



PWC Community Energy and Sustainability Master Plan (CESMP)

Sustainability Commission Status Update

May 25, 2023

Agenda

- 5 min ● **Goals for this session**
- 30 min ● **Review of ASAP Results and Workgroup Prioritization**
- 15 min ● **Review of Results of CESMP Action Prioritization by Workgroups, Core Team & General Public**
- 60 min ● **Sustainability Group Feedback**

AECOM Team



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GHG Mitigation Lead



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GHG Mitigation



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Climate Adaptation
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Deputy Project
Manager

Goals for this meeting

1. Come away with an understanding of the Commission's recommended 25 high priority actions and why they were chosen
2. Review feedback from the public townhall on the draft actions/priority actions
3. Review feedback from the external workgroups and the county core team on their priority draft actions and potential action implementation strategies

Action Selection and Prioritization (ASAP) Tool Results

Evaluation Criteria

	Criteria	Definition
Primary Benefits	GHG Reduction Potential	An estimate of GHG reduction potential resulting from the action
	Climate Risk Reduction Potential	An estimate of the climate hazard risk reduction resulting from the action
Co-Benefits	Organizational Diversity, Equity and Inclusion	Impact on social, environmental, or economic disparities such as disproportionate levels of air quality, access to transit, flood risk, energy burden etc.
	Resource Conservation	Impact on natural resources, such as air, water, raw materials, and the natural environment.
	Local Employment	Impact on the employment rate, physical access to jobs, income and social mobility, and/or total number of jobs.
	Cost to Residents and Businesses	Additional costs or savings to residents and businesses.
Feasibility	Funding Source Identified or Secured	Has full or partial public funding for this action been secured, or has a potential funding source been identified?
	Cost to the County	What is the magnitude of upfront, operational, and staffing costs to the County from the implementation year to 2030?
	Cost Savings to County	An initial investment that lowers costs paid by the County such that cost savings could be used to fund other climate change/adaptation programs.

ASAP Action Evaluation Results – Top Community Mitigation Actions

GHG Reduction Potential (scored above 4)

1.Acquire Clean Electricity Sources for the County
2.Promote Existing Green Power Products
9.Incentivize Energy Efficiency Retrofits
8.Promote Energy Efficiency and Electrification Incentives
3.Promote Existing Renewable Energy Incentive Programs
28. Expand Public EV Charging Network
27. Incentivize Zero-Emission Vehicles and Charging
26. Educate on Existing Zero-Emission Vehicle Incentives and Rebates
5.Streamline Solar Permitting
4.Develop Additional Renewable Energy Incentives

Co-Benefits (scored above 3)

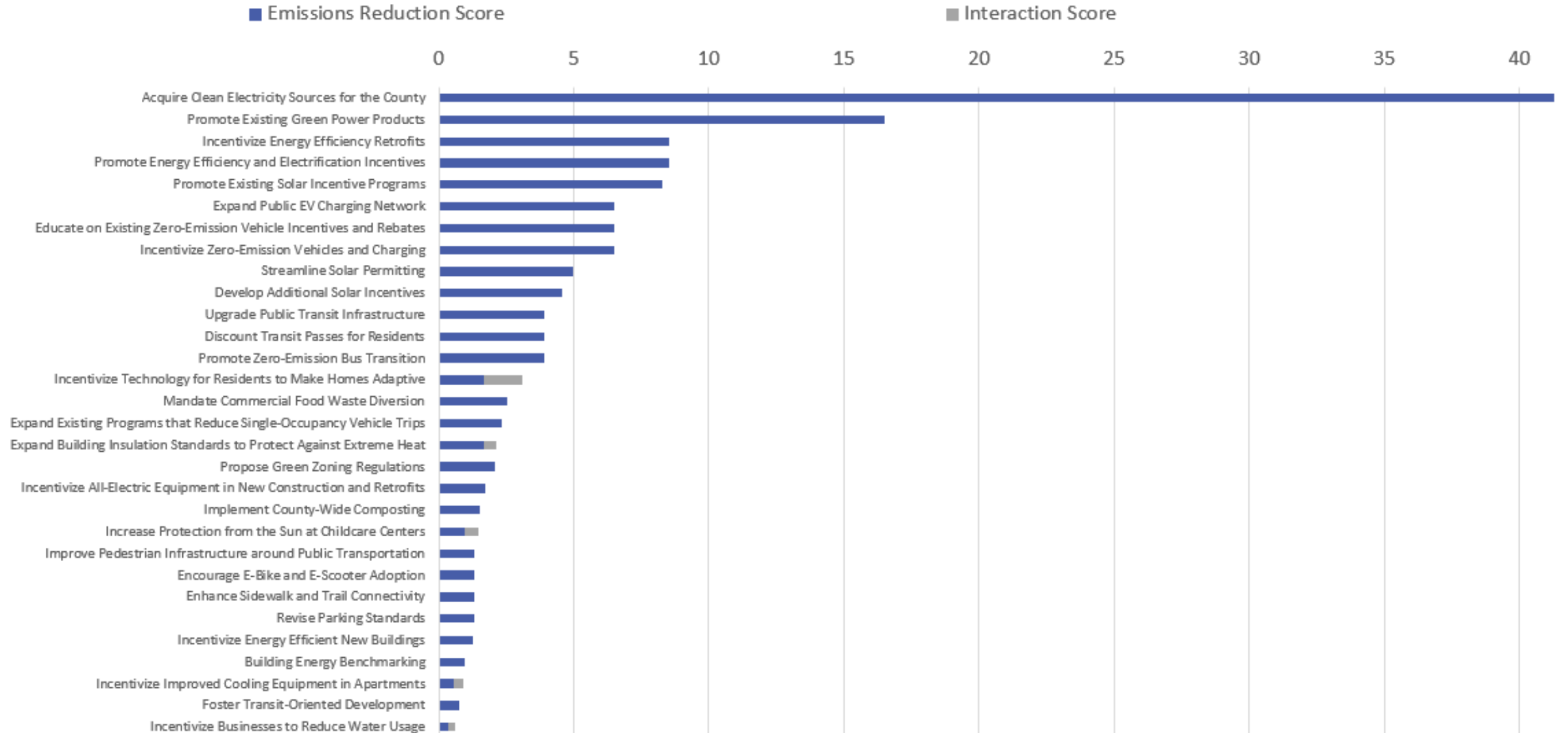
28. Expand Public EV Charging Network
22.Discount Transit Passes for Residents
38.Launch Suburban and Rural Tree Planting Initiative
24.Upgrade Public Transit Infrastructure
23.Expand Existing Programs that Reduce Single-Occupancy Vehicle Trips
18.Improve Pedestrian Infrastructure around Public Transportation
19.Enhance Sidewalk and Trail Connectivity
25.Encourage E-Bike and E-Scooter Adoption
9. Incentivize Energy Efficiency Retrofits
27. Incentivize Zero-Emission Vehicles and Charging
39.Create Voluntary Countywide Reforestation Program
29. Promote Zero-Emission Bus Transition
34.Implement County-Wide Composting
20.Foster Transit-Oriented Development
33.Launch Electric Equipment Lending Program

