REDMOND ENVIRONMENTAL SUSTAINABILITY ACTION PLAN

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CityofRedmond
WASHINGTON

JUNE 2020

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Acronyms & Abbreviations

BMP	**Best management practices** are those that, based on available science, lead to successful achievement of intended outcomes.
BIBI	**Benthic index of biotic integrity** is an indicator of stream health.
BAU	**Business as usual** is a scenario that assumes that current activities do not significantly change relative to current normal conditions and circumstances.
C&D	**Construction and demolition** is the general class of debris materials generated during the construction, renovation, and demolition of buildings, roads, and bridges.
CETA	**Clean Energy Transformation Act** is a Washington State mandate that applies to all electric utilities serving retail customers in Washington. It sets specific milestones to reach a required 100% clean electricity supply by 2045.
EVs	**Electric vehicles** are vehicles that derive all or part of their power from electricity.
GHG	**Greenhouse gas**, a gas that traps heat in the air and causes climate change.
K4C	**King County-Cities Climate Collaboration** is a partnership between King County and 17 local government partners, including Redmond, that facilitates information sharing and provides outreach and funding to coordinate and enhance local government climate and sustainability action.
KC	**King County**
KPI	**Key performance indicators** is a value used to monitor and measure the trends and effectiveness of overall sustainability performance.
LEED	**Leadership in Energy and Environmental (LEED) Design** is an internationally recognized green building certification system providing third-party verification that a building or community is designed and built using strategies aimed at improving performance across multiple sustainability metrics, including energy savings, water efficiency, GHG emissions reduction, improved indoor environmental quality, and stewardship of resources.
LID	**Low impact development** are systems and practices that use or mimic natural processes that result in the infiltration, evapotranspiration or use of stormwater in order to protect water quality and associated aquatic habitat.
$MTCO_2e$	**Metric tons of carbon dioxide equivalent** is a common unit of measurement for greenhouse gases that includes consideration of major greenhouse gases, including carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O).
PSE	**Puget Sound Energy** is an energy utility that provides electrical power and natural gas to the Redmond community.
ROI	**Return on investment** is the methodology for identifying and quantifying the net financial benefits of projects and initiatives.
ROW	**Right of way** is land owned by a public agency and used or planned to be used as a public thoroughfare.
SOV	**Single-occupancy vehicles** are vehicles designed to accommodate one or more people, but are being used by only one person (the driver).
TDR	The **Transfer of Development Rights** Program is a voluntary, incentive-based, and market-driven approach to preserve land and steer development growth away from rural and resource lands.
U.S. EPA	The **U.S. Environmental Protection Agency** is a federal executive agency tasked to protect human health and the environment and provide clean air and water for all. The EPA conducts environmental assessments, research, and education and charged with enforcing national standards under a variety of environmental laws and regulations.
VMT	**Vehicle miles traveled** is a metric used in transportation planning to measure the cumulative miles traveled by all vehicles in a geographic region over a given time period.

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Key Definitions

CLIMATE RESILIENCE

The capacity of a community, business, or natural environment to prevent, withstand, respond to, and recover from climate impacts and disruptions.[1]

CLIMATE CHANGE

Long-term changes in the average weather patterns that have come to define Earth's local, regional, and global climates. These changes have a broad range of observed effects that are synonymous with the term.

Changes observed in Earth's climate since the early 20th century are primarily driven by human activities, particularly fossil fuel burning, which increases heat-trapping greenhouse gas levels in Earth's atmosphere, raising Earth's average surface temperature. Key indicators of climate change from the data record include: global land and ocean temperature increases; rising sea levels; ice loss at Earth's poles and in mountain glaciers; frequency and severity changes in extreme weather such as hurricanes, heatwaves, wildfires, droughts, floods and precipitation; and cloud and vegetation cover changes, to name but a few.[2]

ENVIRONMENTAL SUSTAINABILITY

Environmental sustainability refers to fostering practices that reduce pollution, waste, and damages to the natural surroundings. The objective of having a healthy environment is for resources to exist for future generations.

GLOBAL WARMING POTENTIAL

Global warming potential is a measure that allows comparisons of global warming impacts of different types of greenhouse gases. This is because different greenhouse gases can have different impacts on the Earth's warming. For example, compared to CO_2, methane (CH_4) has a higher radiative efficiency but stays in the atmosphere for a shorter timeframe.

GREEN BUILDING

Green building is the practice of creating structures that uses environmentally responsible and resource-efficient processes throughout a building's lifecycle from siting to design, construction, operation, maintenance, renovation and deconstruction. This practice expands and complements the classical building design concerns of economy, utility, durability, and comfort. Green building is also known as a sustainable or high-performance building.

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[1] Definition from U.S. Climate Resilience Toolkit: https://toolkit.climate.gov/content/glossary.

[2] Definition from National Aeronautics and Space Administration (NASA) Global Climate Change: https://climate.nasa.gov/resources/global-warming-vs-climate-change/.

GREEN SPACE

Green space is an open space that is covered with grass, trees, shrubs, or other vegetation. Examples of green spaces include parks, community gardens, and cemeteries.

GREENHOUSE GAS (GHG)

Greenhouse gas is a gas that traps heat in the air and causes climate change. Major greenhouse gases include carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O).

METRIC TONS OF CARBON DIOXIDE EQUIVALENT ($MTCO_2e$)

$MTCO_2e$ is a standardized unit of measure that represents an amount of a GHG whose atmospheric impact is equivalent to that of a single unit mass of carbon dioxide (CO_2) and is based on its global warming potential.

RENEWABLE ENERGY

Renewable energy is energy that is derived from natural sources or processes that are naturally and constantly replenished. Examples include wind and solar energy.

SOCIAL EQUITY

Social equity is critical to ensuring a successful plan. In this report, this will refer to 1) fairness, 2) distribution of resources to reduce inequalities, and 3) redistribution of resources to level the playing field. The City has ensured equity and inclusion as a part of the process in developing the plan through engaging communities that typically are not represented in the Redmond's environmental sustainability conversations.

ZERO WASTE OF RESOURCES

Zero waste of resources has been defined in various ways by various entities. For the Redmond ESAP, we used King County's definition, which is that "materials of economic value, whether for reuse, resale, or recycling, won't be put in the garbage or end up in the landfill."

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Executive Summary

Overview

The Redmond Environmental Sustainability Action Plan (ESAP) provides a foundational blueprint for achieving Redmond's vision for an environmentally sustainable community over the next 30 years. The plan aims to guide Redmond City government, residents, and businesses toward meeting their needs and maintaining a high quality of life, without compromising the ability of future generations to do the same, and while advancing the protection and enhancement the city's precious ecosystems and resources.

The Redmond ESAP is guided by the environmental sustainability vision outlined in the City's recent Community Strategic Plan (see text box at right). Objectives stated within the Community Strategic Plan include the following:

- Decrease the city's carbon footprint.
- Provide access for business and community programs to reduce Redmond's carbon footprint.
- Align and implement sustainability programs across programs, projects, and services.
- Increase community awareness and education.

How Does Redmond Define Environmental Sustainability?

The 2019 Community Strategic Plan set forth a cohesive vision for environmental sustainability in Redmond. This plan defines a pathway for realizing that vision:

A Redmond that creates a healthy, sustainable environment for all generations and conserves our natural resources, affords a high quality of life, and draws from scientific evidence-based data.

The Redmond ESAP offers an initial framework for coordinated and synergistic sustainability action across the city and community—a critical element for achieving multi-benefit sustainability outcomes. Robust involvement, participation, and partnerships among Redmond City staff, community stakeholders, organizations, and businesses to carry out the environmental sustainability strategies and actions in this plan will be critical for meeting our sustainability goals in a manner that reflects community values and is based on well-informed decisions and strategic financial investments.

Why Now?

Under the current business-as-usual scenario, **Redmond can expect to see more cars on the road, more energy used by buildings, and more waste in our landfills.** This plan focuses on impactful and meaningful opportunities to address environmental impacts and foster resilience to future environmental changes. It prioritizes actions that not only move the needle on environmental outcomes, but also demonstrate Redmond's innovation and leadership in sustainability.

The Redmond community has already made great progress in environmental sustainability. However, there is still more that must be done. In 2014, Redmond developed the Climate Action Implementation Plan, the City's first strategic plan to reduce community greenhouse gas emissions and integrate

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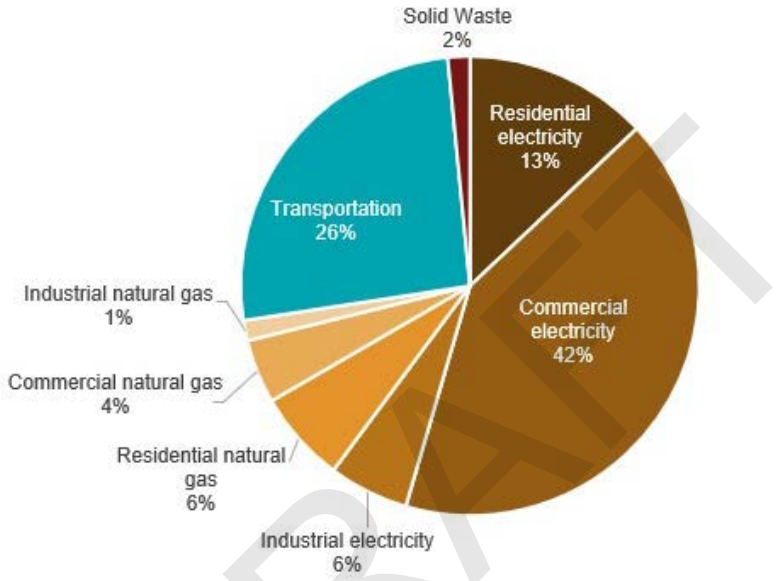
sustainability practices into City operations. This ESAP builds on that work and unifies the City's various strategic planning efforts to create a cohesive sustainability strategy for Redmond.

While community greenhouse gas (GHG) emissions have declined over time on a per-capita basis, total community emissions have increased and are projected to increase further due to a growing population. According to Redmond's 2017 greenhouse gas inventory, the vast majority (81%) of Redmond's GHG emissions stem from three sources: residential energy use, commercial energy use, and transportation (see figure below). In 2017, Redmond's GHG emissions footprint was the second highest since Redmond began calculating emissions.



Greenhouse gas emissions produced by Redmond and other communities contribute to damaging climate change impacts. **Regional climate change models project that the Puget Sound area and King County will:**

- warm air temperatures by 4.2°F to 5.5°F by the 2050s;
- shift seasonal precipitation patterns, with a 22% decrease in summer precipitation by the 2050s;
- increase the intensity of heavy rainfall and extreme storm events by 22% by the 2080s; and
- increase exposure to droughts and wildfires, with an expected four-fold increase in annual area burned for Washington state's forests by the 2040s.[3]

These future climate impacts will adversely affect the region's economies, cultural heritage, infrastructure, and public health and will require urgent and significant investments into resilience and sustainability strategies that enhance local adaptive capacity.[4]

[3] King County. 2019. Climate change infographics. https://www.kingcounty.gov/services/environment/climate/our-changing-climate/infographics.aspx.
[4] May, C., C. Luce, J. Casola, M. Chang, J. Cuhaciyan, M. Dalton, S. Lowe, G. Morishima, P. Mote, A. Petersen, G. Roesch-McNally, and E. York. 2018. Northwest. In *Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment*, Volume II [Reidmiller, D.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, pp. 1036–1100. doi: 10.7930/NCA4.2018.CH24.

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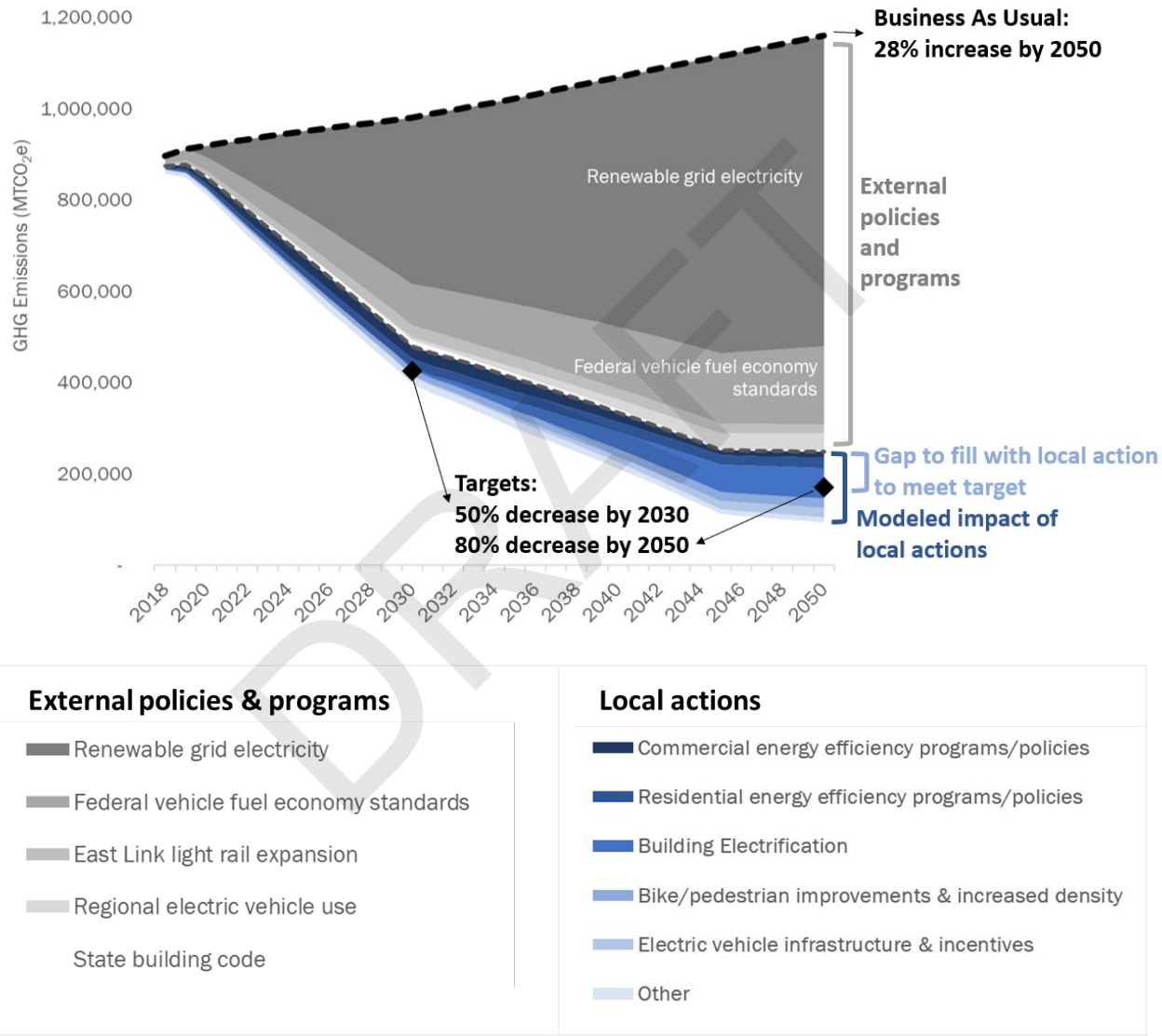
This Redmond ESAP builds on the foundation of sustainability projects, programs, and activities already completed and underway within the Redmond City government and community. The plan brings together activities and objectives from related City, community, and partner organization plans and programs—including efforts at the county, regional, and state levels. The result is a set of strategies, actions, key performance indicators (KPIs), and associated near- and long-term targets for realizing the city's long-term sustainability vision. These targets reflect state, regional, and peer city targets, as well as locally-specific analyses and considerations of strategy effectiveness. The figure below illustrates the GHG emissions target and strategies and actions needed to achieve that target.



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Plan Development

Over the span of multiple months, hundreds of Redmond community members informed development of the ESAP through community surveys, public workshops, stakeholder focus group meetings, and engagement with community groups. **The plan incorporates feedback from:**

- Over **200 community members** who responded to online surveys and participated at pop-up events.
- Over **60 community stakeholders and City staff members** who participated in a series of facilitated workshops.
- Representatives from **local organizations, business, and institutions** who attended meetings and presentations related to the plan.

Formation of the plan was also informed by the following approaches:

- **Characterizing and building on progress to-date** and existing sustainability plans and programs.
- Emphasizing **affordability, equity, and co-benefits**.
- Customizing strategies to fit **Redmond's unique context**.
- An **analysis of action cost and impact** toward meeting Redmond's environmental sustainability goals and visions.

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Goals, Strategies, and Actions

The table below summarizes the goals, strategies, and key actions in the Redmond ESAP.

Transportation & Land Use	Key Strategies	Key Actions
Goal: Reduce transportation emissions and enhance community mobility. **KPI(s):** Total and per-capita passenger VMT, transportation GHG emissions, registered electric vehicles, mode share	• Increase the equitable use of non-SOV modes of transportation such as biking, walking, and public transit. • Shift to more efficient and lower-carbon vehicle fuels such as electric. • Reduce energy consumption and emissions associated with City fleet use and commuting.	Increase new mobility options, diversify housing choices, improve bike/pedestrian infrastructure, increase transit ridership, expand telecommuting and alternative work schedules
Buildings & Energy	**Key Strategies**	**Key Actions**
Goal: Increase sustainable buildings practices, renewable energy use, energy efficiency, and energy resiliency. **KPI(s):** Community energy and fossil fuel use, electricity fuel mix (percent renewable)	• Engage and support building sustainability education, technical assistance, and code advancement. • Advance green building with City facilities. • Shift to renewable energy sources and building decarbonization. • Prepare the energy grid for future conditions. • Expand performance benchmarking and improvements.	Expand solar-ready building infrastructure, incentivize renewable energy production, create a reliable energy grid, implement energy and water conservation retrofits
Materials Management & Waste	**Key Strategies**	**Key Actions**
Goal: Move towards more sustainable consumption and zero waste. **KPI(s):** Community waste diversion rate, solid waste GHG emissions	• Increase diversion of community waste (recycling, composting). • Reduce community waste generation (reuse, repurpose, upcycle). • Reduce waste and environmental impact from City purchasing and operations. • Address construction and demolition (C&D) waste. • Reduce GHG emissions impacts associated with local consumption.	Expand curbside recycling and composting options and policies, continue targeted education and outreach programs, facilitate construction and demolition waste recycling
Natural Systems	**Key Strategies**	**Key Actions**
Goal: Enhance green space, tree canopy, habitat quality, and natural drainage systems. **KPI(s):** Stormwater management; stream health; tree canopy cover	• Protect and enhance equitably accessible native habitats and open space and preserve agriculture lands. • Enhance resilience of natural areas and systems to climate change. • Expand green infrastructure and associated services. • Increase citywide tree canopy.	Enforce critical area codes and regulations, conduct native habitat outreach and education, implement natural drainage and watershed restoration projects, introduce targeted tree canopy plans and policies

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Water Management	Key Strategies	Key Actions
Goal: Protect and conserve water resources, including water quality and quantity. **KPI(s):** Potable water consumption, water quality	• Achieve a secure and sustainable water supply that is equitable, affordable, and accessible. • Conserve community water resource and maximize water efficiency savings. • Protect drinking water sources.	Evaluate risks to water availability, protect groundwater resources, expand public education on water conservation, improve septic system infrastructure
Climate Change & Resilience	**Key Strategies**	**Key Actions**
Goal: Reduce GHG emissions and enhance communitywide resilience to climate impacts. **KPI(s):** Community emissions, per-capita community GHG emissions	• Ensure all City services and infrastructure are resilient to climate change impacts. • Enhance resilience of populations that will be disproportionately impacted by climate change. • Institutionalize consideration of sustainability and climate change across City activities and decision-making. • Pursue cross-sectoral, communitywide solutions to address climate change and cross-cutting sustainability issues.	Participate in regional resilience initiatives, assess climate vulnerabilities, enhance wildfire response and equipment, monitor and report greenhouse gas emissions, ensure equitable climate policy and implementation

Next Steps and Implementation

This Redmond ESAP is only the beginning of an ongoing, adaptive process of evaluating and advancing the city's environmental sustainability. The plan includes an implementation, monitoring, and evaluation strategy and framework for launching and guiding successful execution of the plan. This section of the plan outlines specific next steps; important implementation considerations such as partnerships, equity, and affordability; and procedures for evaluating and updating the plan over time. As details are outlined during this implementation phase, more specific quantitative goals and milestones will be created, driving the pace and effectiveness of strategy implementation.

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A Letter from the Mayor

Preserving and protecting the environment is one of our greatest priorities in Redmond. I believe Redmond can be a leader locally, regionally, and nationally and that is why I've included sustaining our environment as an initiative in my vision for the City.

Over the past few years, residents have volunteered thousands of hours to plant trees and enhance our natural spaces, leaders in Redmond's business community have made bold clean energy commitments, and the City retrofitted its facilities to save energy and money.

Yet against this backdrop, our climate is rapidly changing, and the science is clearer than ever; now is the time for bold climate action. That's why residents, businesses, community groups, and the City embarked on the development of Redmond's first comprehensive sustainability strategy.

The Environmental Sustainability Action Plan is our community's roadmap to preserve our natural resources and create a healthy, equitable and resilient Redmond for all. It puts us on a journey towards an inclusive future powered by clean energy, diverse clean transportation options, less waste in our landfills, and a thriving natural environment.

The goals and actions outlined in these pages are ambitious, and implementation will not be simple, but together we can make the vision of a sustainable and resilient Redmond a reality. Our work begins now, and I look forward to celebrating the many collaborations and innovative ways our community will come together.

Mayor Angela Birney

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Acknowledgments

The City of Redmond expresses sincere gratitude to the following staff, community members, and organizations for their contributions in developing this Environmental Sustainability Action Plan.

City of Redmond

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Steve Hitch, Public Works
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Tam Kutzmark, Planning
Tereasa Kluver, Parks and Recreation
Teresa Jennings, Public Works
Tom Hardy, Public Works
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Amy Webber, Nelson Legacy Group
Aparna Varadharajan, Planning Commissioner
Clarke Jewell, One Redmond
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David Morton, Resident
Denis Martynowych, Sound Transit
Devesni Thakur, RYPAC and Student Sustainability Ambassador
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Mark Hoyt, Trammel Crow Residential
Mike Brent, Cascade Water Alliance
Megan Mollman, Resident
Monica Catunda, Resident
Nancy Shimeall, People for Climate Action-Redmond
Nicola Salarpi, Hopelink
Paul Stull, Resident
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Gary Smith, Parks and Trails Commissioner
Jenna Smith, King County Housing Authority
Jennifer Beyer, Resident
Joe Skewis, Prototron Circuits
Jim Stanton, Microsoft
Julie M. Calligaro, Resident
Kai Schwartz, Old Firehouse Teen Center/RYPAC
Rabeeya Asif, RYPAC
Robert Oikawa, Pedestrian Bicycle Advisory Committee
Sid Shende, RYPAC
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Tom Hinman, Sustainable Redmond
Tom Schmidlin, Post Doc Brewery
Zach Benzadni, RYPAC and Student Sustainability Ambassador

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Ecotope
Fehr & Peers
Greene Economics
Herrera Environmental Consultants

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Introduction & Purpose

The City of Redmond is located in the scenic and economically important region between the Cascade Mountain Range and Puget Sound at the north end of Lake Sammamish. Redmond is approximately 17 square miles and lies 15 miles east of Seattle and is the terminus of SR 520. The city boasts a high quality of life, good schools, a healthy economic base, a robust park system providing multiple active and passive recreational activities, diverse options for shopping and dining, safe neighborhoods, and a balance for quality development while protecting the natural environment. Redmond is also home to many important national technology and biomedical companies.

The Redmond Environmental Sustainability Action Plan (ESAP) provides a foundational blueprint for achieving Redmond's vision for an environmentally sustainable community over the next 30 years. It aspires to foster and advance the city's natural resources, quality of life, and economic and social prosperity—specifically by realizing the environmental sustainability vision outlined in the City's Community Strategic Plan (see text box at right). Objectives within the Community Strategic Plan include the following:

- *Decrease the city's carbon footprint.*
- *Provide access for business and community programs to reduce our carbon footprint.*
- *Align and implement sustainability programs across programs, projects, and services.*
- *Increase community awareness and education.*

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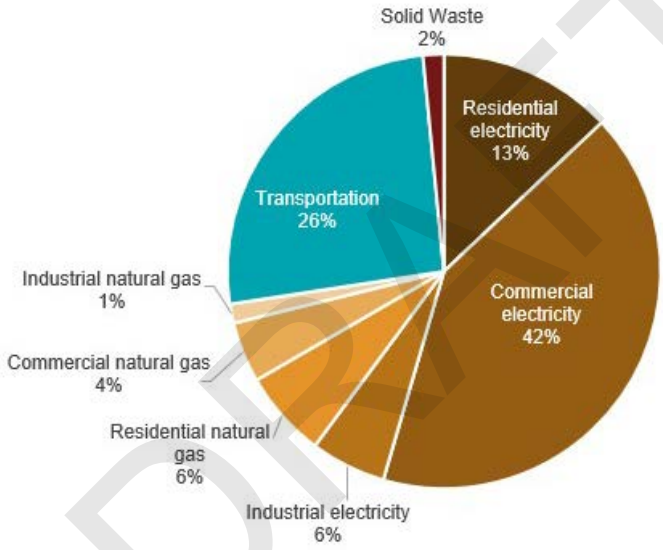
While community greenhouse gas (GHG) emissions have declined over time on a per-capita basis, total community emissions have increased and are projected to increase further due to a growing population. **According to Redmond's 2017 greenhouse gas inventory, the vast majority (81%) of Redmond's GHG emissions stem from three sources: residential energy use, commercial energy use, and transportation (see figure below).** In 2017, Redmond's greenhouse gas (GHG) emissions footprint was the second highest footprint since Redmond began calculating emissions.



