

Appendix B: CECAP Recommended Activities for Implementation Tracking Table

The following table is a reference table to match each of the original recommendations from the CECAP Working Group and the ultimate Implementation Action numbers in the Implementation Plan.

BUILDINGS AND ENERGY EFFICIENCY			
Strategy 1: Increase Energy Efficiency and Conservation in Existing Buildings			
#	CECAP Recommended Activities for Implementation	Actor	Implementation Action #
Education			
1	Energy efficiency and, in particular, energy conservation will affect residents’ interactions with the buildings they live in, work in, and visit. Individuals will need to learn how to use and maintain different building systems. Many of these interactions will be seamless; however, educational programs can help achieve broad understanding of the changes and why they are occurring and may help to realize higher adoption rates. Education programs should leverage existing tools, such as EPA’s ENERGY STAR, which includes appliance labeling, and building and home performance tools. Additional educational programs include the following:	All	BEE.1
2	Across implementation, energy efficiency and conservation measures should consider biophilic and regenerative design elements (e.g., green roofs) to improve occupant health and comfort while reducing HVAC requirements. The U.S. Green Building Council’s Sustainable Sites Initiative (SITES™) certification is a best practice.	All	BEE.5
3	Public education events by neighborhoods, homeowners’ associations, schools, and libraries on a variety of subjects (e.g., technologies, financing, audits).	All	BEE.1
4	Contests, competitions, and awards for energy efficiency. These can be showcased for homes and businesses or be performance-based.	All	BEE.1
5	Educational videos, websites, and other media content.	All	BEE.1
6	School programming and youth education.	All	BEE.1
7	Tenant engagement programs.	All	BEE.1
8	Auditing equipment checkouts at libraries.	All	BEE.1
Business and Job Growth			
9	Expand existing businesses—energy service companies (ESCOs), energy-as-a-service (EaaS) providers, technology providers, and more—to provide bulk services to homes and businesses, thereby reducing overhead costs for businesses while servicing multiple properties.	Individuals/ Organizations	BEE.9, BEE.11
10	Encourage the incubation of startup businesses, contractors, and vendors to provide energy services locally.	Individuals/ Organizations	BEE.14, BEE.15
11	Establish or strengthen job training programs through community colleges, trade unions, or via apprenticeships to provide energy services locally.	Individuals/ Organizations	BEE.18

#	CECAP Recommended Activities for Implementation	Actor	Implementation Action #
<i>Innovation and Pilots</i>			
12	Implement technology pilots to scale solutions in government buildings and incorporate emerging solutions to grow the market and demonstrate the technology's use and effectiveness. Example technologies include electrochromic glass, phase change materials, and bi-level streetlights.	County	BEE.15, BEE.17*
<i>County Programs, Rules, and Regulations</i>			
13	Support the use of building energy codes in local development projects as building energy codes can be one of the most significant drivers of efficiency improvements, in renovation as well as in new construction.	Individuals/ Organizations	BEE.2
14	Incorporate biophilic design principles into the renovation of existing buildings to maximize carbon sequestration capacity and improve public health.	Individuals/ Organizations	BEE.5
15	Encourage building recommissioning (after the building is constructed) to ensure that buildings operate as designed and with optimal energy efficiency.	Individuals/ Organizations	BEE.12
<i>Incentives</i>			
16	Establish new energy efficiency and conservation incentive programs to complement existing programs, such as high-performance building density zoning bonuses, permit streamlining, property tax incentives, audit programs, and accelerated permitting or review for certain technologies or programs.	County	BEE.8, BEE.11
17	Require energy code compliance for all major renovations in addition to new construction.	County	Required by law
18	Develop a county code enforcement officer training program to better equip officers for enforcing building codes.	County	BEE.19
19	Create an energy audit program within Fairfax County Land Development Services to review and inspect the energy use of commercial buildings.	County	BEE.23
<i>Partnerships with Businesses, Non-Governmental Organizations (NGOs), Government</i>			
20	Partner with existing businesses—ESCOs, EaaS providers, technology providers, and more—to provide bulk services to homes and businesses, thereby reducing overhead costs for businesses while servicing multiple properties.	County	BEE.9, BEE.11
21	Partner with the community to encourage the incubation of startup businesses, contractors, and vendors to provide energy services locally.	County	BEE.14, BEE.15
22	Partner with the community to strengthen or establish job training programs through community colleges, trade unions, or via apprenticeships to provide energy services locally.	County	BEE.18
<i>Financing</i>			
23	Support the establishment of a local green bank, financing program, or Residential Property Assessed Clean Energy (R-PACE), allowing tax assessment financing in residential buildings. R-PACE is currently facing restrictive federal policies; however, it may become more viable in the future.	County	BEE.6
24	Continue to support the county's Commercial Property Assessed Clean Energy (C-PACE) program.	County	BEE.7

#	CECAP Recommended Activities for Implementation	Actor	Implementation Action #
25	Leverage existing public/private partnerships for loan provisions.	County	BEE.6
<i>Innovation and Pilots</i>			
26	Implement technology pilots to scale solutions and incorporate emerging solutions with the goal of growing the market and demonstrating the technology's use and effectiveness. Electrochromic glass, phase change materials, or bi-level street lighting could be some examples.	Individuals/ Organizations	BEE.15, BEE.17*
<i>County Programs, Rules, and Regulations</i>			
27	Authorize local jurisdictions to provide monetary incentives for energy efficiency.	County (with enabling)	BEE.8, BEE.21
28	Authorize local jurisdictions to mandate the use of certain technologies (e.g., electrification readiness), or certain technology bans or specifications.	County (with enabling)	BEE.23
29	Authorize local jurisdictions to adopt more stringent energy efficiency codes for new construction and major renovations.	County (with enabling)	BEE.2, BEE.23
30	Authorize local jurisdictions to use stretch codes in local development projects, such as the 20% and 40% codes developed via the Zero Cities Project.	County (with enabling)	BEE.2, BEE.23
31	Authorize local jurisdictions to require energy benchmarking and disclosure of both existing and new government, commercial, and multi-unit residential buildings.	County (with enabling)	BEE.17*, BEE.20, BEE.23
32	Authorize local jurisdictions to implement building energy performance standards for government, commercial, and multi-unit residential buildings.	County (with enabling)	BEE.3, BEE.24*, BEE.20, BEE.23
<i>Incentives</i>			
33	Develop and expand utility-sponsored programs through Virginia's Grid Transformation and Security Act of 2018 and Virginia Clean Economy Act (VCEA), and use of Regional Greenhouse Gas Initiative (RGGI) funding for low-income energy efficiency.	State/Federal	BEE.10, BEE.24
34	Create new or expand existing state-level incentive programs and funding for energy efficiency.	State/Federal	BEE.6
<i>Financing</i>			
35	Provide for new federal and state financing tools, including R-PACE.	State/Federal	Not included. As stated, this is not a role for County government.
<i>State/Federal Legislation and Programs</i>			
36	Support and implement more stringent building codes.	State/Federal	BEE.2
37	Pass state and federal carbon fees, taxes, and related programs.	State/Federal	Not included. As stated, this is not a role for