Feasibility (scored above -2)

26. Educate on Existing Zero-Emission Vehicle Incentives and Rebates
5.Streamline Solar Permitting
23.Expand Existing Programs that Reduce Single-Occupancy Vehicle Trips
10.Propose Green Zoning Regulations
25.Encourage E-Bike and E-Scooter Adoption
21.Revise Parking Standards
20.Foster Transit-Oriented Development
33.Launch Electric Equipment Lending Program
37.Support Sustainable Farming Practices

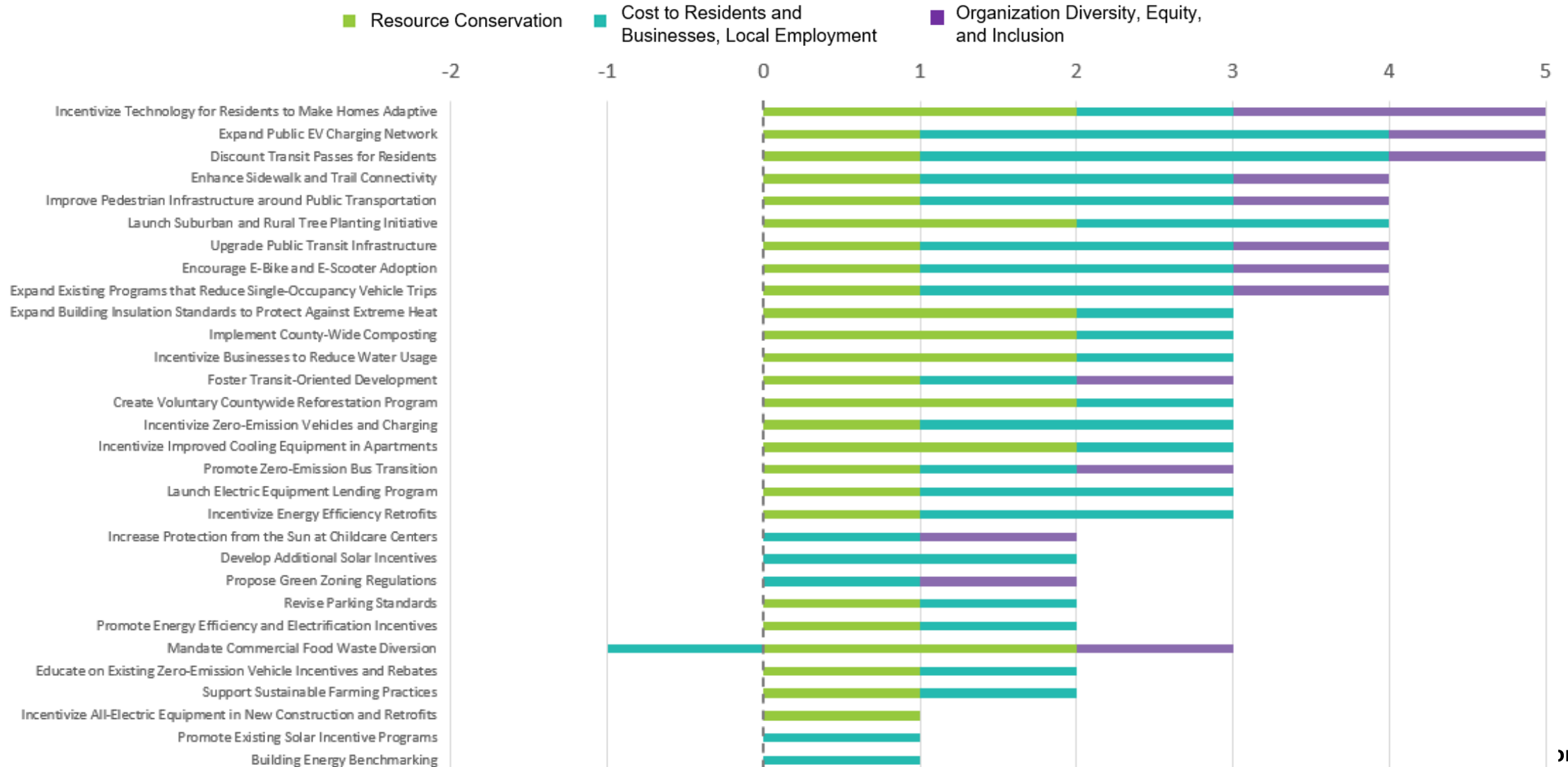
ASAP Action Evaluation Results – Community Mitigation Actions

