

DRAFT

Ashland Climate and Energy Action Plan

NOVEMBER 2016

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Ashland Greenhouse Gas Inventory

This document summarizes the city’s emissions by sector and activity type from 2011 through 2015, and set the emissions baseline used to identify goals and prioritize strategies and actions throughout this plan.

Glossary of Key Terms

					
24	31	38	44	49	54
BUILDINGS & ENERGY	URBAN FORM, LAND USE & TRANSPORTATION	CONSUMPTION & MATERIALS MANAGEMENT	NATURAL SYSTEMS	PUBLIC HEALTH, SAFETY & SECURITY	CROSS-CUTTING STRATEGIES

24 STRATEGIES & ACTIONS, BY FOCUS AREA

This plan is divided into six focus areas, listed above. Each focus area section includes an introduction to its impact and importance, progress to-date, goals and benchmarks, and the strategies and actions that will get us there. Each broad strategy (e.g., “support cleaner energy sources”) is driven forward by specific priority actions that focus on mitigation, adaptation, or both (e.g., “enhance production of on-site solar energy from City facilities”).





INTRODUCTION

Home of the Oregon Shakespeare Festival, Southern Oregon University, and abundant natural beauty and recreation opportunities, the City of Ashland is a great place to live and visit.

INTRODUCTION

Climate change threatens the vitality, livelihood, and surrounding environment that make Ashland what it is, with anticipated increases in severe heat, water scarcity, wildfire risk, and storm events. By the 2080s, scientists project that Ashland will experience more than an 80% decrease in winter snowpack, 90 more days of extreme heat annually, and more than an inch of additional rainfall during heavy storms.

The City of Ashland has a responsibility to address climate change risks, by reducing Ashland's emissions of climate pollution and preparing the city for unavoidable impacts. Cities around the world are leading in this endeavor, including more than 125 cities and counties in the United States that signed the Compact of Mayors agreement to cut greenhouse gas emissions and prepare for climate change. Governments in the Pacific Northwest have led the charge on climate action, including the State of Oregon, which established a statewide target to reduce emissions by 75% below 1990 levels by 2050. Other Oregon cities that have set greenhouse gas action goals include Corvallis, Eugene, and Portland.

The City of Ashland has already taken initial steps to address climate change. Achievements include the solar power incentive program, integration of climate change impacts into the Water Master Plan, home energy efficiency incentive programs, and community outreach and awareness events such as Climate Week in 2015. However, more work is needed. To prevent the worst impacts of climate change, each Ashland resident, along with the rest of the world, will have to reduce their personal carbon footprint by 8% per year.

Ashland's foundational Climate and Energy Action Plan (CEAP) provides a strategic framework and long-term vision for

reducing greenhouse gas emissions and preparing for climate change in the city. It represents the culmination of a year-long process of engagement, input, and review from the public, key community stakeholders, City staff, and a Mayor-appointed committee. Participants voiced their concerns and priorities through online surveys, three public open houses, interviews, and facilitated workshops with City staff and committee members. This plan builds on this input and community progress to date by presenting a coordinated set of goals and strategies to guide City and community action.

This plan provides a roadmap for Ashland to sustain economic, social, and environmental prosperity for current and future generations of residents and visitors. **It represents the beginning of an ongoing and evolving process.** Implementation of the actions and attainment of targets set forth in this plan will require a long-term, dedicated effort by the Ashland community and all City departments and staff. As progress is made and actions are underway, this plan and its future updates will serve as a foundation for taking meaningful action toward reducing greenhouse gas emissions and building resiliency to climate impacts in and around Ashland.

PLAN ORGANIZATION

The plan presents goals, targets, strategies, and potential actions for mitigating and adapting to climate change. It is organized into six focus areas:



Urban Form, Land Use, and Transportation: The form and function of land and transportation systems, including ways to reduce greenhouse gas emissions through urban planning, design, improved land use practices, and clean and efficient transportation systems.



Consumption and Materials Management: The lifecycle of goods and materials, including opportunities to reduce emissions associated with manufacturing, use, and disposal.



Natural Systems: Air, water, and ecosystem health, including opportunities to reduce emissions and prepare for climate change through improved resource conservation and ecosystem management.



Public Health, Safety, and Security: Health and assistance programs for disadvantaged populations, including preparing health, social, and emergency systems for climate change.



Cross-Cutting Strategies: Activities that address climate change more generally or across multiple sectors.

For each focus area, this document tells the story of Ashland's climate goals, progress to date, and strategies and actions for achieving those goals. The strategies and actions are presented in order of priority as articulated by the public, City staff, ad hoc committee, and the practices and plans of other cities and communities. They are organized in the following manner:

Strategies represent a thematic groupings of actions that all work toward a specific goal. Strategies within each focus area are ordered by priority.

Priority Actions are actions within a strategy that were prioritized, or shortlisted, from a broader set of potential actions. These priority actions underwent a more thorough assessment that evaluated cost, effectiveness, feasibility, and co-benefits. These actions are ordered from highest to lowest priority as identified through the evaluation process.

Other Actions are opportunities that were identified as potential actions but were not considered high-priority through the public and stakeholder engagement process.

Priority Actions are labeled by scope of impact, as follows:

Breadth of Impact

C affects **community**-wide operations and climate goals.

M affects **municipal** operations and climate goals.

Type of Impact

Mi addresses **mitigation** goals (lowers GHG emissions).

Ad addresses **adaptation** goals (builds resilience to climate impacts).

Mi/Ad addresses **both mitigation and adaptation** goals.





CLIMATE CHANGE & ASHLAND

While the Pacific Northwest is expected to be spared some of the worst impacts of climate change, the Ashland area still faces significant climate-related risks.

The International Panel on Climate Change (IPCC) estimates that, to have a likely chance of averting the most dangerous of climate change impacts, the world must reduce emissions enough to keep global temperatures from rising more than 2 degrees Celsius. The amount of emissions that represents is called the world’s “carbon budget”—and the world is already on track to spend the remainder of this budget in just three decades. The risks of climate change, including sea level rise, forest fires, and water shortages, increases substantially with every degree of warming above 2 degrees. The following sections detail how Ashland may experience and contribute to climate change in the coming years.

CLIMATE IMPACTS

Increases in average temperature, combined with less consistent precipitation, will increase the frequency and severity of wildfires in Rogue Basin. More volatile rainfall patterns will also increase the frequency and severity of droughts and flooding. More frequent extreme heat events will pose a danger to vulnerable residents. Snowpack will decrease, putting the City’s water resources at risk. Plant and animal species will also be negatively affected.

The impacts of climate change will have tangible effects on public health and quality of life for Ashland’s residents and visitors. In addition to the direct dangers of wildfires, flooding, and extreme weather events made worse by climate change—including injury, death, and the destruction of property and livelihoods—there will be a variety of lesser-known negative impacts on Ashland’s population. Wildfire smoke, for example, can cause serious health complications, especially for those with asthma or other respiratory conditions. Similarly, more frequent and severe heat waves can be deadly, especially for young children and the elderly. Other changes, such as decreased summer stream flow and reduced snowpack, will have significant impacts on Ashland’s residents and seasonal businesses.

Unfortunately, many of these climate risks will disproportionately affect certain groups. Communities of color, immigrants, and low-income populations have historically been underserved by public programs and investments, resulting in limitations such as fewer transportation options, less resilient housing, and less reliable healthcare options. These structural inequities may limit the ability of these populations to respond to the impacts of climate change.

HOW WILL CLIMATE IMPACT ASHLAND?

Regional projections indicate that by the 2080s, Ashland could experience the following climate-driven environmental changes:¹



Heavy rainfall and drought risk

+0.8-1.3 in rainfall increase during the heaviest rain days*
+4-6 day increase in the longest dry spells*
More winter precipitation



Changes to snowpack and water availability

-71 to -86% decline in April 1 snowpack in the Middle Rogue subbasin
More precipitation as rain instead of snow
Earlier spring snowmelt
Higher winter streamflow
Lower summer streamflow



Wildfire risk

+30% increase in probability of large wildfires**
-40 year decrease in average time between fires***
Increased burn acreage



Temperature increase and extreme heat

+7-12° F increase in the hottest day of the year
+39-90 more days a year of warm spells

¹ Oregon State University, 2016
 *Some models show decreases
 **Stavros, Abatzoglou, Larkin, McKenzie, & Steel, 2014
 *** Sheehan, Bachelet, & Ferschweiler, 2015

GREENHOUSE GAS EMISSIONS

To keep global greenhouse gas emissions below what is needed to avoid 2 degrees Celcius warming, the IPCC estimates that global emissions need to be reduced by 40 to 70% by 2050, and that carbon neutrality needs to be reached by the end of the century. In 2015, the City commissioned a greenhouse gas inventory to understand and characterize the sources of Ashland’s emissions and trends in emissions over time. In 2015, Ashland’s greenhouse gas (GHG) emissions footprint was approximately 300,000 metric tons of carbon dioxide equivalent (MT CO₂e), representing 0.5% of Oregon’s total emissions. The vast majority (83%) of Ashland’s emissions stem from five main sources:

- **Production of Residential Goods (22%)**, including emissions associated with the manufacture and transport of durable household goods produced outside of Ashland for use by Ashland residents.
- **Residential Travel (17%)**, including direct and upstream emissions associated with passenger cars and trucks used for noncommercial purposes.
- **Production of Residential Food (15%)**, including emissions associated with the production and

transport of agricultural products grown outside of Ashland for consumption by Ashland residents.

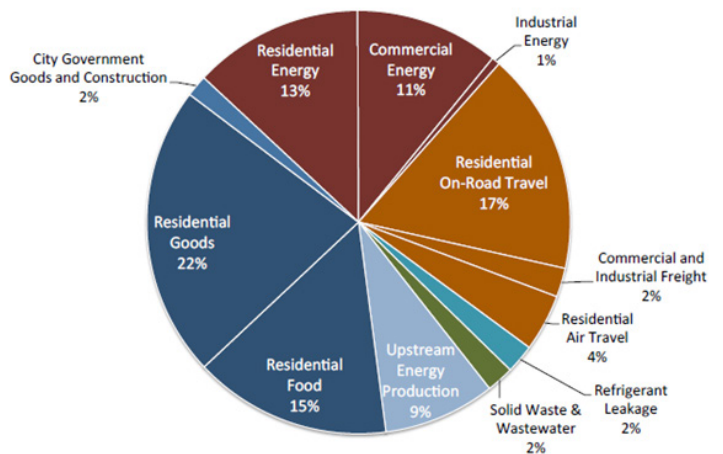
- **Residential and Commercial Energy Use (13% and 11%, respectively)**, including electricity and stationary combustion (a gas-fired furnace, for example) used in homes and commercial buildings.
- **Upstream Energy Production (9%)**, including the emissions generated by the extraction and production of usable fuel products (e.g., refined gasoline or electricity) used in Ashland.

The good news is that Ashland’s per-household GHG emissions have decreased nearly 6% over the past five years. Households in Ashland are producing nearly 25% fewer GHG emissions than the average Oregon household. Together, residential, commercial, and industrial buildings saw their GHG emissions footprint decrease by 21% from 2011 to 2015, largely due to increased renewable electricity on the regional grid, decreased electricity use in the residential sector, and decreased natural gas use due to warmer winters.

The following section details some of the trends and policies that have contributed to this reduction, raised awareness of climate change, and contributed to climate action in Ashland.

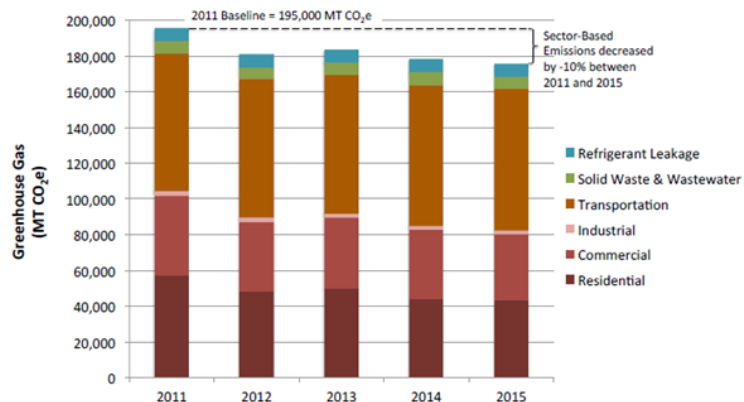
WHERE DO EMISSIONS COME FROM?

The chart on the right shows how different sources and sectors contribute to Ashland’s 2015 carbon footprint.



HOW HAVE ASHLAND’S EMISSIONS CHANGED OVER TIME?

Total emissions in Ashland have decreased by 10% between 2011 and 2015. This is largely driven by decreases in electricity and natural gas use, as well as increased hydro electricity generation.



KEY TERMS

GREENHOUSE GAS

A gas that absorbs and emits thermal radiation in the atmosphere, contributing to the “greenhouse effect” by preventing heat from leaving the atmosphere. CO₂ is the most common greenhouse gas, but this category also includes methane, nitrous oxide, ozone, and even water vapor (picture a humid day). Greenhouse gases vary greatly in the strength and persistence of their warming effect; for example, methane has a greenhouse effect approximately 72 times stronger than CO₂, but its atmospheric lifespan is much shorter.

CLIMATE MITIGATION

Strategies and actions focused on slowing the pace and lessening the severity of climate change by reducing or offsetting greenhouse gas emissions. Overarching Goal 1 on page 14 focuses on mitigation.

CLIMATE ADAPTATION

Strategies and actions focused on changing behavior, land use, and environmental management to prepare, protect, and build resilience of infrastructure, ecosystems, public health, and quality of life to anticipated effects of climate change. Overarching Goal 2 on page 14 focuses on adaptation. Although used interchangeably in this plan, there are slight differences between climate adaptation, and resilience: The strategies and actions in this plan address both climate adaptation and resilience.

- Adaptation refers to action to prepare for and adjust to new conditions, thereby reducing harm or taking advantage of new opportunities. *
- Resilience refers to the capacity of a social or ecological system to continue to function despite disturbances.

