GRESHAM
Climate Action Plan

CITY OF GRESHAM

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Climate Action Plan

APPENDICES

Read the appendices online at **GreshamOregon.gov/Climate-Action**.

INTRODUCTION

ACKNOWLEDGEMENTS

A special thank you to all the staff, partner organizations, and community members who contributed to the development of this plan, giving their time and expertise to support the resilience of our community.

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Parametrix | Good Company

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Portland General Electric
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The Intertwine Alliance
Trash for Peace
Unlimited Choices, Inc.
US Bank, Gresham
Urban Forestry Subcommittee
Urban Greenspaces Institute
Washington County Office of Sustainability
Wisdom of the Elders

GRESHAM
Climate Action Plan

Dear Gresham,

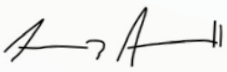
After three years of development, engagement and collaboration, we are pleased to present to each of you Gresham's first Climate Action Plan.

For the next five years, this plan will guide our community as we work together to reduce Gresham's greenhouse emissions, protect our environment, and become more resilient to the impacts of a changing climate. This plan greatly aligns with the vision and priorities of the Gresham Strategic Plan and seeks to create outcomes that support our community in being a healthy, vibrant and safe place to call home.

A changing climate presents a unique challenge to Gresham and the beautiful Pacific Northwest. The well-being of our community and environment has been greatly impacted by wildfires and heat waves that have become more frequent and intense, and winter storms have become more disruptive to infrastructure. These wide-ranging impacts require a diversity of expertise and perspectives to create solutions that are innovative and inclusive and result in a more sustainable environment and vibrant economy. This plan provides strategies that reflect these needs and further support a collaborative partnership between local government and community as Gresham plays its part in the global effort against climate change.

The input and feedback provided by the community were invaluable to the creation of this plan. The time and perspective that you have volunteered for this project have resulted in a more wholesome plan than what the City could have achieved on its own. While climate change affects us all, it affects certain communities more than others, and through your participation, we were able to understand how to best support those communities under new and uncertain circumstances. It is our hope that this community-wide collaboration will continue to be the center of this plan and all our efforts to protect our planet for both current and future generations.

Sincerely,



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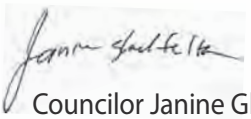


Councilor Janine Gladfelter

VISION

This plan envisions a safe, healthy, sustainable and resilient Gresham. Here, strong community partnerships take action to reduce emissions, build resilience, and support those who are most vulnerable to the impacts of climate change. The cleaner environment, cost savings, and resilience will improve the well-being of the entire community for current and future generations.

This statement uses a climate lens to build on the vision of the Gresham Strategic Plan 2022-2025: "Gresham is a vibrant, inclusive and resilient community where everyone can share in economic prosperity, enjoy connection and belonging, and live a high-quality life."

A COMMUNITY PLAN

The Climate Action Plan is a set of strategies to guide the City and community as we work together to protect our environment while promoting economic opportunity and resiliency for current and future generations. The City co-created this plan with the community through extensive public and stakeholder engagement.

BACKGROUND

Gresham has been on a journey toward climate action for a long time, beginning with Gresham's signing of the Mayors' Climate Protection Agreement in 2007. Gresham, along with 1,000 other cities in the US, pledged to reduce its greenhouse gas emissions and make climate action a priority at the local level.

The City Council adopted Gresham's first Sustainability Policy in 2009, followed by the City's Internal Operations and Facilities Sustainability Plan in 2011, which provided the first climate action strategies for reducing emissions in City operations.

2015
- Net-zero Wastewater Treatment Plant

2016
- All LED streetlights and park lights

2019
- City-wide solar assesment

2021
- City Hall energy efficiency and lighting upgrades
- Community solar on fire stations
- 14 public EV charging stations installed
- EV charging staions installed City Hall for City fleet vehicles

PLAN AT A GLANCE

MISSION
(the City's purpose for being)
To foster a safe, thriving, and welcoming community for all.

VISION
(our shared idea of the future)
Gresham is a vibrant, inclusive, and resilient community where everyone can share in economic prosperity, enjoy connection and belonging, and live a high-quality life.

GUIDING PRINCIPLES
(expectations for City decision making and service delivery)

DIVERSITY, EQUITY, AND INCLUSION: Achieve equitable outcomes for the people of Gresham by providing opportunities to hear all voices, undoing and righting past inequities, drawing upon community diversity in decision making, and developing a City workforce that reflects the community.

STEWARDSHIP OF RESOURCES: Ensure practical use of resources now and for the future by managing priorities, using partnerships, and applying data to make decisions that support the City and community's financial well-being, protect the environment and nurture civic trust.