Primary Benefits - Emissions Reduction Score



ASAP Action Evaluation Results – Community Mitigation Actions

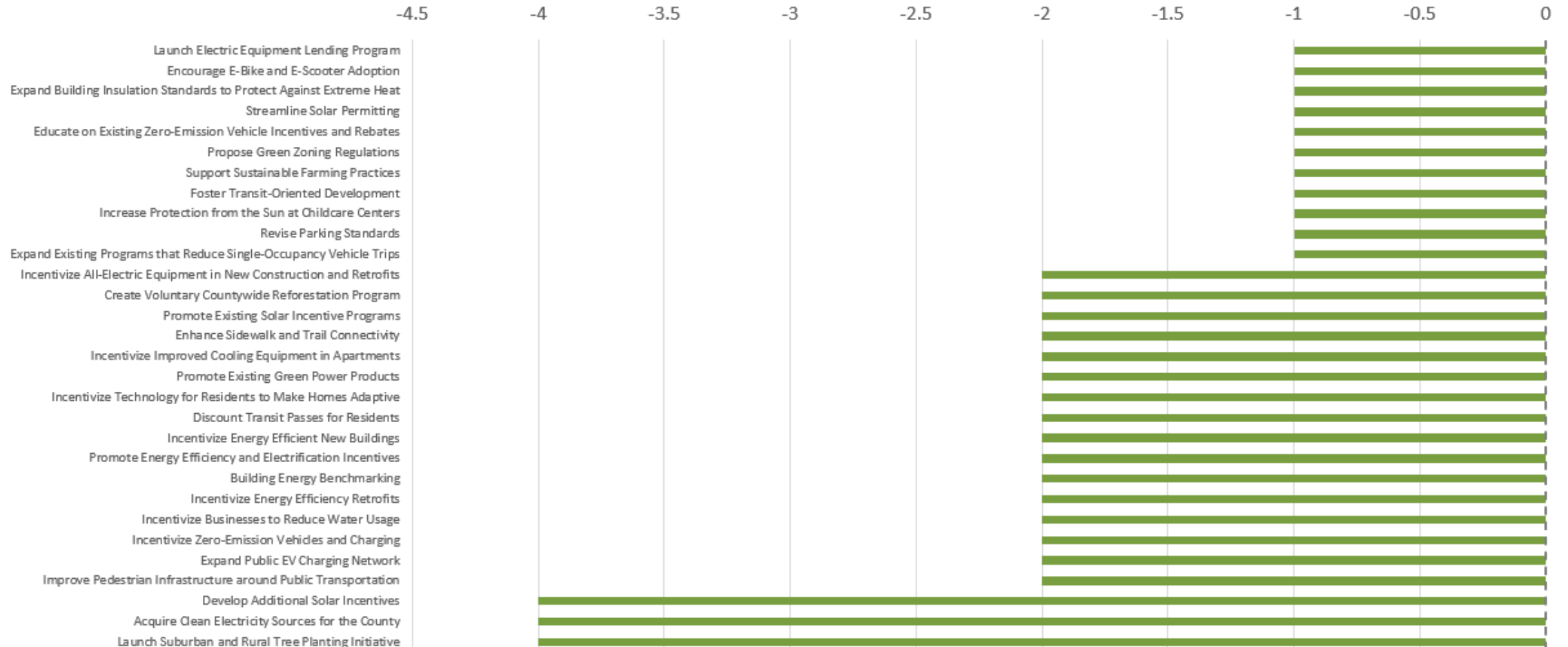
Co-benefit Score



ASAP Action Evaluation Results – Community Mitigation Actions

Feasibility Score

■ Funding Available, Cost to County, Savings to County



ASAP Action Evaluation Results – Municipal Mitigation Actions

GHG Reduction Potential
6.Purchase Clean Electricity for County Government Operations
30.Adopt Zero- or Low-Emissions County Fleet
14.Create Net-Zero Plan County Government Facilities
17.Create Policy to Increase Energy Efficiency in County Government Facilities
7.Install Solar on County Government Facilities
15.Create All-electric Guidelines for New Construction of County Government Facilities
16.Create Mandatory Energy Benchmarking for County Government Facilities
31.Support Zero- or Low-Emissions County Government Contracting of Off-Road Equipment
32.Adopt County Government Zero-Emission Off-Road Policy
36.Promote Sustainable Purchasing Policy

Co-Benefits
30.Adopt Zero- or Low-Emissions County Fleet
14.Create Net-Zero Plan County Government Facilities
7.Install Solar on County Government Facilities
15.Create All-electric Guidelines for New Construction of County Government Facilities
32.Adopt County Government Zero-Emission Off-Road Policy
36.Promote Sustainable Purchasing Policy
6.Purchase Clean Electricity for County Government Operations
17.Create Policy to Increase Energy Efficiency in County Government Facilities
16.Create Mandatory Energy Benchmarking for County Government Facilities
31.Support Zero- or Low-Emissions County Government Contracting of Off-Road Equipment

Feasibility
36.Promote Sustainable Purchasing Policy
16.Create Mandatory Energy Benchmarking for County Government Facilities
7.Install Solar on County Government Facilities
17.Create Policy to Increase Energy Efficiency in County Government Facilities
30.Adopt Zero- or Low-Emissions County Fleet
14.Create Net-Zero Plan County Government Facilities
15.Create All-electric Guidelines for New Construction of County Government Facilities
31.Support Zero- or Low-Emissions County Government Contracting of Off-Road Equipment
6.Purchase Clean Electricity for County Government Operations
32.Adopt County Government Zero-Emission Off-Road Policy

