Measures	Policy Language	2020 GHG Reductions (MTCO <sub>2</sub> e)	2020	) Performance Targets	Responsible Department	Time Frame	Action Items Identified in CAP	Progress to Date
			2,900	Participating homes	Conservation & Development		Engage with PG&E to provide multilingual and culturally relevant educational material to residents and business	Worked with PG&E implementer to target specific areas regarding Energy Efficiency Programs for
EE 3	Provide education and outreach highlighting the benefits of energy conservation.	430	60	Participating businesses	Health Services	Near-Term (by 2018)	Work with the Bay Area Green Business Program to highlight examples of energy-efficient local business	Commercial Businesses through East Bay Energy Watch. Coordinated with Green Business Program on program leads.  • As of November 2017, there are 279 certified green businesses in Contra Costa Green Business Program (CCGBP). As of January 2018, all businesses, regardless of business or facility size, pursuing certification/recertification are referred to PG&E.
	Reduce urban heat islands through vegetation management and cool surfaces.		1,790 Existing homes completing cool roof retrofits			To increase use of higher-albedo materials  Encourage developments with parking lot areas to shade	All applications for building permits must meet current building code requirements.	
			9	Existing businesses completing cool roof retrofits	•		these with vegetation or solar panels  Promote the use of low-impact development (LID) strategy	County Off-Street Parking Ordinance includes requirements for the design a location of electric
EE 4		20	500			nd reduction in impervious surface area of new levelopment Increase use of cool roof materials on new and existing uildings Support programs to plant and maintain trees.	vehicle parking spaces, short- and long-term bicycle parking, and required landscaping (see attached).  • Current Planning Division typically processes 50-60 tree permits per year; so far in 2018, Current Planning has approved 47 tree permits. Most approvals require tree restitution, which typically exceeds the number of trees approved for removal.	
RE 2	Promote installation of alternative energy facilities on public land.	270	1	MW of solar installed at public facilities in the unincorporated area	'	2018)	Continue to install alternative energy facilities on public buildings and land in unincorporated county Continue to participate in Regional Renewable Energy Procurement Project or similar bulk purchasing programs Work with East Bay Municipal Utilities District and other wastewater processors to install cogeneration infrastructure treatment facilities	Current installed capacity on County facilities is 4.38 MW.     Some wastewater processors and solid waste haulers are pursuing cogeneration projects.

Measures	Policy Language	2020 GHG Reductions (MTCO <sub>2</sub> e)	2020	) Performance Targets	Responsible Department	Time Frame	Action Items Identified in CAP	Progress to Date
LUT 3	Reduce emissions from off-road vehicles and equipment.	10	50	Lawnmowers traded in	Agriculture Conservation & Development	Near-Term (by 2018)	Consider on amondment to County Building Code to	The Agriculture Department has authority only over the use of pesticides, not the equipment in use.  Prohibiting idling of off-road and heavy equipment right now occurs on a case-by-case basis.
	Save energy used for public lighting.	580	7,210	Number of lightbulbs replaced with LED bulbs	Public Works	Noor Torm (by	Complete LED upgrade of traffic signals, street lighting, and other public lighting located in the unincorporated area of the County.	The County owns 1,800 streetlights, all of which have been converted to LED. PG&E owns 5,800 street lights in the unincorporated County, all of which have been converted to LED. All traffic signals in the unincorporated County have been converted to LED.
GO 3	Conserve water.	Supportive of Overall GHG Reductions	Supportive	n/a	Public Works		Continue to install water-efficient landscaping on County properties and where possible, remove turf from County-owned facilities.	The County installed drought tolerant landscaping at the Pittsburg health clinic around 2015. Based on the success of that project, the County is replacing turf with drought-tolerant landscapes in more County facilities.
	Provide opportunities for		3000 210	Single-family homes receiving basic retrofits Single-family homes receiving advanced retrofits			Continue to expand participation in energy efficiency and energy efficiency rebate programs     Collaborate with local organizations and PG&E     Increase participation in low-income weatherization	Coordinated and implemented an annual Single- Family homeowner workshop with 47 homeowners in attendance to provide information regarding home energy efficiency rebate program.
EE 1	residential buildings to become more	2,140	700	Multi-family homes receiving retrofits	Conservation & Development	Mid-Term (by 2020)	program • Identify disadvantaged individuals to increase participation • Work with PG&E to promote appliance rebate program;	Distributed quarterly mailers to multi-family property owners regarding available energy efficiency rebate programs.
	ecome more nergy efficient.		150 2,010	Single-family homes receiving pool pump upgrades Homes receiving appliance upgrades		þ	participate in Property Assessed Clean Energy (PACE) programs.	

