; Maintain power line protection zone (tree trimming)		H	O-L
Dams (inland and coastal)	Multiple	Private	V	Prevent possibility of catastrophic dam failure; Identify and remove dams to minimize downstream flooding due to failure				H	L
Railway and State Bridges	Multiple	Amtrak/State	V	Improve communications between parties; Expand green/gray infrastructure and improve bridge structures; Assess vulnerability and prioritize infrastructure improvement list				M	S
State Roads/Intersections	Town-wide	State/Town	V	Coordinate with DOT, volunteers, public works to improve response; Need signage to warn of flooding risk in critical intersections				M	L
Wharves and Shore Infrastructure	Shore	Town-State-Private	V	Pursue comprehensive shoreline management plan; Establish community dialogue on retaining/relocating infrastructure				L	S
Waste Water Treatment Facility	Specific	Town	V	Conduct alternative siting feasibility study; Relocate to low risk area within next 25 years.				L	L
New Ambulance Center	Specific	Town	S	Continue to support services in budget; Add additional staff and vehicle in next annual cycle					Ongoing
Zoning Regulations (maintain large lot size)	Multiple	Town	S	Current building codes control development in risky areas; Consider additional zoning incentives (TDRs) to reduce risk to residential units					Ongoing

Source: Community Resilience Building Workshop Guide

Resilience + Adaptation Actions Assessment Criteria

- Examples of resilience + adaptation assessment criteria used by Cadmus on other projects

• **Data availability: Low-medium-high ranking of availability of data to assess actions**	• **Capacity: Low-medium-high ranking for level of staff effort needed to implement the solution**
• **Robustness:** Low-medium-high ranking of risk of impact from multi-hazards and climate stressors. See Optional Task 1. Climate Vulnerability and Risk Assessment below for additional.	• **Climate equity:** Low-medium-high ranking of applicability for at-risk, vulnerable, and marginalized populations
• **Loss avoidance:** Low-medium-high ranking of potential (economic) loss to/of assets, systems, institutions, and populations. See Optional Task 1. Climate Vulnerability and Risk Assessment below for additional.	• **Political /capacity feasibility:** Low-medium-high ranking by jurisdictional authority, institutional capacity, with a description of identified barriers, if any
• **Metrics of success:** Specific data sets and targets to demonstrate progress toward identified County and partner goals	• **Co-benefits:** Low-medium-high ranking and description or quantification of the impact where possible for co-benefits including air quality, public health, housing affordability, job creation, etc.
• **Classification of proposed solution:** For example, scale, sector, type, local policy, program, incentive, engagement strategy, advocacy action, etc.	• **Cost feasibility:** Low-medium-high ranking based on data available on policy/program cost
• **Key stakeholders and partnership potential:** Low-medium-high ranking collaboration potential and list of possible partners, especially at regional level	• **Adaptation impact potential:** Low-medium-high based on risk mitigation and vulnerabilities addressed
• **GHG and mitigation impact complementarity potential:** Low-medium-high ranking based on GHG and mitigation analyses gleaned from CECAP	• **Timeframe:** For example, shovel-ready, in-progress/pipeline, near-term, medium-term, etc.

Source: Cadmus

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Climate Action Planning Overview

