Future Recommendations Report

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Recommendations for Future Consideration

The below recommendations include additional initiatives for future consideration, which may be lower in urgency, lower in impact, and longer in timeframe of implementation than those initiatives cited as part of the Emissions Reduction Action Plan. These recommendations are included as a complement to the Plan to aid in providing actionable ideas to committed citizenry, City staff, or City Councilmembers.

Facilities and Buildings

White Salmon will not meet its emission reduction targets if it sticks to business as usual. For emissions related to buildings, in addition to prioritizing building upgrades that improve efficiency and reduce cost, it is critical to incorporate green building practices during initial planning and construction phases. Fixed assets, including building components and systems, have long life cycles. To reach emissions goals, we must not increase City and community emissions by creating an even *higher* stock of inefficient fixed assets than we had at baseline.

This section contemplates sustainability of City-owned and -operated public facilities, including City Hall, the fire hall, the police station, and future buildings such as the Community Center. This section also contemplates private commercial, residential, and industrial structures in the city. This section outlines measures to improve the energy performance of these facilities and implement sustainable design and construction practices.

By incorporating green building practices from the outset, facilities management can minimize lifecycle costs by reducing energy consumption, maintenance requirements, and disposal costs associated with conventional building materials and systems.

Related City Plans & Goals

Comprehensive Plan

- GOAL E/CA-4: Address climate change by working towards reducing greenhouse gas emissions, increasing energy efficiency
- 4.3: Transportation modes that reduce the use of fossil fuels
- 4.4: Increase the resiliency of critical infrastructure

Climate Crisis Resolution

- Reduce reliance on fossil fuels in municipal operations;
- Pursue local policies and reforms that promote environmental stewardship
- Identify current municipal greenhouse emissions in pursuit of a target reduction in municipal net greenhouse gas emissions of at least 45% by 2030 and net zero by 2050;

- Initiate efforts to prepare for intensifying climate impacts such as wildfires, drought, and reduced water availability

Actions that could be considered - Facilities & Buildings

Scale	Cost	Recommendation	Performance Metrics
City	$	Pursue energy performance contracting (a common financing method that links payments for the installation of energy conservation measures directly to the future energy savings associated with those measures) for existing City owned and operated buildings.	• Annual City energy usage • Annual City energy use intensity (per Citizen) • Annual City emissions • Green building standards for City development (Y/N)
Community	$	Work with CityLab to prioritize communication and outreach regarding income-based and non-income-based discounts and subsidies for energy and water efficiency improvements for homeowners (including a range of housing types) and renters, offered outside organizations.	
Community	$	Incentivize development of residential housing that addresses the City's affordability goals and/or sustainability goals through progressive code, policies, or procedures, with the goal of near-zero/net-zero standards.	• Annual Community emissions • Green building standards for residential development

Facilities and Buildings

- Report annually on Greenhouse Gas emissions at the City level (Scope 1-3) and establish a public-facing emissions dashboard.
- Energy efficient pre-approved plans for residential single-family detached units and accessory dwelling units.
- Raise awareness among residents, businesses, and local stakeholders about the importance of energy efficiency and providing resources to support behavior change can drive energy-saving actions at the individual and community levels.
- Develop and implement occupant behavior programs to optimize the energy efficiency of municipal buildings.
- Work with Klickitat PUD to design 'Time of Use' rates that incentivize decarbonization

actions, shift and reduce system peak load, and promote more efficient electricity use.

- Incentivize development of commercial structures that addresses the City's sustainability goals through progressive code, policies, or procedures, with the goal of near-zero/net-zero standards.
- CityLab could conduct Energy Savings and Impacts Scenario Tool (ESIST) to analyze energy savings, costs, and multiple benefits from energy efficiency programs.
- Reduce urban heat island effect by painting roofs of City-owned and operated buildings with white or other reflective colors or materials.
- Work with materials providers and roofing contractors to encourage them to offer cool and green roofs.
- Work with private/public organizations to establish a community composting facility to create a use for organic matter, woody debris, yard, and food waste that is often burned or landfilled.
- Support efforts to establish viable recycling, chipping, and composting services to reduce construction and demolition debris that goes to the landfill as waste.

Support creation of an appliance repair vocational program at CGCC.

Energy Independence and Resilience

Distributed, renewable energy is key to White Salmon's energy independence and resilience. Distributed renewable energy sources are critical to managing load growth and meeting White Salmon's energy needs. By generating our own electricity from solar power, White Salmon can offset our reliance on grid-supplied electricity, thereby lowering their utility expenses over the long term. Batteries can help further optimize energy use and reduce peak demand charges should these be introduced, leading to additional cost savings.