AUTHENTIC ENGAGEMENT: Connect with the people of Gresham, businesses, community organizations, and other partners to make informed decisions together by repairing and building trust between the City and Gresham community, empowering community members to get involved, and communicating the impact decisions have on our community.

INNOVATIVE AND ADAPTIVE: Embrace creativity and respond to trends, technologies and changing community needs by using well-timed, flexible, accessible, and resourceful approaches and modern practices to solve problems and promote positive change.

TRUSTWORTHY AND ACCOUNTABLE: Earn the trust and confidence of the community by clearly communicating the City's intentions and decisions, improving or expanding access and availability to the City's information and business practices, and taking responsibility for all that we do.

STRATEGIC PRIORITIES
(our focus)

Buildings and Energy

Urban Form and Transportation

Solid Waste and Consumption

Community Health and Economic Resilience

Natural and Built Enviornment

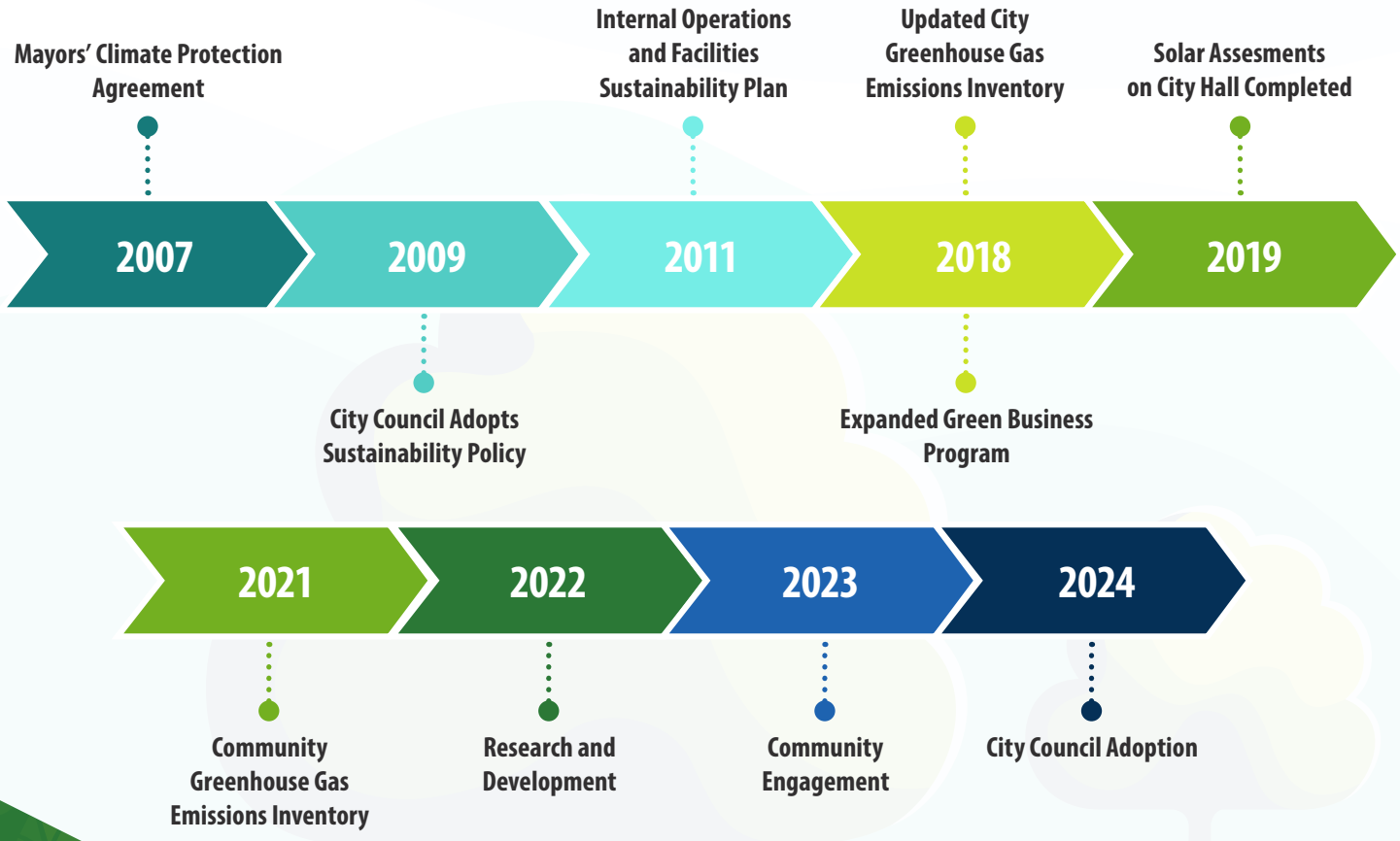
Internal City Operations

PROJECT TIMELINE

To develop strategies for a community-wide climate action plan, the City of Gresham commissioned extensive studies of the community's greenhouse gas emissions, commonly referred to as emissions inventories, as well as an assessment of the changes to the natural environment that Gresham is likely to experience because of climate change.