Measures	Policy Language	2020 GHG Reductions (MTCO <sub>2</sub> e)	2020 Performance Targets		Responsible Department	Time Frame	Action Items Identified in CAP	Progress to Date
	Provide opportunities for		240	Businesses receiving retrocommissioning	Conservation & Development	Mid-Torm /hv	financing programs  • Provide focused outreach to local business  • Develop outreach materials explaining financing opportunities  • Identify staffing and revenue stream to develop shared landlord-tenant program  • Inform nonresidential business owners about savings potential from retrocommissioning, retrofits and deep retrofits  • Inform business community of monetary benefits with energy efficient appliances; collaborate with 4CL and PG&E to develop and implement outreach.	Coordinated with East Bay Energy Watch Program lead to support their marketing campaign in specific areas requested by PG&E theoughout the County.
EE 2	nonresidential buildings to become more energy efficient.	4,630	120	Businesses receiving standard retrofits				
			30	Businesses receiving deep retrofits				
			300	Businesses receiving appliance upgrades				

Measures	Policy Language	2020 GHG Reductions (MTCO <sub>2</sub> e)	2020	0 Performance Targets	Responsible Department	Time Frame	Action Items Identified in CAP	Progress to Date
EE 5	Increase Contra Costa County's capacity for energy efficiency through financing opportunities and workforce training.	Supportive of Overall GHG Reductions	Supportive	n/a	Conservation & Development  Health Services Public Works	Mid-Term (by 2020)	Monitor grants from cap-and-trade and other sources     Create a framework for revenues from cap-and-trade offsets or allocations to fund energy efficiency and resource conservation programs     Work with Contra Costa Community College District and Contra Costa Workforce Development Board to develop workforce training programs for green jobs	In 2017, the Department of Conservation and Development received a \$49,000 grant from the California Strategic Growth Council to develop a Renewable Resource Potential Study. In 2018, DCD helped the Contra Costa Transportation Authority win a \$200,000 grant from the CA Energy Commission to develop an Electric Vehicle Readiness Blueprint. DCD also won a \$200,000 Climate Protection from the Bay Area Air Quality Management District for the Cleaner Contra Costa online platform to engage residents in climate protection activities.  Staff has not commenced developing a framework for revenues from Cap and Trade or other sources.  The EV Readiness Blueprint includes a workforce development component in which staff expects both the Workforce Development Board and the community colleges will be engaged.
			30		Conservation & Development  Public Works		<ul> <li>Identify and remove barriers to zero net energy</li> <li>Work with developers, property owners, and financial donors to construct and publicize example zero net energy home prior to adoption</li> </ul>	The Board of Supervisors declined to adopt in advance of the 2019 update to State building code an ordinance that would require solar to be installed on most new residential construction.
	Support the statewide		3		' ublic Works		Provide information about zero net energy buildings at	most new residential constitution.
	transition to net		12	Retrofitted ZNE homes			public events, on County website and in development review	
EE 6	zero energy construction for new residential buildings by 2020 and new nonresidential buildings by 2030.	290	1	Retrofitted ZNE businesses		Mid-Term (by 2020)	process, including cost effectiveness • Explore making new and significantly retrofitted County buildings zero net energy	