SOCIAL EQUITY

Maintaining or creating a “level playing field” or equality of opportunity, often through 1) simple fairness and equal treatment, 2) distribution of resources to reduce inequalities in universal programs and services, and 3) redistribution of resources to level the playing field through targeted programs.** Social equity is a cornerstone of this plan—see the “Climate and Equity” section on page 21 for more information on the role of equity in climate action and the ways in which equity is reinforced through the Ashland Climate and Energy Action Plan.

*National Climate Assessment, 2014

** Norman-Major, 2011. “Balancing the Four E’s; or Can we Achieve Equity for Social Equity in Public Administration?” *Journal of Public Affairs Education*. 17(2), 233–252

BUILDING ON A FOUNDATION

Ashland has already made notable progress toward reducing both its community emissions and its vulnerability to the potential impacts of climate change. Although perhaps not explicitly developed to address climate change, Ashland has a variety of plans, policies, programs, and studies that are connected to the needs and solutions for addressing climate change issues and challenges. This plan highlights these existing “levers” and brings them together to address a common goal.

WHAT ARE WE DOING RIGHT NOW?

Plans

Comprehensive Plan
Water Master Plan
Transportation System Plan and Regional Transportation Model
Economic Development Strategy
Neighborhood Master Plans
Emergency Management Plan
Community Wildfire Preparation Plan
2016 Ashland Forest Plan

Policies

Land use code
Wildland-urban interface (WUI) code and fire code
Energy contract with BPA

Programs

Emergency management
Community Emergency Response Team (CERT)
Firewise
Forest Resiliency Project
Water conservation incentive and outreach
Energy efficiency assistance
Solar incentives
Renewable Energy Certificates (RECs)
Nature Center education

Studies

City facility efficiency and solar assessment
Solid waste and recycling annual report
Renewable energy assessment
GHG inventory

A COORDINATED EFFORT


Climate change is a cross-cutting issue. Contributions of greenhouse gas emissions stem from activities across sectors and sources, from transportation and energy to buildings and materials management and consumption. Strategies to prepare for climate change also cut across traditional disciplines, ranging from water and natural resource management to public health and safety.

Multifaceted challenges require integrated solutions. Many of the solutions and strategies presented in this plan are not new, and many are already part of existing City plans, programs, and policies that are focused within individual City departments. This plan brings those solutions together in an integrated and strategic way to address the climate challenge. Implementing this plan will require forging relationships and coordinating across traditional departmental and stakeholder boundaries to form synergistic, efficient, and effective solutions.

This plan primarily focuses on strategies and actions that Ashland's City government can take to help address climate challenges. However, **all parties have a role and must be a part of the solution**, including Ashland residents, businesses, organizations, and government. To address the importance of these diverse roles, this plan provides suggestions for actions that residents, visitors, businesses, and organizations can take to play their part in tackling climate change.

“Combatting climate change is a fundamental responsibility for everyone, everywhere. The status quo is clearly unacceptable. For the sake of future generations, making progress, together, as a community, is urgent.”

Rich Rosenthal, Ashland City Councilor and Chair of the CEAP ad-hoc committee



Ashland's climate vision for 2050 is to be a resilient community that has zero-net greenhouse gas emissions, embraces equity, protects healthy ecosystems, and creates opportunities for future generations.

OVERARCHING GOALS

This Ashland Climate and Energy Action Plan provides a strategic path toward achieving two primary goals:

1. Reduce Ashland’s contribution to global carbon pollution by **reducing greenhouse gas emissions** associated with City, resident, commercial, and industrial activities.
2. Prepare the city’s communities, systems, and resources to be **more resilient to climate change impacts**.

Goal 1: Reduce Greenhouse Gas Emissions

Cities play an important role in reducing greenhouse gases. More than 80% of Americans and 50% of the world’s population live in urban areas. Therefore, the design of cities, including their built environment and transportation systems, strongly influence GHG emissions. Ashland recognizes that it must do its part as a city to minimize its contributions to the global challenge of climate change. While urgent action is needed, many climate actions cannot be completed overnight, so a long-term approach is needed to achieve deep reductions.

To meet this obligation, this Climate and Energy Action presents the following long-term targets for reducing greenhouse gas emissions associated with city and community activities:

- **Reduce overall Ashland community greenhouse gas emissions by 8% on average every year.**

For City of Ashland operations:

- **Reach carbon neutrality by 2030.**
- **Reduce fossil fuel consumption by 50% by 2030 and 100% by 2050.**

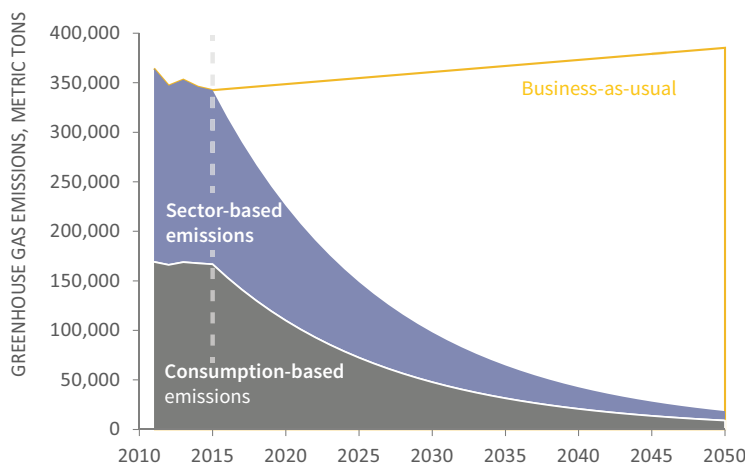
The 8% annual reduction target represents emissions reductions that are needed to prevent the worst climate change impacts (see the Methodology appendix for more information).

Specifically, it identifies how much the world on average would need to cut emissions each year to result in a concentration of carbon dioxide in the atmosphere under 350 parts per million.

To further underscore the importance of setting and reaching this target, this plan recommends that the community and city targets and related goals be adopted by ordinance. This action indicates to the community the highest level of commitment by the City Council to take meaningful action.

The strategies and actions presented in this plan provide a starting point and strategic framework for making and assessing progress toward this target over time. This plan does not provide a pathway for achieving this target, as the target represents a degree of action that cannot be accurately modeled using current greenhouse gas accounting methodologies. This means that some real-world reductions in Ashland may not be reflected in near-term GHG inventories for the city. For example, available tools for evaluating Ashland’s consumption-related emissions do not currently capture changes in Ashland’s consumption behaviors. This plan assumes that methodologies will be refined in the future to enable more accurate measurement of emission reductions. For example, the Oregon Department of Environmental Quality has a tool that can be used to more accurately quantify consumption-based emissions, and will be applied to Ashland’s next GHG inventory.

Emissions reductions were modeled against the proposed higher-level strategies in this plan. The “What’s Possible” section summarizes outcomes for that modeling exercise to reveal how various actions taken by the City and community—and included in this plan—could result in measurable emissions reductions for Ashland.



Goal 2: Prepare for Projected Climate Change Impacts

Ashland will experience different impacts of climate change to different degrees and at different times. As climate changes our environment and its systems and resources, Ashland will need to anticipate the changes and take action to mitigate or adapt to the impacts.

This goal calls for Ashland to understand and recognize these climate change threats and take actions as necessary to ensure that Ashland can withstand the impacts while sustaining or improving the quality of life for all its citizens.

A STRATEGIC APPROACH

Ashland is a unique place. **This plan presents a strategy that is customized to these particular characteristics.** Some aspects of Ashland that influence its ability to address or prioritize particular climate and energy strategies include the following:

- **Utility ownership.** Ashland’s electricity utility is municipally owned, which grants the City direct control over utility operations, business decisions, and related program activities.
- **Energy mix.** Ashland purchases energy from Bonneville Power Administration, which is largely sourced by low-carbon hydropower.
- **Engaged community.** Ashland citizenry are highly engaged in community issues and activities.
- **Political will.** Ashland’s leadership is supportive of innovative actions and environmental leadership.
- **History of climate action.** Ashland has a long history of environment- and climate-related policies and actions to build upon, including the first community solar project in Oregon and effective energy efficiency programs.
- **Heavy tourism influence.** Ashland’s industry is largely tourist-based, meaning that a portion of the city’s greenhouse gas emissions comes from the behavior of visitors, over which the City has less direct influence.
- **Small city in a rural environment.** Ashland is a small town, which brings both benefits and challenges. Smaller communities have fewer available resources for climate action compared to larger cities, and advocating for changes at the state and national level could be more difficult.

- **Direct influence on water supply.** Ashland has direct ownership and control over its water supply. However, climate change may impact this water supply.
- **Progressive state-level activities.** The State of Oregon has introduced ambitious climate policies and regulations, as well as tools and resources for supporting local climate action.

Given these particular characteristics coupled with information on Ashland’s greenhouse gas emission sources and anticipated impacts from climate change, the following **overarching strategic initiatives** were identified to guide the strategies and actions presented in this plan. While the strategies and actions in this plan are organized by focus areas such as Buildings and Energy, Transportation and Land Use, and Natural Systems, these initiatives, described in the following sections, cut across these focus areas to emphasize synergistic and integrated solutions for addressing climate in Ashland.

1. **Transition to clean energy.**
2. **Maximize water and energy efficiency and reuse.**
3. **Support climate-friendly land use and management.**
4. **Reduce consumption of carbon-intensive goods and services.**
5. **Inform and work with residents, organizations, and government.**
6. **Lead by example.**

Transition to clean energy

Energy used for buildings and transportation makes up half of Ashland’s historic greenhouse gas emissions. Most of these emissions are from the combustion of natural gas by residential and commercial buildings, electricity consumption, and gasoline used to fuel residential on-road travel.

Addressing energy-related emissions requires a combination of reduced and lower-carbon energy use. Ashland’s current energy purchases are largely (81%) provided by low-carbon hydropower purchased from Bonneville Power Administration (BPA). Switching existing fuels, such as natural gas and gasoline, to cleaner fuels such as low-carbon electricity can lower the overall emissions profile of current energy use and reduce reliance on fossil fuels. Furthermore, the introduction of new clean energy sources, such as local renewable energy, as well as increased

energy efficiency, can help offset the increased electricity loads caused by fuel-switching and increased cooling demands anticipated under future climate change. These actions in combination act synergistically to reduce total energy-related emissions.

The following Climate and Energy Action Plan strategies are cornerstones of this clean energy transition:

- Support cleaner energy sources.
- Support more efficient vehicles.
- Improve energy demand management.

Example actions within these strategies include supporting community solar projects, smart grid technologies, and actions and initiatives that accelerate fuel-switching such as electric vehicle infrastructure requirements and codes.

Maximize water and energy efficiency and reuse

The production and use of energy and water resources within the built environment greatly influences Ashland’s greenhouse gas emissions and vulnerability to climate impacts. Energy used by buildings contributes almost a third of Ashland’s greenhouse gas emissions. Water consumption for residential and commercial buildings and surrounding green spaces put considerable stress on community water resources, which may become scarcer and in greater demand as temperatures increase and summer water availability declines.

Reducing water and energy resource use associated with Ashland’s built environment will cut emissions, ease loads on the utility, and help secure resource supply and resiliency in a changing climate. The introduction of cleaner energy sources can reduce energy-related emissions to an extent, but improved energy use efficiency will also be required to achieve deep emission reductions. In general, cutting emissions through

Ashland’s Clean Energy Future: A Balanced, Cost-Neutral Approach

Transitioning to a clean energy future in Ashland will require a combination of increased fuel-switching, clean energy sourcing, and efficiency. Taking this three-pronged approach will allow the electric utility to offset potential revenue losses from efficiency and off-grid electrical consumption with new revenues from switching gas-fueled cars and natural gas-heated homes to electric vehicles and electricity-heated homes. Through this strategy, Ashland will be able to lower its overall energy consumption, costs, and associated emissions.



energy efficiency improvements can be more cost-effective than adding new renewable energy sources. The following Climate and Energy Action Plan strategies support water and energy efficiency:

- Encourage increased building energy efficiency.
- Adapt buildings to a changing climate.
- Manage and conserve community water resources.

Example actions within these strategies include adjusting land use codes and incentives to support resource-efficient design, water reuse, and/or on-site storage systems; sponsoring building energy retrofit programs and water conservation rebate programs; introducing rate-based incentives; and providing educational materials aimed at awareness and behavior change. The introduction of passive and heat-tolerant building principles can also reduce cooling energy needs during heat waves and minimize heat-related public health impacts.

Support climate-friendly land use and management

The use and management of Ashland's lands play a significant role in both reducing greenhouse gas emissions and preparing for climate impacts. Development that promotes walking, biking, and riding transit reduces emissions from on-road vehicles, which account for the majority of transportation-related emissions. Proper management and conservation of land resources can also support ecosystem services such as water storage and flow attenuation, shade, and biodiversity that make the city and its resources more resilient to threats posed by climate change.

Strategies in the Climate and Energy Action Plan that support climate-friendly land use and management include the following:

- Make Ashland even more friendly for people walking and biking to reduce dependence on vehicles.
- Support better public transit and ridesharing.
- Support more climate-ready development and land use.
- Promote ecosystem resilience.
- Manage ecosystems and landscapes to minimize climate-related health impacts.
- Manage and conserve community water resources.

Actions within these strategies include transit-oriented development and infrastructure that supports walking and

biking. Also, improved management and conservation of lands that provide habitat for vulnerable species, enhance tree canopy and green space, use and store water efficiently and effectively, and minimize wildfire damage will help prepare the city for changes in temperatures, water availability, and wildfire risk.

Reduce consumption of carbon-intensive goods and services

The production and delivery of goods and services consumed by Ashland households contribute almost half of Ashland's greenhouse gas emissions. These goods and services include food; goods like furniture, home construction materials, electronics, and clothing; and the production of transport fuels, natural gas, and electricity. Certain foods, such as meats, are more carbon-intensive to produce than dairy and grains, and therefore contribute the largest proportion of food-related emissions.

Despite the large contribution of household consumption to Ashland's greenhouse gas footprint, the City of Ashland has little direct control over household purchasing behavior and product manufacturing and transportation, and therefore City-initiated options to reduce emissions from this source are limited. Strategies in the Climate and Energy Action Plan that contribute toward reducing consumption of carbon-intensive goods and services include the following:

- Reduce consumption.
- Support sustainable and accessible local production and consumption.

