Energy and Climate Change Action Plan

Discussion and Feedback

Environmental Policy Commission

November 21, 2022

Eco-City Alexandria
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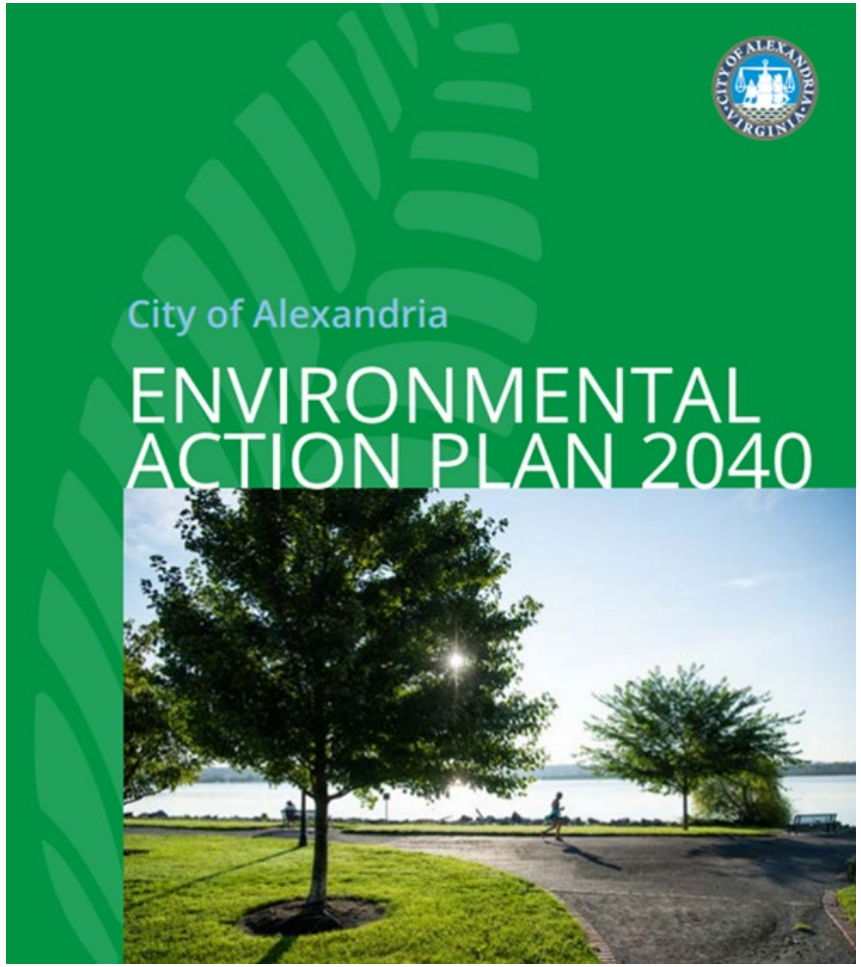
Environmental Action Plan 2040



1 Climate Change

GOAL

Increase the City's preparedness to respond to the impacts of climate change and environmental emergencies

TARGET

Reduce community-wide GHG emissions by 50 percent by FY2030 and 80–100 percent by FY2050 (base year 2005) supported by significant contributions at the state and federal level toward renewable energy and energy efficiency mandates

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Overview & Timeline:
Environmental/Climate Action History

- 2007 Eco-City Alexandria Charter
- 2009 Environmental Action Plan 2030
- 2009 Green Building Policy
- ***2011 Energy and Climate Change Action Plan***
- 2005, 2012, 2015, 2018 Greenhouse Gas Inventories
- 2019 updated Environmental Action Plan 2040
- 2019 updated Green Building Policy
- 2019 City Council Climate Emergency Resolution
- 2021 Energy and Climate Change Task Force and ECCAP update process
- 2022 Office of Climate Action

Energy and Climate Change Task Force

- Environmental Action Plan 2040 1.1.1

  "by FY 2021, establish a multidisciplinary task force to guide an update of the Energy and Climate Change Action Plan"

- 13 members appointed by the City Manager
  - general community members (3)
  - environmental advocates (1)
  - energy, climate, and related technical experts (1)
  - representatives from Alexandria's youth (2)
  - representatives of equity issues (2)
  - Representative representing engagement with Alexandria's businesses and institutional partners (2)
  - Environmental Policy Commission (EPC) representative (1)

Energy and Climate Change Action Plan (ECCAP) Workstreams

1. Energy & Climate Change Task Force
2. Climate Mitigation Planning (*)
3. Heat Vulnerability Assessment (*)
4. Climate Adaptation/Resiliency Guidance (*)
5. Climate Equity Assessment (*)
6. Community Engagement
7. ECCAP Report (*)

City Staffing: 0.25 FTE

- Planning & Process Facilitation
- Staff & Task Force Coordination
- Technical consultant coordination
- Community engagement

Budget:

- $100K for technical consultant

Technical Consultant:

ICF

* Includes technical consultant support

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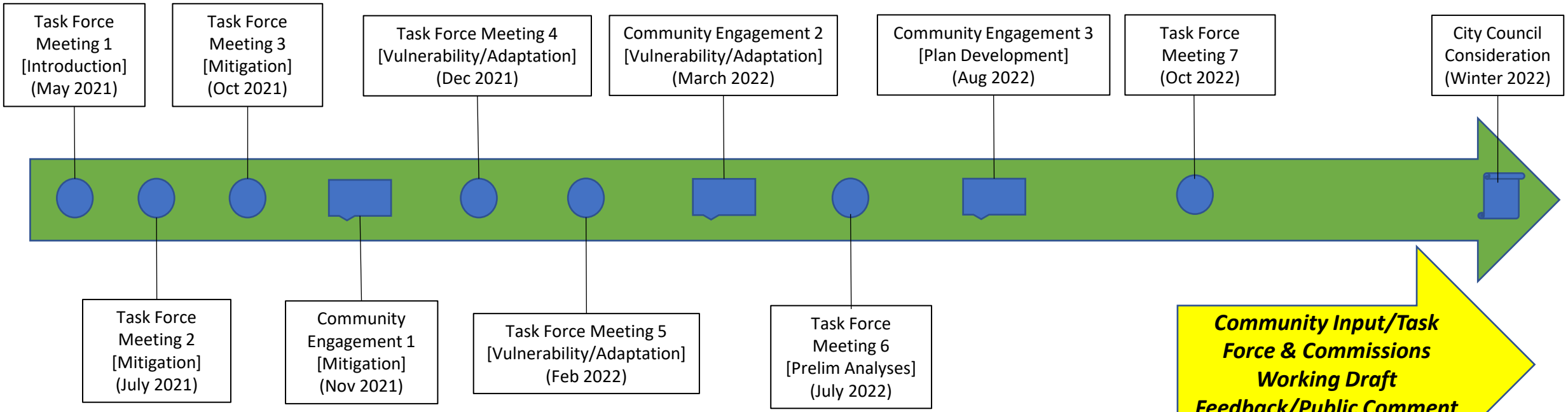
ECCAP Development Process & Timeline



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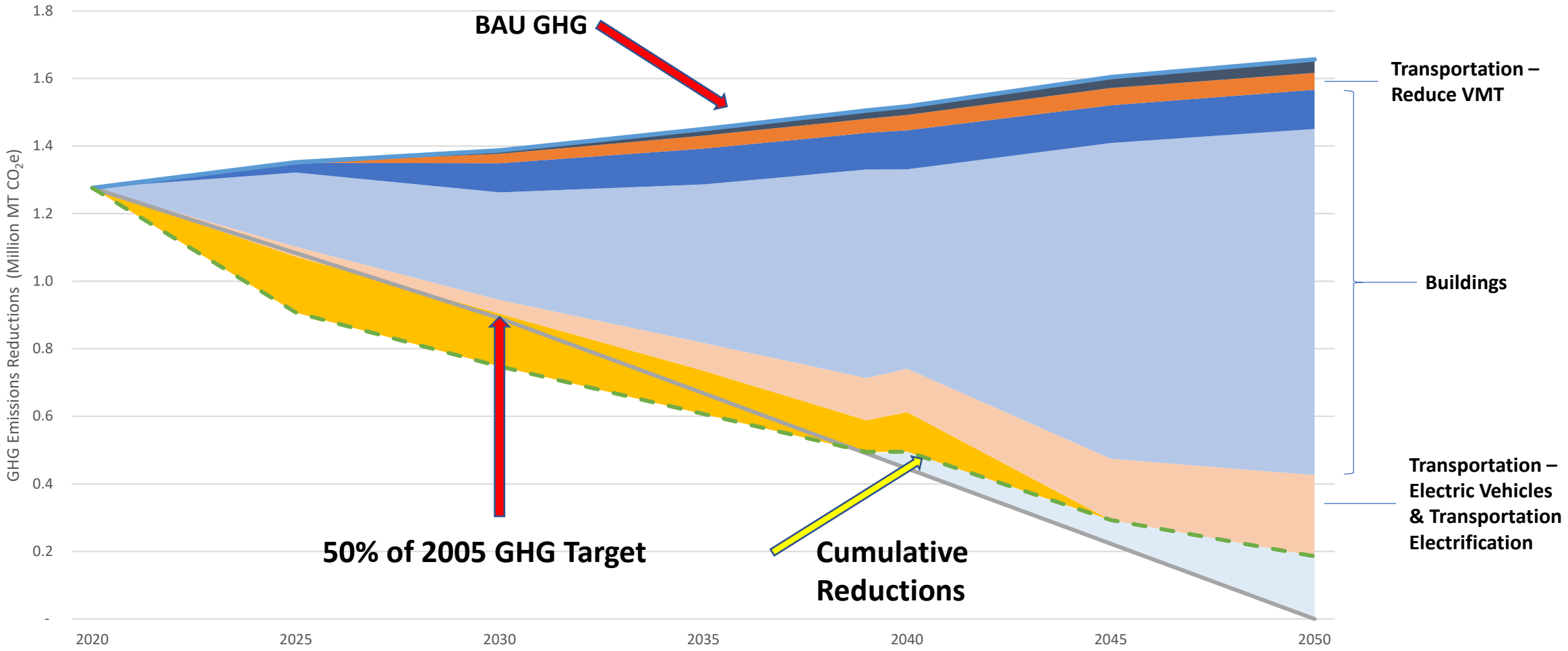
Community-wide GHG Emission Reductions



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Community-wide GHG Emission Reductions

Sectors	2005	2030	2050	2030 (% Reduction 2005)	2050 (% Reduction 2005)
Buildings	1.17	0.64	0.13	46%	89%
Transportation	0.38	0.24	0.05	36%	87%
Waste	0.03	0.03	0.01	23%	85%
Misc* (HFCs, RNG, Aviation, etc)	0.20	0.21	0.04	-9%	78%
Total Emissions	1.78	1.12	0.23	37%	87%
Future Technologies / Advanced Policies**		-0.25	-0.23		
Total Emissions with Future Technologies	1.78	0.87	0.00	51%	100%