Measures	Policy Language	2020 GHG Reductions (MTCO <sub>2</sub> e)	2020	0 Performance Targets	Responsible Department	Time Frame	Action Items Identified in CAP	Progress to Date
RE 1	Promote installation of alternative energy facilities on homes and businesses.	8,820	50	New homes with solar arrays	Conservation & Development	Mid-Term (by 2020)	systems on commercial buildings and warehouses • Encourage participation in PG&E's green tariff program	The new County Administration Building and Emergency Operations Center are both likely to achieve LEED Gold. The Board's approval of community choice energy and decision to join MCE provides added incentive for property owners to install solar, resulting from MCE's more attractive net metering program. DCD continues to issue large numbers of building permits for rooftop solar, on the order of 1,500 per year, well exceeding the target established in the CAP. The Board in December 2017 amended the General Plan to allow solar on commercial and industrial rooftops in the unincorporated County, within the urban limit line. Utility green tariff programs are not well subscribed in California, irrespective of County actions.
			2,500	Existing homes with solar arrays				
			10	New businesses with solar arrays				
			60 3,740	arrays kW supplied by PG&E Green				
RE 3	Lower barriers to entry for the installation of alternative energy systems.	Supportive of Overall GHG Reductions	3,740 Supportive	Lariπ brodram	Conservation & Development	Term (by 2020)	Improve participation in existing financing mechanisms     Connect low-income homeowners with renewable energy rebate and financing programs     Work with local government and neighboring areas to participate in solar bulk-buying program     Connect business owners to finance and rebate programs     Work with PG&E to identify insufficient grid capacity areas     Continue exploring options for implementing Community Choice Aggregation within the unincorporated area of the County	The County has authorized three PACE providers since the Climate Action Plan was adopted: HERO, CaliforniaFirst, and Ygrene. The County will complete in November 2018 a study of renewable resource potential, and recommended changes to zoning that would facilitate installation of more renewable energy. The County and nine cities in 2017 joined the five Contra Costa cities that had already become members of MCE.

Measures	Policy Language	2020 GHG Reductions (MTCO <sub>2</sub> e)	2020 Performance Targets		Responsible Department	Time Frame	Action Items Identified in CAP	Progress to Date
LUT 1	Maintain and expand access to goods, services, and other destinations through increased transportation alternatives (mobility improvements) and improved proximity (land use improvements).	910	33,630	Average countywide bike trips per weekday	Conservation & Development Health Services Public Works	Mid-Term (by 2020)	<ul> <li>Collaborate with local transportation, land use agencies, nonprofits and other stakeholders to expand bicycle, pedestrian and existing public transportation</li> <li>Assist with Safe Routes to School implementation</li> <li>Work with local agencies to encourage bicycle safety classes in all schools</li> <li>Update County road standards to accommodate all modes of transportation</li> <li>Identify periodic updates through the Contra Costa Transportation Authority's Countywide Bicycle and Pedestrian Plan (CBPP) and work with adjoining jurisdictions to update and implement</li> <li>Revise the County CEQA guidelines to reflect implementation of Senate Bill 743</li> <li>Establish a 2020 mode share goal for bicycling by Board of Supervisors resolution, identify actions to reach goal, integrate into future General Plan updates and appeal other agencies to adopt same goal</li> <li>Identify funding sources to support increased walking and bicycling activity</li> </ul>	The County continues to add sustainable infrastructure to the County-maintained road system. Public Works added to County-maintained roads in 2018:  Bike Lanes – 18,025 linear feet (3.4 miles)  Path/Sidewalks – 1,360 linear feet (.25 miles)  Curb Ramps – 24  Pervious Pavement – 2,655 square feet  Participated in CCTA's update to the Countywide Bike/Ped Plan  Sought and won several grants for bicycle/ pedestrian plans  Currently preparing a Sustainable Transportation Planning grant application to develop expedited procedures to implement bike/ped/complete streets projects.
			4700	Annual VMT per public charging station	Conservation & Development Public Works additional departments, depending on grant resources		<ul> <li>As possible, include alternative-fuel use goals in franchise agreements for waste hauling and contracts with other vehicle fleets.</li> <li>Support development of alternative-fuel and electric vehicle (EV) charging stations, including amending parking design and layout section (82-16-404) of the County Zoning Code</li> <li>Pursue grant funding opportunities to install public EV chargers or other alternative fuel charging stations</li> </ul>	As of 2017, one waste hauler has voluntarily converted fleet to compressed natural gas. Other franchise agreements will be up for renegotation in about five years, at which time requirements for alternative fuel vehicles can be explored if haulers have not made that change already.  EV provisions are located in County Code Sections 74-4.006(j) and 82-16-404(e).  The County is working with the Contra Costa Transportation Authority to develop an EV Readiness Blueprint under a \$200,000 grant from the CEC. The Blueprint will identify locations for shared mobility hubs for charging many types of vehicles, as well as best