Designing an Effective Engagement Process and Actionable Plan

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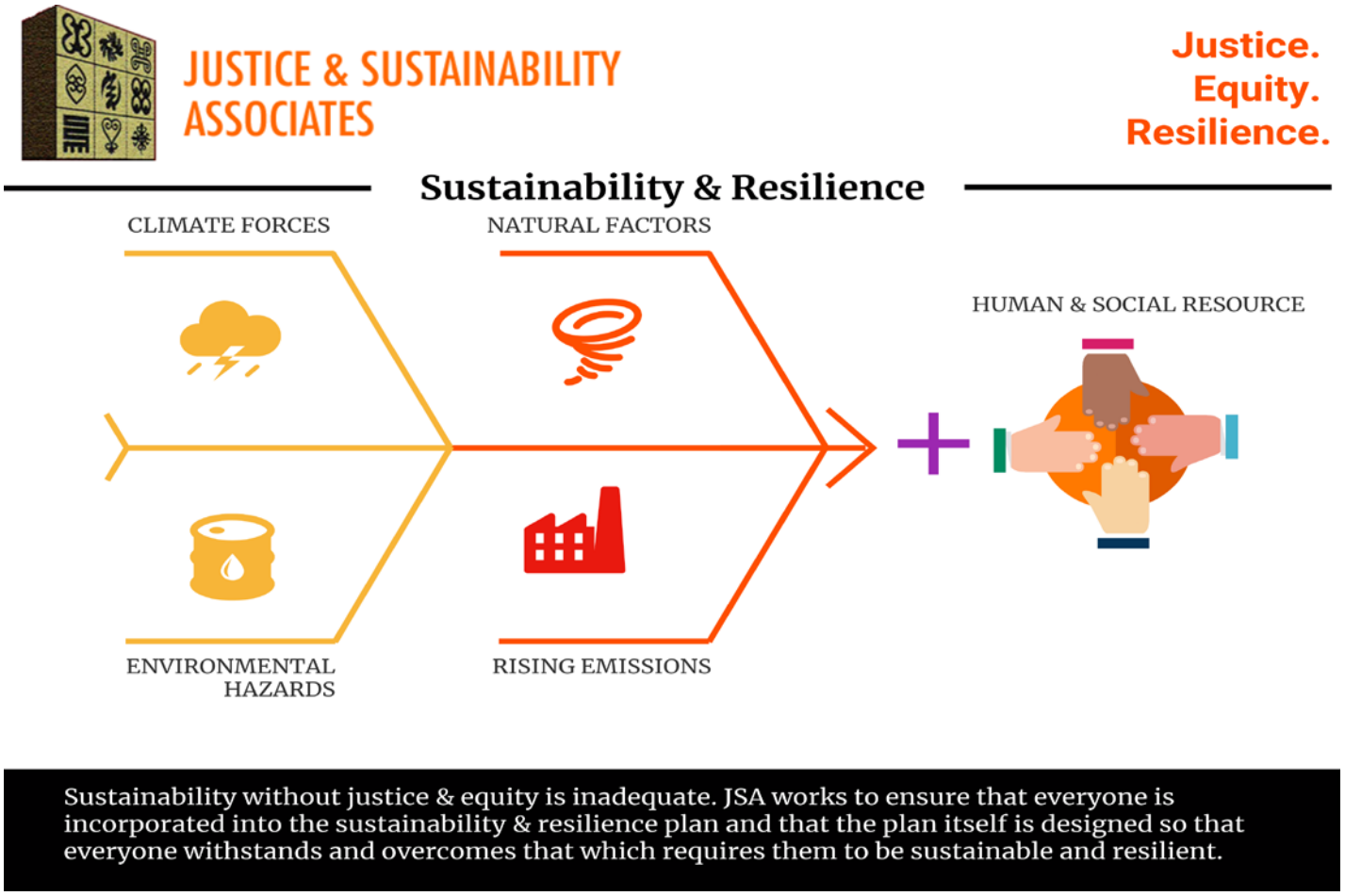
Justice and Sustainability Associates

- Cadmus will be partnering with Justice and Sustainability Associates on this project