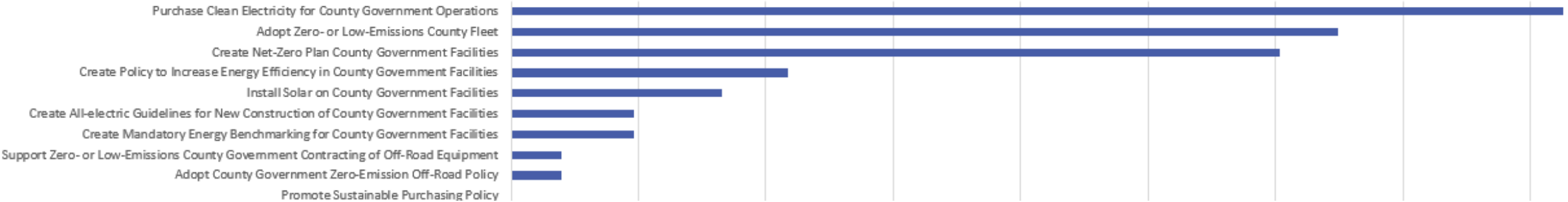
ASAP Action Evaluation Results – Municipal Mitigation Actions

Primary Benefits - Emissions Reduction Score

■ Emissions Reduction Score

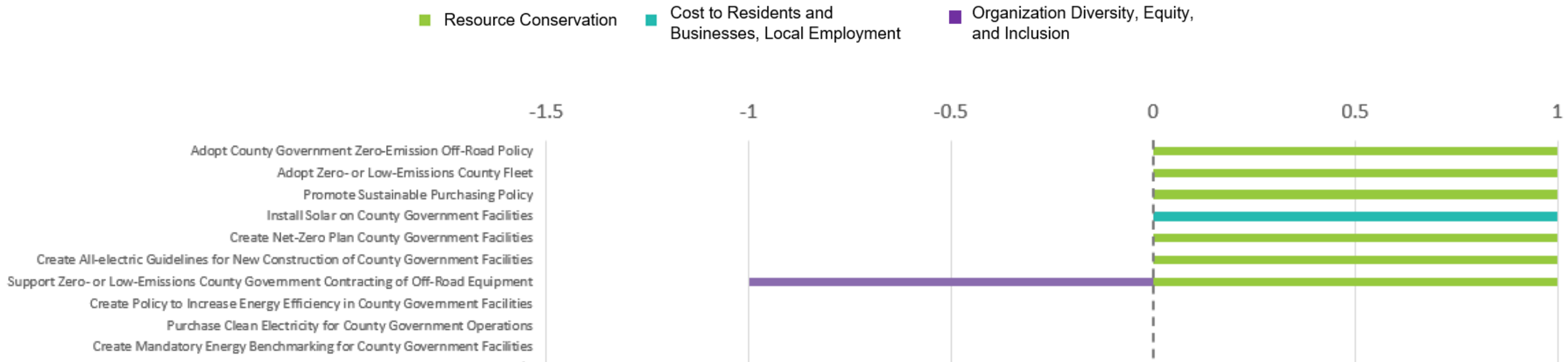
■ Interaction Score

0 1 2 3 4 5 6 7 8



ASAP Action Evaluation Results – Municipal Mitigation Actions

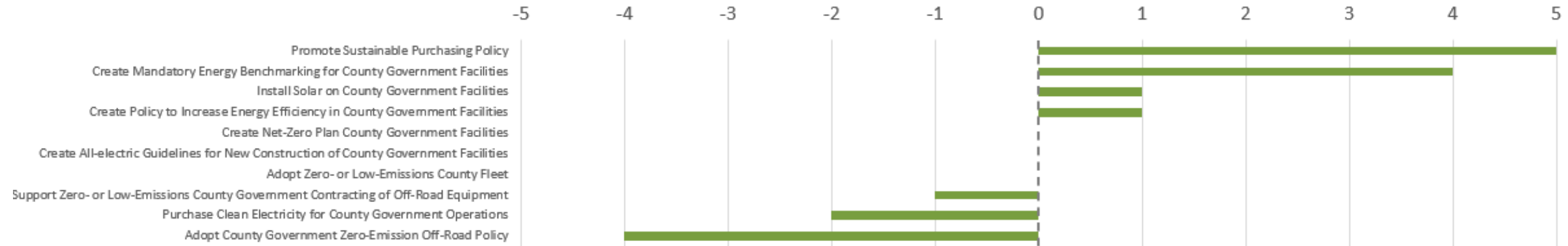
Co-benefit Score



ASAP Action Evaluation Results – Municipal Mitigation Actions

Feasibility Score

■ Funding Available, Cost to County, Savings to County



ASAP Action Evaluation Results – Top Adaptation Actions

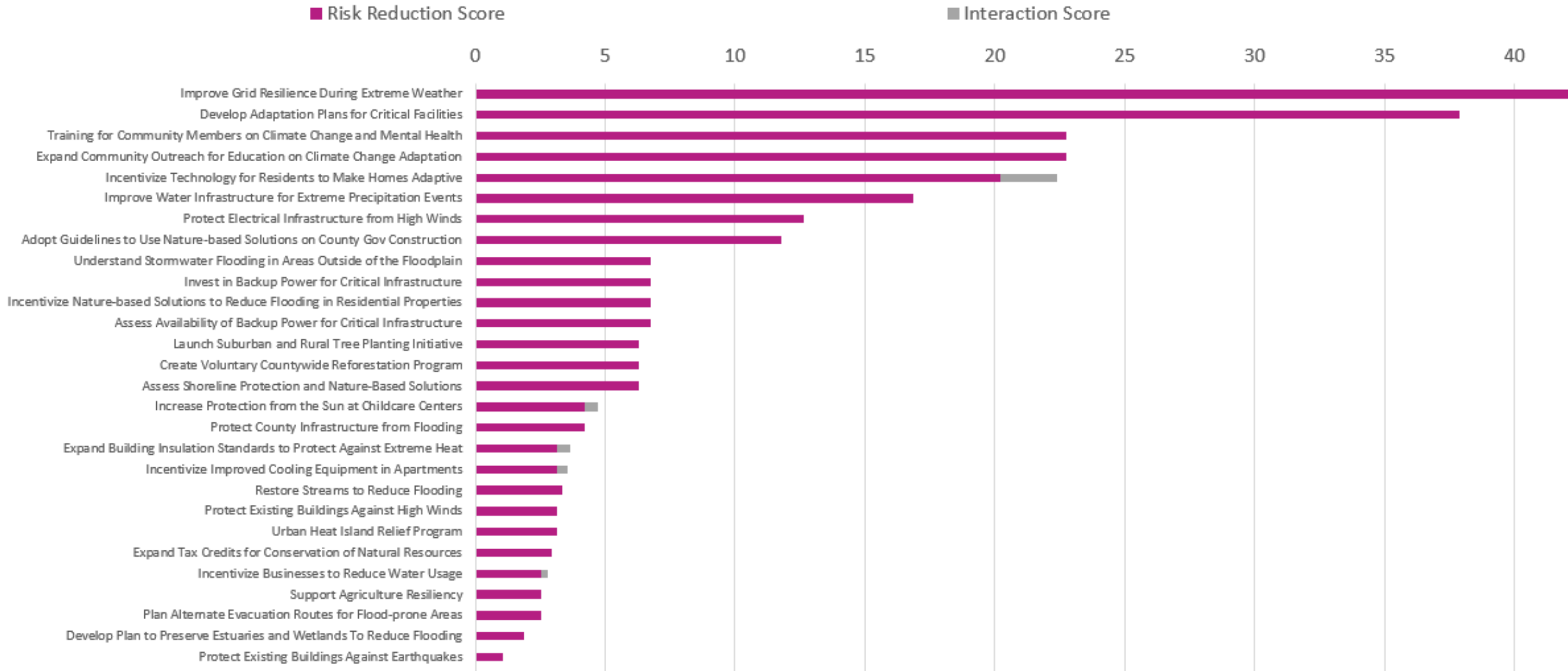
Climate Risk Reduction (scored above 6)
55.Improve Grid Resilience During Extreme Weather
40.Develop Adaptation Plans for Critical Facilities
63.Incentivize Technology for Residents to Make Homes Adaptive
60.Training for Community Members on Climate Change and Mental Health
61.Expand Community Outreach for Education on Climate Change Adaptation
49.Improve Water Infrastructure for Extreme Precipitation Events
50.Protect Electrical Infrastructure from High Winds
54.Adopt Guidelines to Use Nature-based Solutions on County Gov Construction
47.Incentivize Nature-based Solutions to Reduce Flooding in Residential Properties
48.Understand Stormwater Flooding in Areas Outside of the Floodplain
51.Assess Availability of Backup Power for Critical Infrastructure
52.Invest in Backup Power for Critical Infrastructure
38.Launch Suburban and Rural Tree Planting Initiative
39.Create Voluntary Countywide Reforestation Program