These studies identified the major sources of greenhouse gas emissions in Gresham, as well as key areas where the community is vulnerable to natural hazards.

The findings of these studies were used to organize the contents of this plan and prioritize strategies accordingly. The City and external partners conducted technical analysis and the wider community provided final feedback on key actions.



GRESHAM'S CLIMATE IMPACT

Gresham's community greenhouse gas inventory found that in 2018 the community emitted a total of 2.1 million MTCO2e (metric tons of carbon dioxide equivalent), equating to 19.5 MTCO2e per community member.

This total includes emissions from both community and City activities. Gresham's emissions from this inventory serve as the baseline, which all progress will be compared to.

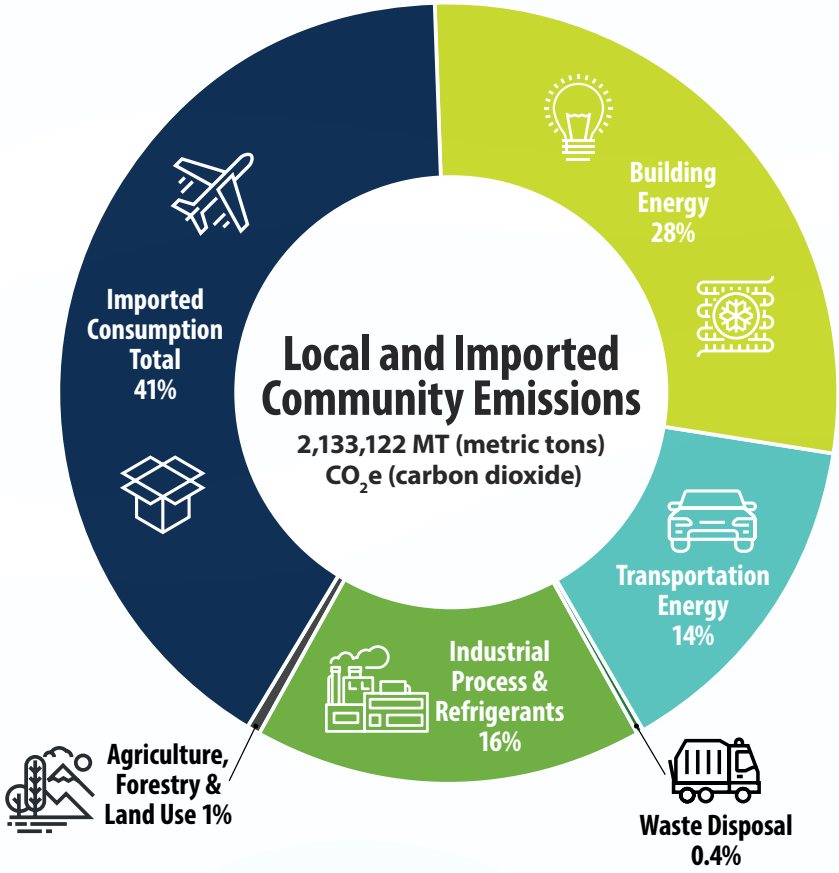
Major sources of emissions

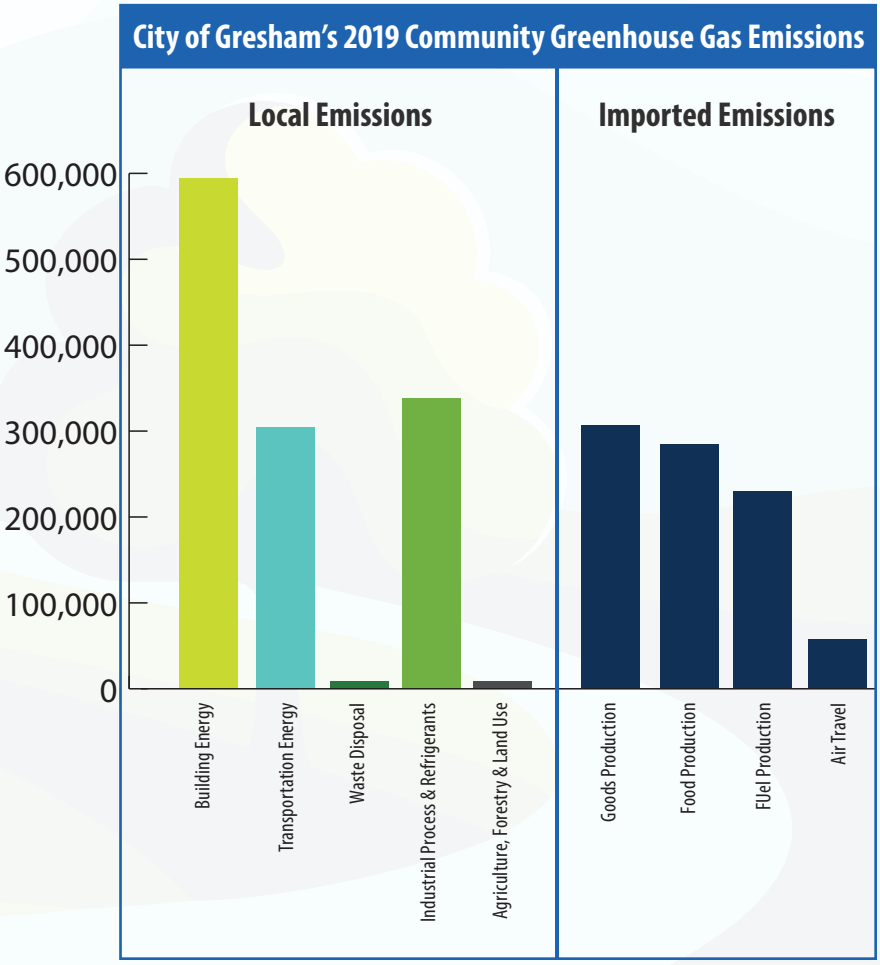
Buildings and energy, transportation, waste disposal, industrial processes and refrigerants, land use, and the consumption of goods were identified as the major sources of these emissions.

In terms of local emissions, Gresham generated 1.23 million MTCO2e. Of these emissions, building energy was the largest source, accounting for 47% of all local emissions, followed by industrial processes and refrigerants at 27%, and transportation use at 24%.

In terms of imported emissions, Gresham generated 880,000 MTCO2e, which accounts for 41% of total community emissions. Of these imported emissions, the production of goods, food production, and fuel travel account for about 250,000-300,000 MTCO2e each.

