National Capital Region
Transportation Planning Board

ITEM # 8

MEMORANDUM

TO: TPB Technical Committee

FROM: Daivamani Sivasailam, Principal Transportation Engineer

SUBJECT: Climate Energy and Environmental Policy Committee (CEEPC) Ad-Hoc Meeting

DATE: October 25, 2016

The Climate Energy and Environmental Policy Committee (CEEPC) invites your participation in an ad-hoc meeting on December 2, 2016, from 11 AM to 12 noon following the TPB Technical Committee meeting. The meeting would be devoted to reviewing a draft list of potential voluntary actions that the local, regional, and state transportation agencies could implement to improve sustainable regional mobility and reduce greenhouse gas emissions in the transportation sector. The mobility measures include emissions from fleet vehicles, travel demand management, highway operations, transit, walk and bike projects, etc..

You are encouraged to attend and invite other personnel in your jurisdiction who manage the various aspects of these potential transportation strategies. Call in and WebEx options will be available for those who cannot participate in person. Additional details regarding the meeting will be sent as they become available.

Background

CEEPC is a Committee of the COG Board that works on climate, energy and environmental policy. One of the primary activities of CEEPC is to assist the region's jurisdictions and regional and state agencies in their actions, including enacting polices, to reduce GHG emissions. These actions assist the region in realizing its GHG reductions goals adopted by the COG Board in 2008. The GHG reduction goals are to reduce the amount of GHG in the region: (1) 10% below projected Business As Usual levels by 2012; (2) by 20 percent below 2005 levels by 2020; and (3) by 80 percent below 2005 levels by 2050.

CEEPC first developed a list of actions the local, regional, and state agencies could take in the energy, built environment, land use and transportation sectors in 2010 in the form of a Climate and Energy Action Plan. The Action Plan is updated every three years with an annual survey of the actions taken reported to CEEPC and COG. The 2010 Action Plan was updated in 2013 and may be found at Action Plan. The latest annual Progress Report may be found at 2015 Progress Report.

CEEPC is now engaged in the development of the 2017-2020 Action Plan. At the September 28, 2016, CEEPC meeting, DEP staff presented a framework for updating the Action Plan for 2017-2020. The framework documents included a list of new potential action items to add to the Action Plan and a dashboard to report progress. The staff compiled list of potential strategies includes action items in the current Plan, new action items developed from a review of best practices in the country, and items from the COG's Multi Sector Working Group (MSWG). The TPB Technical

Committee received a copy of this list in October under item #8. The draft menu of actions includes a section titled "Advance Sustainable Regional Mobility" largely geared towards the transportation sector.

CEEPC Ad-Hoc Sustainable Mobility Meeting Outcome

The purpose of the December 2nd ad-hoc meeting is for CEEPC staff to receive input from the technical staffs of transportation agencies on the potential action items listed in the "Advance Sustainable Regional Mobility" section and under consideration for the 2017-2020 Action Plan. It is important to note that the action items proposed for inclusion in CEEPC's 2017-2020 Action Plan are voluntary actions that COG's member jurisdictions and state agencies could take to help reduce GHG emissions in this region.

The expected outcomes from the ad-hoc group meeting are assessments of:

1) Whether the proposed action items could be implemented in the region to advance sustainable mobility, either in the short term or long term. Should items be added, deleted or modified? (DRAFT MENU OF POTENTIAL ACTION IDEAS - attachment 1)

2) Which action items (from above) could be reasonably expected to be implemented in the short term, 2017-2020 and what level of implementation could be expected for this period. (DRAFT ACTIONS SHORT LIST – FOR TRANSPORTATION STAKEHOLDER COMMENTS - attachment 2)

3) Whether the transportation performance measures listed in the draft dashboard are appropriate items to show progress on sustainable mobility or should other performance measures be added to reflect progress on sustainable mobility. (DRAFT CLIMATE AND ENERGY ACTION REGIONAL PROGRESS DASHBOARD - attachment 3)

REGIONAL CLIMATE AND ENERGY ACTION PLAN
2017 – 2020 UPDATE
DRAFT ACTIONS SHORT LIST – FOR TRANSPORTATION STAKEHOLDER COMMENTS

The Regional Climate and Energy Action Plan is a short-term plan with a variety of ***voluntary*** local government strategies with ***flexible*** implementation levels to help move the region toward achieving the regional greenhouse gas (GHG) emission reduction goals. The Plan update underway will be the 3rd edition of the Action Plan, focusing on implementation and outcomes for 2017-2020. The following table is the draft short list of actions and anticipated local government implementation levels for transportation stakeholder review and comments. The sources are noted in the footer of each page. The percent column refers to the anticipated level of implementation by COG local government members by 2020 (i.e. 100% of local governments are implementing the action). Please focus your attention on the Advance Sustainable Regional Mobility (blue) section starting on page 3. All comments are welcome; however please make comments as you see fit; no need to comment on every line or column. A few particular questions include:

(1) Do you agree with including this action in the final plan or have a suggested revision?
(2) Do you agree with the suggested implementation levels? If not, what level do you suggest (25%, 50%, 75% or 100%)?
(3) Do you have the local authority (y/n) to implement this action?

REDUCE ENERGY CONSUMPTION		Source	%	Authority?	Comments
	Increase Efficiency of Public Facilities and Operations				
1	Prepare GHG emission inventories and reduction plans for government operations.	1	100%		
2	Regularly track/benchmark and publicly disclose energy performance at all government facilities.	1	100%		
3	Prepare an energy plan for local government facilities and operations.	1	100%		
4	Perform walk-through energy audits of local government facilities and implement recommendations.	1,4	100%		
5	Implement employee challenges and education programs on energy and sustainability policies and practices at work and home.	1	100%		
	Facilitate Increased Efficiency in the Community				
6	Adopt a community-wide GHG emission reduction plan (could also be framed as a climate action plan, energy plan, sustainability plan, etc.).	1	100%		
7	Incorporate community energy infrastructure needs, goals, and strategies in master plans, comprehensive plans, and small area plans.	4	50%		

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[4] Indicates new action idea based on research of leading local, national, and international plans and practices

8	Increase level of compliance for existing energy building codes. Support increased efficiency in codes at national, state, or local levels (only feasible where local jurisdiction has authority).	2,3	75%		
9	Implement mandatory energy benchmarking requirements or promote voluntary benchmarking. Provide training or technical assistance.	1,2	50%		
10	Offer innovative financing solutions for residential and commercial sectors (i.e. green bank, PACE, loan loss reserves, etc.).	4	75%		
11	Provide local energy efficiency incentives to residents and businesses or promote federal, state, and utility incentives. Target opportunities to underserved communities.	1	100%		
12	Expand low-income housing retrofits for energy and water savings.	1,2	50%		
13	Deploy energy efficient outdoor lighting requirements or initiatives (for streets, parking lots, parks, or signage).	1	75%		
14	Implement residential and commercial engagement programs (i.e. green business or home challenges, awards, etc.) to encourage energy efficiency.	1	100%		
15	Analyze feasibility of deploying combined heat and power, district energy, and microgrid systems. Reduce barriers to and incentivize community deployment.	1,2	25%		
INCREASE RENEWABLES		**Source**	**%**	**Authority?**	**Comments**
1	Adopt a net zero energy plan, policies, or initiatives.	4	25%		
2	Install renewable energy systems on local government property.	1	100%		
3	Achieve and maintain EPA Green Power Partnership for government operations.	1	75%		
4	Work with the community to achieve and maintain EPA Green Power Community Partnership.	1	50%		
5	Adopt solar access, solar-ready, and similar ordinances to help facilitate local solar deployment.	2,3	75%		
6	Provide or promote incentives for building-level renewable technologies and energy storage systems. Target opportunities to underserved communities.	2	100%		
7	Facilitate and support establishment of cooperative community renewable systems and cooperative renewable energy purchasing.	2,3	75%		
8	Increase public education and outreach on renewable technologies.	2	100%		

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9	Continue to support strong state-level renewable portfolio standards.	2	75%		
10	Support expanded renewable energy incentives and financing mechanisms at utility, state, and national levels.	2,3,4	75%		
ADVANCE SUSTAINABLE REGIONAL MOBILITY		**Source**	**%**	**Authority?**	**Comments**
	Increase Efficiency of Public Sector Fleets				
1	Adopt a green fleet policy or fleet management plan aimed at reducing emissions of GHGs and other pollutants.	1	100%		
2	Add alternative fuel and charging equipment (e.g. natural gas, biofuel, electric, hydrogen) to public fueling facilities. Retrofit garages and refueling facilities, as needed.	1,2	75%		
3	Offer car sharing and bike sharing programs for employees as an alternative to expanding fleet.	1,4	50%		
4	Adopt anti-idling policies for public fleets and off-road equipment.	1,2,3	75%		
5	Provide staff education and training for efficient use of and maintenance on all vehicle types in the fleet with a particular focus on alternative fuel vehicles.	2	50%		
6	Implement innovative pilot initiatives to advance new technologies (e.g. vehicle-to-grid, solar powered charging stations, etc.).	2,4	25%		
	Improve Local Fuel Economy				
7	Comprehensive, small area, and development plans guide EV and other AFV infrastructure development.	2,3	50%		
8	Invest in a system of publically accessible EV charging stations and other AFV fueling stations.	2	75%		
9	Actively promote and enforce community-wide anti-idling regulations (adopted locally or by state).	1	75%		
10	Require new buildings to install EV charging stations or require them to be EV-Ready.	3	25%		
11	Require space for bicycle and car sharing in development plans.	4	25%		
12	Provide or promote incentives for electric vehicles and charging stations.	2	50%		
13	Provide outreach and education on the benefits and availability of EVs.	2	25%		
14	Support state and national incentives for low-emitting, efficient vehicles, infrastructure, and technology.	3,4	75%		
	Mobility Management				

