

6. Strategy and Action Implementation Details



Fully implementing all of the Community Climate Action Plan strategies goes beyond the authority of any individual entity or person. The City of Bend intends to take a leadership role. It has the authority and takes responsibility for many of the specific climate actions but cannot take action on all of them. Many of the strategies require other public agencies, community organizations, and city franchisees to take the lead on implementation. Successfully reaching the maximum technical potential of each strategy will also require that individual residents and businesses in the community participate in new programs or systems that are offered by the implementing partners.

The following sections describe how the climate action strategies will be implemented and who is responsible for each.

It also gives other details on the strategies including:

- Specific implementation actions
- Progress metrics that provide ways of evaluating movement toward reaching these goals
- Strategy targets that quantify specific goals for each strategy
- The technical potential for each strategy to reduce emissions
- The savings or expenditures that will be incurred by implementing each strategy
- Co-benefits of each strategy

For each sector, there is also a description of relevant equity actions and equity outcomes. **Equity actions** are actions that the City or other implementation leads will take to make it easier for traditionally underserved populations to implement the climate strategies. **Equity outcomes** describe how the implementation of a climate strategy will lead to a more equitable system.

Key to the Implementation Details Tables

Implementation Responsibilities		Co-benefits	Cumulative Emission Reductions Potential (in metric tons of emissions)
City of Bend	Deschutes County	Community Health and Safety	200,000
Technical Experts	Lending Agencies	Adaptation and Resilience	
Public Agencies	Businesses	Social Equity	Savings or Expenditure Range (per metric ton of emissions reduced)
Community Partners	City and State Partners	Economic Vitality	
Private Developers	Cascades East Transit	Affordability	Savings
Waste Haulers	Energy Trust of Oregon	Supports the Natural Environment	Expenditures
Utility	Waste Haulers		
Oregon Department of Energy	Tourism Agencies		
Oregon Department of Transportation	Workforce Development Agencies		



Energy Supply

Strategy	Implementation Actions	Implementation Responsibilities	Progress Metric	Target	Cumulative Emission Reductions Potential (in metric tons of emissions)	Savings or Expenditure Range (per metric ton of emissions reduced)	Co-benefits
ES1 <i>Provide 100% renewable electricity supply to the community</i>	ES1A – Develop a roadmap to achieve a 100% renewable electricity supply for the community.	Lead: Partners:	Percent of community subscribed to renewable power. Total load and percentage of total load served by renewables.	100% renewable energy procured by 2025.	4,410,000 x4.4	\$10 to \$35	
ES2 <i>Contract for a natural gas offset program for community gas use</i>	ES2A – Develop a program that allows residential and commercial customers to offset their natural gas use.	Lead: Partners: Not yet identified	Percentage of the community households and organizations subscribed to gas that have offset emissions. Total number and percentage of therms offset.	25% of customer participation in the program.	1,860,000 x1.8	\$20 to \$45	
ES3 <i>Expand distributed commercial and residential solar photovoltaics (PV)</i>	ES3A – Increase community education on renewable energy and available incentives by having community organizations develop and deliver educational programs.	Lead: Partners:	Number and percentage of households educated.				
	ES3B – Promote renewable energy incentives offered by the Energy Trust of Oregon by providing information about these incentives to individuals and companies applying for building permits.	Lead: Partners:	Number and percentage of permit applicants that have been reached.	32 Added MW of solar PV by 2036. 1.6 MW of solar PV added annually.	200,000 	\$75 to \$50	
	ES3C – Promote renewable energy incentives offered by the Energy Trust of Oregon by providing information about these incentives to individuals and companies applying for building permits.	Lead: Partners:	Number and percentage of new buildings with installations. Number and percentage of existing buildings with installations. Total generation capacity of installed systems.				

Note: This Target, Cumulative Emission Reductions Potential, Savings or Expenditure Range, and Co-benefit data is based on all eight actions in ES3.