57.Assess Shoreline Protection and Nature-Based Solutions

Co-Benefits (scored above 2)
63.Incentivize Technology for Residents to Make Homes Adaptive
38.Launch Suburban and Rural Tree Planting Initiative
57.Assess Shoreline Protection and Nature-Based Solutions
59.Restore Streams to Reduce Flooding
55.Improve Grid Resilience During Extreme Weather
40.Develop Adaptation Plans for Critical Facilities
50.Protect Electrical Infrastructure from High Winds
51.Assess Availability of Backup Power for Critical Infrastructure
51.Invest in Backup Power for Critical Infrastructure
39.Create Voluntary Countywide Reforestation Program
45.Incentivize Businesses to Reduce Water Usage
56.Expand Tax Credits for Conservation of Natural Resources
58.Develop Plan to Preserve Estuaries and Wetlands To Reduce Flooding

Feasibility (scored above 0)
40.Develop Adaptation Plans for Critical Facilities
51.Assess Availability of Backup Power for Critical Infrastructure
50.Protect Electrical Infrastructure from High Winds
55.Improve Grid Resilience During Extreme Weather
52.Invest in Backup Power for Critical Infrastructure
61.Expand Community Outreach for Education on Climate Change Adaptation
49.Improve Water Infrastructure for Extreme Precipitation Events
54.Adopt Guidelines to Use Nature-based Solutions on County Gov Construction
43.Protect Existing Buildings Against High Winds
42.Protect Existing Buildings Against Earthquakes
48. Understand Stormwater Flooding in Areas Outside of the Floodplain