Source: Cadmus

Importance of Stakeholder Engagement

Stakeholder engagement is critical to creating a plan that…

…is informed by **local knowledge and experience**

… **reflects the values** of the community

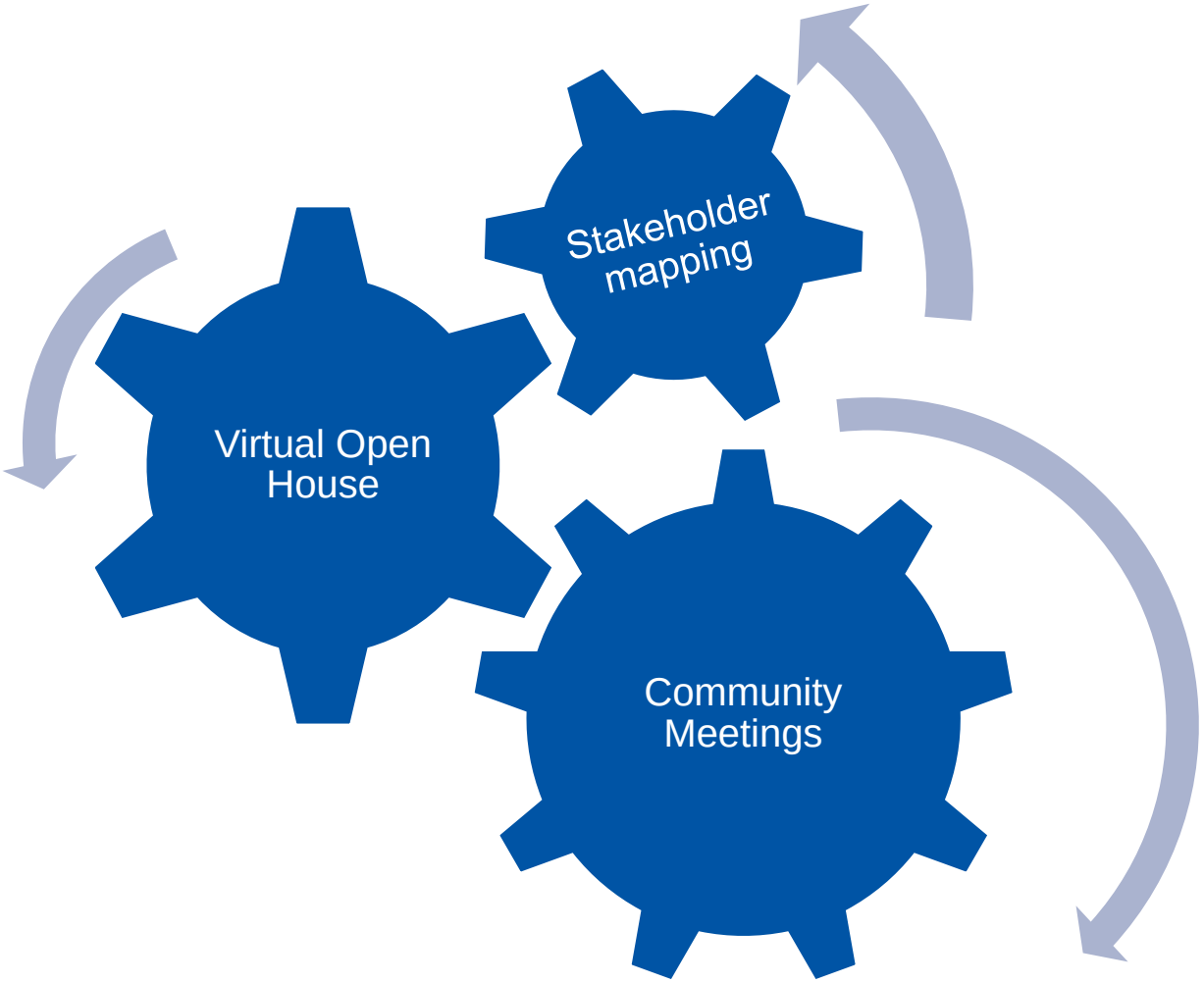
…has stakeholder **buy-in and support**

…leads to **implementation**.