#	CECAP Recommended Activities for Implementation	Actor	Implementation Action #
			County government.
38	Implement building energy performance programs, such as energy benchmarking and disclosure programs; real estate point-of-sale requirements, such as audits, benchmarking, energy ratings, and disclosure; building energy retuning programs; energy efficiency retrofit requirements or building energy performance requirements; and Time of Use regulations for lighting and HVAC.	State/Federal	BEE.3, BEE.17*, BEE.20, BEE.23,
Strategy 2: Electrify Existing Buildings			
Education			
39	Education is key to advancing a variety of strategies, especially for electrification measures that use a variety of new technologies. As low-carbon strategies are implemented, residents, business owners, and visitors will see a variety of changes to their day-to-day life. Electrification will affect the buildings they live in, work in, and visit, and individuals will need to learn how to use and maintain different building systems. Many of these interactions will be seamless; however, educational programs can help achieve broad understanding of the changes and why they are happening and may help the county to realize higher adoption rates. Educational programs can take a lot of forms, including the following:	All	BEE.1
40	Public education events by neighborhoods, homeowners' associations, schools, and libraries on a variety of subjects (e.g., technologies, financing, audits).	All	BEE.1
41	Contests, competitions, and awards related to electrification. These can be showcases for homes and businesses, or be performance-related.	All	BEE.1
42	Educational videos, websites, and other media content.	All	BEE.1
43	School programming and youth education.	All	BEE.1
44	Tenant engagement programs.	All	BEE.1
45	Track progress and provide updates on community electrification efforts.	All	BEE.1
Business and Job Growth			
46	Create job training programs, trade unions, and apprenticeships to support the electrification industry.	Individuals/ Organizations	BEE.18
Financing			
47	Establish commercial lending programs to support implementation of electrification technologies.	Individuals/ Organizations	BEE.6
Innovation and Pilots			
48	Implement technology pilots to scale solutions and incorporate heat pump solutions with the goal of growing the market and demonstrating the technology's use and effectiveness.	Individuals/ Organizations	BEE.15, BEE.17*
Incentives			

#	CECAP Recommended Activities for Implementation	Actor	Implementation Action #
49	Establish electrification incentive programs that provide financial benefits. Examples include high-performance building density zoning bonuses, permit streamlining, and/or property tax incentives. For example, New York Clean Heat programs aim to implement solar water heating (outlined in Strategy 5) and air/ground source heat pumps.	County	BEE.8
Financing			
50	Expand existing financing programs that already support a variety of energy efficiency work to include electrification measures.	County	BEE.6
51	Continue to support the county's C-PACE program.	County	BEE.7
Business and Job Growth			
52	Support existing businesses in providing bulk services providing electrification to homes and businesses.	County	BEE.6
53	Partner with the community to encourage the incubation of startup businesses, contractors, and vendors to provide energy services locally.	County	BEE.14, BEE.15
54	Support and educate installation contractors in the development of their offerings to include a broader set of electrification solutions, including controls and dual-fuel heating systems.	County	BEE.18
Partnerships with Businesses, NGOs, and Government			
55	Partner with the community to strengthen or establish job training programs through community colleges, trade unions, or via apprenticeships to provide energy services locally.	County	BEE.18
56	Partner with building owners to conduct an analysis and work to reduce refrigerant emissions.	County	BEE.20
County Programs, Rules, and Regulations			
57	Authorize local jurisdictions to provide monetary incentives for electrification.	County (with enabling legislation)	BEE.8, BEE.23
58	Authorize the county to implement more stringent building efficiency regulations and mandates.	County (with enabling legislation)	BEE.2
59	Explore the feasibility and effectiveness of technology mandates for electrification technology (e.g., use of heat pumps, electric water heaters/cooktops) and explore the feasibility of fossil fuel use restrictions for new construction.	County (with enabling legislation)	BEE.23
60	Develop incentive programs to help finance building retrofits and equipment upgrades by working with local utilities and other actors.	County (with enabling legislation)	BEE.8
Financing			
61	Establish a state-wide Residential Property Assessed Clean Energy Program (R-PACE) allowing tax assessment financing in residential buildings.	State/Federal	BEE.23