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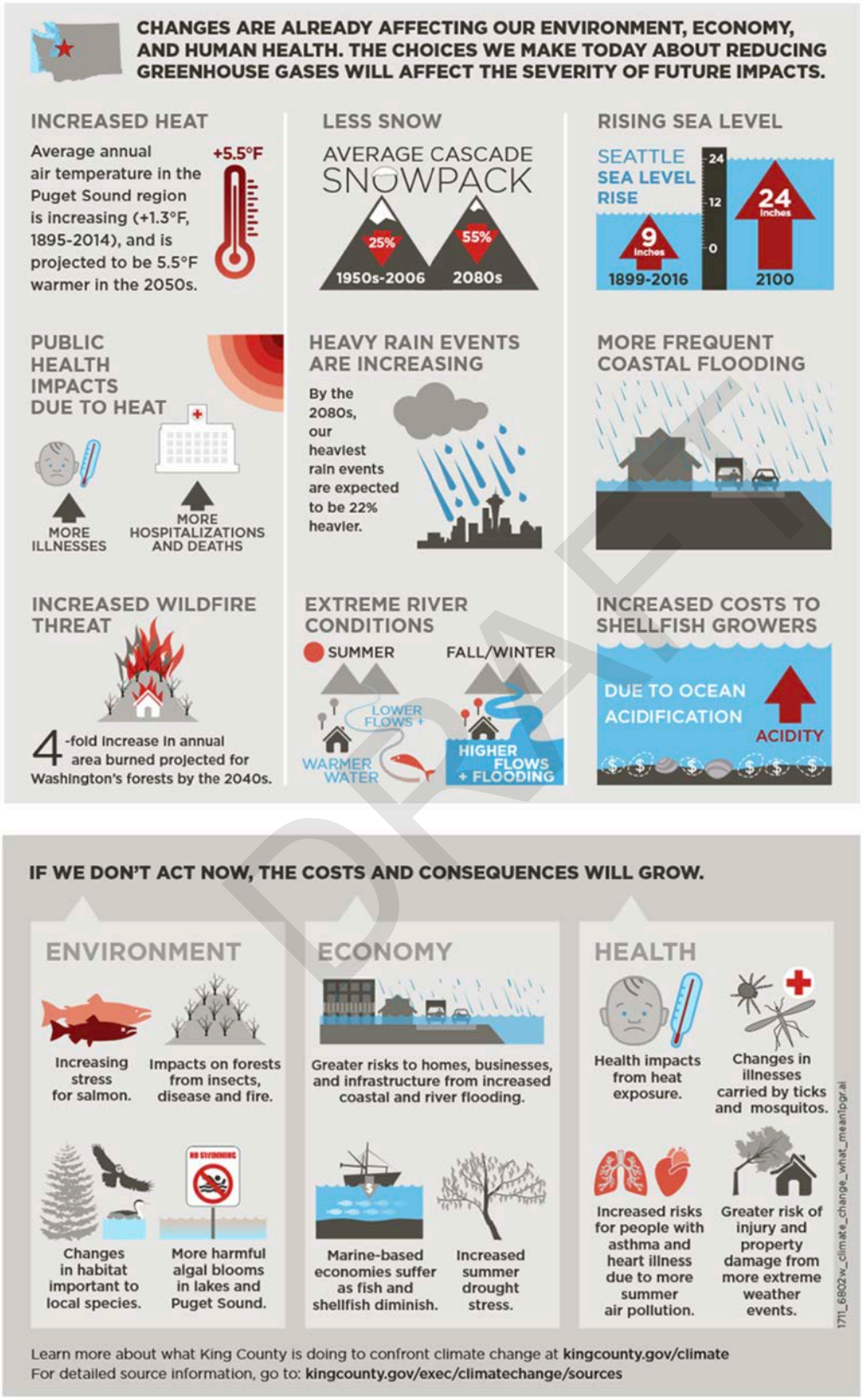
Climate change has already affected King County and future changes will continue to exacerbate these impacts. These future climate impacts will adversely affect the region's economies, cultural heritage, infrastructure, and public health and will require urgent and significant investments into resilience and sustainability strategies that enhance local adaptive capacity.[5]

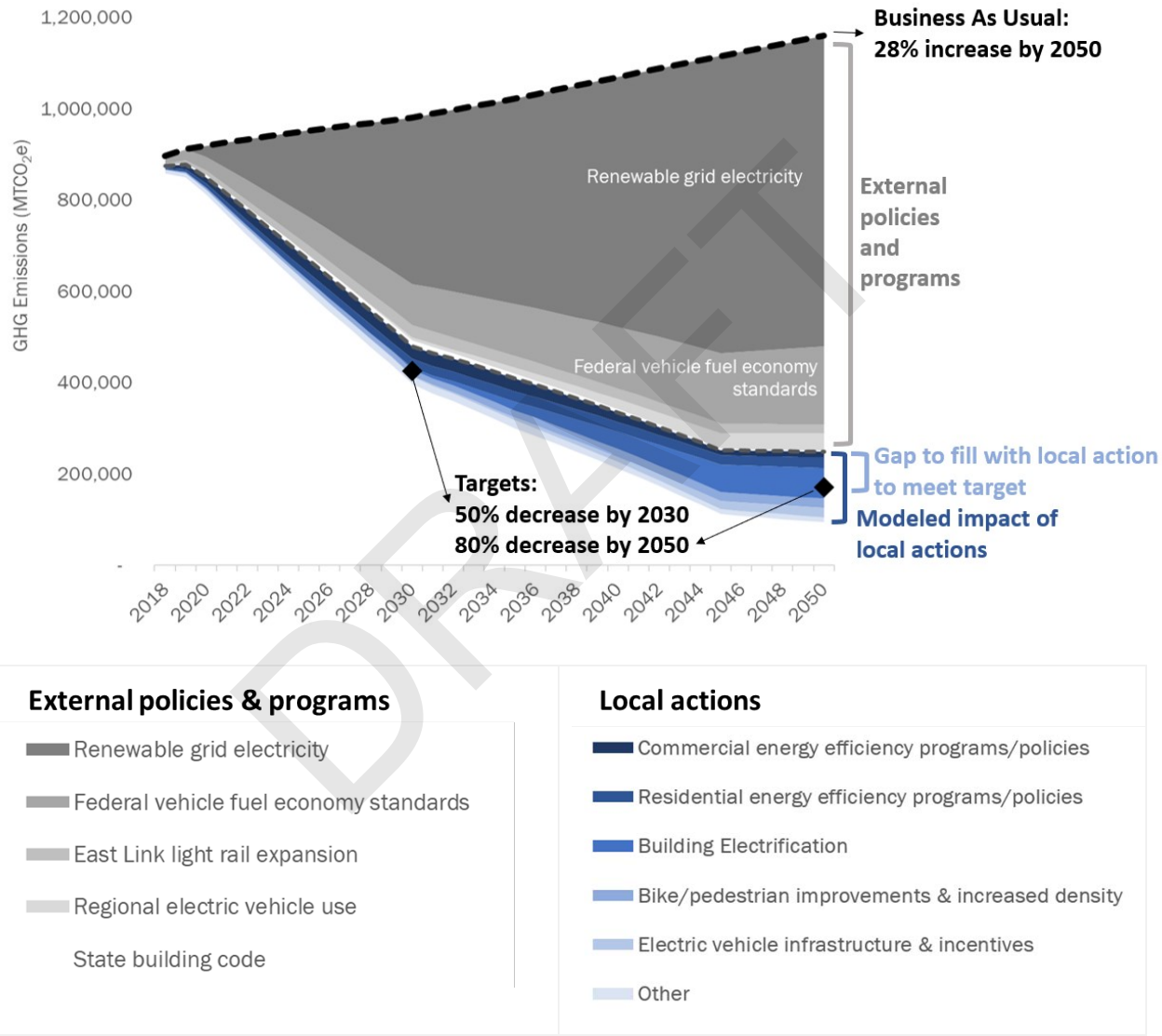
Under the current business-as-usual scenario, Redmond can expect to see more cars on the road, more energy used by buildings, and more waste in our landfills. This plan focuses on impactful and meaningful opportunities to address environmental impacts and foster resilience to future environmental changes. It prioritizes actions that not only move the needle on environmental outcomes, but also demonstrate Redmond's innovation and leadership in sustainability.

[5] May, C., C. Luce, J. Casola, M. Chang, J. Cuhaciyan, M. Dalton, S. Lowe, G. Morishima, P. Mote, A. Petersen, G. Roesch-McNally, and E. York. 2018. Northwest. In *Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment*, Volume II [Reidmiller, D.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, pp. 1036–1100. doi: 10.7930/NCA4.2018.CH24.



Graphic from King County, https://www.kingcounty.gov/services/environment/climate/our-changing-climate/impacts.aspx.

This Redmond ESAP builds on the foundation of sustainability projects, programs, and activities already completed and underway within the Redmond City government and community. The plan brings together activities and objectives from related City, community, and partner organization plans and programs—including efforts at the county, regional, and state levels. The result is a set of strategies, actions, key performance indicators (KPIs), and associated near- and long-term targets for realizing the city's long-term sustainability vision. These targets reflect state, regional, and peer city targets, as well as locally-specific analyses and considerations of strategy effectiveness. The figure below illustrates Redmond's GHG emissions reduction target and strategies and actions needed to achieve that target.



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The Need for Resiliency in a Time of Uncertainty

"COVID-19 is the story of the year. Climate change is the story of the decade."

COVID-19 has affected the world's social safety nets and economic systems. This pandemic highlights the importance of community resilience to prepare our residents, businesses, and public services for disruptions to our usual day-to-day lives through proactive planning and preparedness.

COVID-19 has also illuminated how both public health crises and environmental problems exacerbate existing social disparities—especially for low-income people, frontline workers, communities of color, elderly populations, and youth.

This plan acknowledges the importance of resiliency and the interconnectedness of sustainability goals to other important community priorities such as public health, economic stability, affordability, and quality of life. Indeed, many sustainability strategies and actions in this plan realize additional non-environmental benefits for the community—such as public health benefits from reduced local air and water pollution, regional economic benefits from green jobs, public safety benefits from climate change preparedness actions, and quality of life benefits from more beautiful green spaces and walkable communities.

It is clear that life may not return to normal. In fact, there has already been some significant and fundamental changes in the world and many of these will become permanent. Many things have changed in our daily lives during this battle with societal norms and COVID-19. There is less smog in cities, alternative work schedules and telecommuting have become the standard, and people are making sincere efforts to stay in touch with friends and family like never before. Redmond has already made adaptations to living in a world of uncertainty and the City will continue to build on these new processes to make a lasting change. We have altered the way we approach work, school, transportation, and public health. So, while the pandemic is tragic, the virus has certainly brought perspective to the ways our societies work. While emissions have fallen around the world due to reduced economic activity, people want to see that Cities have long-term plans beyond any temporary adjustments.

This plan also recognizes the challenges ahead. All strategies and actions in the plan have been carefully assessed within the context of Redmond—including consideration of costs and returns on investments. It will be imperative as the plan is implemented to closely monitor, evaluate, and adjust course if needed to ensure that achieving our sustainability goals continues to benefit the entire Redmond community.

The plan implementation will acknowledge the current state of the economy. The implementation will capitalize on the actions already underway at the City. Additional near-term actions will see a slow ramp-up focusing first on foundational actions and actions that fit the community's current needs. Actions that support cost savings to business and residents will be prioritized as well as actions that support build the foundation for equity.

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Plan Structure

The plan is broken into six key environmental sustainability chapters. Each sustainability chapter contains an overview of the topic area, City and community's progress to date, goals and targets, and list of strategies and actions for reaching those targets.

Plan Focus Areas

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Plan Development Process

The Redmond ESAP reflects and brings together City and community priorities developed through a 10-month long robust involvement and assessment process. The process included the following key elements, described briefly in the following sections:

- Compilation of a **sustainability inventory** that identifies activities, contexts, challenges, and baseline conditions for sustainability in Redmond.
- **Involvement of internal City staff and external community stakeholders** to inform and solicit input throughout the plan's development.
- **Development and prioritization** of **strategies and actions** for meeting sustainability goals.

Baseline assessment	Action development	Action assessment	Draft Plan	Final Plan
• Sustainability Inventory • Initial Community Survey • Staff and Stakeholder Workshops (#1) • Pop-up Events	• Staff and Stakeholder Workshops (#2) • Community Survey (#2) • Pop-up Events	• Multi-criteria and Quantitative Analysis • Staff and Stakeholder Workshop (#3)	• Online Open House and Community Survey (#3)	

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The primary objective of this process was to inform and build a plan that is comprehensive, grounded in Redmond's unique context (for example, Redmond has higher commercial energy use than other Puget Sound communities), and reflects community priorities and needs. In addition to these plan development objectives, the process also aimed to:

- **promote alignment** between previous and current sustainability priorities and activities;
- **lay the groundwork** for an ongoing conversation and collaboration with the Redmond community and City government around sustainability needs and outcomes; and
- build **community support** for the Environmental Sustainability Action Plan in Redmond that will continue to maintain partnerships to accomplish sustainability goals.

Sustainability Inventory

A sustainability inventory was compiled at the onset of the planning process to summarize Redmond's past, current, and potential future sustainability-related activities and context. The inventory also outlined potential challenges to accomplishing sustainability goals. The sustainability inventory utilized a multi-methods approach to identify specific activities, context, and challenges, relying on a **literature review** of City plans and reports, **interviews** with key City staff, interdepartmental City staff **workshops**, and a **quantitative assessment** of baseline conditions and future trends in key sustainability performance indicators (KPIs).

Internal & External Involvement

This plan incorporates community ideas and priorities, as well as recurring themes that resulted from community involvement during the planning process. Key elements of the involvement process are outlined below.

Key Elements of the Involvement Process

Channels of Communication	City Staff and Stakeholder Workshops
The City communicated with community members throughout the planning process through a variety of channels, including: • Let's Connect Redmond • Listservs • Community organizations • Informational flyers • Meetings and events	The City facilitated three workshops with City staff and select representatives from sectors such as land use and transportation, natural systems, advocacy and equity groups, business representatives, education, youth, and residents. Workshop objectives were to: • Understand the baseline conditions and progress to date, characterize Redmond's unique context, and brainstorm potential strategies and actions. • Identify criteria for action evaluation and identify sustainability goals and targets. • Review, prioritize, and outline implementation details for plan strategies and actions.
Community Surveys	**Engagement with Elected Officials**
The City administered three online communitywide surveys through the City's "Let's Connect" page: • An initial survey in November 2019 to gauge community priorities, concerns, and ideas • A second survey in March 2020 to solicit feedback on the potential strategies and actions being considered to help reach the City's goals. • A third survey in June 2020 to solicit feedback on the draft plan.	Throughout the planning process, the project team reported back to City Council. These reports included: • Key takeaways and themes from involvement events • Emerging data trends for the City • Focus areas and associated goals and targets • Potential strategies and actions for achieving goals
Engagement Toolkit and Pop-Up Events	**Online Open House**
An engagement toolkit was developed that included marketing and informational materials and interactive activities for engaging and informing the public about the plan. The City attended local events and tabled at local destinations to solicit quick feedback and raise awareness about the Plan, such as at local grocery stores and the annual Redmond Lights event. These efforts allowed project staff to reach audiences at a broader level and engage community members where they are.	The City is hosting an interactive online open house to present the draft plan to the community and solicit feedback. The open house was moved to a virtual platform due to COVID-related gathering restrictions.

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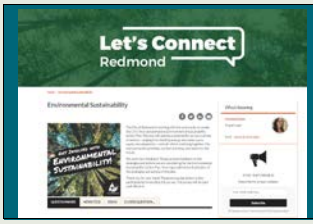


Redmond's *Let's Connect* page was used to share project updates and materials, deploy community surveys, and serve as a platform for community members to engage with the project.

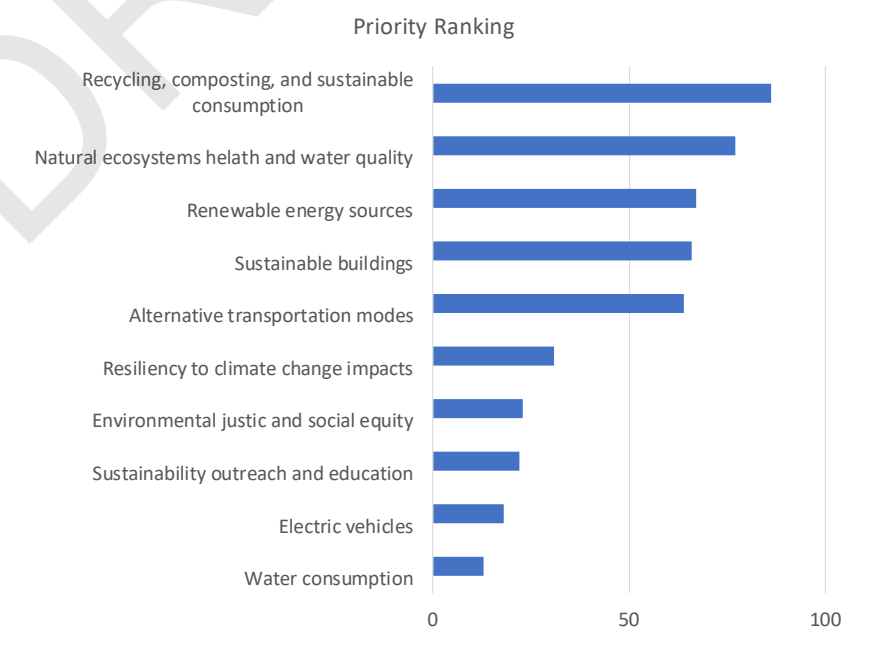
What Did We Hear: Highlights from Public & Stakeholder Engagement

Vision for Redmond in 2050

The first stakeholder workshop asked attendees about their vision for the City in 2050 (see outcomes at right). Key themes included community, equity, walkability, trees, affordability, composting, and livability.

Community Priorities

An online survey and City and stakeholder workshops asked about key sustainability priorities. Top priorities included sustainable materials management (recycling, composting, sustainable consumption), natural ecosystem health and water quality, and renewable energy sources.



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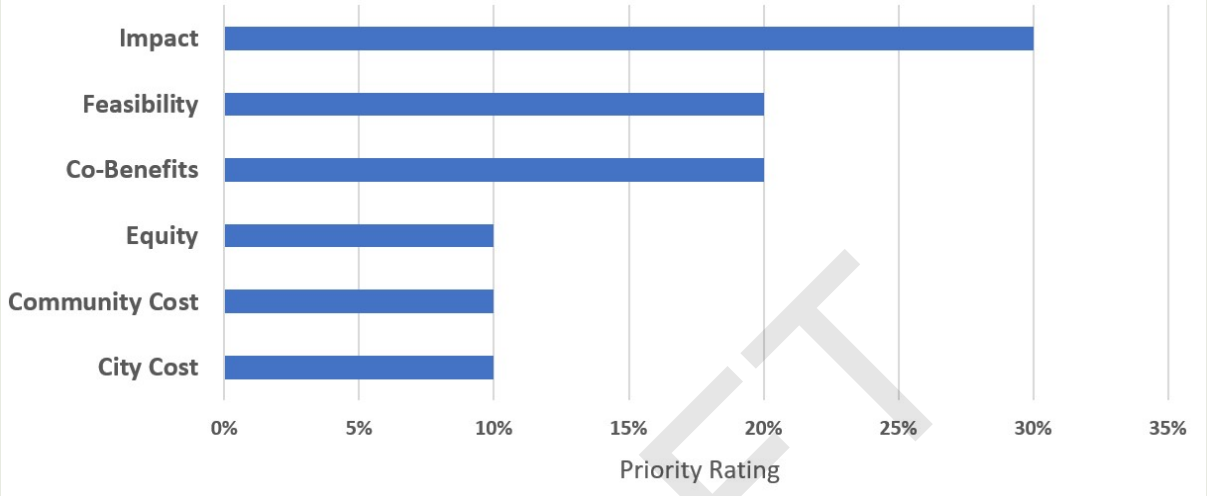
Criteria for Selecting Actions

Internal and external stakeholders were asked about the criteria that should be used to evaluate and prioritize sustainability actions. Community members and stakeholders emphasized impact, feasibility, and co-benefits, as defined and illustrated below.



Impact: extent to which action could help achieve plan goals.

Feasibility: likelihood that action will be successful given political, social, and technological barriers.

Co-benefits: extent to which action carries additional benefits or helps meet other City goals.

Cost: city and community resources required to implement action.

Equity: whether costs and benefits of action will be distributed fairly across communities or whether actions will avoid disproportionately affecting the most vulnerable in our communities.

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Action Development and Prioritization

An initial comprehensive list of 80-100 potential actions per focus area were compiled and developed through review of existing Redmond plans and programs; consultation with City staff and key community stakeholders; community input through interactive activities and online surveys; review of sustainability and climate action plans from other cities; and input from a team of technical consultants.

The City built from this initial list to assess, refine, and prioritize to a proposed shortlist of actions for consideration in the Environmental Sustainability Action Plan. The process included workshops with City staff and community stakeholders, input from an online community survey, a qualitative multi-criteria analysis, and a quantitative assessment of anticipated City costs and impact. These methods are described in more detail below.

Multi-Criteria Analysis

The City contracted with a team of technical subject matter experts to conduct a qualitative multi-criteria analysis of the comprehensive list of actions. Criteria and weightings for the analysis were identified and refined through public, stakeholder, and City staff engagement, summarized below. The analysis provided total priority scores for each action, which were considered by the City, consultant team, and stakeholders in arriving at the proposed set of actions in the plan.

Criterion	Weight	Definition/Subcriteria
Impact	30%	How likely is it the action will work to address plan goals and targets?
		Is the action addressing a major sustainability need (e.g., high GHG emissions source)?
Feasibility	20%	Is it possible to implement the action with current capacities within the City?
		Are there regulatory, political, or technological constraints?
City cost	10%	What is the relative ease of covering the costs of the action with City budget, grants, etc.?
		Is the cost of inaction significant?
Co-benefits or synergies	20%	Does the action address multiple goals, or other City or community objectives?
		Does the action work with other City activities to amplify the collective impact?
Community support and cost	10%	How affordable is the action to residents/businesses?
		Is there strong support for action from the resident and business community?
Equity	10%	Does the action address the needs of vulnerable and historically marginalized populations?
		Does the action reduce vulnerability for all populations? Is it fair?

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Cost Analysis

A quantitative cost analysis estimated City costs associated with implementation of the top priority actions as identified from the multi-criteria analysis. Costs over the life of the plan—30 years—were broken into aggregate categories:

- City staff time (expressed in annual full-time-equivalents, or FTE).
- Annual costs of operating and maintaining the action (outside of City staff time).
- Upfront costs including capital costs and one-time costs, including studies.
- Number of years that the program will operate.

Outcomes from the cost analysis—indicated in the "Strategies and Actions" section of the plan—were reviewed and considered by City staff, stakeholders, and subject matter experts in arriving at the final list of actions in the plan.

While community cost and affordability considerations were included in the qualitative multi-criteria analysis, the project scope did not include a quantitative community cost analysis. Actions with affordability implications should be developed in partnership with the community to ensure implementation integrates community concerns and does not unfairly impact vulnerable populations within Redmond. Actions that may require target stakeholder involvement, code or policy changes, or more robust costs analysis have been identified in the implementation planning section.

Many actions identified within the plan will result in long-term cost savings and efficiencies for community members, including energy efficiency upgrades, electric vehicles, and resiliency initiatives. Actions that provide cost savings benefits will evaluated for near-term implementation to meet the needs of our community during these challenging economic times.

Impact Analysis

The City also commissioned a quantitative, visual assessment of the ability of proposed ESAP strategies and actions to meet identified sustainability targets. The analysis was based on available data, literature, case studies, and subject matter insight, and was reviewed by City staff, community stakeholders, and subject matter experts in arriving at the strategies and actions of the plan. See the "Action Impact and Cost Assessments" section for more information on this analysis.

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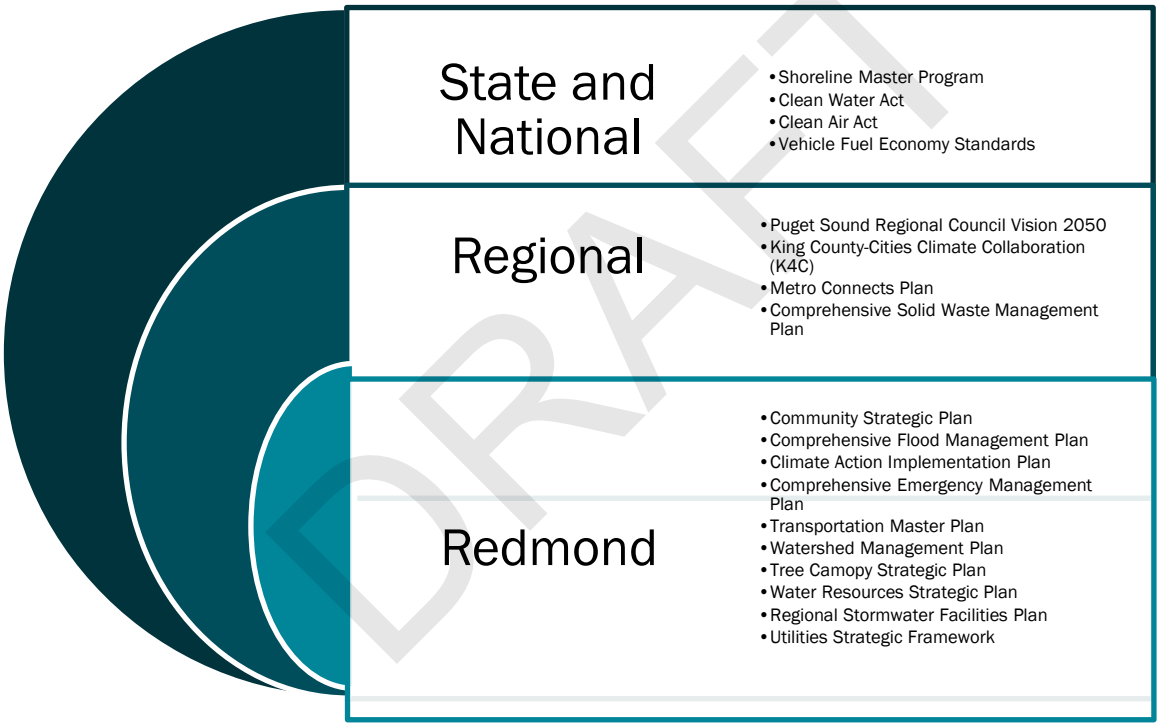
Local and Regional Sustainability Context

The ESAP integrates other local, state, and national plans, policies, and partnerships to ensure that the Redmond ESAP leverages and synergizes with other efforts in the region. Couching the plan within the context of these local, regional, state, and national efforts supports development of an effective, streamlined, and coordinated plan to enhance the greatest sustainability impact. Related plans and policies reviewed and integrated into this plan include those listed in the figure below.



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The Pathway to Sustainability

Successes and Accomplishments

Sustainability is not new to Redmond; the City and community have been working toward a more sustainable Redmond for years. A sample of activities and accomplishments are summarized below.

The City has 22 parks sites certified as **wildlife-friendly spaces**.

City Hall has **LEED Silver and ENERGY STAR** certifications.

The City government currently operates 28 **hybrid vehicles**

Redmond has over **2,500 electric vehicles** registered by Redmond residents—the third highest city in the state for EV registrations.

The City provides **recycling and composting education** to the community. Tons of organics waste diverted from the waste stream increased by 33% between 2013-2018.

The City offers **water conservation information and rebates** through Cascade Water Alliance, including toilet, showerhead, and irrigation retrofits and rebates, water audits, classes and consultants for professional landscapers, and incentive-based water pricing to promote water conservation.

The City recently improved efforts to **reduce pollution risks to the City's aquifer**. In 2018, the City issued 21 spill kits, moved 2,366 gallons of hazardous materials to secondary containment, and removed 1,360 gallons of hazardous materials from sites.

The City has executed a contract with Puget Sound Energy's to receive **100% renewable electricity** for its government operations, through the Green Direct Program. PSE anticipates delivering 100% renewable energy for City operations on January 1, 2021.

The City hosts **Green Redmond Day**, where 11,000+ volunteers have contributed over 33,000 hours. This program has resulted in almost 12,00 trees, 23,550 shrubs and small plants planted and spanned across 15 parks.

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How We Got Here

This plan builds on a rich history of sustainability action in Redmond. Key sustainability milestones include participation in regional partnerships, development of the Climate Action and Implementation Plan, and prioritization of environmental sustainability in the recent Community Strategic Plan.

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Goals and Targets

Redmond's environmental sustainability goals and targets, summarized below, were developed through an iterative process that included consideration of regional and peer city targets, existing City planning documents, community and City staff preferences and perceptions, and analysis of what is achievable through the identified strategies and actions of the plan.

