


August 13, 2024



Consider Plan and Provide Input




Climate Resilience Comprehensive Action Plan

*County of Sonoma
County Administrator's Office*

August 2024



COUNTY OF SONOMA
Climate Action and Resiliency

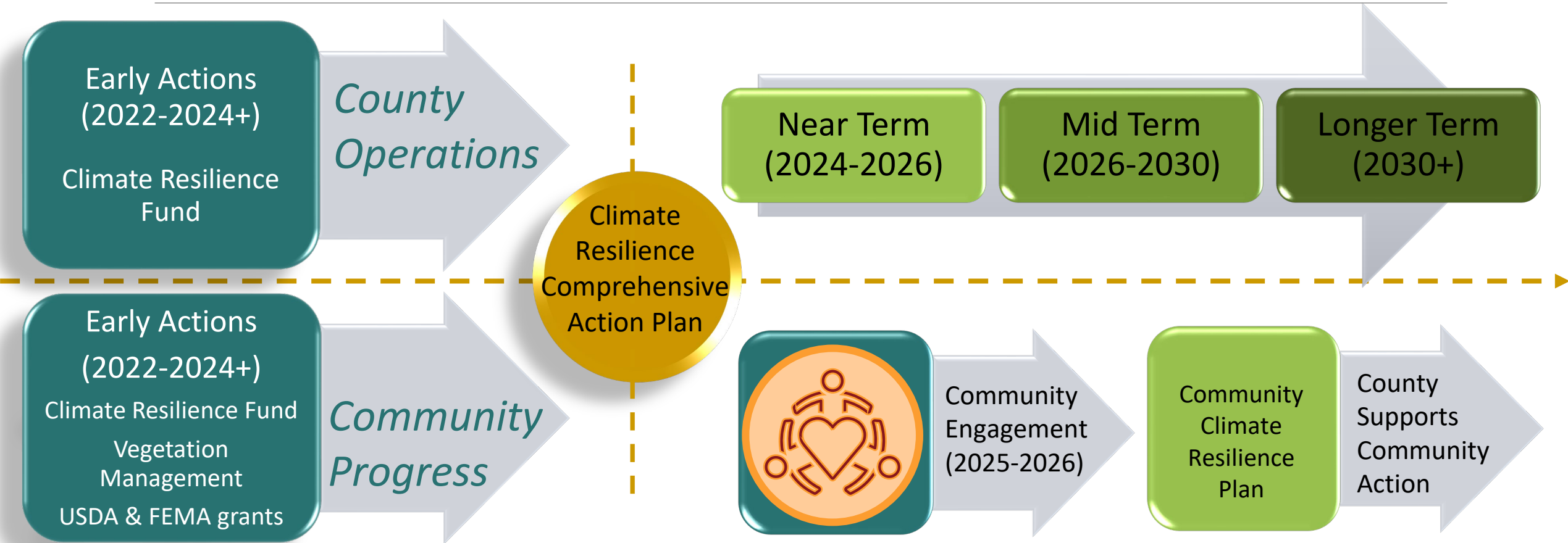


Make Sonoma County Carbon Neutral by 2030

- ❖ Invest in wildfire resilience and preparedness
- ❖ Invest in community resilience and carbon neutrality
- ❖ Make all County facilities carbon free, zero waste and resilient
- ❖ Maximize sustainability and emissions reductions in all County Fleet vehicles
- ❖ Maximize opportunities for mitigation of climate change and adaptation through land conservation work and land use policies