ASAP Action Evaluation Results – Adaptation Actions

Primary Benefits - Risk Reduction Score



ASAP Action Evaluation Results – Adaptation Actions

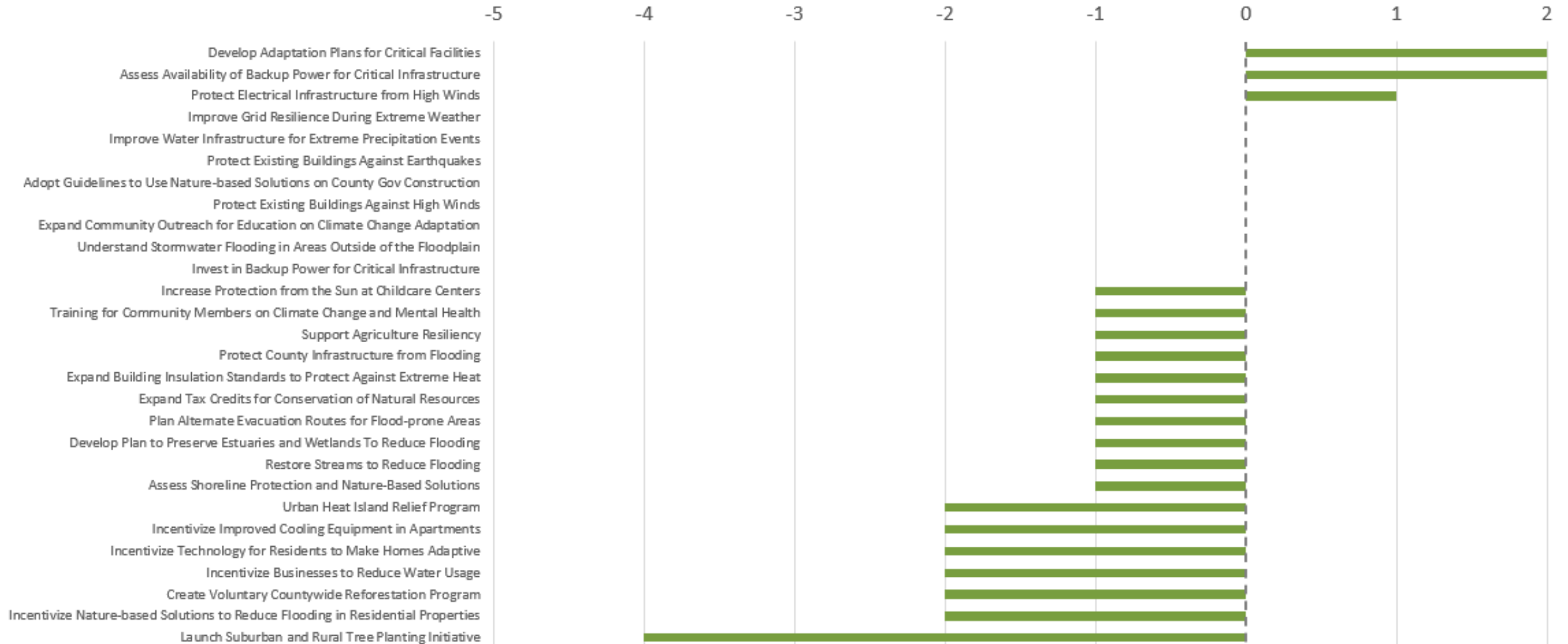
Co-benefit Score



ASAP Action Evaluation Results – Adaptation Actions

Feasibility Score

■ Funding Available, Cost to County, Savings to County



Priority Actions and Stakeholder Feedback

Core Team Prioritization Steps

1. Prioritize actions that scored highly across all evaluation categories (GHG reduction, climate risk reduction, co-benefits, and feasibility)
2. Prioritize actions that the Workgroups identified as High Priority
3. Consider Workgroup feedback on prioritization methodology:
 - Low hanging fruit/quick wins
 - Focus on County owned/operated infrastructure and fleets
4. Prioritize other top GHG reduction or climate risk reduction actions as these are the main goals of the CESMP

Core Team High Priority Actions

Community Mitigation	Municipal Mitigation	Community Adaptation
<ul style="list-style-type: none"> 1. Acquire Clean Electricity Sources for the County 4. Develop Additional Renewable Energy Incentives 5. Streamline Solar Permitting 9. Incentivize Energy Efficiency and Electrification Retrofits 10. Propose Green Zoning Regulations 18. Improve Pedestrian Infrastructure around Public Transportation 20. Foster Transit-Oriented Development 23. Expand Existing Programs that Reduce Single-Occupancy Vehicle Trips 24. Upgrade Public Transit Infrastructure 27. Incentivize Zero-Emission Vehicles and Charging 28. Expand Public EV Charging Network 29. Promote Zero-Emission Bus and Rail Transition 38. Launch Suburban and Rural Tree Planting Initiative 	<ul style="list-style-type: none"> 6. Purchase Clean Electricity for County Government Operations 7. Install Solar on County Government Facilities 14. Create Net-Zero Plan County Government Facilities 30. Adopt Zero- or Low-Emissions County Fleet 	<ul style="list-style-type: none"> 40. Develop Adaptation Plans for Critical Facilities 48. Understand Stormwater Flooding in Areas Outside of the Floodplain 51. Assess Availability of Backup Power for Critical Infrastructure 52. Invest in Backup Power for Critical Infrastructure 55. Improve Grid Resilience During Extreme Weather 57. Assess Shoreline Protection and Nature-Based Solutions 59. Restore Streams to Reduce Flooding 63. Incentivize Technology for Residents to Make Homes Adaptive

County Goals and Core Team High Priority Action Contributions

Community Mitigation – 50% GHG Reduction by 2030

1. Acquire Clean Electricity Sources for the County
4. Develop Additional Renewable Energy Incentives
5. Streamline Solar Permitting
6. Purchase Clean Electricity for County Government Operations
7. Install Solar on County Government Facilities
9. Incentivize Energy Efficiency and Electrification Retrofits
10. Propose Green Zoning Regulations
14. Create Net-Zero Plan County Government Facilities
18. Improve Pedestrian Infrastructure around Public Transportation
20. Foster Transit-Oriented Development
23. Expand Existing Programs that Reduce Single-Occupancy Vehicle Trips
24. Upgrade Public Transit Infrastructure
27. Incentivize Zero-Emission Vehicles and Charging
28. Expand Public EV Charging Network
29. Promote Zero-Emission Bus and Rail Transition
30. Adopt Zero- or Low-Emissions County Fleet
38. Launch Suburban and Rural Tree Planting Initiative