Distributed renewable energy systems such as rooftop solar panels provide redundancy and backup power capabilities, supplementing grid-supplied electricity with onsite generation. In combination with energy storage technologies such as batteries, distributed solar can store excess energy generated during periods of sunlight and deploy it during times of high demand or grid outages. This can enhance the reliability and resilience of the local energy supply, possibly ensuring continuous power availability for critical infrastructure, emergency services, and essential functions.

While our city benefits from the prevalence of hydroelectric power in Washington State, hydroelectricity will face increasing challenges related to precipitation variability, reduced snowpack, and low water levels resulting from climate change. Additionally, as the transportation and building sectors electrify (e.g. switch from fossil fuels to electric power) in order to decrease emissions, our electric system will experience significant load growth. Finally, implementation of

renewable generation and storage systems is critical to reach White Salmon's emissions reductions goals as outlined in the Climate Crisis Resolution.

Related City Plans & Goals

Comprehensive Plan

- GOAL E/CA-4: Address climate change by working towards reducing greenhouse gas emissions, increasing energy efficiency
- 4.4: Increase the resiliency of critical infrastructure

Climate Crisis Resolution

- Reduce reliance on fossil fuels in municipal operations;
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- Initiate efforts to prepare for intensifying climate impacts such as wildfires, drought, and reduced water availability

Energy Independence and Resilience

- Develop a plan to coordinate solar installations with the replacement of roofs on all applicable City structures.
- Create a solar energy dashboard to build public awareness of current solar usage in White Salmon.
- CityLab with City oversight could work with Klickitat PUD and other regional actors to incentivize renewable energy installation & advocate for State incentives for local renewable installations, energy storage, and other emissions reduction programs in small cities outside of the GMA.

CityLab with City oversight design and deliver outreach programs to encourage the installation of solar and energy storage on residential, commercial, and institutional properties.

Actions that could be considered- Energy Independence & Resilience

Scale	Cost	Recommendation	Performance Metrics
City	$$	Complete a solar feasibility study for all municipal buildings.	• % of municipal energy use offset by solar • Total capacity (MW) of municipal solar • Total capacity (MW) of municipal battery energy storage • Number of municipal buildings with solar • Number of buildings in City limits with solar • Number of power outages per year • % of critical facilities with backup power redundancy
City	$	Pilot renewable energy and battery backup system to ensure resilient City government operations for emergency preparedness and develop a plan to expand the pilot to more buildings, with prioritization for the Booster Station.	
City	$$$	Commit, for all new construction, and major renovations, of City-owned facilities to: • Near-zero/net-zero building design standards; • A minimum of 5% parking spaces with Level 2 EV chargers; • 50% of parking spaces EV-ready; • All-electric heating, ventilating, and air-conditioning (HVAC) systems and appliances; • Applicable appliances, equipment, and processes that meet the requirements of LEED BD+C V4.1 Indoor Water Use Certification; • Landscaping components and planting plans with all drought tolerant and native vegetation and/or fire-resilient landscaping as recommended by the State of Washington Department of Natural Resource; • No landscaping requiring permanent irrigation system beyond a maximum two-year establishment period	

Transportation

Transportation-related emissions must be a priority for White Salmon. City and residents' transportation-related emissions represent a substantial portion of our contribution to climate change. Priorities for transportation include 1) reduction of emissions through vehicle

electrification and 2) implementation of EV-ready infrastructure, and 3) reduction of vehicle miles traveled through multimodal transportation planning and sustainable land use planning.

Transportation is the largest source of GHG emissions overall in the United States,[1] and Washington State estimates that approximately 45% of the state's 2018 emissions were from transportation.[2] Thirty percent of U.S. automobile travel occurs in rural areas, where the average person travels 40% further than their urban counterparts[3] – meaning an outsize percentage of transportation emissions come from rural areas like White Salmon.

Additionally, 11.0% of 2022 City emissions are driven by the operation of City vehicles. But where there are challenges, there are also opportunities: about 85% of Climate Action Survey respondents report being willing to drive less (or are already driving less) to curb transportation-related emissions, and the vast majority expressed interest in vehicle electrification.

Related City Plans & Goals

Comprehensive Plan

- GOAL E/CA-4: Address climate change by working towards reducing greenhouse gas emissions, increasing energy efficiency
- 4.3: Transportation modes that reduce the use of fossil fuels

Climate Crisis Resolution

- Reduce reliance on fossil fuels in municipal operations;
- Pursue local policies and reforms that promote environmental stewardship
- Identify current municipal greenhouse emissions in pursuit of a target reduction in municipal net greenhouse gas emissions of at least 45% by 2030 and net zero by 2050;

Transportation "Lite" Plan

- Prioritize pedestrian infrastructure to encourage walking as a primary mode of transportation
- Develop a comprehensive network of bicycle lanes and trails to facilitate non-motorized transport.
- Fostering the use of public transit through service enhancements and infrastructure upgrades.