Carbon Neutral 2030

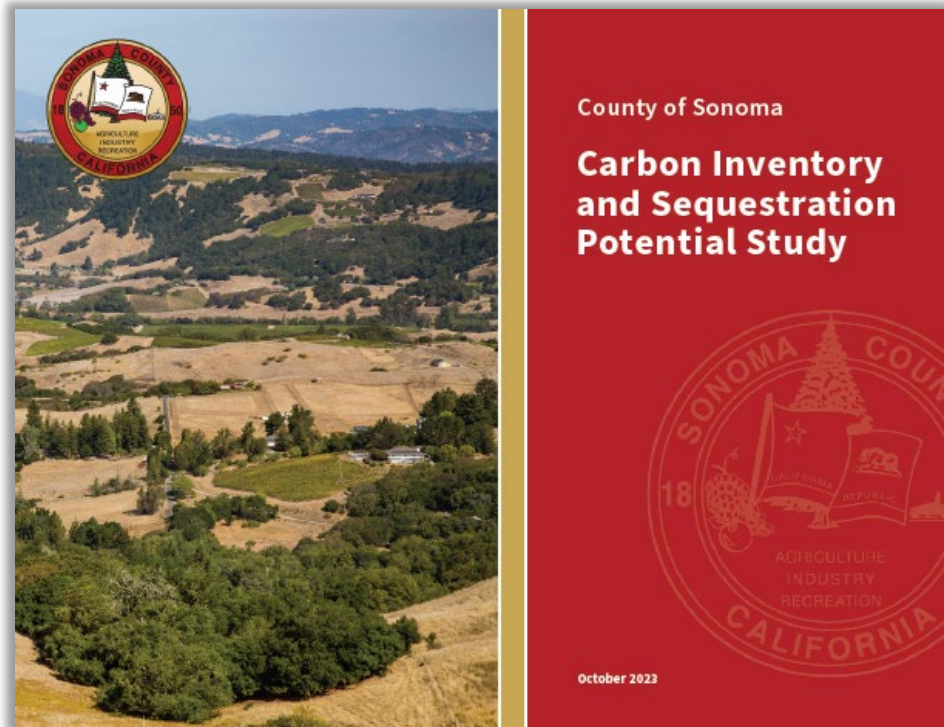
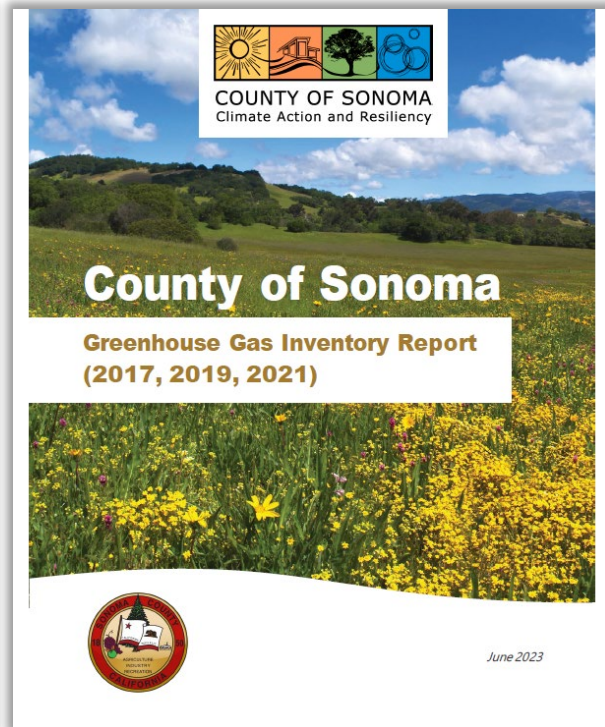
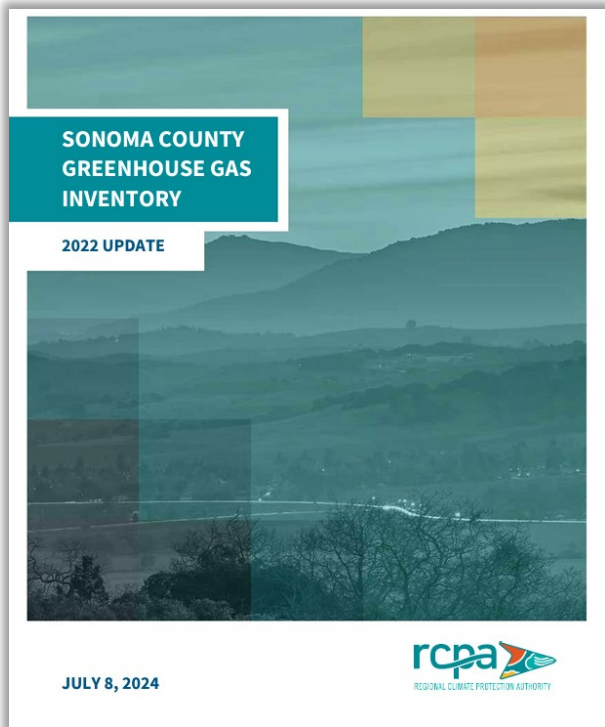
County Operations & Community Progress



Community Engagement Strategy

- ❖ Advisory Committee of Trusted Community Voices
- ❖ Operationalize the Strategy
- ❖ Collaborative Engagement
- ❖ Culturally Relevant Venues & Events
- ❖ Identify Priorities, Needs, Barriers, Opportunities
- ❖ Prepare Prioritized Recommended Actions for County Support of Community Climate Resilience





(See Attachment 4-B for Inventories)