Actions within these strategies that promote reduced consumption include facilitating marketplaces for reuse and sharing such as tool-lending libraries and reuse fairs; expanding the construction and demolition debris code to promote material salvage; sustaining local food production such as through farmers' markets and community gardens; and distributing outreach and education materials on the impacts of consumer choices.

Inform and work with residents, organizations, and government

Reducing greenhouse gas emissions and building resilience to climate impacts in Ashland is a community-wide effort. Everyone, including residents, businesses, organizations, institutions, and departments within the City itself, must

understand what is needed and work together to take action. This strategy involves the City working closely internally and with the public, local stakeholder groups, and other jurisdictions and agencies to communicate climate priorities, coordinate action, and inspire change. The City must continue to learn from and listen to these parties to ensure that actions are coordinated, relevant, and effective. This strategy involves paying particular attention to equity considerations in the context of climate change (see “Climate and Equity” section on page 21). Specific strategies within the Climate and Energy Action Plan that support this education and coordination effort include the following:

- Educate and empower the public.
- Educate and empower City staff.
- Mainstream climate considerations.
- Enhance City communication and coordination to minimize public health and safety impacts.
- Promote a sustainable local economy that minimizes emissions and vulnerability.
- Engage with other governments and organizations on regional, statewide, national, and international climate policy and action.

Lead by example

Although emissions from the City of Ashland’s operations make up a relatively small proportion of the community’s overall greenhouse gas emissions, City leadership in reducing its own operational emissions can inspire community action, enhance operational efficiencies, and reduce costs. This strategy involves the City taking actions to reduce its own GHG emissions footprint and make City operations more climate resilient, including by training internal staff, optimizing City facilities, and improving equipment and purchasing processes. Strategies in the Climate and Energy Action Plan that support City leadership include the following:

- Maximize energy efficiency of City facilities, equipment, and operations.
- Increase the efficiency of City fleet and employee commuting.
- Improve sustainability of City operations and purchases.
- Conserve water use within City operations.



WHAT'S POSSIBLE

The strategies in this plan will result in tangible emission reduction benefits that significantly decrease Ashland's greenhouse gas footprint. Specifically, if the Ashland community made the achievements listed in the table below by 2050, then the community would be able to reduce its greenhouse gas emissions by an estimated 46% below 2015 levels by 2050, equivalent to each Ashland resident and business reducing its footprint by about 1.4% per year. These estimates were based on assumptions from similar analyses conducted by other municipalities and organizations in the Pacific Northwest.

The progress that Ashland makes toward reducing its GHG emissions will also be subject to broader state, regional, national, and international initiatives and policies. The federal Clean Power Plan, for example, if enacted, will reduce the GHG

emissions associated with the U.S. energy grid by making power plants operate more cleanly and efficiently and expanding the capacity for zero- and low-emitting power sources. In 2016, the State of Oregon enacted legislation requiring Oregon's major electricity suppliers to obtain 50% of their power from renewable sources by 2040. The law also sets a timetable for eliminating coal-fired electric power in the state, and it establishes a community solar program for Oregon. These and other anticipated regulations and programs, such as changes to the federal Corporate Average Fuel Economy (CAFE) standards, will further contribute toward Ashland's emissions reduction goals and were taken into account in this analysis.

Ashland could achieve a 46% reduction in greenhouse gas emissions by 2050 if the community:



Building Energy

Reduced energy use by 50% through energy efficiency measures.

Shifted 14% of grid electricity consumption to distributed renewable energy generation.

Transitioned 90% of natural gas used in buildings to electricity.



Consumption

Reduced consumption-related emissions by 50% through activities such as product reuse, reducing meat consumption, or introduction of a carbon tax on products and services.



Transportation

Shifted 50% of motorized travel to walking or biking.

For the remaining motorized travel:

Shifted 80% of private vehicles to electric vehicles.

Shifted 33% of commercial vehicles to electric vehicles.

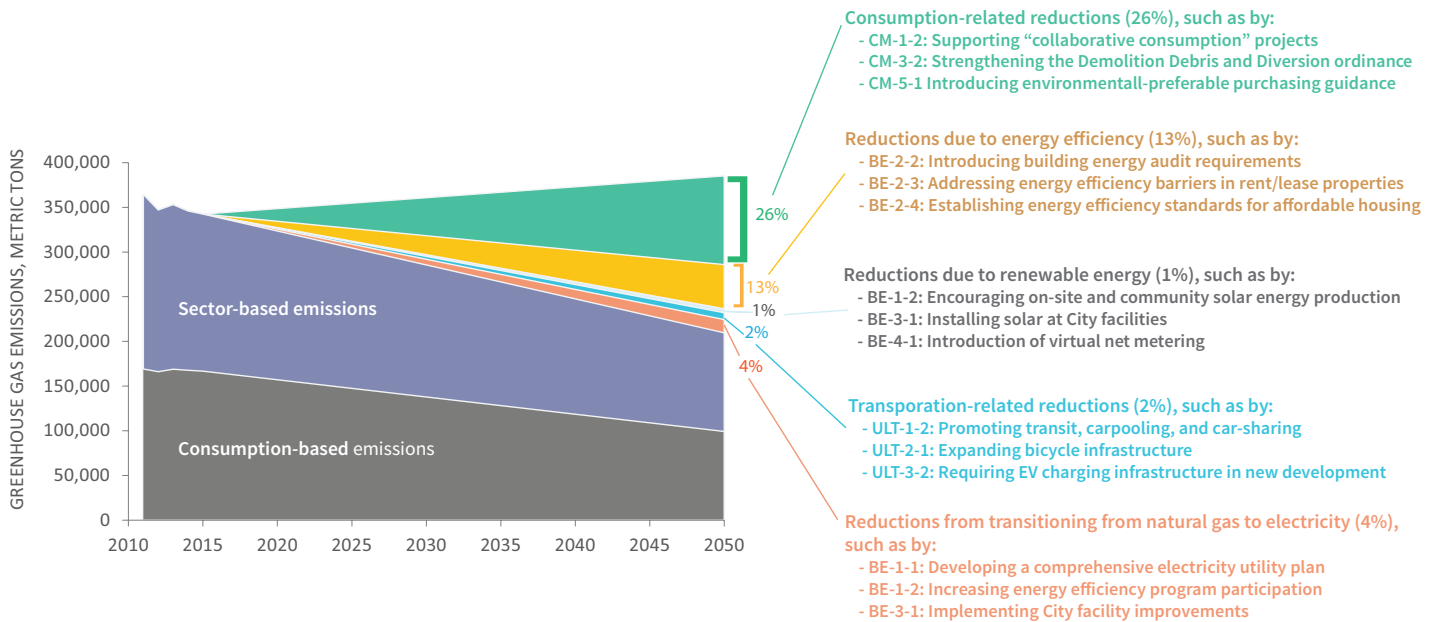
Increased the average fuel efficiency of light-duty vehicles to 53 miles per gallon.

What if?

A significant contributor to Ashland's modeled emissions reductions is the transition of liquid fuels like gasoline and diesel to electricity as more drivers switch to electric vehicles. However, there is some uncertainty around the exact makeup of Ashland's future electricity sources. The model above assumes that 55% of electricity is from zero-emission sources by 2050. However, if Ashland were to have zero-emission electricity by 2050, then the emission reductions would increase from 46% to 54%—equivalent to an average reduction of 1.9%, instead of 1.4%, per Ashland resident per year.

A 46% REDUCTION SCENARIO

The figure below shows how Ashland could achieve a 46% reduction in emissions, and example actions in the plan that could contribute.



WHAT WILL THIS PLAN ACHIEVE?

The modeled emission reductions in this section provide a sense for what could be achieved if Ashland took aggressive action on climate change, such as by implementing actions set forth in this plan. Reductions are presented as groupings of similar actions, but do not precisely represent the reductions associated with those actions. This is due to challenges in attributing emission reduction values to individual actions.

Potential emission reductions associated with individual actions in this plan are difficult to quantify with certainty due to their interdependent nature. For example, reduced emissions associated with switching from gasoline to electric vehicles will depend largely on the mix of energy sources used to generate electricity and the average fuel economy of the vehicles. Emissions associated with use of electricity will in turn be affected by other actions in this plan, such as increased local renewable energy production. It is therefore difficult and counterproductive to single out reductions associated with any one individual action.

Assessing emissions reductions associated with actions is also complicated by uncertainty in underlying variables and assumptions. For example, the efficacy of expanded education and outreach efforts around home energy efficiency will depend on many factors, including the communities to which outreach will be conducted, the extent to which to City has already reached existing residences, as well as external factors, such as the state of the economy, which influences people’s willingness to take risks and invest in new technologies.

Given these limitations, actions in this plan were not quantitatively modeled for efficacy. Rather, actions were qualitatively assessed relative to other potential actions using a set of criteria that included estimated emissions reduction potential. Outcomes from that qualitative assessment informed the order of priority actions in this plan. It is expected that, at the time of implementation, the City will undertake more detailed modeling efforts to quantify anticipated outcomes.

“In urban settings, neighborhoods with low socioeconomic status have some of the highest needs for climate adaptation and resilience-building efforts. Applying the concept of social equity to these efforts can help ensure that all communities are involved.”

U.S. Climate Resilience Toolkit

CLIMATE AND EQUITY

Equity is central to addressing climate change.

Many of the countries most responsible for contributing to climate change, such as the United States, will not bear the brunt of global climate change impacts. Countries and communities that were not large historical emitters of greenhouse gases, such as small island nations, Arctic villages, and developing coastal communities, are facing a rapidly changing environment of thawing ice, flooded coasts, and extreme storms. Many of these communities do not have the resources or capabilities to protect, restore, or adapt to these changing conditions. It is the responsibility of the United States and its communities, as historical and current contributors to the problem, to be a committed and proportionate part of the solution. **This plan provides a foundation for ensuring that Ashland contributes to being part of the climate change solution.**

Climate change will also have a disproportionate impact on some local populations. In Ashland, elderly, low-income, and minority populations will be most vulnerable to many changing climate conditions, such as threats from severe heat, wildfire smoke exposure, and flooding. These populations may also suffer from other secondary impacts of climate change, such as risks to seasonal employment and agricultural productivity. **Ashland will need to commit special focus when implementing all actions in this plan to ensure the continued and improved prosperity and quality of life of these populations in the face of a changing climate.**

Actions to address these inequities, such as by reducing urban heat islands or providing disaster preparedness assistance

to at-risk communities, will pay dividends not just for those populations, but also for the greater Ashland community. When everyone is healthy, employed, and safe, the community enjoys greater economic and social stability and prosperity.

In addition to these larger societal benefits, many strategies and actions in this plan result in other co-benefits, such as enhanced natural aesthetics or quality of life. For example, the introduction energy-saving equipment and behaviors not only address climate goals, but they can also lower energy costs for residents and citizens. **This plan prioritizes these “win-win” solutions that benefit both the climate and other facets of the Ashland community.**

Co-benefits considered in prioritizing the strategies and actions of this plan include the following:

- **Public health.** In some cases, actions that reduce greenhouse gas emissions also promote healthier lifestyles, such as supporting more people walking and biking and eating less carbon-intensive foods.
- **Quality of life.** Many climate actions can also improve quality of life for Ashland citizens, such as the creation of more comfortable and inviting homes through energy efficiency improvements.
- **Recreation and aesthetics.** In addition to enhancing ecosystem resilience, minimizing heat impacts, and storing carbon, actions that improve natural habitat and tree cover can also enhance natural beauty and provide recreational opportunities for visitors and residents.

THE CLIMATE AND ENERGY ACTION PLAN AT-A-GLANCE

The table below summarizes the strategies and actions of this plan, detailed by focus area in the following sections.

	Scope	Type
Buildings and Energy		
Strategy BE-1. Support cleaner energy sources.		
BE-1-1. Develop a comprehensive plan for the Municipal Electric Utility.	C	Mi
BE-1-2. Facilitate and encourage solar energy production.	C	M/Ad
BE-1-3. Enhance production of on-site solar energy from City facilities.	M	M/Ad
Strategy BE-2. Encourage increased building energy efficiency.		
BE-2-1. Increase outreach efforts to expand participation in energy efficiency programs and promote climate-friendly building and construction.	C	Mi
BE-2-2. Require building energy audits to identify and incentivize cost-effective energy efficiency improvements.	C	M/Ad
BE-2-3. Identify and adopt strategies to reduce energy efficiency barriers in rent/lease properties.	C	M/Ad
BE-2-4. Establish minimum energy efficiency standards for the affordable housing program.	C	M/Ad
Strategy BE-3. Maximize efficiency of City facilities, equipment & operations.		
BE-3-1. Use results from City Facilities Energy Audit to prioritize City Facilities Capital Improvement Plans (CIPs) and maintenance improvements.	M	Mi
Strategy BE-4. Improve demand management.		
BE-4-1. Expand the current net meter resolution to include and incorporate virtual net metering.	C	Mi
BE-4-2. Implement utility-level smart grid technologies to facilitate efficiency and distributed energy solutions.	C	Mi
Strategy BE-5. Prepare and adapt buildings for a changing climate.		
BE-5-1. Encourage heat-tolerant building approaches such as cool roofs and passive cooling.	C	Ad
Urban Form, Land Use & Transportation		
Strategy ULT-1. Support better public transit and ridesharing.		
ULT-1-1. Coordinate with neighboring local governments to promote use of transit, carpooling, and car-sharing.	C	Mi
ULT-1-2. Work with the RVTD to implement climate-friendly transit.	C	Mi
ULT-1-3. Establish policies to support development near transit hubs without displacing disadvantaged populations.	C	Mi
ULT-1-4. Evaluate feasibility of locally-owned and operated transit.	M	Mi
Strategy ULT-2. Make Ashland more bike- and pedestrian-friendly.		
ULT-2-1. Implement bicycle-friendly Transportation System Plan actions.	C	Mi
ULT-2-2. Explore opportunities to convert to shared streets where appropriate to provide multimodal connectivity.	M	Mi
Strategy ULT-3. Support more-efficient vehicles.		
ULT-3-1. Implement a local fuel-related tax.	C	Mi
ULT-3-2. Revise land use codes to require EV charging infrastructure at multifamily and commercial developments.	C	Mi
ULT-3-3. Provide information about electric and hybrid vehicles and rebates on the City’s website.	C	Mi
Strategy ULT-4. Support more climate-ready development and land use.		
ULT-4-1. Consider regulating further construction or expansion in the Wildland Urban Interface (WUI) part of the urban growth boundary (UGB).	C	Ad
ULT-4-2. Revise community development plans to favor walkable neighborhoods and infill density.	C	Mi
ULT-4-3. Modify the WUI code to include construction techniques appropriate for wildfire-prone areas.	C	Ad
Strategy ULT-5. Increase the efficiency of City fleet vehicles and employee commuting.		
ULT-5-1. Provide carpool and vanpool parking, charging stations, and preferred parking for EVs for City employees.	M	Mi
ULT-5-2. Conduct a city fleet audit and use it to set policy and targets.	M	Mi
ULT-5-3. Purchase verified carbon offsets to offset City staff travel.	M	Mi
Consumption and Materials Management		
Strategy CM-1. Reduce consumption of carbon-intensive goods and services.		
CM-1-1. Implement an education campaign for waste and consumption reduction strategies.	C	Mi
CM-1-2. Support “collaborative consumption” community projects.	C	Mi
Strategy CM-2. Support sustainable and accessible local production and consumption.		
CM-2-1. Partner with nonprofit organizations to promote the purchase of climate-friendly produce and products.	C	Mi
CM-2-2. Expand community gardening and urban agriculture at community gardens, schools, parks, and rooftops.	C	M/Ad