Focus Area & Goal	Metric	Target	Source/Rationale
Transportation & Land Use: Reduce transportation emissions and enhance community mobility.	**Per-capita passenger vehicle miles traveled (VMT)**	30% reduction by 2035 50% reduction by 2050	Washington State RCW 47.01.440 statewide per-capita goals
	Electric vehicle use (% of VMT by EVs)	100% light duty 60% medium duty 40% heavy duty by 2050	K4C Target
Buildings & Energy: Increase sustainable buildings practices, renewable energy use, energy efficiency, and energy resiliency.	**Community energy consumption (MMBTU)**	25% reduction by 2030 45% reduction by 2050	K4C Target
	Fossil fuel consumption (MMBTU)	20% reduction by 2030 80% reduction by 2050	K4C Target
	Electricity fuel mix ($MTCO_2e$ per MMBTU)	100% renewable electricity by 2050 (0 $MTCO_2e$ per MMBTU)	K4C Target; consistent with WA Clean Energy Transformation Act (CETA)
Materials Management & Waste: Move towards more sustainable consumption and zero waste.	**Community waste diversion rate (% of total waste diverted from landfill)**	70% waste diversion rate by 2030 Zero waste of resources (80%) by 2050**	King County 2019 Comprehensive Solid Waste Management Plan

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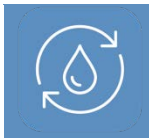
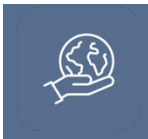
Focus Area & Goal		Metric	Target	Source/Rationale
	Natural Systems: Enhance green space, tree canopy, habitat quality, and natural drainage systems.	**Tree canopy cover (%)**	40% by 2049	Redmond Community Strategic Plan
		BIBI index of streams	60 by 2060	*Community Strategic Plan and Redmond Watershed Management Plan
		Surface water quality index (# out of 100)	80 by 2060	Existing Redmond target (stations scoring 80 and above generally meet expectations for water quality)
		Accessible habitat and wetlands (acres)	2,600 by 2050	Assumes 25% of total city acreage meets definition of accessible habitat. Based on Washington State Wetland Rating System Criteria H 2.1
	**Water Management:** Protect and conserve water resources, including water quality and quantity.	**Potable water consumption (per capita gallons per day)**	TBD by Water Reduction Strategy	N/A
		Sanitary sewer inflow/infiltration (gallons per acre per day)	1,100 by 2050	KC recommendations; KC Code (KCC), Section 28.84.050 K.3 I/I allowance
		Stormwater retrofits for flow (total acres retrofitted)	5,646 by 2050	Current Redmond target
		Stormwater retrofit for quality (total acres retrofitted)	7,463 by 2050	Current Redmond target
	**Climate Change:** Reduce GHG emissions and enhance communitywide resilience to climate impacts.	**Community GHG emissions ($MTCO_2e$)**	50% reduction by 2030 80% reduction by 2050	K4C Target

*These goals may be refined in the future due to updates to the Redmond Watershed Management Plan.

**This goal may be refined in the future due to updates to regional zero waste and circular economy planning efforts.

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Strategies and Actions

The strategies included in this plan are a set of actions aimed to foster sustainability within the City of Redmond over the next 30 years. These strategies provide a holistic approach to ensure the City meets its climate and sustainability targets.

A Strategic, Phased Approach

The City proposes a strategic, phased approach to attaining long-term sustainability goals over the next 30 years. The implementation plan—namely, the timing of actions—reflect the following high-level phasing:

- **Build a foundation through education, incentives, partnerships, and assessment:** For important larger changes that could be complex or costly for the community—such as comprehensive recycling and composting or transitioning off of fossil-fueled buildings—Redmond will begin by building a foundation for facilitating change. Starting with initial steps such as education, outreach, technical assistance, pilot programs, partnership building, and studies. The City will ensure that the community is equipped with the information and tools it needs to ensure a seamless and informed transition to attaining long-term goals.
- **Create accountability**: The second phase will focus on leveraging data transparency and information sharing to facilitate a culture of partnerships and continual improvement. Starting with City operations Redmond will lead by example to report progress and encourage community engagement. This focus on accountability ensures that all parties are clear on what is needed to move the needle on sustainability goals, and builds capacity and preparation for a potential transition to regulatory policies, as needed.

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- **Transition to policies, requirements, and mandates:** The plan recommends transitioning to policy mechanisms such as requirements and mandates only after more voluntary options have been explored and implemented. Although "softer" mechanisms such as education, outreach, and incentives have been shown to provide some impact in realizing sustainability goals, studies have indicated that stronger actions such as requirements and policies are ultimately needed to secure long-term impact.

This approach will remain nimble and responsive to annual performance monitoring to determine whether progress is advancing sufficiently towards established goals. Some action areas may have efforts already underway that allow it to progress and leverage stronger policy sooner.

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Strategy Focus: Greenhouse Gas Emissions

Outcomes from the impact analysis for reducing greenhouse gas emissions revealed a recommended phased approach for meeting Redmond's long-term emissions targets, summarized below. The indicated timing of in this plan reflect this phased approach.

	Phase/Strategy	Description
1	Transition to **utility-scale clean electricity**.	In the long-term, phasing out fossil fuel-sourced electricity will be crucial for achieving long-term emissions reductions in both the building and transportation sectors. This is especially true for Redmond, which has a significant proportion of emissions from commercial electricity. The Clean Energy Transformation Act (CETA) will be crucial for achieving this strategy, which requires WA electric utilities to provide 100% carbon-free electricity by 2045.
2	In the meantime, make buildings and transportation more **energy-efficient and renewable-focused**.	While electricity is transitioning to a renewable fuel mix, improvements in building and vehicle energy efficiency can help fill the gap in short-term emission reduction needs. For buildings, this includes making both existing and new buildings more energy efficient and expanding rooftop solar power. For transportation, this includes shifting from single occupancy vehicles to lower-carbon modes and driving more fuel-efficient vehicles.
3	As the electricity fuel mix gets cleaner, **shift drastically to electricity-based fuels** for passenger vehicle and space and water heating.	As the electricity fuel mix becomes increasingly renewable, the shift from fossil fuels such as natural gas and gasoline to electricity will be increasingly impactful. By 2030, electricity will be more carbon-friendly on a per-BTU basis than natural gas. Transitioning to electric vehicles, increasing electric space and water heating in new construction, and switching to efficient electric heat pumps in existing construction will all work to amplify the impact of PSE's clean electricity transition.
4	Continue to transition to **zero waste and sustainable consumption**.	While solid waste only makes up a small proportion of the city's overall emissions, the upstream emissions impacts of material consumption are substantial and should not be overlooked. This strategy models the impact of waste diversion strategies for the commercial, multi-family, and single-family sectors.
5	Pursue **local carbon sequestration projects** to meet long-term targets.	Although not explicitly modeled, local carbon sequestration projects—such as actions to enhance local tree canopy cover—could be pursued to achieve remaining long-term emission reduction needs.

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Strategies At-A-Glance

The key strategies within the plan are presented below, by focus area:

Transportation and Land Use	
T1	Increase the equitable use of non-SOV modes of transportation such as biking, walking and public transit.
T2	Shift to more efficient and lower-carbon vehicle fuels such as electric.
T3	Reduce energy consumption and emissions associated with City fleet use and commuting.
Buildings and Energy	
B1	Engage and support building sustainability education, technical assistance, and code advancement.
B2	Advance green building within City facilities.
B3	Shift to renewable energy sources and building decarbonization.
B4	Prepare the energy grid for future conditions.
B5	Expand performance benchmarking and improvements.
Materials Management and Waste	
M1	Increase diversion of community waste while reducing cross-contamination within waste streams (garbage, organics, recyclables).
M2	Reduce community waste generation (reuse, repurpose, upcycle).
M3	Reduce waste and environmental impact from City purchasing and operations.
M4	Address construction and demolition (C&D) waste.
M5	Reduce GHG emissions impacts associated with local consumption.
Natural Systems	
N1	Protect and enhance equitably accessible native habitats and open space and preserve agriculture lands.
N2	Enhance resilience of natural areas and systems to climate change.
N3	Expand green infrastructure and associated services.
N4	Increase citywide tree canopy.
Water Management	
W1	Achieve a secure and sustainable water supply that is equitable, affordable, and accessible.
W2	Reduce energy use and GHG emissions from water provision and treatment.
W3	Conserve community water resource and maximize water efficiency savings.
W4	Protect drinking water sources.
Climate Change	
C1	Ensure all City services and infrastructure are resilient to climate change impacts.
C2	Enhance resilience of populations that will be disproportionately impacted by climate change.
C3	Institutionalize consideration of sustainability and climate change across City activities and decision-making.
C4	Pursue cross-sectoral, communitywide solutions to address climate change and cross-cutting sustainability issues.

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Leading by Example

Implementation of the ESAP is a **community-wide effort** and it will be more important than ever for the City to demonstrate the benefits and importance of bold climate action. The City has undertaken numerous activities over the past decade to support its vision of a sustainable community, including:

- Becoming a founding member of the King County-City Climate Collaborative (K4C);
- Creating a detailed model to enhance the City's ability to protect and manage the Redmond's aquifer and provide the community with clean drinking water for years to come;
- Rehabilitating the lower portion Bear Creek to improve salmon habitat and passage; and
- Purchasing 100% renewable electricity for City facilities through PSE's Green Direct Program starting in 2021.

The ESAP builds on this leadership and identifies a clear pathway for a **City-led response** to climate change, such as:

- Committing to green building standards for new municipal owned buildings;
- Transitioning the City's fleet to clean, alternative fuel vehicles;
- Expanding telecommuting and alterative work schedules for City employees;
- Implementing solar and microgrid projects on City facilities; and
- Developing and enforcing green purchasing procedures and policies.

It will also be important to pursue partnerships and collaborative opportunities throughout implementation. The City will explore collaborative partnership opportunities like public-private partnerships, innovative funding mechanisms, and collaborations with educational institutions to further support City-led work and create win-win solutions for the community.

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How to Read Strategies and Actions

Each focus area section is structured as follows:

What Is Included?	Defines the focus area and types of strategies it includes.
Focus Area Goal	The overarching sustainability goal of the focus area.
How is Redmond Doing?	Highlights key focus area trends, achievements, and relevant City and community activities. It includes graphs with projection scenarios for key metrics: • **Business-As-Usual (BAU):** An estimate of how the metric would change over time without the influence of external or internal policies or programs. Population and job growth are key drivers of business-as-usual projections. • **Adjusted Business-As-Usual (ABAU):** The influence of policies and programs external to Redmond—such as state renewable portfolio standards and federal fuel efficiency standards—on the trajectory for the sustainability metric. • **Target:** Mid- and long-term sustainability targets related to the focus area.
How We'll Get There	Presents key focus area strategies and their anticipated contribution toward attaining short- and long-term targets.
Action Roadmap	Details the actions of the plan. See example below.
What You Can Do	Ways Redmond community members can be a part of plan implementation and success.

	Relative investment of City resources for implementing plan, as indicated based on action cost analysis (see "Cost Analysis" section for more information). The cost per action falls into three ranges (in net present value): = $0 - 100,000. = $100,000 - 500,000. = $500,000+
	Relative estimated impact towards achieving goals (see "Action Impact and Cost Assessment" section for more information).
	Contributes to equitable distribution of benefits.
	Links and/or contributes to other City initiatives or priorities (e.g., economic or public health benefits).
	Foundational action for realizing long-term impact.
Timeframe	Timeframe for initiating action implementation = already underway | = 0-5 years | = 5-10 years | = 10+ years

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Action Impact and Cost Assessments

Impact Assessment

The planning process included estimation of variables and outcomes associated with identified actions in the Environmental Sustainability Action Plan. The analysis assessed the potential of ESAP implementation to meet regional commitments and established targets. These estimations are often visualized in a "wedge analysis" that depicts a high-level estimate of how much the actions will collectively contribute towards meeting the city's communitywide goals and targets.

Methodology

Actions in the ESAP were broadly classified and modeled into "impact bundles." The bundles represent variables related to key sustainability indicators. For example, actions that reduce building energy demand were classified under a "Reduced Building Energy Demand" bundle. These bundles represent key areas for reducing Redmond's environmental impact.

This analysis assessed the following primary scenarios:

1. **Business-As-Usual (BAU):** An estimate of how the metric would change over time without the influence of external or internal policies or programs. Population and job growth is the key driver of business-as-usual projections. This scenario is indicated by **black dotted lines** in the wedge graphics.

2. **Adjusted Business-As-Usual / External Factors:** The influence of policies external to Redmond—such as state renewable portfolio standards and federal CAFE fuel efficiency standards—on Redmond's projected environmental trends. These are denoted in **gray** in the wedge graphics (colored dotted lines in the target/business-as-usual graphics).

3. **ESAP Actions:** The estimated impact of priority actions in the ESAP. These are denoted in **color** in the wedge graphics.

The analysis was conducted to 2050—the long-term target year for communitywide sustainability goals, including the greenhouse gas emission reduction target. The ESAP leverages 2011 as the baseline year due data consistency and accuracy.

Considerations

Other considerations in conducting the impact analysis include:

- **Data availability:** The outputs of the analysis are only as precise and accurate as the inputs. This means that, where possible, the use of locally precise and accurate data is preferred. However, in many cases, local data were not available. In that case, data from the national level or from other regions were considered in combination with input from local experts.
- **Uncertainty:** Modeling action impacts can be challenged by uncertainty in the cause-effect relationship of actions. For example, what is the emission reduction outcome of an action that calls for the introduction of a rebate for home energy audits? This value is contingent on many factors, including outreach, buy-in, behavior change, and measure efficacy.

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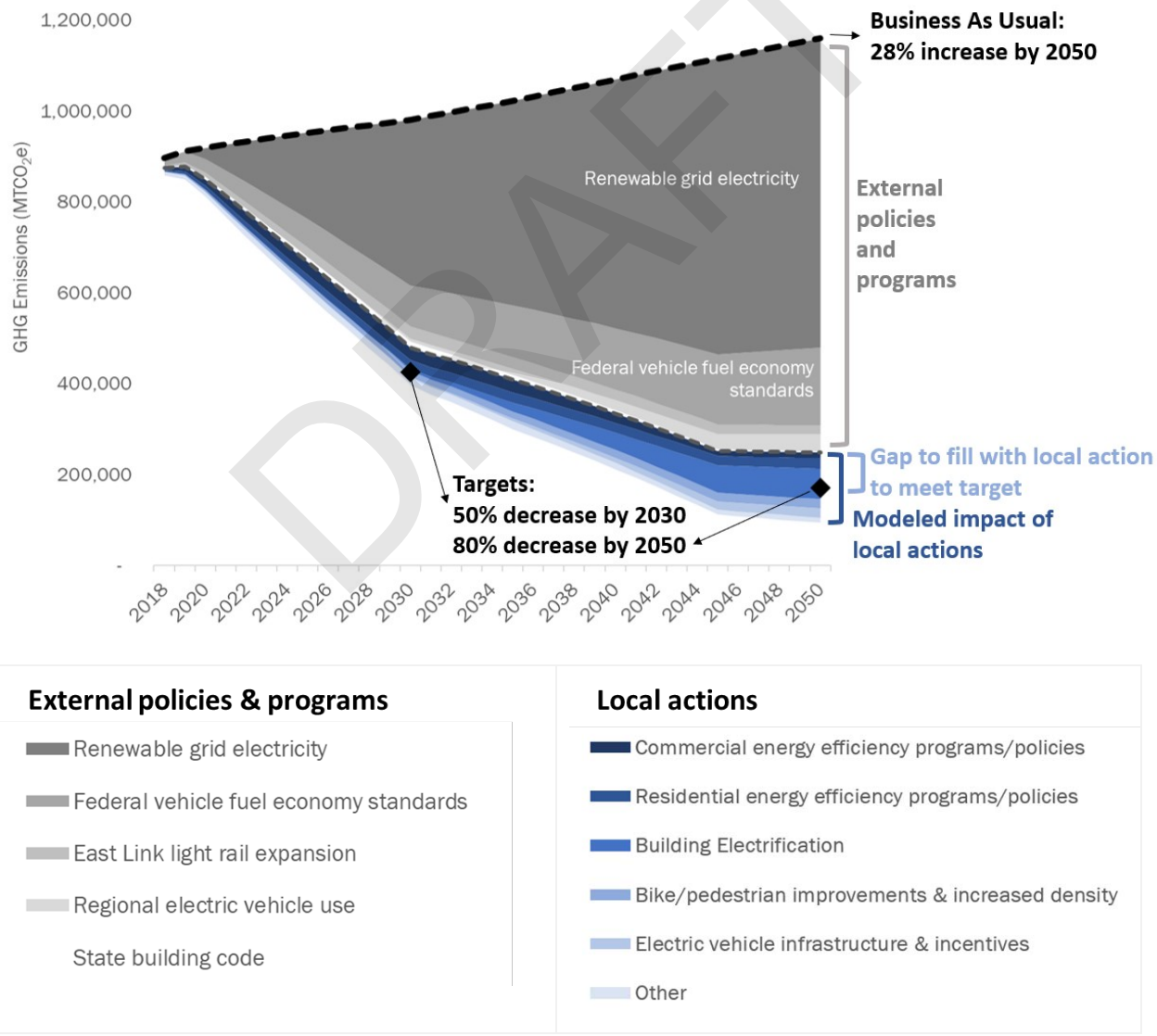
This impact analysis did not attempt to assign answers to each of these questions. Instead, this analysis was intended to provide a high-level estimate of potential outcomes from ESAP implementation. It is assumed that more detailed action evaluation would be performed upon implementation of the individual action. The ESAP evaluation cycle and KPI tracking will be used to determine if the actions identified are moving the City far enough towards goals or if additional strategies need to be considered.

Findings Example: Climate Change

Detailed outcomes from the impact analysis are provided in each of the focus area sections of the plan. As an example, analytical outcomes for achieving Redmond's community GHG emissions reduction target are provided in the figure below. In the example, the modeled actions of the plan are anticipated to exceed indicated 2030 and 2050 targets.

Figure 1. Example wedge graphic for depicting outcomes from the quantitative impact analysis. The business-as-usual scenario is depicted as a dotted line, impact of external policies and activities are indicated in gray shades, the impact of local actions are depicted in colored shades, and targets are indicated by diamonds.



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Cost Analysis

A cost analysis estimated City costs associated with implementation of the top priority actions from the multi-criteria analysis. Costs over the life of the plan—30 years—were broken into aggregate categories:

- **City staff time** (expressed in annual full-time-equivalents, or FTE).
- **Annual costs** of operating and maintaining the action (outside of City staff time).
- **Upfront costs** including capital costs and one-time costs, including studies needed.
- **Number of years** that the action would operate.

For each action, these costs were summed over the project period of 30 years to create **net present value cost estimates** using a three percent discount for each year in the future that the cost will occur. The discount rate balances out costs in the distant future that are arguably less certain by adjusting downward (discounting) for each year in the future. The net present value calculation achieves two goals:

1. Compares program costs for the **full planning horizon**, and not just on a year to year basis.
2. Allows for a **fair, 'apples to apples' comparison** across focus areas, and including both longer term and shorter-term actions.

The goal of the cost analysis was to **estimate the City resources required to complete each action**. This set the stage for prioritizing actions in the context of both cost and impact. The cost analysis was developed and then reviewed by City staff, understanding that the level of detail was not the same as required when developing cost estimates for budgeting purposes. Also, costs were only counted in terms of the cost to the City of Redmond, and not to partner organizations, private sector firms, or directly to the public. Relative costs to the community were considered as part of the multi-criteria analysis and will be undertaken upon implementation of individual actions.

Outcomes from the cost analysis—indicated as piggybank icons in the focus area sections of this plan—were reviewed and considered in arriving at the final list of actions in the plan.

The Cost of Inaction

Although not explicitly modeled in this planning process, multiple scientific studies estimate the cost of climate inaction to be high and that proactive resilience actions are the best way to achieve long-term cost savings. In a recent U.S. Environmental Protection Agency Report, models estimate that the costs of climate inaction for the Pacific Northwest include: an additional $600 million cumulatively spent on wildfire response by the end of the century; $84 million per year spent on addressing urban drainage and flooding by 2050; an additional $950 million per year in economic damages and 64 additional pre-mature deaths per year related to poor air quality; and an additional $360 million per year in road repair costs associated with climate change and extreme events by 2050. This planning process included a qualitative assessment of the cost of inaction through the multi-criteria analysis of potential actions, prioritizing actions that may have consequential cost impacts should they not be implemented.

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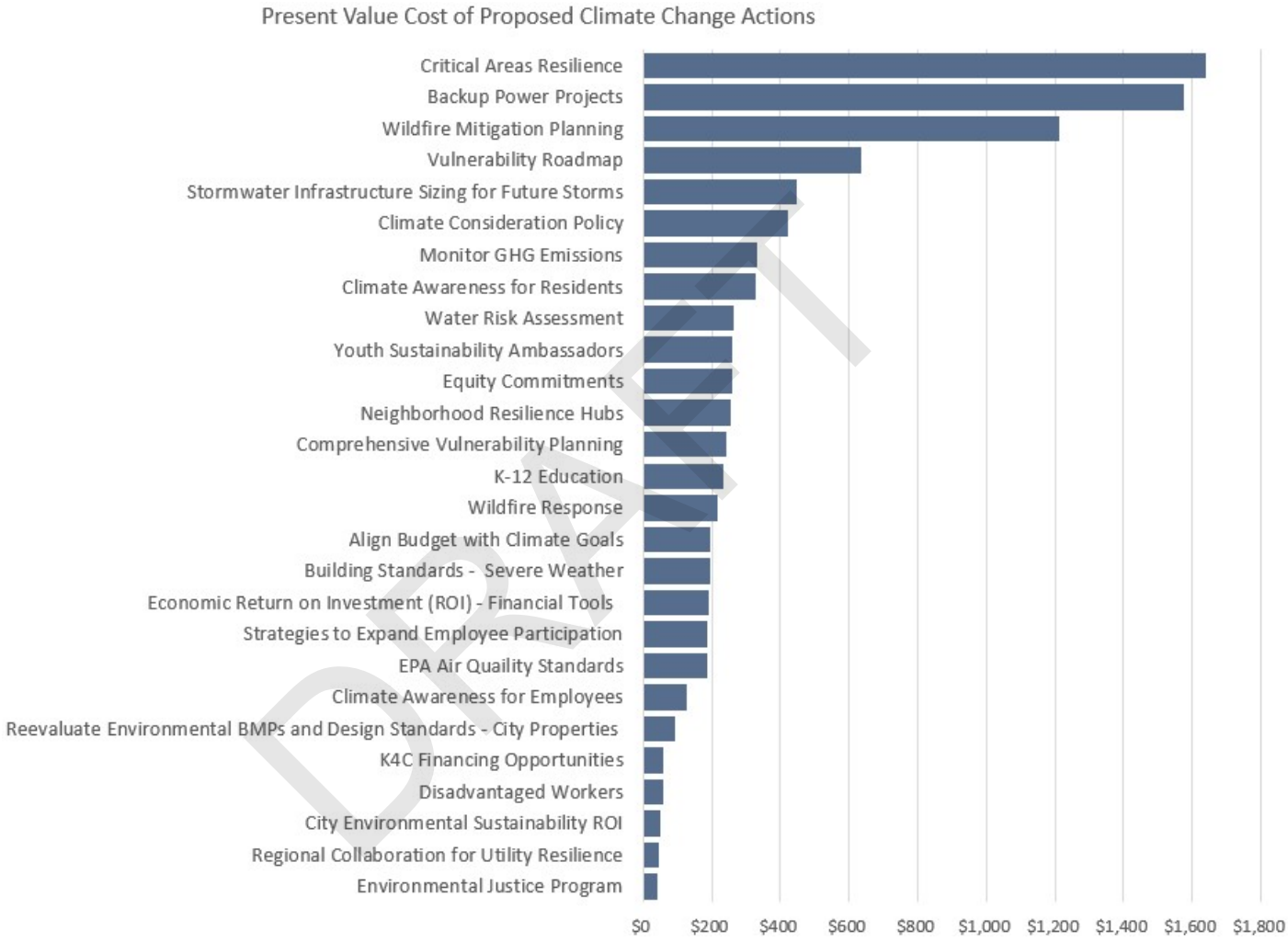
Findings Example: Climate Change and Resilience

Estimated outcomes from the cost analysis are provided in each of the focus area sections of the plan (indicated as piggybank icons in the action roadmap). An example of the estimated analysis outcomes for the Climate Change and Resilience focus area is provided below.

Figure 2. Example estimated cost analysis outcome for the Climate Change and Resilience focus area.



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Transportation and Land Use

What is included?

Transportation and land use are critical elements of a sustainable, livable, equitable, and accessible Redmond. Currently, transportation and land use contribute to approximately 26% of Redmond's community GHG emissions. This section includes actions that promote and support alternative transportation, improve land use planning, and encourage use of clean and energy-efficient vehicles.

Transportation and Land Use Goal: Reduce transportation emissions and enhance community mobility.

How is Redmond doing?

Key Achievements

- The City of Redmond purchased its first hybrid in 2005, and currently operates and maintains **28 hybrid vehicles**.
- The City currently **tracks fleet fuel use**, miles driven, and vehicle type.
- The City **reduced its fleet's carbon footprint** 14% since 2011 while saving thousands of dollars in fuel expenses.
- Redmond is currently identifying publicly owned land that is offered at a discounted price to support the development of **deeply affordable housing**.[6]
- The Department of Public Works installed two **electric vehicle chargers** in the Maintenance and Operations Center (MOC) yards, explored building a sustainable campus, and researched alternative fuels.
- Redmond has installed multiple **electric vehicle charging stations** in public parking lots.
- Redmond's **Transportation Master Plan's** three-year action plan is 40% complete and 45% is in progress, signaling advancement in the past few years.
- The City recently constructed a **sidewalk and bicycle lane** on the west side of Red-Wood Road near 109th Street.[7]
- The City has a **Green Building Incentive Program** that includes density bonuses for increasing residential/commercial development on sites near transit and for affordable housing.
- Redmond currently has **1,766 registered EVs,** as well as **31 public EV charging stations** throughout the city.

[6] https://www.redmond.gov/DocumentCenter/View/9277/Community-Strategic-Plan-2019?bidId=

[7] https://www.redmond.gov/DocumentCenter/View/7570/Three-Year-Action-Plan-2016-to-2018-Update-PDF?bidId=

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Key Performance Indicators

Performance Measure	Status	Historic Trend	Trend Insights
Community VMT	Worsening		**Increasing.** There has been a 2.1% overall increase from 2011 to 2017. This increase is largely driven by passenger vehicles—medium and heavy truck usage has declined over the same period.
Per Capita VMT	Improving		**Decreasing.** There has been a 9.4% decrease from 2011-2017. This decline could be due to shifts to transit, walking, and biking.
Transportation GHG emissions	Improving		**Decreasing.** Community transportation emissions decreased 4% from 2011-2017. This trend is primarily driven by increases in vehicle fuel efficiency.
Commuter mode share	Improving		**Increasing.** Between 2008-2018, the percentage of commuters that did not drive alone increased 8%. Increases in mode share may reflect changes to infrastructure, policies, and land-use patterns that support different types of travel.
Municipal fleet emissions	Improving		**Decreasing.** Redmond vehicle fleet emissions have decreased 14% since 2011.