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15	Adopt a bicycle and pedestrian plan.	1	100%		
16	Achieve a Bike Friendly or Walk Friendly Community Designation.	4	25%		
17	Expand park and ride facilities to meet anticipated increase in rideshare and transit demand.	2	50%		
18	Implement transit enhancements to increase capacity and improve services (e.g. enhanced commuter bus service, real-time bus schedule information, bus rapid transit, etc.). Place emphasis on increasing accessibility and expanded transit options to underserved communities.	2	50%		
19	Enhance system operational performance of roadways (e.g. signal retiming, intersection efficiency improvements, etc.).	2	50%		
20	Adopt a complete streets policy.	1	75%		
21	Offer a commute options program for government employees (telework, flex-time, alternative work schedule, car pool, van pool, guaranteed ride home, bike/pedestrian, or financial incentive).	1	100%		
22	Provide or promote travel demand management programs (e.g. Commuter Connections) to encourage citizens to take alternative commute options and to help employers offer alternative commute options to their employees.	1,2	100%		
23	Implement transit fare reductions to targeted audiences.	2,4	50%		
INCREASE SUSTAINABLE URBAN DEVELOPMENT		**Source**	**%**	**Authority?**	**Comments**
	Facilitate Sustainable Development Patterns				
1	Update comprehensive and small area land use plans, zoning, and urban design guidelines to allow for greater concentration of growth in activity centers.	1,2	100%		
2	Develop neighborhood stabilization strategies to preserve neighborhood identify in underserved communities.	4	50%		
3	Implement pedestrian, bicycle, and transit improvements to accommodate growth around rail stations and other activity centers. Place emphasis on increasing connectivity in underserved communities.	2	75%		
4	Incentivize development in activity centers that are walkable, higher density, mixed use, mixed income, and transit-oriented. Identify, promote, and incentivize the redevelopment or innovative uses of vacant, underutilized, or brownfield sites.	1	50%		
	Increase Number of High Performance Buildings				
5	Incorporate high performance building goals and strategies in master plans, comprehensive land use plans, and small area plans.	4	50%		

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6	Implement an affordable housing green rehabilitation program.	1,2	50%		
7	Enhance green building policies to require higher level of green construction standards (e.g. LEED Gold instead of LEED Silver).	1,4	50%		
8	Offer incentives for commercial and residential buildings certified by a high efficiency building/green rating system (LEED, ENERGY STAR, Passive House, EarthCraft, Living Building Challenge, Net Zero, Well Standard, etc.).	1,2	50%		
9	Provide education and training on new and advanced green construction standards (Living Building, Net Zero, WELL Standard, etc.).	2,4	50%		
	Reduce Loss of Resource Lands, Canopy, and Vegetation from Development				
10	Implement plan(s) to preserve and enhance ecologically valuable green spaces (such as forests, wetlands, stream buffers) in urban, suburban and rural areas (e.g. green infrastructure plan, natural resource management plan, or green space plan).	1	100%		
11	Increase access to greenspaces for underserved communities.	4	50%		
12	Adopt a tree canopy/forest cover goal.	1	100%		
13	Obtain and maintain Tree City USA designation. Designation requirements include having a tree board or department, tree care ordinance, an Arbor Day observance or proclamation, and a $2 per capita budget for public tree plantings and care.	1,2	100%		
14	Promote planting, care of trees, and engage the community on tree planting.	2	100%		
15	Adopt green streets plan, policies, or initiatives.	1,4	50%		
12	Expand urban heat island mitigation programs.	3,4	100%		
13	Require green infrastructure and tree canopy for new development and retrofits as part of the development review process. Expand the responsibility of developers to plant or maintain trees over an extended period of time.	2,4	50%		
14	Provide or promote green infrastructure incentives (i.e. private property tree plantings, green roofs, paved surface reduction, etc.).	1,4	50%		
15	Install green roof(s) on government property.	1	75%		
16	Utilize zoning, development and permitting regulations, and other tools to support local food production, processing, and distribution in urban, suburban, and rural communities (i.e. farmers' markets, community gardens, on-farm processing, agri-tourism, etc.).	1,4	50%		
17	Provide support or incentives for urban agriculture (e.g. edible landscaping, school and community gardens, urban farming).	1,4	75%		

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MOVE TOWARD ZERO WASTE		Source	%	Authority?	Comments
1	Adopt a zero waste plan, policies, or initiatives.	2,4	25%		
2	Develop framework for organics collections at residential and commercial sites, including food composting and recovery initiatives.	1,3,4	100%		
3	Implement solutions for disposal of household hazardous waste and pharmaceuticals.	3,4	100%		
4	Expand diversion solutions in public spaces (such as installing solar compactors for landfill waste and recycling, and displaying signage with proper waste disposal techniques).	4	100%		
5	Determine needed upgrades of Material Recovery Facilities (MRF) and collection systems to optimize operating efficiency.	4	25%		
6	Adopt and enforce recycling requirements for businesses.	4	100%		
7	Adopt a construction and demolition recycling policy.	4	100%		
8	Provide incentives for residential on-site composting.	4	75%		
9	Expand education and outreach initiatives to encourage sustainable consumption, increased recycling, and composting.	2,4	100%		
10	Support siting of renewables at landfills.	4	50%		
BUILD REGIONAL RESILIENCE		**Source**	**%**	**Authority?**	**Comments**
1	Assess community vulnerability (social, environmental, economic) to climate impacts.	1,4	50%		
2	Assess vulnerability of critical infrastructure for transportation, communication, energy utility, water and wastewater utility systems assets.	1,4	25%		
3	Adopt climate adaptation/resiliency plan, policies or initiatives.	1,4	50%		
4	Update plans (comprehensive, small area, hazard mitigation, emergency response and recovery, public health, etc.) to address climate impacts and preparedness.	3,4	25%		
5	Incorporate climate resilience strategies into capital improvement plans and projects.	4	25%		

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6	Update zoning, building codes, ordinances, and the development review process to ensure new development is more resilient to local climate impacts.	4	25%		
7	Implement local government energy assurance planning initiatives.	1	50%		
8	Design new public buildings to be more resilient to climate impacts and to continue operations during extended power outages.	3,4	25%		
9	Implement energy, flood, and heat protection measures at vulnerable critical facilities and infrastructure sites.	3,4	50%		
10	Revise infrastructure design standards to be more resilient to heat, flooding, and other climate impacts.	3,4	25%		
11	Direct assistance (technical and financial) and innovative solutions to vulnerable and underserved communities.	4	25%		
12	Implement public education campaign on preparedness for citizens, commercial property owners, and small businesses.	3,4	50%		
13	Restore and manage natural ecosystem functions to increase capacity to adapt to a changing climate.	3,4	25%		
GROW THE REGIONAL CLEAN ECONOMY		**Source**	**%**	**Authority?**	**Comments**
1	Adopt environmentally preferable purchasing policies that facilitates government procurement of goods and services that reduce impact on human health and environment.	4	100%		
2	Increase government spend on environmentally-friendly products or services.	4	100%		
3	Encourage government vendors and businesses in the community to minimize the carbon intensity of their supply chain.	4	25%		
4	Commit to divest in fossil fuels over the long-term.	4	25%		
5	Update economic development workforce plans/strategies to incorporate strategies to support emerging green or clean tech industries.	4	25%		
6	Develop a cleantech branding and marketing strategy.	4	25%		
7	Provide shared space and develop incentives for green/clean tech businesses to locate within the jurisdiction.	4	25%		
8	Expand opportunities for minority and women owned businesses to participate in green and clean economy initiatives.	4	25%		
9	Support innovative technology deployment to address current community challenges and needs.	4	25%		
10	Support state and federal incentive programs for green and clean tech activities.	4	25%		

