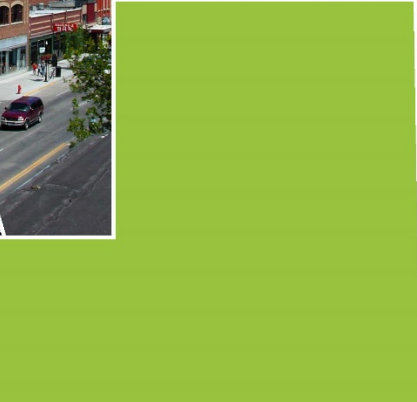




Bozeman Climate Plan

2020





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ACKNOWLEDGEMENTS

The Bozeman Climate Plan was led by the City of Bozeman, but it is a plan for our entire community. It was made possible by an accomplished team of committed community members representing students, non-profits, small businesses, utilities, civic associations, Montana State University, farmers, health care professionals, neighbors, and City staff. Thank you for joining us in this effort to help define our pathway to a low-carbon future.

CITY COMMISSION

Mayor Cyndy Andrus
Deputy Mayor Terry Cunningham
Commissioner I-Ho Pomeroy
Commissioner Jennifer Madgic
Commissioner Michael Wallner

CITY OF BOZEMAN STAFF

- Jon Henderson, Strategic Services Director
- Natalie Meyer, Sustainability Program Manager
- Heather Higinbotham Davies, Energy Cons. Tech
- Chris Saunders, Community Development Manager
- Sarah Rosenberg, Community Development Planner
- Tanya Andreasen, Community Housing Manager
- Melody Mileur, Communications Coordinator
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¹ Britt Ide serves on the NorthWestern Energy Board of Directors, the Coalition for Green Capital Board of Directors, and co-authored the City of Boise's Energy Future, a plan to achieve 100% renewable energy.

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CLIMATE PLAN EXECUTIVE SUMMARY

Implementing this ambitious Climate Plan will lower Bozeman’s contribution to climate change while making the community more resilient to the local impacts from an already changing climate. Moreover, it will advance Bozeman’s strategic priorities to be a safe, inclusive community that fosters civic engagement, a thriving diversified economy, a strong environmental ethic, and a high quality of life as the community grows and changes.

In setting bold new goals and actionable strategies, the plan reaffirms and expands past commitments made in the 2011 Community Climate Action Plan (CAP) and in a 2017 resolution to uphold the goals of the Paris Climate Agreement through local action.

RELEVANCE DURING UNPRECEDENTED TIMES

During the course of developing this plan, COVID-19 has swept the globe, and more recently there have been widespread protests to address systemic racial inequalities in our country. These events reinforce the timeliness and relevance of this plan, in particular the resiliency goals to protect human health and increase social cohesion and the cross-cutting focus on equity. Further, COVID-19 may be an insightful test of the community resolve and cooperative frameworks needed to manage through this pandemic. The experience demonstrates the need to remain resilient and flexible to changing economic conditions while proactively addressing climate change. Aligning these pursuits will help ease suffering among Bozeman’s most vulnerable populations and create synergies with related priorities like affordable housing.

As national policy frameworks are being considered for building back better and more equitably after COVID-19, climate action takes on new meaning and opportunity. For example, considering Bozeman community members currently spend over \$100 million per year on electricity, natural gas, and transportation fuels, the transition to a carbon neutral economy over the next 30 years can and should be navigated with short-term economic conditions in mind. This includes prioritizing cost-effective solutions and aligning with the City’s efforts to foster a strong economic base.



VISION FOR THE FUTURE AND STAYING THE COURSE

Given today's risks and a highly uncertain future, the plan's vision and guiding principles will help ensure relevance throughout Bozeman's 30-year journey to carbon neutrality.

Climate Vision

Through leadership and collaboration, the City of Bozeman will advance innovative solutions to cultivate a more equitable and resilient low-carbon community for current and future generations.