Measures	Policy Language	2020 GHG Reductions (MTCO <sub>2</sub> e)	2020 Performance Targets		Responsible Department	Time Frame	Action Items Identified in CAP	Progress to Date
	Expand the use of alternative fuels in vehicle travel.	7,630	14,220	VMT per EV		Mid-Term (by 2020)		practices and policies. CCTA will be eligible to compete for Phase 2 implementation grants in 2019. Iders.  • Public Works is pursuing grant funding related to installing public EV chargers as follows:  1. Initiated discussions with PG&E pertaining to the EV Charge Naturals program. The program requires an
			4,830	Electricity use per EV	<i>'</i>		easement and a ten year agreement. 2. Public Works has identified Califor Board Low Carbon Fuel Standard Pro	Charge Network program. The program requires an easement and a ten year agreement.  2. Public Works has identified California Air Resources Board Low Carbon Fuel Standard Program (LCFS) as a potential source of continuing cash flow for EV chargers.
			1,790	Households with an EV				

Measures	Policy Language	2020 GHG Reductions (MTCO <sub>2</sub> e)	2020	) Performance Targets	Responsible Department	Time Frame	Action Items Identified in CAP	Progress to Date
LUT 5	Provide opportunities to grow, sell, and purchase local food.	Supportive of Overall GHG Reductions	Supportive	n/a	Agriculture Conservation & Development County Administrator's Office	Mid-Term (by 2020)		<ul> <li>Amend Zoning Code - Completed.</li> <li>The current County Code allows "crop and tree farming" as a permitted use in all residential districts.</li> <li>The County is currently reviewing agricultural land uses that would further promote and incentivize agricultural sustainability and economic vitality. Targeting Summer 2019 for BoS to consider Draft Ordinance.</li> <li>Continue to support local farmers markets, community gardens, school gardens and urban agricultural practices.</li> <li>We continue to register and issue certificates, check for problems, assist Farmers and Market Managers with getting established, and any problems they may have.</li> <li>Encourage partnerships between local food growers and local food retailers.</li> <li>Working with DCD through changes in policy to help facilitate growers to have the ability to have their own retail outlets or other value added businesses.</li> <li>Encourage partnerships between local food growers and local schools, hospitals, colleges and correctional facilities.</li> <li>Laws have been enacted to require a certain percentage of foods at some of these facilities to be from California sources.</li> <li>Liberty Union High School District put up for sale the parcels intended to be expansion high schools #4 and #5.</li> </ul>