Community Renewable – 100% Renewable by 2035

1. Acquire Clean Electricity Sources for the County
4. Develop Additional Renewable Energy Incentives
5. Streamline Solar Permitting
6. Purchase Clean Electricity for County Government Operations
7. Install Solar on County Government Facilities

Community Adaptation – Climate Ready Region by 2030

38. Launch Suburban and Rural Tree Planting Initiative
40. Develop Adaptation Plans for Critical Facilities
48. Understand Stormwater Flooding in Areas Outside of the Floodplain
51. Assess Availability of Backup Power for Critical Infrastructure
52. Invest in Backup Power for Critical Infrastructure
55. Improve Grid Resilience During Extreme Weather
57. Assess Shoreline Protection and Nature-Based Solutions
59. Restore Streams to Reduce Flooding
63. Incentivize Technology for Residents to Make Homes Adaptive

Municipal Mitigation – Carbon Neutral by 2050

1. Acquire Clean Electricity Sources for the County
6. Purchase Clean Electricity for County Government Operations
7. Install Solar on County Government Facilities
14. Create Net-Zero Plan County Government Facilities
30. Adopt Zero- or Low-Emissions County Fleet

Municipal Renewable – 100% Renewable by 2030

1. Acquire Clean Electricity Sources for the County
6. Purchase Clean Electricity for County Government Operations
7. Install Solar on County Government Facilities
14. Create Net-Zero Plan County Government Facilities

Workshop Prioritization Considerations

Workgroup Response to Core Team Priority Actions:

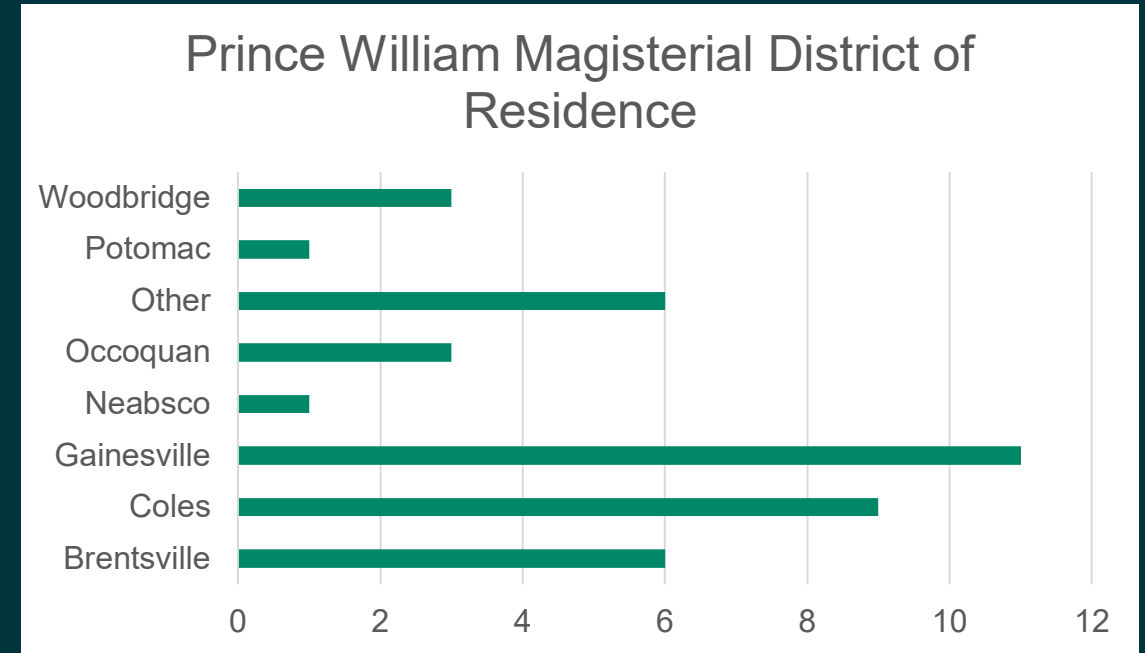
- Agreed with all Core Team high priority actions
- Recommended combining the following actions under High Priority:
 - “18. Improve Pedestrian and Bicycle Infrastructure around Public Transportation” and “19. Enhance Sidewalk and Trail Connectivity”
 - “4. Develop Additional Renewable Energy Incentives” and “5. Streamline Solar Permitting”
 - “6. Purchase Clean Electricity for County Government Operations” and “14. Create Net-Zero Plan County Government Facilities”
 - *NEW*: “11. Incentivize Energy Efficient New Buildings” and “13. Incentivize All-Electric Equipment in New Construction and Retrofits”

Public Input Survey Results: ~40 Respondents

Top 7 Highly Voted Actions

Action #	Action Description
38	Launch Suburban and Rural Tree Planting Initiative
19	Enhance Sidewalk and Trail Connectivity
34	Implement County-Wide Composting
18	Improve Pedestrian Infrastructure around Public Transportation
55	Improve Grid Resilience During Extreme Weather
59	Restore Streams to Reduce Flooding
39	Create Voluntary Countywide Reforestation Program
20	Foster Transit-Oriented Development
4	Develop Additional Solar Incentives

Magisterial Districts of Survey Participants



Public Townhall Priority Actions: 9 Speakers

Actions Mentioned or Alluded to as High Priority

Action #	Action Description
19	Enhance Sidewalk and Trail Connectivity
18	Improve Pedestrian Infrastructure around Public Transportation
20	Foster Transit-Oriented Development
23	Expand Existing Programs that Reduce Single-Occupancy Vehicle Trips
39	Create Voluntary Countywide Reforestation Program
18-25	All mode shift actions
Various	Nature-based solutions to reduce flooding actions

