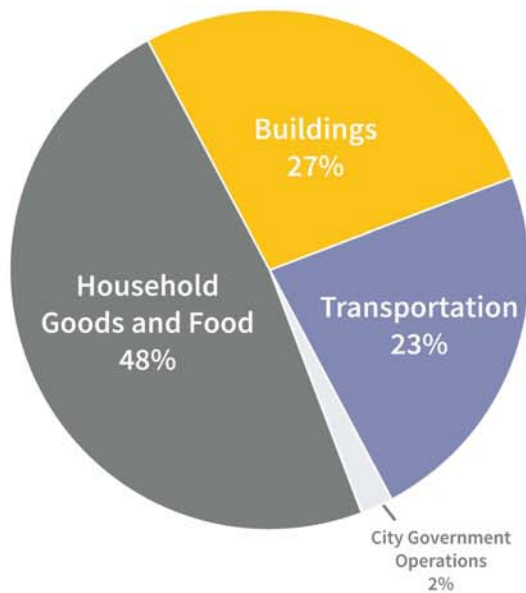


1 Ashland's Future Greenhouse Gas Emissions

Ashland's future greenhouse gas emissions

Ashland's contribution of greenhouse gas emissions is made up of both sector-based and consumption-based emissions. Here is a snapshot of 2015 emissions.



Consumption-based emissions include emissions generated outside of the community to produce the goods and food consumed by Ashland residents.

Sector-based emissions include locally-produced emissions from buildings, cooling systems, transportation, and water and waste processing.

Level of certainty: LOW

Level of certainty: HIGH

What's included?

- Household consumption of food and goods
- City government consumption, including from the production of goods and some purchased services
- Fuel production

What's included?

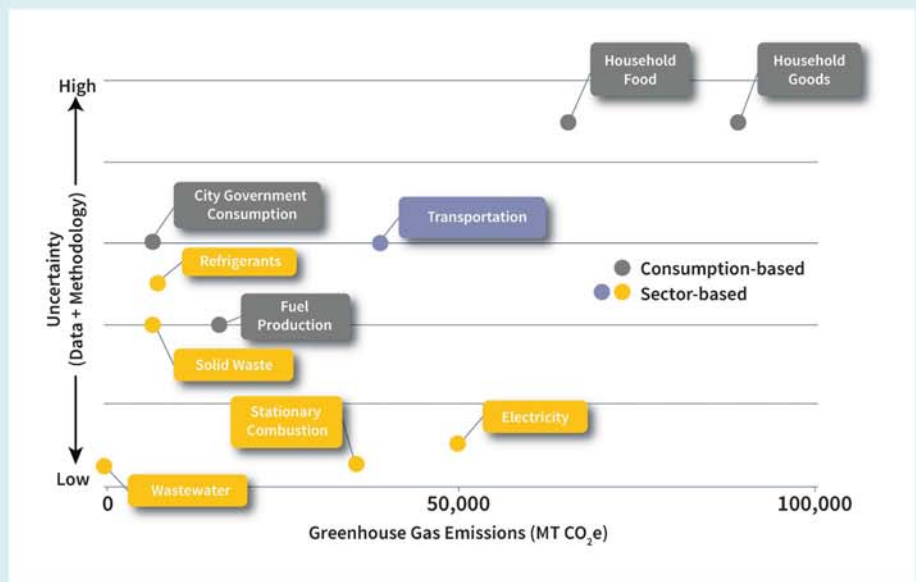
- Building energy use in residential, commercial, and industrial sectors
- Transportation energy use
- Methane emissions from waste disposal
- Wastewater treatment
- Emissions from refrigerants

What's excluded?

- Consumption-based emissions for local businesses

There is some degree of uncertainty in any GHG inventory. This uncertainty can come from incomplete data or uncertainty in translating units of activity into emissions.

Understanding the sources of uncertainty should improve future inventory and reporting efforts, including prioritization of additional data-gathering, framing inventory results, and developing mitigation goals and tracking systems.



1 Ashland's Future Greenhouse Gas Emissions

Trends To Date



2011 Emissions:
364,431 MTCO₂e

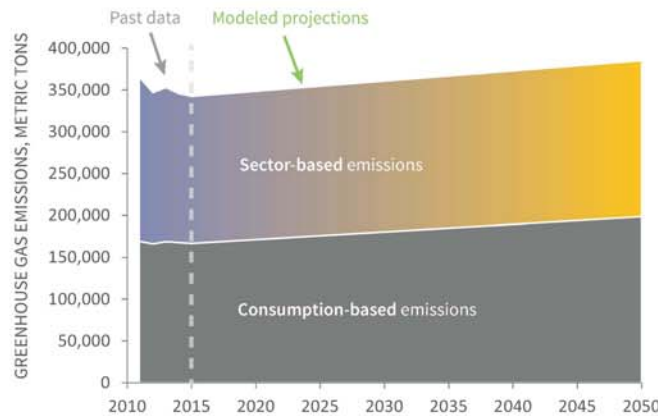
2011-2015 Change:*
6% decrease in total emissions
10% decrease in sector-based emissions

2015 Emissions
342,480 MTCO₂e

***Note:** These reductions are largely due to increased renewable energy on the regional electricity grid, decreased use of electricity in the residential sector, and decreased natural gas use due to warmer winters.

Business as usual scenario

Assuming that Ashland's population grows about 0.5% per year and anticipated state and federal energy policies are enacted, Ashland's "business as usual" future emissions would look something like this:



2015 Baseline:
342,480 MTCO₂e

2015-2050 Change:
13% increase in total emissions
6% increase in sector-based emissions

2050 Business-as-usual Projection:
385,207 MTCO₂e

What if? If Ashland were on the trajectory to cut its emissions from buildings, transportation, and waste disposal in half by 2050, it would equate to an average annual emission reduction of about 0.5% per year starting from 2016.