Measures	Policy Language	2020 GHG Reductions (MTCO <sub>2</sub> e)	2020	0 Performance Targets	Responsible Department	Time Frame	Action Items Identified in CAP	Progress to Date
W 1	Develop a waste reduction strategy to increase recycling and reuse of materials.	25,780	90,850	Tons of waste reduced	Conservation & Development	Mid-Term (by 2020)	waste diversion and prevention programs: backyard composting, grass-cycling, low-maintenance gardening programs, Bay Area Regional Outreach Campaign, Environmental Action Program for Schools  • Work with owners and operators of solid waste transfer stations and landfills to establish anaerobic digesters  • Update County's Source Reduction and Recycling Element, Household Hazardous Waste Element and other components to support CAP  • Identify best practices to reduce waste water sludge (biosolids).	submitted to CalRecycle to demonstrate compliance with the diversion requirements in the Integrated Waste Management Act, the amount of unincorporated area waste reported to have been disposed of in landfills in 2017 equates to a diversion rate of 69% (annual disposal rate of 2.4 pounds per person per day).  2. Organic waste collection services are offered to residents in all four County franchise areas (one of which includes acceptance of food waste). Organic waste collection services are offered to businesses in three of the four County franchise areas (not yet offered in Crockett, Port Costa & Tormey area).  3. Ongoing.  4. The waste hauling company providing services to most of the unincorporated areas of East County is seeking to develop preprocessing capacity necessary at the East County transfer station so that targeted organic waste stream could be processed in existing anaerobic digester located at nearby wastewater treatment facility. The company has applied for a cap and trade funded grant to help support this effort.  5. DCD updates waste diversion programs initially established in the County's Integrated Waste Management Plan (namely the Source Reduction and Recycling Element and Household Hazardous Waste Element) as circumstances warrant using the state's
							r.Armany verify compliance with California Air Resource	Unfortunately, emissions levels were detected

Measure	Policy Language	2020 GHG Reductions (MTCO <sub>2</sub> e)	202	0 Performance Targets	Responsible Department	Time Frame	Action Items Identified in CAP	Progress to Date
W 2	Reduce fugitive methane emissions and other greenhouse gas emissions from solid waste landfills.	29,500	29,500	Increase in captured landfilled gas (MTCO₂e)		2020)	Board's landfill methane control measures  2.Request landfill operators consider additional reduction actions: reduce materials with high methane-generation potential, reduce idling time for diesel equipment, encourage adequate maintenance of rolling stock, establish standards beyond the required for landfill gas collection system leak detection and prevention, and excluding the use of green waste as a material for alternative daily cover (ADC), consistent with AB 1594  3. Amend General Plan and Zoning Code to allow renewable energy generation, such as solar and wind, on closed landfill areas	during quarterly monitoring in 2017 which exceeded the LMR so therefore the assumed methane capture rate was 75% rather than our 85% CAP goal.  2. Provisions requiring that source-separated organics waste collected by haulers providing services pursuant to two of the County's franchises be composted and no longer used as ADC have been added by way of amendments approved in 2015 and 2017. Additionally, the Board approved changes to one of the Conditions of Approval in the County issued LUP governing the Keller Canyon Landfill that requires the operator to proactively seek to ensure adequate composting capacity is available by 2020 to manage green waste currently used as ADC.  3. DCD has executed contract with the consultant selected to assist with a comprehensive update to the County's General Plan.
WE 1	Reduce water demand.	1,210	20%	Reduction from 2013 water use	Conservation & Development	Mid-Term (by 2020)	Continue to reduce potable water use by at least 20% through conservation efforts in new and existing development Continue to enforce water conservation requirements in new developments per the State Model Water Efficient Landscape Ordinance.	(1) The County does not provide potable water service and has an indirect role (no governing authority) to reduce potable water use by 20% in existing development. The County could consider establishing new development criteria that may allow a 20% reduction in future development. The County could encourage the existing water purveyors (EBMUD, CCWD, Diablo, Town of Discovery Bay and various cities) to continue programs like turf replacement and limiting outdoor water use to specified days of the week. We could also consider how to support the State's "water conservation is a way of life" campaign. (2) New development (i.e. from single family homes to subdivisions) are subject to the updated State Model Water Efficient Landscape Ordinance. The County administers this Ordinance on new development through our Planning and Building divisions.