	Scope	Type
Strategy CM-3. Expand community recycling and composting.		
CM-3-1. Improve recycling programs to make them easier to use and implement new education and outreach to increase recycling in all sectors; expand public space recycling.	C	Mi
CM-3-2. Strengthen the Demolition Debris and Diversion ordinance to enhance enforcement, diversion, and reuse.	C	Mi
Strategy CM-4. Reduce food waste.		
CM-4-1. Support edible food donation.	C	Mi/Ad
CM-4-2. Provide a best practices guide to help households and businesses reduce food waste and consumption.	C	Mi/Ad
CM-4-3. Facilitate recycling of commercial food waste.	C	Mi/Ad
Strategy CM-5. Improve sustainability of City operations and purchases.		
CM-5-1. Introduce City environmentally preferable purchasing (EPP) guidelines for City procurement.	M	Mi
CM-5-2. Assess the feasibility of co-digesting food waste and biosolids at the wastewater treatment facility.	M	Mi
Natural Systems		
Strategy NS-1. Promote ecosystem resilience.		
NS-1-1. Manage forests to retain biodiversity, resilience, and ecosystem function and services in the face of climate change. Use best available science to inform fire management and planning.	C	Ad
NS-1-2. Use green infrastructure such as bioswales, permeable pavement, other pervious surfaces to reduce flood risk and minimize sediment entry into creeks from trails and roads.	C	Ad
NS-1-3. Undertake restoration efforts to retain and restore native fish and riparian species.	C	Ad
NS-1-4. Map and protect areas that provide ecosystem services.	C	Ad
Strategy NS-2. Manage and conserve community water resources.		
NS-2-1. Evaluate the value and potential for incentives for practices that reduce use of potable water for nonpotable purposes and recharge ground water.	C	Mi/Ad
NS-2-2. Explore water-efficient technologies on irrigation systems and consider requiring them during permitting.	C	Mi/Ad
NS-2-3. Expand water conservation outreach and incentive programs for residents and businesses.	C	Mi/Ad
Strategy NS-3. Conserve water use within City operations.		
NS-3-1. Evaluate the potential for installation of rainwater collection systems at City facilities for graywater uses, and investigate opportunities for graywater reuse at existing and new City facilities and properties.	M	Mi/Ad
NS-3-2. Implement efficiency recommendations from the City facilities water audit.	M	Mi/Ad
Public Health, Safety, and Security (PHSS)		
Strategy PHSS-1. Manage ecosystems and landscapes to minimize climate-related health impacts.		
PHSS-1-1. Promote the expansion of tree canopy in urban heat islands or areas that need air conditioning.	C	Ad
Strategy PHSS-2. Promote a sustainable local economy that minimizes emissions and vulnerability.		
PHSS-2-1. Engage leading employers in a dialogue on climate action.	C	Mi/Ad
PHSS-2-2. Support organizations, such as SOU, in evaluating risks to local food sources under climate change.	C	Ad
Strategy PHSS-3. Optimize City services to minimize public health impacts.		
PHSS-3-1. Work with vulnerable neighborhoods to create site-specific adaptation strategies that address public health.	C	Ad
PHSS-3-2. Identify and minimize potential urban heat impacts.	C	Ad
PHSS-3-3. Develop or enhance heat-warning systems for employees and the public.	C	Ad
Strategy PHSS-4. Optimize City services to minimize public safety impacts.		
PHSS-4-1. Update the City's emergency response plan and ensure that preparation and updates recognize and address likely climate change impacts.	C	Ad
PHSS-4-1. Identify and address essential City services that are within the 100-year flood zone.	C	Ad
Cross-Cutting Strategies (CC)		
Strategy CC-1. Educate and empower the public.		
CC-1-1. Support capacity of community groups to implement climate mitigation and adaptation initiatives.	C	Mi/Ad
CC-1-2. Create a formal public outreach and education plan to inform the community about climate actions.	C	Mi/Ad
Strategy CC-2. Educate and empower City staff.		
CC-2-1. Ensure all City departments educate their staff members about the Climate and Energy Action Plan.	M	Mi/Ad
Strategy CC-3. Mainstream and integrate climate considerations.		
CC-3-1. Consider climate change in all City Council policy, budgetary, or legislative decisions. Incorporate climate action considerations/relationship as part of the Council Communication document template.	M	Mi/Ad
CC-3-2. Consider CEAP goals in future updates of city plans.	M	Mi/Ad
Strategy CC-4. Engage with other governments and organizations around regional, statewide, national, and international climate policy and action.		
CC-4-1. Engage with other governments and organizations around climate policy and action.	M	Mi/Ad



BUILDINGS & ENERGY

When many people think of greenhouse gas emissions, they picture cars and trucks, but commercial, residential, and industrial buildings are some of the largest energy users—and thus responsible for a large portion of greenhouse gas emissions.

In fact, Ashland’s built environment accounts for more than one-quarter (27%) of the city’s total emissions, more than all types of transportation combined. This represents a significant opportunity to reduce emissions and help Ashland meet its reduction targets. On the plus side, because their emissions are primarily due to the energy they use for electricity, heating, and cooling, buildings can reduce their emissions by increasing their energy efficiency. Installing efficient lighting, heating, ventilation, and air conditioning (HVAC) systems, windows and insulation, and other upgrades can significantly reduce the amount of energy a building requires.

Also, because most buildings’ energy use Ashland is predominantly in the form of electricity, changes in the fuel mix used to generate electricity—for example, by replacing a coal-fired power plant with wind turbines—reduce the GHG emissions footprints of all buildings that draw electricity from the grid. These factors, among others, contributed to a reduction of 21% in overall emissions from Ashland’s built environment from 2011 to 2015. The impact of energy efficiency improvements was especially pronounced among residential homes, which saw a 9% decrease in electricity demand over the same period.

Climate change will have complicated effects on Ashland’s built environment. On one hand, warmer winters will mean buildings require less energy to heat; a significant portion of the reduction in energy use seen in the city’s buildings from 2011 to 2015 was due to a series of warmer winters, which caused natural gas use to decline. The number of heating degree days—a measure of the number of degrees that a day’s average temperature is below 65°F, commonly used to describe heating energy demand in buildings—decreased by 20% of this period, contributing to a 13% drop in natural gas use. At the same time, reduced snowpack due to climate change may affect regional hydropower capacity, and increased temperatures will increase energy demand for cooling during the dry summer months. The projected increase in wildfire frequency and severity may also put transmission lines at risk, making electricity less reliable in the region.

PROGRESS TO DATE

Ashland’s commercial, residential, and industrial building energy use declined 21% from 2011 to 2015. These changes were due largely to increased renewable electricity in the regional grid, decreased electricity use in the residential sector, and reduced natural gas use from warmer winters.

Ashland owns its own electric utility, which means that the City has greater control over its electricity rates and programs than other cities. This arrangement has contributed to the City’s progress in supporting community renewable energy and improving building systems efficiency. The City has implemented three successful programs focused on expanding renewable energy sources and improving the energy efficiency of existing residential, commercial, and government buildings:

- A retro-commissioning incentive program provides financial and technical assistance to tune up energy systems in commercial and residential buildings. This program offers incentives to building owners and occupants to upgrade or replace building systems—including lighting, HVAC, heating—with newer and more efficient equipment.
- Solar Pioneer II, a 63.5-kilowatt City-sponsored community solar project, gives citizens the opportunity to “adopt” one of its 363 panels as a way to purchase local renewable energy.
- A City Facilities Energy Audit identified energy efficiency opportunities at the City’s own facilities.

GOALS AND INDICATORS

Goals:

- Reduce greenhouse gas emissions associated with Ashland’s energy use.
- Increase energy and water efficiency in City and private buildings.
- Maximize protection of Ashland’s buildings stock and energy supply to future climate impacts.

Indicators:

- Commercial and residential building energy use and associated emissions.
- Proportion of buildings that use heat-resistant materials, passive buildings, and/or white roofs.

STRATEGIES AND ACTIONS

STRATEGY BE-1. SUPPORT CLEANER ENERGY SOURCES.

Efforts to support cleaner energy sources will minimize harmful pollution associated with energy use and help meet the additional energy needs as climate change causes temperatures to rise. This strategy deals with enhancing the use of cleaner fuels through fuel-switching in residential and commercial buildings and renewable energy production and generation.

Priority Actions

C **BE-1-1. Develop a comprehensive plan for the Municipal Electric Utility to transition to 100% clean energy, maximize building efficiency, and electrify the transportation and building sectors, including evaluation of rate structures.**

Mi The transition to low-carbon energy will require taking a broad-level approach that transcends traditional utility boundaries. Although some aspects would not fall under the traditional purview of the utility, a comprehensive energy plan for the Municipal Electric Utility that addresses clean energy, energy efficiency, and electrification of the transportation sector will provide a more strategic path forward for maximizing societal benefits and achieving climate goals. This plan would set targets, address policy and service issues, and identify potential solutions related to comprehensive energy planning. For example, the plan could delineate energy efficiency program funding levels, goals and targets for installation of solar photovoltaics within the City's distribution grid, a long-term strategy for wholesale power acquisition, and demand management. The recently adopted 10% new, local, and clean energy by 2020 ordinance is a key policy decision that would play a large role in development and shaping of this comprehensive energy plan.

C **BE-1-2. Facilitate and encourage solar energy production.**

Mi **Ad** Local generation of renewable energy can offset emissions associated with energy consumption from the electric grid, and in some cases, may also mitigate climate-related risks to the electricity supply due to changes in precipitation and increased drought risk. This action calls for the City to support increased solar energy production in Ashland, such as through the installation of a large-scale community solar project or rooftop solar panels on buildings in the community. It is worth noting that City-sponsored community solar has faced cost challenges in the past, so this action would need to address potential financial hurdles, such as by finding a nongovernmental organization or institution to sponsor the project or by developing new models and policies to facilitate community interest and investment, such as virtual net metering and solar production aggregation.

M **BE-1-3. Enhance production of on-site solar energy from City facilities.**

Mi **Ad** Enhancement of solar energy production capacity at City facilities would reduce electricity demand from the grid, set an example for the Ashland community, and provide reliable power for both the City operations and broader community.

Other Actions

- Establish a solar recognition program for neighborhoods that meet a certain percentage of electricity needs through renewable energy.
- Coordinate with Oregon cities to promote and reinforce higher renewable energy standards.
- Develop promotional materials that encourage solar investments.

Solar Pioneer I and II

From 2000 to 2002, the City of Ashland, in collaboration with the Bonneville Environmental Foundation, implemented the Solar Pioneer I project, which involved installing photovoltaic arrays totaling 30 kilowatts (kW) at the Civic Center, Oregon Shakespeare Festival, and Southern Oregon University. The project was funded in part by voluntary contributions from more than 260 ratepayers, who paid small surcharges on their utility bills to support the project. In addition to bringing renewable energy to the city, the program aimed to inform Ashland residents about solar energy.

Building on the success of the first round of the program, in 2007, Ashland launched Solar Pioneer II, which used the same community funding mechanism to finance a 63.4-kW photovoltaic system on the City service center.



STRATEGY BE-2. ENCOURAGE INCREASED BUILDING ENERGY EFFICIENCY.

In addition to changing the energy source, cutting energy use within buildings presents another opportunity to reduce emissions. This strategy presents actions to reduce energy consumption through efficiency improvements in the commercial and residential sectors.

Priority Actions

C BE-2-1. Increase outreach efforts to expand participation in energy efficiency programs and promote climate-friendly practices in building and construction such as passive house construction principles.



Ashland currently provides energy conservation incentives and educational materials to residents and businesses through its electric energy efficiency programs. The program currently provides guidance for conducting home energy audits, as well as incentives for weatherization, improved heating and cooling, and more efficient appliances. Expanded outreach efforts will ensure that all Ashland residents are aware of these valuable programs and understand actions they can take to be more energy efficient in the home. For example, the City could discuss with businesses ways to reduce conduct a comprehensive energy audit.

C BE-2-2. Require building energy audits to identify and incentivize cost-effective energy efficiency improvements.



Energy used in Ashland's building stock accounts for more than one-quarter of the city's greenhouse gas emissions. The City could require and facilitate energy audits and/or scores for Ashland's buildings, perhaps triggered at the point of sale or permitting phase for new development or major remodels. For example, the City of Portland requires commercial buildings over a certain size threshold to annually report their energy use. The City also recently proposed a policy that would require sellers of single-family homes to obtain a home energy performance report and disclose the report to the City and prospective home buyers. The audits could educate property managers about energy use and opportunities, help the City understand building energy use, and facilitate implementation of energy-saving measures.