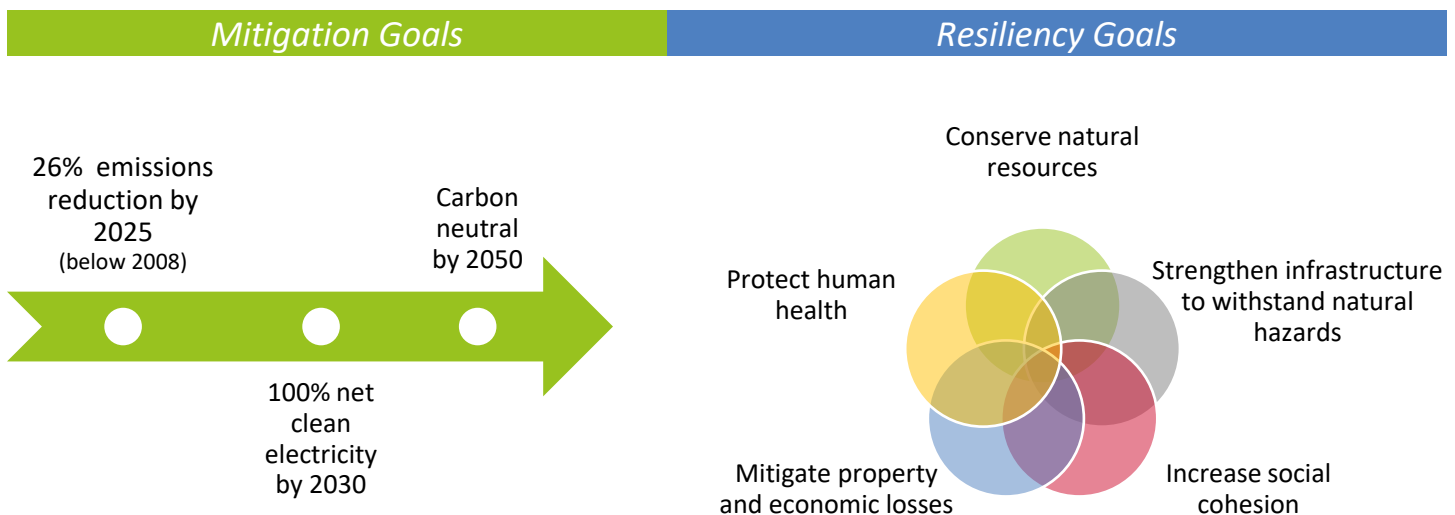
Guiding Principles

Bozeman will be a leader in addressing climate change by:

- Adopting bold targets for emissions reduction and renewable energy.
- Seeking innovative, actionable solutions to mitigate climate change.
- Weaving sustainability and resilience into decision-making processes.
- Pursuing partnerships with other municipalities and our utility provider.
- Inviting all Bozeman residents to join us, including current and future leaders.

BOLD TARGETS FOR EMISSIONS REDUCTION AND RENEWABLE ENERGY

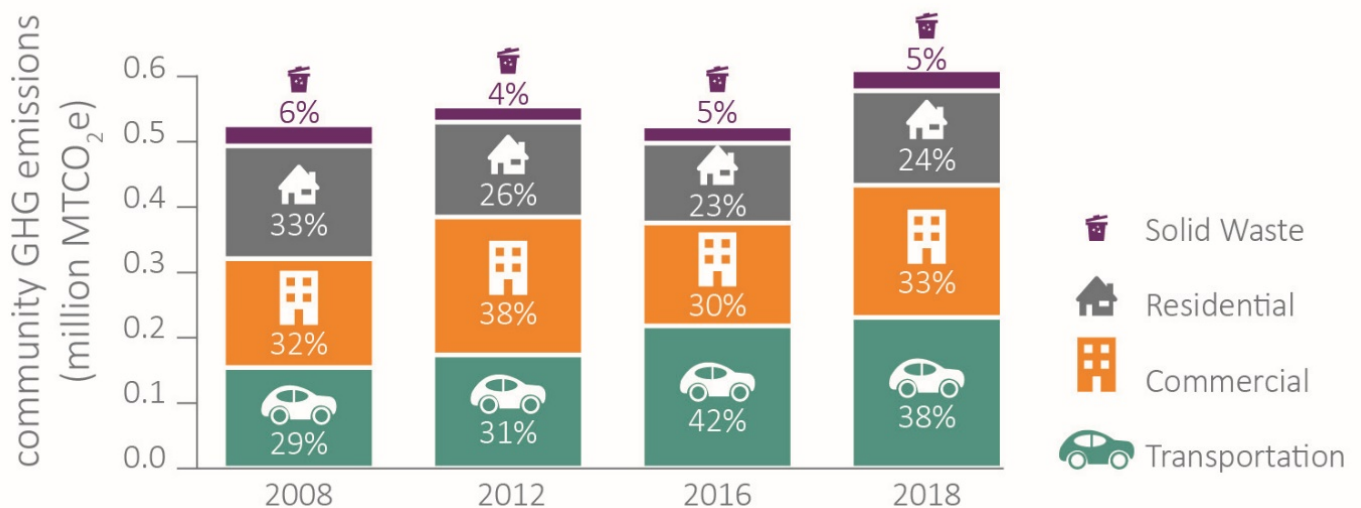
Delivering on the first guiding principle, the bold emissions mitigation targets summarized below set a pathway to carbon neutrality by 2050, starting with significantly reducing emissions in the next five years, then transitioning to 100% net clean electricity within 10 years.