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	PROTECT EQUITY AND HEALTH	Source	%	Authority?	Comments
1	Identify the community's priorities for equitable environmental improvements. Provide data and resources to support decision-making of priorities.	3,4	25%		
2	Conduct cumulative environmental and health impact assessments in underserved communities.	3,4	25%		
3	Integrate equity and health considerations and strategies into all local government policies, plans, and programs. Identify impacts of policies and programs to underserved populations and communities and how to maximize positive impacts and minimize negative impacts.	4	25%		
4	Develop a healthy food access or food security plan.	4	25%		
5	Adopt a precautionary principle as the underlying policy standard when it comes to reducing environmental hazards and risks.	4	25%		
6	Direct environmental incentives towards vulnerable and underserved populations.	4	25%		
7	Provide training to local government staff on successful public engagement techniques, equity and diversity.	4	25%		
8	Support community environmental monitoring programs to increase community participation in gathering and accessing community data (e.g. Citizen Science).	3	25%		
9	Provide meaningful engagement forums and community leadership development opportunities to enhance citizen's knowledge on the local environmental planning process, how to influence environmental decision-making, and how to access data, technical assistance, and resources.	3,4	50%		

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Source #4: Indicates new action idea based on research of leading local, national, and international plans and practices, including:

- Arlington County, Virginia Community Energy Plan
- Atlanta Regional Commission Green Communities Program and Impact of Community Design on Greenhouse Gas Emissions Report
- City of Alexandria, Virginia Energy and Climate Change Action Plan, Environmental Action Plan, Eisenhower West Small Area Plan
- City of Atlanta, Georgia Climate Action Plan and Power to Change Sustainability Plan
- City of Austin, Texas Climate Change Program, Sustainability Performance Tracking, and Resource Recovery Master Plan
- City of Baltimore, Maryland Climate Action Plan, Disaster Preparedness Plan, and Sustainability Plan
- City of Berkeley, California Climate Action Plan
- City of Boston, Massachusetts Greenovate Boston Climate Action Plan Update
- City of Bowie, Maryland Climate Action Plan
- City of Cambridge, Massachusetts Net Zero Action Plan and Vulnerability Assessment
- City of Chicago, Illinois Climate Action Plan and Progress Report and Technology Plan
- City of Dallas, Texas Sustainability Plan and Progress Report
- City and County of Denver, Colorado Climate Action Plan and 2020 Sustainability Goals
- City of Gaithersburg, Maryland Master Plan Sustainability and Environment Element
- City of Greenbelt, Maryland Sustainability Plan Framework
- City of Hamburg, Germany Climate Action Plan
- City of Los Angeles, California Sustainable City pLAn
- City of Louisville, Kentucky Sustainable City Plan and Progress Reports
- City of Manassas, Virginia Comprehensive Plan Environmental Sustainability Section
- City of Miami, Florida MiPlan: Climate Action Plan
- City of Minneapolis, Minnesota Climate Action Plan and Vulnerability Assessment
- City of Newark, New Jersey Sustainability Action Plan
- City of Philadelphia, Pennsylvania Growing Stronger: Toward a Climate-Ready Philadelphia, Greenworks Vision and Progress Reports, and Deep Carbon Emission Reductions Report 80x50
- City of Pittsburgh, Pennsylvania Clean Technology Program and Climate Action Plan
- City of Portland and Multnomah County, Oregon Climate Action Plan
- City of Raleigh, North Carolina Sustainable Raleigh
- City of Rockville, Maryland Energy Action Plan and Strategy for a Sustainable Rockville
- City of San Diego, California Climate Action Plan, Clean Tech Leadership Strategy, and Cleantech San Diego
- City of San Francisco, California Climate Action Strategy and Reaching 80x50: Technology Pathways to a Sustainable Future
- City of Santa Monica, California 15x15 Climate Action Plan, Sustainable City Plan, and Sustainability City Report Card

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- City of Seattle, Washington Climate Action Plan, Implementation Strategy, Race and Social Equity Initiative, and Waste Prevention Goals
- City of Takoma Park, Maryland Sustainable Energy Action Plan and Local Action Plan for Reducing Greenhouse Gas Emissions
- City of Toronto, Ontario Zero Waste Toronto
- City of Vancouver, British Columbia Greenest City 2020 Action Plan
- City of Washington DC Sustainable DC, *DRAFT* Climate Ready DC Plan, and DRAFT Comprehensive Energy Plan
- CDP State and Regional Climate Action Platform 2015 Climate Data Reported
- Compact of Mayors
- European Green Capital
- Fairfax County, Virginia Solid Waste Management Plan Update 2015 and the Environmental Quality Advisory Council's Annual Report on the Environment
- Frederick County, Maryland Sustainable Action Plan for County Operations
- Loudoun County, Virginia Energy Strategy
- Los Angeles County, California Community Climate Action Plan
- Maryland Climate Change Program and Zero Waste Plan
- Massachusetts 2010-2020 Solid Waste Master Plan
- Metro Atlanta Chamber Metro Atlanta Clean Tech Ecosystem Report
- Metropolitan (Boston) Area Planning Commission Regional Climate Change Strategy
- Miami-Dade County, Florida Climate Change Action Plan
- Montgomery County, Maryland Climate Protection Plan, Annual Report on Sustainability, and Bethesda Downtown Plan
- New York City, New York Climate Change Program Assessment and Action Plan and OneNYC
- Post Carbon Cities of Tomorrow
- Prince George's County, Maryland Petroleum Reduction Consumption Plan and Renewable Energy Action Plan, Comprehensive Ten-Year Solid Waste Management Plan, and Comprehensive Plan
- Prince William County, Virginia Green Guiding Principles and Comprehensive Plan Environment Section
- San Diego Association of Governments (SANDAG) Climate Action Strategy
- San Joaquin Valley, California Sustainable Energy Roadmap
- Southeast Florida Regional Climate Change Compact
- STAR Communities Rating System
- Sustainable Jersey Certified
- The White House The President's Climate Action Plan
- University of Maryland Environmental Finance Center Sustainable Maryland Certified
- United Nations Human Settlements Programme (UN HABITAT) Guiding Principles for City Climate Action
- Urban Land Institute A Guide for Assessing Climate Change Risk
- Virginia Municipal League Go Green Virginia
- Virginia State Energy Plan
- Western Australian Waste Strategy

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- YSEALI Professional Fellows Program Research Project: Replicable Best Practices for Metropolitan Washington

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Attachment 2

DRAFT MENU OF POTENTIAL ACTION IDEAS:

BEST AND INNOVATIVE PRACTICE OPTIONS

September 30, 2016

REDUCE ENERGY CONSUMPTION

Increase Efficiency of Public Facilities and Operations[1,2]

1 TRACK

a) Complete baseline and updated greenhouse gas (GHG) inventories for government operations.[1]
b) Regularly track and benchmark energy performance at all government facilities.[1]
c) Publically disclose energy performance of all government buildings.[1]

2 PLAN

a) Prepare a GHG emission reduction plan for government operations.[1]
b) Prepare an energy plan for local government facilities and operations.[1]

3 INVEST

a) Perform commissioning and walk-through energy audits of local government facilities.[1,4]
b) Implement energy audit recommendations and upgrade energy equipment and technology used at public facilities.[1,2]
c) Require high efficiency rated equipment and appliances (e.g. ENERGY STAR, EPEAT, etc.) in purchasing policies.[4]
d) Deploy combined heat and power, district energy, and microgrid systems.[1,2]
e) Switch to energy efficient or lower-emitting non-road equipment (back-up generators, construction, lawn and garden, agriculture, etc.) used for government operations.[2]

4 ENGAGE

a) Implement employee challenges and education programs on energy and sustainability policies and practices at work and home.[1]
b) Showcase government energy efficiency initiatives to the public to inspire community action and encourage continued community support for energy efficient government operations.[2,4]

Facilitate Increased Efficiency in the Community[1,2]

5 TRACK

a) Complete baseline and updated community-wide greenhouse gas (GHG) inventories.[1]
b) Track community energy use through utility data.[3]
c) Maintain database of current energy projects in your community (via ENERGY STAR, energy atlas or map, etc.).[3,4]

6 PLAN

a) Adopt a community-wide GHG emission reduction plan (could also be framed as a climate action plan, energy plan, sustainability plan, etc.).[1]
b) Incorporate community energy infrastructure needs, goals, and strategies in master plans, comprehensive land use plans, and small area plans.[4]
c) Identify impacts of energy projects and programs to underserved communities. Approve projects and programs that maximize positive impacts and minimize negative impacts.[4]

7 INVEST

a) Expand low-income housing retrofits for energy and water savings.[1,2]
b) Develop/ join a green bank or offer other innovation financing solutions (such as loan loss reserves).[4]
c) Expand urban heat island mitigation programs.[3]
d) Implement innovative pilot initiatives and partnerships to advance implementation of technologies that lead to deep energy reductions.[3,4]

8 REQUIRE

a) Increase level of compliance for existing energy building codes.[2, 3]
b) Increase efficiency standards in energy codes (only feasible where local jurisdiction has authority).[2,3]
c) Implement mandatory energy benchmarking requirements.[1,2]
d) Develop minimum efficiency standards or benchmarks for affordable housing.[4]
e) Require new buildings in targeted communities to be district energy/microgrid-ready.[3]
f) Adopt an energy efficient outdoor lighting ordinance (for streets, parking lots, parks, or signage).[1]