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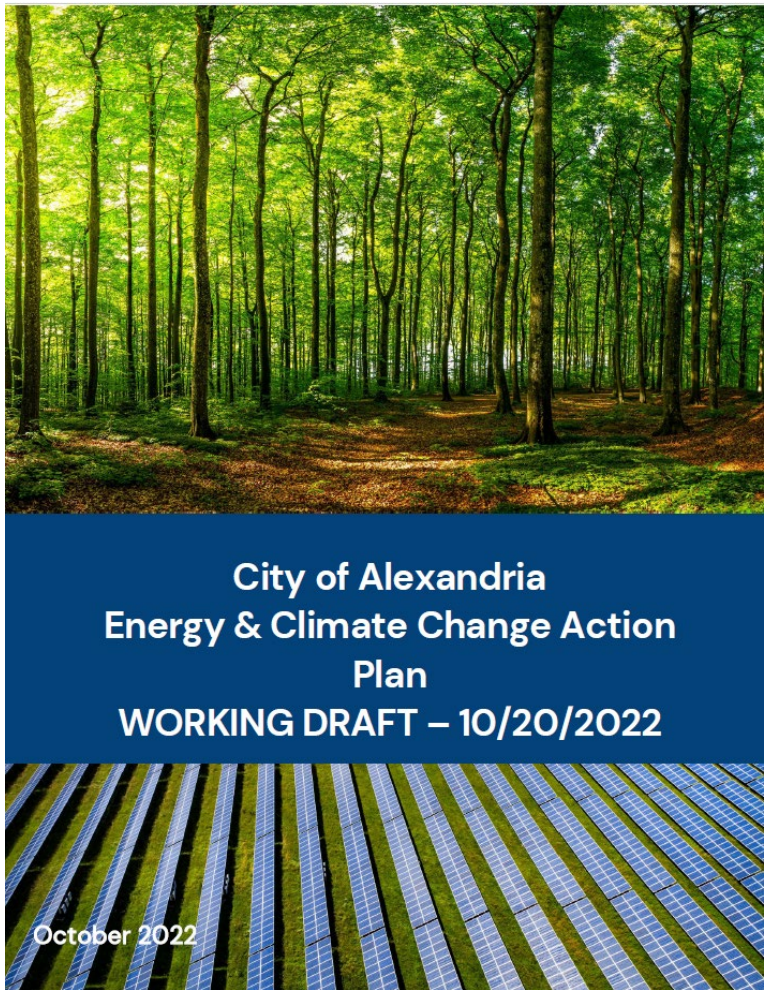
Working Draft Feedback



Prompting Questions:

- What does the ECCAP report succeed in providing to the City and community regarding reducing GHG emissions?
- What is missing from the ECCAP report?

Buildings
(Draft Actions)

Strategy	Action	EAP/City Plan
Building Energy -		
B-1: Support decarbonizing existing buildings through financial opportunities	B-1.A: Support opportunities for a City or regional green bank	
	B-1.B: Increase Marketing and Promotion of Alexandria CPACE Program	EAP
	B-1.C: Establish an Incentive Program(s) that Encourages Green Building Renovations of Existing Buildings	EAP
B-2. Educate and Drive Implementation of the City's Green Building Policy	B-2.A: Support Compliance with the City's Green Building Policy	EAP (includes 3.1.*)
	B-2.B: Design and implement a program to support residential and commercial energy efficiency and beneficial electrification	EAP (includes 3.1.*)
	B-2.C: Implement regulatory and policy opportunities to enhance Green Building Policy implementation	EAP (includes 3.1.*)
	B-2.D: Support energy performance requirements of building codes.	EAP
B-3: Increase decarbonized fuel supply in buildings (as necessary)	B-3.A: Increase energy supply from Resource Recovered Gas and Hydrogen	
B-4: Accelerate implementation of all feasible decarbonization measures for City-owned buildings	B-4.A: Implement the energy efficiency and electrification actions defined in the EAP	EAP

Transportation (Draft Actions)

Strategy	Action	EAP/City Plan
Transportation		
T-1. Reduce vehicle miles	T-1.A: Improve, expand and integrate access to public transit systems and bicylcle/pedestrian access through enacting actions within the EAP 2040, Alexandria Transit Vision and Mobility Plan	EAP, AMP, ATV
	T-1.B: Land use changes focused on redistribution of future growth to activity centers and areas better served by transit across jurisdictions	AMP, ATV
	T-1.C: Advocate for reduced Metro transit fares and increased parking pricing at workplaces	AMP, ATV
	T-1.D: Support telework policies	
	T-1.E: Promote a job/housing balance by focusing on-site affordable housing units near transit access	AHMP
T-2: Accelerate the deployment of electric and alternative fuel vehicles	T-2.A: Implement recommendationss supporrting expanding EV charging infrastructure access in line with the EVSE, including addressing gaps in meeting charging demand (e.g., opportunity charging, residents without driveways/garages, multifamily dwelling residents); enhancing communication and awareness; strengthen zoning, building codes, and permitting; advocating in state government or with Dominion Energy; building successful business models for chargers; and working to secure funding (e.g., federal).	EAP, EVRS
	T-2.B: Provide education and outreach to the community about EVs and available state and national incentives	EVRS
	T-2.C: Advocate with Dominion and regulators for fee-based EV charging; educate the community about these options	EVRS
	T-2.D: Transition DASH bus transit fleet to electric	EAP, EVRS
	T-2.E: Connect private fleets with partners and opportunities to educate and incentivize electrification	EVRS

Renewable & Clean Energy (Draft Actions)