The resiliency goals address the impacts of climate change identified in the 2019 [City of Bozeman Vulnerability Assessment and Resiliency Strategy](#):

 Extreme Heat	More frequent & intense	 Mountain Snowpack	Decline in volume
 Floods	More severe	 Wildfire	More extensive, frequent, & intense
 Drought	More frequent & intense	 Winter Storms	More severe

Despite years of climate action, total community emissions have increased since 2008. This increase is closely related to the 37% population growth the community experienced in the past decade. Overall, per capita emissions have declined by 15% since 2008. Looking to the future, Bozeman will need to continue addressing per-capita emissions by prioritizing high-impact emissions reduction opportunities. Because 57% of Bozeman’s 2018 emissions came from building energy use, improving building efficiency and increasing renewable energy supply are paramount to achieving the near-term emissions reduction goal. Meanwhile, transportation is the fastest growing sector of community emissions with a 50% increase since 2008, requiring a strong immediate response to offset the growth. Over time, as building-related emissions decrease, efforts to reduce transportation and waste-related emissions will grow in importance to achieve carbon neutrality.



A ROBUST SET OF INNOVATIVE, ACTIONABLE SOLUTIONS

Adhering to the second guiding principle, this plan delivers a robust set of 16 innovative, actionable solutions organized across six focus areas:

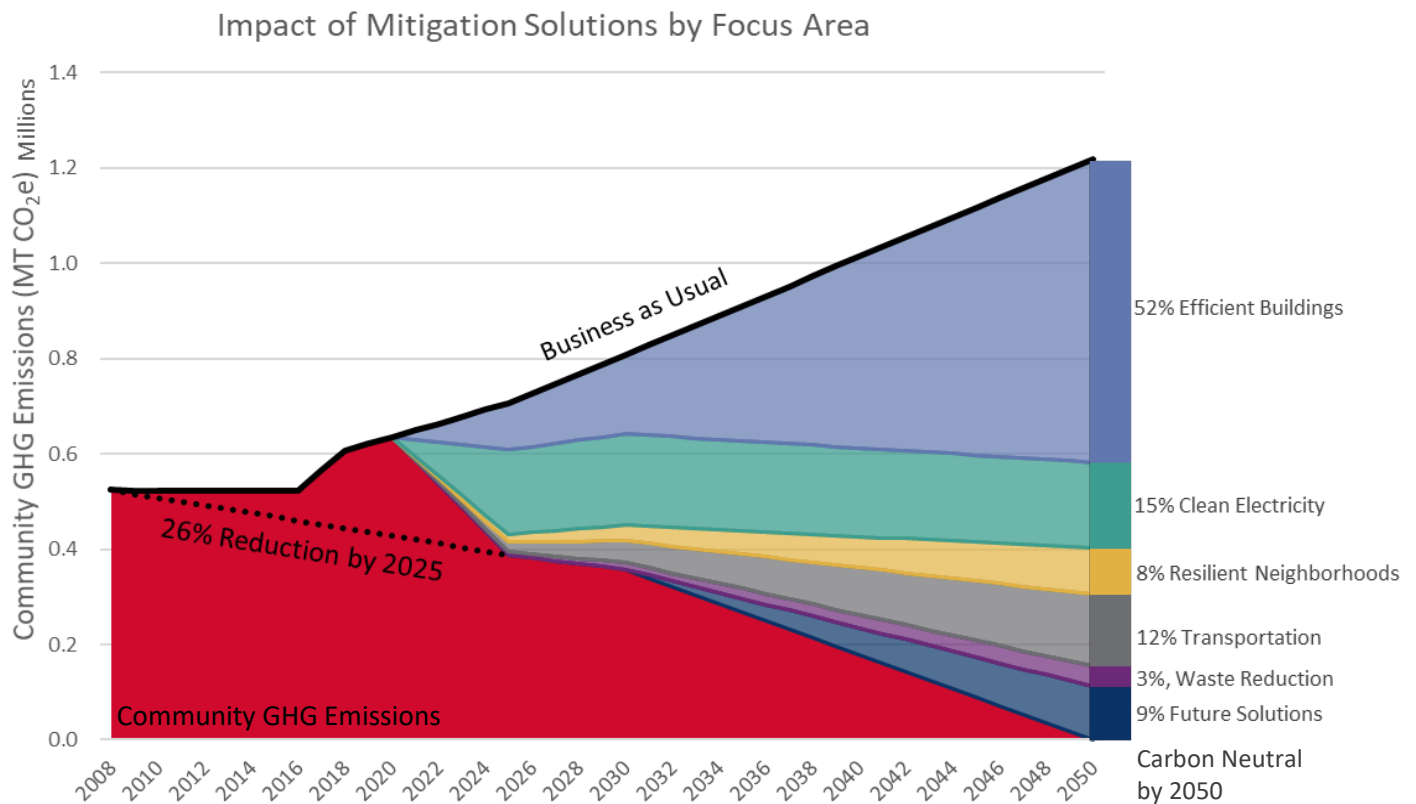


➡ = Primary Mitigation Solution

🌍 = Primary Resiliency Solution

Each solution includes a suite of supporting actions that ultimately help Bozeman achieve its climate vision and goals. Actions encompass a range of activities including advocacy, projects, programs, infrastructure, outreach, partnerships, policy, financial tools, studies, and more. To ensure the solutions are actionable, each action includes a detailed description, action priority level, identification of lead and implementing partners, and performance measures to keep the action on track.

Based on modeling of the emissions reduction potential for each solution, the following diagram summarizes the pathway to achieving Bozeman’s GHG emissions reduction goals. The black line along the top of the graph represents actual or projected business as usual community GHG emissions and each colored wedge represents the contribution of solutions in each focus area to meeting Bozeman’s GHG mitigation commitments. For more details on the individual solution contributions see the breakout in each focus area section. Note that two pathways for clean energy are explored in Focus Area 2: Responsible & Reliable Clean Energy Supply.



Projected GHG emissions and anticipated emissions reduction by focus area

WEAVING SUSTAINABILITY AND RESILIENCE INTO DECISION-MAKING PROCESSES

The third guiding principle, weaving sustainability and resilience into decision-making processes, recognizes that the solutions and their strategies are economically feasible but will require community and political will and a culture shift in ensuring climate action is infused into city services, business operations, and lifestyle choices.

Embracing this guiding principle, the plan was developed through a comprehensive engagement process. The engagement process not only served to provide an inclusive approach for developing the elements of this plan, but also to raise the public and community partners’ interest, understanding, and capacity for weaving climate action into daily decision-making.

The engagement approach included workshops with an intergenerational, transdisciplinary climate team, focus area meetings, in-person and online community forums, community survey, public-facing project website, community events such as a climate lecture at Montana State University, and City staff coordination meetings. See Appendix C: Climate Team

Workshop Summaries and Appendix D: Community Forum Summaries for detailed notes and materials from these engagement efforts.



CITY LEADERSHIP AND PARTNERSHIPS ARE CRITICAL TO SUCCESS

In addition to grassroots action across all decision-making, the fourth guiding principle, pursuing partnerships with other municipalities and our utility provider, recognizes the importance of the City leading the way through its municipal operations, collaborating with other municipalities regionally and at the state level, and advancing its strategic initiatives with NorthWestern Energy. Example Priority Level 1 actions in these areas include:

City Leading the Way

- Action 1.A.1. Increase Energy Efficiency at City Facilities
- Action 2.F.1. Plan and Install Renewable Energy Projects for City Facilities
- Action 6.O.1. Invest in Landscaping and Irrigation Upgrades at City Facilities
- Action 6.P.2. Maintain and Expand the Urban Forest

Collaborations with NorthWestern Energy

- Action 2.D.2. Collaborate and Innovate Utility-Scale Renewable Energy Solutions
- Action 4.K.1. Support Community EV Roadmap Development
- Action 4.K.2. Collaborate to Install Publicly Accessible EV Infrastructure

State-Level Partnerships with Other Municipalities

- Action 1.B.2. Advocate for Adoption of State-Wide Net Zero Energy Code
- Action 2.D.3. Support Policies to Expand Renewable Energy and Just Transition Initiatives