What is Carbon-Neutral?

To be "carbon-neutral" means that the net output of greenhouse gas emissions is zero.

Does that mean no emissions are emitted at all?

Not exactly. Carbon-neutral does not mean no emissions, it means no *net* emissions. Organizations can compensate for remaining emissions by purchasing carbon offsets, which represent emission reductions elsewhere.

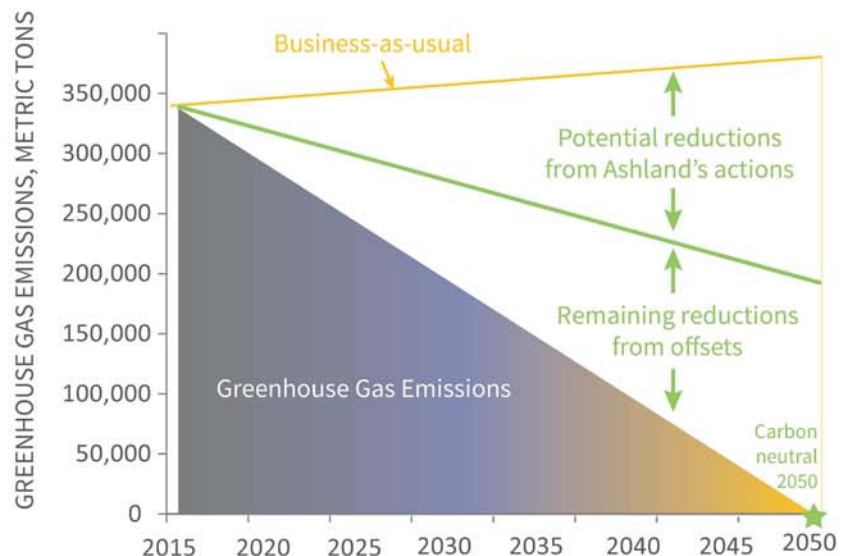
Is net zero really possible?

Technically yes, but it would require drastic action in the energy, transportation, and waste sectors.

For example, Melbourne, Australia recently made its City operations carbon-neutral through a combination of emissions reduction actions and purchasing of offsets. The City is now working toward making the entire community carbon-neutral.

For consumption-related emissions, reaching carbon neutrality is difficult. This difficulty stems from the fact that local governments have little ability to affect emissions associated with the production of food and goods.

What might carbon-neutral look like for Ashland?



1 Ashland's Future Greenhouse Gas Emissions

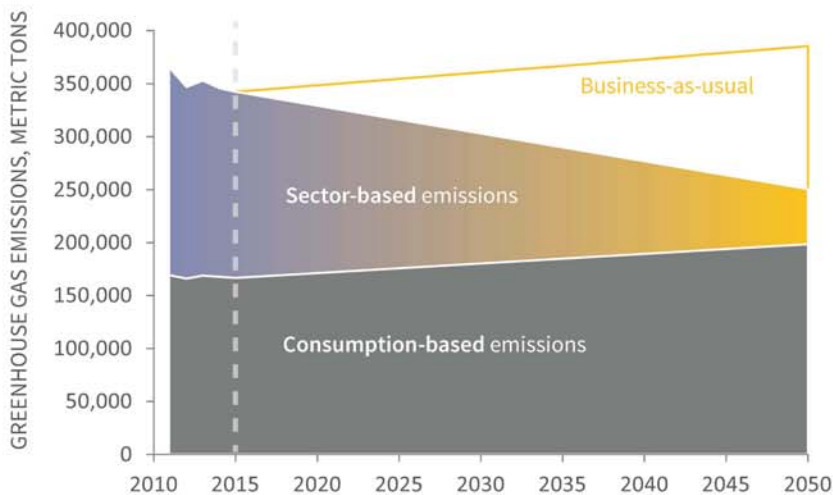
Setting a reduction target

The goal of the Ashland Climate and Energy Action plan is to reduce Ashland's greenhouse gas emissions. But by how much? When? And for which emissions?

Below are some options for emission reduction targets.

Option 1. **80% reduction in sector-based emissions by 2050**

Equivalent to an average reduction of about **1% per year**

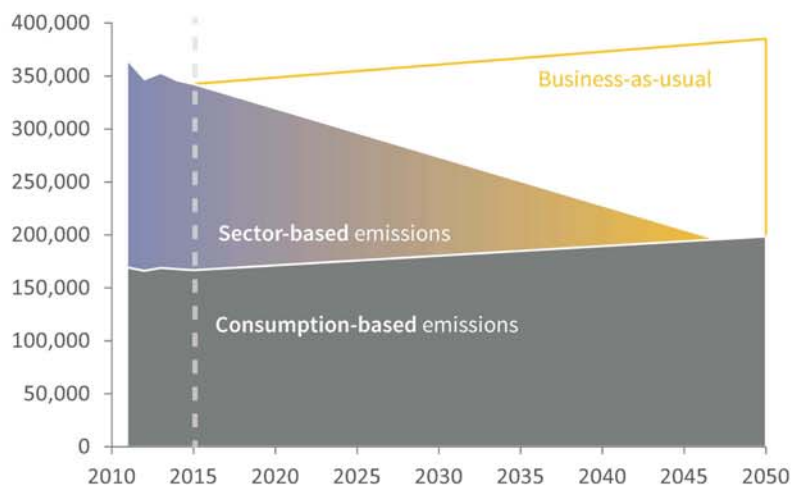


Features of this target

- Addresses emissions that the city has the most control over.
- Consistent with the goal set by majority of other jurisdictions.
- Likely attainable without needing emission offsets if the City takes ambitious action now.