City of Bend	Community Partners	Utility	Energy Trust of Oregon	Private Developers	Technical Experts	Lending Agencies	Deschutes County	Public Agencies
Savings	Expenditures	Economic Vitality	Affordability	Supports the Natural Environment	Community Health and Safety	Adaptation and Resilience	Social Equity	Workforce Development Agencies



Energy Supply

Strategy	Implementation Actions	Implementation Responsibilities	Progress Metric	Target	Cumulative Emission Reductions Potential (in metric tons of emissions)	Savings or Expenditure Range (per metric ton of emissions reduced)	Co-benefits
ES3 (cont.) <i>Expand distributed commercial and residential solar photovoltaics (PV)</i>	ES3D – Create revolving loan funds to finance renewable energy projects. These funds will be more accessible than current loan options to low and moderate income residents. The City will investigate different options for fund administration.	Lead: Partners:	Total dollars distributed through fund annually. Number and percentage of buildings using loan program.				
	ES3E – Develop community solar projects through partnerships between community organizations and private developers.	Lead: Partners:	Number and total generation capacity of projects. Total number of subscribers for each project.				
	ES3F – Pilot microgrid and battery storage projects powered by renewable energy that can operate independently of the energy grid.	Lead: Partners:	Number of microgrids in total. Total installed renewable generation capacity inside of microgrids. Percentage of local load served by microgrids.	32 Added MW of solar PV by 2036. 1.6 MW of solar PV added annually.	200,000	\$75 to \$50	
	ES3G – Support workforce development programs in renewable energy sectors that are delivered by community organizations.	Lead: Partners:	Number of people trained per year. Number and percentage of those trained that are fully employed in this profession.				
	ES3H – Create a commercial, property-assessed clean energy program that allows renewable energy projects to be financed through property tax assessment.	Lead: Partners: Not yet identified	Total installed generation capacity as percentage of total commercial load. Number of participants in program.				

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Energy Supply

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ES4 <i>Build/explore a biodigester at the wastewater treatment facility</i>	ES4A – Build a biodigester at the wastewater treatment facility , after confirming feasibility of the project.	Lead: Partners: Not yet identified	Percent of onsite load served by the digester, or gallon equivalents of fossil fuel displaced in transportation or electricity produced.	72,000 therms annual production.	140,000 	\$10	
ES5 <i>Install solar panels on public buildings</i>	ES5A – Install solar panels on public buildings to demonstrate public sector leadership.	Lead: Partners: Not yet identified	Number and percentage of buildings with rooftop solar. Total installed capacity of renewables. Percentage of total load that is served by rooftop solar.	1.2 MW of additional capacity on schools. 0.710 MW of additional capacity on City buildings.	20,000 	\$50	

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Energy in Buildings

Strategy	Implementation Actions	Implementation Responsibilities	Progress Metric	Target	Cumulative Emission Reductions Potential (in metric tons of emissions)	Savings or Expenditure Range (per metric ton of emissions reduced)	Co-benefits
EB1 <i>Support policies that increase energy efficiency of buildings</i>	EB1A – Participate in code update processes and vote for advancing energy efficiency in codes to help achieve the State’s goal of having a net zero ready building code by 2023.	Lead: Partners: Not yet identified	Participation in new building code development (yes or no). Number of new buildings that are net zero. Percentage of building stock that is net zero.	Annual reduction of 6,000 MWh and 275,000 therms.	1,320,000 	Not available	
	EB1B – Develop and deliver outreach and education campaigns to promote net zero building standards.	Lead: Partners: Not yet identified	Number of households and organizations reached with the message. Number of developers and builders reached with the message. Number and percentage of new building starts that are net zero before the new code is implemented.				
EB2 <i>Improve uptake of voluntary energy efficiency projects in buildings</i>	EB2A – Increase community education on energy efficient buildings by having community organizations develop and deliver educational programs.	Lead: Partners:	Number and percentage of residents that have engaged in outreach and education programs.	Annual reduction of 6,000 MWh and 125,000 therms.	1,180,000 	\$50 to \$0	
	EB2B – Promote energy efficiency incentives offered by the Energy Trust of Oregon by providing information about these incentives to individuals and companies applying for building permits.	Lead: Partners:	Number and percentage of residents that have received the information.				