Carbon Inventories in Sonoma County

Community-wide
827.2K MT CO₂e *Emissions*



County Operations
31.7K MT CO₂e *Emissions*

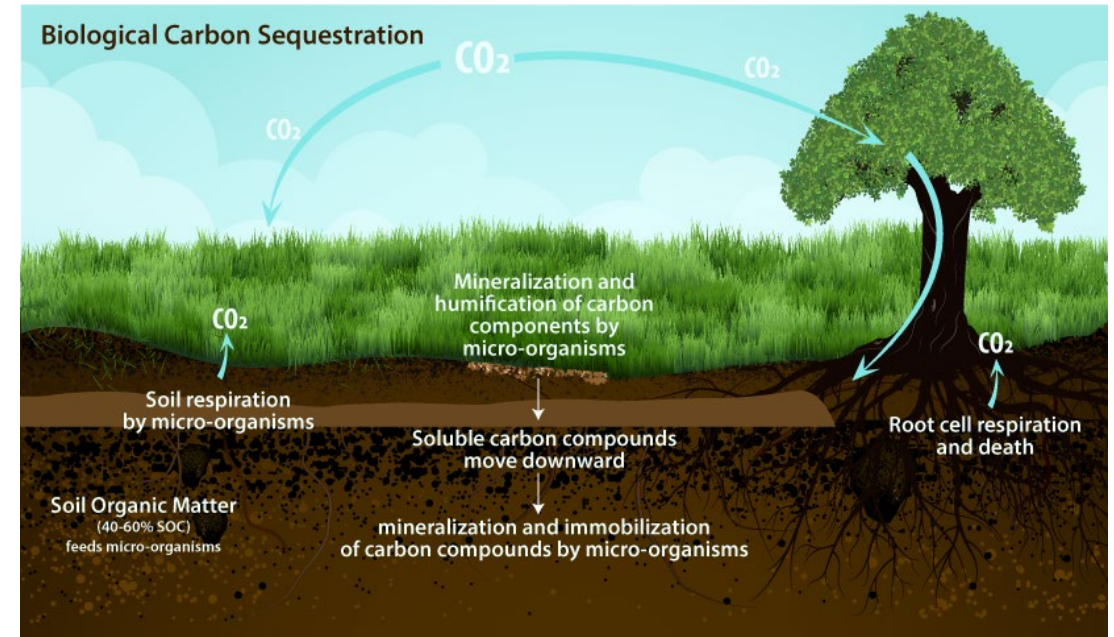
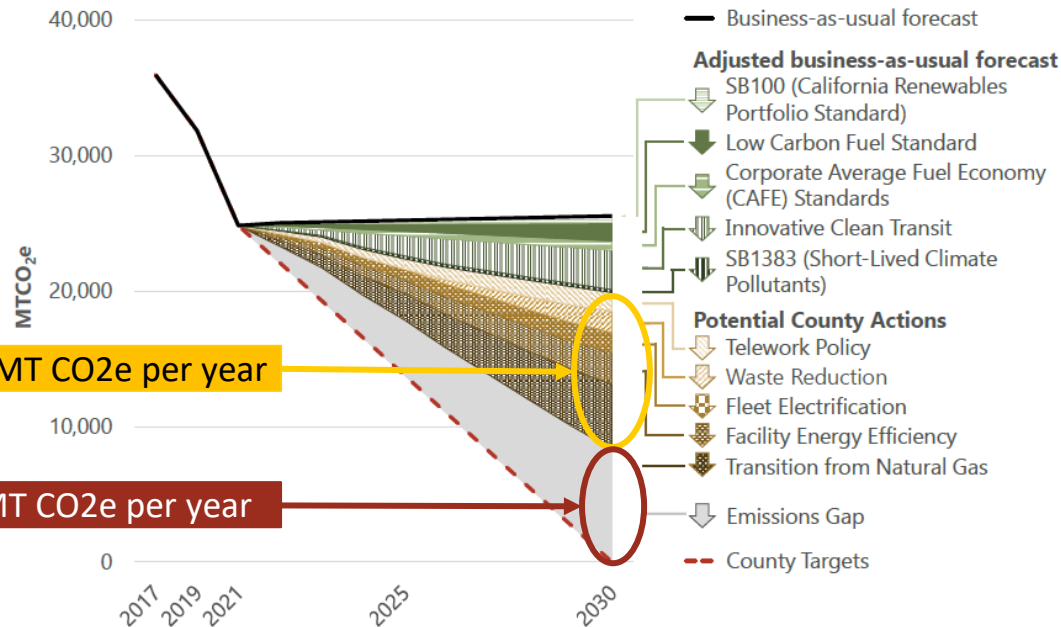


Sonoma County & County-owned Lands
105.4M MT CO₂e & 1.8M MT CO₂e *Sequestration*

Carbon Neutral: Emissions – Mitigation – Sequestration = 0

MITIGATION

SEQUESTRATION



Source: CalRecycle

Climate Plan Measures

BUILT ENVIRONMENT SOLUTIONS (MITIGATION)

Energy



Transportation



Zero Waste



NATURE-BASED SOLUTIONS (SEQUESTRATION)