For more information on Gresham's greenhouse gas emissions inventories, see Appendix B: Gresham Community Greenhouse Gas Emissions Inventory; and Appendix C: City of Gresham Greenhouse Emissions Inventory 2017-2018.





OVERVIEW OF FUTURE PHYSICAL CONDITIONS STUDY

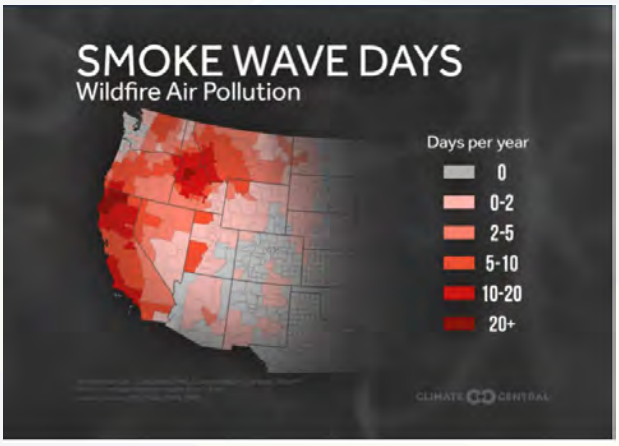
The study of future conditions in Gresham used trends found in data sets for local climate and weather patterns, environmental quality, and carbon emissions. The study assessed how Gresham will be directly affected by climate change and what those impacts will look like.

Based on these trends, the study found that Gresham can expect to experience more frequent and intense extreme weather and natural hazards.

GRESHAM: THE NEW SACRAMENTO VALLEY?

A key finding of this study: By the year 2100, Gresham is likely to experience an increase in days with temperatures over 90 degrees Fahrenheit, moving from an average of 7 days per year to 65 days per year – from roughly a week to nearly two months. Based on current climate models, this is a pattern more akin to California's Sacramento Valley.

With more days over 90 degrees, Gresham is also likely to experience more days impacted by wildfire smoke, increasing from an average of 11 days per year to 21 by 2050. These conditions are likely to coincide with decreased snowpack in the Cascade Mountains, and a shorter but more intense wet season.