Option 2. **Carbon-neutral sector-based emissions by 2047**

Equivalent to an average reduction of about **1.5% per year**



Features of this target

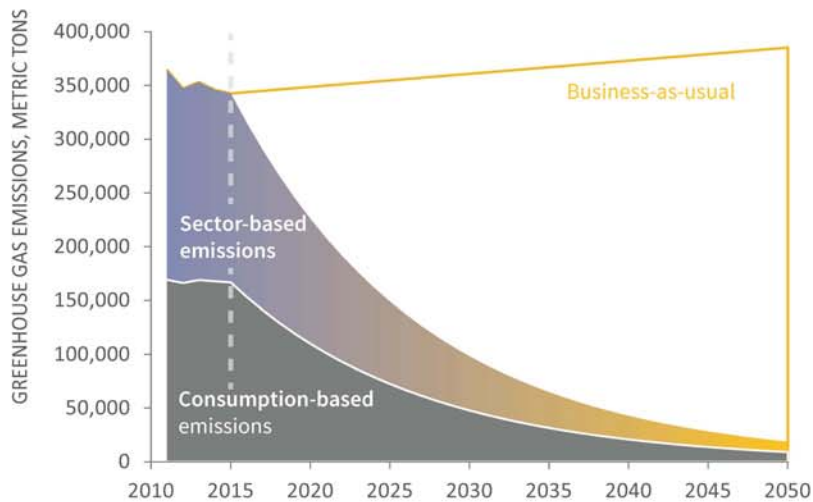
- Sets a target for 30 years after plan adoption.
- Consistent with the most ambitious U.S. cities.
- Would require 100% reduction in transportation, building, and solid waste emissions.
- Will very likely require purchasing or development of emission offsets.



1 Ashland's Future Greenhouse Gas Emissions

Setting a reduction target

Option 3. 8% per year emission reduction in total emissions



Features of this target

- Represents Ashland's proportional global contribution to keeping climate change in check.
- Consistent with current target set by the City of Eugene.
- Cannot be accurately quantified or tracked using current methods due to high uncertainty.
- Will very likely require development or purchasing of emission offsets to attain.

What are emission offsets?

Offsets are units of carbon that are reduced, avoided, or sequestered that are used to compensate for emissions occurring elsewhere. They are often generated from individual projects, such as conserving a forest, capturing methane emissions from a farm, or generating wind energy. Some other facts about offsets:

- Offset projects must undergo a rigorous verification process to be put for sale on the market.
- Currently, carbon offsets can be purchased on the California market at around \$13 per metric ton CO₂e.
- Carbon offsets must be purchased annually if used to meet annual reduction goals.



1 Ashland's Future Greenhouse Gas Emissions

Which emissions reduction goal would you like to see the City adopt for the Climate and Energy Action Plan? Why?

[Please write your response on a post-it and place it below.]



2 Ashland's Climate Vulnerability

Ashland's climate vulnerability

A series of community workshops revealed the following socioeconomic vulnerabilities in Ashland to climate change impacts:

Sensitivity and Exposure

Adaptive Capacity

	HIGH	MEDIUM	LOW
LOW	<ul style="list-style-type: none"> • Outdoor workers, elders, and low-income populations will be vulnerable to severe heat. • Elders, especially disabled and low-income individuals, disproportionately affected by severe heat, smoke, and storms. • People with mental illness are especially susceptible to impacts from heat and natural disasters. • Seasonal and service industry workers at risk from all aspects of climate change that affect their lineup of jobs over the year. • Hydropower availability may change due to reduced snowpack and stream flow, drought, and flooding. 	<ul style="list-style-type: none"> • Low-income residents, especially young children, at risk from extreme heat, smoke, and increased vector- and food-borne disease. Higher water and electricity costs and need for air conditioning could be significant burden. • Homeless residents will have little adaptive capacity when conditions become more extreme than usual. • Roads bordering rivers and streams, and in valley bottoms, as well as unstable slopes at risk from increased frequency of large storms. 	<ul style="list-style-type: none"> • Local reservoirs exposed to more severe storms and larger precipitation events.
MEDIUM	<ul style="list-style-type: none"> • People with asthma, respiratory and heart disease impacted by smoke and ozone. • Low-income populations at risk from heat, smoke, and larger storms. • Health care providers, emergency response staff at increased risk with more extreme events. • Rafting and other river-related recreation industries impacted by water quality, low flow, and smoke. • Tourism-based economy affected by changes in natural beauty, smoke, severe heat, drought, water quality issues, and unpredictable seasons. • Mount Ashland ski area may experience reduced snowpack for winter recreation. Will need to consider shifting to other sports and activities. 	<ul style="list-style-type: none"> • Human health at risk from smoke, vector- and water-borne disease, and increased use of pesticides due to mosquito spraying and agricultural pests. • Emergency response and evacuation to become more difficult and frequent due to increase in natural disasters and closure of evacuation routes during storms. • Agricultural production expected to decline with less reliable seasonality and more uncertainty in harvest dates and length of seasons. • Local agriculture will become stressed from pests, disease, drought, greater competition for water and land, and lower productivity from climate change. • Roads, buildings, bridges, and real estate at risk from wildfires, floods, and heat impacts. With increased temperatures and smoke, biking and walking will become hazardous, making more people rely on vehicles. Culverts and road crossings often not built to sufficient flood standards. • Municipal water supply expected to see greater demand and lower supply due to higher temperatures and reduced snowpack. 	<ul style="list-style-type: none"> • SOU students highly mobile, connected. Most affected from poor air quality during fall sports, severe heat without air conditioning in late summer, and flooding associated with severe storms.
HIGH	<ul style="list-style-type: none"> • Firefighters at increased risk from fire as more homes are at risk and fires become more frequent. • Local creeks already affected by E. coli and algae likely to get worse, but management options exist to reduce impacts. • Stormwater infrastructure at risk from larger storms. 	<ul style="list-style-type: none"> • Landscaping (SOU, parks, homes, etc.) exposed to changing conditions, water restrictions, extreme temperatures. Over time, trees could die and new types of trees and plants will need to be planted. Drought-resistant and fire-resistant plants not always compatible. SOU's irrigation systems out-of-date. 	