Water



Wildfire



Natural and Working Lands



Statewide Targets for Nature Based Solutions

➔ Approved in April 2024

➔ Non-binding

➔ State will use to direct resources for implementation

Statewide Nature-Based Solutions & Acreage Targets				
Sector	Solution	Targets in Acres/Year, by Target Year		
		2030	2038	2045
Wildfire	Beneficial Fire Treatments	800 K	1.2 M	1.5 M
	Other Fuel Reduction Activities	700 K	800 K	1 M
	Wildfire Solutions -Total acres/year	1.5 M	2 M	2.5 M
Forests	Afforestation (adding trees)	52.9 K	52.9 K	52.9 K
	Conservation	55.1 K	55.1 K	55.1 K
	Restoration	322.1 K	462.1 K	322.1 K
	Working Forest Conservation	165.2 K	165.2 K	165.2 K
	Forest Solutions -Total acres/year	595.3 K	735.3 K	595.3 K
Shrublands & Chaparral	Conservation	104.6 K	104.6 K	104.6 K
	Restoration	37 K	40 K	45 K
	Shrublands Solutions -Total acres/year	141.6 K	144.6 K	149.6 K
Grasslands	Conservation	33 K	33 K	33 K
	Restoration	55.1 K	55.1 K	55.1 K
	Grasslands Solutions -Total acres/year	88.1 K	88.1 K	88.1 K
Croplands	Healthy Soils Practices	140 K	190 K	190 K
	Conservation	12 K	16 K	1935.5 K
	Croplands Solutions -Total acres/year	152 K	206 K	209.5 K
Developed Lands	Afforestation (adding trees) Buffers	133	185	230
	Conservation	17.3 K	17.3 K	17.3 K
	Urban & Community Greening & Forestry	34.7 K	34.7 K	34.7 K
	Reducing Community Wildfire Risks	11 K	11 K	11 K
	Developed Lands Solutions -Total acres/year	63.1 K	63.2 K	63.2 K
Wetlands & Sea Grasses	Conservation	1.3 K	1.3 K	1.3 K
	Restoration	9.2 K	9.2 K	9.2 K
	Sea Level Rise Ecosystem Protection	1.7 K	1.7 K	1.7 K
	Wetlands Solutions -Total acres/year	12.2 K	12.2 K	12.2 K
Sparsely Vegetated Lands	Conservation	20 K	30 K	40 K
	Restoration	55.1 K	55.1 K	55.1 K
	Sparse Veg. Solutions -Total acres/year	75.1 K	85.1 K	95.1 K

(See Attachment 4-B for Statewide Targets for Nature-Based Solutions)

Proportional Targets for Sonoma County

By 2030:

- ➔ 33,194 acres of Prescribed Fire each year
- ➔ 29,239 acres of Non-fire Fuels Treatments each year
- ➔ 537 acres of Urban Greening each year
- ➔ 977 acres of Developed Lands Treatments each year

Sector	Solution	Targets in Acres/Year, by Target Year		
		2030	2038	2045
Wildfire	Beneficial Fire Treatments	33,194	82,985	165,970
	Other Fuel Reduction Activities	29,045	82,985	165,970
	Wildfire Solutions -Total acres/year	62,239	82,985	165,970
Forests	Afforestation (adding trees)	934	934	934
	Conservation	973	973	973
	Restoration	5,688	8,161	5,688
	Working Forest Conservation	2,917	2,917	2,917
	Forest Solutions -Total acres/year	10,513	12,985	10,513
Shrublands & Chapparal	Conservation	2,493	2,493	2,493
	Restoration	882	953	1,072
	Shrublands Solutions -Total acres/year	3,375	3,446	3,565
Grasslands	Conservation	733	733	733
	Restoration	1,224	1,224	1,224
	Grasslands Solutions -Total acres/year	1,957	1,957	1,957
Croplands	Healthy Soils Practices	18	25	25
	Conservation	2	2	3
	Croplands Solutions -Total acres/year	20	27	27
Developed Lands	Afforestation (adding trees) Buffers	2	3	4
	Conservation	268	268	268
	Urban & Community Greening & Forestry	537	537	537
	Reducing Community Wildfire Risks	170	170	170
	Devel. Lands Solutions -Total acres/year	977	978	979
	Conservation	25	25	25
	Restoration	180	180	180

(See Attachment 4-E for the Basis of Costs & Benefits for Nature-Based Measures)

Sonoma County Natural & Working Lands

Sequestration from Sonoma County Share of Nature-Based Solutions Targets		
Solutions by Sector	Lifetime Carbon Sequestration for Achieving 2030 Targets	
	Acres	MT CO2e*
Wildfire Solutions	62,239	2.2 million**
Forest Solutions	10,513	2.1 million
Shrublands Solutions	3,375	26,000
Grasslands Solutions	1,957	36,500
Croplands Solutions	20	700
Developed Lands Solutions	977	3.5 million
Wetlands Solutions	239	240
Sparse Vegetated Lands Solutions	1,162	4,800
Total	80,482	7.9 million