Note: This Target, Cumulative Emission Reductions Potential, Savings or Expenditure Range, and Co-benefit data is based on all six actions in EB2.

City of Bend	Community Partners	Utility	Energy Trust of Oregon	Private Developers	Technical Experts	Lending Agencies	Workforce Development Agencies	Oregon Department of Transportation
Savings	Expenditures	Economic Vitality	Affordability	Supports the Natural Environment	Community Health and Safety	Adaptation and Resilience	Social Equity	Oregon Department of Energy



Energy in Buildings

Strategy	Implementation Actions	Implementation Responsibilities	Progress Metric	Target	Cumulative Emission Reductions Potential (in metric tons of emissions)	Savings or Expenditure Range (per metric ton of emissions reduced)	Co-benefits
EB2 (cont.) Improve uptake of voluntary energy efficiency projects in buildings	EB2C – The City will work with private developers and technical experts to create new incentives to expand energy efficiency projects in residential and commercial buildings.	Lead: Partners:	Number and percentage of building projects that have utilized incentives.				
	EB2D – Create revolving loan funds to finance energy efficiency projects. These funds will be more accessible than current loan options to residents with low or moderate incomes and the City will investigate different options for fund administration.	Lead: Partners:	Total dollars distributed through fund annually. Number and percentage of buildings using loan program.	Annual reduction of 6,000 MWh and 125,000 therms.	1,180,000	\$50 to \$0	
	EB2E – Support workforce development programs in energy efficiency sectors that are delivered by community organizations.	Lead: Partners: Not yet identified	Number of people trained per year. Number and percentage of trained people fully employed in Bend.				
	EB2F – Explore options for demand response programs.	Lead: Partners: Not yet identified	Number and percentage of buildings using the demand-side management strategies.				

Note: This Target, Cumulative Emission Reductions Potential, Savings or Expenditure Range, and Co-benefit data is based on all six actions in EB2.



City of Bend	Community Partners	Utility	Energy Trust of Oregon	Private Developers	Technical Experts	Lending Agencies	Workforce Development Agencies	Oregon Department of Transportation
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Energy in Buildings

Strategy	Implementation Actions	Implementation Responsibilities	Progress Metric	Target	Cumulative Emission Reductions Potential (in metric tons of emissions)	Savings or Expenditure Range (per metric ton of emissions reduced)	Co-benefits
EB3 <i>Implement benchmarking and disclosure programs for energy performance</i>	EB3A – Implement a Home Energy Score program that requires every home to be scored on its energy use and energy efficiency when it is sold, based on the Oregon Department of Energy statewide scorecard.	Lead: Partners:	Number and percentage of housing units with energy scores available. Trend of average Home Energy Score.				
	EB3B – Develop voluntary disclosure and benchmarking programs for public and commercial buildings that allow them to track, report, and make their energy use public. Develop rules and requirements with input from industry stakeholders and community.	Lead: Partners:	Number and percentage of buildings participating in the program. Average energy trends of buildings participating in the program.	Annual reduction of 3,000 MWh and 200,000 therms.	1,000,000	\$50 to \$50	
	EB3C – Support and expand low cost energy audit programs. Identify barriers to utilizing existing programs and ways to address them.	Lead: Partners:	Baseline number of audits per year. Number and percent growth in baseline number of audits delivered.				
EB4 <i>Promote smaller homes and denser housing options through incentives</i>	EB4A – Develop incentives that encourage private developers to build smaller housing options.	Lead: Partners: Not yet identified	Number and percentage of new dwellings that are accessory dwelling units. Average square footage of dwelling units by year.	Average home size is 1,600 square feet.	410,000	\$700	