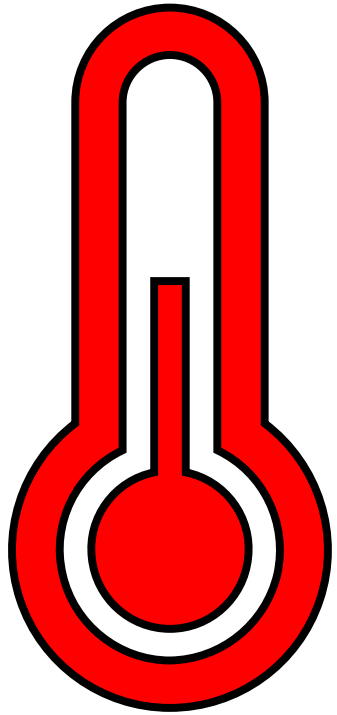
Strategy	Action	EAP/City Plan
Renewable Energy		
RE-1: Support implementation/acceleration of the VCEA by increasing solar deployment within the City	RE-1. A: Increase on-site renewable deployment within the City through Solarize Alexandria, Solar Equipment Tax Exemption, Green Building Policy (new construction), and low- and moderate-income programs	EAP
	RE-1.B: Support deployment of battery storage through promoting community ownership, incentives, and pairing with onsite renewables	
	RE-1.C: Explore Community Choice Aggregation with City as anchor	
	RE-1.D: Encourage large-scale offsite renewable energy through working with businesses and other organizations within the City to procure through PPAs	EAP
RE-2 Transition all applicable Alexandria government facilities to 100% renewable energy	Implement government operational renewable electricity actions from EAP 2040	EAP

Waste (Draft Actions)

Strategy	Action	EAP/City Plan
Waste		
W-1: Recover resources and reduce GHG emissions and other forms of pollution by optimizing and safely handling the collection and processing of solid waste	W-1.A: Implement actions defined in the EAP 2040 (refer to 5.1 of the EAP) addressing resource recovery and GHG emissions	EAP, WS
W-2: Reduce total solid waste collected from City-served residential customers	W-2.A: Implement actions defined in the EAP 2040 that reduce solid waste from City-served residents	EAP, WS

Climate Vulnerability & Adaptation/Resiliency

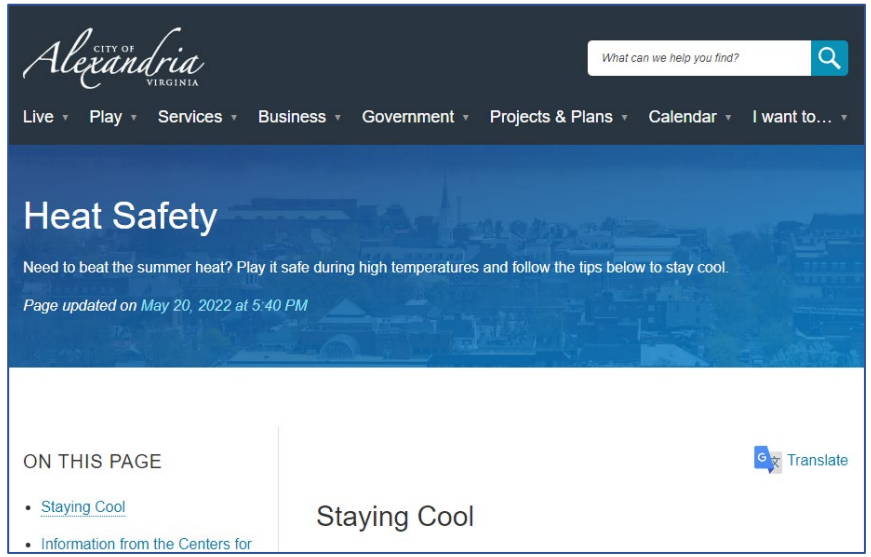
- Heat Vulnerability Assessment
- FloodAction Alexandria
- Actions/Strategies



Climate Adaptation/Resiliency Strategies/Actions

- Continue Existing Adaption and Resilience Activities
- Enhance Equity in Climate Adaptation and Resilience Planning and Actions
  - Incorporate and center equity into ongoing climate adaptation and resilience planning
  - Proactively address systemic inequalities in climate adaptation and resilience planning
- Integrate Climate Change in Municipal Decisions and Activities
  - City plans, budget and capital improvement program, workplans
  - Internal working group for climate impacts
  - Identify innovative financing mechanisms
  - Integrate into capital planning
  - Lead by example with infrastructure resilience
- Implement Strategies to Adapt to Extreme Heat
  - Reduce Impact of Extreme Heat and Heat Island Effects
  - Enhance Heat Management Programs
  - Heat Response Coordination
- Implement Flooding Hazard Adaptation Strategies
  - Flood Reduction
  - Flood Management
  - Flood Coordination

FLOODACTION ALEXANDRIA



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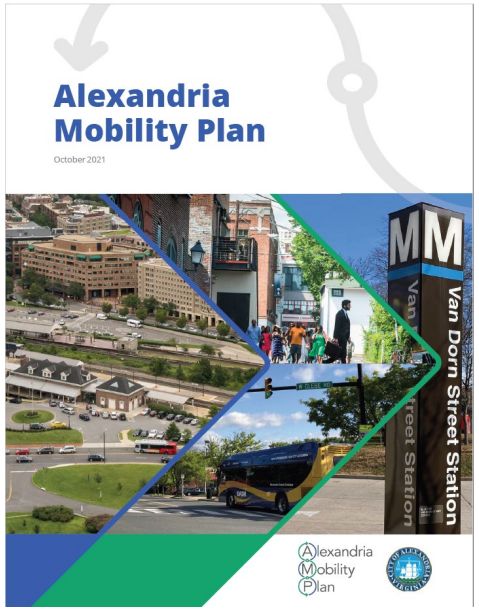
Background Slides