Collaborations with Regional Municipalities and Partners

- Action 3.G.1. Continue Regional Coordination on Compact Growth and Sustainable Development
- Action 4.J.1. Prioritize Regional Multi-Modal Planning and Connectivity
- Action 4.J.4. Pursue Sustainable Transit Funding and Expansion
- Action 4.J.6. Support Regional Transit Service Coordination and Outreach

INVITING ALL BOZEMAN RESIDENTS TO JOIN US, INCLUDING CURRENT AND FUTURE LEADERS

Finally, the fifth guiding principle recognizes the shared responsibility for implementing the solutions in this plan in order to achieve the myriad emissions reduction and resiliency benefits documented throughout this plan. As the City and its partners create climate action policies, programs, and services, Bozeman residents and businesses can do their part by learning about their contribution to Bozeman's greenhouse gas emissions and becoming supportive adopters of new climate actions as they become available. Example action items that invite all Bozeman residents, businesses, and community organizations to get involved are outlined on the following pages.



Bozeman
Climate
Plan

Inviting Bozeman Residents to Join the Climate Effort!

Bozeman residents are encouraged to print a copy of this page and the next as a quick reference guide for how you can do your part in supporting the Climate Plan. See the more detailed action descriptions in the Climate Plan to learn more about how each action contributes to Bozeman’s climate goals. Check off actions as you complete them!

Action 1.A.2.

Reduce energy usage during peak energy demand (4pm to 8pm)

Healthy, Adaptive &
EFFICIENT BUILDINGS

Action 1.A.3.

Learn about and begin to make changes to your energy behaviors

Healthy, Adaptive &
EFFICIENT BUILDINGS

Action 1.A.3.

Contact NorthWestern Energy, or other qualified auditor, to schedule a home energy audit and make efficiency improvements to your home

Healthy, Adaptive &
EFFICIENT BUILDINGS

Action 1.B.2.

Advocate for more stringent state-wide energy and water efficiency regulations

Healthy, Adaptive &
EFFICIENT BUILDINGS

Action 2.F.4.

Explore opportunities to install on-site renewable energy and storage on your property

Responsible & Reliable
CLEAN ENERGY SUPPLY

Action 3.G.3.

Plan a neighborhood activity to help build social connections and improve community cohesion

Vibrant & Resilient
NEIGHBORHOODS

Action 3.H.3.

Get to know your neighbors and swap contact information for times of need or emergency

Vibrant & Resilient
NEIGHBORHOODS

Action 3.H.3.

Review City maps to understand if you are in a location that is vulnerable to flooding, fires, or other hazards and develop an emergency plan if a hazard event occurs

Vibrant & Resilient
NEIGHBORHOODS

Actions 4.J.2. & 4.J.6.

Walk, bike, carpool, or take transit to destinations instead of driving alone

Diverse & Accessible
TRANSPORTATION OPTIONS

Action 4.K.1.

Limit idling and combine trips when using a vehicle for transportation

Diverse & Accessible
TRANSPORTATION OPTIONS

Action 4.K.6.

Consider investing in an electric vehicle for your next vehicle purchase

Diverse & Accessible
TRANSPORTATION OPTIONS

Action 4.L.1.

Find alternatives to air travel, avoid binge flying, and/or purchase offsets for your next airline trip

Diverse & Accessible
TRANSPORTATION OPTIONS

Action 5.M.1.

Review your waste and consumption practices and look for opportunities to reduce, reuse, or share products

Comprehensive & Sustainable
WASTE REDUCTION

Action 6.N.2.

Volunteer at or donate to a local food bank

Regenerative Greenspace, Food Systems &
NATURAL ENVIRONMENT

Action 6.N.3.

Learn to garden and grow your own food

Regenerative Greenspace, Food Systems &
NATURAL ENVIRONMENT

Action 6.P.2.

Plant and maintain a tree

Regenerative Greenspace, Food Systems &
NATURAL ENVIRONMENT

Action 6.O.2.

Update irrigation equipment and landscaping to use less water

Regenerative Greenspace, Food Systems &
NATURAL ENVIRONMENT

Action 6.P.4.

Reduce pesticide and herbicide use

Regenerative Greenspace, Food Systems &
NATURAL ENVIRONMENT

Inviting Bozeman Businesses and Community Organizations to Join the Climate Effort!