#	CECAP Recommended Activities for Implementation	Actor	Implementation Action #
62	Establish a statewide green bank to support various measures, including implementation of electrification technologies.	State/Federal	BEE.6
<i>Innovation and Pilots</i>			
63	Implement electrification and incorporate heat pump solutions in government buildings with the goal of growing the market and demonstrating the technology's use and effectiveness.	State/Federal	BEE.17*, BEE.20
<i>Incentive Programs</i>			
64	Support new or expanded state-level incentive programs for electrification technologies.	State/Federal	BEE.8
65	Require utilities to implement more aggressive electrification solutions through incentive programs. Models for statewide legislation and programming are available in a variety of states, including New York, Maine, and Vermont.	State/Federal	BEE.23
Strategy 3: Implement Green Building Standards for New Buildings			
<i>Education</i>			
66	Education is key to advancing a variety of strategies and increasing awareness of green buildings and the associated technologies is an important part of implementing this strategy. As more green buildings are built and used, residents, business owners, and visitors will see and experience their many benefits. In addition to lived experiences in green buildings, educational programs can help achieve broad understanding of the green building practices, materials, and principles. Educational programs can take a lot of shapes and forms, including the following:	All	BEE.1
67	Public education events by neighborhoods, homeowners' associations, schools, and libraries on a variety of subjects (e.g., technologies, financing, audits).	All	BEE.1
68	Contests, competitions, and awards related to green building. These can be showcases for homes and businesses, or be performance-related.	All	BEE.1
69	Educational videos, websites, and other media content.	All	BEE.1
70	School programming and youth education.	All	BEE.1
<i>Individual Actions and Partnerships with Businesses, NGOS, and Government</i>			
71	Participate in voluntary building certification programs, such as net zero buildings, LEED, Green Globes, ENERGY STAR, and EarthCraft, among others.	Individuals/ Organizations	BEE.3, BEE.8, BEE.17*, BEE.20
72	Promote green leasing models: Green leasing, or energy-aligned leasing, creates mutually beneficial landlord-tenant relationships that lead to high-performing buildings. More specifically, they are seen as a way to solve the "split incentive" barrier, wherein a building owner must invest in energy improvements, while tenants benefit from decreased utility costs. There are many case studies, guides, and sample language available through the Green Lease Leaders program.	Individuals/ Organizations	BEE.6

#	CECAP Recommended Activities for Implementation	Actor	Implementation Action #
73	Prioritize adaptive reuse of existing buildings and focus on vacant or abandoned buildings.	Individuals/ Organizations	BEE.4
74	Promote green infrastructure in development projects to protect and expand local natural resources. Examples include green roofs, rain gardens, and pollinator gardens. Native species of plants should be used to avoid the detrimental effects of invasive species.	Individuals/ Organizations	BEE.5
75	Empower members of homeowners' associations, large-scale rental communities, and other communities to build and/or renovate using green building practices and to restore and expand trees and green spaces.	Individuals/ Organizations	BEE.5. BEE.17*
County Programs, Rules and Regulations			
76	Continue to lead by example and push for more stringent green building policies under the county's existing Green Building Policy.	County	BEE.2, BEE.23
77	Incorporate the county's own policies in planning and zoning guidelines such that developers are not required to do this, but get implicit incentives knowing that such practices are preferred.	County	BEE.8
78	Develop a county code enforcement officer training program to better equip officers for enforcing building codes.	County	BEE.19
79	Create an energy audit program within Fairfax Land Development Services to review and inspect energy use in commercial buildings.	County	BEE.23
80	Encourage building commissioning to ensure that buildings are designed with optimal energy efficiency.	County	BEE.12, BEE.20
Incentives			
81	Establish new green building incentive programs in the form of high-performance building density zoning bonuses, permit streamlining, property tax incentives, audit programs, and accelerated permitting or review for certain technologies or programs.	County	BEE.8
82	Provide expanded incentives to homebuilders for the construction of green buildings, such as ENERGY STAR Homes.	County	BEE.8
83	Provide expanded incentives for adaptive reuse (i.e., rehabilitation and reuse of existing buildings).	County	BEE.4
County Programs, Rules, and Regulations			
84	There are additional programs and policies that would support county energy and climate goals; however, the county is currently unable to enact them unilaterally. The Virginia legislature has the potential to provide Fairfax County with the ability to implement more stringent building efficiency regulations or mandates. The county can look to support these initiatives, which could include the following:	County (with enabling legislation)	BEE.23
85	Authorize local jurisdictions to provide monetary incentives for green buildings.	County (with enabling legislation)	BEE.8

#	CECAP Recommended Activities for Implementation	Actor	Implementation Action #
86	Authorize local jurisdictions to adopt “stretch” energy codes, such as the 20% and 40% codes developed via the Zero Cities Project.	County (with enabling legislation)	BEE.2, BEE.23
87	Authorize local jurisdictions to adopt energy modeling requirement for new buildings.	County (with enabling legislation)	BEE.23
88	Authorize local jurisdictions to enact municipal impact fees or escrows to ensure compliance with county green building policies.	County (with enabling legislation)	BEE.23
89	Authorize local jurisdictions to mandate the elimination of onsite natural gas or other combustion in new construction and major renovations.	County (with enabling legislation)	BEE.23
90	Authorize local jurisdictions to mandate electric hookup capabilities for residential kitchen appliances, HVAC equipment, and/or electric vehicles.	County (with enabling legislation)	BEE.23
<i>Recommended Activities for Implementation for State and Federal Governments</i>			
91	Adopt more stringent statewide energy codes.	State/Federal	BEE.1, BEE.23
92	Implement statewide GHG emissions requirements for new residential and commercial buildings via siting and permitting regulations.	State/Federal	BEE.23
93	Implement green building incentive programs, similar to Virginia’s allowance for local governments to offer property tax exemptions for energy-efficient buildings, and the WarmWise Home Savings Program.	State/Federal	BEE.8

** Pilots may not be limited to technology and include other types of projects, initiatives and programs, or private entities may voluntarily implement more stringent building energy practices.*

***An additional action BEE.13 “Use demand management practices to reduce demand for electricity or natural gas during peak periods,” is included in the CECAP Implementation Plan and included in Action 1e of CECAP.*