State and Federal Climate Action Priorities

- Virginia Clean Economy Act
- Bipartisan Infrastructure Law / Infrastructure Investment and Jobs Act
- Inflation Reduction Act

Builds on Existing Actions



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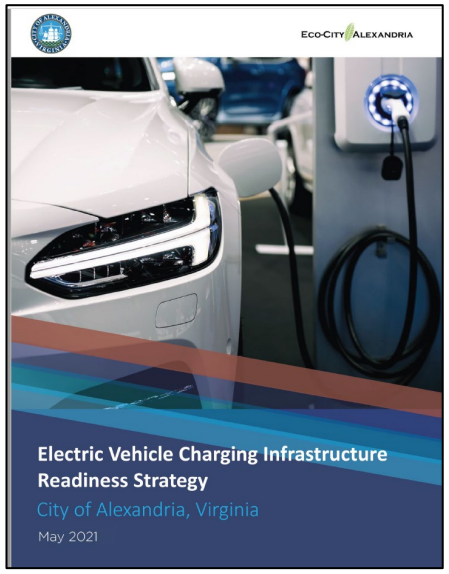
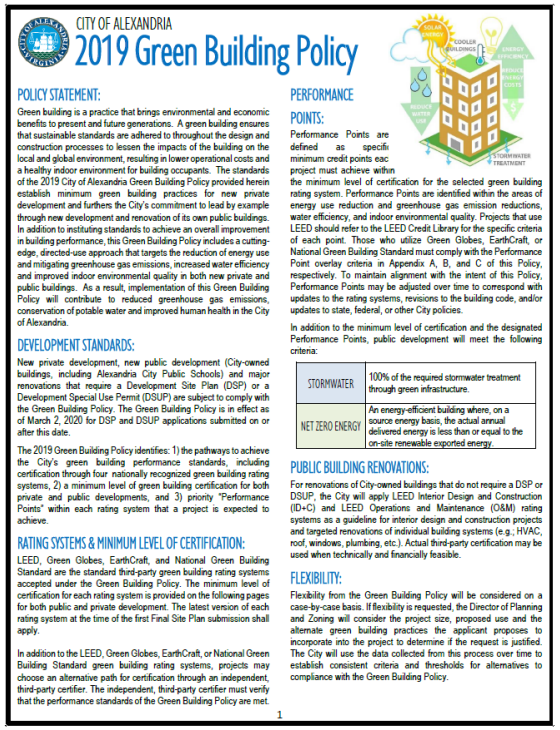
Transit Vision
Your City. Your Transit Network.





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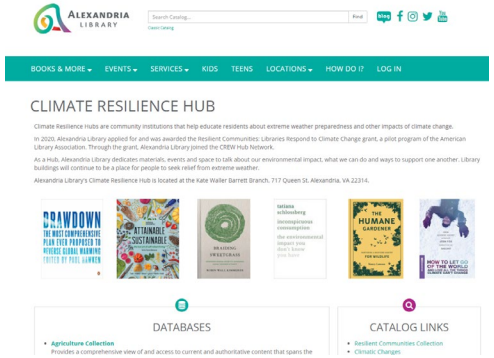
SOLARIZE ALEXANDRIA



DUKE STREET IN MOTION

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ENERGY MASTERS

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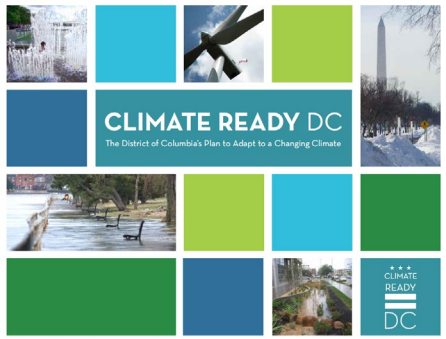
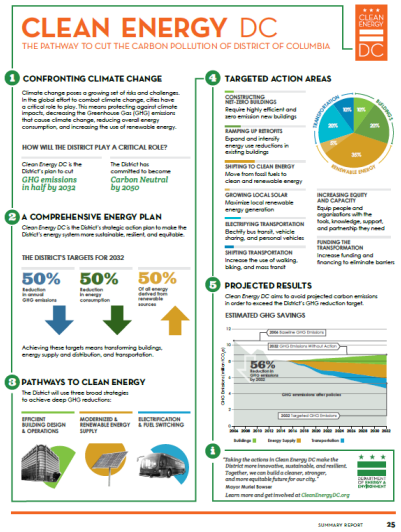
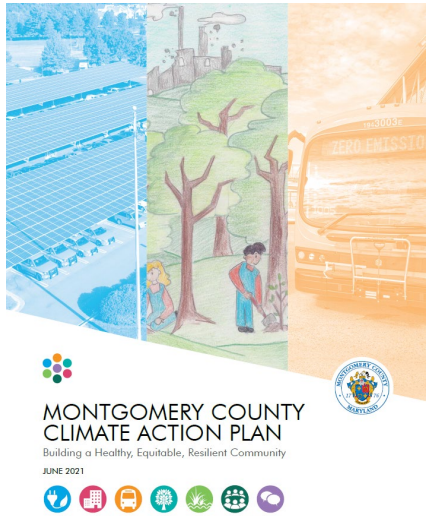
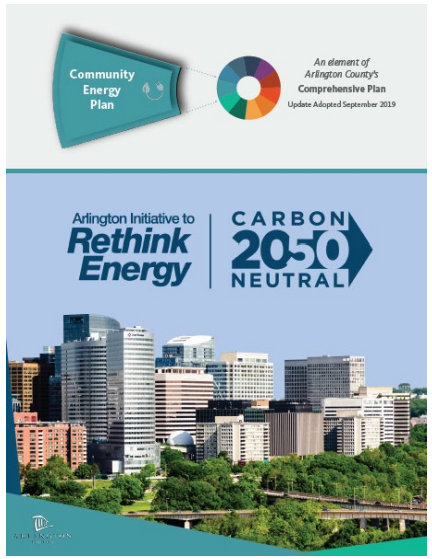
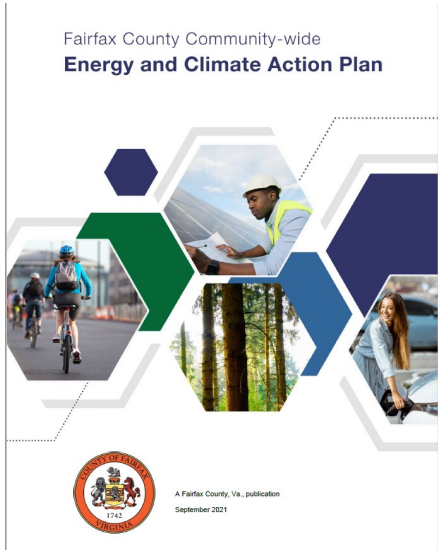