Me	easures	Policy Language	2020 GHG Reductions (MTCO <sub>2</sub> e)	202	0 Performance Targets	Responsible Department	Time Frame	Action Items Identified in CAP	Progress to Date
WI	E 2	Provide alternative water resources for irrigation in residential and nonresidential areas.	Supportive of Measure WE 1	Supportive	n/a	Conservation & Development	Mid-Term (by 2020)	Update the Dual Water Systems Ordinance to allow the use of recycled water for irrigation in residential and nonresidential areas	(1) The County continues to seek cost effective ways to promote rainwater collection for irrigation purposes but has not identified a clear path forward. It seems the scope of this measure may be better suited for collection and irrigation of rainwater in residential land uses and may not make a good business case to apply to larger agriculture uses.  (2) The County's Dual Water Systems Ordinance, Chapter 82-30, allows for the use of recycled water in designated dual water system areas.
GŒ	O 2	Promote energy- saving tools and practices.	Supportive of Overall GHG Reductions	Supportive	n/a	County Administrator's Office Public Works	Mid-Term (by 2020)	facilities, prioritize improvements, and upgrade facilities to save energy  Increase solar electricity use for County and agency operations	The Board has adopted a Distributed Energy Resources Plan that calls for better integration of energy projects in County facilities. Sun Power through a competitive bid process is assisting the County in siting solar panels on up to 11 County facilities.

Measures	Policy Language	2020 GHG Reductions (MTCO <sub>2</sub> e)	202	0 Performance Targets	Responsible Department	Time Frame	Action Items Identified in CAP	Progress to Date
GO 5	Establish budgeting and administration practices to support the Climate Action Plan.	Supportive of Overall GHG Reductions	Supportive	n/a	County Administrator's Office Public Works	Mid-Term (by 2020)	Ensure the Environmental Purchasing Policy includes: green office supplies and green fleet and equipment     Reduce County fleet use of traditional fuels 20% by 2020     Evaluate progress of Measure 13 from 2007 Municipal Climate Action Plan (30% of employees telecommuting two days a week)     Develop a process for sharing government operations' energy and water use and efficiency and conservation measures with public as an educational tool     Advocate for regional, state, and federal activities that support GHG emissions in the County, including: work with the BAAQMD to support reductions in process emissions from industrial entities, adopt language in the County's State and Federal legislative platforms that directs support and lobbying for local GHG reduction, advocate for additional transit funding sources concurrently with the development of priority development areas	The County has Environmentally Preferable Purchasing specfications updated in 2010 that address source reduction, recycled content, energy and water savings, green buildings, landscaping, toxics and pollutants, forest conservation, and biobased products.  Staff is developing updated information on County fleet, which will be available in early November 2018.  Through the East Bay Energy Watch the County engages with PG&E on educational materials. The County also has initiated collaboration with MCE on outreach materials.  The County regularly advocates for policies, programs, and funding that will reduce GHG emissions in the County.
			54,400	BART extension trips taken by unincorporated County residents			Collaborate with BART and other transits to increase ridership     Partner with waste haulers and other fleets to reduce	Collaborated with County Connection to promote a new bus route serving County offices     Added policy to our Federal Platform seeking funding
			32,740,820	New bus ridership miles taken by unincorporated county residents	Conservation & Development	Long-Term (by 2035)	frequency of routes  • Support and increase the use of carpooling services  • Continue to promote voluntary trip reduction programs  • Work to increase densities within half a mile of BART and Amtrak stations and a quarter mile of stops for express bus routes  • Prioritize alternative mode access to BART and other transit	for the next phase eBART extension.
11111/4	Reduce vehicle miles traveled.	4,080	1,202,980	New BART ridership miles taken by unincorporated county residents				
			1,170,070	Estimated decrease in VMT from HOV lanes				

Measures	Policy Language	2020 GHG Reductions (MTCO₂e)	2020 Performance Targets		Responsible Department	Time Frame	Action Items Identified in CAP	Progress to Date
GO 4	Reduce waste.	Supportive of Overall GHG Reductions	Supportive	n/a	Public Works	Long-Term (by 2035)	. , , , , , , , ,	The County has expanded recycling to all County offices as of October 2018.