ENERGY SUPPLY

Strategy 4: Increase the Amount of Renewable Energy in the Electric Grid

#	CECAP Recommended Activities for Implementation	Actor	Implementation Action #
	Education		
94	Education on renewable electricity options. Educational programs can take a lot of forms to broadly explain the technologies and barriers to new renewable electricity sources.	All	ES.1
95	Encourage the expansion of renewable energy generating capacity locally and regionally for its environmental and societal benefits.	All	ES.3, ES.6, ES.14, ES.18
	Partnerships with Businesses, NGOs, and Government		
96	Support the purchase of renewable energy projects and products through power purchase agreement and renewable electricity certificate purchases.	Individuals/ Organizations	ES.3, ES.6, ES.14
	Financing		
97	Develop countywide renewable energy projects and/or programs, such as a green bank.	County	ES.7
	Partnerships with Businesses, NGOs, and Government		
97.1	Support the purchase of utility renewable energy projects and products by county government operations, such as power purchase agreements (PPAs) to purchase renewable electricity for the county.	County	ES.3, ES.6, ES.14
97.2	Incorporate opportunities for renewable energy by working with partners in land use and transportation planning (e.g., create zoning for small wind installations, enhance opportunities for solar installations by collaborating with the Virginia Department of Transportation).	County	ES.14, ES.16
97.3	Educate community members on efforts to make the regional grid more sustainable and how they can help.	County	Not included
	County Programs, Rules, and Regulations		
98	Provide clear authority for Fairfax County to develop Community Choice Aggregation programs to gain members and purchase renewable electricity.	County (with enabling)	ES.3
	State and Federal Legislation and Programs		
99	Advocate for increased participation in Regional Greenhouse Gas Initiative (RGGI) and other carbon electricity pricing plans.	State/Federal	ES.17
100	Support accelerated grid transformation that goes beyond the renewable energy requirements set forth by the VCEA.	State/Federal	ES.2
101	Support and uphold grid mix requirements set forth by the VCEA.	State/Federal	ES.2

#	CECAP Recommended Activities for Implementation	Actor	Implementation Action #
102	Pass further legislation requiring a higher proportion of renewable energy on the grid, or incentives and rebates for regions with more renewable energy generation and usage.	State/Federal	ES.16
Strategy 5: Increase Production of Onsite Renewable Energy			
Education			
103	Education and outreach on the benefits of solar PV technologies, community solar fundamentals, solar financing, and vetted solar installers in the county.	All	ES.1, ES.13
104	Education and outreach that promotes battery storage over fuel generators for backup power supply.	All	ES.1, ES.13
105	Support research and development to improve solar PV technological advances.	All	BEE.15, ES.12, ES.13
Individual Actions and Partnerships with Businesses, NGOs, and Government			
106	Install solar panels on the roofs of homes and businesses.	Individuals/ Organizations	ES.5, ES.7, ES.8, ES.12
107	Participate in a community solar program (or a shared solar project).	Individuals/ Organizations	ES.5, ES.4, ES.17
108	Develop solar-ready homes and buildings.	Individuals/ Organizations	ES.5, ES.4, ES.17
County Programs, Rules, and Regulations			
109	Implement programs that lower the soft costs of solar PV by streamlining permitting, lowering permit fees, and maintaining by-right zoning (meaning that projects that comply with specific zoning standards receive approval without going through a discretionary review process). Currently, the county's Land Development Services division waives the permit fee for solar permit applications, and the county's Department of Tax Administration provides a solar energy equipment tax exemption.	County	Current practice
110	Support community solar projects by promoting to potential subscribers and by leveraging county land, buildings, and schools for the projects, and by promoting community solar projects to potential subscribers.	County	ES.5, ES.4, ES.18
111	Implement programs that connect with residents and private businesses to determine the best way to improve battery adoption.	County	ES.16, ES.1, ES.12

#	CECAP Recommended Activities for Implementation	Actor	Implementation Action #
112	Build solar canopies at county-owned parking lots and depots.	County	Currently permitted. No additional authority or regulations needed.
<i>Incentives</i>			
113	Establish solar and battery technology incentive programs that provide financial benefits for installing onsite renewables or battery technologies (including solar PV cells). One major barrier to the adoption of solar power is the upfront cost required to install systems. Upfront costs can make it difficult for LMI households to access, even though LMI households could benefit the most from reduced energy bills in the long term. LMI-specific financial incentives and PACE financing have been shown to be effective strategies for increasing solar installations in previously under-served low-income communities. This could include solar incentive programs targeted toward multifamily affordable housing such as the California Solar on Multifamily Affordable Housing (SOMAH) program.	County	ES.7, ES.9, ES.13
114	Provide financial incentives or policies to lower barriers to the development of community solar projects.	County	ES.4, ES.7
<i>County Programs, Rules, and Regulations</i>			
115	Authorize local jurisdictions to provide monetary incentives for solar and battery technology projects.	County (with enabling legislation)	ES.11, ES.16
116	Amend local building codes to accommodate battery storage, such as incorporating fire safety precautions in codes. Leading municipalities have begun to incorporate U.S. National Fire Protection Association 855 into local building codes to better prepare for battery deployment.	County (with enabling legislation)	ES.9, ES.16
117	Pursue state approval for solar or battery technology mandates for certain building and facility types (e.g., solar PV on all new construction or requiring solar-ready construction).	County (with enabling legislation)	ES.9, ES.16
<i>State and Federal Legislation and Programs</i>			
118	Support policies at the state, regional, and federal levels that facilitate connections between onsite renewable energy installations and strengthen the regional electricity grid.	State/Federal	ES.1, ES.14
119	Track Virginia's recent shared solar program legislative changes and new rules to determine its effectiveness in growing community solar.	State/Federal	ES.1

#	CECAP Recommended Activities for Implementation	Actor	Implementation Action #
120	Explore opportunities to expand retail electricity supplier competition as a pathway for expanded renewable energy, which would allow home and business owners to buy renewable electricity as part of the supply portion of their electricity bill. This may include Community Choice Aggregation, as an example.	State/Federal	ES.3, ES.4
121	Support the continuation of tax credits available from the federal government for solar installation.	State/Federal	ES.10
Strategy 6: Increase Energy Supply from Resource-Recovered Gas, Hydrogen, and Power-to-Gas			
Education			
122	Education and outreach can help facilitate adoption of resource-recovered gas. There is some public misconception about the quality of resource-recovered gas compared with conventional natural gas. Providing education can inform stakeholders and the public about resource-recovered gas and its development so that the benefits that can be realized from these projects are apparent.	All	ES.1
Innovation and Pilots			
123	Initiate or participate in pilot programs to expand the use of hydrogen and power-to-gas technologies.	Individuals/ Organizations	BEE.15, ES.13
Incentives			
124	Establish resource-recovered gas incentive programs that provide financial incentive for non-county resource-recovered gas feedstock operators to provide an opportunity to encourage increased levels of adoption.	County	ES.15
County Programs, Rules, and Regulations			
125	No recommended activities specifically for individuals and organizations were identified for this strategy.	County (with enabling legislation)	Not included
State and Federal Legislation and Programs			
126	Subsidize the upfront costs of equipment for resource-recovered gas feedstock operators to provide an opportunity to encourage increased levels of adoption.	State/Federal	ES.12, ES.13
127	Streamline the interconnection process to improve and enhance the experience of interconnectors and company personnel, which can encourage feedstock operators to start resource-recovered gas operations onsite.	State/Federal	Not included
128	Establish interconnection incentives and transparent biogas quality guidelines for pipeline injection to make it easier for developers to design the proper treatment processes that will meet quality specifications.	State/Federal	Not included
129	Implement a renewable gas standard at the state level.	State/Federal	Not included. Not within County's authority