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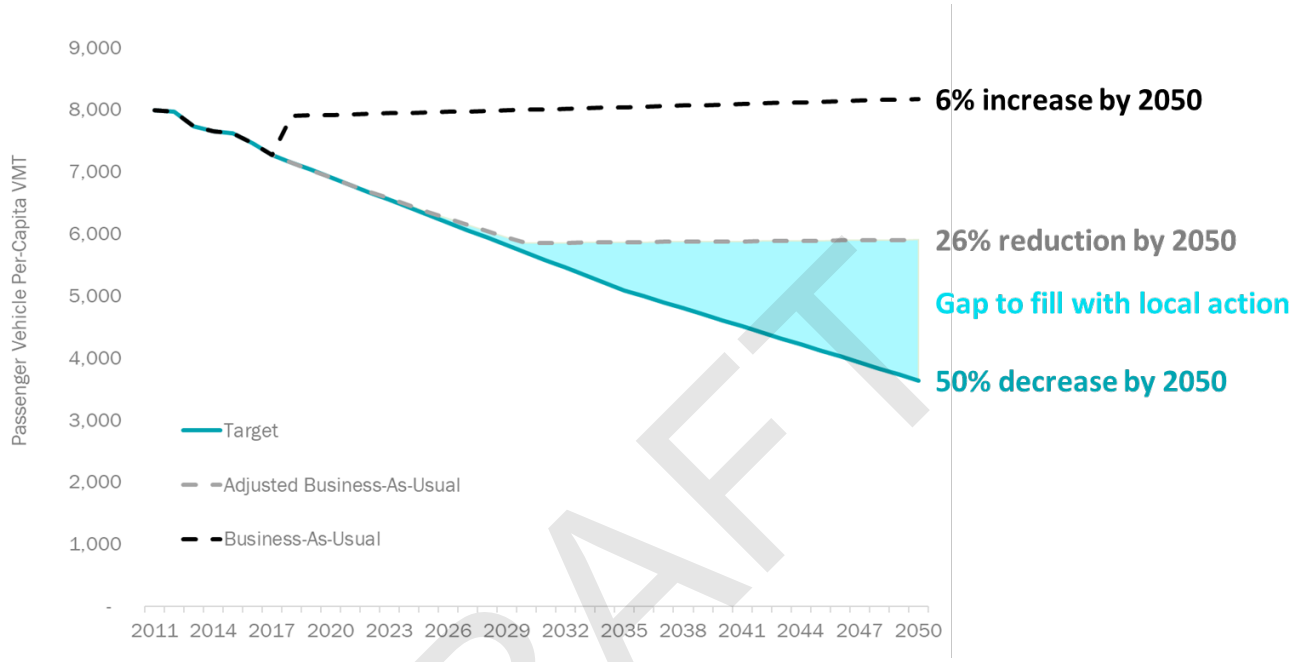
Business As Usual: Where We're Heading

Overall, we anticipate that community VMT will continue to steadily increase with continued economic growth in King County and the Puget Sound region. On a per-capita basis, we anticipate VMT to increase slightly to total a 6% increase by 2050. In the adjusted business-as-usual scenario, Redmond's per-capita VMT will reduce 26% by 2050—primarily due to the anticipated East Link light rail extension.



Targets: Where We Want to Be

Target Indicator	Target Value	Source/Rationale
Reduce per-capita vehicle miles travelled (VMT)	30% reduction by 2035 50% reduction by 2050	Washington State RCW 47.01.440 statewide per-capita goals
Electric vehicle use (% of VMT by EVs)	100% light duty by 2050 60% medium duty by 2050 40% heavy duty by 2050	K4C Target
Increase electric vehicle use (% of VMT by EVs)	100% light duty, 60% medium duty, and 40% heavy duty by 2050	K4C Target
Reduce transportation GHG emissions ($MTCO_2e$)	47% reduction by 2035 71% reduction by 2050	Needed to meet overarching community GHG emission goal

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Strategies: How We'll Get There

Sustainability improvements to the transportation sector will require a transition to clean, low-/zero-emission vehicles while simultaneously enhancing community mobility and decreasing community-wide vehicle miles traveled (VMT). Transportation related GHG emissions account for nearly 25% of Redmond's communitywide GHG emissions, so making progress toward reducing commuting miles and increasing equitable access to goods and services are essential to effective climate action.

Key considerations for transitioning to more sustainable transportation and land use in Redmond include the following:

- **Transportation GHG emissions are a result of vehicle fuel efficiency, the carbon content of the fuel, and VMT.** Gains in the first two areas may be potentially offset by losses in the third (VMT). Transitioning to electric vehicles are not enough to decarbonize the transportation sector completely in the near-term and therefore it's important that while Redmond transitions to electric vehicle the community simultaneously reduce vehicle miles traveled through better land use planning and by promoting non-SOV modes like transit, walking, and biking.
- **Redmond is preparing for the opening of the Link Light Rail and therefore should work with City planners and developers to intensify transit-oriented development near these stations.** Redmond should partner with transit agencies to maintain and enhance multimodal transit services and related facilities, including better first/last mile access to transit.
- **Transportation costs are a significant expense for households and car ownership can often be a burden or too expensive for low-income families.** Personal and single-occupancy electric vehicle adoption does nothing to address these existing inequities. Furthermore, not all Redmond residents will live near the light rail stations and transportation costs tend to be lower for those living in neighborhoods where it's safe to walk, bike, or take transit. Promoting these modes of transportation and reducing VMT both reduces emissions and is more equitable.

Given these considerations, this plan sets forth the following high-level strategies for attaining transportation and land use goals and targets:

Strategies	
T1	Increase the equitable use of non-SOV modes of transportation such as biking, walking, and public transit.
T2	Shift to more efficient and lower-carbon vehicle fuels such as electric.
T3	Reduce energy consumption and emissions associated with City fleet use and commuting.

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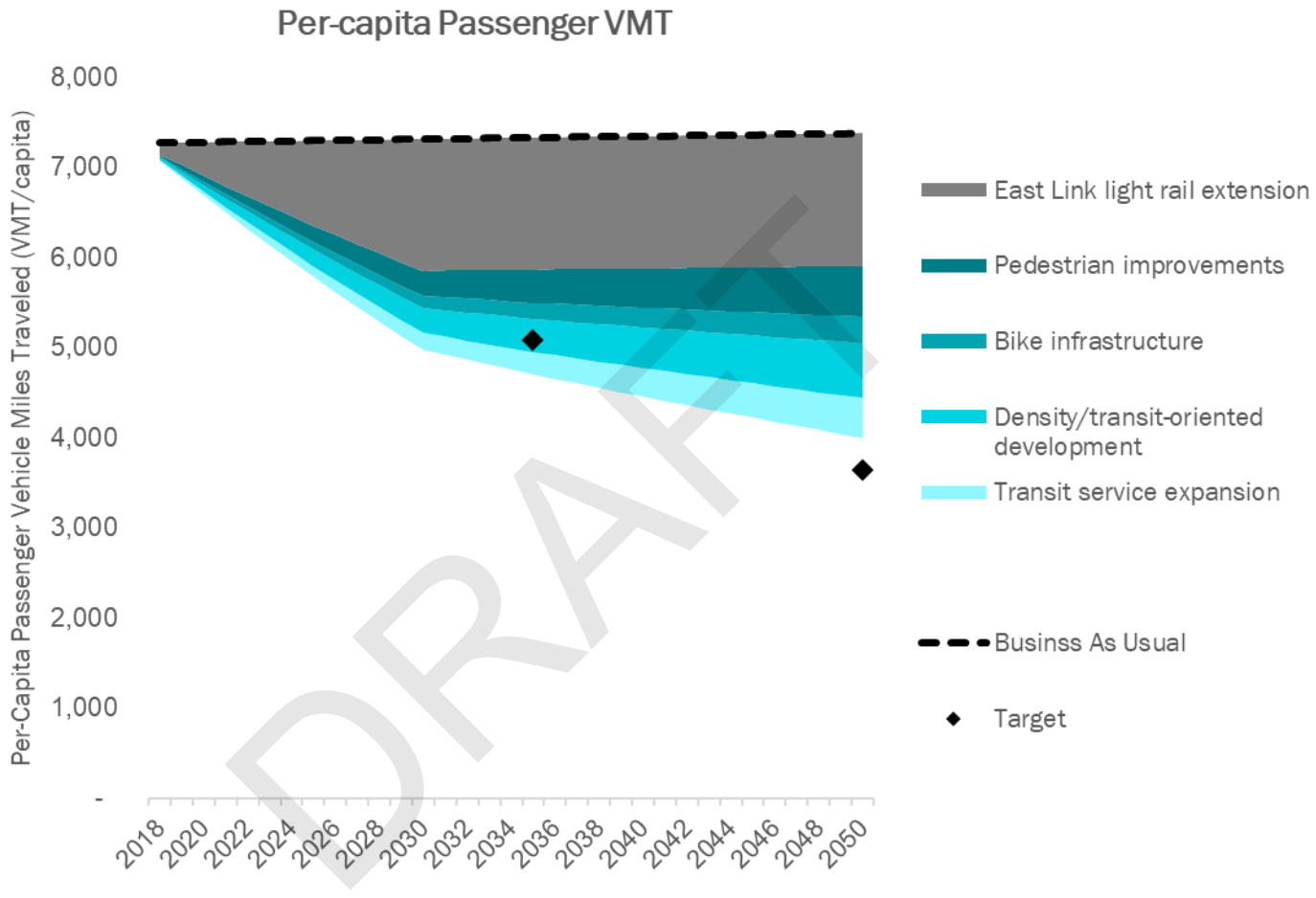
We estimate that implementing these strategies, in conjunction with external actions, could lead to a 45% reduction of per-capita VMT by 2050. We acknowledge that the City will need to continue to monitor and amend its approach to ultimately meet the state's target of 50% reduction by 2050. Key actions in achieving the city's goals include the East Link light rail extension, bike and pedestrian improvements, increased urban density and transit-oriented development, and transit service expansion.



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Action Roadmap

Action	Description	Investment	Impact	Co-Benefits	Timeframe
Strategy T1: Increase the equitable use of non-SOV modes of transportation, such as biking, walking, and public transit.					
Downtown Redmond parking	Implement Downtown Strategic Parking Management Plan's Conditions Report subsequent phases to evaluating parking needs and management.				
Implement Growth and Transportation Efficiency Center program	Develop a framework and implementation plan for the City's Growth and Transportation Efficiency Center (GTEC) program in order to integrate transportation demand management (TDM) actions with infrastructure improvements, facilitate growth, and maximize the efficiency of transportation infrastructure.				
Commuter mobility partnerships	Partner with organizations such as the Transportation Management Association (TMA) to increase commuter mobility and efficient use of transportation systems through services, incentives, education, and the promotion of single occupancy vehicle alternatives to residents.				
Multimodal transit/facilities	Partner with transit agencies to maintain and enhance multimodal transit services and related facilities, including better first/last mile access to transit and preparing for opening of Link Light Rail.				
Pilots for trip reduction	Continue piloting trip reduction initiatives such as app-based carpooling and scooter/bike share.				
Reevaluate TDM performance measures	Reevaluate and revise TDM performance measures as needed to ensure they are directly linked to Redmond's livability and sustainability.				
Mobility data publication	Continue to refine and improve mobility for all targets and data tracking systems. Make the programs and data available for the public.				
Improve student alternative transport	Improve alternative transportation options for local schools.				
Telecommuting and alternative work schedules	Expand telecommute and flexible schedules for City employees and encourage Redmond businesses to adopt.				

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Action	Description	Investment	Impact	Co-Benefits	Timeframe
Unbundle parking	Develop an ordinance requiring unbundled parking in all rental housing so residents that do not own a car will not have the cost of parking bundled in their rent.				
Increase new mobility options	Encourage and foster the use of new mobility options, such as bike share, electric bike and scooters, and ride hailing.				
Bike storage incentives and requirements	Develop incentives for current development and mandates for new development to increase the number of safe bicycle storage spaces around planned light rail stations.				
EV charging business partnerships	Partner with organizations such as OneRedmond to encourage businesses to install charging stations at workplaces and to provide support for commercial entities interested in providing charging stations for their employees.				
Diversify housing options	Allow for AOU, duplexes, 4+8 unit apartments/ condos, ADUs, and retrofits in single family zones to promote higher density housing/commercial development.				
Parking maximums/minimums	Develop parking maximum and minimum requirements in urban areas and along transit corridors.				
Increase "Spine Network" goal 2030	Identify new partnerships and funding sources to support an increased "spine" bike network above the current expectation of 51% completion by 2030 and identify opportunities to provide bicycling facilities that will be comfortable for more riders, such as cycletracks/multi-use paths.				
Create more walkable communities	Review and update land use and zoning policy to promote more walkable built environment.				
Active mobility infrastructure investments	Identify and implement pedestrian and bicycle infrastructure investments that promote connectivity, safety, and mobility for all.				
Comprehensive transportation outreach and education	Develop education and outreach programs and materials for transportation initiatives related to reducing emissions and/or community mobility.				
Strategy T2: Shift to more efficient and lower-carbon vehicle fuels such as electric.					

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Action	Description	Investment	Impact	Co-Benefits	Timeframe
Freight VMT/idling	Identify and implement opportunities for reducing freight VMT and idling, especially those from delivery trucks.				
Advanced clean car standards	Continue to support the State to retain and improve upon its 2018 decisions to adopt California's Advanced Clean Car Standards.				
EV demand eval & parking requirements	Review EV infrastructure strategy and predictions for EV adoption with input from PSE and other regional stakeholders, including evaluation of EV parking supply/demand and ways to make charging more accessible.				
Electrical code for EVs	Update electrical code to ensure adequate electrical capacity is available to serve one electric vehicle charging station per parking space.				
Strategy T3: Reduce energy consumption and emissions associated with City fleet use, contracting, and commuting.					
Municipal fleet conversion	Continue implementing a Green Fleet Purchasing Policy.				
Emission standards for contractors	Develop and incorporate contractor fuel emission reduction standards into City bids and contracts.				

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What You Can Do

Reaching Redmond's sustainability goals will require action from every individual in our community. Collective action can have a significant impact on lowering the community carbon footprint. The following actions are important steps to reducing emissions.

Take public transportation and carpool

Utilizing public transit, even once a week, can help lower your GHG footprint and reduce traffic congestion.

Related action(s):

- Implement Growth and Transportation Efficiency Center program
- Commuter mobility partnership
- Pilots for trip reduction
- Improve student alternative transport

Active transportation

Walking, biking, or other types of active transportation can reduce emissions, improve local air quality, and improve health and wellbeing.

Related action(s):

- Increase new mobility options
- Increase "Spine Network" goal 2030
- Bike storage incentives and requirements
- Create more walkable communities
- Active mobility infrastructure investments

Purchase an electric vehicle

If able, purchasing an electric vehicle can significantly reduce GHG emissions—especially as electricity sources become increasingly renewable.

Related action(s):

- EV charging business partnerships
- EV demand eval & parking requirements
- Electrical code for EVs
- Municipal fleet conversion

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Buildings and Energy

What is included?

Buildings and energy represent the largest source of GHG emissions in Redmond—accounting for over 70% of total emissions. The largest sources within this sector are from commercial electricity and residential natural gas consumption (see figure below), largely used for heating, cooling, and powering appliances and equipment. The large contributions from this sector reveal an opportunity for renewable energy and energy efficiency measures to dramatically reduce Redmond's community GHG emissions. Renewable energy sources are clean, inexhaustible, and increasingly cost competitive. Investing in solar, wind, and other advanced forms of energy generation can also create local jobs, support economic development, and reduce air pollution.

Buildings & Energy Goal: Increase sustainable buildings practices, renewable energy use, energy efficiency, and energy resiliency.

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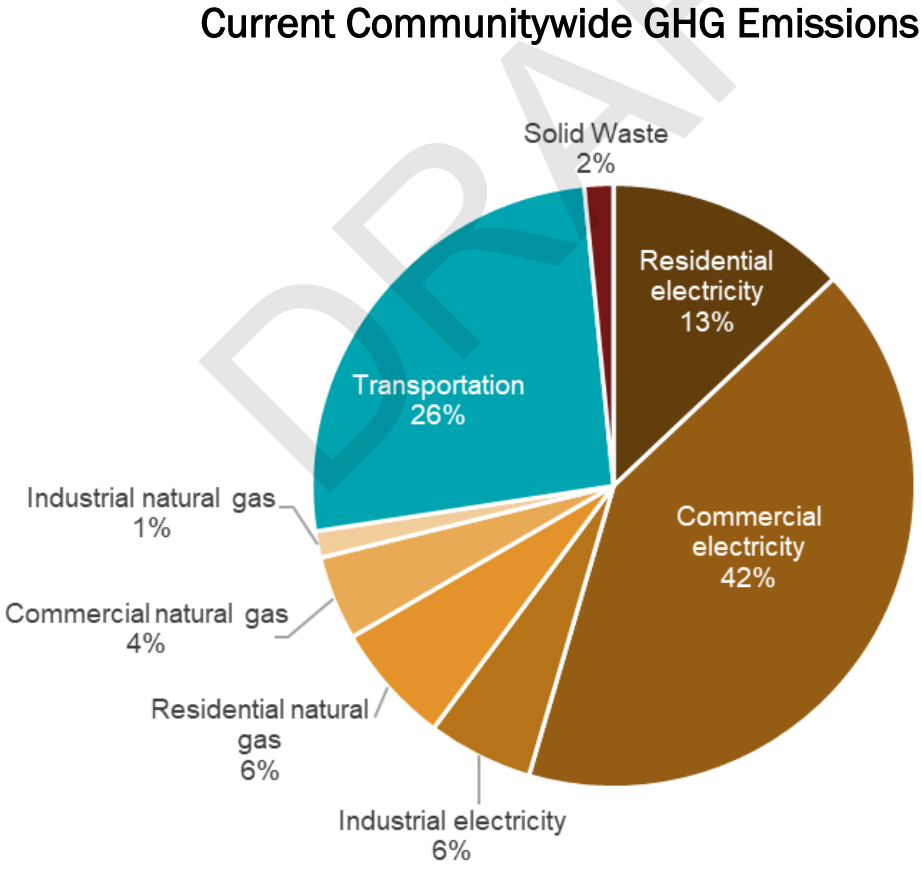
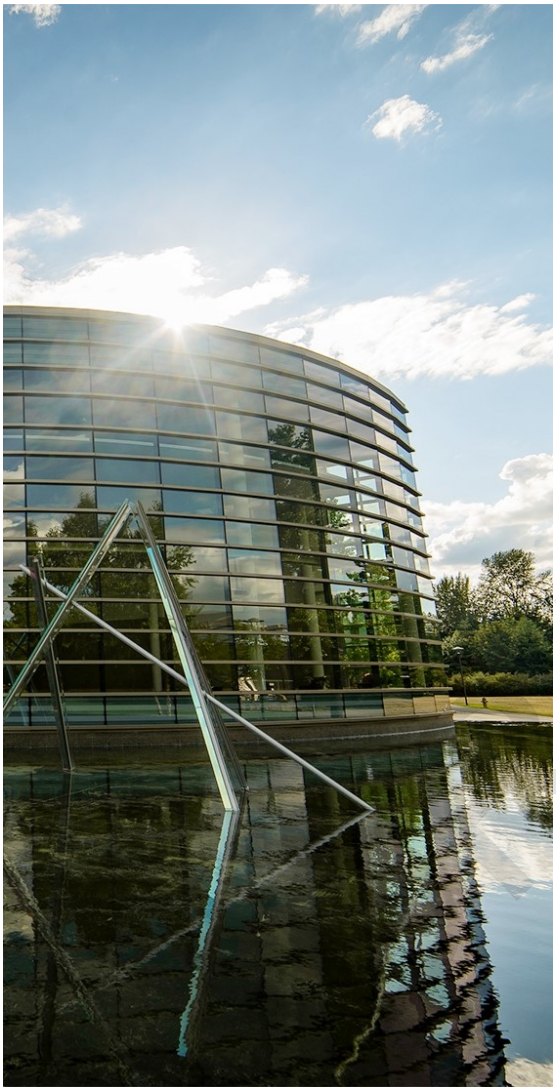


How is Redmond doing?

Key Achievements



- The City of Redmond has partnered with Puget Sound Energy to work towards purchasing **100% of its electricity** for government operations from **local renewable energy resources**.
- City Hall has **LEED Silver and ENERGY STAR certifications**.
- The **Green Building and Green Infrastructure Incentive Program** provides incentives for implementing green building development techniques across a variety of building types.
- The City has conducted various **Energy Service Company (ESCO) projects** to offer comprehensive energy solutions to improve efficiency and reduce consumption at City facilities. Projects include LED lighting, replacing heat pumps, energy efficient windows at the pool, water filtration systems at the pool, and heat systems for the pool.
- The City has worked with PSE to provide **energy-efficient lightbulbs at a highly reduced price** at community events. PSE also conducts **outreach to small businesses** to offer retrofit services for energy efficiency.
- Redmond is working on **building automation controls** in municipal entities to reduce energy waste.
- The City worked with Puget Sound Energy to complete a **District Energy study** for the Overlake area.

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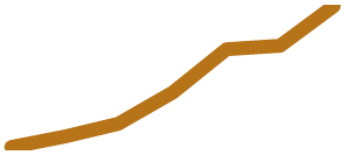
Key Performance Indicators

Performance Measure	Status	Historic Trend	Trend Insights
Building energy GHG emissions ($MTCO_2e$)	Worsening		**Increasing.** Energy-related emissions increased 12% between 2011-2017. Drivers of this trend include increases in natural gas use and the increased use of fossil fuels such as coal and natural gas in generating electricity.
Community energy use (MMBtu)	Improving		**Decreasing.** Despite population growth, community-wide energy use decreased 5% since 2011--a reduction of over 300,000 MMBTU.
Carbon Intensity of Energy (MTCO2e/MMBtu)	Worsening		**Increasing.** The carbon intensity, or the amount of carbon pollution per unit of energy, has increased since 2011 due to increased natural gas use and fluctuations in PSE's electricity fuel mix.
Natural gas use (therms)	Worsening		**Increasing.** Natural gas usage has increased 6% since 2011—an increase of over 1,000,000 therms. This increase may be driven by reductions in natural gas prices.
Electricity use (kWh)	Improving		**Decreasing.** Despite population growth, electricity use has decreased 10% since 2011—a reduction of over 126,000,000 kWh. This reduction may be driven by switching to natural gas or energy efficiency improvements.
PSE Green Power purchases (kWh)	Improving		**Increasing.** Since 2011, Redmond has increased the amount of renewable electricity purchased from PSE's Green Power Purchasing Program by 129%–an increase of over 11,000,000 kWh.

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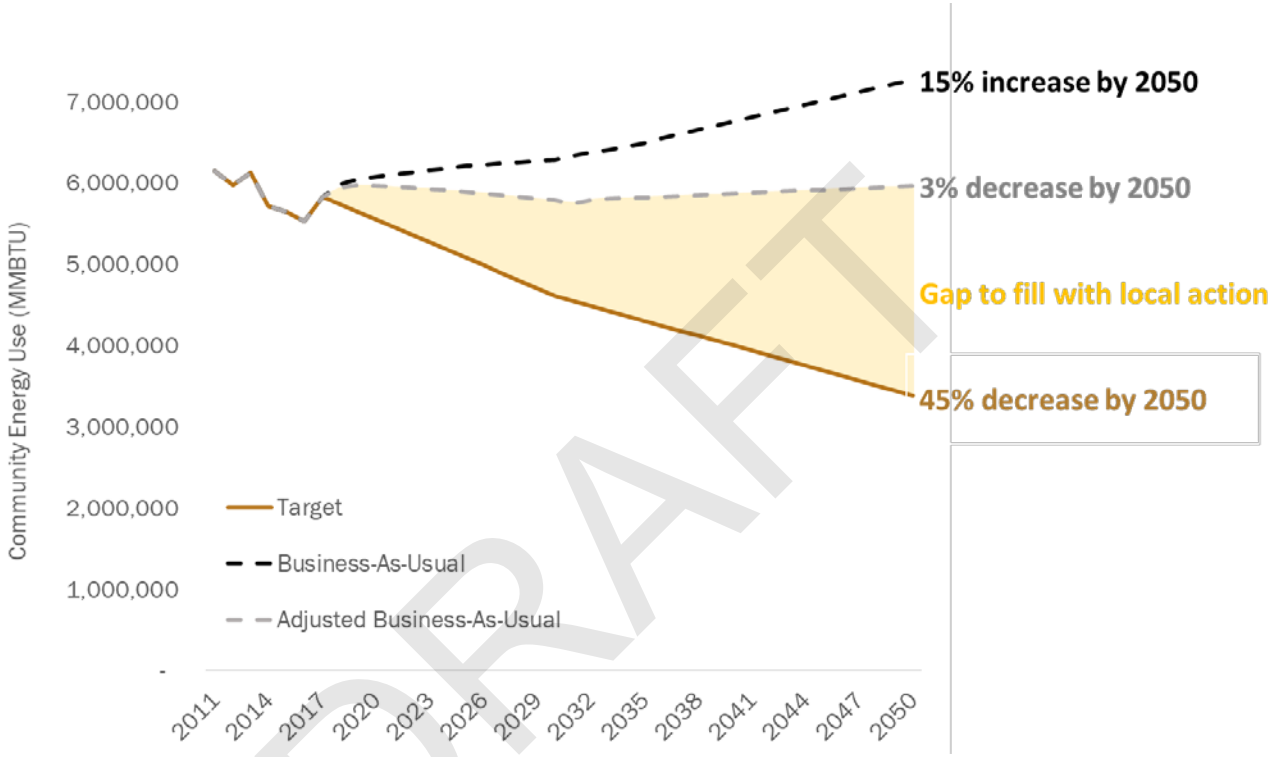
Business As Usual: Where We're Heading

Population and economic growth drives community energy consumption upward under a Business-As-Usual scenario. However, technological advancments made in energy efficiency and implementation of the state building energy code will counter this affect; in the adjusted business-as-usual scenario, Redmond's community energy consumption is projected to decrease by 34% by 2050 compared to 2011 levels—leaving approximately 10% of additional reductions needed by local action to meet the regional target.



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Targets: Where We Want to Be

Target Indicator	Target Value	Source/Rationale
Reduce community energy consumption (MMBTU)	25% reduction by 2030 45% reduction by 2050	K4C Target
Reduce fossil fuel consumption (MMBTU)	20% reduction by 2030 80% reduction by 2050	K4C Target
Reduce building energy carbon intensity ($MTCO_2e$ per MMBTU)	100% renewable electricity by 2050	K4C Target; consistent with WA Clean Energy Transformation Act (CETA)
Reduce building energy GHG emissions ($MTCO_2e$)	75% reduction by 2035 99% reduction by 2050	Needed to meet overarching community GHG emission goal

Strategies: How We'll Get There

Reductions in GHG emissions from the built environment and energy sectors will also require a **reduction in energy demand.** To reduce energy demand, Washington State and King County have set aggressive targets. For example, Washington State's energy code (adopted by state building code council) is designed to help achieve the goal of building zero fossil-fuel greenhouse gas emission **new buildings** by the year 2031.[8] Further, King County's 2015 Strategic Climate Action Plan calls for reducing energy use in all **existing buildings** 25% below 2012 levels by 2030.[9] Actions to reduce energy consumption include efforts to adopt building codes and other policies that enhance energy efficiency, rebates and financing to offset the cost of residential upgrades to more efficient appliances, and energy efficient retrofits at municipal facilities.