2 Ashland's Climate Vulnerability

Ashland's climate vulnerability

A series of community workshops revealed the following natural systems vulnerabilities in Ashland to climate change impacts:

Sensitivity and Exposure

		HIGH	MEDIUM	LOW
Adaptive Capacity	LOW	<ul style="list-style-type: none"> • High elevation plants and wildlife unable to shift in range yet intolerant of warming conditions, loss of snow. • Wolverine, Brewer spruce, Northern spotted owl, and other sensitive species at risk from changing conditions. • Intermittent springs and wetlands at risk from changes in precipitation and snowmelt. 	<ul style="list-style-type: none"> • Intact habitats and ecosystems at lower elevations at risk from climate change, invasive species, and development for housing, agriculture, and renewable energy. • Connectivity of habitat that allows species to shift with climate change is at risk. • Migratory birds affected by changes in seasonality and timing for food and migration. • Amphibians exposed to drought stress and an inability to disperse to new areas 	
	MEDIUM	<ul style="list-style-type: none"> • Anadromous fish populations affected by warmer water, more sediment and erosion, lower flows, loss of food, ongoing pollution and dams. • Biodiversity is expected to decline as climate change accelerates. Some species will benefit, but far more will decline and even go extinct. 	<ul style="list-style-type: none"> • Mid-elevation coniferous forests to suffer from disease, pests, and overall change. • Mid-elevation coniferous forests at risk from additional stress and loss of moist micro-climate from large-scale thinning. • Oak woodlands, grasslands at risk from overall change and stressors such as agriculture, development, and renewable energy. 	<ul style="list-style-type: none"> • Generalist species such as raccoons, black bears, black-tailed deer, American robins, and others expected to be more able to adapt to changing conditions.
	HIGH		<ul style="list-style-type: none"> • Chaparral, grasslands, and shrublands could increase as coniferous forests contract while also being at risk from development at lower elevations. 	<ul style="list-style-type: none"> • Invasive and non-native species benefit from declines in native species and warmer water and air.



2 Ashland's Climate Vulnerability

What are the most important resources, systems, or populations for the City to pay attention to in preparing for climate change? Why?

[Please write your response on a post-it and place it below.]



Station 3 Goals, Strategies, and Actions: 3 Cross-Cutting Strategies

What are we talking about?

Cross-cutting strategies refers to activities that address climate change more generally or across multiple sectors.

Why is it important?

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



Proportion of overall emissions



Relevance to addressing priority climate risks



Level of City influence



What are we already doing?

The City of Ashland has demonstrated a commitment to comprehensive climate action through development of the Climate and Energy Action Plan. Other activities that demonstrate this cross-cutting approach include:

CITY OF ASHLAND
Greenhouse Gas Inventory
Community and City Operations
Results, Analysis and Recommendations

Development of a citywide greenhouse gas emissions inventory.

CITY OF ASHLAND, OREGON
Climate Trends & Projections
FINAL REPORT
AUGUST 22, 2016

Analysis of anticipated impacts, trends, and vulnerabilities of Ashland residents, businesses, and resources to climate change through commissioning a Climate Trends Summary from Oregon State University climate scientists.

ASHLAND CLIMATE CHALLENGE
SAVE ENERGY. WIN BIG!
BUSINESSES, RESIDENTS, AND ORGANIZATIONS WORKING TOGETHER TO CREATE A CLEAN ENERGY FUTURE

Public outreach, education, and input through City-sponsored events.



What are our goals?

- Reduce greenhouse gas emissions from the community and City operations.
- Increase city preparedness to climate change impacts.

How can we get there?

Strategy 1. Educate & empower the public

Addressing communitywide emissions starts with ensuring that the public understands climate change and what they can do to address the challenge. Potential actions to educate and empower the public include:

- Using multi-media outreach to get the word out.
- Utilizing smart-grid technologies so people know how much energy they are using.
- Supporting the capacity of neighborhood and community groups through grants and tools.



Strategy 2. Educate & engage City Staff

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



Strategy 3. Mainstream climate considerations

As an inherent cross-cutting issue, climate change should be integrated into all other 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.



Strategy 4. Ensure implementation of the Climate & Energy Action Plan

The Climate and Energy Action Plan marks the beginning of a the City's strategic and coordinated effort towards taking action on climate change and building resilience to climate change impacts. This strategy incorporates clear actions that will ensure that the CEAP is implemented across City and community activities in an effective and timely manner. Actions within this strategy could include:

- Forming a City staff and community leadership advisory team to shepherd plan goals and actions.
- Establishing a full-time position within the City dedicated to CEAP implementation.
- Establishing an ordinance tied to the targets set forth in the CEAP.



Strategy 5. Prepare for climate impacts

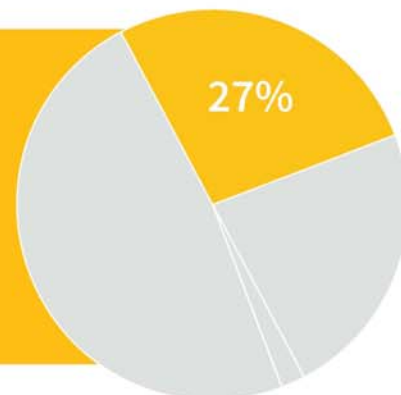
Because climate change impacts will affect the City across its diverse operations, preparing for climate change impacts will require a coordinated City-wide effort. This strategy includes climate preparation actions that cut across City departments and operations, such as updating the City's emergency response plan to ensure that it recognizes and addresses likely climate change impacts.