#	CECAP Recommended Activities for Implementation	Actor	Implementation Action #
130	Develop and facilitate resource-recovered gas quality and outreach programs by the county and/or state to help educate the industry on gas quality standards and monitoring in Fairfax County.	State/Federal	Not included. State and federal role.

TRANSPORTATION

Strategy 7: Increase Electric Vehicle (EV) Adoption

#	CECAP Recommended Activities for Implementation	Actor	Implementation Action #
Education			
131	Education that targets different aspects of vehicle electrification can be incorporated in all actions. Outreach activities and tailored messaging are effective strategies to advance the understanding of EV programs and achieve policy consensus; these could include a robust outreach process to real estate developers, homeowner and condo associations, and large-scale rental properties to build consensus around the need for charging stations at multifamily buildings.	All	T.1
Individual Actions and Partnerships with Businesses, NGOs, and Government			
132	Leverage existing incentives and expertise to further EV adoption and access to EV charging while enabling emerging technologies and novel financing models.	Individuals/ Organizations	T.1
133	Take advantage of existing utility and state programs offering rebates for EV infrastructure installation at multifamily residences, workplaces, and other non-residential and commercial buildings.	Individuals/ Organizations	T.2
134	Work with utilities to implement energy management tools, such as price signaling and demand response, to ensure that EV owners can charge their vehicles when electricity prices are low without creating demand surges and price spikes.	Individuals/ Organizations	T.13
135	Educate residents, employers, or employees about EVs and EV charging through targeted programs or initiatives such Ride & Drive events in collaboration with local dealerships and nonprofit organizations.	Individuals/ Organizations	T.1
Incentives			
136	Utilize existing incentives, such as the federal tax credits for new EVs, to purchase an EV, and utility rebates—if available—to purchase EV charging infrastructure.	Individuals/ Organizations	T.1
County Programs, Rules, and Regulations			
137	Review the county's transportation priorities, specifically the feasibility of electrification of the county's fleet.	County	T.7
138	Consider how the Joint Environmental Taskforce (JET) recommendations to go all electric on county school buses and the non-bus fleet by 2035 and the county public transit by 2030 may be expanded for community use.	County	T.9
139	Retire the most polluting diesel transit buses, impose a moratorium on buying new diesel transit buses, and accelerate the pace of electric transit bus acquisition.	County	T.9

#	CECAP Recommended Activities for Implementation	Actor	Implementation Action #
140	Meet existing diesel needs by rebuilding existing buses or leasing diesel or electric buses until sufficient electric buses have been acquired.	County	T.9
141	Explore creative financing options, such as leasing electric buses directly from the manufacturer, to lessen the upfront cost to the county.	County	T.9
142	Incorporate EVs in the existing on-road fleet, including medium- and heavy-duty vehicles such trash haulers, shuttles, street sweepers, transit and school buses, and off-road equipment such as mowers, forklifts, and leaf blowers.	County	T.8
143	Install EV charging at county facilities to encourage EV adoption among employees.	County	T.10
144	Develop and enact local policies to streamline and clarify EV charging permitting and inspection processes.	County	T.3
145	Leverage zoning and land use codes to incentivize or require the installation of EV-ready charging infrastructure in new buildings and in the right-of-way (on-street parking).	County	T.4
146	Streamline existing permitting and inspection processes for EV infrastructure.	County	T.3
147	Implement equity requirements for EV parking design, such as the Americans with Disabilities Act compliance.	County	T.5
148	Work with key industry and policy partners to develop county-specific policies for integrating EV technologies in autonomous vehicles.	County	T.13
Financing			
149	Take advantage of two major federal programs offering grants and incentives for alternative fuel vehicles: Congestion Mitigation and Air Quality (CMAQ) Improvement Program and Volkswagen Mitigation Trust Fund.	County	T.12
150	Work with community-based organizations and local credit unions to create equitable opportunities for EV adoption through low-interest EV loans.	County	T.11
151	Explore creative financing options, such as leasing zero-emission vehicles, to lessen the upfront cost to the county.	County	T.9
152	Take advantage of the Federal Transit Administration Low or No Emission Vehicle Program specifically designed to fund zero-emission transit buses and bus charging depots.	County	T.9
Incentives			
153	Establish electric vehicle and charging infrastructure incentive programs that provide financial benefits through tax exemptions, permit fee reductions or other means for low- and moderate-income households and allocate program funds to make EV purchases more achievable for low- and moderate-income households.	County	T.2
154	Incentivize integrating EVs across carsharing programs, ride hailing services provided by transportation network companies, and commercial delivery services (e.g., through electric vans and cargo bikes).	County	T.2, T.13