Important phasing considerations for reducing energy consumption include the following:

- While PSE is making the transition to 100% renewable electricity, reductions in building energy demand will provide **near-term emission reductions** and **facilitate the ability for PSE to meet demand** with cleaner fuel mixes (e.g., reduces the need for dirtier "peaker" plants).
- Due to their long lifetimes and the rate of growth in Redmond, it will be important to integrate more energy-efficiency technologies and infrastructure into **new construction** in the near-term through policies and incentives.

Furthermore, while the energy sector transitions to clean, renewable energy, Redmond can help its residents get off fossil fuels and onto the **clean electricity grid**. Approximately 43% of King County residents rely on natural gas for house heating fuel.[10] Coding requirements, contractor trainings, and permitting incentives can help reduce dependence on natural gas and increase the impact of electric heat pumps and other electric upgrades.

Important phasing considerations for transitioning to cleaner energy fuel sources include the following:

- According to projected trends in PSE's electricity fuel mix, switching from natural gas to electricity-based space and water heating will be **most crucial starting in 2030**.
- Due to the relatively long lifetimes of buildings and equipment, implementing actions in the near-term to **set the stage for a quick and painless transition from natural gas to electricity** in the future will be crucial for ensuring deep and longer-term emission reductions. These actions include introducing education and incentives for contractors and building owners and requirements for new construction.

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[8] https://app.leg.wa.gov/RCW/default.aspx?cite=19.27A.020

[9] https://your.kingcounty.gov/dnrp/climate/documents/2015_King_County_SCAP-Full_Plan.pdf

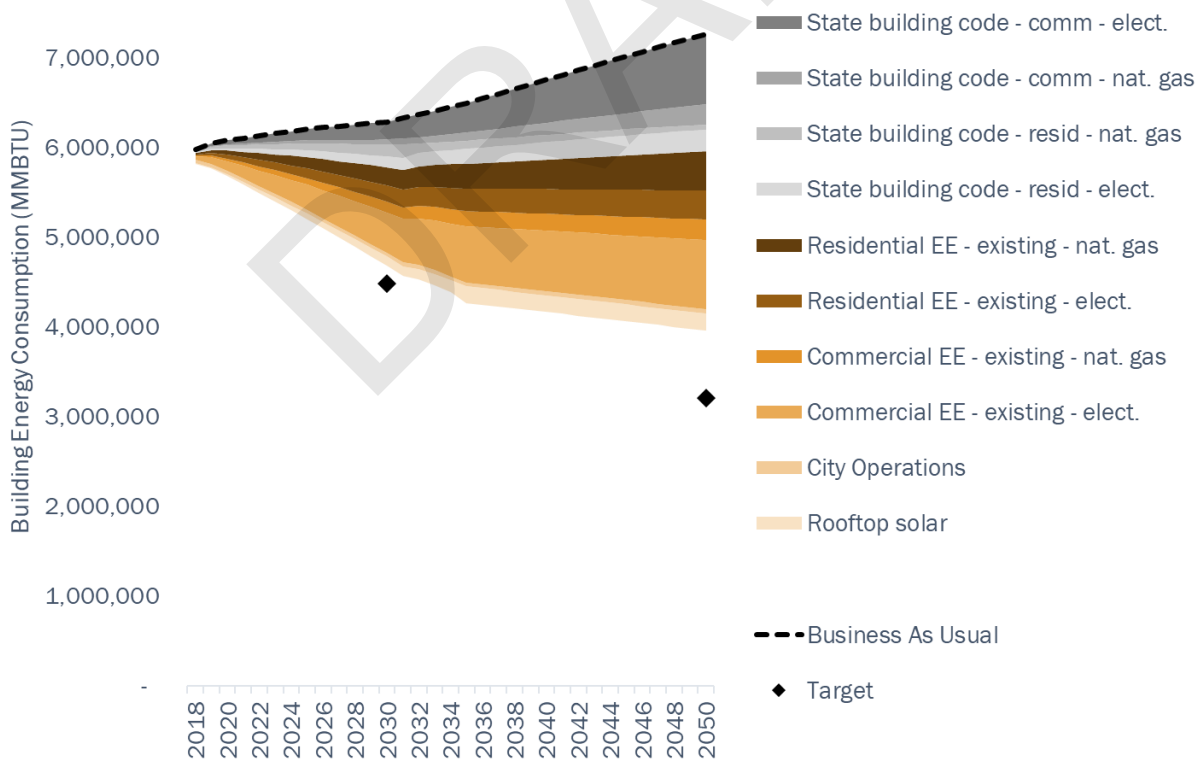
[10] https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_17_1YR_B25040&prodType=table

This plan sets for the following high-level strategies for attaining buildings and energy goals and targets.

Strategies	
B1	Engage and support building sustainability education, technical assistance, and code advancement.
B2	Advance green building with City facilities.
B3	Shift to renewable energy sources and building decarbonization.
B4	Prepare the energy grid for future conditions.
B5	Expand performance benchmarking and improvements.

We estimate that Redmond will be able to achieve a 22% reduction in energy use by 2030. Additional or expanded strategies will be needed to achieve the target of a 25% reduction in building energy consumption by 2030. This current target—adopted by the K4C partnership—is especially challenging when addressing energy consumption in existing construction. Energy reduction in existing construction requires technology upgrades and retrofits, which can be expensive for home and building owners. Actions to address energy consumption for existing construction in this plan include performance benchmarking requirements and retrofit programs and incentives.

Achieving the energy consumption goal will also largely depend on state building code, which calls for a 70% reduction in new building energy use by 2031 compared to 2017 levels. The City will also look to incorporate new energy-related actions as new technology becomes available. The graph below shows the impact of various strategies to reach our energy consumption and GHG goals



Comm = commercial | elect. = electricity | nat. gas = natural gas | EE = energy efficiency

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Action Roadmap

Action	Description	Investment	Impact	Co-Benefits	Timeframe
Strategy B1: Engage and support building sustainability, education, technical assistance, and code advancement.					
Production incentive support	Support Washington State renewable energy production incentives that encourage the development of residential and commercial solar and other distributed generation and storage projects.				
Support/ advocate for new codes	Work with advocacy organizations and Regional Code Council (RCC) to support and implement state energy code advancement.				
Green starter kits	Coordinate with regional programs such as EnviroStars to promote and distribute sustainability starter kits to businesses and homes looking to go green.				
Solar- and EV-ready infrastructure requirements	Require "solar-ready" and EV-ready infrastructure for all new commercial and residential development.				
Green certification incentives	Reevaluate, promote and incentivize through zoning code green certification programs for commercial and multi-family buildings and development, including LEED and Salmon-Safe Urban Development Certification.				
Low-interest loans	Explore low interest loan options to finance energy efficiency upgrades for commercial and residential buildings				
Universal efficient building standard	Adopt a universal standard for energy-efficient buildings, such as the International Residential (IRC) codes for sustainable residential buildings.				
Pipelines for employment	Collaborate with higher education institutions to develop pipelines for employment in green construction industry professional services.				
Height/sf incentives for energy upgrades	Create and implement a program offering additional height and floor area incentives for significant upgrades in energy and water use.				

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Action	Description	Investment	Impact	Co-Benefits	Timeframe
Strategy B2: Advance green building within City facilities.					
Financing for energy efficiency	Assess various options for financing and grants to energy efficiency projects for municipal buildings.				
Energy and water retrofits	Continue to implement energy and water conservation retrofits and operational improvements for municipal facilities, street lights and traffic signals, and pump stations.				
Facilities Strategic Maintenance Plan	Coordinate and implement recommendations from the Facilities Strategic Maintenance Plan that support sustainability. Evaluate option for an internal Revolving Fund as a dedicated source of capital, funded by savings from energy efficiency upgrades.				
Resource Conservation Management Plan	Develop a Resource Conservation Management Plan and general government policy to guide energy efficiency investments, operations, and behaviors in City facilities.				
Reduce energy intensity of technology	Implement solutions to reduce energy demand from the City's IT infrastructure.				
New City building green certification	Develop a policy that requires all municipal owned buildings shall be constructed to a minimum certification level, such as the Gold level as defined by the U.S. Green Building Council's (USGBC) Leadership in Energy & Environmental Design (LEED) for New Construction.				
Existing City building green certification	Implement updates needed for existing City buildings to achieve ENERGY STAR or equivalent recognition. Continue to track progress in a platform such as EPA Portfolio Manager.				
Embodied and operational carbon	Introduce a policy/program to address embodied and operational carbon in municipal operations.				
Strategy B3: Shift to renewable energy sources and building decarbonization.					
Financial tools for renewables	Employ financial tools or group purchases to incentivize the installation of on-site renewable energy.				

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Action	Description	Investment	Impact	Co-Benefits	Timeframe
Cross-departmental task force	Develop a cross-departmental task force that works to address challenges related to land use code in siting renewable energy and other sustainability facilities in the city.				
Fuel switching pilot program	Pilot a voluntary program that focuses on residential and commercial fuel switching from natural gas to electric.				
Green building training	Educate City planning and permitting staff on codes and approaches for incentivizing decarbonization, such as through electric heat pumps. Update permitting process if needed to quickly review and flag decarbonization projects.				
Fuel switching contractor training	Conduct contractor training and development of sales packages for building owners wanting to get off fossil fuels.				
Incentivize electrification	Implement incentives such as expedited and free permitting for switching from fossil fuel (e.g., natural gas) to renewable electricity.				
All-electric new construction	Evaluate natural gas consumption and emissions trends and explore incentives for all-electric construction. Consider restrictions on new natural gas hookups in developments and buildings under a phase-in schedule that considers technological feasibility, need based on community-wide emissions and pair with relevant exemptions.				
Strategy B4: Prepare the energy grid for future conditions.					
PSE smart grid technologies	Partner with PSE to implement in Redmond their smart grid technologies meant to improve reliability and management of the grid.				
Energy storage	Introduce a policy to streamline permitting and interconnection processes for energy storage projects.				
Strategy B5: Expand performance benchmarking and improvements.					
Leverage smart cities strategies	Leverage the rollout of smart cities strategies to support projects that improve sustainability tracking, emissions reduction, and cost savings related activities.				

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Action	Description	Investment	Impact	Co-Benefits	Timeframe
Energy use disclosure	Require energy use disclosure and benchmarking for buildings, starting with commercial and multifamily buildings over a size threshold.				
Efficiency requirements above cost/sf threshold	Require that all permitted residential and nonresidential building improvements over a square footage or cost threshold evaluate and enhance energy efficiency.				
Point of sale weatherization	Introduce point-of-sale efficiency and performance standards for residential and commercial buildings, with affordable pathways for small businesses and lower and moderate-income households.				
Large commercial/industrial efficiency and tune-up requirements	Building on proposed WA state policy, develop a phased timeline when all existing non-residential commercial and industrial buildings over a square footage threshold must meet energy performance standards and implement efficiency upgrades and improvements as needed.				

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What You Can Do

Reaching Redmond's sustainability goals will require action from every individual in our community. Collective action can have a significant impact on lowering the community carbon footprint. There are numerous ways to take action to save energy, here are just a few that help to reduce emissions.

Flip the switch!

Switch off and unplug appliances when not in use. TVs, phone chargers, and computers use electricity even on standby, so remember to unplug them. Switching off and monitoring is becoming even easier with in-home apps and devices.

Related action(s):
- PSE smart grid technologies

Power up with renewables.

Make your home or business fossil fuel free and powered by the sun, wind, or water. Rooftop solar PV or a PSE Green Direct subscription are great ways to power your home or business with clean energy.

Related action(s):
- Solar- and EV-ready infrastructure requirements
- Production incentive support
- Energy storage

Optimize your household or business.

Make your home tight, efficient, quiet, and comfortable. Proper insulation and air sealing can dramatically cut energy used to heat and cool buildings, while double and triple-paned windows and energy-efficient doors save even more. Installing programmable thermostats can bring additional energy savings by automatically adjusting your building's temperature.

Related action(s):
- PSE smart grid technologies

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Materials Management and Waste

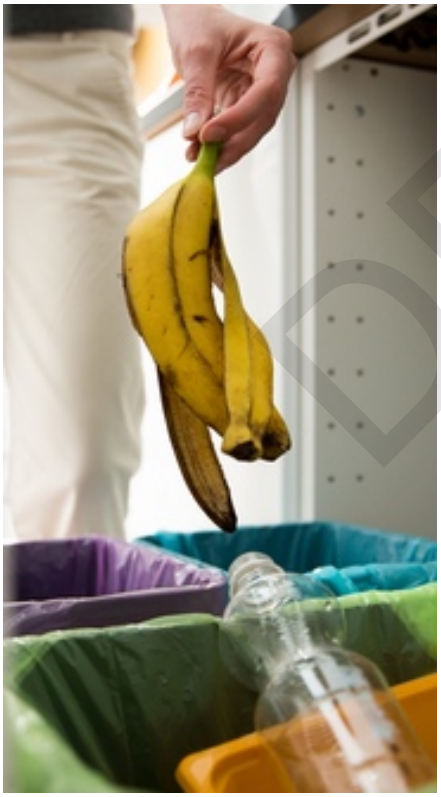
What is included?

Although solid waste only contributes approximately 2% of Redmond's community GHG emissions, materials management and waste are crucial sustainability elements. Because the City cannot directly influence how goods are produced outside of Redmond, diverting more waste away from the landfill is one of the most direct strategies Redmond can focus on to reduce the environmental impacts of the city's consumption. Furthermore, without current state and federal policies in place to incentivize waste reduction, action at the local level is especially impactful. Strategies and actions in this sector focus on managing and reducing waste generation, increasing waste diversion, and encouraging recycling and composting activities.

Materials Management and Waste Goal: Move towards more sustainable consumption and zero waste of resources.

How is Redmond doing?

Key Achievements



- The City participates in the **E-Cycle** (electronic waste) Washington recycling program.
- **All Redmond residential accounts have both recycling and yard waste/composting** included with their garbage service at no additional charge.
- As of 2019, over 200 businesses and apartments/condo complexes participate in the City of Redmond's **commercial organics composting program**. This includes 12 schools, Redmond Town Center, 35 apartment/condo complexes, a senior living community, the farmer's market, a food bank and City facilities.
- **Battery recycling** is available for the public at select City facilities.
- For participant's in the Commercial and Multi-Family organics program, the City offers up to three 64-gallon **food recycling carts** at no charge. [11][12]
- The City practices **grass composting** at City Hall campus.
- In 2019, staff connected with 1,000 residents to **help keep food from going to waste**, including a public art "strawberry" made up of post-it pledges.
- In 2019, 64 businesses and multi-family properties utilized **City assistance to improve their recycling**, resulting in an increase of 25 tons of recycling per year.
- In 2019 the City of Redmond's **Derby Days Event achieved a 47% diversion rate**, meaning nearly half of the waste from the event was either recycled or composted.
- **Cooking oil recycling** is available to City residents at the Senior Center parking lot.
- **All City facilities** have both recycling and composting

[12] 2018 Clean and Green Performance Measures

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Key Performance Indicators

Performance Measure	Status	Historic Trend	Trend Insights
Community diversion rate (% of waste recycled or composted)	Improving		**Increasing.** Community diversion rate has increased from 40% to 45% from 2011 to 2017.
Solid waste GHG emissions ($MTCO_2e$)	Improving		**Decreasing.** Solid waste GHG emissions have declined 5% between 2011-2017. Increases in community waste diversion may have contributed to this trend.
Commercial and multi-family complexes participation in organics service (# of complexes)	Improving		**Increasing.** Participation in organics service in commercial and multi-family sectors has increased 16% from 2011 to 2018.
Organic waste diversion (tons diverted)	Improving		**Increasing.** Organics waste diversion increased 50% from 2011 to 2018. Much of this increase is likely due to expanded outreach and offerings for customers.
Commercial garbage production (weight of garbage generated per commercial employee)	Worsening		**Increasing.** Commercial garbage production increased 11% on a per employee basis since 2011.
Residential garbage production (Average weight of garbage collected per single family account per week)	Maintaining		**Maintaining.** Single family residents have reduced garbage production 10% since 2011.

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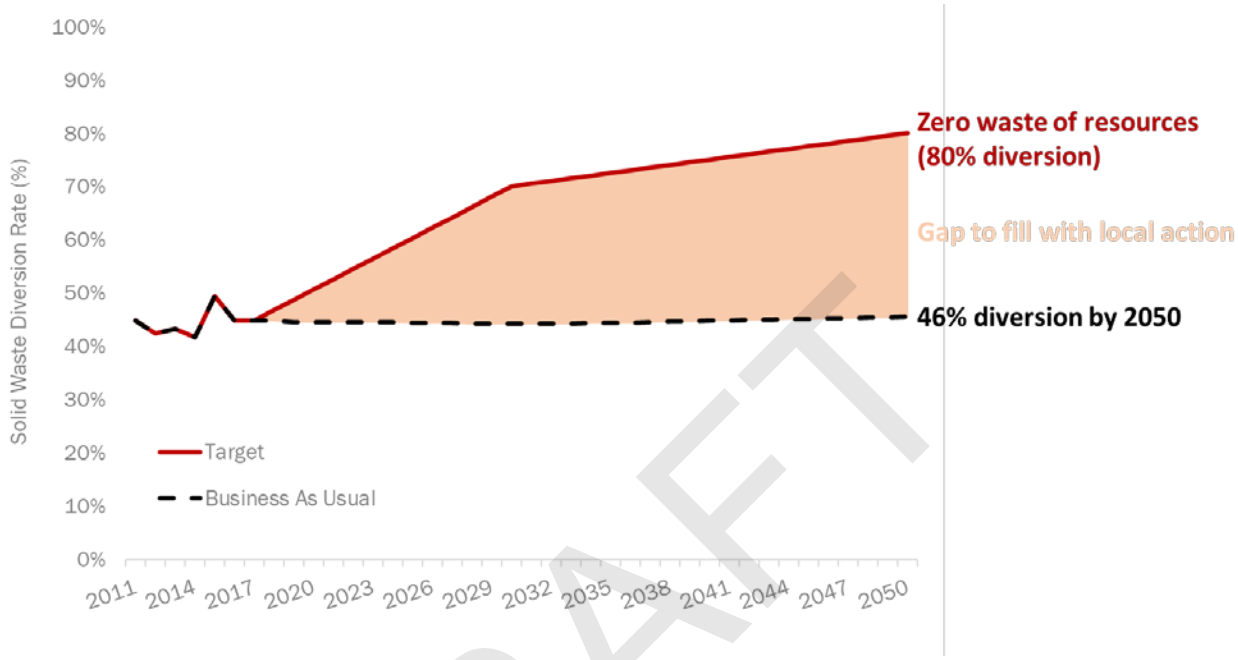
Business As Usual: Where We're Heading

The community waste diversion rate is anticipated to remain fairly constant at 46% under the Business-As-Usual scenario. Due to a lack of policies at the state and federal level, the Redomod community will rely on local actions to achieve short- and long-term waste diversion goals.



Targets: Where We Want to Be

Target Indicator	Target Value	Source/Rationale
Increase community waste diversion (% diversion)	70% waste diversion rate by 2030 Zero waste of resources (80%) by 2050*	King County 2019 Comprehensive Solid Waste Management Plan
Reduce solid waste GHG emissions ($MTCO_2e$)	50% reduction by 2030 42% reduction by 2050	Needed to meet overarching community GHG emission goal

*This goal may be refined in the future due to updates to regional zero waste and circular economy planning efforts.

Strategies: How We'll Get There

While solid waste related emissions account for only 2% of Redmond's communitywide GHG emissions, many solid waste actions offer environmental, economic, and social co-benefits. Upstream lifecycle impacts of goods and services we buy can be significant—especially for carbon-intensive products. Furthermore, actions such as rescuing edible food from the landfill and redistributing to food donation programs not only reduces methane emissions, but helps to address hunger in local communities.

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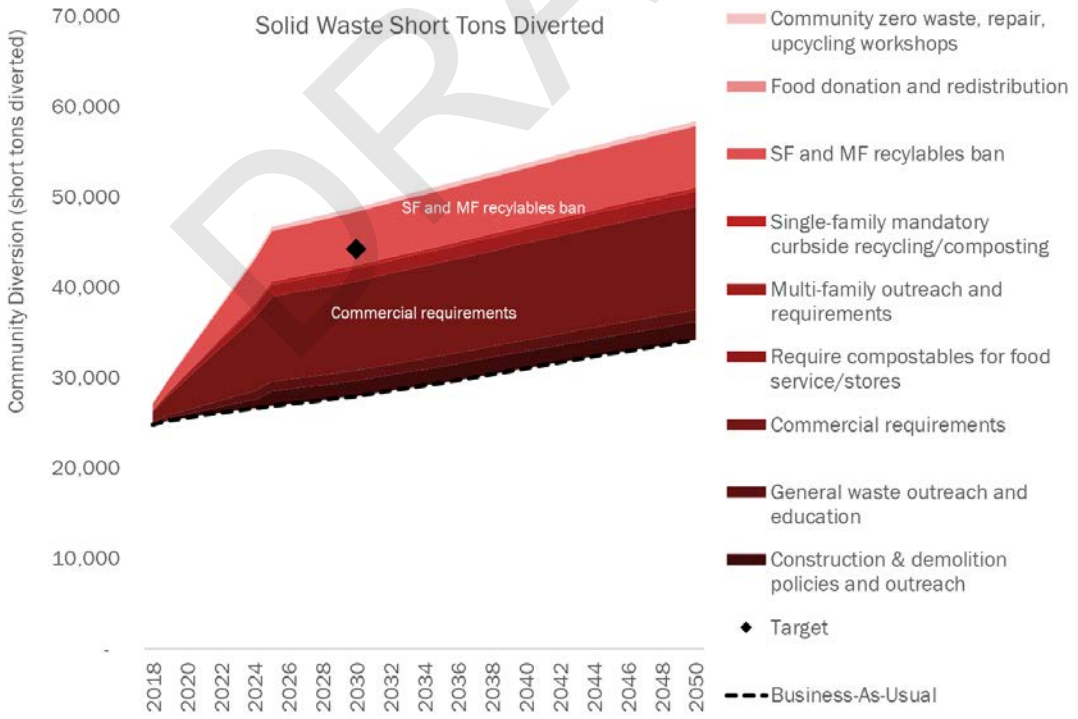
Key phasing for transitioning to more sustainable management of solid waste GHG emissions include the following:

- **Expand incentives, education, and outreach** initially to ensure all sectors understand what can be recycled and methods for doing so properly.
- **Phase in mandatory separation and recycling requirements** to ensure achievement of target diversion rates.

Given these considerations and phasing, this plan sets forth the following high-level strategies for attaining materials management and waste goals and targets:

Strategies	
M1	Increase diversion of community waste while reducing cross-contamination within waste streams (garbage, organics, recyclables).
M2	Reduce community waste generation (reuse, repurpose, upcycle).
M3	Reduce waste and environmental impact from City purchasing and operations.
M4	Address construction and demolition (C&D) waste.
M5	Reduce GHG emissions impacts associated with local consumption.

We estimate that implementing these strategies, in conjunction with external actions, could lead to a 77% diversion rate of community waste by 2030—exceeding the goal of 70% diversion by 2030. Key strategies for meeting this target include introducing recycling requirements for commercial properties and banning recyclables from the garbage for single family (SF) and multi-family (MF) properties.



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Action Roadmap

Action	Description	Investment	Impact	Co-Benefits	Timeframe
Strategy M1: Increase diversion of community waste while reducing cross-contamination within waste streams (garbage, organics, recyclables).					
Regional composting	Work with K4C to develop a composting master plan to expand community and regional composting infrastructure.				
Multi-family outreach	Provide recycling and composting education and outreach targeted at multifamily property managers and tenants.				
New construction waste stream efficiency and opportunity	Work with multifamily developers, owners and residents, as well as commercial buildings, to develop requirements for new construction to provide sufficient space and safety for recycling and food waste collection, along with garbage.				
Food donation	Support a food donation program for grocery stores to send surplus food.				
Require compostables city wide	Require compostable and paper disposables in restaurants and stores.				
Incentive based models	Conduct comparative research to understand where other cities have had success with incentive-based models such as disposal fee.				
Recyclables market	Partner regionally to bolster the market for recycled materials, to accommodate increased flows from implementation of diversion actions. Include options for addressing non-recyclable plastics.				
End-use markets	Support state and local development of end-use markets for recyclable/recycled products and compost through city county purchasing policies.				
City recycle reuse	Explore ways the City can recycle and reuse during its normal maintenance.				
Mandatory curbside collection for residences	Explore the introduction of mandatory curbside collection of recyclables and organics for all single and multi-family residences. Develop a right-sized program for Redmond.				

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Action	Description	Investment	Impact	Co-Benefits	Timeframe
Solid waste disposal	Encourage and assist exploration for sustainable solid waste disposal options to prepare for post-2040, in addition to expanding Cedar Hills.				
Strategy M2: Reduce community waste generation (reuse, repurpose, upcycle).					
City food waste recycling	Continue food waste recycling at City Hall, the Maintenance and Operations Center, Public Safety Building, Senior Center, Teen Center, and all city fire stations.				
Waste reduction outreach	Build and implement community outreach and education plans around proper waste reduction, recycling, composting.				
Stewardship policies	Support and advocate for strong product stewardship policies at the state and national levels, minimizing environmental impacts of product and packaging throughout all lifecycle stages, especially manufacturing.				
Increase use of electronic documents	Enhance systems for electronic documentation and file-sharing.				
Green purchasing/procurement	Develop and enforce green City purchasing procedures and policies, including for green cleaning materials.				
Community zero waste, repair, upcycling workshops	Host zero waste, repair/reuse, or upcycling community workshops.				
Styrofoam policy and engagement	Engage businesses that use styrofoam in Redmond. Explore styrofoam reduction through policy mandates and implement, as appropriate.				
Zero waste assistance	Provide zero waste building planning assistance.				
Strategy M3: Reduce waste and environmental impact from City purchasing and operations.					
Reduce City landfill waste	Provide composting and recycling at all City buildings and for all municipal operations, including specialized items.				
Increase use of electronic documents	Enhance systems for electronic documentation and file-sharing.				

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Action	Description	Investment	Impact	Co-Benefits	Timeframe
Fleet hazardous waste	Set a policy/goal for hazardous waste generated by the city's Purchasing and Fleet divisions (separate) to be zero or near zero.				
Strategy M4: Address construction and demolition (C&D) waste.					
Contractor outreach	Conduct contractor outreach and job site technical assistance to encourage reduction, reuse, and recycling of C&D waste.				
C&D diversion requirements	Develop comprehensive policies around C&D recycling and recovery. Prohibit disposal of recoverable C&D materials.				
Strategy M5: Reduce GHG emissions impacts associated with local consumption.					
C&D recycling service	Require recycling service for C&D materials at all job sites.				
Recyclables ban	Prohibit disposal of targeted recoverable traditional recyclable materials and organics in single- and multi-family garbage.				
Commercial recycling requirements	Require commercial property owners/managers to provide recycling and organics collection containers and service that are as convenient as garbage containers and adequate to serve the number of tenants.				