For further discussion of the Future Physical Conditions Study, see Appendix D: Future Physical Conditions – How Will Climate Change Affect Gresham?.

COMMUNITY ENGAGEMENT

The community formed and prioritized climate action strategies in the development of this plan. Community partners and local technical experts attended community workshops throughout 2022 and 2023. The feedback in this phase helped refine strategies for the draft plan presented to the wider community in fall 2023.

More trees, better access to energy efficiency incentives

In a second round of workshops, the community voiced support for strategies to improve Gresham's tree canopy to reduce the impacts of extreme heat, improve access to energy efficiency incentive programs, and improve access to low-to-no-cost repair and reuse services. This feedback helped further organize the plan's strategies and priorities.

For further discussion of community engagement, see Appendix G: Climate Action Plan Community Engagement Report.

CLIMATE CHANGE AND EQUITY

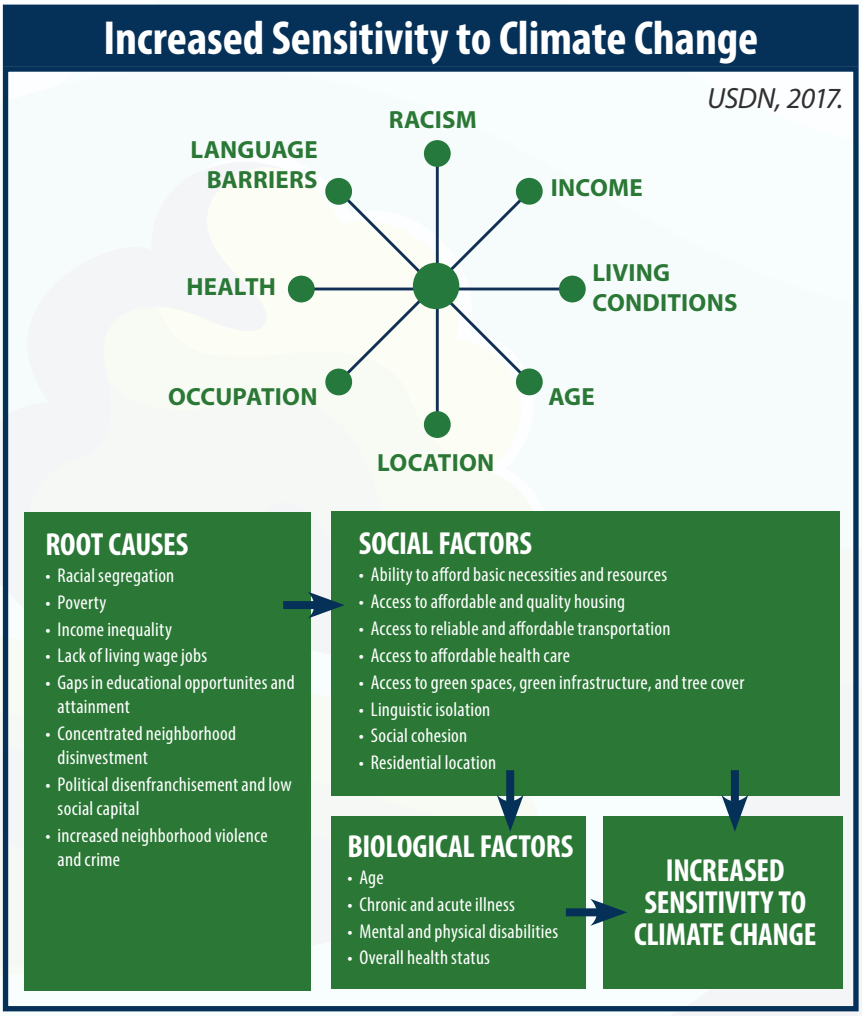
Though climate change affects everyone, studies have shown that certain communities have a greater vulnerability to climate hazards and experience a greater burden of risk to injury, loss of life, and displacement under hazardous conditions.

Prioritizing vulnerable communities

In support, this plan prioritizes vulnerable communities in Gresham and develops strategies to ensure equitable distribution of health and cost savings from reducing emissions.

This plan adopts a Diversity, Equity, and Inclusion (DEI) Assessment Tool to ensure equity is a key consideration in planning and implementing strategies.

For more information on the DEI Assessment tool, see Appendix E: Diversity, Equity, and Inclusion Assessment Tool and Co-Benefits Framework.



HOW TO NAVIGATE THIS PLAN

REDUCED POLLUTION BURDEN

ECONOMIC INCLUSION AND COST SAVINGS

COMMUNITY HEALTH AND SAFETY

EQUITABLE ACCESS TO CRITICAL INFRASTRUCTURE

SIX CORE FOCUS AREAS

The findings of Gresham's greenhouse gas inventories and future physical conditions study determine the six core focus areas of this plan's strategies.