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Transportation

Strategy	Implementation Actions	Implementation Responsibilities	Progress Metric	Target	Cumulative Emission Reductions Potential (in metric tons of emissions)	Savings or Expenditure Range (per metric ton of emissions reduced)	Co-benefits
T1 <i>Support the transition to electric vehicles (EVs) with an EV Readiness Plan</i>	T1A – Develop a plan that anticipates EV growth, determines necessary charging infrastructure to accommodate this growth, and defines mechanisms to encourage the expansion of public and private charging infrastructure. Update code, standards, and specifications to achieve necessary infrastructure.	Lead:  Partners: Not yet identified	Number and percentage of total vehicles registered in Bend that are EVs. Annual vehicle registrations and number and percentage that are EVs.	25% of vehicle miles travelled (VMT) are with electric vehicles.	1,160,000 	Savings:  \$200 to Expenditures:  \$50	
T2 <i>Increase bike and pedestrian trips</i>	T2A – Prioritize Bend’s Bike, Pedestrian, and Complete Streets Policies in the Transportation System Plan. These policies include expanding bike and pedestrian infrastructure, especially in historically underserved neighborhoods.	Lead:  Partners: Not yet identified	Based on TSP metrics for each related policy.	10% of VMT are by biking and walking. 15% of trips taken are by bicycle and 15% of trips taken are by walking.	690,000 	Savings:  \$60	










 City of Bend	 Public Agencies	 Community Partners	 Cascades East Transit				
 Savings	 Expenditures	 Economic Vitality	 Affordability	 Supports the Natural Environment	 Community Health and Safety	 Adaptation and Resilience	 Social Equity













Transportation

Strategy	Implementation Actions	Implementation Responsibilities	Progress Metric	Target	Cumulative Emission Reductions Potential (in metric tons of emissions)	Savings or Expenditure Range (per metric ton of emissions reduced)	Co-benefits
T3 <i>Increase transit ridership</i>	T3A – Create a Mobility Hub program to improve the accessibility of all forms of transportation. These hubs are concentrations of services near transit stations that include Wi-Fi, maps and brochures, and car, bike and shuttle services.	Lead:  Partners: 	Number and percentage of Mobility Hubs planned. Number and percentage of Mobility Hubs developed.				
	T3B – Create high capacity transit corridors.	Lead:  Partners: Not yet identified	Based on TSP metrics.	Transit makes up 2% of VMT.	490,000 	 \$50	
	T3C – Expand transit service coverage consistent with the regional transportation master plan.	Lead:  Partners: Not yet identified	Based on regional transportation master plan metrics.				
	T3D – Coordinate with school district to encourage use of public transit for getting to school.	Lead:  Partners: 	Percent mode share of children riding public transit to school.				

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Transportation

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T4 <i>Promote ride sharing</i>	T4A – Encourage the use of carpooling, vanpooling, and other modes of ride sharing.	Lead:  Partners: Not yet identified	Annual number of carpools, vanpools, or other shared trips taken.	27% of trips are shared trips.	140,000 	 \$140	
T5 <i>Convert City and other public agency fleets to electric vehicles and alternative fuels</i>	T5A – Public agencies will convert fleets to electric and alternative fuel vehicles as total cost of ownership allows.	Lead:  Partners: Not yet identified	Number and percentage of sedans converted to EVs. Number and percentage of heavy duty fuel gallons that are low carbon x Carbon Intensity factors. Total annual emissions from vehicle fuels.	100% of gas use is substituted with electric. 100% of diesel is substituted with renewable diesel.	50,000 	 \$200 to  \$75	

 City of Bend	 Public Agencies	 Community Partners	 Cascades East Transit				
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Waste and Materials