What are we talking about?

Buildings and Energy refers to energy used in commercial, residential, and industrial buildings, as well as opportunities to reduce energy use, expand renewable energy production, and prepare buildings for a changing climate.



Why is it **important**?

Proportion of overall emissions



Relevance to addressing priority climate risks



Level of City influence



For mitigation:

Ashland's commercial, residential, and industrial building energy use accounted for 27% of community greenhouse gas emissions in 2015. These emissions represent a significant decrease from 2011 emissions due to increased renewable electricity in the regional grid, decreased electricity use in the residential sector, and reduced natural gas use from warmer winters.

For adaptation:

Ashland's energy sources and building stock will be affected by climate change. Reduced snowpack may affect hydropower capacity, and increased temperatures will increase energy demand for cooling during the dry summer months. Increased wildfire risk may also put transmission lines at risk.

What are we **already** doing?

Ashland owns its own electrical 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 great progress in supporting community renewable energy and improving building energy efficiency.



A retro-commissioning incentive program provides financial and technical assistance to tune up energy systems in commercial and residential buildings.



The community solar project Solar Pioneer II gives citizens an opportunity to purchase locally-generated renewable energy.



The City recently completed a City Facilities Energy Audit that identified energy efficiency upgrade opportunities at City facilities.





What are our goals?

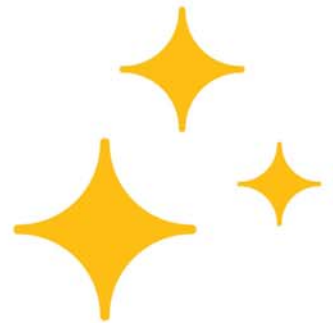
- Reduce greenhouse gas emissions associated with Ashland's energy use.
- Increase energy and water efficiency in City, residential, and commercial buildings.
- Maximize resiliency of Ashland's energy sources to climate change.
- Maximize protection of Ashland's building stock from future climate change impacts.

How can we **get there?**

Strategy 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. Some potential actions the City can take related to clean energy include:

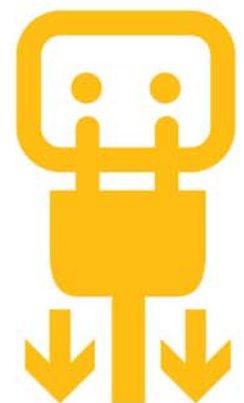
- Facilitating fuel-switching in residential and commercial buildings from natural gas to renewable energy or clean electricity.
- Developing an energy master plan that evaluates and plans for increased renewable sources as part of Ashland's energy mix.
- Complete current solar assessments at City buildings and incorporate installations into City budgets.



Strategy 2. Improve demand management

Managing the timing and intensity of energy demand can help make sure that dirtier energy is not needed during peak times of high demand. Some potential actions the City can take related to demand management include:

- Developing an energy master plan that balances energy efficiency, demand management, and renewable energy.
- Expanding the City's current net meter resolution to include and incorporate virtual net metering, which allows consumers to share energy within a group or neighborhood.
- Implement utility systems that give customers the ability to make real time usage and demand response decisions.





Strategy 3. Encourage increased commercial and residential building energy efficiency

In addition to changing the energy source, cutting energy use within buildings presents another opportunity to cut emissions. Potential actions include:

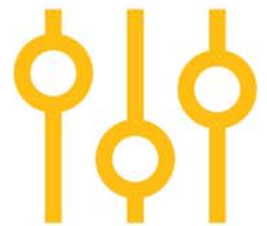
- Requiring building audits for the largest or least efficient commercial or residential buildings.
- Encouraging high energy-efficiency standards for new construction.
- Working with property and business owners to identify and address barriers to efficiency in multifamily and commercial rent/lease properties.
- Restarting the energy and green building challenges.



Strategy 4. Maximize efficiency of City buildings, facilities, and other energy-intensive equipment and operations

This strategy reduces the emissions associated with City operations and promotes water and energy conservation. Potential actions the City can take to maximize its building and facility equipment efficiency include:

- Implementing energy efficiency upgrades at City facilities.
- Pursuing LEED or ENERGY STAR certification for buildings.



Strategy 5. Enhance energy reliability

Projected climate impacts may make our energy sources less reliable. The City could take actions such as the following to help maximize resilience and reliability of Ashland's energy sources:

- Explore ways to balance diversity and resiliency of energy sources with technology capabilities, Ashland's contractual obligations for purchasing energy from Bonneville Power Administration, and cost-effective implementation.
- Explore enhanced energy storage systems to prevent disruptions.



Strategy 6. Adapt buildings to a changing climate

The City can promote actions that help adapt buildings to climate impacts such as extreme heat and wildfire. Some example actions within this strategy could include:

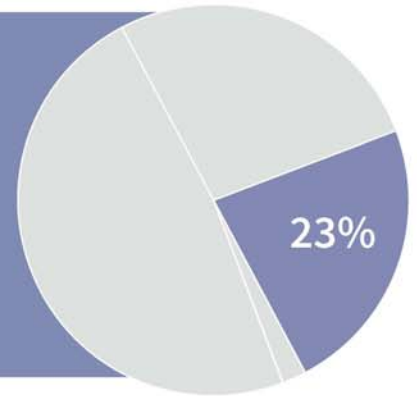
- Promotion of more resilient building techniques, such as white roofs that minimize urban heat effect and fireproof building materials.
- Considering future climate conditions when designing City buildings to incorporate resilience-building elements.





What are we talking about?

Transportation, Land Use, and Urban Form refers to the form and function of land and transportation systems, including ways to reduce greenhouse gas emissions and build climate change resilience through urban planning, design, improved land use practices, and clean and efficient transportation systems.