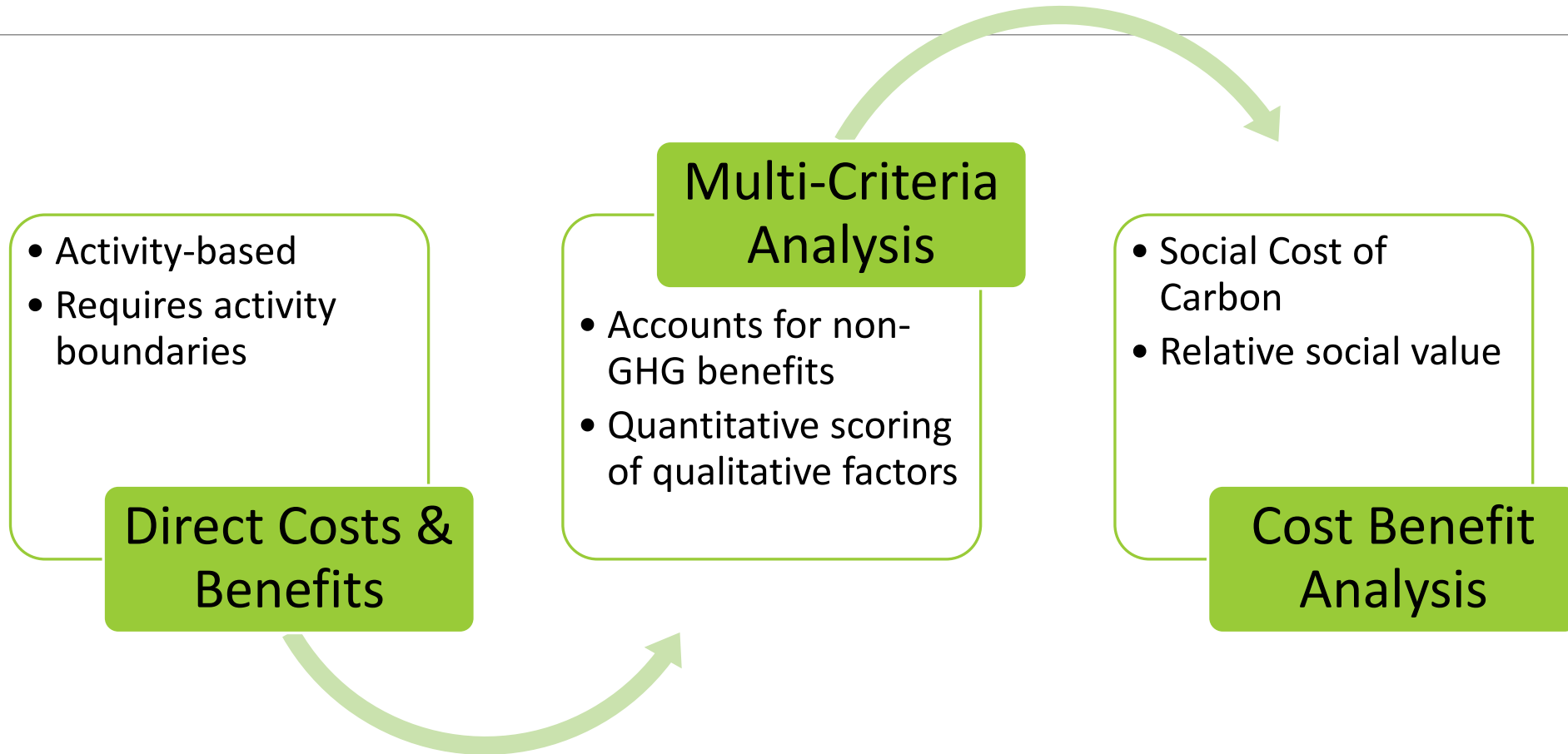
County-owned lands

Sequestration from Achieving Nature-Based Solutions Targets on County-owned Lands		
Solutions by Sector	Lifetime Carbon Sequestration for Achieving 2030 Targets	
	Acres	MT CO2e
Wildfire Solutions	1,245	43,838
Forest Solutions	210	41,871
Shrublands Solutions	68	526
Grasslands Solutions	39	730
Croplands Solutions	NA	NA
Developed Lands Solutions	20	71,606
Wetlands Solutions	5	5
Sparse Veg. Solutions	23	88
Total	1,610	158,664

Benefits of Proportional Nature-Based Solutions Targets

Countywide Emissions = 3.1 million MT CO2e ✨ Unincorporated Emissions = 827k MT CO2e ✨ County Emissions = 32k MT CO2e

Evaluating Costs & Benefits of Measures



Multi-Criteria Analysis

- ❖ Climate Mitigation
- ❖ Climate Resilience
- ❖ Co-benefits
- ❖ Environmental Equity & Justice
- ❖ Cross Strategic Plan Alignment
- ❖ State & Federal Funding Potential

(See Attachment 4-F for the Multi-Criteria Analysis)

Measure ID	Action Short Name	Current MCA Score
NWL-CO-1, 4, 5; W-CO-3, 5	Protect existing rural and urban forest cover and green spaces	65.67
NWL-CO-2	Increase Tribal Land Management	58.00
WF-CO-1	Implement the Wildfire Resilience Project	54.00
T-CO-9	Reduce County staff commuting	47.50
W-CO-4	Prioritize Conservation Practice Projects on County Lands	46.67
W-CO-2	Implement green stormwater infrastructure (GSI) projects	41.33
NWL-CO-3	Establish Compost and Mulch Application on County Lands	41.00
E-CO-2, 10	Electrify County buildings	40.67
E-CO-1, 3, 8	Perform energy efficiency upgrades and retrofits	40.67
W-CO-1, 6, 7; WF- CO-3, 4, 5, 6, 7; NWL- CO-6	Conserve water	38.17
E-CO-9	Support Decarbonization Transition Planning	36.83
WF-CO-2	Develop a Wildfire Risk Reduction and Structure Hardening Plan	35.50
NWL-CO-7	Establish a Climate Resilient Working Group	35.00
T-CO-5	Install EV chargers at County facilities	33.83
E-CO-5, 6	Develop a County construction policy	33.00
T-CO-8, 12	Support Vehicle Fleet Staff Transitions for New Transport Technology	32.00
T-CO-11	Create Class 1 Bikeways	31.00
T-CO-1, 2, 3, 4, 6	Electrify County fleet	30.50
WF-CO-4	Pursue the CAL VTP for Wildfire Resilience	30.50
W-CO-8	Sea-level Rise Planning on County Lands	29.50
WF-CO-3	Identify Buffer Zone Services and Gaps	28.00
WF-CO-5	Implement Fire-Safe Landscape Practices	28.00
WF-CO-7	Plan for Managed Retreat from Wildfire Risk	27.00
E-CO-7	Reduce refrigerant emissions	26.00
ZW-CO-1, 2, 3, 4, 5, 7, 9	Increase diversion of waste from landfills	22.33
ZW-CO-10	Reduce landfill impact	21.33
E-CO-4	Transition to Sonoma Clean Power's Evergreen program	17.50
T-CO-7	Reduce Idling Emissions from vehicles	15.50
ZW-CO-6, 8	Update Green Purchasing Policy	13.00