These focus areas are also based on whether they emphasize reducing emissions or building climate resilience.

'CO-BENEFITS' AND COMMUNITY WELL-BEING

Gresham's climate strategies also provide additional benefits to a community's well-being, commonly referred to as "co-benefits." This plan recognizes economic inclusion and cost savings, reduced pollution burden, equitable access to critical infrastructure, and community health and resilience as co-benefits.

ECONOMIC INCLUSION AND COST SAVINGS

Actions that reduce emissions or build resilience often create cost savings or access to economic opportunities.

Energy efficiency, for example, reduces the amount a community spends on energy by using less of it to perform the same tasks. This not only translates into fewer emissions from energy use but reduces the percentage of household or business incomes spent on energy costs – also known as energy burden.

REDUCED POLLUTION BURDEN

Reduced emissions often come with improvements in pollution levels and air quality. Communities located close to major roadways, for example, tend to be greatly impacted by air pollution.

Strategies that support planting trees along major roadways can create a natural pollution buffer, while strategies that support diverse transportation options and walkable neighborhoods create more opportunities to travel without relying on vehicles.

These strategies can reduce the community's exposure to pollution, saving costs on health impacts and transportation expenses.

EQUITABLE ACCESS TO CRITICAL INFRASTRUCTURE

Developing climate strategies to remove physical and institutional barriers can grant easier access to transportation, green spaces, health care and employment.

Services and community destinations are developed close to where they are needed through urban planning that supports diverse land uses and housing types. Well-connected and safe networks of sidewalks and public transportation are examples of this, saving transportation costs.

COMMUNITY HEALTH AND SAFETY

The ultimate goal of climate action is to support community health and safety.

Strategies that support planting and maintaining trees can reduce the risk of heat-related illnesses during extreme weather by shading buildings and cooling outdoor spaces. Improvements in resilience like this can also result in reduced energy costs from running air conditioners or prevent healthcare expenses from heat-related illnesses.

For more information on the approach to co-benefits, see Appendix E: Diversity, Equity, and Inclusion Assessment Tool and Co-benefits Framework.

MITIGATION AND REDUCTION

BUILDINGS AND ENERGY

This chapter focuses on reducing emissions from how energy is generated and used in the community, as well as supporting the community in accessing incentives for energy efficiency.

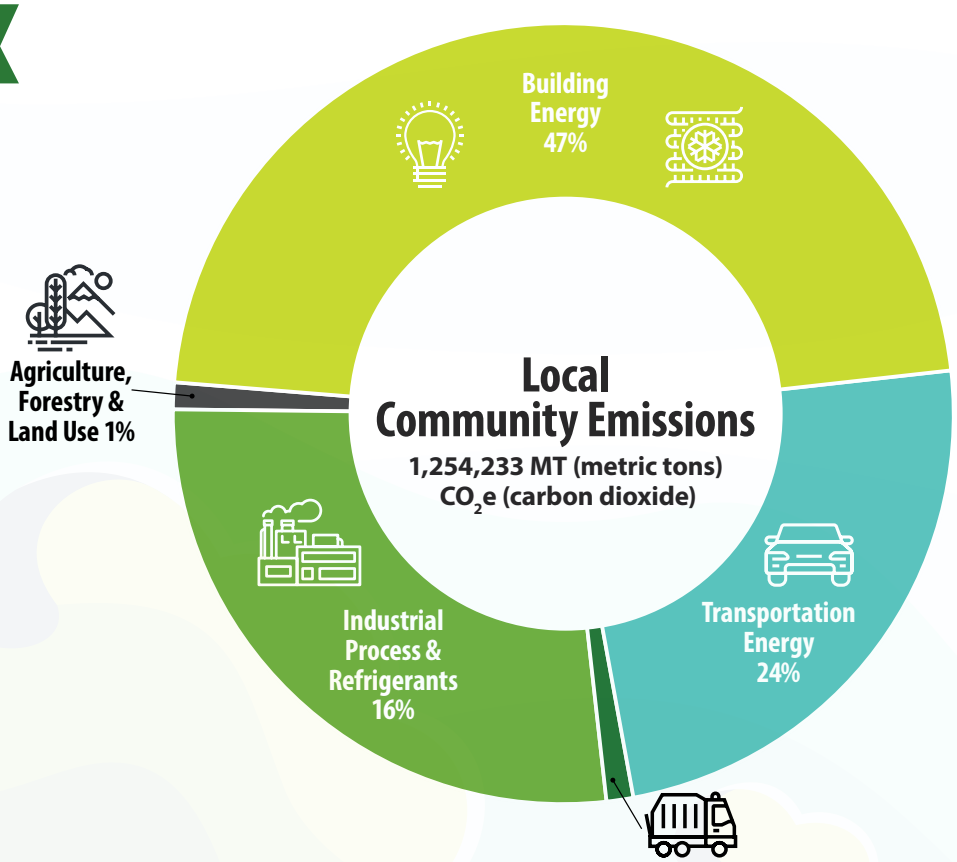
Buildings and energy are the source of 47% of Gresham's local greenhouse gas emissions, accounting for 595,000 MTOC2e.