Actions that could be considered - Transportation

Scale	Cost	Recommendation	Performance Metrics
City	$$	Adopt an electric-first vehicle policy for City municipal police and/or public works fleet	• Municipal vehicle emissions

[1] Quallen, E., Clarke, J., Nelson, A.C., & Rowangould, G. (2023). Comparing Travel Behavior and Opportunities to Increase Transportation Sustainability in Small Cities, Towns, and Rural Communities. Transportation Research Record, 2677(3), 1439–1452. https://doi.org/10.1177/03611981221124590

[2] Washington State Department of Commerce. (2021). Executive Summary: Washington 2021 State Energy Strategy. https://www.commerce.wa.gov/wp-content/uploads/2021/01/WA_2021SES_-Executive-Summary.pdf

[3] Quallen, et al.

City	$	When applicable, budget for EV repair training for City staff	(MTCO2e) ● Hybrid electric and full electric vehicles in the municipal fleet ● Utilization of shared City EV
City	$	Adopt EV charger requirements for all new construction and major renovations of City-owned and -operated facilities: ● Install Level 2 electrical vehicle supply equipment (EVSE) in a minimum of 5% of all parking spaces used by the project or at least two spaces, whichever is greater. ● Make 50% of all parking spaces EV Ready.	
Community	$	Participate in regional discussions on transit, and prioritize integration/coordination with the City of Hood River, Amtrak, CAT, and Mt. Adams Transit such that schedules align and service is increased for White Salmon residents	● Number of registered electric vehicles ● Number of publicly available EV chargers ● Number of city employees commuting to work by private vehicle (American Community Survey)
Community	$	Encourage compact development patterns that promote mixed-use neighborhoods, reduce sprawl, and minimize vehicle miles traveled to essential services; support infill development and redevelopment projects that utilize existing infrastructure and amenities efficiently.	
Community	+$	Consider enacting Transportation Impact Fees for all new construction to finance multi-modal and transit improvements.	
Community	$	Install secure parking at key locations to facilitate bike, electric bike, and scooter usage	
Community	$	Adopt EV charger requirements for all residential new construction over 1,750 square feet.	

Transportation

- Improve community walkability, in line with Jeff Speck recommendations.[4]
- Use incentives such as density bonuses and parking credits to promote affordable and accessible housing development that is transit-oriented and location-efficient.
- Develop policies to limit vehicle idling, such as anti-idling ordinances or awareness campaigns.
- Support City Staff telecommuting and flexible work arrangements to reduce the need for commuting.
- Conduct parking assessment plan to evaluate utilization of blacktop parking in downtown core and remove extraneous city-owned concrete.
- Implement transportation demand management strategies, such as parking pricing or employer-based incentives.
- Develop car-free zones or pedestrian-only streets.
- Reduce off-street parking requirements and size on residential properties, and support more effective use of parking downtown.
- Invest in infrastructure for alternative transportation modes, such as electric scooters or shared bicycles.
- Seek opportunities to increase electric bike usage in the city, such as docked, shared electric bike system, subsidies for purchase of electric bikes, etc., through partnership with local municipalities, grant funders, or private companies.
- Expand EV car-sharing program in partnership with community organizations and affordable housing developments.
- Implement nature-based solutions that increase carbon storage, including native trees and plants, bioswales, rain gardens, green roofs, urban gardens, and other types of green stormwater infrastructure (GSI) into residential, commercial, and municipal landscaping is a natural way to remove CO2 from the atmosphere.

[4] Walkable White Salmon: Jeff Speck Presentation: https://vimeo.com/669484738

Water

Water conservation is a critical component of City decarbonization efforts. White Salmon's drinking water system represents nearly 75% of City emissions and over 80% of City electricity usage, with a single location (Well #1 Booster) representing roughly 70% of electricity consumption of all City owned facilities. Moreover, as of 2022, 32.6% of water usage in the system was related to water leakage.[5]

In addition to prioritizing supply-side resilience and energy efficiency improvements, community demand and leakage prevention also represent a major opportunity for water conservation, and in turn, electricity and emissions reductions.