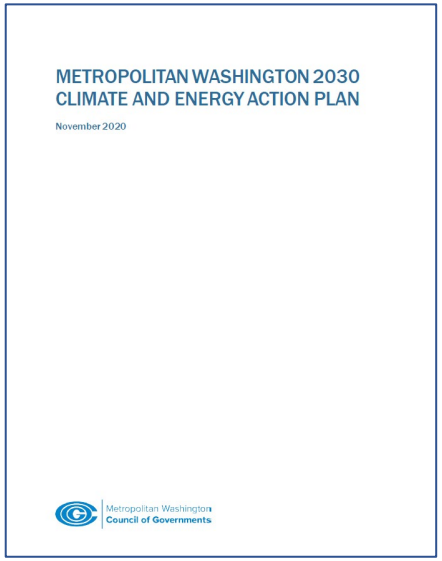


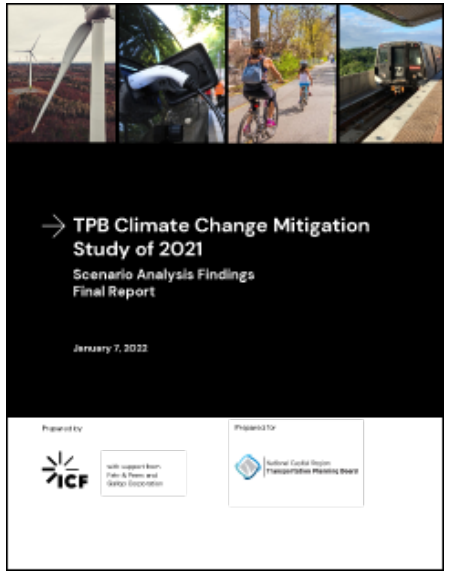


Leverages Regional Climate Action Efforts









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ALL Alexandria Race & Social Equity

- Identifying and Highlighting ECCAP Actions Support of ALL Alexandria Race and Social Equity Outcomes, including:
  - Actions supporting social and other quality-of-life benefits, such as improved health, reduced traffic congestion, and increased opportunities for socioeconomic mobility.
  - Actions that support economic benefits (e.g., poverty reduction, lower energy costs) to reduce economic disparities.
- Additional Focus:
  - Energy Burden
  - Extreme Heat Vulnerability
  - Communications/Outreach/Education/Collaborations