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What You Can Do

Reaching Redmond's sustainability goals will require action from every individual in our community. Moving towards more sustainable consumption habits and zero waste goals will require collective action. The following actions are important steps to reducing emissions.

Buying smart and less

Buying smart, buying less, and buying local can lead to more sustainability and lower your GHG footprint.

Related action(s):

- Waste reduction outreach
- Food donation

Purchase local

Purchasing local helps support local businesses while promoting sustainability by having lower GHG emissions throughout the lifecycle of an item.

Related action(s):

- Waste reduction outreach
- Community zero waste, repair, upcycling workshops

Bringing reusable bags to shop

Bringing your own bags and food containers can help reduce the waste associated with disposable plastic and paper bags and containers from grocery stores and restaurants.

Related action(s):

- Waste reduction outreach
- Stewardship policies
- Styrofoam policy and engagement

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Natural Systems

What is included?

The Natural Systems focus area includes a variety of sustainability considerations, including protection and enhancement of native habitats and tree canopy, improvements to water quality, natural drainage systems, habitat quality, and green spaces.

Natural Systems Goal: Enhance green space, tree canopy, habitat quality, biological condition of streams, and natural drainage systems.

How is Redmond doing?

Key Achievements

- The City hosts **Green Redmond Day**, where 11,000+ volunteers have contributed over 33,000 hours. This program has resulted in almost 12,00 trees, 23,550 shrubs and small plants planted and spanned across 15 parks.
- Between 2013 and 2018, the annual number of **volunteer hours** performed for stewardship efforts **increased 37%** to 3,932.
- Redmond has been continuously certified by the Washington State Department of Natural Resources as a **Tree City USA**.
- The City has 22 parks sites certified as **wildlife-friendly spaces** (Wildlife Habitat Certification).
- **Artificial turf** has been installed at 100% of City-owned fields—saving precious water resources.
- Between 2013 and 2018, the City had **36% more acres enrolled in active management for restoration** and is currently focusing more effort on maintaining acres already enrolled versus enrolling new acres.
- The City **cleaned 100% of catch basins** within six months of inspection.
- The City adopted the **Tree Canopy Strategic Plan** in 2019 to outline strategies to achieve the 40% tree canopy coverage goal over the next 30 years.
- In 2013, the City completed a **Citywide Watershed Management Plan** that establishes a framework to guide actions to restore the City's surface waters based on a holistic approach to surface water management.

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Key Performance Indicators

Performance Measure	Status	Historic Trend	Trend Insights
Tree canopy cover (%)	Worsening		**Declining.** Tree canopy cover declined from 38.7% to 38.1% since 2011—likely due to development of forested areas and increases in urban density.
Catch basins inspection (# inspected)	Improving		**Increasing.** Catch basin inspection and cleaning has increased 174% between 2013-2018. This is primarily due to regulatory requirements and operational efficiency.
Catch basin cleaning (% of catch basins cleaned within six months of inspection)	Improving		**Increasing.** In 2018, all NPDES stormwater catch basins that contained were filled with debris were cleaned.
Stormwater flow control (% of area with adequate stormwater flow control)	Improving		**Increasing.** Between 2013-2018, the City increased stormwater flow control by 5%. The City improved quality of infrastructure (e.g., vaults, ponds, infiltration facilities) being provided across the City to protect our urban streams and drainage systems from excessive erosion and flooding.
Stormwater flow water quality treatment (% of area with adequate stormwater quality treatment)	Improving		**Increasing.** Between 2011 and 2019, the percentage of the city having adequate runoff treatment increased from 32.63% to 38.88%.
Stream habitat quality (% of stream length with good in-stream habitat)	Maintaining		**Moderately Decreasing.** There has been a slight decrease (<2%) in the quality of in-stream habitat between 2013-2018.
Stream health (% of streams that are considered healthy in an urban setting)	Maintaining		**Increasing.** There has been a 7% increase between 2013-2016. The percentage of streams considered healthy rose from 10% to 17% and has remained constant since.

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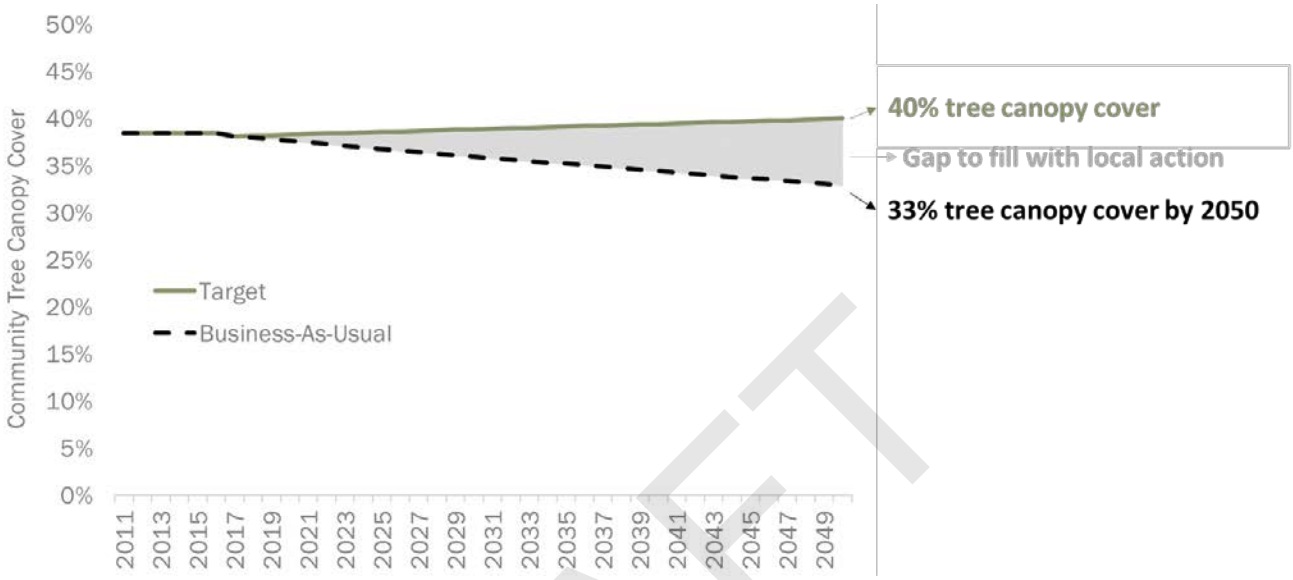
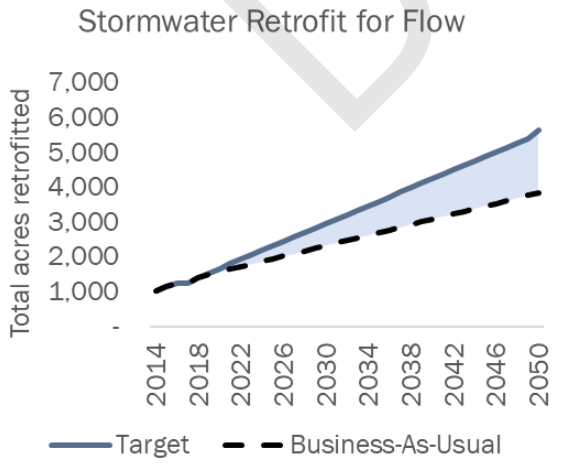
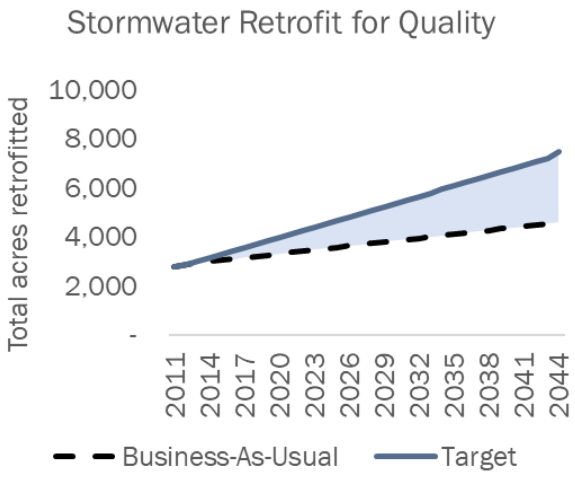
Business As Usual: Where We're Heading

Tree canopy cover is projected to steadily decrease in the Business-As-Usual scenario due to continued development and urban density.



For the last few year, the City has been implementing stormwater projects that increase proportion of stormwater runoff in the city that recieves flow control and water quality treatment prior to flowing into surface water bodies. The trend over the past few years is slightly below where it needs to be to achieve the target of providing flow control and water quality treatment to 100% of the areas that need it by 2050.To reach the targets outlined in this plan, stormwater flow and and quality need to increase the number of acres retrofitted by over 1,800 and 2,800, respectively.





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Targets: Where We Want to Be

The tree canopy cover target is aligned with the Redmond Tree Canopy Strategic Plan. The B-IBI index targets are aligned with the Redmond Watershed Management Plan, last adopted in 2013. The B-IBI index targets may be refined in the future with Watershed Management Plan updates. The surface water quality index target and targets for stormwater retrofits for flow control and water quality treatment are aligned with the goals from the 2018 Redmond EUSD Core Services performance measures report. Based on scientific literature, and to reach our sustainability goals, Redmond is utilizing an accessible habitat and wetlands indicator.[13] Accessible habitat is defined as the amount of habitat that can be reached from the wetland without crossing a human land use (e.g., roads, fields, and development). Some lower intensity human land uses such as parks do not completely isolate a habitat. As a result, low and moderate intensity land uses can still be categorized as accessible habitat. This addresses the issue that some lower intensity land uses do still provide habitat, but not the same level of habitat as undisturbed areas. The accessible habitat and wetlands target is based on reviewing the amount of habitat fragments within 0.2 miles of existing accessible habitat.

Target Indicator	Target Value	Source/Rationale
Increase Tree canopy cover (%)	40% by 2049	Redmond Community Strategic Plan
*Increase BIBI index of four streams (Highest Restoration Watersheds)	60 by 2050	Redmond Watershed Management Plan, Utilities Strategic Plan, and Community Strategic Plan
*Increase BIBI index of twelve streams	60 by 2060	
Increase surface water quality index (# out of 100)	80	Existing Redmond target (stations scoring 80 and above generally meet expectations for water quality).
Stormwater retrofit for flow control (%)	100% by 2063	Established Redmond target
Stormwater retrofit for water quality treatment (%)	100% by 2063	
Accessible habitat and wetlands (acres)	2,600 by 2050	Assumes 25% of total city acreage meets definition of accessible habitat. Reflect connecting habitat fragments within 0.2 miles of existing accessible habitat, based on Washington State Wetland Rating System Criteria H 2.1

*These goals may be refined in the future due to updates to the Redmond Watershed Management Plan.

[13] (Eigenbrod et al. 2008),

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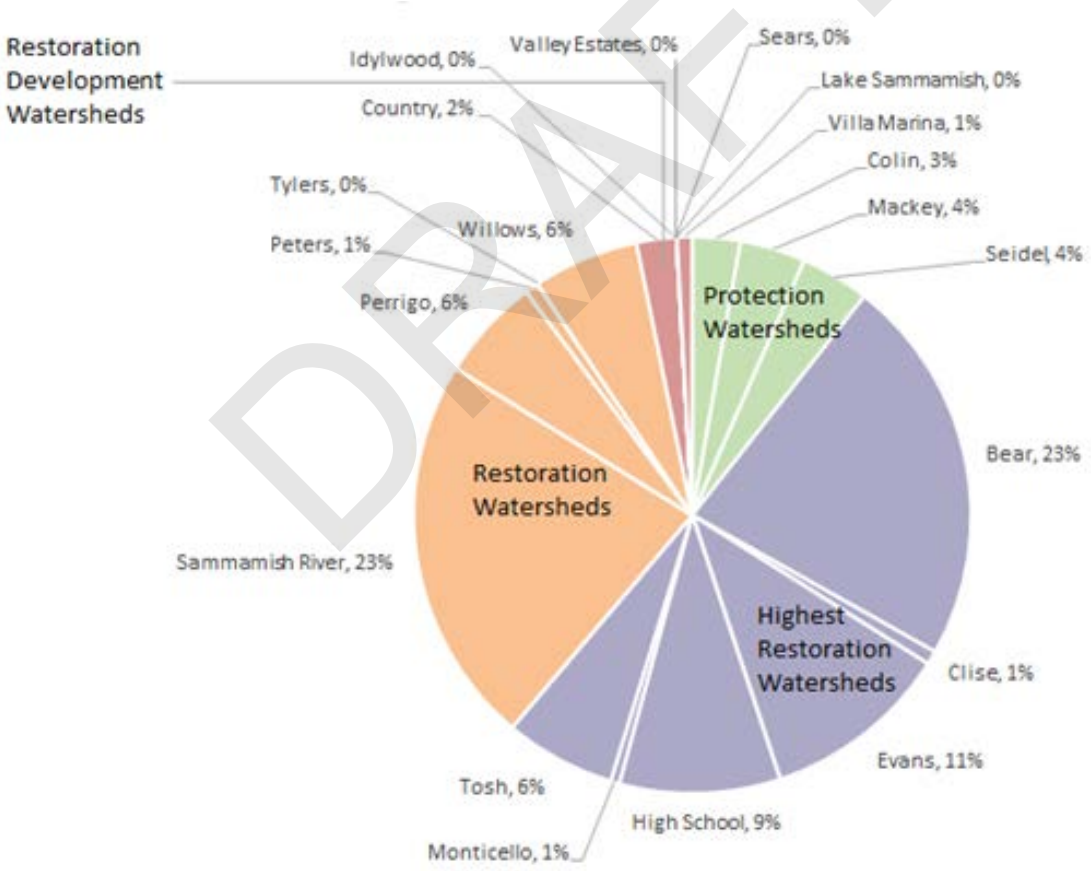
Strategies: How We'll Get There

This plan sets forth the following high-level strategies for attaining natural systems goals and targets.

Strategies	
N1	Protect and enhance equitably accessible native habitats and open space and preserve agriculture lands.
N2	Enhance resilience of natural areas and systems to climate change.
N3	Expand green infrastructure and associated services.
N4	Increase citywide tree canopy.

By implementing these strategies, we anticipate that Redmond will continue to maintain and enhance existing habitat quality and quantity through watershed restoration, which will improve the biological conditions of streams and increase the amount of accessible habitat and wetlands. We estimate approximately 16% of the City area is accessible habitat. We expect that largest relative increases in accessible habitat will stem from the Bear, Sammamish River, and Evans, and High School watersheds because these watersheds have the highest quantity of existing habitat fragments within 0.2 miles of existing accessible habitat (see figure below).



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Action Roadmap

Action	Description	Investment	Impact	Co-Benefits	Timeframe
Strategy N1: Protect and enhance native habitats and open space and preserve agricultural lands.					
Enforce critical areas code and regulations	Strengthen, revise, and enforce codes for critical areas including, fish and wildlife habitat conservation areas, frequently flooded areas, geologically hazardous areas, unstable slopes, and associated areas and ecosystems.				
Watershed approach for restoration	Use watershed approach for habitat restoration planning and activities and update Redmond's Watershed Management Plan on a regular basis (plan states every 5 years).				
Urban agriculture expansion	Partner with nonprofits, low income communities, and underrepresented communities to expand urban agriculture opportunities in community gardens, schools, and parks and on rooftops.				
Habitat protection zoning	Support planning and zoning efforts that protect natural resources, including water resources, open space, and habitats.				
Community education and outreach	Educate community on importance of local and native habitats.				
Urban forestry staff	Hire a person/team at the City to implement the goals and strategies associated with increasing canopy cover across the city and to update the 20-yr plan.				
Private development restoration requirements	Require private development to address restoration issues onsite and explore options for enhanced requirements.				
Address developed areas that flood	Establish development standards, prioritize habitat, establish ecosystem minimums for habitat development, and/or purchase areas for development and retrofit of developed areas that flood or have degraded habitat and water quality.				

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Action	Description	Investment	Impact	Co-Benefits	Timeframe
Strategy N2: Enhance resilience of natural areas and systems to climate change.					
Forest Management Plan implementation	Continue to progress on and update the -20-year Forest Management Plan developed by the Green Redmond Partnership to restore and enhance natural areas, assess current urban forest health, and outline future urban forest goals and strategies.				
Drought/heat tolerant plantings	Acquire plants grown from regional seed to support continued genetic diversity of native species and resilience of native habitat and soil and are able to be drought-tolerant, climate-adapted, and efficiently sequester carbon.				
Improve fish passage	Remove barriers to fish migration and prevent the creation of new barriers.				
Update critical habitat	Update priority habitat corridors for preserving and enhancing critical habitat for wildlife and incorporate into departmental plans and codes such as critical areas.				
Drought-tolerant and lawn removal incentives	Establish incentives/rebates for drought tolerant residential landscaping and removal of grass lawns.				
Strategy N3: Expand green infrastructure and associated services.					
Adopt Integrated Pest Management (IPM) Plan for all city owned properties	Use Redmond Park's Integrated Pest Management (IPM) plan for city-owned properties.				
Environmental BMP & design standard implementation & enforcement	Implement and enforce Environmental Best Management Practices & Design Standards on development and redevelopment projects.				
Proactively maintain stormwater infrastructure	Proactively maintain stormwater infrastructure including pipes, catch basins, vaults, ponds, and swales.				
Stormwater capital improvement plan updates	Update the stormwater capital improvement plan at least annually and implement the flood reduction, water quality improvement, and habitat enhancement CIPs according to the established schedule.				

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Action	Description	Investment	Impact	Co-Benefits	Timeframe
Restore Redmond's watersheds	Implement the recommendations of the Redmond's Watershed Management Plan to restore all surface water bodies in the City within the next 50 to 100 years.				
Update the City's Watershed Plan	The City will update the Watershed Plan and utilize the best available science and technology to evaluate the previous plan's goals.				
Stormwater flow control retrofits	Construct or retrofit stormwater flow control / infiltration facilities.				
Stormwater treatment retrofits	Construct or retrofit stormwater runoff treatment facilities.				
Regional stormwater facilities plan	Coordinate development of the City's urban centers with stormwater management improvements to meet the City's water quality goals, support new development that is required by the Growth Management Act, and do so in a cost-effective way.				
Drainage system resilience	Prepare natural drainage systems for changes in precipitation patterns.				
Urban biodiversity mapping	Inventory and map urban biodiversity for the prioritization of enhancement, protection, and re-connection.				
Stormwater retrofit incentives	Plan, create incentives for, and support green stormwater retrofit projects such as rain gardens and other low-impact designs.				
Assess health of city-owned ROW trees	Assess the health of natural systems for parks and ROW trees (urban forests will be part of 20-year plan). Develop goals, risk tolerances, and restoration strategies to manage tree species and canopy cover.				
Strategy N4: Increase citywide tree canopy.					
Planting in open space park lands	Increase canopy on City property by planting open space areas in parks consistent with park master plans, street trees, riparian and restoration plantings.				
Reevaluate tree regulations	Reevaluate tree regulations to protect existing canopy and to ensure trees are replanted with a "right sized tree." Develop best practices for tree health and maintenance.				

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Action	Description	Investment	Impact	Co-Benefits	Timeframe
Tree canopy LiDAR dataset	Acquire updated LiDAR dataset to reset canopy baseline.				
Neighborhood matching grants for tree canopy cover	Encourage use of Neighborhood Matching Grants to increase canopy in neighborhoods, especially for low-cost or no-cost trees, where canopy is needed based on tree canopy plans for neighborhoods.				
Tree canopy policies	Add new policies to the comprehensive plan describing the tree canopy goal, timeframe, and other key strategies that includes maintaining and updating canopy data and tracking tree removal and replacement.				
Targeted parcel acquisition	Evaluate acquisition of forest parcels, especially in neighborhoods or zones with less canopy, to preserve urban forest cover.				
Tree canopy dashboard	Develop an outward facing dashboard that allows public to see tree canopy performance measures for stormwater, heating/cooling, air quality, public health, economic development and climate.				
Develop tree canopy plans for neighborhoods	Work with neighborhoods in ongoing efforts to increase canopy and forest health in their neighborhoods.				

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What You Can Do

Reaching Redmond's sustainability goals will require action from every individual in our community. Collective action can have a significant impact on improving natural systems. There are numerous ways to take action to improve the natural environment, here are just a few.

Green your yard.

Planting native plants and trees in your yard can help increase green space in your neighborhood, which can improve habitat quality and water quality. Participate in neighborhood initiatives to increase tree canopy in your community.

Related action(s):

- Community education and outreach
- Drought-tolerant and lawn removal incentives
- Drought/heat tolerant
- Urban biodiversity mapping
- Tree canopy policies
- Neighborhood matching grants
- Develop tree canopy plans for neighborhoods

Don't use harmful chemicals in your yard or home.

Using harmful pesticides in your yard may keep away the insects and pests, but these pesticides are likely to flow and affect surface water quality and groundwater quality. Try washing your car at a commercial car wash, on the lawn, or in an area that doesn't drain to surface water bodies

Related action(s):

- Community education and outreach
- Drainage system resilience
- Adopt Integrated pest management (IPM) plan for all city owned properties

Help your community!

Redmond offers a variety of volunteer opportunities for anyone interested in caring for open space. Adopt a trail to clean up regular, try collecting native seeds, and keep an eye out for noxious weeds.

Related action(s):

- Reduce conservation obstructions
- Community education and outreach
- Urban agriculture
- Drought/heat tolerant

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Water Management

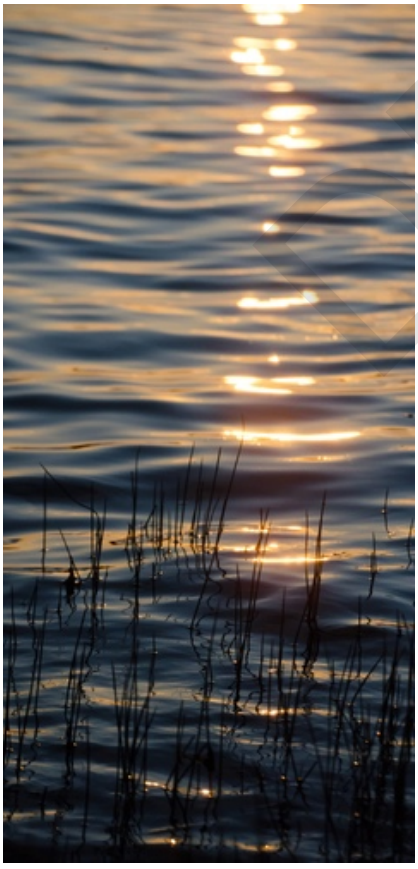
What is included?

Clean, safe, and reliable drinking water is critical to successful, growing communities where residents and businesses enjoy a high quality of life. Redmond is fortunate to have ample supplies of water that if protected and used in a sustainable manner will last long into the future. Protecting and conserving water resources, including our local groundwater resources and our watershed resources, is a critical component of environmental sustainability. Within this context, Redmond is working to implement sustainable water resource management practices and regulations to achieve greater conservation and more efficient use of our water supply. In Redmond, healthy water quality and a sustainable water supply depend on the entire community, from our municipal partners and utilities, who develop and approve infrastructure and policy, to the businesses and residents who conserve water resources. Water is a precious natural resource and this plan provides a roadmap to ensure that Redmond's future generations have clean and abundant water.

Water Management Goal: Protect and conserve water resource quality and quantity.

How is Redmond doing?

Key Achievements



- The City recently updated **groundwater protection areas** (Wellhead Protection Zones) and established updated Critical Aquifer Area (CARA) boundaries to enhance management of a clean water supply.
- The City conducts **quality testing and water level measurements** for approximately 100 monitoring wells, including testing of 1/3 of monitoring wells for groundwater quality and measures all wells for depth-to-water semi-annually.
- The City refocuses efforts to **reduce pollution risks to the City's aquifer**. In 2018, inspection staff issued 21 spill kits, and 6 drainage maps, 2,366 gallons of hazardous materials were moved to secondary containment and removed 1,360 gallons of hazardous materials from sites.[7]
- The City offers **water conservation information and rebates** through Cascade Water Alliance, including toilet, showerhead, and irrigation retrofits and rebates, residential water audits, classes and consultants for professional landscapers, and incentive-based water pricing to promote water conservation.
- The City Parks Department utilizes a **centralized water control system** called Maxicom that monitors and controls landscape irrigation.
- The City replaced annual planting beds with **drought-tolerant perennials** and transitioned to as-needed irrigation and utilizes drought-resistant landscaping on City Hall Campus.

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Key Performance Indicators

Performance Measure	Status	Historic Trend	Trend Insights
Pollution prevention site visits (% of high-risk sites visited and provided technical assistance)	Improving		**Increasing.** Pollution prevention efforts continue to reduce pollution risks to our aquifer. The number of high-risk sites visited and provided technical assistance rose sharply in 2013-2015 to 100% in the last four years. Increased awareness of risks to polluting water resources has resulted in an improved focus on implementation of pollution prevention BMPs.
Groundwater quality (% of groundwater monitoring wells that meet groundwater quality standards)	Maintaining		**Maintaining.** Comparison of indicator wells showed an increase in % of wells meeting standards. Temporary construction dewatering activities affected groundwater flow patterns and source areas throughout 2018, and locations not usually monitored under normal flow conditions were sampled. Similar to other groundwater metrics, iron and manganese pose minor challenges for some wells. Business, and contractor support and preventive action can help improve the trend.
Groundwater quality (% of groundwater quality samples that meet drinking water standards)	Maintaining		**Maintaining.** An increasing trend to 100% in the last five years. Similar to other groundwater metrics, arsenic and total coliform pose minor challenges for some wells. Community. Business, and contractor support and preventive action can help improve the trend.
Aquifer recharge (change in Aquifer Recharge Area)	Declining		**Declining.** Recharging the City's aquifers is important to maintaining water supply. Additions of impervious area since 2013 has reduced recharge to our aquifer. Increasing use of pervious pavement and retrofits for infiltration of runoff are starting to slow the trend. Where feasible, the City promotes the use of infiltration systems to preserve and restore recharge.

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Business-As-Usual: Where We're Heading

For the foreseeable future, about 40% of Redmond's drinking water will be supplied by our local groundwater system, with the remaining water resource coming from the Tolt Watershed in the Cascade Mountains. We will continue to emphasize protecting our groundwater resources from two challenges. First, when groundwater is not adequately recharged at the same rate it is pumped out of the ground, shortages can occur. Maintaining a sustainable infiltration rate in our urban areas not only protects our drinking water supply, but reduces potential for flooding and surface water pollution. Second, industrial and other potential groundwater contaminants are abundant in urban areas and when groundwater becomes contaminated, it can become unusable as a drinking water source for many years. Keeping contaminants out of the aquifer is essential and will require widespread participation in water quality protection actions.