9 INCENTIVIZE

a) Provide local energy efficiency incentives to residents and businesses or promote federal, state, and utility incentives.[1]
b) Provide or promote incentives for cool roofs.[3]
c) Provide or promote incentives for the public to switch to energy efficient or low-emitting non-road equipment (back-up generators, construction, lawn and garden, agriculture, etc.).[2]

10	ENGAGE a) Provide or promote commercial and residential Property Assessed Clean Energy (PACE) financing programs.[4] b) Promote voluntary energy benchmarking and provide training or technical assistance.[1] c) Implement green business challenges or other engagement programs to encourage deep energy retrofits in businesses and commercial properities.[1] d) Implement residential energy/sustainability challenges or other engagement programs to encourage deep energy retrofits in homes.[1,4] e) Promote participation in Home Performance with ENERGY STAR Program (home energy assessments and retrofits).[1] f) Expand outreach promoting weatherization assistance program opportunities.[4] g) Encourage water conservation through efficient appliances, rainwater harvesting, behavior change, etc.[4] h) Establish an energy/sustainability advising center or online portal as a one-stop shop for the public to receive free advice and resources.[4] i) Encourage green or "energy-aligned" lease terms and requirements in contract agreements for leased spaces or facilities. Provide green lease training to businesses.[1,4] j) Encourage greening of data centers and optimized cooling standards.[4]
11	SUPPORT a) Support expanded energy efficiency incentives and financing mechanisms at utility, state, and national levels.[2,3,4] b) Support increased efficiency in energy codes at state and national levels.[2,3] c) Support state implementation of initiatives to reduce power sector emissions (e.g. Clean Power Plan).[2] d) Support investment in cost recovery of natural gas pipeline and leak reduction upgrades.[2] e) Support implementation of efficiency and alternative energy measures at drinking water and wastewater facilities.[1] f) Support implementation of programs to reduce pipeline leaks in water distribution and wastewater collection systems.[2] g) Support investigation of waste heat recovery potential from industrial processes, data centers, sewer lines, etc.[4] h) Support time-of-sale energy label disclosure and green MLS initiatives.[4]

INCREASE RENEWABLES

12	TRACK a) Track percent generation from renewables for government operations and community-wide.[2,3] b) Track renewable energy projects community-wide (e.g. via grid-connected renewables utility data, community solar map, etc.).[3,4]
13	PLAN a) Conduct feasibility studies to evaluate renewable energy potential at public facilities or community-wide.[3] b) Adopt a net zero energy plan or policies.[4]
14	INVEST a) Install renewable energy systems on local government property.[1] b) Achieve and maintain EPA Green Power Partnership for government operations (minimum percentage standards for renewables that can be met through both on-site generation and green power purchasing).[1] c) Implement innovative pilot initiatives and partnerships to advance new renewable technologies, including deployment and testing of energy storage and recovery technologies.[3,4] d) Deploy clean, local power sources for off-road equipment use.[2]
15	REQUIRE a) Adopt solar access ordinances and similar regulations to provide a more stable investment environment.[2,3] b) Require new buildings to be solar-ready.[3]
16	INCENTIVIZE a) Provide or promote incentives for building-level renewable technologies and energy storage systems (e.g. local sales, property, or business tax exemptions; streamlined permitting, etc.).[2] b) Implement programs that support implementation of onsite renewables and energy storage systems in underserved communities.[4]
17	ENGAGE a) Work with the community to achieve and maintain EPA Green Power Community Partnership (community-wide minimum percentage standards for renewables that can be met through both on-site generation and green power purchasing).[1] b) Facilitate and support establishment of cooperative community renewable systems and cooperative renewable energy purchasing.[2,3] c) Increase public education and outreach on renewable technologies.[2]

	d) Showcase government renewable energy initiatives to the public to inspire community action and encourage continued community support for implementing renewable technologies.[4] e) Promote construction of carport canopies used for renewable energy generation and shading.[4]
18	SUPPORT a) Continue to support strong state-level renewable portfolio standards.[2] b) Support expanded renewable energy incentives and financing mechanisms at utility, state, and national incentives levels.[2,3,4] c) Support installation of on-site renewables for power water, energy, and transportation infrastructures.[2] d) Facilitate partnerships to install renewables at affordable housing developments.[4]
ADVANCE SUSTAINABLE REGIONAL MOBILITY	
Increase Efficiency of Public Sector Fleets[1,2]	
19	TRACK a) Track the effects of using electric vehicles (EVs) and alternative fuel vehicles (AFVs) in public fleets.[3,4]
20	PLAN a) Prepare a fleet management plan aimed at reducing emissions of greenhouse gases and other pollutants.[4] b) Use advanced mapping (e.g. telemetrics, geographical information systems, etc.) to determine most efficient routes for public services and work travel.[4]
21	INVEST a) Increase share of EVs and AFVs in light-duty public sector fleets.[2] b) Implement fleet procurement policies that consider feasibility of downsizing the fleet, right-sizing the vehicle, and purchasing the most energy efficient vehicle to meet the operational needs.[1,4] c) Fund purchases of alternative fuel and zero emission transit fleet buses.[2] d) Add alternative fuel and charging equipment (e.g. natural gas, biofuel, electric, hydrogen) to public fueling facilities. Retrofit garages and refueling facilities, as needed.[1,2] e) Retrofit vehicles to provide for increased efficiency.[2] f) Offer car sharing and bike sharing programs for employees as an alternative to expanding fleet.[1,4] g) Implement innovative pilot initiatives to advance new technologies (e.g. vehicle-to-grid, solar powered charging stations, fuel cell vehicles, etc.).[4]
22	REQUIRE a) Adopt anti-idling policies for public fleets and off-road equipment.[1,2,3] b) Adopt a green fleet policy.[1] c) Set targets for low and zero emission vehicle deployment in public fleets.[4] d) Establish a fuel consumption budget for public fleet.[4]
23	ENGAGE a) Provide staff training for efficient use of and maintenance on all vehicle types in the fleet with a particular focus on alternative fuel vehicles.[2] b) Provide employee training on eco-driving practices.[2]
	Improve Local Fuel Economy[1,2]
24	TRACK a) Track transportation sector GHG emissions.[3,4] b) Track EV and hybrid ownership community-wide.[3] c) Track or map publically accessible EV charging infrastructure community-wide.[3,4]
25	PLAN a) Update comprehensive plans and small area plans to guide EV and other AFV infrastructure development.[2,3]
26	INVEST a) Invest in a system of publically accessible EV charging stations and other AFV fueling stations.[2]
27	REQUIRE a) Adopt community-wide anti-idling regulations and actively promote and enforce.[1] b) Require new buildings to install EV charging stations or require them to be EV-Ready.[3] c) Require space for bicycle and car sharing in development plans.[4]
28	INCENTIVIZE a) Provide or promote incentives to private sector for installing EV charging stations.[2]

	b) Provide or promote incentives for EVs (e.g. tax benefits for vehicle purchase, HOV access, priority parking, etc.).[2,3] c) Provide or promote incentives for the early replacement of older vehicles that have poor fuel economy (e.g. Cash for Clunkers).[2] d) Provide disincentives for purchases of fuel inefficient vehicles (e.g. gas guzzler tax/registration fees).[2]
29	ENGAGE a) Provide outreach and education on the benefits and availability of EVs.[2] b) Promote Car Free and Bike to Work Days.[3] c) Promote car and bike sharing parking in new developments.[4] d) Expand bike and pedestrian education programs (Safe Routes to School, Street Smart Safety Campaign, cycling proficiency trainings, etc.).[3,4] e) Host a transportation challenge to reduce encourage less driving and more transit use, biking, and walking.[4] f) Promote a public eco-driving campaign.[2]
30	SUPPORT a) Support expansion of bike sharing programs, including electric bike capacity.[3,4] b) Support truck stop electrification initiatives.[2] c) Support speeding enforcement on highways.[2] d) Support adoption of CA Low-Emission Vehicle (LEV) Phase II Program.[2] e) Support the development of a low-carbon fuel standard.[2] f) Support state and national incentives for low-emitting, efficient vehicles, infrastructure, and technology.[3,4]
	Mobility Management[1,2]
31	TRACK a) Track trip share trends (single passenger trips v. carpool, transit, walk, and bike trips).[3]
32	PLAN a) Adopt a bicycle and pedestrian plan.[1] b) Conduct feasibility and cost-benefit studies of various parking management options for urban areas to help inform decision making to reduce congestion and motorized trips.[3] c) Identify impacts of transportation projects to underserved communities. Approve projects that maximize positive impacts and minimize negative impacts.[4]
33	INVEST a) Expand park and ride facilities to meet anticipated increase in rideshare and transit demand.[2] b) Implement transit enhancements to increase capacity and improve services (e.g. enhanced commuter bus service, real-time bus schedule information, bus rapid transit, etc.). Place emphasis on increasing accessibility and expanded transit options to underserved communities.[2] c) Implement initiatives that enhance intermodal transport options (e.g. from a train station there is access to a bus, car share, bike share, etc.).[3,4] d) Enhance system operational performance of roadways (e.g. signal retiming, intersection efficiency improvements, etc.).[2] e) Implement innovative pilot initiatives and partnerships to advance new technologies, such as deployment and testing of connected/autonomous vehicles.[2,4] f) Invest in bike lane infrastructure (e.g. build-out of new paved lanes, striping existing roadways, increased signage, etc.).[3] g) Achieve Bike Friendly or Walk Friendly Community Designations.[4]
34	REQUIRE a) Adopt a complete streets policy.[1] b) Require assessing availability of transit options for workers as part of the development review process.[4]
35	INCENTIVIZE a) Offer a commute options program for government employees (telework, flex-time, alternative work schedule, car pool, van pool, guaranteed ride home, bike/pedestrian, or financial incentive).[1] b) Implement transit fare reductions to targeted audiences.[2,4]
36	ENGAGE a) Promote travel demand management programs (e.g. Commuter Connections) to encourage citizens to take alternative commute options and to help employers offer alternative commute options to their employees.[1,2] b) Engage businesses to expand use of alternative commuter options and incentives.[2]