Related City Plans & Goals

Comprehensive Plan

- GOAL E/CA-4: Address climate change by working towards reducing greenhouse gas emissions, increasing energy efficiency
- 4.2: Implement a resource-conservation approach that aims to reduce energy and water usage at City facilities

Climate Crisis Resolution

- Reduce reliance on fossil fuels in municipal operations;
- Pursue local policies and reforms that promote environmental stewardship
- Identify current municipal greenhouse emissions in pursuit of a target reduction in municipal net greenhouse gas emissions of at least 45% by 2030 and net zero by 2050;

Water Use Efficiency Resolution

- 2% reduction in average gallons per equivalent residential unit per day
- Distribution system leakage of 25% or less by the year 2028

[5] As noted by Dave Jepsen (Anderson Perry) at May 18, 2022 City Council Meeting: https://www.whitesalmonwa.gov/citycouncil/page/city-council-meeting-66

Actions that could be considered- Water

Scale	Cost	Recommendation	Performance Metrics
City	$	Use native and drought-tolerant landscaping for all new construction and major renovations for City-owned facilities.	• City water usage • City electricity usage for water system
City	$$$	Prioritize water leakage identification and repair in the water system, including replacement of Rhinegarten Park Irrigation system, replacement of the water main line, and a meter reading base station at City Hall to facilitate daily leak alarms (as opposed to monthly).	
City	$$$	Evaluate opportunities to improve energy efficiency and energy resilience for Booster Station, which represents 70% of electricity consumption of City owned facilities, possibly through grant funding.	
Community	$	Conduct outreach to the highest 20 water users in the City to develop strategies to achieve water usage efficiencies.	• Community water usage • City electricity usage for water system
Community	$	Consider requirements for native and drought-tolerant landscaping for all residential new construction over 1,750 square feet, planned unit developments, and cottage courts.	
Community	$	Consider water efficiency requirements for all residential new construction over 1,750 square feet.	

Water

- Public annual water usage statistics on city website: (Potable water used per capita (gallons/capita); Total citywide Water Consumption; Residential Per-Capita Water Use (RGPCD); Annual Commercial Water Usage (MGY); Total Annual Water Demand (MGY).
- Consider seasonal water use rates.

Enable/incentivize gray water systems.

Governance

The successful implementation of this plan is contingent upon the City of White Salmon having adequate staffing and resources to effectively support the identified goals, as well as ongoing support of elected leadership." The below recommendations have been developed and prioritized with the goal of building public trust, enhancing accountability, promoting equity, and ensuring the effective implementation and long-term sustainability of efforts to reduce greenhouse gas emissions and address climate-related risks and opportunities in our city.

Actions that could be considered - Governance

Scale	Cost	Recommendation
City	N/A	Incorporate GHG reductions and other sustainability considerations into the budget process, including capital planning and prioritization, possibly through a “sustainability lens.”
City	$$	City to seek grant funding to increase staff headcount to support implementation of emission reduction initiatives.
City	$	City / CityLab to prepare an annual public progress report on the Emissions Reduction Plan, and establish a web-based dashboard to track the Emissions Reduction Plan progress to provide information, accountability, and transparency.
City	$	City / CityLab to create a distinct website to propel the sustainability narrative in WS and give residents and interested parties a central place to review progress.
City	$	Engagement with private stakeholders: publicize, promote, and solicit input from underserved and marginalized communities (as defined in the “Advancing Equity” section) on the Emissions Reduction Plan. By actively engaging with marginalized communities and ensuring their voices are centered in climate action planning, White Salmon can develop policies and programs that prioritize equity and promote environmental justice, helping to address disparities in environmental impacts and access to resources.
City	$	Engagement with private stakeholders: publicize and promote the Emissions Reduction Plan to important stakeholders and civic groups such as the business community, realtors and developers, neighborhood

		associations, educational and medical institutions, faith communities, and social services groups. Invite stakeholder groups to endorse the plan and commit to advancing one or more goals.
City	$	Join the Carbon Neutral Cities Alliance (CNCA), a collaboration of leading global cities and towns working on cutting greenhouse gas emissions by 80-100% by 2050 or sooner. Among other initiatives, it funds early-stage innovation projects led by cities to cut GHG emissions.
Community & City	$$	Conduct a comprehensive Climate Action Plan, accounting for green infrastructure; nature-based solutions; community vulnerabilities to wildfire, drought, and other extreme weather events; and other topics excluded from the scope of the present report.

Governance

- Conduct the EPA Co-Benefits Risk Assessment Health Impacts Screening and Mapping Tool (COBRA) to quantify health impacts of reducing emissions.
- Coordinate community education and engagement to support Climate Action Plan implementation.
- Identify and evaluate opportunities to advocate for state laws and policies to further Climate Action Plan goals and other sustainability priorities.
- Work with small business districts to create community emissions reductions transparency dashboard.

Partnering with existing City resource groups / events

- Implement a data-driven plan to protect and expand tree canopy, monitoring its effect on carbon sequestration, water quantity, and quality; maintain an inventory of public street trees to monitor their health and survival, taking climate change into account; identify new planting areas to increase the number of public trees.