Survey Responses/Public Townhall Main Takeaways

Action Priorities

- Emphasis on mode shift actions and stopping the expansion of roads
- Connecting active transportation infrastructure (sidewalks, trails, etc.)
- Preserving forests and trees from new development/reforestation
- Using nature-based solutions to reduce flooding

Other Topics

- Advocate at the state level for enabling legislation/understand that County authority is limited
- Anti-data center development due to increased energy load and removal of trees/natural spaces
- Work with NOVEC to understand grid capacity/capabilities

High Priority Considerations from Stakeholder Feedback

- Combine the actions listed by the Workgroups under High Priority
- Either add action “19. Enhance Sidewalk and Trail Connectivity” or combine with action “18. Improve Pedestrian and Bicycle Infrastructure around Public Transportation”
 - Proposed Combined Action Language: “Improve Pedestrian and Bicycle Infrastructure and Connectivity”
- Survey/Townhall top actions not included in Core Team High Priority action list:
 - 34: Implement County-Wide Composting
 - 39: Create Voluntary Countywide Reforestation Program

Action Needed to Adapt to Climate Change



Climate Hazard: Extreme Heat



Climate Hazard:
Precipitation, Flooding, Sea Level Rise

Potential Prioritized Actions

- 55 Improve Grid Resilience During Extreme Weather
- 59 Restore Streams to Reduce Flooding
- 38 Launch Suburban and Rural Tree Planting Initiative
- 48 Understand Stormwater Flooding in Areas Outside of the Flood Plan
- Continue enhancing and supporting PWC Emergency Management

25 HIGH PRIORITY

- 1. Acquire Clean Electricity Source for the County
- 4. Develop Additional Solar Incentives
- 5. Streamline Solar Permitting
- 8. Incentivize Energy Efficiency and Electrification Retrofit
- 10. Propose Green Zoning Regulations
- 18. Improve Redundant Infrastructure around Public Transportation
- 20. Foster Transit-Oriented Development
- 21. Assess Feasibility Program for Public High-Speed Rail
- 24. Upgrade Public Transit Infrastructure
- 27. Incentivize Zero-Emission Vehicles and Charging
- 28. Expand Public EV Charging Network
- 29. Promote Zero-Emission Bus Transition
- 36. Launch Suburban and Rural Tree Planting Initiative

- 6. Purchase Clean Electricity for County Government Operations
- 7. Invest Solar on County Government Facilities
- 14. Create New Zero-Ram County Government Facilities
- 30. Adopt Zero-or Low-Emissions County Fleet

- 43. Develop Adaptation Plan for Critical Facilities
- 46. Understand Stormwater Trapping in Areas Outside of the Floodplain
- 51. Assess Availability of Backup Power for Critical Infrastructure
- 52. Invest in Backup Power for Critical Infrastructure
- 55. Improve Grid Resilience During Extreme Weather
- 57. Assess Stormflow Protection and Nature-Based Solutions
- 58. Restore Streams to Reduce Flooding
- 63. Incentivize Technology for Residents to Make Homes Adaptive

MEDIUM PRIORITY

- 2. Promote Existing Green Power Products
- 3. Promote Existing Solar Incentive Programs
- 8. Promote Energy Efficiency and Electrification Incentives
- 26. Educate Existing Zero-Emission Vehicle Incentives and Rebates
- 34. Implement County-Wide Composting
- 38. Create Voluntary Countywide Behavioral Refinement Program
- 16. Create an Electric Vehicle Station Network
- 19. Create a Countywide Energy Efficiency Program
- 22. Assess Policy on Electric Vehicle Charging Infrastructure
- 23. Adopt County Government Zero-Emission Off-Road Policy
- 35. Promote Sustainable Purchasing Policy
- 39. Enhance Sidewalk and Trail Connectivity

- 27. Develop Smart Grid Network to Reduce Peak-Demand in Residential Properties
- 47. Improve Water Infrastructure for Resilient Municipalities
- 48. Assess Resilience of the Water System to Climate Change and Sea Level Rise
- 50. Training for Community Members on Climate Change and Resilient Health
- 42. Increase Protection from the Sun at Childcare Centers
- 44. Improve Building Resilience Standards for Public Agency Buildings
- 45. Protect County Infrastructure from Flooding

LOW PRIORITY

- 11. Incentivize Energy Efficient New Buildings
- 12. Building Energy Benchmarking
- 15. Assess and Review Transportation Mode Characteristics and Benefits
- 22. Discuss Transit Passes for Residents
- 25. Encourage E-Bike and E-Scooter Adoption
- 31. Launch Electric Equipment Lending Program
- 35. Mandate Commercial Food Waste Diversion
- 37. Support Sustainable Farming Practices

- 17. Support Plan to Encourage County Government Use of 100% Renewable Energy

- 40. Protect Existing Buildings Against Droughts
- 41. Protect Existing Buildings Against High Winds
- 44. Incentivize Improved Cooling Equipment in Apartments
- 45. Incentivize Businesses to Reduce Water Usage
- 53. Protect Electrical Infrastructure from High Winds
- 53. Urban Heat Island Relief Program
- 56. Expand Tax Credits for Conservation of Natural Resources
- 58. Develop Smart Power Sources and Networks to Reduce Flooding
- 61. Assess Community Resilience to Reduction in Rainfall from Climate Change Adaptation
- 64. Plan Urban Resilience from Roadway Assets
- 65. Support Agriculture Resilience

REMOVE FROM PLAN

- 21. Revise Parking Standards

Discussion

What are the Commissions top 25 priority actions and why?

Neabsco Creek Boardwalk,
Photo Credit: David Brickley

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