- **The carbon intensity** of the energy sources used to supply electricity through the local grid influences these emissions.
- **Gresham's electrical grid** is powered primarily by high-carbon fossil fuels, such as coal and natural gas, even though the percentage of renewably sourced energy from wind and solar is growing.
- **Gresham can reduce** its greenhouse gas emissions impact from energy sourcing by supporting utilities in developing renewable energy sources, as well as supporting community-scale renewable energy projects that provide additional resilience benefits.

Making energy efficient upgrades

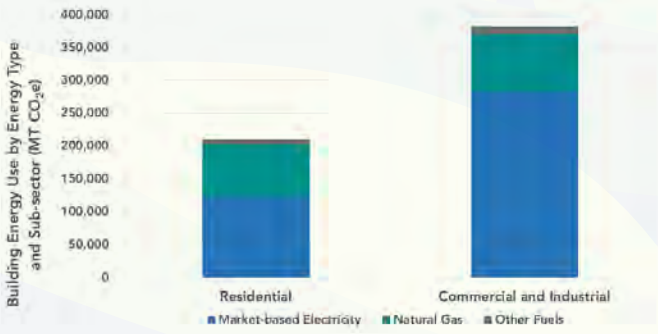
Energy efficiency influences building emissions. A building, depending on its size, use and age, may require large amounts of electricity and natural gas for lighting, heating, cooling, and powering appliances.

The cost of energy efficiency upgrades can be brought down by incentives from state, federal, and community- based programs, making further cost savings and emissions reductions possible.



Building Energy results details

Electricity, natural gas, propane and fuel oil
Almost 595,000 MT CO_2e



In 2019, PGE's residential and businesses customers in Gresham purchased renewable energy in the form of Renewable Energy Credits (RECs) equal to about 11% of demand, which decreased market-based electricity accounting emissions by 50,719 MT CO_2e.

SUPPORTING PLANS AND PROGRAMS

Oregon Climate Protection Plan
Requires utilities, fuel suppliers and large emission-producing facilities to reduce their emissions by 90% by 2040.

Oregon Renewable Portfolio Standard
Requires at least 50% of Oregon's electricity to come from renewable sources by 2040.

Oregon Department of Energy Community Renewable Energy Fund
Provides incentives and technical support for building community-scale renewable energy and battery storage projects.

Buildings and Energy - Energy Sourcing

BE-1 INCREASE THE SUPPLY OF RENEWABLE ENERGY TO THE COMMUNITY.

(a) Partner with Oregon Public Utilities Commission and local utilities to develop a Green Tariff program customer opt-out-only and energy assistance features.

(b) Partner with state agencies and local utilities to develop opportunities for community-scale renewable energy generation projects with storage storage that increase the community's energy independence and climate resilience.

(c) Develop and distribute educational materials to inform the community of Green Tariff and community-scale project offerings, and gain input from energy-burdened and climate-vulnerable communities.

(d) Develop and distribute educational materials that are translated in a diversity of languages.

(e) Apply for and award grant funding for projects and programs.

Community Priority: HIGH

GHG Emissions Reduction Rating:

(Reduces annual emmissions by more than 10,000 $MTCO^2e$)

Cobenefits:

- Reduced Pollution Burden
- Economic Inclusion and Cost Savings
- Equitable Access to Critical Infrastructure
- Community Health and Safety

Lead / Liaison

Solid Waste and Sustainability

Community Partners

Energy Trust of Oregon
Multnomah County Sustainability Office
NW Natural
Oregon Department of Energy
Oregon Public Utilities Commission
Portland GeneralElectric

Internal Partners

Finance
Facilities
Fleet
Urban Renewal
Wastewater Treatment Plan

BE-2 EXPAND PARTICIPATION IN ENERGY DEMAND RESPONSE PROGRAMS, AS CAPACITY BECOMES AVAILABLE.

(a) Support local utilities in developing local capacity for demand response programs.

(b) Develop and distribute educaitonal materials to promote existing programs for all commercial property and housing types to increase participation as capacity becomes available.