The Redmond community uses, on average, about 111 gallons of water per day per capita (GPDC) (based on the five-year average of 2014 to 2018). The statewide average is around 103 GPDC, and the national average is 82 GPDC. To supply these needs, the City of Redmond pumps almost 3 million gallons per day and purchases over 4 million gallons per day from the Cascade Water Alliance. Community potable water consumption will continue to steadily increase with continued population and economic growth in King County and the Puget Sound region. In the Business-As-Usual scenario, Redmond's community potable water is projected to increase by 30% by 2050 compared to 2011 levels, assuming water use increases proportional to population. Recognizing that water is vital for the prosperity of all life in the Puget Sound region as well as for a sustainable drinking water supply, stimulating efficient water use is a central part of Redmond's water resource management efforts. Any future reductions will largely be dependent on residential and commercial water reduction strategies such as water fixture upgrades, education programs, and increases in recycled water use. To reach more ambitious goals, Redmond should continue to expand regulatory requirements to become more stringent and implement operational efficiency upgrades. Redmond is a member of the Cascade Water Alliance (CWA) and some of these reductions may be addressed through participation in CWA's programs. During development of the Water Use Reductions Strategy, Redmond will consider whether to align with CWA conservation goals or take more aggressive water use reduction approaches.

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Targets: Where We Want to Be

Redmond single-family residents are currently exceeding the national and Washington State averages for domestic residential water use (55 gallons per day per capita [GPDC] versus 82 GPDC and 101 GPDC, respectively). When other commercial and industrial uses are considered, Redmond is still exceeding national and Washington State averages (73 GPDC versus 81 GPDC and 120 GPDC, respectively). However, the more we continue to conserve, the more sustainable our supply will be.

As a member of Cascade Water Alliance, Redmond subscribes to their water efficiency savings goal, which calls for a cumulative savings of 0.6 million gallons per day on an average annual basis and 1 million gallons per day on an average peak season basis for the period 2014 through 2019. In addition to participating in Cascade Water Alliance efficiency savings programs and goals, Redmond plans to develop a water service area centric water consumption reduction goal. Redmond will take the first step in developing this goal by completing a comprehensive Water Use Reduction Strategy, which will specify the detailed water use reduction actions to expand on the broad strategies outlined in this Plan. The Water Use Reduction Strategy will include evaluation of the appropriate GPDC target for implementation.

Target Indicator	Target Value
Reduce per-capita gallons of potable water consumed.	Develop a comprehensive Water Use Reduction Strategy that identifies a quantitative target.

Strategies: How We'll Get There

This plan sets forth the following high-level strategies for attaining water management goals and targets.

Strategies	
W1	Achieve a secure and sustainable water supply that is equitable, affordable, and accessible.
W2	Conserve community water resource and maximize water efficiency savings.
W3	Protect drinking water sources.

We anticipate that the identified strategies above will achieve the targets set in the Water Use Reduction Strategy. Additional strategies or actions may be identified in the Water Use Reduction Strategy and will further improve our commitment to a sustainable water supply. This includes developing a plan to have all public golf courses use recycled water for all irrigation, providing water fixture upgrades, utilizing water-efficient landscaping practices, expanding grey water reuse, and expanding water conservation education and outreach programs.

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Action Roadmap

Action	Description	Investment	Impact	Co-Benefits	Timeframe
Strategy W1: Achieve a secure and sustainable water supply that is equitable, affordable, and accessible.					
Align with regional planning	Ensure continued alignment of City water management actions with regional planning framework, City policies, sustainability practices, and state and federal environmental regulations.				
Climate risks to water availability	Evaluate risks to water availability due to changes in precipitation patterns (more frequent drought conditions, high precipitation events, changing precipitation patterns, low recharge).				
Strategy W2: Conserve community water resource and maximize water efficiency savings.					
Community awareness program	Conduct community awareness programs for water conservation practices.				
Water-efficient landscaping	Continue to install and implement water-efficient landscaping and practices for streetscapes (including traffic circles), park sites, City facilities, and City-maintained plantings.				
"One water" education	Expand public education on water conservation and the "one water" concept that all water is reusable.				
New standards for resilience in water systems	Study and determine if new standards need to be adopted to strengthen infrastructure to address increased flooding, such as larger bridges and culverts and other stormwater conveyance systems.				
Water usage reduction strategy	Create a water usage reduction strategy to provide the strategic framing for all other water efficiency strategies and actions.				
Gray water for irrigation	Study code barriers and code/policy incentives for promoting graywater reuse over traditional irrigation. Establish a plan to upgrade irrigation controls and operational efficiency on City properties using grey water.				
Golf course recycled water	Partner with King County to use recycled water for irrigation of golf courses. Develop a plan to have all public golf courses 100% irrigation with recycled water.				
Strategy W3: Protect drinking water sources.					
Identify groundwater impacts	Protect groundwater by identifying impacts to groundwater.				

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Action	Description	Investment	Impact	Co-Benefits	Timeframe
Groundwater contamination plan	Refine a plan to prevent and manage existing groundwater contamination. Identify and address groundwater resources at risk. Include a monitoring and tracking program.				
Groundwater Monitoring Program	Monitor groundwater monitoring well network to identify impacts to water quality and quantity early and provide an early warning to supply wells.				
Update TCD code	Conduct a triple bottom line analysis of temporary construction dewatering (TCD) to determine policy options to reduce tensions between water resources management and compact growth.				
Water efficiency standards	Increase water efficiency and resiliency standards for new development such as requiring dual piping so new buildings are rainwater/reclaimed water ready.				
Irrigation water efficiency	Revise City codes to promote greater irrigation water efficiency. Considerations could include: rate change, irrigation standards, equipment upgrades, and scaling up properties.				
Septic/sewer system improvements	Eliminate direct discharge into the stormwater system from the sanitary and private septic/sewer systems.				
Septic elimination / sewer system expansion	Encourage conversion from on-site wastewater disposal systems as sewer lines become available so that all septic systems in the city are eventually eliminated.				
Landscaping and irrigation standards	Require drought-tolerant planting and efficient irrigation systems on all new development.				

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What You Can Do

Reaching Redmond's sustainability goals will require action from every individual in our community. Collective action can have a significant impact on improving community water conservation. There are numerous ways to take action to save water, here are just a few that help to conserve water and increase water quality.

Install efficient appliances and fixtures.

Install water-efficient toilets, showerheads, and faucet aerators. Before buying, check how much water and energy new appliances, faucets, and water heaters will use. Remember, cheaper up-front purchases could cost more in water and electricity bills over time.

Related action(s):

- Community awareness program
- Water usage reduction strategy

Save water at the tap.

Check all faucets, toilets, and showerheads for leaks. Have your irrigation system audited for leaks, broken equipment, overspray, or inefficient watering schedules.

Related action(s):

- Water-efficient landscaping
- Water usage reduction strategy

Xeriscape landscaping

Xeriscaping is the process of landscaping or gardening that reduces or eliminates the need for additional water. Choose the right Northwest-friendly plants and watch them thrive in our environment. Group plants with the same watering needs together to avoid overwatering some while underwatering others. Try collecting water from your roof and directing the runoff to plants and trees.

Related action(s):

- Water usage reduction strategy
- Reuse education
- Water-efficient landscaping

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Climate Change and Resilience

What is included?

Climate change has already affected and will continue to affect Redmond, King County, and the broader Puget Sound region. Warmer temperatures, shifting hydrology and precipitation regimes, more regional wildfires, and more intense and frequent extreme weather events will negatively impact the Redmond community and our neighbors, affecting our collective health, safety, economy, and environment for today and tomorrow. This section includes actions to collectively lower greenhouse gas emissions and build resilience to climate-related impacts.

Climate Change and Resilience Goal: Reduce communitywide GHG emissions and enhance community-wide resilience to climate impacts.

How is Redmond doing?

Key Achievements

- **Per-capita community GHG emissions have declined 4%** since 2011.
- **Redmond's municipal operations greenhouse gas emissions have decreased** overall since 2011. In 2017, total Redmond GHG emissions were among the lowest in the past 7 years.[14] Current emission-reducing activities including, anti-idling campaigns, green purchasing policies, a bus pass program for City employees, and energy efficiency best practices.
- As a part of the **K4C partnership**, Redmond is supporting 2019 policy and legislative advocacy that include: comprehensive science-based limits, market-based price on carbon pollution, expansion of funding for public transit, green buildings, and renewable energy.[15]
- Several of **Redmond's programs and plans** address climate change issues. For example, the City's Geological Hazards Protection and Final Comprehensive Flood Hazard Management Plan accounts for community safety during natural disasters.
- The City is a **member of ICLEI-Local Governments for Sustainability** and utilizes its ClearPath platform to **track and report GHG emissions** over time.

[14] https://www.redmond.gov/665/Climate-Action-Plan

[15] https://your.kingcounty.gov/dnrp/climate/documents/2019-K4C-Legislative-Interests.pdf

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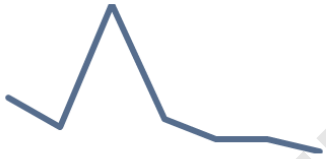
Key Performance Indicators

Performance Measure	Status	Historic Trend	Trend Insights
Community GHG emissions ($MTCO_2e$)	Worsening		**Increasing.** Some progress, but 7% overall increase from 2011 to 2017.[16] Largely driven by population growth and building energy-related emissions, highlighting the need to focus on energy-related emission sources.
Per-capita community GHG emissions ($MTCO_2e$)	Improving		**Maintaining.** Between 2011-2017, per-capita emissions have declined 4%. This trend indicates that overall community GHG emission increases may be largely driven by population and economic growth in the city.
Municipal GHG emissions ($MTCO_2e$)	Improving		**Declining.** Between 2011-2017 municipal GHG emissions declined 5%. The decline in emissions is largely driven by energy-efficient upgrades and reductions in fleet fuel consumption.

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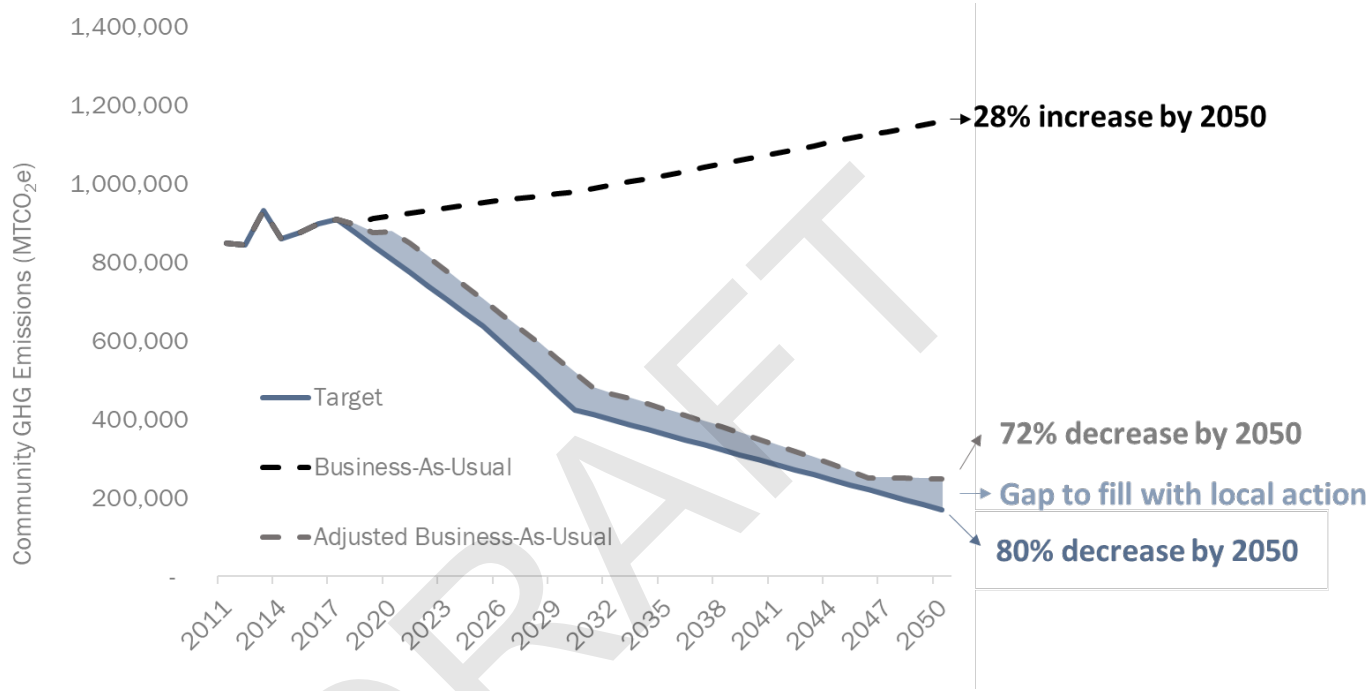
[16] Although Redmond has been tracking GHG emissions since 2008, 2011 was chosen as the base year for emissions trends forecasting and target setting due to disparities in transportation modeling approaches prior to 2010. The prior VMT model (prior to 2011) produced VMT estimates that are inconsistent with the per-capita VMT that would be expected for the King County region.

Business As Usual: Where We're Heading

Despite projected population and economic growth in King County and the Puget Sound region ("Business-As-Usual" scenario), there will be an anticipated net decrease of GHG emissions, due largely to state requirements for electric utilities to phase out fossil fuel sources by 2045 and anticipated federal vehicle fuel economy standards ("Adjusted Business-As-Usual Scenario"). Local action will still be critical to meeting long-term greenhouse gas emission reduction goals.



Targets: Where We Want to Be

The K4C collaboration—of which Redmond is a member—has a target of reducing GHG emissions by 50% and 80% by 2030 and 2050, respectively. While the 2014 Redmond Climate Action Implementation Plan did not commit a specific GHG emission reduction target, this ESAP presents the following recommended targets for Redmond greenhouse gas emissions.

Focus Area Goal	Sub-Goal	Target
Reduce GHG emissions and enhance communitywide resilience to climate impacts.	Reduce communitywide greenhouse gas emissions.	50% reduction by 2030 80% reduction by 2050

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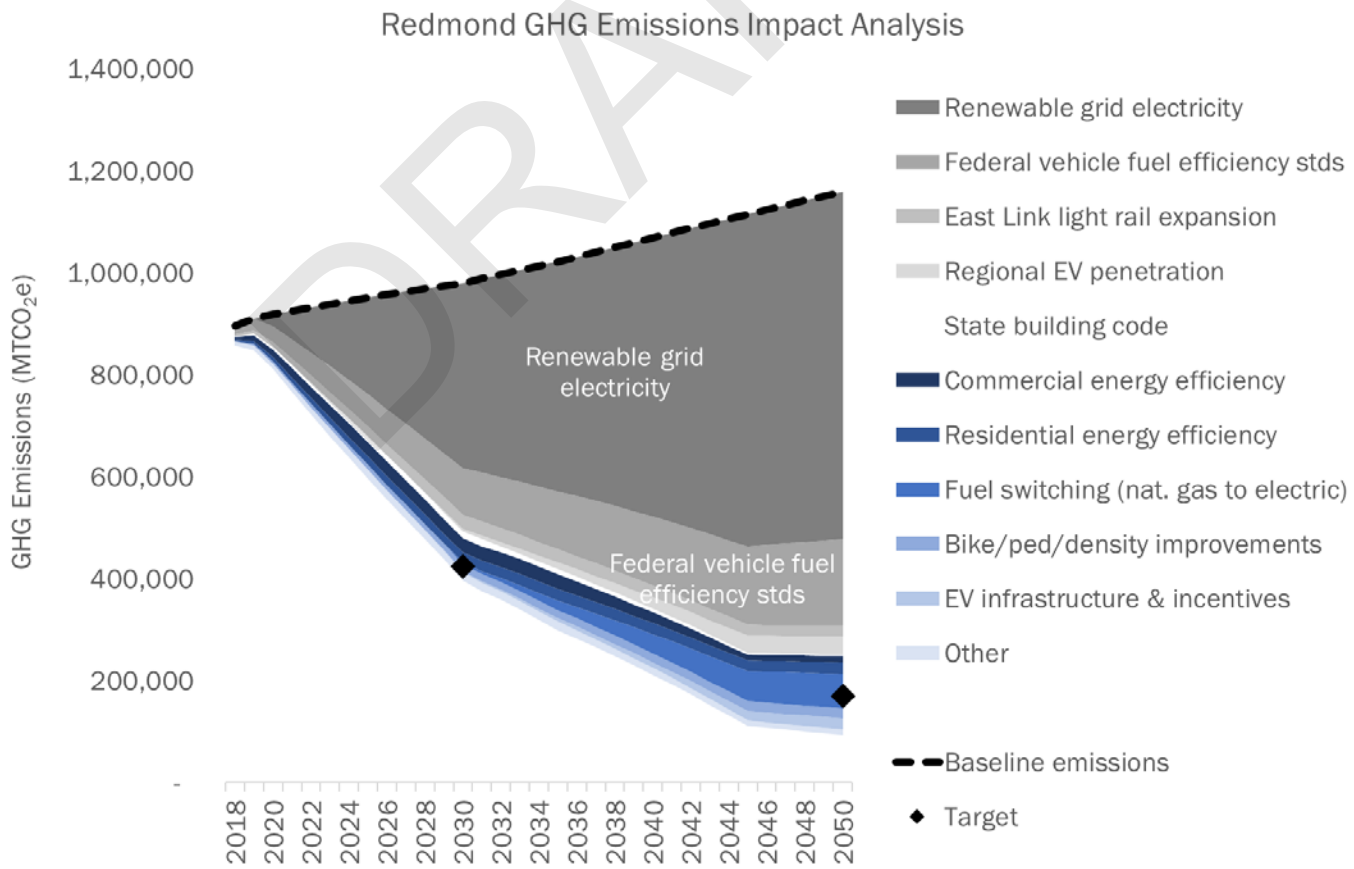
Strategies: How We'll Get There

This plan sets for the following high-level strategies for attaining climate change resilience goals and targets. We recognize that climate change resilience is a cross-cutting theme that spans multiple topic areas of sustainability, so strategies and actions in other focus areas of this plan will also contribute towards the goals, targets, and strategies in this focus area.

Strategies	
C1	Ensure all City services and infrastructure are resilient to climate change impacts.
C2	Enhance resilience of populations that will be disproportionately impacted by climate change.
C3	Institutionalize consideration of sustainability and climate change across City activities and decision-making.
C4	Pursue cross-sectoral, communitywide solutions to address climate change and cross-cutting sustainability issues.

We estimate that implementing these strategies, in conjunction with anticipated external programs, policies, and trends, could reduce communitywide GHG emissions by 89% by 2050. More information about each of these emissions-reducing strategies are provided in their respective focus area sections (Transportation and Land Use, Buildings and Energy, and Materials Management and Waste).



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Action Roadmap

Action	Description	Investment	Impact	Co-Benefits	Timeframe
Strategy C1: Ensure all City services and infrastructure are resilient to climate change impacts.					
Regional collaboration for utility resilience	Participate in regional efforts that increase Redmond's capacity to respond to climate change impacts to City-run utility services.				
Reevaluate environmental BMPs and design standards for all City properties	Build city buildings and infrastructure to be resilient to climate change (e.g. bridges, culverts, stormwater facilities, groundwater) through best management practices and design standards.				
Wildfire response	Ensure local fire department has the equipment and training to manage wildfires.				
Backup power projects	Identify and prioritize solar and microgrid power projects at critical City-owned facilities and at targeted districts.				
Wildfire mitigation planning	Identify permanent funding from the City of Redmond to support forest health improvements to reduce wildfire risk and expand public awareness campaigns on wildfires.				
Strategy C2: Enhance resilience of populations that will be disproportionately impacted by climate change.					
Equity commitments	Commit to climate policy through an equity lens. Reassess current City programs to evaluate and state equity goals in the face of climate change and sustainability issues.				
Vulnerability roadmap	Conduct a communitywide climate vulnerability assessment (e.g. urban heat islands, air pollution) to identify and implement resilience-building actions.				
Comprehensive vulnerability planning	Ensure all City plans (e.g., Comprehensive Plan, Emergency Management Plan) account for vulnerable populations and communities.				
Disadvantaged workers	Ensure contracts for City construction projects for energy efficiency, fuel conversion, and green energy provide opportunities for local hiring and disadvantaged worker employment.				

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Action	Description	Investment	Impact	Co-Benefits	Timeframe
Critical areas resilience	Evaluate and respond to impacts in Critical Areas due to larger storms and warmer, drier summer weather (steep slopes, wetlands, upland riparian areas, upland restoration areas, instream habitat, aquifer recharge areas).				
Neighborhood resilience hubs	Identify infrastructure to serve as neighborhood resilience hubs, such as "corner stores," and encourage them to sustain neighborhoods in the event of an emergency.				
Severe weather building standards	Develop building standards that include greater resistance to high winds and flooding.				
Strategy C3: Institutionalize consideration of sustainability and climate change across City activities and decision-making.					
Align budget with climate goals	Align City budget decisions around climate mitigation and climate resiliency initiatives.				
GHG monitoring & dashboard	Continue to benchmark, report, and regularly monitor community and municipal GHG emissions. Consider building a public-facing dashboard that includes information on Redmond's GHG emissions and personal carbon footprints.				
Leverage smart cities strategies	Leverage the rollout of smart cities strategies to advance sustainability objectives and improve tracking, emissions reductions, and cost savings.				
Climate awareness for employees	Build City employees climate change awareness in their role for considering climate impacts in their day-to-day decisions at work.				
Strategies to expand employee participation	Develop a cross-departmental working group or program to expand participation in climate solution strategies and environmental sustainability programming among City staff by the Sustainability Manager.				
Climate consideration policy	Implement a policy requiring all major City capital projects, procurements, and policies consider and attempt to mitigate climate change impacts, such as procurement from women & minority-owned businesses.				

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Action	Description	Investment	Impact	Co-Benefits	Timeframe
City environmental sustainability ROI	Develop and implement standard for creating project specific return on investment determinations for environmental sustainability throughout a project's lifecycle.				
Economic ROI tools to encourage climate protection	Create financial tools that capture the full lifecycle costs and benefits of City decisions, including the ROI of energy efficiency projects and the environmental costs of products and services.				
Strategy C4: Pursue cross-sectoral, communitywide solutions to address climate change and cross-cutting sustainability issues.					
Countywide commitment to renewable energy resources	Build on existing state renewable energy commitments, including the Washington State Renewable Portfolio Standard (RPS), to partner with local utilities, state regulators and other stakeholders on a countywide commitment to renewable energy resources.				
K4C financing opportunities	Request K4C to hire a financial expert to develop strategies for King County and its cities and utilities to create financing opportunities for climate change mitigation and implementation projects (e.g., state and federal policy changes).				
EPA air quality standards	Partner with Puget Sound Clean Air Agency to track and monitor Redmond's air quality and potentially reevaluate plans to ensure they align with 100% of US EPA National Ambient Air Quality Standards.				
K-12 education	Support an educational agenda to enhance outreach and awareness efforts for K-12 schools on environmental stewardship and partner with organizations to help implement.				
Climate awareness for residents	Provide educational resources (e.g., GHG monitoring tools) and opportunities to help residents become aware of and engage in implementation of the Redmond Climate Action Implementation Plan and sustainability initiatives.				
Youth sustainability ambassadors	Train youth, through the school systems, to be youth sustainability ambassadors.				

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Action	Description	Investment	Impact	Co-Benefits	Timeframe
Environmental justice program	Develop an environmental justice program that identifies the communities suffering from environmental burdens, such as air quality hotspots. Explore partners to work with to close the gap on these inequities and reduce burdens.				

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What You Can Do

Reaching Redmond's sustainability goals will require action from every individual in our community. Collective action can have a significant impact on lowering the community carbon footprint. The following actions are important steps to reducing emissions.

Consume less meat.

According to the Intergovernmental Panel on Climate Change, eating less meat in your diet can reduce your carbon footprint by up to 35%. Reducing meat consumption is beneficial because livestock management is one of the biggest contributors to global GHG emissions.

Related action(s):

- Monitor GHG emissions
- K-12 Education

Measure your GHG footprint.

You can stay informed by measuring and tracking your own GHG footprint. There are many different tools out there, including The Nature Conservancy's Carbon Footprint Calculator[17] and UC Berkeley's CoolClimate Carbon Footprint Calculator.[18]

Related action(s):

- Monitor GHG emissions
- Climate awareness for residents

Neighborhood resilience groups.

Connecting with other residents in your neighborhood can increase social cohesion, which is a characteristic of resilient communities. Collective investments and support of local businesses can empower communities to be more resilient to future climate change.

Related action(s):

- Equity commitments
- Vulnerability roadmap
- Neighborhood resilience hubs
- Comprehensive vulnerability planning
- Climate awareness for residents
- Environmental justice program

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[17] https://www.nature.org/en-us/get-involved/how-to-help/carbon-footprint-calculator/

[18] https://coolclimate.berkeley.edu/calculator

Implementation and Evaluation Planning

While the other sections of the ESAP comprehensively outline the path to meet Redmond's sustainability goals over the next 30 years, this section identifies the framework and near-term schedule for implementation efforts. The City's implementation activities will remain adaptive in an effort to remain responsive to changes in technology, available budget and grants, regional and local opportunities, and staff resources. The Implementation section contains the following components:

- **Equity:** Key considerations and metrics the City will integrate into implementation activities to support Redmond's vulnerable and underserved populations.
- **Accountability and Collaboration:** An overview of the key partners and stakeholder groups to be formed to support ESAP implementation.
- **Funding Mechanisms:** A summary likely funding sources to support implementation activities.
- **Monitoring and Evaluation:** The City's framework for monitoring and evaluating ESAP progress and updating the plan as necessary.
- **Risks and Barriers:** An overview of potential risks and barriers that should be considered during implementation, such as affordability and engagement.
- **Near-Term Strategy and 2021-2022 Priorities:** A summary of key tasks to be accomplished in the first two years of ESAP implementation.

Equity

The City is committed to implementing the ESAP in an equitable manner that addresses Redmond's unique equity issues and concerns. The City has numerous programs and planning efforts underway to ensure Redmond is an inclusive and welcoming City for all, including its Human Services Commission and grant program, an internal Welcome Redmond committee, and the City's 2021 Comprehensive Plan update which identifies both equity and sustainability as core pillars of the City's vision. The sections below identify opportunities to ensuring equitable implementation of the ESAP.

When planning for implementation, the City should consider equity impacts and potential benefits, including:

Equity Considerations	
Disproportionate impacts	Does the proposed action generate burdens (including costs), either directly or indirectly, to communities of color or low-income populations? If yes, are there opportunities to mitigate these impacts?
Shared benefits	Can the benefits of the proposed action be targeted in progressive ways to reduce historical or current disparities?
Accessibility	Are the benefits of the proposed action broadly accessible to households and businesses throughout the community — particularly communities of color, low-income populations, and minority, women and emerging small businesses?
Engagement	Does the proposed action engage and empower communities of color and low-income populations in a meaningful, authentic and culturally appropriate manner?
Capacity building	Does the proposed action help build community capacity through funding, an expanded knowledge base or other resources?

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Alignment & partnership	Does the proposed action align with and support existing communities of color and low-income population priorities, creating an opportunity to leverage resources and build collaborative partnerships?
Relationship building	Does the proposed action help foster the building of effective, long-term relationships and trust between diverse communities and local government?
Economic opportunity & staff diversity	Does the proposed action support communities of color and low-income populations through workforce development, contracting opportunities or the increased diversity of city and county staff?
Accountability	Does the proposed action have appropriate accountability mechanisms to ensure that communities of color, low-income populations, or other vulnerable communities will equitably benefit and not be disproportionately harmed?