INCREASE SUSTAINABLE URBAN DEVELOPMENT

Facilitate Sustainable Development Patterns[1,2,3]

37	TRACK a) Track percent of population, household and job growth occurring in activity centers.[2,3]
38	PLAN a) Update comprehensive and small area land use plans to include energy and transportation efficiencies as a factor in project siting decisions.[2] b) Update comprehensive and small area land use plans to allow for greater concentration of growth in activity centers with high capacity transit (e.g. around rail stations) and other activity centers.[1,2] c) Develop neighborhood stabilization strategies to preserve neighborhood identify in underserved communities.[4] d) Identify impacts of land use decisions on underserved communities. Approve plans and projects that maximize positive impacts and minimize negative impacts.[4]
39	INVEST a) Implement pedestrian, bicycle, and transit improvements to accommodate growth around rail stations and other activity centers.[2] b) Implement strategies to provide residents' daily needs within a convenient walk.Place emphasis on increasing connectivity in underserved communities.[4] c) Locate one or more government facilities at a former vacant, underutilized, or brownfield site.[1]
40	REQUIRE a) Update zoning and permitting guidelines to include energy and transportation efficiencies as a factor in public siting decisions.[2] b) Update zoning and urban design guidelines to provide for greater concentration of growth in activity centers with high capacity transit (e.g. around rail stations) and other activity centers.[2,3] c) Update zoning to provide for mixed income housing and increased accessibility opportunities for low income residents.[2] d) Adopt a healthy design ordinance to promote physical activity, walkability and accessibility.[4]
41	INCENTIVIZE a) Incentivize walkable, higher density, mixed use, mixed income, and transit oriented development in activity centers.[1] b) Identify, promote, and incentivize the redevelopment of or innovative uses for vacant, underutilized, or brownfield sites.[1]

Increase Number of High Performance Buildings[1,2,3]

42	TRACK a) Track high performance building growth.[3]
43	PLAN a) Adopt a zero energy plan or policies.[4] b) Incorporate high performance building goals and strategies in master plans, comprehensive land use plans, and small area plans.[4]
44	INVEST a) Implement an affordable housing green rehabilitation program.[1,2] b) Implement strategies to achieve ENERGY STAR certification in public facilities.[3] c) Identify a pilot project for a government facility to achieve a new or high level green construction standard (e.g. LEED Platinum, Net Zero, Living Building Challenge, WELL Standard, etc.).[4]
45	REQUIRE a) Enhance green building policies to require higher level of green construction standards (e.g. LEED Gold instead of LEED Silver).[1,4]
46	INCENTIVIZE a) Offer incentives for commercial and residential buildings certified by a high efficiency building/green rating system (LEED, ENERGY STAR, Passive House, EarthCraft, Living Building Challenge, Net Zero, Well Standard, etc.).[1,2]
47	ENGAGE a) Provide education and training on new and advanced green construction standards (Living Building, Net Zero, WELL Standard, etc.).[2,4] b) Showcase high performance buildings to the public to inspire community action and encourage continued community support for development of cutting-edge green and healthy buildings in the community.[2,4]

48	SUPPORT a) Provide support for community energy districts, eco-districts, and innovation districts.[4]
	Reduce Loss and Fragmentation of Resource Lands, Canopy, and Vegetation from Development[1,2]
49	TRACK a) Evaluate tree canopy or conduct tree inventories.[3,4]
50	PLAN a) Adopt a tree canopy/forest cover goal.[1] b) Implement plan(s) to preserve and enhance ecologically valuable green spaces (such as forests, wetlands, stream buffers) in urban, suburban and rural areas (e.g. green infrastructure plan, natural resource management plan, or green space plan).[1] c) Adopt green streets plan or policies.[1,4] d) Adopt a comprehensive green roof strategy or policy.[4] e) Include shading and green infrastructure as part of the comprehensive parking plan.[4] f) Conduct an urban heat island mapping analysis to identify "hot spots" that could most benefit from green infrastructure deployment.[4]
51	INVEST a) Obtain and maintain Tree City USA designation. Designation requirements include having a tree board or department, tree care ordinance, an Arbor Day observance or proclamation, and a $2 per capita budget for public tree plantings and care.[1,2] b) Increase native tree planting on public property.[2] c) Expand implementation of green infrastructure projects. Focus implementation in "hot spots" of low-income, vulnerable communities.[4] d) Integrating green infrastructure into transportation projects.[1,4] e) Install green roof(s) on government property.[1] f) Implement district stormwater management and reuse systems.[4] g) Where possible, convert paved surfaces to green infrastructure. Where paved surfaces are necessary, consider use of cool pavement technologies[4] h) Provide public land for urban agriculture (e.g. edible landscaping, school and community gardens, urban farming).[1,4] i) Implement tools and initiatives to preserve working farmland.[1] j) Invest in mitigation or removal of invasive species.[4]
52	REQUIRE a) Require green infrastructure and tree canopy for new development and retrofits, including for parking lots, as part of the development review process.[2,4] b) Use zoning as a tool to help increase access to greenspaces for underserved communities.[4] c) Expand the responsibility of developers to plant or maintain trees over an extended period of time.[2] d) Establish a tree mitigation banking program.[2] e) Use low-impact design or environmental site design standards.[3] f) Adopt zoning, development, and permitting regulations that support local food production, processing, and distribution in urban, suburban, and rural communities (i.e. farmers' markets, community gardens, on-farm processing, agri-tourism, etc.).[4]
53	INCENTIVIZE a) Provide or promote incentives to encourage tree planting on private property.[2] b) Provide or promote green roof incentives.[4] c) Provide or promote incentives for paved surface reduction.[4] d) Provide stormwater fee credits for green infrastructure.[4] e) Provide incentives for urban agriculture (e.g. tax incentives, providing access to water, etc.).[4]
54	ENGAGE a) Promote planting, care of trees, and engage the community on tree planting.[2] b) Encourage use of native species.[4] c) Increase support and space for urban agriculture.[4]
55	SUPPORT a) Provide support for silvicultural districts.[2]
	MOVE TOWARD ZERO WASTE
56	TRACK a) Provide for community-wide waste, recycling, and composting data collection and reporting.[4]

	b) Map and optimize curbside collection routes to reduce vehicle miles traveled.[4]
57	PLAN a) Adopt a zero waste strategy.[2,4] b) Develop framework for organics collections at residential and commercial sites.[1,3,4] c) Identify solutions for disposal of household hazardous waste and pharmaceuticals. [4] d) Identify impacts of solid waste and recycling plans and programs to underserved communities. Approve plans and programs that maximize positive impacts and minimize negative impacts.[4]
58	INVEST a) Expand diversion solutions in public spaces (such as installing solar compactors for landfill waste and recycling, and displaying signage with proper waste disposal techniques).[4] b) Implement and expand food composting and recovery initiatives.[3,4] c) Determine needed upgrades of Material Recovery Facilities (MRF) and collection systems to optimize operating efficiency.[4] d) Utilize emergent technology for more efficient waste conversion (e.g. gasification, anaerobic digestion, integrated MRF systems, etc.).[4] e) Optimize performance of waste-to-energy-projects.[2]
59	REQUIRE a) Adopt and enforce recycling requirements for businesses.[4] b) Adopt a construction and demolition recycling policy. [4] c) Require no plastic bags in curbside collection for grass and leaf waste (e.g. collected in paper bags or loose only).[1] d) Implement bans on single-use products which are not readily recyclable, such as plastic shopping bags and polystyrene containers.[3,4] e) Adopt paperless systems for government records, customer billing systems, and meetings.[4]
60	INCENTIVIZE a) Implement pay-as-you-throw pricing structure for waste collection services.[4] b) Provide incentives for residential on-site composting.[4]
61	ENGAGE a) Expand community events for hard to recycle items (e.g. electronics, batteries, tires, mattresses, etc.). [4] b) Host volunteer cleanup events to guide litter removal. [4] c) Expand education and outreach initiatives to encourage sustainable consumption, increased recycling, and composting (e.g. recycling challenges, zero waste public events, etc.).[4] d) Engage and assist schools (primary, secondary, and higher education), businesses, and other organizations in the community with development of zero waste strategies. [4] e) Implement outreach initiatives to support increased reuse of construction and demolition waste.[2]
62	SUPPORT a) Support initiatives that divert healthy food that might otherwise be wasted to charitable organizations.[4] b) Support siting of renewables at landfills.[4] c) Grow and attract green businesses that upcycle materials (re-use materials by taking them out of the waste stream).[4]