C

BE-2-3. Identify and adopt strategies to reduce energy efficiency barriers in rent/lease properties.

Mi

Residents and businesses who own their properties often have stronger incentives to invest in energy efficiency technologies and equipment than those who rent or lease their homes and offices. Although more difficult to motivate, the introduction of energy efficiency approaches in rental and lease properties presents a significant opportunity for reducing emissions from buildings.

C

BE-2-4. Establish minimum energy efficiency standards for the affordable housing program.Mi
Ad

Ashland's Affordable Housing Program is an ongoing program that provides incentives to promote affordable housing development and requirements for affordability. The establishment of minimum energy efficiency standards for these housing units present a valuable opportunity to make homes more comfortable and energy efficient for residents, while also lowering energy bills and supporting those most in need.

Other Actions

- Launch a program for providing home energy scores when a house is listed for sale.
- Coordinate with other cities to establish and implement more energy-efficient building code standards.
- Restart the energy and green business challenges.
- Expand partnership with the school district to support energy efficiency programs and solar installation.
- Enhance retailer, contractor, and building professional training and awareness of best practices and rebates.
- Implement a program to pay for actual energy savings instead of upfront payments for modeled savings.
- Explore opportunities to encourage increased shading of homes and other buildings, such as through increased tree canopy cover or design features.

STRATEGY BE-3. MAXIMIZE EFFICIENCY OF CITY FACILITIES, EQUIPMENT & OPERATIONS.

Although City buildings contribute only a small proportion of the city's overall emissions, efficiency improvements to City facilities can allow the City to lead by example and communicate to residents that energy-efficient buildings can be beautiful, affordable, and comfortable. This strategy aims to reduce emissions associated with the City's built environment and promote energy conservation.

M

BE-3-1. Use results from City Facilities Energy Audit to prioritize City Facilities Capital Improvement Plans (CIPS) and maintenance improvements.

Mi

City facilities frequently undergo routine maintenance and improvement projects. This action calls for using an evaluation of City facilities to identify opportunities for energy (and water) efficiency upgrades. The evaluation could be used to integrate more energy-efficient practices and equipment into City maintenance schedules and prioritize efficiency upgrades within capital improvement plans (CIPs).

Other Actions

- Continue to monitor and adjust load-shifting measures at the wastewater treatment facility.
- Pursue Leadership in Energy and Environmental Design (LEED) or ENERGY STAR certification for existing and new City buildings. Adopt the LEED for Existing Buildings (LEED-EB) rating system or equivalent to guide operation, management, and upgrade of the City's existing building inventory.

STRATEGY BE-4. IMPROVE DEMAND MANAGEMENT.

Managing the timing and intensity of energy demand can help make sure that more polluting forms of energy are not needed during peak times of high demand.

Priority Actions

C

BE-4-1. Expand the current net meter resolution to include and incorporate virtual net metering.

Mi

Net metering allows customers who generate their own electricity to sell the excess electricity back into the grid. Traditional net metering works at the level of the individual electricity meter, where excess energy supplied to the grid results in running the meter backwards. Virtual net metering, on the other hand, credits energy generation that occurs at another location against one's electricity bill. Working outside the utility meter enables residents to experience the financial benefits of generating renewable energy even if they are unable to generate the electricity on their own property. Expanding current net metering will make energy generation more cost-effective and available to Ashland's residents, including through such mechanisms as community solar.

C

BE-4-2. Implement utility-level smart grid technologies to facilitate efficiency and distributed energy solutions, such as storage.

Mi

Implementing new energy solutions requires bringing the electricity delivery systems, or the "grid," into the 21st century. Updating the grid involves enabling automation, remote control, and two-way communication. These updates help the grid to handle sources of electricity like wind and solar power and to integrate electric vehicles. Smart grids also collect data and allow residents to better understand their energy use and identify energy-saving opportunities. Implementing smart grid technologies will enable the adoption of clean energy solutions, and complementary strategies promoting renewable energy, electric vehicles, and energy efficiency will help realize the environmental benefits of the smart technologies.

STRATEGY BE-5. PREPARE AND ADAPT BUILDINGS FOR A CHANGING CLIMATE.

The City can promote actions that help adapt buildings to withstand climate impacts such as extreme heat and wildfire, as well as protect building dwellers and visitors through improved design and functionality.

Priority Actions

C

BE-5-1. Encourage heat-tolerant building approaches such as cool roofs and passive cooling.

Ad

Buildings play a role in both withstanding climate change impacts as well as providing infrastructure to protect people from impacts. Buildings will be subject to potential increased flooding, extreme temperatures, and exposure to wildfires. At the same time, buildings can also shelter inhabitants and visitors from many of these impacts. To optimize the built environment to address climate change, the City can encourage heat-tolerant building approaches, such as cool roofs that block heat and passive cooling features such as improved air circulation designs. There are many venues available to encourage the public and developers to adopt these building approaches, including through education and incentive programs.

Other Actions

- Consider future climate conditions when designing or upgrading City buildings and incorporate resilience-building elements such as heat-resistant materials, passive cooling, and white roofs.
- Enhance resiliency of building energy to fluctuations in energy markets and supply.

CASE STUDY



SOUTHERN OREGON UNIVERSITY

Southern Oregon University (SOU) has used its position as one of Ashland's leading institutions to advance sustainability programs, both on campus and by serving as a hub to connect with and support the community. SOU's ongoing sustainability efforts include implementing energy efficiency and solar power projects, reducing waste, and conducting greenhouse gas inventories to assess its progress in reducing emissions. SOU was one of the first universities in the country to offset 100% of its energy and water use, with on-site renewable energy generation, carbon offset credits, and Water Restoration Certificates. The university also worked closely with Bee City USA—an organization that honors cities for their commitment to supporting pollinators—to create Bee Campus USA, an offshoot designation that recognizes pollinator-friendly campuses.



THE ROLE OF THE COMMUNITY

Here are some actions that everyday Ashland residents and organizations can take to make a difference in addressing climate change within our buildings and energy systems:

- **Make your home or business energy- and water-efficient.** Simple improvements can make a big difference for energy and water use. Weatherization, equipment upgrades, and basic behavior changes can also make your space more comfortable and lower utility bills.
- **Explore participation in renewable energy programs.** Community solar programs provide opportunities for residents to participate in renewable energy programs without needing to install solar panels on their own roofs. There are increasing options for residents to participate in these programs, including the development of a new statewide community solar program that will soon be available to all Oregon residents.
- **Think small before you rent or buy.** Consider what size home or business you need, and consider downsizing to avoid having to spend more on energy.



URBAN FORM, LAND USE & TRANSPORTATION

The movement of goods and services is central to Ashland's economy and community—and one of the largest GHG-emitting sectors. Emissions from the transportation sector made up nearly one-quarter (23%) of the city's total emissions in 2015.

Residential on-road vehicle use accounts for nearly three-quarters of the sector’s emissions, followed by residential air travel. While emissions from buildings have decreased markedly since 2011, transportation emissions have seen no significant change. This speaks to the challenge of reducing emissions from vehicles, the vast majority of which burn fossil fuels and which, unlike buildings, are difficult to retrofit in ways that improve their efficiency or reduce GHG emissions.

While electric vehicles are becoming more available and affordable, near-term progress on reducing Ashland’s transportation-related emissions can focus on reducing reliance on personal vehicles by improving public transit access and convenience, and by improving the design of streets and public spaces to support people walking and biking. Also worth noting are potential climate-driven impacts on alternative forms of transportation: with increased temperatures and wildfire-induced smoke, biking and walking may become more hazardous and thus increase reliance on vehicles. Addressing challenges like these will be crucial to improving the resilience and reducing the greenhouse gas emissions footprint of Ashland’s transportation.

Climate change will also put Ashland’s infrastructure at greater risk of damage or destruction. More frequent and severe wildfires and floods may threaten roads, bridges, and real estate, and hotter summers may increase the rate of deterioration of some building materials. Culverts and road crossings may not be sized to withstand increased flooding, and roads bordering rivers and streams may be at risk of inundation. The City, its residents, and private property owners will need to work together to reduce the risks that extreme weather events pose to Ashland’s infrastructure.

PROGRESS TO DATE

Ashland has made strides in incorporating climate and sustainability priorities into its land-use policies. Many of Ashland’s existing plans and standards address activities that contribute toward emissions from the transportation sector, including the Transportation System Plan, local land use code, and Comprehensive Plan. Some examples of climate-friendly actions and requirements in these plans include the following:

- Street standards and street classifications in the Transportation System plan promote shared streets that incorporate infrastructure for people walking, biking, and riding mass transit.
- The City’s Comprehensive Plan and street standards highlight connectivity as a requirement in new development.
- The City’s land use code has a “Pedestrian Places” component, which encourages the creation of walkable mixed-use areas that “encourage walking, bicycling, and transit use.”

GOALS AND INDICATORS

Goals

- Reduce community and City employee vehicle miles traveled.
- Improve vehicle efficiency and expand low-carbon transport, including within the City’s fleet.
- Support local and regional sustainable growth.
- Protect transportation infrastructure to climate impacts.

Indicators

- Passenger vehicle emissions.
- Community vehicle miles traveled.
- Emissions per mile traveled.
- Average city “Walk Score.”
- Transit and bicycling ridership.

STRATEGIES AND ACTIONS

STRATEGY ULT-1. SUPPORT BETTER PUBLIC TRANSIT AND RIDESHARING.

Rogue Valley Transportation District (RVTD) provides Ashland’s primary public transit service for visitors and residents. The RVTD provides intercity and regional public transit within Jackson County, serving the city of Ashland as well as Talent, Phoenix, and Medford with fixed-route bus and dial-a-ride paratransit service.

Residents have voiced a desire for expanded public transit options, including more frequent and accessible downtown bus service, cleaner-fueled public transit vehicles (e.g., electric buses), and other public transit systems such as shuttles or trolleys. These options can reduce per-person emissions associated with residential on-road transportation, as well as reduce congestion, save fuel costs, and provide transportation options for those who cannot afford or choose not to own a personal vehicle.

Priority Actions

C **ULT-1-1. Coordinate with neighboring local governments to promote use of transit, carpooling, and car-sharing.**

Mi Ashland is already a member of the Rogue Valley Transportation District, which provides shared bus service to cities throughout the greater Jackson County area. Using the RVTD as a model, the City, together with nearby jurisdictions, can provide additional service offerings, such as carpooling and car-share programs, that expand transportation options and strengthen important connections to other areas in the Rogue Valley.

C **ULT-1-2. Work with the RVTD to implement climate-friendly transit, including electric or diesel-electric hybrid buses, electronic real-time bus schedule information, and off-board payment options.**

Mi The City and neighboring jurisdictions in the RVTD already have a longstanding and successful partnership that has brought public transit to residents throughout the area. This action calls on Ashland to use its position as a partner in the RVTD to improve the sustainability and accessibility of its services by upgrading the fleet and updating its schedule and payment methods.

C **ULT-1-3. Establish policies to support development near transit hubs without displacing disadvantaged populations.**

Mi Transit-oriented development (TOD) increases housing density within walking distance of transit hubs. Creating a TOD zoning overlay or similar policy could reduce car use, but Ashland will need to design any policy carefully to avoid unintended consequences, such as gentrification that displaces vulnerable populations.

M **ULT-1-4. Evaluate feasibility locally-owned and operated transit.**

Mi Rogue Valley Transportation District currently offers the only bus service in Ashland, and service and routes are limited. This action calls on the City to evaluate the possibility of developing an additional intra-city service to augment RVTD service and provide more public transit options to residents. This assessment would involve determining potential transit providers, assessing demand, identifying possible routes, and estimating costs associated with purchasing and operating a transit fleet.

Other Actions

- Provide additional park-and-ride lots to promote public transit and reduce downtown congestion.

STRATEGY ULT-2. MAKE ASHLAND MORE BIKE- AND PEDESTRIAN-FRIENDLY.

On-road transportation generates nearly one-fifth of Ashland's total emissions. It is difficult to substantially improve the efficiency of existing cars and trucks, so one of the most feasible methods of reducing emissions from them is to make other forms of transportation more desirable. A city that supports people walking and biking not only reduces the need for residents to drive but also offers the public health co-benefit of encouraging exercise.

Priority Actions

C

ULT-2-1. Implement bicycle-friendly Transportation System Plan actions, such as: 1) installation of bike intersection safety improvements; 2) increased bike lane infrastructure; and 3) expansion of on- and off-street bike racks, shelters, and sharing.

Mi

For bicycling to be considered a viable alternative to driving, the City will need to invest in infrastructure to improve its safety and convenience. For example, the City could encourage installing bike lanes at schools and arteries connecting to schools, or provide dedicated bicycle infrastructure downtown or at area hotels. The City should commit to implementing bicycle-related actions in the Transportation System Plan.

M

ULT-2-2. Explore opportunities to convert to shared streets where appropriate to provide multimodal connectivity.

Mi

Shared streets are popular because they offer improvements for people walking and biking while preserving vehicle access. This action will spur Ashland to assess which streets or corridors may make sense to convert to shared streets due to their current use, potential future use, location, or other considerations.

Other Actions

- Provide incentives for employer-sponsored bicycle programs, including for City employees.
- Conduct a community survey to understand barriers to biking.
- Implement projects that reallocate a portion of the right-of-way to spaces that are friendly to people walking, such as installation of parklets where appropriate.
- Further evaluate options for reducing vehicle use downtown in future updates of the transportation system plan.

STRATEGY ULT-3. SUPPORT MORE-EFFICIENT VEHICLES.

With on-road vehicle use responsible for nearly 20% of Ashland's overall emissions, improving the overall efficiency of the cars and trucks use throughout the city could have a significant impact on meeting greenhouse gas reduction goals. While most vehicles already on the road are likely not cost-effective to retrofit, the City can make progress by focusing on providing education, incentives, and support for hybrids, electric vehicles (EVs), and other cleaner-fueled vehicles.

Priority Actions

C

ULT-3-1. Implement a local fuel-related tax.

Mi

Having a sense of the baseline use of fossil fuels for transportation can help Ashland shape the most effective fuel-switching policies and incentives possible. A local gas tax or a carbon tax on gasoline and diesel would serve as an indicator of fuel demand, while also providing the City with funds that could be used to improve transportation infrastructure, expand public transit options, or invest in other actions. A gas tax would also encourage drivers to change their behavior to reduce their use of fossil fuels.