Equity Indicators

Progress toward advancing equity through implementation of the ESAP should be assessed as part of the monitoring and evaluation process. Specific criteria and indicators will be determined and formalized through the Comprehensive Plan update and ESAP implementation and a list of potential indicators includes:

Equity Process & Outcome Indicators	
Transportation Cost Burden	Median household transportation costs as a percentage of median household income
Access to Public Transit	Percent of population within 1/2 mile of transit
Energy & Housing Cost Burden	Percent of population with disproportionate energy/housing costs as a percentage of household income
Infrastructure	Number of solar and wind installations, by neighborhood
Economic Development and Jobs	New, local green jobs created, by demographic group
Housing	Number of community workforce agreements for sustainability-focused redevelopment projects
Food Security	Number of households identified as food insecure
Emergency Management	Property value trends (increased or decreased)
Planning and Decision Making	Number of healthcare and mental health facilities

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Accountability and Collaboration

Implementation of the ESAP will require even greater participation and engagement from a diverse range of community stakeholders working collaboratively to create a more sustainable community. As the City moves from ESAP development to implementation, key partners will include internal and external advisory groups, and partnerships with key organizations across the community.

ESAP Advisory Committee

The City will build on the work of the ESAP Stakeholder Working Group and transition to an ESAP Advisory Committee (Advisory Committee). This will ensure a forum is in place for community engagement and oversight of ESAP implementation. The Advisory Committee will include a cohort of stakeholders who represent Redmond residents and business community; have interest, experience, or expertise on environmental/sustainability-relevant topics or related policy work; and represent key community or civic organizations that may play a role in implementation.

The Advisory Committee will meet quarterly to advise the City on topics such as:

- Providing recommendations regarding progress and implementation of key actions within the plan.
- Ensuring that the ESAP stays up to date over time, with a focus on the five-year plan update cycle.
- Reviewing and making recommendations as part of the GHG inventory update process.

City Sustainability Team

The City will form an internal City Environmental Sustainability Action Team (Sustainability Team) to assist in coordinating implementation of the plan actions. The Sustainability Team will include representatives from key departments across the City and will be led by the Sustainability Program Manager. The team will meet quarterly to facilitate information sharing, streamline implementation activities, support monitoring and measurement activities, and embed sustainability expertise throughout the City.

Key Partners

Implementation of the ESAP relies on collaboration and partnerships with internal and external stakeholders, agencies, and organizations to help meet Redmond's ambitious sustainability goals. The City will continue to work with key partners in the community and across the state, as it cannot achieve its goals alone. The City will focus first on education and outreach with local community groups to implement ESAP strategies. City staff can identify projects that align with both ESAP goals and community investment goals, and work to maximize the cost and impact. Relationships with existing community groups are essential to effectively implement strategies, address equity, and spread awareness

As the City moves from ESAP planning to implementation, key stakeholders and partnerships include, but are not limited to:

- Cascade Water Alliance
- Hope Link
- King County-Cities Climate Collaboration
- MasterBuilders Association
- Microsoft
- Natural and Built Environment
- Nelson Legacy Group
- Olympian Precast
- OneRedmond
- Redmond Parks and Trail Commission
- Pedestrian Bicycle Advisory Committee
- People for Climate Action-Redmond
- Redmond Planning Commission
- Postdoc Brewery
- Protetron Circuits
- PTSA Redmond High School & Wilder Elementary
- Puget Sound Energy
- RYPAC
- Sound Transit
- Student Sustainability Ambassadors
- Sustainable Redmond
- Waste Management

Accountability

Adoption of this Environmental Sustainability Action Plan will demonstrate the City's commitment to addressing the challenge of climate change and sustainability in the Redmond community. Establishing a more formal City commitment to ESAP goals, such as through an ordinance, would be seen by many as reinforcing the importance of this plan and could help ensure implementation of ESAP actions and measurable progress toward meeting ESAP goals over time. A formal commitment can also be a considerable asset in the pursuit of grant funds and other funding sources to assist in the implementation of the plan.

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Funding

This ESAP will not be implemented right away or all at once; it will take time, investment, and ongoing work within the community.

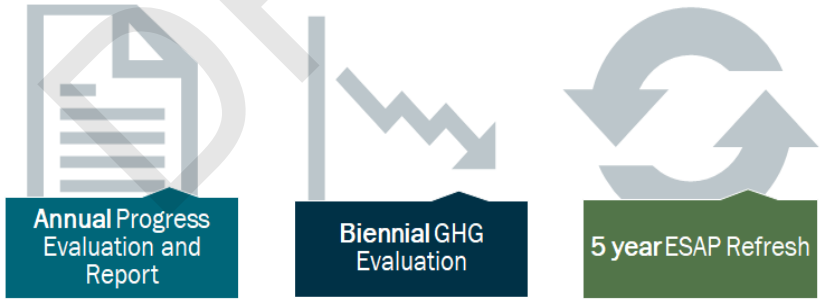
Current and potential funding sources include:

- City general fund
- Solid Waste Utility revenues
- Stormwater Utility revenues
- Water Utility revenues
- Federal and state grants
- Revolving loan funds
- Community foundation and other philanthropic grant opportunities
- Newly identified funding sources

Monitoring and Evaluation

City staff will conduct ongoing monitoring, evaluation, and reporting on ESAP implementation to transparently track progress towards overall goals and targets. This is a critical element of the City's implementation approach and ensures programs and activities are best serving the community and supporting progress towards the City's sustainability targets. The City will leverage two key mechanisms to monitor progress, including public annual progress and evaluation reports, and biennial GHG inventory updates. These efforts will inform the periodic review and refresh of the ESAP, which will be completed every 5 years.

Key Elements of the City's Ongoing Monitoring and Evaluation Framework



Annual Progress Evaluation and Reports

The City will complete annual progress updates which will include qualitative descriptions of progress toward implementation of actions within the Plan, coupled with quantitative updates on key performance indicators (KPIs) to track progress towards goals and target outcomes of the Plan. Examples of KPIs include community electricity and natural gas consumption, vehicle miles traveled, and waste diversion rates. The majority of indicators will be updated annually, although some indicators may be updated less frequently depending on how often new data is available.

City staff will publish annual progress reports for City Council and the public to highlight achievements made over the past year, track progress towards targets, review barriers, and other relevant updates.

Progress reports will include a detailed update of KPIs and strategy level progress updates. Monitoring KPIs will help track progress on ESAP actions and highlight areas where the City is tracking towards its goals or increased programming may be necessary.

To facilitate a process of continual improvement, the City will hold annual Sustainability Team meetings to identify goals, review progress, and identify course corrections and next steps. The City Sustainability Team will then develop work plans to support ongoing progress towards plan goals and inform budget offers.

Biennial GHG Evaluation & Implementation Planning

The City will complete comprehensive GHG inventory updates to provide the high-level view of the Redmond's emissions and provide an overall update on progress towards GHG reduction goals. GHG inventories not only inform progress towards meeting reduction targets but also highlight areas that need additional action. The comprehensive GHG inventory will be completed every two years, and will be used in tandem with the annual progress reports to inform Sustainability Team work plans and identify and align funding needs with the budgeting process.

Periodic ESAP Update

This ESAP was designed to be a living document. The strategies and actions in this foundational ESAP reflect the latest available technologies and best practices in the sustainability and climate action/adaptation field. However, to continue meeting the goals of this Plan effectively, the Redmond community must have the ability to adapt as new technologies change and best practices evolve.

The results of the GHG monitoring and evaluation of actions using key performance indicators will be used to inform the ESAP updates. The ongoing monitoring and evaluation practices will reveal what is working, what is not working, and what course corrections may be warranted. Updating the ESAP every five years will allow Redmond to adaptively manage its sustainability actions and ensure that the plan continues to optimally serve the community.

Risks and Barriers

Funding and Budget. To ensure that the ESAP does not add undue financial burdens for Redmond's communities, Redmond must employ creative funding sources and take advantage of evolving markets and technology. The strategies and actions of this ESAP will also require funding over the entire course of implementation, creating a competing demand on City and community resources. Yet the costs must be weighed against the long-term consequences of inaction.

Leverage existing policies. Much of Redmond's sustainability and greenhouse gas emission goals will be achieved by working with energy, transportation, water, and solid waste related markets and businesses, and not against them. The City acknowledges that there were barriers in engaging with local businesses and understands the significant impact of regulations and policies—especially on the small business community. In order to meet the goals and targets in the ESAP, Redmond must depend on state policies, such as the Clean Energy Transformation Act (CETA), and work hand-in-hand with businesses and public utilities. A majority of these policy driven actions will necessitate partnerships with local utilities and services, such as Puget Sound Energy. Additionally, the City must ensure buy-in from local businesses and organizations.

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Affordability. To avoid potential risks around affordability, Redmond will build its partnerships and prioritize education and outreach before implementing significant policy. The City can help residents and businesses take advantage of tax credits, remove regulations inhibiting new technology, and help with up-front financing. Additionally, the City must look at investing in change at key leverage points, such as during construction, which reduces the cost of action. Redmond will continue to embrace innovation and creativity and work with local partners to help mitigate potential risks and barriers to the community.

Coordination with other plans. This plan overlaps with many other City plans; identifying common goals should be the highest priority. Close collaboration will highlight when seemingly unrelated projects have sustainability impacts, or where small investments can yield large returns. While environmental sustainability is a long-term, complicated endeavor, creative solutions will ensure that the benefits outweigh the costs.

Near-Term Strategy and 2021-2022 Priorities

The focus for the first two years of implementation will be on establishing the institutional foundation for plan implementation and taking initial steps on key priority actions. Early priorities include:

- **Formation of the ESAP Advisory Committee** to receive guidance and oversight of plan implementation and future plan updates as described in the plan.
- **Creating an internal City Environmental Sustainability Action Team** to assist in coordinating the implementation of plan actions.
- **Identifying and pursuing potential funding sources** for individual actions and identify additional funding needs and opportunities for ongoing plan implementation.
- Determining and formalizing Redmond's approach to **incorporating equity considerations** into plan implementation.
- **Developing and launching an online platform** to educate the public about the plan.
- **Commencing priority near-term** ESAP actions (outlined in table below).

2021-2022 Key Actions

This ESAP includes over 100 ongoing or near-term actions to be implemented during the first five years in order to establish a strong foundation for sustainability programming. Given the economic challenges and uncertainty due to the COVID pandemic, the City developed a near-term implementation plan which includes the proposed actions the City will undertake over the next two years. It also identifies the lead department within the City that will work with internal and external stakeholders to implement the respective action. In total, the City 2021-2022 Implementation Plan include 47 actions that are already underway, 13 new actions to begin in year one, and 20 new actions in year two. Identified actions meet one or more of the following criteria:

- **Already underway** – actions that are already planned for or currently underway.
- **Easy, early wins** – relatively straightforward actions that demonstrate sustainability and help the City hit the ground running on making progress toward sustainability goals.
- **Foundational steps** – actions that set the stage or guide direction for other actions.
- **Complex, but important initiatives** – actions that will make a big difference but may be challenging or resource intensive to implement, so getting started as early as possible will be important. The six actions which require enhanced stakeholder engagement, including Council approval, are noted below in green.

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- **Windows of opportunity** – actions align with or could synergize with other City plans, projects, or initiatives, and so should be implemented concurrently.

Many actions identified below can be implemented with existing staff capacity and baseline budgets, but multiple new and expanding actions will require increased investment and staff resources. The actions outlined below that require funding have been integrated into the proposed 2021-2022 budget offers. Adjustments to budget and staffing levels will impact the City's ability to implement these actions over the next two years and the final 2021-2022 implementation plan will be adjusted to align with the adopted budget and new grant funding opportunities.

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Action Short Name	Description	Phasing	Lead City Department
Building & Energy – Ongoing Actions			
Energy and water retrofits	Continue to implement energy and water conservation retrofits and operational improvements for municipal facilities, streetlights and traffic signals, and pump stations.	Ongoing	Parks - Facilities Public Works (multiple groups)
Facilities Strategic Plan	Coordinate and implement recommendations from the Facilities Strategic Plan that support sustainability.	Ongoing	Parks - Facilities
Financing for energy efficiency	Assess various options for financing and grants to energy efficiency projects for municipal buildings.	Ongoing	Parks - Facilities
Incentivize green building projects	Continue to use zoning code to incentivize green building accreditation.	Ongoing	Planning - CDI
PSE smart grid technologies	Partner with PSE to implement in Redmond their smart grid technologies meant to improve reliability and management of the grid.	Ongoing	Executive - Sustainability Manager
Reduce energy intensity of technology	Implement solutions to reduce energy demand from the City's IT infrastructure.	Ongoing	TIS
Climate Change & Resilience – Ongoing Actions			
Align budget with climate goals	Align City budget decisions around climate mitigation and climate resiliency initiatives.	Ongoing	Finance
Comprehensive vulnerability planning	Ensure all City plans (e.g., Comprehensive Plan, Emergency Management Plan) account for vulnerable populations and communities.	Ongoing	Planning - Human Services
Countywide commitment to renewable energy resources	Build on existing state renewable energy commitments, including the Washington State Renewable Portfolio Standard (RPS), to partner with local utilities, state regulators and other stakeholders on a countywide commitment to renewable energy resources.	Ongoing	Executive - Sustainability Manager
GHG monitoring	Continue to benchmark, report, and regularly monitor community and municipal GHG emissions. Consider building a public-facing dashboard that includes information on Redmond's GHG emissions and personal carbon footprints.	Ongoing	Executive - Sustainability Manager
K4C financing opportunities	Request K4C to hire a financial expert to develop strategies for King County and its cities and utilities to create financing opportunities for climate change mitigation and implementation projects (e.g., state and federal policy changes).	Ongoing	Executive - Sustainability Manager

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Action Short Name	Description	Phasing	Lead City Department
Leverage smart cities strategies	Leverage the rollout of smart cities strategies to support projects that improve sustainability tracking, emissions reduction, and cost savings related activities.	Ongoing	TIS
K-12 Education	Support an educational agenda to enhance outreach and awareness efforts for K-12 schools on environmental stewardship and partner with organizations to help implement.	Ongoing	Public Works - EUSD Parks - Recreation Executive - Sustainability Manager
Materials Management & Waste – Ongoing Actions			
City food waste recycling	Expand food waste recycling to City Hall, the Maintenance and Operations Center, Public Safety Building, Senior Center, Teen Center, and all city fire stations.	Ongoing	Public Works - EUSD
Multi-family outreach	Provide recycling and composting education and outreach targeted at multifamily property managers and tenants. Opportunities include toolkits, technical assistance, and direct resident education.	Ongoing	Public Works - EUSD
New construction waste stream efficiency and opportunity*	Work with multifamily and commercial developers, owners and residents to develop requirements for new construction to provide sufficient space and safety for recycling and food waste collection, along with garbage.	Ongoing	Public Works - EUSD
Reduce City landfill waste	Continue composting and recycling at all City buildings and for all municipal operations, including specialized items.	Ongoing	Public Works - EUSD
Regional composting	Work with K4C to develop a composting master plan to expand community and regional composting infrastructure.	Ongoing	Public Works - EUSD
Stewardship policies	Support and advocate for strong product stewardship policies at the state and national levels, minimizing environmental impacts of product and packaging throughout all lifecycle stages, especially manufacturing	Ongoing	Public Works - EUSD
Waste reduction outreach	Build and implement community outreach and education plans around proper waste reduction, recycling, composting. Includes for multi-family, commercial, and single-family sectors.	Ongoing	Public Works - EUSD
Increase Use of Electronic Documents	Enhance systems for electronic documentation and file-sharing.	Ongoing	TIS
Natural Systems – Ongoing Actions			

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Action Short Name	Description	Phasing	Lead City Department
Drought/heat tolerant plantings	Acquire plants grown from regional seed to support continued genetic diversity of native species and resilience of native habitat and soil and are able to be drought-tolerant, climate-adapted, and efficiently sequester carbon.	Ongoing	Parks - Operations
Enforce critical areas code and regulations	Strengthen, revise, and enforce codes for critical areas including, fish and wildlife habitat conservation areas, frequently flooded areas, geologically hazardous areas, unstable slopes, and associated areas and ecosystems.	Ongoing	Planning - Building Public Works - EUSD
Environmental best practice & design standards implementation & enforcement	Implement and enforce Environmental Best Management Practices & Design Standards.	Ongoing	Public Works - EUSD Planning - CDI
Forest Management Plan implementation	Continue to progress on and update the 20-year Forest Management Plan developed by the Green Redmond Partnership to restore and enhance natural areas, assess current urban forest health, and outline future urban forest goals and strategies.	Ongoing	Parks - Operations
Neighborhood matching grants for tree canopy cover	Encourage use of Neighborhood Matching Grants to increase canopy in neighborhoods, especially for low-cost or no-cost trees, where canopy is needed based on tree canopy plans for neighborhoods.	Ongoing	Planning - Division Public Works - EUSD
Planting in open space park lands	Increase canopy on City property by planting open space areas in parks consistent with park master plans, street trees, riparian and restoration plantings.	Ongoing	Parks - Operations
Proactively maintain stormwater infrastructure	Proactively maintain stormwater infrastructure including pipes, catch basins, vaults, ponds, and swales.	Ongoing	Public Works - EUSD
Reevaluate tree regulations	Reevaluate tree regulations to protect existing canopy and to ensure trees are replanted with a "right sized tree." Develop best practices for tree health and maintenance.	Ongoing	Planning - CDI
Stormwater capital improvement plan updates	Update the stormwater capital improvement plan at least annually and implement the flood reduction, water quality improvement, and habitat enhancement CIPs according to the established schedule.	Ongoing	Public Works - EUSD
Street enhancement to improve fish passage	Remove barriers to fish migration and prevent the creation of new barriers.	Ongoing	Public Works - EUSD

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Action Short Name	Description	Phasing	Lead City Department
Tree canopy LiDAR dataset	Acquire updated LiDAR dataset to reset canopy baseline.	Ongoing	TIS - GIS Parks
Transportation & Land Use – Ongoing Actions			
Advanced clean car standards	Continue to support the State to retain and improve upon its 2018 decisions to adopt California's Advanced Clean Car Standards.	Ongoing	Executive - Sustainability Manager
Downtown Redmond parking	Implement Downtown Strategic Parking Management Plan's Conditions Report subsequent phases to evaluate parking needs and management.	Ongoing	Planning - Long Range Planning
Freight VMT/idling	Identify and implement opportunities for reducing freight VMT and idling, especially those from delivery trucks.	Ongoing	Planning - TP&E
Implement Growth and Transportation Efficiency Center program	Develop a framework and implementation plan for the City's Growth and Transportation Efficiency Center (GTEC) program in order to integrate TDM actions with infrastructure improvements, facilitate growth, and maximize the efficiency of transportation infrastructure.	Ongoing	Planning - TP&E
Improve student alternative transport	Improve alternative transportation options for local schools.	Ongoing	Planning - CDI
Increase new mobility options	Encourage and foster the use of new mobility options, such as bike share, electric bike and scooters, and ride hailing. Where appropriate, require or incentivize the use of drop-off zones for new buildings (for delivery drivers, rideshare, etc.).	Ongoing	Planning - TP&E
Mobility data publication	Continue to refine and improve mobility for all targets and data tracking systems. Make the programs and data available for the public.	Ongoing	Planning - TP&E
Pilots for trip reduction	Continue piloting trip reduction initiatives such as app-based carpooling and scooter/bike share.	Ongoing	Planning - CDI & TP&E
Reevaluate TDM performance measures	Reevaluate and revise TDM performance measures as needed to ensure they are directly linked to Redmond's livability and sustainability.	Ongoing	Planning - Division
Water Management – Ongoing Actions			
Align with regional planning	Ensure continued alignment of City water management actions with regional planning framework, City policies, sustainability practices, and state and federal environmental regulations.	Ongoing	Public Works - EUSD

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Action Short Name	Description	Phasing	Lead City Department
Community awareness program	Conduct community awareness programs for water conservation practices.	Ongoing	Public Works - EUSD
Groundwater contamination plan	Refine a plan to prevent and manage existing groundwater contamination. Identify and address groundwater resources at risk. Include a monitoring and tracking program.	Ongoing	Public Works - EUSD
Identify groundwater impacts	Protect groundwater by identifying impacts to groundwater.	Ongoing	Public Works - EUSD
Water-efficient landscaping	Continue to install and implement water-efficient landscaping and practices for streetscapes (including traffic circles), park sites, City facilities, and City-maintained plantings.	Ongoing	Parks - Operations
Building & Energy – Year 1 Actions			
Cross-departmental task force	Develop a cross-departmental task force that works to address challenges related to land use code in siting renewable energy and other sustainability facilities in the city.	Year 1	Executive - Sustainability Manager
Green building training	Educate City planning and permitting staff on codes and approaches for incentivizing decarbonization, such as through electric heat pumps. Update permitting process if needed to quickly review and flag decarbonization projects.	Year 1	Executive - Sustainability Manager Planning
Support/advocate for new codes	Work with advocacy organizations and Regional Code Council (RCC) to support and implement state energy code advancement.	Year 1	Planning - Building
Climate Change & Resilience – Year 1 Actions			
Climate awareness for employees	Build City employees climate change awareness in their role for considering climate impacts in their day-to-day decisions at work.	Year 1	Executive - Sustainability Manager
Cross-departmental task force	Develop a cross-departmental task force that works to address challenges related to land use code in siting renewable energy and other sustainability facilities in the city.	Year 1	Executive - Sustainability Manager

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Action Short Name	Description	Phasing	Lead City Department
Fuel switching permitting and planning	Educate City planning and permitting staff on codes and approaches for incentivizing decarbonization, such as through electric heat pumps. Update permitting process if needed (e.g., forms) to quickly review and flag decarbonization projects.	Year 1	Executive - Sustainability Manager
Support/ advocate for new codes	Work with advocacy organizations and Regional Code Council (RCC) to support and implement state energy code advancement.	Year 1	Planning - Building
Climate awareness for residents	Provide educational resources (e.g., GHG monitoring tools) and opportunities to help residents become aware of and engage in implementation of the Redmond Climate Action Implementation Plan and sustainability initiatives.	Year 1	Executive - Sustainability Manager
Neighborhood resilience hubs	Identify infrastructure to serve as neighborhood resilience hubs, such as "corner stores," and encourage them to sustain neighborhoods in the event of an emergency.	Year 1	Fire - Emergency Preparedness
Regional collaboration for utility resilience	Participate in regional efforts that increase Redmond's capacity to respond to climate change impacts to City-run utility services.	Year 1	Public Works - EUSD
Strategies to expand employee participation	Develop a cross-departmental working group or program to expand participation in climate solution strategies and environmental sustainability programming among City staff by the Sustainability Manager.	Year 1	Executive - Sustainability Manager
Vulnerability roadmap	Conduct a communitywide climate vulnerability assessment (e.g. urban heat islands, air pollution) to identify and implement resilience-building actions.	Year 1	Executive - Sustainability Manager
Natural Systems – Year 1 Actions			
Adopt Integrated Pest Management (IPM) Plan for all city owned properties	Use Redmond Park's Integrated Pest Management (IPM) plan for city-owned properties.	Year 1	Parks - Facilities Public Works - EUSD
Transportation & Land Use – Year 1 Actions			
Telecommuting and alternative work schedules	Expand telecommute and flexible schedules for city employees and encourage Redmond businesses to adopt.	Year 1	Human Resources Planning - Economic Development Team
Water Management – Year 1 Actions			

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Action Short Name	Description	Phasing	Lead City Department
Update TCD code	Conduct a triple bottom line analysis of temporary construction dewatering (TCD) to determine policy options to reduce tensions between water resources management and compact growth.	Year 1	Public Works - EUSD
New standards for resilience in water systems	Study and determine if new standards need to be adopted to strengthen infrastructure to address increased flooding, such as larger bridges and culverts and other stormwater conveyance systems.	Year 1	Public Works - EUSD
Building & Energy – Year 2 Actions			
Energy use disclosure	Require energy use disclosure and benchmarking for buildings, starting with commercial and multifamily buildings over a size threshold.	Year 2	Executive - Sustainability Manager
Production incentive support	Support Washington State renewable energy production incentives that encourage the development of residential and commercial solar and other distributed generation and storage projects.	Year 2	Executive - Sustainability Manager
Green starter kits	Coordinate with regional programs such as EnviroStars to promote and distribute sustainability starter kits to businesses and homes looking to go green.	Year 2	Executive - Sustainability Manager
Financial tools for renewables	Employ financial tools or group purchases to incentivize the installation of on-site renewable energy.	Year 2	Executive - Sustainability Manager
Resource Conservation Management Plan	Develop a Resource Conservation Management Plan and general government policy to guide energy efficiency investments, operations, and behaviors in City facilities.	Year 2	Parks - Facilities
Solar- and EV-ready infrastructure requirements	Require “solar-ready” and EV-ready infrastructure for all new commercial and residential development.	Year 2	Planning - CDI
Climate Change & Resilience – Year 2 Actions			
Equity commitments	Commit to climate policy through an equity lens. Reassess current City programs to evaluate and state equity goals in the face of climate change and sustainability issues.	Year 2	Planning – Human Services
Materials Management & Waste – Year 2 Actions			
C&D diversion requirements	Develop comprehensive policies around C&D recycling and recovery. Prohibit disposal of recoverable C&D materials.	Year 2	Public Works - EUSD

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Action Short Name	Description	Phasing	Lead City Department
Community zero waste, repair, upcycling workshops	Host zero waste, repair/reuse, or upcycling community workshops.	Year 2	Public Works - EUSD
Green purchasing/ procurement	Develop and enforce green City purchasing procedures and policies, including for green cleaning materials.	Year 2	Finance - Procurement
Natural Systems – Year 2 Actions			
Tree canopy policies	Add new policies to the comprehensive plan describing the tree canopy goal, timeframe, and other key strategies that includes maintaining and updating canopy data and tracking tree removal and replacement using EnerGov to understand short-term canopy changes.	Year 2	Planning - CDI
Update critical habitat	Update priority habitat corridors for preserving and enhancing critical habitat for wildlife and incorporate into departmental plans and codes such as critical areas.	Year 2	Public Works - EUSD
Urban biodiversity mapping	Inventory and map urban biodiversity for the prioritization of enhancement, protection, and re-connection.	Year 2	Public Works - EUSD
Watershed approach for restoration	Use watershed approach for habitat restoration planning and activities and update Redmond's Watershed Management Plan on a regular basis (plan states every 5 years).	Year 2	Public Works - EUSD
Transportation & Land Use – Year 2 Actions			
Electrical code for EVs	Update electrical code to ensure adequate electrical capacity is available to serve one electric vehicle charging station per parking space.	Year 2	Planning - Building
EV charging business partnerships	Partner with the OneRedmond to encourage businesses to install charging stations at workplaces and to provide support for commercial entities interested in providing charging stations for their employees.	Year 2	Planning Executive - Sustainability Manager
Multimodal transit/facilities	Partner with transit agencies to maintain and enhance multimodal transit services and related facilities, including better first/last mile access to transit and preparing for opening of Link Light Rail.	Year 2	Planning - TP&E
Municipal fleet conversion	Continue to implement Green Fleet Purchasing Policy.	Year 2	Public Works and Fire Fleets
Water Management – Year 2 Actions			
"One water" education	Expand public education on water conservation and the "one water" concept that all water is reusable.	Year 2	Public Works - EUSD

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Action Short Name	Description	Phasing	Lead City Department
Water usage reduction strategy	Create a water usage reduction strategy to provide the strategic framing for all other water efficiency strategies and actions.	Year 2	Public Works - EUSD

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