Cost Benefit Analysis

Measures & Actions	Scope	Description	Relative Community GHG Reduction	Rapid Payback Net Benefit >\$1,000/ton	Lifetime Net Benefit \$100-\$1,000/ton	Societally Cost-Effective	Moderate Net Cost \$100-\$1,000/ton	High Net Cost >\$1,000/ton
E-CP-3	Community	Promote renewables and micro grids	Small	\$\$-				
T-CO-1	County	Decarbonize the County fleet of light duty vehicles (less than 8,500 lbs gross vehicular weight) by 2040*	Moderate	\$\$-				
T-CO-5	County	Deploy zero emission vehicle infrastructure to ensure charging/fueling infrastructure is in place in locations to support the decarbonization schedule for light and heavy duty fleets.	Moderate	\$\$-				
E-CO-1	County	Reduce energy use and increase resilience at existing county facilities in the near term	Small	\$\$-	\$-			
E-CP-7	Community	Prioritize and support energy efficiency and renewable energy access in underserved communities	Large		\$-	\$=	\$+	
E-CP-8	Community	Incentivize energy efficiency and renewable energy uptake in communities						
		New Construction by SCEIP/SCP on bill financing**	Moderate			\$=	\$+	\$\$+
		Retrofits by SCEIP/SCP on bill financing**	Large		\$-	\$=	\$+	
T-CO-3	County	Decarbonize the fleet of Heavy Duty vehicles (greater than 8,500 lbs gross vehicular weight) by 2042*	Moderate			\$=		
WF-CP-4	Community	Reduce wildfire risk from vegetation fuels by developing and implementing a county-wide grazing plan	Large			\$=		
NWL-CP-4	Community	Increase carbon sequestration on croplands and working lands through soil carbon amendments, hedgerow planting, grassland restoration, and implementation of other climate-smart practices.	Large			\$=		
NWL-CO-5	County	Increase carbon sequestration on County-owned lands by implementing beneficial practices described in the Carbon Stock Inventory and Potential Sequestration Study thru 2030.	Small			\$=		
NWL-CO-2	County	Increase opportunities for tribal collaboration of land management on County-owned lands by 2026, based on traditional and historic vegetation practices.	Small			\$=		
W-CO-4	County	Evaluate and prioritize conservation practice projects on County-owned lands and Sonoma Water Lands	Small			\$=		
WF-CP-3	Community	Reduce loss of existing carbon stocks due to wildfire through conservation of natural lands, conservation easements, new policies, and land acquisition	Large				\$+	
E-CO-2	County	Reduce energy use and increase resilience at existing county facilities in the mid term	Small			\$=	\$+	\$\$+
T-CO-4	County	Decarbonize the transit bus fleet by 2040*	Moderate					\$\$+
T-CO-12	County	Decarbonize small off road engines beginning in 2024 by requiring replacements and new purchases be zero-emission equipment*	Small					\$\$+
T-CO-8	County	Decarbonize non-road heavy duty equipment by 2042*	Small					\$\$+
Notes		* - Implementation required by state regulations						
		** - Significant federal & state incentives available to households & businesses						

❖ Social Cost of Carbon

- ❖ Tool for standardizing costs and benefits of climate mitigation
- ❖ Based on the damages that would result from emitting one additional ton of carbon.

❖ Relative GHG reductions in communities

- ❖ Rapid payback net benefit
- ❖ Lifetime benefit
- ❖ Societally cost-effective
- ❖ Moderate net cost
- ❖ High net cost

Cost Benefit Analysis

Rapid Payback Net Benefit

E-CP-3

Promote renewables
and microgrids

T-CO-1

Decarbonize light-duty
County fleet vehicles

T-CO-5

Deploy zero emission
vehicle infrastructure

E-CO-1

Increase resilience at County facilities (near term)

Lifetime Net Benefit

E-CP-7

Support renewable energy in underserved communities

E-CP-6

Incentivize energy efficiency and renewable energy in
existing buildings

Societally Cost Effective

T-CO-3

Decarbonize heavy-duty
County fleet vehicles

Moderate Net Cost

Cost Benefit Analysis

Societally Cost Effective

Moderate Net Cost

High Net Cost

E-CP-6

Incentivize energy efficient and renewable energy in new construction

NWL-CO-2 Increase tribal coordination for land management

NWL-CO-5 Increase carbon sequestration on County-owned lands

NWL-CP-4 Increase carbon sequestration on croplands

W-CO-4 Prioritize nature-based practices for water resilience on County-owned lands