Best Practices in Engagement

- A deliberate approach to **stakeholder mapping & identification**
- **Targeted outreach** to key stakeholders, particularly historically **underrepresented communities**
- The best engagement strategies use **multiple approaches to reach stakeholders**- meetings, workshops, surveys, websites, etc.
- Best to engage stakeholders **early and throughout** the process
- Clearly reflect how **stakeholder contributions** influenced your final plan
- Create opportunities for stakeholders beyond the planning process– **implementation** depends on them!

Elements of our Education & Engagement Strategy



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Discuss Work Group Membership

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Work Groups Structure

- **Adaptation and Resiliency Work Group**
  - Help identify key stakeholders
  - Provide input into potential adaptation & resiliency strategies
  - Help to prioritize strategies and develop final blueprints

- **Mitigation Work Group**
  - Help identify key stakeholders
  - Review findings of GHG inventories and emission modelling
  - Provide input into potential climate mitigation strategies
  - Help to prioritize strategies and develop final blueprints

- **Education, Communication & Outreach Work Group**
  - Lead identification of key stakeholders
  - Review and contribute to engagement strategy
  - Support engagement efforts, including virtual open house and community meetings
  - Help to reflect stakeholder concerns and equity considerations of the CAP & blueprints

Work Groups Structure Cont.

- 6-8 members in each group
- Each group to meet at least 3 times beginning in January
- Groups will help shape the three key aspects of the project, provide input, review drafts, and make recommendations to the Commission
- Cadmus/COG team will play supporting role in facilitating Work Group meetings and providing relevant supporting information

Proposed Project Schedule

Task	Subtask	2020			2021									Meetings
		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	
1: Project Initiation	1.1 Kickoff County Staff													
	1.2 Team Roles + Project Schedule													
	1.3 Commission Kickoff		M	M										2 CMS
2: GHG Inventories, Models, Goals	2.1 Update County-wide + County operations GHG Inventory													
	2.2 Develop Three Emissions Models													
	2.3 Summarize Updated Inventory and Emissions Models													
	2.4 Summarize WG Feedback on Inventory + Emissions Models				M									1 MWG
	2.5 Comm. Meeting: GHG Reduction Goals					M								1 CMS
3: Climate Planning Support	3.1 Identify Draft Climate Actions				M									1 AWG
	3.2 Develop Climate Risk and Vulnerability Assessment (CRVA)						M							1 CRVA
	3.3 Summarize Draft Actions for WG							3M						1 CMS, 1 MWG, 1 AWG
	3.4 Analyze + Prioritize Actions								M					1 CMS
4: Education, Communication, Outreach	4. 1 Identify Outreach Target Groups/Imp. Partners													
	4.2 Develop Outreach Strategies and Programs and Materials				M	M					M			3 OWG
	4.3 Facilitate Community Public Meetings (virtual)					M		M			M			3 Public
5: Reporting	5.1 Progress Reports													
6: Final CAP Report	6.1 Develop Draft CAP										2M			1 MWG, 1 AWG
	6.2 Finalize CAP Technical Report												M	1 CMS

Acronym Key

CMS	Commission
MWG	Mitigation Work Group
AWG	Adaptation Work Group
CRVA	Climate Risk and Vulnerability Workshop
OWG	Education, Communication & Outreach Work Group
Public	Public Meeting

Proposed Approach

Discussion

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Next Steps

County + Consulting Team

- Distribute survey to Commissioners enabling them to rank preference for Working Group membership
- Begin work on government operations GHG inventory + emissions forecast modeling
- Background research on existing County + regional plans and documents
- Begin work on Climate Risk and Vulnerability Assessment (CRVA) process
- Begin work on public engagement plan and develop initial list of outreach target groups and implementation partners

Next Steps Cont.

Next Commission Meeting is Friday, December 18. Agenda items to include:

- Establish guiding principles
- Establish membership and leadership of Work Groups
- Review GHG inventory and projections
- Establish framework for prioritizing actions
- Overview of public engagement plan

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Thank You!
Q&A + Discussion