C

ULT-3-2. Revise land use codes to require EV charging infrastructure at multifamily and commercial developments.

Mi

Lack of charging infrastructure is a barrier to expanded use of electric vehicles. Additionally, residents in multifamily buildings typically have little say in whether their buildings offer the charging equipment necessary to support electric vehicle use. Requiring new multifamily and commercial developments to provide charging stations will make electric vehicle use possible and practical for a larger segment of Ashland's population by giving them the ability to charge their vehicles near where they live, work, and shop.

C

ULT-3-3. Provide information about electric and hybrid vehicles and rebates on the City's website.

Mi

The technology and market for hybrids and EVs can be difficult for consumers to decipher. Educating the public on these vehicles—and the rebates and incentives available for them—is an easy and low-cost early step that can make the process of choosing and purchasing one of these vehicles more straightforward.

Other Actions

- Expand and increase enforcement of anti-idling policy.
- Initiate a partnership with Tesla to install a supercharging EV station in Ashland.
- Designate a portion of downtown parking spaces for EVs.
- Promote low-carbon fuels and technologies in taxicabs and for-hire vehicles.

STRATEGY ULT-4. SUPPORT MORE CLIMATE-READY DEVELOPMENT AND LAND USE.

Ashland's population is growing, and with a larger population comes new development. Updating zoning requirements and land-use policies can shape new development in the city to be as climate-resilient as possible.

Priority Actions

C

ULT-4-1. Consider regulating further construction or expansion in the Wildland Urban Interface (WUI) part of the urban growth boundary (UGB).

Ad

The WUI zone includes areas on the fringe of Ashland where homes and buildings are in close proximity with undeveloped lands. Evidence from other cities indicates that wildfires are most deadly and destructive when they burn into denser neighborhoods on the outskirts of town. Expanding the WUI and/or limiting construction can limit the density of these areas, reducing the risk of severe damage as the frequency and intensity of wildfires increase.

C

ULT-4-2. Revise community development plans to favor walkable neighborhoods and infill density.

Mi

Ashland has a series of long-range planning documents that guide development across Ashland districts, neighborhoods, and natural areas. Revisiting these plans to ensure that they support climate-ready development needs, such as walking, biking, transit, and climate adaptation features, will ensure that Ashland development is consistent with the City's climate goals and commitments.

C

ULT-4-3. Modify the WUI code to include construction techniques appropriate for wildfire-prone areas.

Ad

Ashland's WUI zones are the most wildfire-threatened parts of the city, and the risk of wildfires affecting these areas will only increase as climate change increases the frequency and severity of fires. Modifying the WUI code to require more resilient construction techniques can minimize the risk that new structures built in the WUI are damaged or destroyed by fire.

Other Actions

- Require, through a Brush Ordinance, property construction and maintenance for “defensible space.”
- Consider regulating further construction or expansion in the WUI part of the urban growth boundary (UGB).
- Evaluate future climate impacts on transportation infrastructure and operations, including critical needs for emergency response, goods and services movement, and community access.
- Change zoning to minimize development in high flood-risk areas.

STRATEGY ULT-5. INCREASE THE EFFICIENCY OF CITY FLEET VEHICLES AND EMPLOYEE COMMUTING.

To move Ashland toward a future of low-carbon transportation, the City should lead by example. While the City’s own emissions are relatively small compared to personal and commercial vehicle use, there is an opportunity to make internal improvements that demonstrate its commitment to supporting efficient vehicles, alternative fuel sources, and public/shared transportation.

Priority Actions

- M** **ULT-5-1. Provide carpool and vanpool parking, charging stations, and preferred parking for EVs for City employees.**

Mi Supporting multiple commute options for City employees is an important step on the path to reducing the use of fossil fuels for transportation, one of Ashland’s biggest sources of greenhouse gas emissions. Encouraging the use of ridesharing, vanpooling, and alternative fuel vehicle use among City staff will set an example for private citizens and serve as tangible evidence of the City’s commitment to sustainability. Furthermore, some of this infrastructure—EV charging stations, for example—can be opened to the public, increasing its positive impact.
- M** **ULT-5-2. Conduct a city fleet audit and use it to set policy and targets for higher-efficiency vehicles, vehicle-sharing across departments, and out-of-town vehicle use.**

Mi Conducting an audit of the City’s vehicles is a straightforward and low-cost action that sets the stage for policies to govern the fuel efficiency of the fleet and/or mandate a transition to alternative fuel vehicles over time.
- M** **ULT-5-3. Purchase verified carbon offsets to offset City staff travel.**

Mi Ashland has no control over the policies, fuel sources, and infrastructure of jurisdictions beyond the city limits. Purchasing carbon offsets is a straightforward action that allows the City to extend its commitment to reducing its emissions to staff who travel for work reasons. Furthermore, if the City’s offset payments are invested in local projects, they can provide a wide range of co-benefits to the local community.

Other Actions

- Improve biking amenities at City facilities such as showers, lockers, and covered/secured bike parking.
- Take advantage of potential opportunities under the new state clean fuels program.
- Increase incentives for sustainable City employee commuting such as through competitions or cost shares.

THE ROLE OF THE COMMUNITY

- **Take a walk, ride a bike, or take public transit.** Leaving your personal vehicle behind when commuting or running errands can make a big difference for your carbon footprint and can also be a healthy and enjoyable alternative to driving.
- **Purchase a fuel-efficient vehicle.** When purchasing your next personal vehicle, consider more efficient alternatives such as hybrid or electric vehicles.
- **Consider where you live.** Next time you move, think about the proximity of where you live to where you need to travel. Are there opportunities to live closer to where you need to go? Living within walking, biking, or public transit distance to work, school, or retail stores can save you time, money, and headaches.

CASE STUDY



ROGUE VALLEY TRANSPORTATION DISTRICT

The Rogue Valley Transportation District pools resources and shares service across a number of cities in the greater Jackson County area, while keeping costs down by taking advantage of economies of scale. The RVTD currently operates seven routes that provide vital intercity public transit connections that enable car-free travel throughout the Rogue Valley, reducing the need for Ashland residents to own cars and providing greater mobility for children, students, the elderly, and others who may not be able to or want to drive.

In addition to providing standard bus service, the RVTD operates a paratransit service that is available to senior citizens, people with disabilities, or others who are unable to use the standard bus service. In 2016, Jackson County voters approved a levy that restored Saturday and evening services, as well as expanded service to southwest Medford, Rogue Regional Medical Center, and the Rogue Community College Table Rock Campus.





CONSUMPTION & MATERIALS MANAGEMENT

Upstream emissions from the production and transportation of food and goods account for 48% of Ashland's total emissions—more than any other sector.

A large portion of food emissions are from the production of meat, and emissions from household goods are largely from home construction, furniture, clothing, and vehicle purchases. Because Ashland's industrial sector is small and there is no significant agriculture within city limits, the Ashland community relies almost entirely on imported goods, food, and energy products to meet its needs. Encouraging greater local food production would have emissions-reduction benefits while simultaneously improving food security and availability for Ashland's residents. Climate change may disrupt global supply chains and thereby affect the cost of household goods and services that local residents and businesses rely on.

While these emissions are large, they are “indirect” emissions that are not under the same level of community control as the local, sector-based emissions. While Ashland might change local development codes to address building energy, there is no similar ability to influence production efficiencies for imported goods and services. Therefore, Ashland’s potential actions related to consumption and materials management mostly center on influencing consumption behavior and supporting a variety of local and/or more sustainable purchasing options for its residents.

Climate change is also expected to increase stressors such as pests, disease, and drought on the region’s small local agriculture sector, potentially reducing the availability of local food. Global climate change could also disrupt global markets and supply chains, potentially resulting in global price increases and resource scarcities.

PROGRESS TO DATE

Ashland exemplifies its commitment to reduced waste and local sourcing through a variety of programs, ordinances, and offerings, such as the following:

- **Bans on plastic bags and polystyrene containers:** In 2014, the City approved an ordinance to substantially reduce consumption of single-use plastic carryout bags. The City also bans polystyrene foam food packaging at local restaurants, retail food vendors, and nonprofit food providers.

- **Community garden programs, farmers’ markets, and co-ops:** Ashland enjoys a number of venues for growing and purchasing locally produced food, including at four City-sponsored community gardens, the Rogue Valley Growers and Crafters Market, and at retailers like the Ashland Food Co-op.
- **Residential curbside recycling programs and outreach:** Recology provides curbside recycling service to Ashland residents, as well as education and outreach programs on backyard composting and reduce/reuse best practices. Recology also provides a drop-off recycling center for some hard-to-recycle materials.

GOALS AND INDICATORS

Goals

- Increase waste diversion through waste prevention, recycling, and composting.
- Reduce consumption of climate-intensive food, products, and services.
- Support locally-produced products.

Indicators

- Waste emissions (from landfill).
- Waste diverted from landfill to recycling and composting.
- Consumption-related emissions.

STRATEGIES AND ACTIONS

STRATEGY CM-1. REDUCE CONSUMPTION OF CARBON-INTENSIVE GOODS AND SERVICES.

Since the City cannot directly influence how goods are produced outside its jurisdiction, its main feasible option is to seek to reduce the use of targeted carbon-intensive goods and services by encouraging residents to change their consumer habits—and supporting programs that reduce the need to own products by promoting bartering or shared use.

Priority Actions

C **CM-1-1. Implement an education campaign for waste and consumption reduction strategies such as replacing inefficient appliances, opting-out of junk mail, and reuse stores.**

Mi Private consumption of food and goods is the largest single source of Ashland’s greenhouse gas emissions. While the City does not have the ability to directly control or reduce these emissions, it can encourage sustainable habits and purchasing decisions that target common sources of waste and carbon-intensive consumption. For example, the City could continue to include tips and instructions for energy-saving opportunities within City bills and newsletters.

C **CM-1-2. Support “collaborative consumption” community projects like tool libraries and repair cafes, such as through mini-grant programs.**

Mi Collaborative consumption reduces demand for new products by facilitating the sharing and/or repair of existing products in the community. Tool libraries, for example, allow community members to avoid purchasing new tools by instead borrowing from a communal pool of donated tools. The City can explore how best to encourage these types of sustainable consumption and sharing activities.

STRATEGY CM-2. SUPPORT SUSTAINABLE AND ACCESSIBLE LOCAL PRODUCTION AND CONSUMPTION.

Supporting environmentally responsible production of goods and food locally—in or around Ashland—is beneficial both because it eliminates the emissions associated with shipping goods produced far away to the city, and because the City can have greater influence on encouraging sustainable production practices.

Priority Actions

C **CM-2-1. Partner with nonprofit organizations to promote the purchase of local produce and products, such as through a “buy climate-friendly first” food purchasing initiative for public institutions.**

Mi One way the City can support sustainable local food production is to work with independent organizations to showcase and support climate-friendly retailers and products. For example, the City could work with systems such as the Ashland School District, Southern Oregon University, and Asante Ashland Community Hospital to incorporate “climate-friendly first” food purchasing.

C **CM-2-2. Expand community gardening and urban agriculture opportunities at community gardens, schools, parks, and rooftops.**

Mi
Ad Increasing the land and resources available for local agriculture can help satisfy a portion of the city’s demand for food, reducing the quantity of food that must be imported from outside the region. “Greening” public spaces can have numerous co-benefits, too, including offsetting the urban heat island effect and providing garden space to those who do not have yards. The City could work to expand existing local food programs, such as by encouraging farms to work directly with organizations such as churches or schools to provide community-supported agriculture (CSA) programs.

Other Actions

- Consider climate change-related risks to local supply chains in implementation of the economic development strategy.
- Work with nonprofits and universities to create outreach and training materials about agricultural practices that reduce greenhouse gas emissions and increase diversity and drought resistance.

STRATEGY CM-3. EXPAND COMMUNITY RECYCLING AND COMPOSTING.

Diverting more waste from the landfill is one of the most direct strategies Ashland can focus on to reduce the environmental impacts of the city's consumption. While the City cannot influence upstream production methods at factories and farms beyond its city limits, minimizing downstream waste has a clear and measurable positive impact that will help Ashland move toward its sustainability goals.

Priority Actions

C

CM-3-1. Improve recycling programs to make them easier to use and implement new education and outreach to increase recycling in all sectors; expand public space recycling.

Mi

Making recycling a convenient and straightforward process is crucial to helping Ashlanders to reduce waste disposal and increase diversion from the landfill. Education and outreach, better signage, and placing more bins in public areas are some of the potential ways to improve recycling in Ashland.

C

CM-3-2. Strengthen the Demolition Debris and Diversion ordinance to enhance enforcement and increase diversion and reuse.

Mi

Due in large part to the sheer quantity of material involved, home demolition has an outsized impact on Ashland's materials management strategy. Targeting buildings for reuse and salvage not only reduces the quantity of material being sent to the landfill, but also creates a local market of recovered building materials that can be used again in new construction projects, remodels, and landscaping. This actions calls for enhancing Ashland's current Demolition Debris and Diversion ordinance so that it is more strictly enforced and encourages further diversion and reuse of building materials. For example, the City could explore the introduction of mandates for a greater percentage of deconstruction over time. The City could also consider efforts to promote reuse of those materials in new construction projects.

Other Actions

- Implement an education campaign for waste and consumption reduction strategies such as replacing inefficient appliances, opting-out of junk mail, and reuse stores.
- Update the multifamily recycling ordinance to encourage more diversion.
- Examine options for expanding commercial and residential composting; assess the feasibility of establishing a permitted facility to compost or anaerobically digest organic materials and food waste.
- Improve City facilities to encourage waste reduction, such as by installing water bottle-filling stations.

STRATEGY CM-4. REDUCE FOOD WASTE.

Production of food is a large emissions source, and, unfortunately, a significant portion of the food that makes it into Ashland’s homes and businesses spoils or is otherwise wasted. Reducing this waste—and using the remaining food waste productively—will ensure that Ashland gets the most benefit possible out of its food and does not purchase food that is not consumed. In addition to reducing the GHG emissions associated with wasted food, edible food that would have gone to waste can be donated to residents who might otherwise struggle to afford groceries.