- Reduce energy usage during peak energy demand (4pm to 8pm) (Action 1.A.2.)
- Become a City of [Bozeman Energy Project](#) Partner (Action 1.A.3.)
- Contact NorthWestern Energy to schedule an energy appraisal and implement appraisal recommendations (Action 1.A.3.)
- Monitor and benchmark your building's energy performance (Action 1.A.4.)
- Explore opportunities to install on-site renewable energy and storage on your property (Action 2.F.4.)
- Review City maps to understand if you are in a location that is vulnerable to flooding, fires, or other hazards and develop an emergency and continuity of operations plan if a hazard event occurs (Action 3.H.3.)
- Engage your employees or constituents in emergency preparedness planning, drills, and protocols (Action 3.H.3.)
- Provide options and incentives for employee telecommuting and alternatives to single-occupancy vehicle travel (e.g., bike to work days, preferred parking spots, carpool matching, bicycle racks, wellness programs, etc.) (Actions 4.J.2. and 4.J.5.)
- Install electric vehicle charging infrastructure for fleet, employee, and potentially public use (Action 4.K.2.)
- Convert fleet vehicles and equipment to electric or alternative fuel models (Action 4.K.3.)
- Establish and enforce employee idling policies when using personal or fleet vehicles for business use (Action 4.K.5.).
- Limit non-essential airline travel and/or purchase carbon offsets for airline trips (Action 4.L.1.)
- Review your supply chain and consumption practices and look for opportunities to use less packaging, reuse or recycle materials, and compost organic waste (Action 5.M.1.)
- Provide markets for recycled products by supporting suppliers and businesses that use recycled materials (Action 5.M.1.)
- Reuse or donate used equipment and goods (Action 5.M.1.)
- Donate unused food and right-size large catering orders (Action 5.M.1.)
- Plant and maintain trees (Action 6.P.2.)
- Purchase products that support growth of the local food system (Action 6.N.3.).
- Update irrigation equipment and landscaping to use less water (Action 6.O.2.)
- Reduce pesticide and herbicide use (Action 6.P.4.)

Solution and Action Summary Table

<i>Focus Area</i>	<i>Action</i>	<i>Priority Level</i>
Focus Area 1. Healthy, Adaptive & Efficient Buildings	Solution A. Improve Efficiency of Existing Buildings	
	1.A.1. Increase Energy Efficiency at City Facilities	1
	1.A.2. Use Data and Price Signals to Advance Energy Efficiency	1
	1.A.3. Expand Energy Efficiency Information and Resources for Private Property	1
	1.A.4. Establish an Energy and Water Benchmarking Standard for Commercial Buildings	1
	1.A.5. Require Home Energy Labeling at Time of Listing	2
	1.A.6. Promote Energy Efficiency Financing and Investment	2
	1.A.7. Create a Rental Registry Program to Advance Renter Safety and Energy Efficiency	3
	Solution B. Achieve Net Zero Energy New Construction	
	1.B.1. Support High Performance Building Resources and Training for the Development Community	1
	1.B.2. Advocate for Adoption of State-Wide Net Zero Energy Code	1
	1.B.3. Encourage High Performance Construction for All Publicly Funded Buildings	2
	1.B.4. Analyze and Support Opportunities for District Energy	2
	1.B.5. Offer a Voluntary Pathway & Incentives for Above-Code Construction	3
	Solution C. Electrify Buildings	
	1.C.1. Advance Electrification Upgrades and Conversion Projects for City Facilities	2
	1.C.2. Include an Electrification Component for Above-Code Construction	3
	1.C.3. Support Outreach and Incentives for Electric Appliances and Equipment	3
Focus Area 2. Responsible & Reliable Clean Energy Supply	Solution D. Increase Utility Clean Energy Mix	
	2.D.1. Complete a 100% Net Clean Electricity Community Feasibility Study	2
	2.D.2. Collaborative and Innovate Utility-Scale Solutions with Utility Provider	1
	2.D.3. Support Policies to Expand Renewable Energy and Just Transition Initiatives	1
	2.D.4. Encourage Philosophical Shift for Utility Provider	1
	Solution E. Develop and Promote Utility Green Power Programs	
	2.E.1. Advance Green Tariff Program Development and Participation	1
	Solution F. Increase Community Based Distributed Renewable Energy Generation	
	2.F.1. Plan and Install Renewable Energy Projects for City Facilities	1
	2.F.2. Streamline Solar Permitting and Adopt Solar-Ready Code Provisions	1
	2.F.3. Advance Distributed Solar Policies	2
	2.F.4. Promote Education and Incentives for Distributed Renewable Energy and Storage	3