#	CECAP Recommended Activities for Implementation	Actor	Implementation Action #
County Programs, Rules, and Regulations			
155	Authorize local jurisdictions to provide monetary incentives for electric vehicles and charging infrastructure.	County (with enabling legislation)	T.13
State and Federal Legislation and Programs			
156	Establish a state green bank to support vehicle electrification implementation measures.	State/Federal	T.11
157	Work with the state and with utilities to encourage the deployment of electric transit buses and the roll out of electric school buses (e.g., ensure that adequate funding of two newly enacted state programs—EV Rebate Program (HB 1979) and Electric Vehicle Grant Fund and Program (HB 2118)—will support the deployment of electric school buses).	State/Federal	T.9
158	Adopt clean car standards. As of the writing of this report, the State of Virginia signed a bill to adopt the California Advanced Clean Cars standards, which work in combination with complementary policies to advance low- and zero-emission vehicles.	State/Federal	T.6
159	Continue to commit to reduced emissions from transportation. As a co-signatory of the Transportation and Climate Initiative Program (TCI-P), the state has committed to reduce emissions from transportation. The state could further its commitment by signing onto the multi-state memorandum of understanding, which would allow it to participate in the TCI-P cap-and-invest program to lower GHG emissions and generate funds for the states.	State/Federal	T.13
Strategy 8: Support Sustainable Land Use, Active Transportation, Public Transportation, and Transportation Demand Management (TDM) to Reduce Vehicle-Miles Traveled			
Education			
160	Education and outreach carried out at various levels can help achieve implementation of this strategy as increasing the use of public transit and commuter services as well as biking, walking, and micromobility requires changes in personal behaviors.	All	T.1
Individual Actions			
161	Walk, bike, and use public transit for commuting and in everyday life.	Individuals/ Organizations	T.1
Partnerships with Businesses, NGOs, and Government			
162	Leverage the existing community of car-free families and local biking/walking advocates and ambassadors to create opportunities to promote walking and biking activities.	Individuals/ Organizations	T.16
163	Educate employees about existing biking trails and provide discounts for public transit.	Individuals/ Organizations	T.16

#	CECAP Recommended Activities for Implementation	Actor	Implementation Action #
164	Create alternative commuting options, such as shuttle, bus services, and carpooling.	Individuals/ Organizations	T.14
165	Implement internal policies to allow teleworking options for employees whenever possible.	Individuals/ Organizations	T.1
County Programs, Rules, and Regulations			
166	Work with state and regional partners to expand walkable paths and existing bike lane networks to connect bike and pedestrian trails.	County	T.16
167	Work with state and regional partners to improve the maintenance and safety of pedestrian and biking trails by keeping them clear from ice and snow, and adding protected bike lanes to separate bikers from motor traffic.	County	T.16
168	Work with state and regional partners to provide adequate lighting and signaling for all pedestrian and bike infrastructure to ensure safety and usability.	County	T.16
169	Work with state and regional partners to invest in public transit improvements to increase access through the expansion of current and the creation of new public transit routes.	County	T.14
170	Leverage the existing County Comprehensive Plan, which includes the Capital Trails Network and Bicycle Master Plan, to improve and expand walking and biking infrastructure while minimizing incursions into RPAs as well as minimizing the loss of native tree canopy, contiguous forested areas, permeable carbon-sequestering soil, and other arable green spaces (in alignment with Strategy 12).	County	T.19
172	Leverage the existing County Comprehensive Plan and zoning to ensure that protected zones, such as the Occoquan Watershed, remain intact.	County	T.19
173	Plant trees along trails and sidewalks to provide shade while expanding natural resources (in alignment with Strategy 12).	County	T.18, NR.2
174	Install more bike racks in commercial areas and transit stations.	County	T.17, T.16
175	Use zoning and land use codes as planning tools to create higher density neighborhoods, and mixed-use and transportation-oriented developments that also include affordable housing options for middle- and low-income residents.	County	T.18
176	Explore higher pricing rates for parking at county-owned facilities, modifying parking minimums and applying other measures in zoning and land use planning, such as the creation of local congestion fees, zero/low emission delivery zones, and pedestrian-only zones in densely populated areas.	County	T.18
177	Implement internal policies to allow teleworking options for county employees whenever possible.	County	T.1
178	Upgrade broadband infrastructure to allow for increased teleworking.	County	Not included
Partnerships with Businesses, NGOs, and Government			

#	CECAP Recommended Activities for Implementation	Actor	Implementation Action #
179	Work with private companies to promote the creation of a robust network of rental bikes and other micromobility solutions that can cost-effectively fill the last-mile gap.	County	T.16
180	Support carpooling and vanpooling by providing the adequate infrastructure and educational support by, for example, advertising Fairfax County park & ride existing infrastructure.	County	T.1
Financing			
181	Seek state funding opportunities to implement Complete Streets policies and to improve the safety and interconnectivity of its walking and biking infrastructure networks. (TCI-P could be a source of funding so that the county can ensure that funds are devoted to such purposes.)	County (with enabling legislation)	T.16
182	Work with Metro and Fairfax Connector to create reduced or no-fare programs for disadvantaged categories (low-income, seniors, and students), as well as 3-, 6-, or 12-month transit passes at discounted prices to incentivize public transit ridership.	County (with enabling legislation)	T.15
State and Federal Legislation and Programs			
183	Support the creation or strengthening of programs to reduce VMT by implementing a mileage-based user fee program and/or reward individuals using public transit through tax breaks or deductions.	State/Federal	T.1
184	Work with state and federal governments to evaluate expanding light rail and other transit services into Fairfax County.	State/Federal	T.14
Strategy 9: Increase Fuel Economy and Use of Low-Carbon Fuels for Transportation			
Education			
185	Education campaigns might inform the community about vehicles with the highest fuel economy, how to increase the fuel efficiency of their vehicles, and ways to promote good practices, such as anti-idling.	All	T.1
Individual Actions			
186	Start or participate in programs to collect and reuse waste cooking oil for fuels as they could be viable for some applications.	Individuals/Organizations	Not included
County Programs, Rules, and Regulations			
187	Encourage the use of low-carbon fuels or the conversion to hybrid-electric retrofits of county-owned diesel-powered medium- and heavy-duty vehicles that are not yet commercially available as zero-emission options.	County	T.8
Financing			
188	Create financing programs for low/no-carbon fuel technologies.	County	T.11
Incentives			
189	Enact personal property tax credits for consumers purchasing higher fuel economy vehicles.	County	T.1