WF-CP-4 Develop countywide grazing plan to reduce wildfire risk

WF-CP-3 Reduce loss of carbon stocks through conservation of lands

E-CO-2 Increase resilience at County-owned facilities (mid term)

T-CO-4

Decarbonize transit bus fleet

T-CO-12

Decarbonize small offroad engines

T-CO-6

Decarbonize non-road heavy duty equipment

Near Term Measures

Measure #	Description	Est. Cost	Funding
E-CO-1	Near-term energy upgrades at County facilities	\$28,226,572	financing proposed
E-CO-4.1	Transition all electricity accounts to Sonoma Clean Power Evergreen	\$63,767/yr.	recommend funding for 2 years, then operational
E-CO-8	Upgrade public lighting systems to high-efficiency LED	\$300/light	regulatory compliance - non LED not available after 2024
E-CO-10.1	Prepare feasibility study for energy upgrades at Regional Parks facilities	\$150,000	underway
T-CO-1.1	Achieve 30% zero-emission light-duty fleet by 2026	\$5,400,000	recommend partial funding and seek grants to leverage
T-CO-5.1	Develop vehicle charging infrastructure plan	\$230,000	grant secured
T-CO-5.2	Seek funding to deploy 100 Level II charging stations	\$186,950	application submitted
T-CO-6.1	Develop off-road engine inventory and plan phase-out per CARB Regulation	n/c	completed
T-CO-7	Develop policies/ordinances to limit engine idling	\$18,000	recommend funding
T-CO-9.1-4	Actions to reduce employee commute	\$252,020	recommend partial funding and seek grants to leverage
T-CO-12	Decarbonize small off-road engines per CARB Regulation	\$360,000	recommend partial funding, then operational
ZW-CO-1	Establish a measure Zero Waste program with countywide leadership team	\$288,491	recommend funding
ZW-CO-3	Demonstrate & document compliance with SB 1383 diversion requirements	\$107,914	regulatory compliance - reporting
ZW-CO-4	Increase diversion of organic waste from County facilities	\$209,413	recommend funding
W-CO-8.1	Fund stream and riparian corridor mapping to support vulnerability study	\$50,000	recommend funding
W-CO-8.1	Complete vulnerability assessment & develop a sea/bay level rise plan	\$1,500,000	seeking non-competitive grant funding
WF-CO-1	Implement the Sustainable Wildfire Resilience project	\$400,000	underway
WF-CO-2.1	Conduct a wildfire vulnerability assessment of County lands & infrastructure	\$400,000	recommend funding & seek grants to leverage
WF-CO-4.1	Identify & prioritize suitable County lands for vegetation treatment & mulch	\$50,000	recommend funding
WF-CO-5.1	Inventory & evaluate current landscape practices on County lands	\$9,000	recommend funding
NWL-CO-1	Continue to consider conservation of important carbon stocks in easements	*	Ag + Open Space ongoing work
NWL-CO-2.1	Increase coordination with tribes using tribal engagement facilitator	\$50,000	recommend funding to expand Regional Parks program
NWL-CO-2.2-3	Engage with tribes on climate resilience & identify co-management projects	*	costs included in engagement facilitator
NWL-CO-3.1	Identify & prioritize suitable County lands for adding compost per SB 1383	\$20,000	recommend funding
NWL-CO-3.1-2	Convene Climate Resilient Lands working group & establish vision+framewk	\$15,000	recommend funding

Paying for Climate Resilience

- ❖ Roughly \$17 million in grants & incentives secured
- ❖ Funding strategy developed for 10 County Operations Measures + 1 Community Progress Measure
- ❖ Novel Financing recommendations

Climate Resilience Grants & Incentives Awarded	
Grant/Incentive and Project	Award
IRA Renewable Energy & Storage Direct Payment Tax Credit (expected in 2026, based on Admin Center & Los Guillicos project schedule)	\$4,462,563
CPUC Self-Generation Incentive Program (reservation pending)	\$431,980
IRA Renewable Energy & Storage Direct Payment Tax Credit (expected in 2025, based on current Santa Rosa Veterans Building project schedule)	\$396,109
CPUC Self-Generation Incentive Program (reserved)	\$122,400
IRA Renewable Energy & Storage Direct Payment Tax Credit (2024, in process)	\$41,093
CalTrans Sustainable Transportation Planning Grant Program: Equitable EV Charging Plan for Sonoma County (2024)	\$247,000
US DOE Energy Efficiency and Conservation Block Grant/ Voucher Program: Fleet Electrification (2024)	\$233,790
Congressional Appropriation thru US HUD: Equitable Energy Resilience – EV Infrastructure and Green Jobs Training Project (2023-4)	\$791,200
US EPA Clean Water Act Section 302(J): Russian River Pathogen Planning Project (2024)	\$250,000
USDA NRCS Climate Smart Agriculture: Sonoma Marin Ag & County Climate Coalition (2023)	\$10,000,000
Total	\$16,976,135
US FEMA Wildfire Resilient Sonoma County Grants	~ \$60 million