Priority Actions

C **CM-4-1. Support edible food donation through coordination with the food bank and donations from City and community partner events.**

Mi
Ad In addition to the environmental benefits of reducing food waste means there is more food to share with those in need. This action calls on the City and community to work with the food bank to make sure edible food left over or not used at public events ends up on dining tables, not in the landfill.

C **CM-4-2. Provide a kitchen best practices guide to help households and businesses reduce food waste and consumption.**

Mi
Ad Educating residents and businesses on how to reduce food waste is a low-cost option to reduce wasted food, a preventable source of greenhouse gas emissions.

C **CM-4-3. Facilitate recycling of commercial food waste.**

Mi
Ad While reducing food waste by addressing its root causes is the best option, some food waste will always remain. The City can serve a central role in taking advantage of this waste stream by arranging for discarded food to be used for energy production, including the use of cooking oil for biodiesel and biofuels. The City could also consider working with Recology to provide organic waste pickup services.

Other Actions

- Seek grant funds to launch a food waste reduction campaign for residents, such as the U.S. Environmental Protection Agency’s Food: Too Good to Waste program.

STRATEGY CM-5. IMPROVE SUSTAINABILITY OF CITY OPERATIONS AND PURCHASES.

While City operations account for a relatively small portion of Ashland’s emissions, they are a relatively easy target for sustainability improvements because the City has direct control over them.

Priority Actions

M **CM-5-1. Introduce City environmentally preferable purchasing (EPP) guidelines for City procurement.**

Mi Creating an EPP policy is a low-cost action that would guide City staff to choose more sustainable products and services by modifying the procurement process. While the complexity of Ashland’s existing procurement process may make this action more difficult to implement, it is worth considering since a wide range of cities similar to Ashland have successfully implemented EPP policies of their own. For example, the City could require evaluation of electronic equipment using the Electronic Product Environmental Assessment Tool (EPEAT).

M

CM-5-2. Assess the feasibility of co-digesting food waste and biosolids to generate electricity at the wastewater treatment facility.

Mi

Generating electricity from the gases captured from decomposing organic matter is a win-win strategy: it prevents harmful GHGs from entering the atmosphere, and it creates electricity that can offset the wastewater treatment facility's energy use or be fed back onto the power grid.

Other Actions

- Promote online citizen services (such as permitting and bill payment) to reduce paper use and car trips.
- Evaluate the use of low-carbon concrete and/ or recycled asphalt shingles on City buildings.
- Evaluate feasibility of increased use of recycled aggregate in residential street construction and sidewalks.

THE ROLE OF THE COMMUNITY

- **Eat carbon-friendly.** Animal products are extremely GHG-intensive to produce compared to plants. Eating less meat and dairy can make a big cut in food consumption emissions. Eating regionally-grown food that is suitable for the southern Oregon climate can also make a difference through reduced transportation-related emissions.
- **Plan, prepare, and store food carefully to waste less food.** Studies show that in America, approximately 40% of food never makes it to our dining tables—meaning the water, fertilizer, farm equipment, and transportation involved in producing this food and getting it to your refrigerator is wasted. Planning carefully when you shop and storing food properly can go a long way toward reducing food waste, and save you money, too.
- **Buy less new stuff.** The purchase of manufactured goods is one of the largest contributors to Ashland's GHG emissions; consider buying reused or borrowing items you only use infrequently to help reduce these emissions.
- **Buy things that last.** The fewer items you purchase, the better for the environment. Investing in quality items that last longer often also makes sense for your wallet, since you don't have to keep replacing items when they break.

CASE STUDY



ROGUE VALLEY FARM TO SCHOOL

The Rogue Valley Farm to School (RVF2S) program's mission is to educate children about our food system through hands-on programs, and bring healthy, local foods to their school cafeterias. RVF2S has relationships with five local farms in the valley, including The Farm at SOU. The organization facilitates the purchase of locally grown produce by schools, assists food service staff with estimating annual produce needs, and helps farmers use this information to plan their seasonal planting. It also facilitates field trips to farms and the creation of sustainable on-site gardens at schools.





NATURAL SYSTEMS

Although not formally accounted for in Ashland's greenhouse gas emissions inventory, natural ecosystems such as forests and wetlands capture and store carbon, acting as a greenhouse gas "sink."

Proper ecosystem management can optimize this process of carbon sequestration, as well as minimize the potential risk of GHG emissions from catastrophic wildfires. Many of Ashland's natural systems and surrounding natural areas will be harmed by climate change, threatening the ecosystem services they provide such as water filtration, flood abatement, pollination, recreation, and fire protection. Importantly, the effects of climate change on natural systems are interrelated and may compound each other; for example, more frequent and severe droughts will increase the risk of wildfires. Changes in temperature, snowpack, and the abundance of diseases and pests will stress sensitive and high-elevation plants, wildlife, and ecosystems such as the northern spotted owl, anadromous fish populations, and mid-elevation coniferous forests. Other stressors, such as habitat loss and pollution, exacerbate this risk.

PROGRESS TO DATE

The City of Ashland works within its city limits and with partners outside its limits to promote sustainable management and conservation of its natural ecosystems. Here are some ways the City is currently taking action:

- The **Ashland Forest Resiliency Project** has produced planning documents that consider optimized forest fuel management and wildfire planning in the face of climate change.
- A new city **Water Master Plan** will incorporate future climate risks to water supply and quality into future service planning and activities.
- The City promotes **drought-tolerant landscaping** through education, outreach, and technical assistance.
- The City water utility has a **tiered rate structure** to provide incentives for conservation among the largest water uses.

GOALS AND INDICATORS

Goals

- Enhance ecosystem health and resilience.
- Ensure sustained access to clean air and drinking water.

Indicators

- Acres of protected and restored habitat.
- Stream water quality.
- Water supply.



STRATEGIES AND ACTIONS

STRATEGY NS-1. PROMOTE ECOSYSTEM RESILIENCE.

Climate change has the potential to significantly disrupt local ecosystems by altering precipitation patterns, increasing average temperatures, and making extreme weather events more frequent and severe. These changes can affect a wide range of ecosystem features and functions, from causing fish die-offs to disrupting pollinators. Local government policies and actions will play a key role in protecting ecosystem elements from climate-related threats.

Priority Actions

- C** **NS-1-1. Manage forests to retain biodiversity, resilience, and ecosystem function and services in the face of climate change. Use best available science to inform fire management and planning to manage ecosystem health, community safety, and carbon storage.**
- Ad** Responsible management of existing natural areas within and surrounding Ashland will bolster ecosystem health and prevent the breakdown of important ecosystem functions. Incorporating climate change projections specifically into the City's management and planning processes will ensure they account for possible scenarios—more common wildfires, for example—that threaten ecosystem stability and public health.
- C** **NS-1-2. Use green infrastructure such as bioswales, permeable pavement, other pervious surfaces to reduce flood risk and minimize sediment entry into creeks from trails and roads.**
- Ad** Runoff from rainwater and snowmelt can carry pollutants and sediment into ecologically sensitive waterways. Pollution due to runoff and flooding will likely become a more common—and more serious—problem for Ashland as climate change alters precipitation patterns and increases the frequency of severe rainstorms. Green infrastructure allows water to infiltrate into the soil, reducing the amount of polluted runoff that flows into sensitive creeks, wetlands, and other waterways. The City should continue to promote green infrastructure where possible and consider green infrastructure as a default option for on-site stormwater management.
- C** **NS-1-3. Undertake restoration efforts to retain and restore native fish and riparian species, including enhancement of fish-friendly operations and habitat at Reeder Reservoir and in Ashland and Bear Creeks.**
- Ad** The fish and riparian species that call southern Oregon home will likely be increasingly stressed by water scarcity and other climate-driven impacts on the health of local waterways. Undertaking habitat restoration and protection efforts not only supports healthy stocks of these species, but can provide co-benefits to residents and visitors by creating beautiful natural environments for visitors to enjoy and educational opportunities for residents to understand and appreciate native ecosystems and species.
- C** **NS-1-4. Map and protect areas that provide ecosystem services, such as remnant spring, wetland, and old-growth forest habitats, through improved public lands management/ownership and promotion of conservation easements and private open spaces.**
- Ad** This action focuses on identifying and prioritizing the protection of the most important elements of the local ecosystem through public ownership and providing incentives for conservation easements.

The Ashland Forest Resiliency Project

The Ashland Forest Resiliency Project is a ten-year stewardship program that aims to reduce wildfire risk and protect ecosystem features on approximately 7,600 acres of land. The project is a collaborative effort between the U.S. Forest Service, the City of Ashland, the Nature Conservancy, and the Lomakatsi Restoration Project. It focuses on thinning small trees and conducting controlled burns to prevent wildfires from spreading, while prioritizing saving large, old trees and preserving key habitat elements. In addition to implementing sustainable forestry techniques, the project includes an education component and has delivered presentations and field activities to more than 2,000 local students.



Other Actions

- Update the City's approved street tree guide and landscape design standards for new development for tree species appropriate for a future local climate.
- Assess the deployment of ecosystem market approaches as a means to protect and restore ecosystems efficiently and effectively, such as by paying upstream landowners for water-friendly management of their lands.

STRATEGY NS-2. MANAGE AND CONSERVE COMMUNITY WATER RESOURCES.

The City can, through a combination of education, policy, and incentives, encourage the community to make meaningful changes to reduce its water use.

Priority Actions

C NS-2-1. Evaluate the value and potential for incentives for practices that reduce use of potable water for nonpotable purposes and recharge groundwater.



Incentives can be a valuable tool to reduce water use and encourage the installation of rainwater collection and water reuse systems. As a bonus, these systems offer stormwater prevention co-benefits. Similar incentives have been used successfully in a number of other cities. The viability and benefits of these practices are currently being examined as part of Ashland's Comprehensive Water Master Plan update, including exploration of options to promote and install graywater reuse at community gardens and other local urban agricultural areas.

C NS-2-2. Explore water-efficient technologies on irrigation systems and consider requiring them during the permitting process.



Landscaping irrigation uses large quantities of water. Requiring advanced irrigation systems, especially for large commercial or multifamily properties, could have a large impact on the city's water use.

C NS-2-3. Expand water conservation outreach and incentive programs for residents and businesses.



Providing additional education and support to residents and businesses can help reduce water use on private properties by identifying easy, cost-effective ways to reduce water use such as installing low-flow fixtures and faucet aerators. The City may consider providing additional financial incentives to encourage widespread adoption of these upgrades or to make more costly water-saving upgrades financially feasible. This action could also involve facilitating sustainability certifications at local businesses, such as under the Salmon Safe certification.

Other Actions

- Introduce a system whereby when a new building is permitted, a conversation is triggered around the introduction of feasible new technologies that reduce water and wastewater.
- Manage upstream flows to minimize downstream flood risk, such as through habitat protection, restoration, or adjusted reservoir management.
- Explore new technologies for treating wastewater for use.

STRATEGY NS-3. CONSERVE WATER USE WITHIN CITY OPERATIONS.

While the City’s internal operations account for a relatively small portion of Ashland’s overall emissions, conserving resources sets a visible example that residents and businesses in the community can follow. Water use, in particular, will be important to minimize in the future: with more frequent and severe droughts due to climate-driven changes in precipitation and snowpack, Ashland and the surrounding area will have to manage its water resources to minimize the impacts of increasing water scarcity.

Priority Actions

M NS-3-1. Evaluate the potential for installation of rainwater collection systems at City facilities for graywater uses, and investigate opportunities for graywater reuse at existing and new City facilities and properties.



This action aims to reduce the quantity of filtered, potable water used at City facilities by using rainwater for nonpotable uses, such as toilet-flushing and irrigation. Graywater recycling could further reduce the quantity of fresh, clean water used by the City for nonpotable purposes.

M NS-3-2. Implement efficiency recommendations from the City facilities water audit.



The City is currently in the process of conducting an audit of water use at its facilities. The audit will help the City identify opportunities to reduce waste and improve the water efficiency of its operations.

Other Actions

- Update City landscaping standards for reducing water consumption and chemical use.

THE ROLE OF THE COMMUNITY

- **Install rain gardens, rain barrels, or cisterns on your property.** Work with the City to learn about options for reducing stormwater runoff and increasing water storage and reuse at your home or business.
- **Be waterwise in your daily household water consumption.** Install water-efficient fixtures, take shorter showers, irrigate at night, and otherwise reduce water use.
- **Support habitat protection and restoration.** Volunteer at a habitat restoration event, donate to land conservancy or education organizations, and get outside!



PUBLIC HEALTH, SAFETY & SECURITY

While at first climate change may seem removed from issues of health, safety, and security, its effects may have significant impacts on Ashland's population.

Increased heat waves, flooding, and wildfires will threaten the health and safety of all residents, and Ashland’s outdoor industry workers, the elderly and very young, and low-income populations will be especially vulnerable.

Rafting, skiing, and other outdoor recreation industries may suffer from reduced snowpack and reduced summer flows, affecting workers throughout the local tourist industry. Increased wildfire risk will stress emergency services and increase the number of homes within wildfire risk areas. While many of the strategies and actions in other sections of this report have positive direct impacts or co-benefits on public health and safety, these issues are important enough to merit specific discussion; without healthy, happy, and secure citizens, Ashland cannot continue to thrive.

Note: Emissions associated with public health, safety, and security services are encapsulated in other sectors of the greenhouse gas inventory and therefore cannot be independently evaluated.

PROGRESS TO DATE

Although the City of Ashland has limited influence over the health and social security of its residents, the City has made great strides in supporting the local economy and preparing for emergency events. For example:

- **Firewise Ashland** provides residents of the wildland urban interface with the knowledge and skills necessary to prepare for wildfires.
- The **Social Service Grant and Community Development Block Grant** programs support disadvantaged and at-risk populations.
- The annual **Ashland is Ready** workshop provides emergency planning assistance and information for residents.