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RACE & EQUITY

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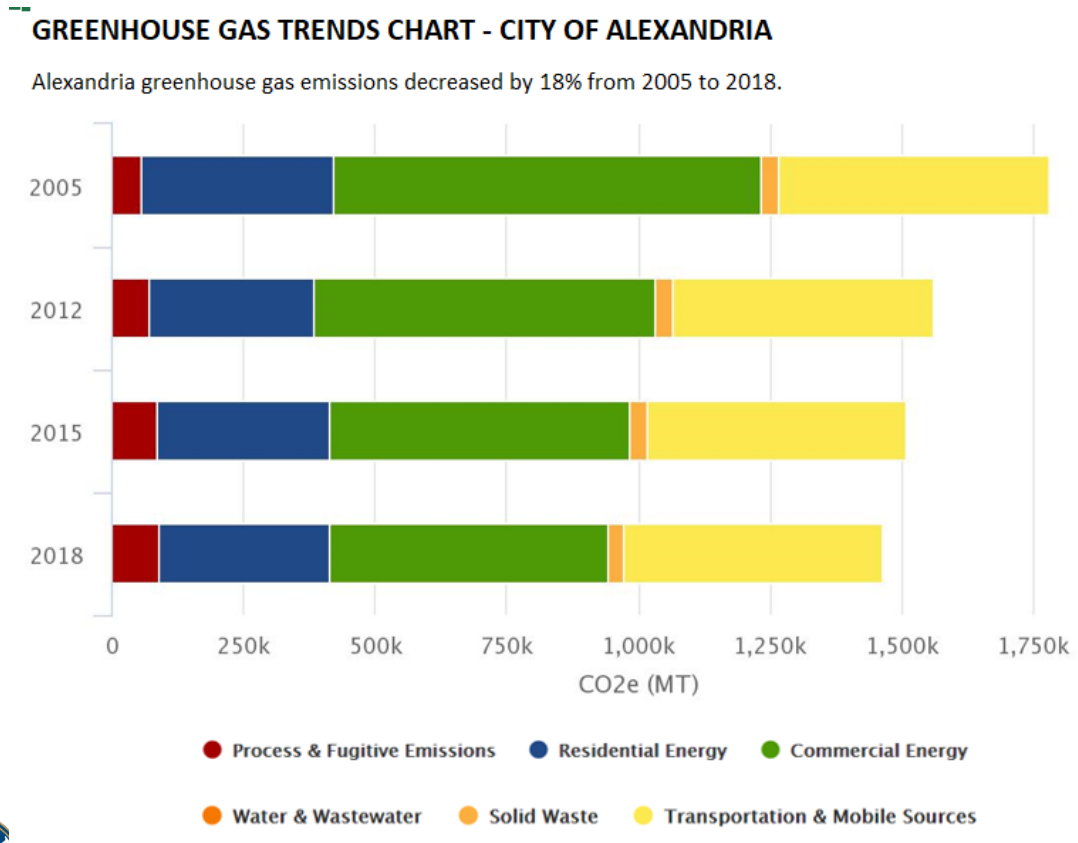
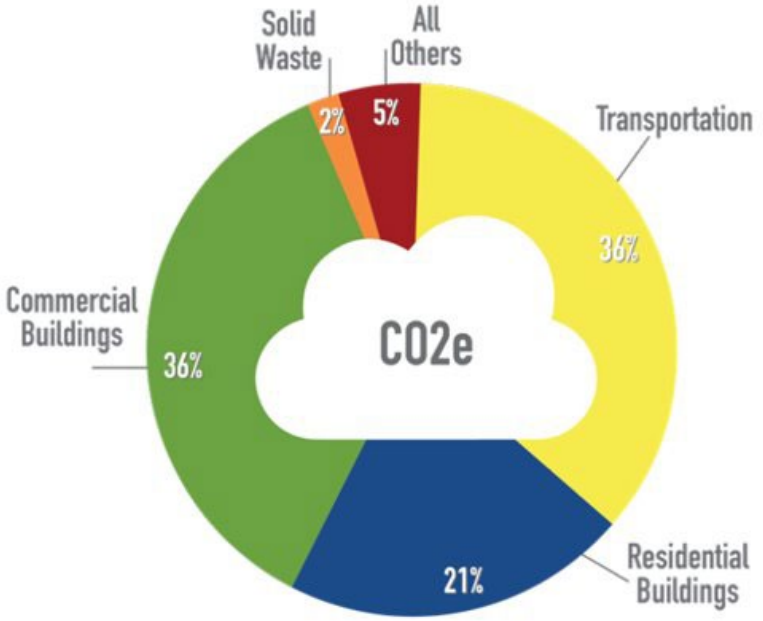
Community-wide Greenhouse Gas Emissions





The contribution of City emissions from various sectors of the community show that the majority emissions are from the built environment, followed by transportation.

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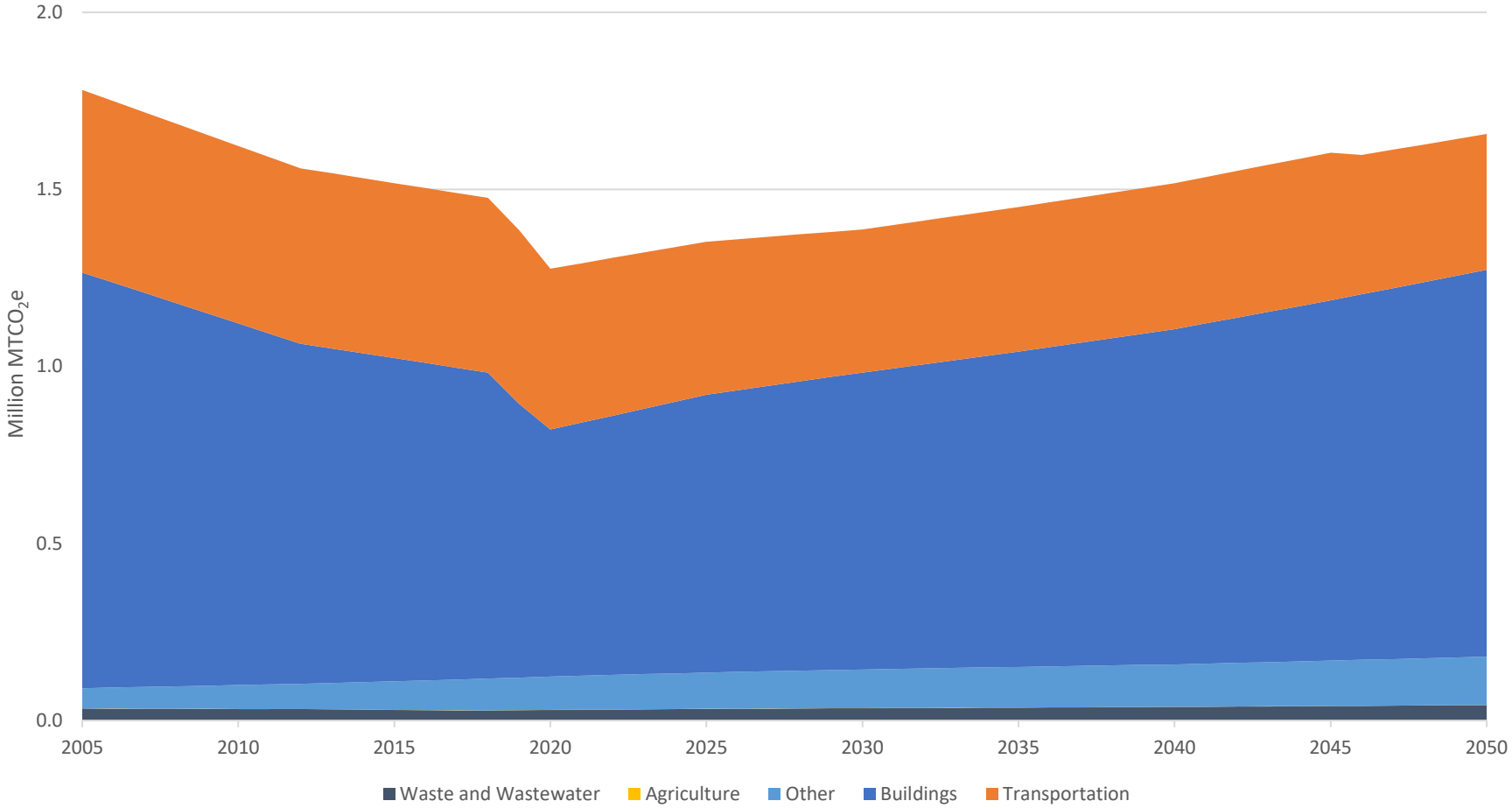
Business-as-Usual Community-wide Greenhouse Gas Emission Projections