#	CECAP Recommended Activities for Implementation	Actor	Implementation Action #
<i>State and Federal Legislation and Programs</i>			
190	Continue to pursue opportunities for better fuel economy. As of the writing of this report, the State of Virginia recently signed a bill for the state to adopt CARB's Clean Cars standards.	State/Federal	T.6
191	Increase fuel economy for all vehicles, including aviation, through federal regulations.	State/Federal	T.13
192	Support the implementation of a Low Carbon Fuel Standard (LCFS).	State/Federal	T.13
193	Support complementary policies and incentives, such as rebates and tax credits for businesses, and non-monetary initiatives, such as preferred access to parking for alternative fuel vehicles.	State/Federal	T.13
194	Support federal fuel policies for low-carbon fuel markets in the coming years.	State/Federal	T.13

WASTE

Strategy 10: Reduce the Amount of Waste Generated and Divert Waste from Waste-to-Energy Facilities and Landfills

#	CECAP Recommended Activities for Implementation	Actor	Implementation Action #
Education			
195	Educate the community through awareness and outreach campaigns to emphasize the 5Rs—Refuse, Reduce, Reuse, Repurpose, and Recycle.	All	W.2
Education and Individual Action			
196	Implement the 5Rs in your daily life and promote initiatives that encourage the 5Rs in the community.	Individuals/ Organizations	W.2
197	Visit Fairfax County’s Public Works and Environmental Services’ “Recycle or Trash?” website to see what can be recycled in Fairfax County.	Individuals/ Organizations	W.2
198	Reduce your food waste through meal planning and participating in educational challenges such as EPA’s Food Recovery Challenge.	Individuals/ Organizations	W.4
199	Divert food waste by composting in your backyard, in a community garden, or by contracting with a business that picks up compost from your door.	Individuals/ Organizations	W.2
200	Donate unwanted, usable items instead of throwing them away.	Individuals/ Organizations	W.2
201	Donate uneaten food to organizations that provide food to food insecure populations.	Individuals/ Organizations	W.2
202	Participate in the “sharing economy” by sharing resources with your neighbors.	Individuals/ Organizations	W.2
203	Shop at businesses, or even start a business or provide business and incubation support for businesses and organizations that help to reduce waste, such as reuse centers, repair shops, and donation centers.	Individuals/ Organizations	W.2
204	Recycle your business or project’s construction/demolition debris.	Individuals/ Organizations	W.12
205	Develop a zero waste plan, goals, or framework for your community and advocate for a plan at the county level.	Individuals/ Organizations	W.5

#	CECAP Recommended Activities for Implementation	Actor	Implementation Action #
County Programs, Rules, and Regulations			
206	Expand education and outreach on source reduction, recycling, and composting (i.e., the dos and don'ts).	County	W.2
207	Improve accessibility to waste reduction and diversion actions through education materials in alternate languages.	County	W.2
208	Expansion of composting operations to manage organic waste, such as drop-off sites or curbside pick-up.	County	W.4
209	Expand the county's current glass recycling program to include more drop-off locations.	County	W.11
210	Provide for stricter enforcement of recycling through monetary penalties.	County	W.10
211	Ensure that commercial and residential entities have the same access to recycling opportunities.	County	W.9
212	Implement a pay-as-you-throw program, a pricing model based on generation, in which community members pay based on the amount of waste generated. Impacts on low- and moderate-income communities should be considered in the implementation of a pay-as-you-throw program.	County	W.13
Incentives			
213	Incentivize or require businesses to recycle.	County	W.15
214	Provide financial benefits, such as grants and incentives, for businesses that reduce waste, such as reuse centers, thrift shops, donation centers, and repair shops.	County	W.15
215	Incentivize building deconstruction, rather than demolition, to salvage and reuse building materials.	County	W.15
County Programs, Rules, and Regulations			
216	Authorize local jurisdictions to provide monetary incentives for individuals or businesses who recycle or compost certain waste types.	County (with enabling legislation)	W.15
217	Authorize local jurisdictions to allow the passage of local regulations, fees, and bans on commonly wasted items that also contribute to pollution, such as plastic bags, straws, polystyrene, and single-use containers.	County (with enabling legislation)	W.15
State and Federal			
218	Support state and federal policies that reduce waste generation, such as single-use plastic reduction measures, chemical additive regulations, and taxes on certain waste types.	State/Federal	W.15
219	Support state and federal policies to better manage construction demolition debris waste, as well as encouraging building deconstruction, rather than demolition, to salvage and reuse building materials.	State/Federal	W.15
220	Create statewide incentive programs for recycling, such as bottle return fees.	State/Federal	W.15

#	CECAP Recommended Activities for Implementation	Actor	Implementation Action #
221	Implement a state-mandated recycling rate.	State/Federal	W.15
222	Pass right to repair legislation, which allows consumers and businesses to repair and modify products such as electronics and automobiles, rather than requiring the use of the manufacturer’s repair services.	State/Federal	W.15
223	Enact state and federal legislation on Extended Producer Responsibility, also known as product stewardship, which requires producers to take responsibility of the end-of-life of the products they produce.	State/Federal	W.15
Strategy 11: Responsibly Manage Waste Generated			
Education			
224	Encourage the use of electric trash and recycling trucks to reduce GHG emissions and local air pollution.	All	W.8
Individual Actions			
225	Explore ways to ensure that private waste contracts align with best practices and best available technology for reducing emissions.	Individuals/ Organizations	W.9
226	Optimize trash pickup frequency to reduce emissions from the transportation of waste in trucks.	Individuals/ Organizations	W.7
227	Develop plans to reduce litter and illegal dumping.	Individuals/ Organizations	W.11
228	Explore ways to ensure that waste contracts align with best practices and best available technology for reducing emissions.	County	W.15
County Programs, Rules, and Regulations			
229	Understand and clearly disclose the impacts of existing waste-to-energy facilities, such as air quality analyses.	County	W.16
230	Reclaim treated wastewater and sewage sludge to reduce emissions from wastewater treatment, such as by using reclaimed wastewater for process cooling and irrigation and using sewage sludge for fertilizer application and fertilizer sales.	County	W.11
231	Optimize trash pickup frequency to reduce emissions from the transportation of waste in trucks.	County	W.7
232	Develop plans to reduce litter and illegal dumping.	County	W.11
233	Promote solar PV projects on publicly managed brownfields (e.g., closed quarries, landfills) to optimize their use and provide sites for renewable energy production.	County	ES.18
State and Federal			