RESILIENCE

63	TRACK a) Assess community vulnerability (social, environmental, and economic) to the impacts of climate change. Track implementation and monitor success (e.g. percent of populations and ecosystems in vulnerable areas protected/prepared, damage costs avoided, etc.).[1,4] b) Assess vulnerability of critical infrastructure for transportation, communication, energy utility, water and wastewater utility systems assets. Track implementation and monitor success (e.g. percent of vulnerable facilities hardened, percent of facilities in state-of-good-repair, etc.).[1,4] c) Periodically monitor regional projections for temperature, precipitation, severe weather events, sea level, and flooding.[3,4]
64	PLAN a) Prepare a climate adaptation/resiliency plan.[1,4] b) Update comprehensive plans to direct development outside of areas that are vulnerable to flooding, sea-level rise, and other climate impacts.[3,4] c) Update hazard mitigation, emergency response, recovery, and continuity of operations plans to incorporate climate impacts and preparedness.[3,4] d) Update public health plans and programs to address climate impacts. Direct related public health programs to benefit

	vulnerable and underserved populations.[4] e) Incorporate climate resilience strategies into capital improvement plans and projects.[4]
65	INVEST a) Implement local government energy assurance planning initiatives.[1] b) Pilot innovative solutions for climate preparedness in vulnerable and underserved communities.[4] c) Design new public buildings to be more resilient to climate impacts (extreme heat, severe storms, flooding, etc.). Incorporate passive survivability design features that allow facilities to continue operations during extended power outages.[3,4] d) Implement site-scale flood and heat protection measures at vulnerable critical facilities and infrastructure sites. [3,4] e) Harden existing infrastructure and accelerate rate of aging infrastructure replacement to increase resilience.[4] f) Build redundancies into infrastructure systems to increase resiliency.[3,4] g) Ensure backup power generation for critical facilities and infrastructure during power outages. Implement advanced, clean backup energy systems (e.g. off grid renewables, microgrids, etc.).[3,4] h) Restore and manage natural ecosystem functions to increase capacity to adapt to a changing climate.[3,4]
66	REQUIRE a) Update zoning, building codes, ordinances, and the development review process to ensure new development is more resilient to local climate impacts (extreme heat, severe storms, flooding, sea-level rise, etc.).[4] b) Revise infrastructure design standards to be more resilient to heat, flooding, and other climate impacts.[3,4] c) Require backup solar powered street lights and signals be integrated along evacuation routes and high traffic areas.[4]
67	INCENTIVIZE a) Direct financial and technical assistance to vulnerable and underserved communities.[4]
68	ENGAGE a) Implement public education campaign on preparedness for both citizens and commercial property owners.[3,4] b) Communicate and coordinate with vulnerable populations and communities to prepare for and respond to climate impacts.[3,4] c) Locate cooling centers near most vulnerable populations and coordinate with community leaders to communicate heat and health advisories and cooling center locations.[3,4] d) Work with small businesses to address preparedness and business continuity plans.[4] e) Showcase resiliency projects to the public to inspire community action and encourage continued community support for implementing resiliency initiatives.[4]
69	SUPPORT a) Support local and regional infrastructure agencies in preparing for climate hazards, including assessing vulnerability of critical infrastructure for transportation, communication, energy utility, water and wastewater utility systems assets and maintaining facilities in a state of good repair.

GREEN AND CLEAN ECONOMY

70	TRACK a) Track green and clean tech job growth.[4] b) Maintain an entrepreneur eco-system map and database.[4]
71	PLAN a) Update economic development plan to incorporate strategies to support emerging green or clean tech industries.[4] b) Conduct needs assessment of green job demand. Link needs identified to existing youth employment and job training programs.[4] c) Develop a green workforce strategy that supports the local green/cleantech industry. Identify green job demand and linking needs with existing job training, job placement, and youth employment programs.[4] d) Develop a green/cleantech branding and marketing strategy.[4] e) Explore the viability of establishing a land use "overlay zone" for green/clean tech companies.[4]
72	INVEST a) Adopt environmentally preferable purchasing policies that facilitates government procurement of goods and services that reduce impact on human health and environment.[4] b) Commit to divest in fossil fuels over the long-term.[4] c) Increase government spend on environmentally-friendly products and services.[4] d) Participate in cooperative public sector procurements of environmentally-friendly products and services.[3,4] e) Provide shared spaces for green/clean tech entrepreneurs, small businesses, and incubators.[4]
73	INCENTIVIZE a) Facilitate community investment in local climate action by providing and promoting incentives.[4]

	b) Develop incentives for green/clean tech businesses to locate within the jurisdiction.[4]
74	ENGAGE a) Promote the economic benefits of climate and energy initiatives.[4] b) Implement marketing strategies to attract green and clean tech businesses.[4] c) Promote buy local campaigns and initiatives.[4] d) Expand opportunities for minority and women owned businesses to participate in green and clean economy initiatives.[4] e) Provide guidance and training for local businesses to develop sustainability plans.[4] f) Create a local green job corps to employ residents in sustainable community projects.[4] g) Offer green tech training in correctional facilities.[4] h) Encourage government vendors and businesses in the community to minimize the carbon intensity of their supply chain.[4]
75	SUPPORT a) Support formation of a local green/clean tech cluster.[4] b) Support innovation districts to promote and leverage green technology projects.[4] c) Support living labs to test new technologies in specified districts of the community or for specific sectors.[4] d) Encourage employment of local residents in clean energy projects.[4] e) Advocate for state incentive programs for green and clean tech activities.[4] f) Support initiatives that provide opportunities for researchers, start-ups, federal labs, corporations, and venture capitalists to connect.[4] g) Support matchmaking services for small businesses that allows them to be paired with sustainability services.[4]

EQUITY AND HEALTH

76	TRACK a) Identify/map underserved communities.[3] b) Identify the community's priorities for equitable environmental improvements. Provide data and resources to support decision-making of priorities.[3,4]
77	PLAN a) Conduct cumulative environmental and health impact assessments in underserved communities.[3,4] b) Integrate equity and health considerations and strategies into all local government policies, plans, and programs. Identify impacts of policies and programs to underserved populations and communities and how to maximize positive impacts and minimize negative impacts.[4] c) Develop a community health improvement plan to strengthen the delivery of health services and improve community health.[4] d) Develop a Healthy Food Access or Food Security Plan.[4]
78	INVEST a) Improve equitable access and proximity to community facilities, services, and infrastructure.[4]
79	REQUIRE a) Adopt an equity or social justice policy that establishes a clear commitment to equity in local government decision-making, activities, and investments.[4] b) Adopt a precautionary principle as the underlying policy standard when it comes to reducing environmental hazards and risks.[4] c) Incorporate environmental justice criteria and priorities into zoning and permitting of development projects.[4]
80	INCENTIVIZE a. Direct environmental incentives towards underserved populations and communities.[4]
81	ENGAGE a) Provide training to local government staff on successful public engagement techniques, equity and diversity.[4] b) Provide meaningful engagement forums for underserved communities. Encourage diversity in local government appointments to advisory boards and commissions.[3,4] c) Support community environmental monitoring programs to increase community participation in gathering and accessing community data (e.g. Citizen Science).[3] d) Provide community leadership development to enhance citizen's knowledge on the local environmental planning process, how to influence environmental decision-making, and how to access data, technical assistance, andresources.[3] e) Expand healthy housing outreach programs.[4] f) Establish and support local food policy councils.[4]
82	SUPPORT a) Support local and organic food distribution network.[4] b) Support expanded acceptance of federal nutrition benefits like SNAP and WIC at farmers' markets and other points of sale for

local food.[4]

[1] *Existing action from 2016 Regional Climate and Energy Action Plan.*
[2] *Indicates an action idea under consideration by the Multi-Sector Work Group Project.*
[3] *Indicates an action idea based on other COG plans or initiatives.*
[4] *Indicates new action idea based on research of leading local, national, and international plans and practices, including:*