FY 2024-25

11



Funding Opportunities



FY 2025-26

15



Funding Opportunities



FY 2026-27

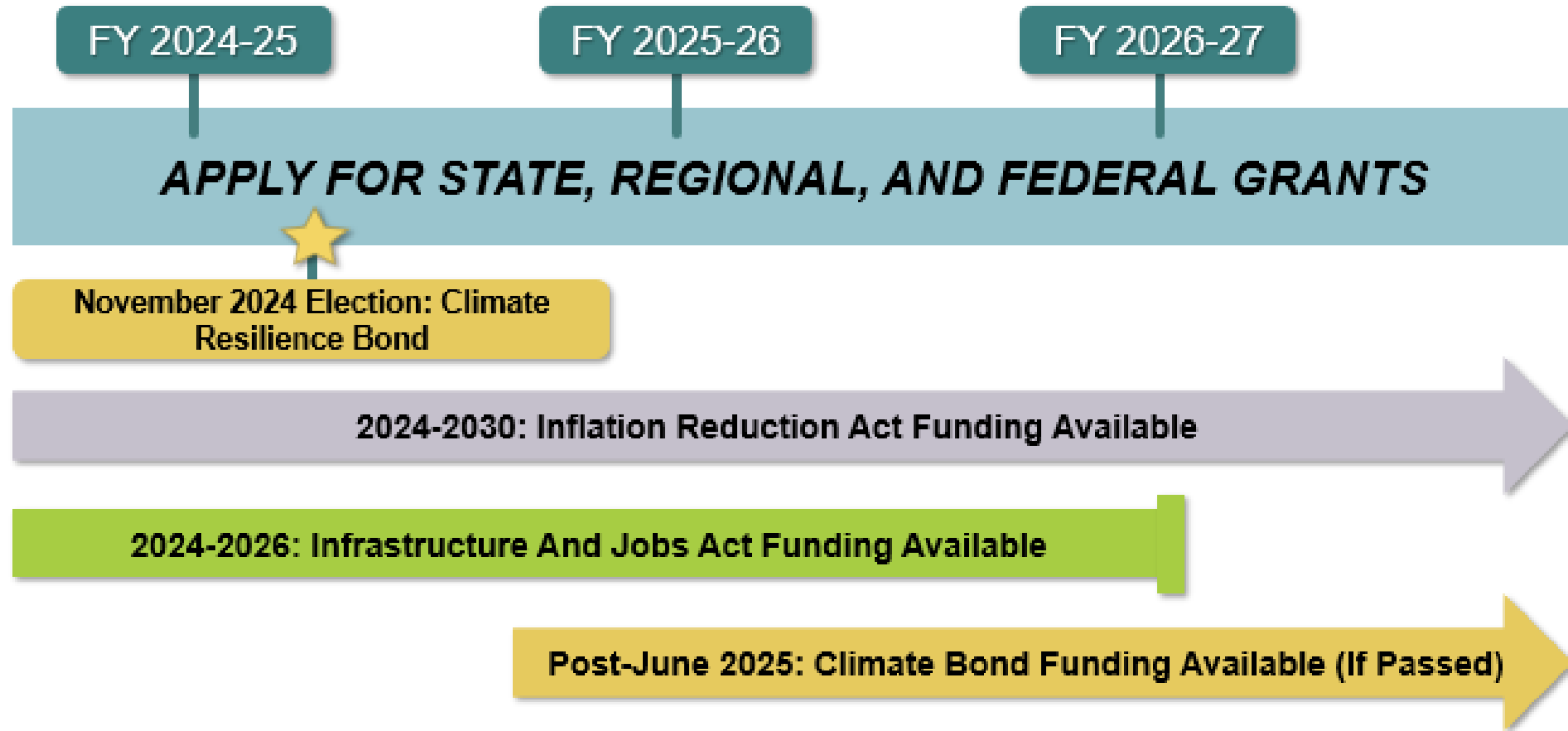
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Funding Opportunities

Funding Strategy

Funding Timeline



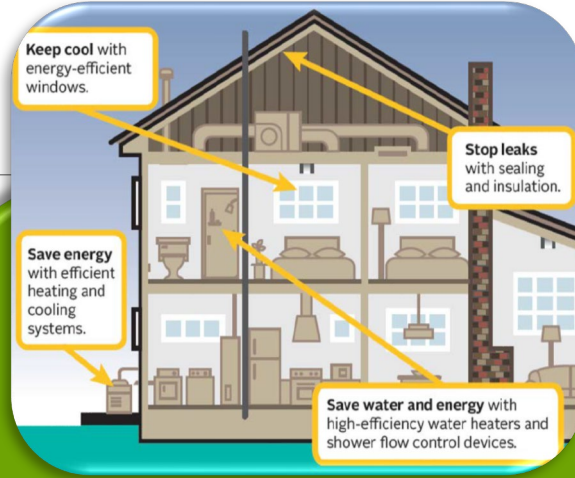
Funding Timeline

Considerations for Funding & Financing Climate Resilience in Sonoma County





Working Lands
Carbon Mitigation
Bank



Residential Retrofit
Offset Reverse
Auction

Potential Innovative Financing Strategies

Future Board Decisions

- ❖ Board consideration of approval of the Climate Plan, along with funding recommendations
- ❖ Board consideration of Climate Action and Resiliency Division staffing changes

Today...

Board Discussion / Input to Staff