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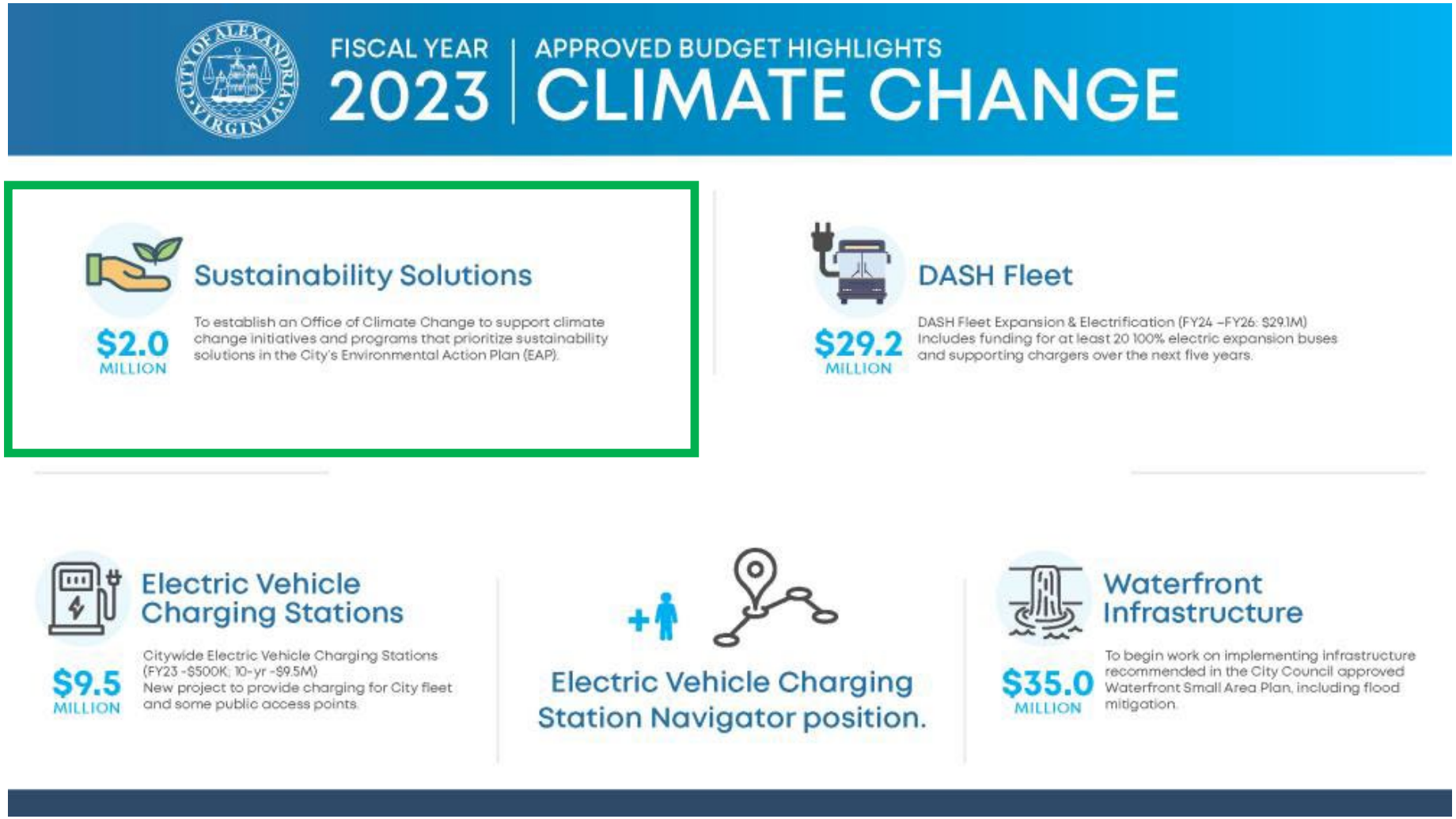
Business-as-Usual Community-wide Greenhouse Gas Emission Projections

- In 2018, buildings account for approximately 57% of emissions and transportation accounts for approximately 36%.
- Population and job growth projected to continue increasing.
- Absent action, new and existing building [commercial (mixed use & multi-family) & residential] sector emissions increase.
- Transportation emissions remain relatively consistent.

FY23 Climate Change Budget Priorities



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