- Arlington County, Virginia Community Energy Plan
- Atlanta Regional Commission Green Communities Program and Impact of Community Design on Greenhouse Gas Emissions Report
- City of Alexandria, Virginia Energy and Climate Change Action Plan, Environmental Action Plan, Eisenhower West Small Area Plan
- City of Atlanta, Georgia Climate Action Plan and Power to Change Sustainability Plan
- City of Austin, Texas Climate Change Program, Sustainability Performance Tracking, and Resource Recovery Master Plan
- City of Baltimore, Maryland Climate Action Plan, Disaster Preparedness Plan, and Sustainability Plan
- City of Berkeley, California Climate Action Plan
- City of Boston, Massachusetts Greenovate Boston Climate Action Plan Update
- City of Bowie, Maryland Climate Action Plan
- City of Cambridge, Massachusetts Net Zero Action Plan and Vulnerability Assessment
- City of Chicago, Illinois Climate Action Plan and Progress Report and Technology Plan
- City of Dallas, Texas Sustainability Plan and Progress Report
- City and County of Denver, Colorado Climate Action Plan and 2020 Sustainability Goals
- City of Gaithersburg, Maryland Master Plan Sustainability and Environment Element
- City of Greenbelt, Maryland Sustainability Plan Framework
- City of Hamburg, Germany Climate Action Plan
- City of Los Angeles, California Sustainable City pLAn
- City of Louisville, Kentucky Sustainable City Plan and Progress Reports
- City of Manassas, Virginia Comprehensive Plan Environmental Sustainability Section
- City of Miami, Florida MiPlan: Climate Action Plan
- City of Minneapolis, Minnesota Climate Action Plan and Vulnerability Assessment
- City of Newark, New Jersey Sustainability Action Plan
- City of Philadelphia, Pennsylvania Growing Stronger: Toward a Climate-Ready Philadelphia, Greenworks Vision and Progress Reports, and Deep Carbon Emission Reductions Report 80x50
- City of Pittsburgh, Pennsylvania Clean Technology Program and Climate Action Plan
- City of Portland and Multnomah County, Oregon Climate Action Plan
- City of Raleigh, North Carolina Sustainable Raleigh
- City of Rockville, Maryland Energy Action Plan and Strategy for a Sustainable Rockville
- City of San Diego, California Climate Action Plan, Clean Tech Leadership Strategy, and Cleantech San Diego
- City of San Francisco, California Climate Action Strategy and Reaching 80x50: Technology Pathways to a Sustainable Future
- City of Santa Monica, California 15x15 Climate Action Plan, Sustainable City Plan, and Sustainability City Report Card
- City of Seattle, Washington Climate Action Plan, Implementation Strategy, Race and Social Equity Initiative, and Waste Prevention Goals
- City of Takoma Park, Maryland Sustainable Energy Action Plan and Local Action Plan for Reducing Greenhouse Gas Emissions
- City of Toronto, Ontario Zero Waste Toronto
- City of Vancouver, British Columbia Greenest City 2020 Action Plan
- City of Washington DC Sustainable DC, *DRAFT* Climate Ready DC Plan, and DRAFT Comprehensive Energy Plan
- CDP State and Regional Climate Action Platform 2015 Climate Data Reported
- Compact of Mayors
- European Green Capital
- Fairfax County, Virginia Solid Waste Management Plan Update 2015 and the Environmental Quality Advisory Council's Annual Report on the Environment
- Frederick County, Maryland Sustainable Action Plan for County Operations

- Loudoun County, Virginia Energy Strategy
- Los Angeles County, California Community Climate Action Plan
- Maryland Climate Change Program and Zero Waste Plan
- Massachusetts 2010-2020 Solid Waste Master Plan
- Metro Atlanta Chamber Metro Atlanta Clean Tech Ecosystem Report
- Metropolitan (Boston) Area Planning Commission Regional Climate Change Strategy
- Miami-Dade County, Florida Climate Change Action Plan
- Montgomery County, Maryland Climate Protection Plan, Annual Report on Sustainability, and Bethesda Downtown Plan
- New York City, New York Climate Change Program Assessment and Action Plan and OneNYC
- Post Carbon Cities of Tomorrow
- Prince George's County, Maryland Petroleum Reduction Consumption Plan and Renewable Energy Action Plan, Comprehensive Ten-Year Solid Waste Management Plan, and Comprehensive Plan
- Prince William County, Virginia Green Guiding Principles and Comprehensive Plan Environment Section
- San Diego Association of Governments (SANDAG) Climate Action Strategy
- San Joaquin Valley, California Sustainable Energy Roadmap
- Southeast Florida Regional Climate Change Compact
- STAR Communities Rating System
- Sustainable Jersey Certified
- The White House The President's Climate Action Plan
- University of Maryland Environmental Finance Center Sustainable Maryland Certified
- United Nations Human Settlements Programme (UN HABITAT) Guiding Principles for City Climate Action
- Urban Land Institute A Guide for Assessing Climate Change Risk
- Virginia Municipal League Go Green Virginia
- Virginia State Energy Plan
- Western Australian Waste Strategy
- YSEALI Professional Fellows Program Research Project: Replicable Best Practices for Metropolitan Washington

Attachment 3

Metropolitan Washington Council of Governments

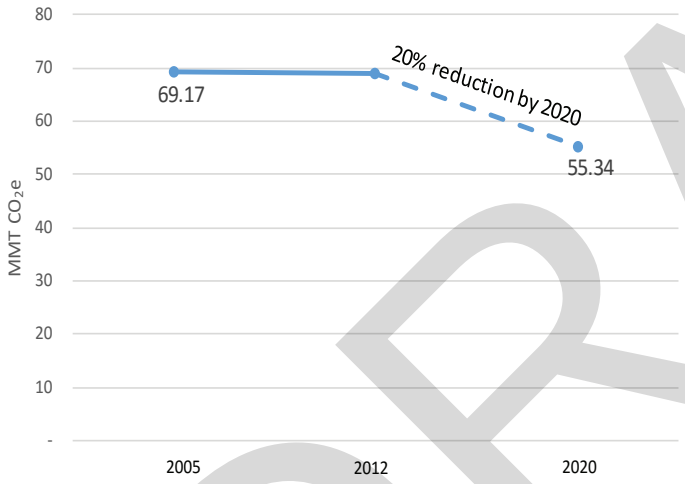
DRAFT CLIMATE AND ENERGY ACTION REGIONAL PROGRESS DASHBOARD

In 2008, the Metropolitan Washington Council of Governments (COG) and local governments across the metropolitan Washington D.C. area collaboratively established the regional greenhouse gas (GHG) emission reduction goals of: 10% below business as usual projections by 2012 (back down to 2005 levels); 20% below 2005 levels by 2020; and 80% below 2005 levels by 2050.

COG and its member jurisdictions are working toward these goals, and the region as a whole was able to meet the 2012 target, demonstrating that GHG reductions are possible even as the region's population and economy grows. This dashboard is a mechanism to track region-wide progress towards the 2020 GHG emission reduction goal as well as additional key indicators toward climate and energy progress. Estimated progress to-date is reflected as well as potential outcomes through 2020.

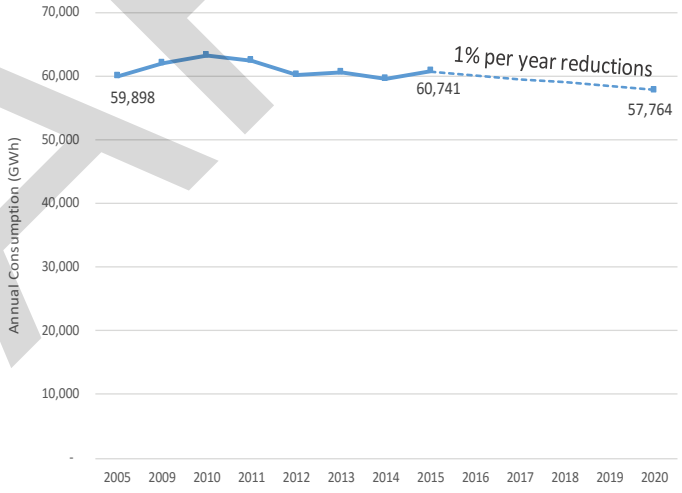
TOTAL GHG EMISSIONS*

- Met 2012 goal of 10% below business as usual projections (back down to 2005)
- Per capita decreased 10.3%, 2005-2012



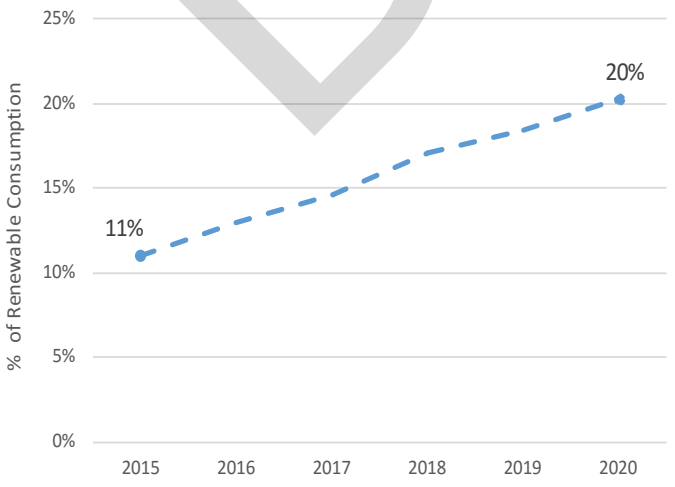
ENERGY CONSUMPTION**

- Total electricity consumption is up 1% since 2005
- Per capita decreased 12%, 2005-2015