Strategy	Implementation Actions	Implementation Responsibilities	Progress Metric	Target	Cumulative Emission Reductions Potential (in metric tons of emissions)	Savings or Expenditure Range (per metric ton of emissions reduced)	Co-benefits
W1 <i>Improve non-food waste recovery</i>	W1A – Develop recycling and composting programs at multifamily residences. Create codes, standards, and specifications to ensure multifamily developments include recycling infrastructure. Conduct outreach and education to improve recycling in multifamily housing. Coordinate with Deschutes County and waste haulers to ensure that the programs developed can be standardized across the region.	Lead: Partners:	Number and percentage of multifamily units served with recycling.	45% non-food material recovery by 2025.	800,000 	Not available	
	W1B – Develop a recycling and waste reduction program targeting tourists, including hotels and resort communities.	Lead: Partners:	Number and percentage of organizations participating. Number of tons and percentage of total waste recovered.				
	W1C – Investigate and invest in facility and infrastructure upgrades to meet long term needs of solid waste system. Expand infrastructure to accommodate higher levels of waste recovery.	Lead: Partners: Not yet identified	Dollars invested. Expected diversion per dollar of capital and expected operations and maintenance.				
W2 <i>Promote use of low-carbon cement in new development</i>	W2A – Create incentives to encourage developers to use low-carbon cement mixes.	Lead: Partners: Not yet identified	Standard specifications developed with cement substitute implemented. Number of tons and percentage of tons or square yards of concrete with recycled cement substitute compared to conventional cement.	30% low-carbon materials used in 50% of community cement consumption.	240,000 	\$200 to \$0	



City of Bend



Public Agencies



Community Partners



Utility



City and State Partners



Deschutes County



Waste Haulers



Tourism Agencies



Businesses



Savings



Expenditures



Economic Vitality



Affordability



Supports the Natural Environment



Community Health and Safety



Adaptation and Resilience



Social Equity



Waste and Materials

Strategy	Implementation Actions	Implementation Responsibilities	Progress Metric	Target	Cumulative Emission Reductions Potential (in metric tons of emissions)	Savings or Expenditure Range (per metric ton of emissions reduced)	Co-benefits
W3 <i>Improve food waste recovery</i>	W3A – Expand curbside composting program by accepting more materials and increasing participation.	Lead: Partners:	Number of tons of curbside compost collected. Percentage of total waste recovered as compost per year.	25% food waste recovery by 2025. 50% food waste recovery by 2050.	210,000 	\$0	
	W3B – Expand compost outreach for residents of single family homes. Educate residents how to compost effectively and encourage them to do so.	Lead: Partners:	Number and percentage of households reached with the message. Number of times each household has been delivered the message.				
W4 <i>Improve construction and demolition waste recovery</i>	W4A – Expand and develop new programs to increase recovery of construction and demolition materials. Identify barriers to recovering materials and use these programs to help overcome these barriers.	Lead: Partners: Not yet identified	Tons and percentage of total municipal solid waste that is recovered.	Target not identified.	150,000 	Not available	

City of Bend	Public Agencies	Community Partners	Utility	City and State Partners	Deschutes County	Waste Haulers	Tourism Agencies	Businesses
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Waste and Materials

Strategy	Implementation Actions	Implementation Responsibilities	Progress Metric	Target	Cumulative Emission Reductions Potential (in metric tons of emissions)	Savings or Expenditure Range (per metric ton of emissions reduced)	Co-benefits
W5 Develop outreach and education materials for upstream consumption reduction	W5A – Conduct outreach campaigns that promote waste and consumption reduction. Connect residents and businesses to local resources like repair cafes that help reduce waste.	Lead: Partners: Not yet identified	Diverted tons or dollars of resold goods. Number of attendees at repair fairs.		100,000 	\$270	
	W5B – Implement training programs to train specific industries to prevent waste. Identify these industries based on waste characterization data from the Knott landfill (once available). Example industries include the building and construction industry and the food and restaurant industry.	Lead: Partners: Not yet identified	Number and percentage of manufacturers that have participated in Oregon Manufacturer’s Extension Program “Lean” Services.	Target not identified.			
W6 Develop programs that encourage food waste prevention	W6A – Conduct outreach campaigns that promote food waste prevention.	Lead: Partners: Not yet identified	Pounds/tons of food donated to the local food bank annually. Number and percentage of households reached with message. Number of times each household has been delivered the message.	Reduce edible food waste by 5%.	100,000 	\$1,200	

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