Why is it important?

Proportion of overall emissions



Relevance to addressing priority climate risks



Level of City influence



For mitigation:

Emissions from the transportation sector made up 23% of Ashland's overall greenhouse gas emissions in 2015. Local, on-road transportation of passengers in residential-owned passenger cars and trucks accounts for the majority of these transportation emissions in Ashland. While emissions from the built environment have declined in Ashland since 2011, transportation emissions have seen no significant change.

For adaptation:

Ashland's roads, bridges, and real estate could be at risk from wildfires, floods, and heat impacts. With increased temperatures and smoke, biking and walking may become more hazardous and increase reliance on vehicles. Culverts and road crossings may not be sized to withstand increased flooding, and roads bordering rivers and streams may be at risk of inundation.

What are we already doing?

Many of Ashland's existing plans and standards address emissions associated with transportation and land use, including the Transportation System Plan, local land use code, and Comprehensive Plan. Some examples of climate-friendly actions and requirements include the following:



The Comprehensive Plan and City street standards highlight "connectivity" as a requirement in all new development.

Street standards and street classifications in the Transportation System plan that promote shared streets that incorporate bicycle, pedestrian, and mass transit infrastructure.



The Land Use Code has a transit-oriented development and "Pedestrian Places" ordinance.





What are our goals?

- Reduce community and city employee vehicle miles traveled.
- Improve vehicle efficiency and expand low carbon transport.
- Support local and regional sustainable growth.
- Protect transportation infrastructure from climate impacts.

How can we get there?

Strategy 1. Make streets and development more bike- and pedestrian-friendly

This strategy can make it easier for the public to reduce their use of cars and opt, instead, to take more trips by bike or on foot. This supports the City's goal to reduce vehicle miles traveled, and potential actions include:

- Implementing key actions from the Transportation System Plan, such as installing bicycle intersection safety improvements, increasing bike lane infrastructure, and expanding on-street bicycle racks.
- Conducting a community survey to understand barriers to biking.
- Exploring options for vehicle-free streets to reduce vehicle use and promote pedestrian traffic.



Strategy 2. Support better public transit and ridesharing

Similar to bike- and pedestrian-friendly development, better public transit and ridesharing can help the public reduce its reliance on cars and support the City's goal to reduce vehicle miles traveled. Potential actions include:

- Working with RVTD to promote expanded and more climate-friendly transit options.
- Providing additional park-and-ride lots to promote public transit and reduce downtown congestion.
- Expanding use of carpooling and car-sharing systems.
- Evaluating the introduction of a city-specific mass transit option, such as a trolley.





Strategy 3. Support more efficient vehicles

Improving vehicle efficiency reduces resource consumption and reduces associated emissions, particularly emissions from the combustion of fuels. Potential actions to support more efficient vehicles include:

- Changing land-use code to require electric vehicle charging infrastructure in all multi-family and commercial developments.
- Including information on the City website about the value of electric vehicles and directions for receiving rebates for electric and hybrid vehicles.
- Supporting the transition of taxi, for-hire, and limousine vehicles to low-carbon fuels and technologies.



Strategy 4. Increase the efficiency of City fleet and employee commuting

Improving the efficiency of City fleet not only supports emissions reductions, but can also reduce operation costs. To further support the City's goals to improve vehicle efficiency and reduce vehicle miles traveled, this strategy also works to promote more sustainable employee commuting options. Potential actions include:

- Improving City facilities for biking, including showers, lockers, and covered or secured bike parking.
- Conducting a City fleet audit and setting policy and targets for converting City fleet to higher-efficiency vehicle types and increasing vehicle sharing across departments.
- Providing more EV charging stations near City facilities.



Strategy 5. Support more climate-friendly development and land use

Climate-friendly development and land use, such as actions that promote walkability, density, and low-impact development support local and regional sustainable growth and promote reduction of vehicle miles traveled. This strategy also deals with ways to promote land use that minimizes harmful climate impacts. Potential actions include:

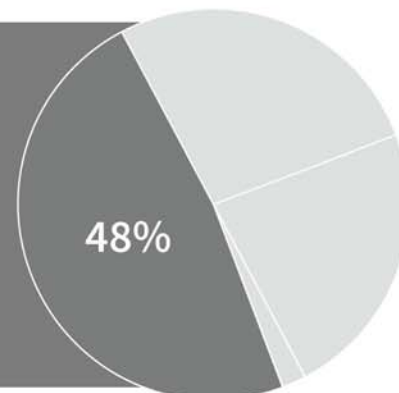
- Revising Community Development plans to more strongly favor walkable neighborhoods and infill density.
- Explore introduction of more stringent fire protection measures near the wildland-urban interface to accommodate increased wildfire risk.





What are we talking about?

Consumption and Waste refers to emissions and climate change risk associated with the lifecycle of goods and materials. It includes opportunities to reduce emissions associated with manufacturing, use, and disposal, as well as ways to address risks to supply chains and food availability due to climate change.



Why is it important?

Proportion of overall emissions



Relevance to addressing priority climate risks



Level of City influence



For mitigation:

The scale of consumption-based emissions as a category is large relative to Ashland's emissions from energy, transportation, and local government. 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. A large portion of food emissions are from the production of meat. Emissions from household goods are largely from home construction, furniture, clothing, and vehicle purchases.

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 could change local development codes to address building energy, there is no similar ability to influence production efficiencies for imported goods and services.

For adaptation:

Local agriculture may become stressed from pests, disease, and drought under future climate change, potentially reducing the availability of local food. Climate change may also disrupt global supply chains and thereby affect the cost of household goods and services.

What are we already doing?

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



Bans on plastic bags and Styrofoam containers.



Community garden programs, farmers markets, and co-ops.