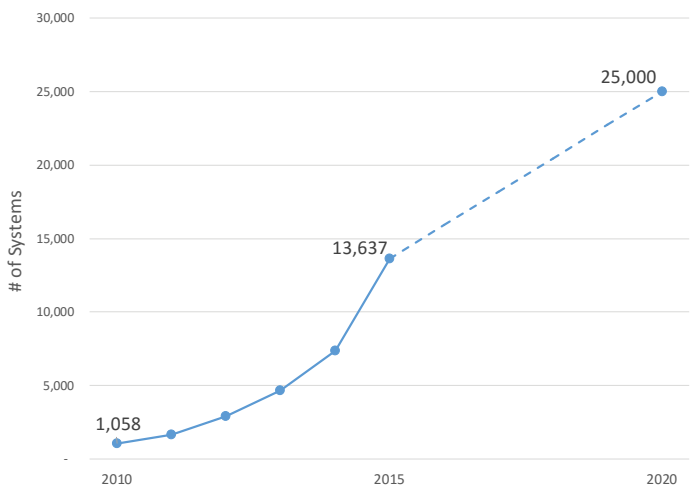
RENEWABLE GENERATION**

- 11% of total electricity generation came from renewables in 2015, surpassed 2016 goal of 10%



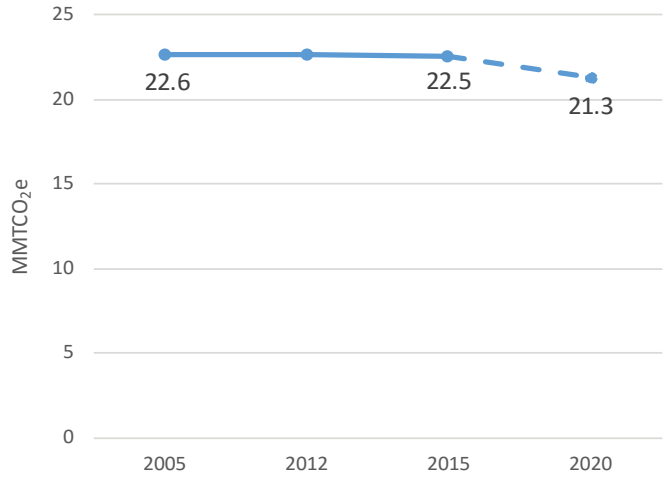
GRID-CONNECTED RENEWABLES**

- 13,637 grid-connected renewables with 132.2 megawatts of capacity in 2015



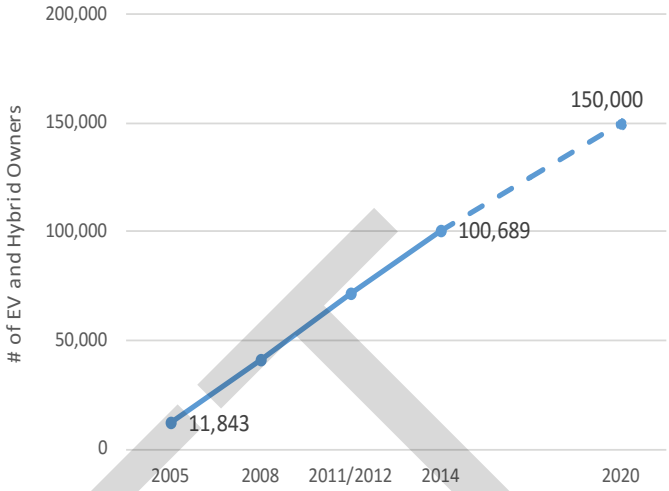
TRANSPORTATION GHG EMISSIONS***

- Although total has remained relatively flat, per capita decreased 13%, 2005-2015



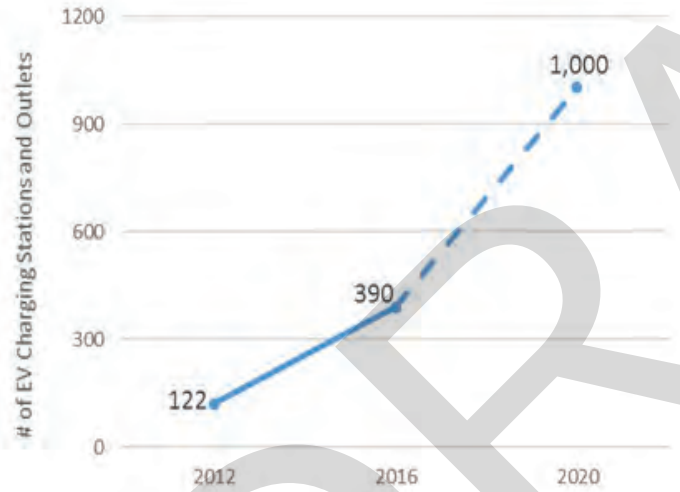
ELECTRIC VEHICLE OWNERS**

- A total of 100,689 hybrid electric, plug-in hybrid electric, and all-electric vehicle owners in 2014



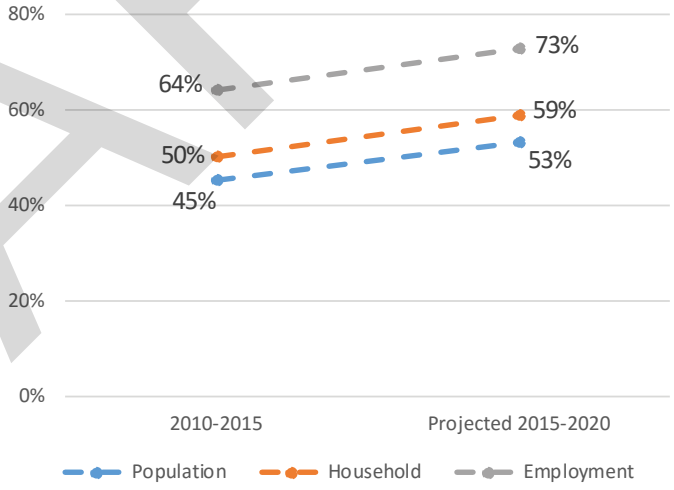
EV CHARGING STATIONS

- Number of EV charging stations tripled to 390 stations between 2012 - 2016.



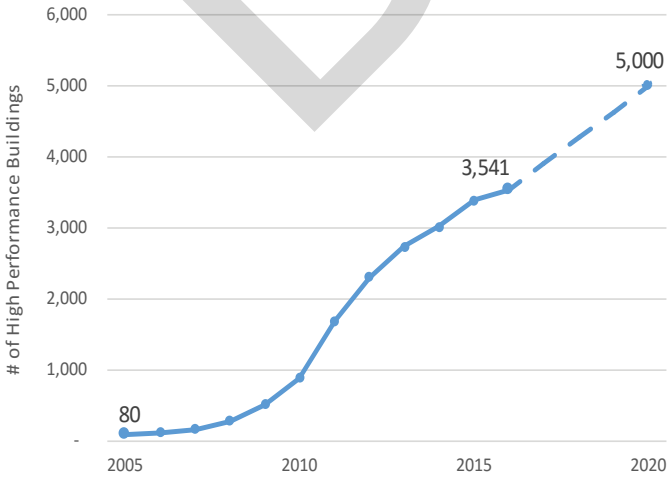
SUSTAINABLE DEVELOPMENT PATTERNS***

- 45% of population, 50% of household, 64% of job growth occurred in Activity Centers, 2010-2015[1]



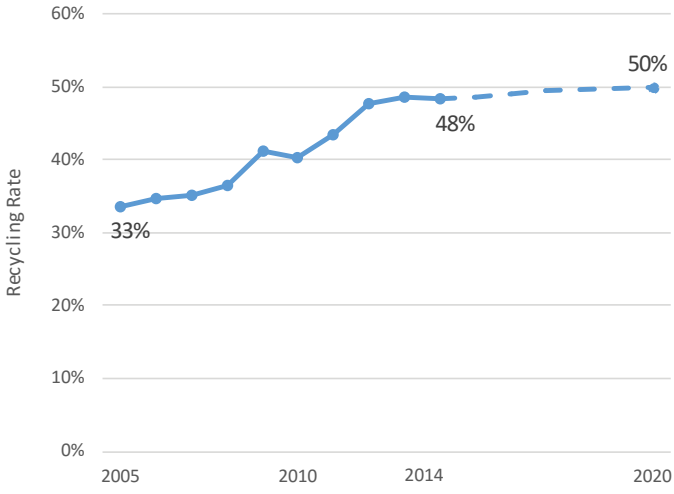
HIGH PERFORMANCE BUILDINGS**

- 3,541 high performance buildings in 2016 (LEED, ENERGY STAR, EarthCraft, Passive House, etc.)



ZERO WASTE*

- 48% recycling rate in 2014



[1]*DRAFT* Cooperative Forecasts 9.0

*Adopted Goal **Proposed Outcome ***Projected Outcome