<i>Focus Area</i>	<i>Action</i>	<i>Priority Level</i>
Focus Area 3. Vibrant & Resilient Neighborhoods	Solution G. Facilitate Compact Development Patterns	
	3.G.1. Continue Regional Coordination on Compact Growth and Sustainable Development	1
	3.G.2. Review Development Code to Enhance Compact and Sustainable Development	1
	3.G.3. Develop Sustainable Neighborhoods Outreach	2
	Solution H. Reduce Vulnerability of Neighborhoods and Infrastructure to Natural Hazards	
	3.H.1. Plan for Resilience Hubs at Critical Facilities	1
	3.H.2. Advance Resilience in Development Code and Development Review	1
	3.H.3. Support Business and Residential Preparedness Outreach	2
	3.H.4. Incorporate Resilience into Infrastructure Plans	2
	Solution I. Enhance Social Infrastructure and Community Preparedness	
3.I.1. Support Community and Neighborhood Resilience Programming	1	
Focus Area 4. Diverse & Accessible Transportation Options	Solution J. Increase Walking, Bicycling, Carpooling and Use of Transit	
	4.J.1. Prioritize Regional Multi-Modal Planning and Connectivity	1
	4.J.2. Pursue Innovative Funding for Pedestrian and Bicycle Connections and Network	1
	4.J.3. Improve Maintenance of Multi-Modal Infrastructure	1
	4.J.4. Pursue Sustainable Transit Funding and Expansion	1
	4.J.5. Support Employee Trip Reduction Programs and Transportation Demand Management	1
	4.J.6. Support Regional Transit Service Coordination and Outreach	1
	4.J.7. Leverage Parking Policies to Encourage Other Modes of Transportation	2
	4.J.8. Develop Bike and Car Share Programs	3
	Solution K. Decrease Direct Vehicle Emissions	
	4.K.1. Support Community EV Roadmap Development	1
	4.K.2. Collaborate to Install Publicly Accessible EV Infrastructure	1
	4.K.3. City Fleet and Transit EV Investment	2
	4.K.4. Advocate for EV Utility Rates, Incentives, Infrastructure, and Efficiency Standards	2
	4.K.5. Limit Wasteful Vehicle Emissions	2
	4.K.6. Support EV Group Buy and Outreach	3
	Solution L. Improve Air Travel Efficiency	
	4.L.1. Build Awareness of Air Travel Impacts and Alternatives	2
4.L.2. Advocate for Increased Air Travel Efficiency	3	

<i>Focus Area</i>	<i>Action</i>	<i>Priority Level</i>
Focus Area 5. Comprehensive & Sustainable Waste Reduction	Solution M. Move Toward a Circular Economy and Zero Waste Community	
	5.M.1. Actively Promote Source Reduction, Recycling, and Repair	1
	5.M.2. Expand Composting Services and Collection	1
	5.M.3. Improve Waste Policies, Services, and Operations	2
	5.M.4. Support Construction Waste Diversion	2
	5.M.5. Encourage the Development of Material Markets	3
	5.M.6. Develop Plans for Green Purchasing and Zero Waste Events for City Operations	3
Focus Area 6. Regenerative Greenspace, Food Systems & Natural Environment	Solution N. Cultivate a Robust Local Food System	
	6.N.1. Support the Formation of a Local Food Council	1
	6.N.2. Help Develop a Food System Assessment and Security Plan	2
	6.N.3. Encourage Local Agriculture and Preservation of Working Lands	2
	6.N.4. Support Local Food Production, Processing, and Distribution	3
	Solution O. Manage and Conserve Water Resources	
	6.O.1. Invest in Landscaping and Irrigation Upgrades at City Facilities	1
	6.O.2. Build on the Success of Water Conservation Education and Incentives	2
	6.O.3. Evaluate Additional Water Conservation Code and Water Rate Structure Adjustments	2
	Solution P. Manage Land and Resources to Sequester Carbon	
	6.P.1. Protect Local Wetlands for Flood Resilience and Water Quality	1
	6.P.2. Maintain and Expand the Urban Forest	1
6.P.3. Enhance Greenspace and Carbon Sequestration for New Development	1	
6.P.4. Provide Outreach on Water Pollution Prevention and Carbon Sequestration Strategies	2	