Residential curbside recycling programs and outreach.





What are our goals?

- Reduce solid waste disposed at landfills
- Increase waste diversion through waste prevention, recycling, and composting
- Support locally produced products and increase their availability

How can we get there?

Strategy 1. Expand community recycling, composting, and reuse

Recycling, composting, and reuse keep materials out of the landfill and minimize greenhouse gas emissions associated with waste hauling and disposal. Potential actions to expand recycling, composting, and reuse—and through that, increase local waste diversion—include:

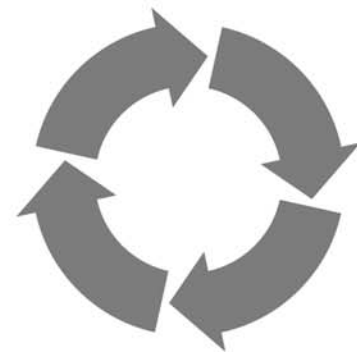
- Exploring options for expansion of commercial and residential composting.
- Updating the multi-family recycling ordinance to encourage increased diversion.
- Conducting targeted public education and outreach, especially to the multi-family sector.
- Making recycling easier for people, such as by increasing the number of recycling and composting bins available in city public areas.



Strategy 2. Support sustainable and accessible local production and consumption

Robust local production and consumption can reduce consumption-related carbon emissions while promote community resilience, particularly in the face of climate impacts. Potential actions include:

- Working with sustainability organizations to recognize restaurants that feature local produce and products.
- Considering local supply chains in implementation of the economic development strategy.
- Creating in-town farming and educational opportunities for the public using City parks and open spaces.
- Identifying local food sources and their risk of interruption under climate change, as well as researching new crops, technologies, and approaches to minimize disruption to local food supply.





Strategy 3. Reduce food waste

Food waste nationally is estimated to be 30-40% of the food supply. Reducing food waste reduces methane emissions from landfill and conserves energy and resources associated with the food supply chain. Reducing food waste is a key component in consumption and waste reduction efforts, and potential actions include:

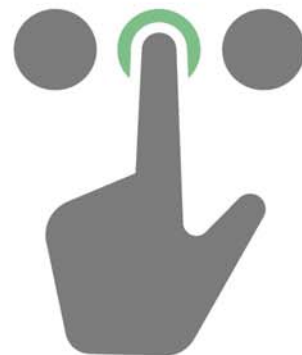
- Seeking federal grant funds for a public education campaign to promote food waste reduction by residents.
- Providing a best practices guide for commercial kitchens to find efficiencies and opportunities to reduce food waste through better planning, purchasing, storage, and preparation.
- Supporting food waste-to-fuel/energy efforts, including locally produced biodiesel and biofuels.
- Working with the food bank to support edible food donations.



Strategy 4. Improve sustainability of City purchases and procurement

The City's purchasing and procurement activities also result in consumption-related emissions. Sustainable purchasing by the City can support products that increase resource efficiency and reduce waste. Potential actions include:

- Introducing environmentally preferable purchasing (EPP) guidelines for City procurement.
- Conducting a feasibility study at the wastewater treatment facility for co-digestion of food waste and biosolids for power generation.
- Promoting online citizen services (e.g., bill pay) to reduce paper use and car trips to City offices.





What are we talking about?

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

Why is it important?

Relevance to addressing priority climate risks



Level of City influence



For mitigation:

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 greenhouse emissions from catastrophic wildfires.

For adaptation:

Many of Ashland's natural systems and surrounding natural areas will be impacted by climate change, threatening the important services they provide such as water filtration, flood abatement, pollination, recreation, and fire protection. Changes in temperature, snow pack, 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.

What are we already doing?

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:

GREAT JOB ASHLAND!

ASHLAND RESIDENTS CONTINUE TO DO A GREAT JOB OF RESTRAINING THEIR WATER USAGE THIS SUMMER. LAST YEAR WE WONDERED IF LOWER WATER USAGE WOULD BE THE NEW NORM AND IT APPEARS TO BE!

REEDER RESERVOIR 06.03.16



AT THE END OF THE JULY WE HAVE MORE WATER FLOWING INTO THE RESERVOIR THAN IS FLOWING OUT.

AVG
4.5
 MGD

AVG. USE HAS BEEN 4.5 MGD & THAT'S WITHOUT ANY CAMPAIGN TO ENCOURAGE CONSERVATION! IN PRE-DROUGHT YEARS, DAILY PEAKS AVERAGED 6.5-7 MGD.

A new city Water Master Plan will incorporate future climate risks to water supply and quality into future service planning and activities.



The Ashland Forest Resiliency Project has produced planning documents that consider optimized forest fuel management and wildfire planning in the face of climate change.



The City promotes drought-tolerant landscaping through education, outreach, and technical assistance.





What are our goals?

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

How can we **get there?**

Strategy 1. Manage and conserve community water resources

Water is a critical resource to all. Climate-related impacts to water resources in Ashland could include reduced summer streamflow and increased potential for large storms and extreme downpours in winter. Management and conservation of water resources can mitigate these risks, and potential actions include:

- Identifying key areas for restoration that can increase summer water storage and moderate winter flooding.
- Restoring key areas to hold water upstream and reduce flood risk.
- Incentivizing water conservation through rate structures and outreach and education.
- Exploring ways to promote water-efficiency technologies on irrigation systems as part of the permitting process.





Strategy 2. Promote ecosystem resilience

Proper ecosystem management can not only optimize carbon sequestration, but also promote ecosystem resilience to changes in the environment. This strategy supports preservation of natural areas and wildlife. Potential actions include:

- Promoting forest fire management and planning that is supported by the best available science.
- Considering climate change projections in forest and ecosystem management.
- Improving public lands management through enhanced habitat restoration and conservation that protects at-risk species and optimizes the provision of ecosystem services.
- Updating the City's street tree guide and landscape design standards to include tree species appropriate for the future local climate.
- Managing forests to retain biodiversity, ecosystem function, and ecosystem services, and protecting the structural and genetic diversity in forests
- Using impervious surfaces to reduce flood risk.