GOALS AND INDICATORS

Goals

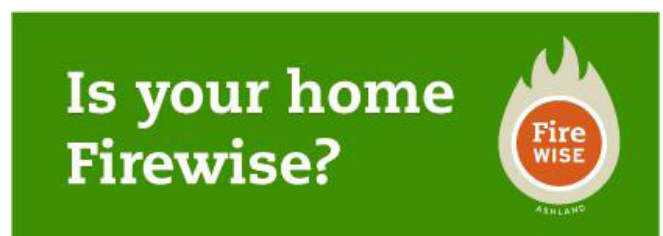
- Protect public health from air pollution and climate impacts.
- Improve community capacity to understand, prepare for, and respond to climate change security risks.

Indicators

- Number of people that can be accommodated by available cooling centers.
- Tree canopy cover.
- Percent of Ashland residents experiencing health issues such as asthma.

Firewise Ashland

Ashland is part of Firewise Communities, a national program that educates homeowners and community members on wildfire home safety. The city received its first Firewise Communities recognition award in 2011, and now the program recognizes a dozen different Ashland neighborhoods. The program provides residents within the wildland/urban interface (WUI) with knowledge and skills for taking action to prevent wildfire losses, such as by addressing home construction and landscaping. These actions can help houses withstand wildland fire without intervention such as fire-fighting services. For more information or to become a Firewise neighborhood, visit firewise.org or call Ashland Fire and Rescue.



STRATEGIES AND ACTIONS

STRATEGY PHSS-1. MANAGE ECOSYSTEMS AND LANDSCAPES TO MINIMIZE CLIMATE-RELATED HEALTH IMPACTS.

With average temperatures on the rise and extreme weather events predicted to become more common due to climate change, Ashland will need to consider adapting its management of the cityscape and ecosystems to protect its residents' quality of life.

Priority Actions

C **PHSS-1-1. Promote the expansion of tree canopy in urban heat islands or areas that need air conditioning such as schools.**

Ad The urban heat island effect can have serious impacts on public health and quality of life, including causing heat-related fatalities among elderly or otherwise vulnerable people. The City can reduce this effect by increasing tree canopy cover in targeted areas that do not currently have adequate shade or air conditioning, as well as promote and educate citizens about the benefits of shading with trees and building features.

Other Actions

- Evaluate and implement slash removal methods that minimize smoke production, such as air curtain burners.
- Develop an incentive program to convert fuel-burning lawn equipment such as gas-powered lawn mowers and blowers to electric.
- Evaluate opportunities to plant additional trees near city facilities to reduce heat island.

STRATEGY PHSS-2. PROMOTE A SUSTAINABLE LOCAL ECONOMY THAT MINIMIZES EMISSIONS AND VULNERABILITY.

Becoming more sustainable and preparing for the effects of climate change will require more than government action; the private sector will also play a central role. The City can serve as a thought leader, facilitator, and central coordinator to spur climate action by a wide variety of independent businesses.

Priority Actions

C **PHSS-2-1. Engage leading employers in a dialogue on climate action, for example, by organizing and facilitating roundtables.**

Mi/Ad This action involves bringing local employers together with City staff and independent experts to discuss how climate change will affect their businesses, how to minimize those risks, and how to incorporate climate and sustainability concerns into their businesses in effective ways.

C

PHSS-2-2. Support organizations, such as SOU, in evaluating risks to local food sources under climate change.

Ad

As discussed in Strategy CW-2, local food production minimizes greenhouse gas emissions associated with food transport, supports the local economy, and brings other sustainability benefits. As part of the City's work to support and expand local agriculture, it can consider taking a supporting the work of other organizations to evaluate how local food sources may be stressed or affected by climate change, and how best to navigate the challenges to ensure that local farms remain viable and productive. This work would include researching new crops, technologies, and innovative approaches, and working with farmers to adapt to climate change.

Other Actions

- Work with businesses to assess their climate change vulnerability and plan for the future.

STRATEGY PHSS-3. OPTIMIZE CITY SERVICES TO MINIMIZE PUBLIC HEALTH IMPACTS.

Many of the facilities and services provided by the City, such as libraries, parks, and emergency management services, can also serve as important venues for adapting to climate change. This strategy identifies ways that the City can adjust or repurpose its current activities and facilities to help minimize public health threats from climate change such as from severe heat, wildfire smoke, and flooding.

Priority Actions

C

PHSS-3-1. Work with vulnerable neighborhoods to create site-specific adaptation strategies to address public health risks.

Ad

While the effects of climate change are expected to be fairly uniform throughout the Ashland region, some neighborhoods will be more vulnerable to these impacts than others. The City can work to minimize the impacts on its most at-risk neighborhoods—for example, outlying areas exposed to wildfires or communities with infrastructure that is susceptible to flood damage—by collaborating with residents and local organizations to create localized adaptation plans.

C

PHSS-3-2. Identify and minimize potential urban heat impacts, such as by designating cooling centers through the city, improving cooling systems in schools and senior centers, and incentivizing cooling strategies such as cool roofs/pavements and expanded tree canopy.

Ad

Climate change is expected to increase the number and severity of heat waves in Ashland, putting vulnerable people at greater risk of heat-related health complications and reducing the quality of life for all Ashland residents. The City can take steps to minimize the risks presented by heat waves by identifying where heat-related impacts will be most pronounced and working to encourage and/or directly implement strategies for offsetting these impacts.

C

PHSS-3-3. Develop or enhance heat-warning systems for employees and the public.

Ad

Heat-warning systems help minimize the health dangers associated with extreme heat by giving the public a chance to plan ahead to avoid being outside or take refuge at a designated cooling center during the hottest periods.

Other Actions

- Educate public and public health professionals about health risks posed by climate change, including potential changes in air quality and impacts on mental health.
- Adjust City-sponsored outdoor activity schedules and plan for indoor alternatives to accommodate longer and hotter summer seasons.

STRATEGY PHSS-4. OPTIMIZE CITY SERVICES TO MINIMIZE PUBLIC SAFETY IMPACTS.

Climate stress can add additional burdens on City services to protect public safety. This strategy involves taking measures within City operations and current services to protect the public from injuries caused by extreme events such as wildfires and flooding.

Priority Actions

C PHSS-4-1. Update the City's emergency response plan and ensure that preparation and updates recognize and address likely climate change impacts.

Ad From wildfires to floods, the emergencies that Ashland faces will increasingly be linked to climate change. The City can help protect its citizens from these emergencies by incorporating climate projections and likely impacts into its existing emergency response plan.

C PHSS-4-2. Identify and address essential City services that are within the 100-year flood zone.

Ad Climate-driven changes in precipitation and snowmelt patterns will likely increase the frequency and severity of flooding in the city. One way Ashland can mitigate the damage of severe floods is by identifying essential services in flood-prone areas and working to relocate or protect them.

Other Actions

- Expand and publicize the *Ready, Set, Go! Evacuation* program.
- Utilize federal and state reporting and monitoring assets, such as the National Oceanic and Atmospheric Administration's Hazard Mapping System, to prepare for smoke and wildfire impacts.

THE ROLE OF THE COMMUNITY

- **Assemble an emergency kit.** Jackson County offers tips and checklists to help residents create emergency kits for their homes and cars. Visit the Jackson County Emergency Management website or contact Jackson County for more information.
- **Stay informed.** Sign up for Citizen Alert!, a free program from Jackson County that sends community alerts to your phone and email when you register online.
- **Prepare your home for the extremes.** Understand the risk of flooding or wildfire to your home, and take action to safeguard your home. Ashland provides free Firewise assessments for properties at potential risk of wildfire. Find more information at the City's *Ready, Set, Go! Evacuation* website.
- **Understand the risks and how to mitigate them.** Injuries from heat exhaustion and wildfire smoke can be exacerbated by conditions such as dehydration, diabetes, heart conditions, and obesity. Staying healthy, avoiding harmful activities, and taking proper precaution can make sure you and your family are safe from deadly heat- and smoke-related illnesses.



CROSS- CUTTING STRATEGIES

Addressing climate change requires that we work across sectors to incorporate climate change considerations into all that we do. Only through a coordinated and multifaceted effort can significant progress be made.

PROGRESS TO DATE

The City of Ashland has demonstrated a commitment to comprehensive climate action through development of this Climate and Energy Action Plan. Prior to the plan, the City also completed its first citywide greenhouse gas inventory, which served as an essential benchmark for understanding and taking action against the community's greatest GHG emission sources. The City has also hosted a number of public outreach and engagement events around climate change and sustainability, including the Ashland Climate Challenge in 2015.

GOALS AND INDICATORS

Goals

- Increase awareness of city climate goals and needs.
- Integrate climate change considerations into day-to-day City operations, planning, and decisionmaking.

Indicators

- Public and City staff knowledge and understanding of climate change issues and actions.
- Proportion of other City plans or activities that incorporate climate change considerations.




STRATEGIES AND ACTIONS

STRATEGY CC-1. EDUCATE AND EMPOWER THE PUBLIC.


Addressing community-wide emissions starts with ensuring that the public understands climate change and what they can do to address the challenge. This strategy involves not just enhancing public knowledge, but also continuing to learn and understand the needs and challenges the public faces in taking action. This strategy involves finding ways to address the public's needs and challenges through incentives, education, and behavior change programs.

Priority Actions

CC-1-2. Support capacity of neighborhood and community groups to implement climate mitigation and adaptation initiatives.

 Every community is different in how it affects and is affected by climate change. To accommodate these differences and empower communities to take action, the City should provide resources and support for neighborhoods that wish to tackle climate change directly. Options could include providing resource guides or checklists, venues for community meetings, or mini-grant programs for specific adaptation actions.

CC-1-1. Create a formal public outreach and education plan to inform the community about climate actions and progress.

 An informed community is critical to empowering and inspiring climate action. The outreach and education plan will inform residents about climate actions, what they accomplish, how they can be accessed or used, and how the community is progressing toward its targets.


Other Actions

- Develop a climate-ready recognition program.
- Assess the feasibility of a City-sponsored carbon offset program whereby residents can offset their emissions.

STRATEGY CC-2. EDUCATE AND EMPOWER CITY STAFF.

Tasked with implementing the Climate and Energy Action Plan, City staff and leadership must understand threats and issues related to climate change and the actions needed to address it. This strategy deals with ensuring that all City departments inform their staff members about the Climate and Energy Action Plan and clarify their roles and expectations for its implementation.

CC-2-1. Ensure all City departments educate their staff members about the Climate and Energy Action Plan.

 This action includes identifying the expectations, roles, and responsibility of each department in meeting specific community and City operations actions within the Climate and Energy Action Plan.

STRATEGY CC-3. MAINSTREAM AND INTEGRATE CLIMATE CONSIDERATIONS.

As a cross-cutting issue, climate change should be integrated into all other City activities and processes, as relevant. For example, climate change could be considered in all City Council policy, budgetary, or legislative decisions, and as part of regular City Council communications..



CC-3-1. Consider climate change in all City Council policy, budgetary, or legislative decisions (e.g., triple bottom-line evaluation). Incorporate climate action considerations/relationship as part of the Council Communication document template.



Council decisions present key points in the policy-setting process for incorporating and considering City priorities. Asking how policy, budgetary, and legislative decisions may affect or be affected by climate change during these key decision points will provide further assurance that no new policy or decisions hinder progress toward reaching Ashland's climate goals.



CC-3-2. Consider CEAP goals in future updates of city plans.



To enhance integration of climate change across City activities, climate mitigation and resiliency goals set for in this plan should be promulgated through future updates of related City plans. Example plans to which this action would apply include the City Comprehensive Plan, Water Master Plan, Transportation System Plan, Neighborhood Master Plans, and Emergency Management Plans.

STRATEGY CC-4. ENGAGE WITH OTHER GOVERNMENTS AND ORGANIZATIONS AROUND REGIONAL, STATEWIDE, NATIONAL, AND INTERNATIONAL CLIMATE POLICY AND ACTION.

The City of Ashland can learn from the experience of others, and a larger, unified coalition can be more powerful. This strategy involves coordinating with other local governments that have set ambitious climate targets, such as Eugene, Portland, Seattle, and Fort Collins, to learn from their experiences, share best practices, and together advocate for broader regional, state, and national action and leadership.



CC-4-1. Engage with other governments and organizations around regional, statewide, national, and international climate policy and action.



Ashland should continue to collaborate with neighboring cities to share information and foster coordinated and unified action. The City should lead and pursue a partnership model, such as the King County-Cities Climate Collaboration in Washington State, to coordinate and enhance the effectiveness of local government climate and sustainability action within its region.



NEXT STEPS

The goals, strategies, and actions presented in this plan signify an ambitious step forward for the Ashland community.

Although sustainable living, operations, and management is not new to Ashland, this plan pulls together the strong momentum and action that already exists in the city and provides a coordinated and intentional strategy going forward. Making progress on these goals will require Ashland's government and community to work together and commit dedicated time and resources.

This Climate and Energy Action Plan is only the beginning of an ongoing process. The accompanying Implementation Plan (see Appendix) provides a framework for launching the implementation phase of the plan. This phase will require the City and community to take priority actions—outlining specific plans of action and resource needs among responsible parties—and monitoring and benchmarking progress along the way.

As details are outlined, more specific quantitative goals and milestones can be created, driving the pace of strategy implementation. The Implementation Plan also details the proposed structure for ongoing plan implementation, monitoring, evaluation, and adaptive management, as well as a list of key actions to be taken in the first year of implementation. It concludes with a discussion of how the goals and strategies of this plan fit with a potential ordinance establishing binding greenhouse gas emission reduction targets.

Notable actions detailed in the Implementation Plan include establishment of the following:

- A City position dedicated to coordination, promotion, implementation and reporting of the Climate and Energy Action Plan, including both community and City operations.
- A City and community leadership advisory team or committee to shepherd the City's climate action plan goals, actions, reporting, and updates.
- An ordinance tied to the goals and targets of the Climate and Energy Action Plan.

Through careful and committed action by all Ashlanders, and with this plan as a basis, the city can achieve its vision of becoming a resilient community that has zero-net greenhouse gas emissions, embraces equity, protects healthy ecosystems, and creates opportunities for future generations.



APPENDICES

(Appendices will be available in future draft versions of the plan)

Implementation Plan

Climate Trends Summary

Public Engagement Process Overview

Emissions Modeling and Target Setting Methodology

Ashland GHG Inventory

Glossary