#	CECAP Recommended Activities for Implementation	Actor	Implementation Action #
234	Support state and federal policies that reduce emissions from landfills, including converting captured landfill gas into natural gas and electricity for county use or sale, and capturing gas generated by closed landfills.	State/Federal	W.15
235	Support state and federal policies that promote energy recovery from waste, such as energy production using biosolids combustion.	State/Federal	W.15

NATURAL RESOURCES

Strategy 12: Support Preservation, Restoration, and Expansion of Natural Systems, Green Spaces, and Soil Quality

#	CECAP Recommended Activities for Implementation	Actor	Implementation Action #
<i>Education</i>			
236	Wide-reaching educational programs would help to ensure a lasting impact for this strategy. Education is especially key for green spaces, as the significant benefits of green spaces and trees can be overlooked in favor of management strategies that rely on exciting new technologies. To help green spaces capture the public’s attention and interest, potential educational opportunities could include the following:	All	NR.1
237	Broad educational programs on the importance and value of natural resources and trees.	All	NR.1
238	Institute a measurement tool for tracking the land’s climate impact value.	All	NR.5
239	Regularly report tree canopy data to the public.	All	NR.7
240	Monitor tree cover changes using satellite imagery urban tree canopy analyses to assess current conditions and determine how forests and urban tree ecosystems are changing over time.	All	NR.7
241	Competitions related to preserving green spaces, ideas for new green spaces, etc.	All	NR.6
242	Plant trees in clusters with understory plant species and groundcover.	All	NR.5
243	Countywide and site-specific inventories of trees in advance of proposed development can minimize impacts to and loss of high-quality trees and natural vegetative communities.	All	NR.5
244	Ensure that environmental planning and the importance of green spaces to communities is a central part of any development project—from redesigning a yard to building a new apartment complex.	All	NR.5
245	As green spaces provide numerous benefits to the surrounding area, their expansion presents an opportunity for development and partnerships among private owners, developers, companies, and different forms of government.	All	NR.5
246	Increase public awareness of the principles of biophilic design and encourage incorporating green spaces into new biophilic development projects and renovations.	All	NR.1
247	Implementation of this action may include linking green spaces within the county to one another with a system of trails, which would give residents a wider network of trails along which they could walk, run, or bike (in alignment with Action 8a).	All	NR.5

#	CECAP Recommended Activities for Implementation	Actor	Implementation Action #
County Programs, Rules, and Regulations			
248	Use the Fairfax County Tree Preservation and Planting Fund to help cover the costs of planting and preserving trees on public properties and common open spaces.	Individuals/ Organizations	NR.3
Individual Actions			
249	Coordinate community tree planting events.	Individuals/ Organizations	NR.3
250	Promote additional trees in existing spaces and native vegetation.	Individuals/ Organizations	NR.5
County Programs, Rules, and Regulations			
251	Create a cross-disciplinary county staff team to analyze existing programs and policies across the county to evaluate where climate change and natural resources intersect, and what can be added or strengthened to create a comprehensive climate (mitigation plus adaptation/resiliency) approach (Action 12c).	County	NR.5
252	Strengthen existing county voluntary programs that conserve and expand green spaces and trees. The Fairfax County Tree Action Plan provides a guiding structure through which the county can develop programs that conserve existing young and mature trees to help improve soils, filter groundwater, and remove air pollutants. Look at already available programs, such as TreeVitalize Pittsburgh or Biophilic City programs as models.	County	NR.5
253	Pursue the expansion of financial tools, such as the Tree Preservation and Planting Fund, to include tree planting in private spaces.	County	NR.3
254	Use research and inventory data to conduct land use reviews that inform local policies to prioritize open space, and better value and preserve natural areas. The county could also use this information to reform how land is sold and coordinate new and expanded green areas with new or existing trails to create a network of green spaces.	County	NR.5
255	Continue research and status checks to ensure that county programs are having their intended effect on the community.	County	NR.9
256	Require a higher density tree canopy replacement in development projects.	County	NR.5
257	Partner with homeowners' associations to promote additional trees in existing spaces and native vegetation since native species restore natural soil processes and biodiversity.	County	NR.4
Incentives			
258	Incentivize more infill development to conserve existing tree canopies and green spaces and reevaluate the existing Infill Development Review Process to incorporate best practices for preserving mature tree canopy. Specific actions include, but are not limited to:	County	NR.5
258.1	Require a tree preservation plan first, before the stormwater, utility, and building plan or before any accessory project, such as a deck, shed, etc.	County	NR.5

#	CECAP Recommended Activities for Implementation	Actor	Implementation Action #
258.2	Stop all deviations or waivers from tree canopy replacement requirements.	County	NR.5
258.3	Change setback requirements, particularly on smaller lots.	County	NR.5
258.4	Establish stiff penalties for unpermitted removal of trees and/or damaging preserved trees in any building process.	County	NR.5
258.5	Reduce the allowed amount of impermeability on any size of lot.	County	NR.5
258.6	Ban the removal of mature trees in resource protection areas, buffers, or flood plains.	County	NR.5
258.7	Require that more trees be planted in parking lots, as well as green roofs for every parking garage.	County	NR.5
258.8	Incentivize rooftop gardens for offices, condos, and other flattop buildings.	County	NR.5
259	Incentivize developers and homeowners to reduce clearing, grading, or otherwise disturbing soils for development because soils provide important carbon sequestration.	County	NR.5
260	Incentivize or require conservation of tree canopies or green spaces in development projects, such as a regulation that restricts the removal of mature trees and building designs and construction strategies that incorporate green space protection.	County	NR.5
<i>County Programs, Rules, and Regulations</i>			
261	Authorize the local jurisdiction to further create new regulations and mandates that support progress on green spaces. Policies could include strengthened regulations on the removal of mature trees, reform of eminent domain to allow for walking and biking paths, and broadening Fairfax County's ability to manage land.	County (with enabling legislation)	NR.14
<i>State and Federal</i>			
262	State and federal government action is not required for implementation for this strategy; however, both entities can provide funding, research and development, and political support for the preservation, restoration, and expansion of natural systems, green spaces, and soil quality in Fairfax County.	State/Federal	NR.14