Strategy 3. Conserve water use within City operations

The City leads by example. Conserving water in its internal operations and city-provided services demonstrates its commitment to reducing climate impacts on natural systems in Ashland. Potential actions include:

- Implementing efficiency recommendations from the recent City facilities water audit.
- Updating City landscaping standards to reduce water consumption and chemical use.
- Exploring opportunities to install rainwater collection systems for City facilities for graywater and outdoor uses.





What are we talking about?

Public Health, Safety, and Security refers to the ongoing wellbeing and safety of Ashland's residents in the face of a changing climate, including health and assistance programs for disadvantage populations, as well as climate-related risks to Ashland's economy and public safety.

Why is it **important**?

Relevance
to addressing
priority
climate risks



Level
of City
influence



For mitigation:

Emissions associated with public health, safety, and security services are encapsulated in other sectors of the greenhouse gas inventory, and therefore are not addressed here.

For adaptation:

Ashland's outdoor workers, elderly, very young, and low-income populations will be especially vulnerable to health impacts from more frequent and severe heat waves. 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.

What are we **already** doing?

Although the City of Ashland has limited influence over the health and social services 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 annual Ashland is Ready workshop provides emergency planning assistance and information for residents.



The Social Service Grant and Community Development Block Grant programs support disadvantaged and at-risk populations.





What are our goals?

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

How can we get there?

Strategy 1. Manage ecosystems and landscapes to minimize climate-related health impacts

Managing ecosystems and landscapes to reduce air emissions, preserve green spaces, and shelter from urban heat effects can minimize the impact of climate change on human health. Potential actions include:

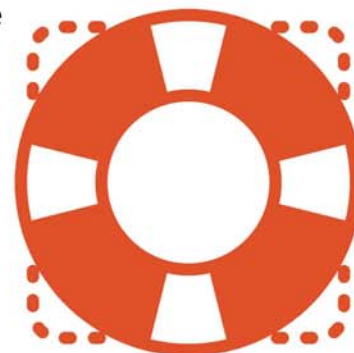
- Expanding tree canopy on public lands, particularly in urban heat islands or areas that lack air conditioning.
- Incentivizing use of electric instead of fuel-burning mowers, weed-whackers, and blowers.



Strategy 2. Optimize City services to minimize climate-related health impacts

More frequent and intense extreme heat events and wildfire smoke risks with climate change threaten the public health of Ashland's population. To prepare for these heightened risks, potential City actions include:

- Working with regional partners and stakeholders to identify at-risk individuals and groups and their needs.
- Educating the public and public health officials on the health risks posed by climate change.
- Working with vulnerable neighborhoods through a community planning process to create site-specific adaptation strategies.
- Soliciting innovative ideas for city cooling and other adaptation strategies through community contests or forums.





Strategy 3. Optimize city services to minimize climate-related safety impacts

Climate stress can add additional burdens on City services to protect public safety. To adapt to anticipated changes, potential actions include:

- Ensuring that essential City services are not in the 100-year flood zone.
- Adjusting zoning to reduce development in areas at high risk of fire.
- Continuing to educate homeowners on creating fire-defensible spaces around their homes.



Strategy 4. Optimize city operations and programs to minimize climate-related employee health impacts

Increased heat- and smoke-related health risks also threaten City employees. Potential actions to minimize climate impacts on the City's employees include:

- Enhancing internal education and understanding of changing wildfire smoke and extreme heat risks.
- Including wildfire smoke health and safety measures in the City's health and safety policy, ensuring that each department's guidelines are consistent and adequate.



Strategy 5. Promote a sustainable local economy that minimizes emissions and vulnerability to climate impacts

The impacts of climate change on the local economy can threaten the economic security of Ashland residents. This strategy involves addressing economic resilience through improved planning and access to critical resources. Potential actions include:

- Supporting climate-dependent workers such as those in winter and summer recreation and farming to arrange reliable and consistent employment.
- Working with businesses to analyze their vulnerability to climate change and plan for the future.



We want to hear from you!

The City of Ashland wants to know your priorities and concerns regarding sustainable City and community practices and policies related to climate change in Ashland.

Your input will help shape the vision, goals, and strategies of the Climate and Energy Action Plan.



1

How do you think the City and community should address climate change?

2

What are your priorities and concerns?

3

Do you have questions?

How can you provide input?

- RIGHT NOW** Fill out a comment card here!
- EMAIL** adam.hanks@ashland.or.us
- ONLINE** Learn more, take our survey, or provide a comment at:
www.Ashland.or.us/climateplan
- IN PERSON** At our open house on **December 7th**



City of Ashland
Climate and Energy Action Plan Open House

WELCOME!

Planning for the future of Ashland amidst a changing climate

This is the second of a series of open houses to hear your priorities and concerns. For this open house, you will have an opportunity to tell us which climate and energy strategies and actions you think the City should take. You will have a chance to vote on your top-priority strategies and discuss them with the Mayor-appointed planning committee and others in the community.

What are we doing tonight?

- 3:00 PM** **Open House Begins**
- 3:15 PM** **Brief City and Community Presentation**
- 3:30 PM** **Visit Stations & Share Your Input**
- 5:00 PM** **Open House Adjourns**

What can you do at this event?

- **Learn more** about the city's vulnerability to climate change impacts and future greenhouse gas emissions.
- Tell us which **goals and targets** the City should set for reducing emissions and preparing for climate change impacts.
- Share your **highest priorities for taking action** to address climate change in Ashland.