(c) Provide technical assistance to community in accessing programs as provided and managed by local utilities.

(d) Support local utilities in assessing the demand response required for current residential and commercial building stock and energy use.

Community Priority: LOW

GHG Emissions Reduction Rating:

(Reduces annual emmissions by 1,000 to 2,000 $MTCO^2e$)

Cobenefits:

- Economic Inclusion and Cost Savings

Lead / Liaison

Solid Waste and Sustainability

Community Partners

Energy Trust of Oregon
Portland General Electric

Internal Partners

Economic and Development Services

BE-3 SUPPORT THE DEVELOPMENT OF COMMUNITY-SCALE RENEWABLE ENERGY MICRO-GRID PROJECTS WITH BATTERY STORAGE.

(a) Review approaches, policies, and plans in other cities to assess best practices for development and implementation.

(b) Partner with state and local agencies, local utilities, and community-based organizations to develop onsite community-scale renewable energy generation projects with battery storage.

(c) Identify and assess potential policy, regulatory, utility, and infrastructure barriers to projects.

(d) Develop workforce development opportunities in projects, prioritizing energy-burdened and climate vulnerable communities.

(e) Develop and distribute educational materials and workshops to inform the community of project offerings, and gain input from energy-burdened and climate-vulnerable communities.

(f) Develop and distribute educational materials that are translated in a diversity of languages.

(g) Apply for and award grant funding for projects, prioritizing Community Renewable Energy Project grants from Oregon Department of Energy.

Community Priority: HIGH

GHG Emissions Reduction Rating: ★★★☆☆

(Reduces annual emmissions by 2,500 to 5,000 $MTCO^2e$)

Cobenefits:

- Reduced Pollution Burden
- Economic Inclusion and Cost Savings
- Equitable Access to Critical Infrastructure
- Community Health and Safety

Lead / Liaison

Solid Waste and Sustainability

Community Partners

Energy Trust of Oregon
Multnomah County Sustainability Office
NW Natural
Oregon Department of Energy
Oregon Public Utilities Commission
Portland General Electric

Internal Partners

Finance
Urban Design and Planning
Urban Renewal

Buildings and Energy - Energy Efficiency

BE-4 SUPPORT INCREASED ACCESS TO ENERGY EFFICIENCY AND WEATHERIZATION IN ALL BUILDING TYPES AND PROPERTY USES.

(a) Develop a community energy efficiency strategy that prioritizes energy-burdened and climate-vulnerable communities.

(b) Support community-based organizations in hosting community workshops on energy efficiency and weatherization.

(c) Support residents and businesses in accessing incentives and resources provided by Energy Trust of Oregon, Community Energy Project, State agencies, and other community-based programs.

Community Priority: HIGH

GHG Emissions Reduction Rating: ★★★☆☆

(Reduces annual emmissions by 2,500 to 5,000 $MTCO^2e$)

Lead / Liaison

Solid Waste and Sustainability

BE-4 - CONTINUED SUPPORT INCREASED ACCESS TO ENERGY EFFICIENCY AND WEATHERIZATION IN ALL BUILDING TYPES AND PROPERTY USES.

(d) Develop and distribute educational materials and workshops to promote existing programs for all housing types and commercial properties, prioritizing energy-burdened and climate-vulnerable communities.

(e) Develop and distribute educational materials that are translated in a diversity of languages.

(f) Support workforce development opportunities for energy efficiency and weatherization, prioritizing energy-burened and climate-vulnerable communities.

(g) Support dialogue between property management and tenants to overcome split incentives for energy efficiency and weatherization in rental properties.

(h) Apply for and award grant funding for projects that provide energy efficiency and weatherization materials to the community.

Cobenefits:

- Reduced Pollution Burden
- Economic Inclusion and Cost Savings
- Equitable Access to Critical Infrastructure
- Community Health and Safety

Community Partners

Earth Advantage
Energy 350
Energy Trust of Oregon
Gresham Chamber of Commerce
Historic Downtown Gresham Business Association
Multnomah County Sustainability Office
NW Natural
Oregon Departmen of Energy
Oregon Department of Housing and Community Services

Internal Partners

Communications
Community Engagement
Community Services
Economic and Development Services
Urban Renewal

BE-5 DEVELOP A GREEN BUILDINGS FRAMEWORK TO INCENTIVIZE HIGHER STANDARDS OF ENERGY EFFICIENCY, EMISSIONS PERFORMANCE, AND EMBODIED CARBON IN NEW DEVELOPMENTS.

(a) Review approaches, policies, and plans in other cities to assess best practices for development, implementation, trade-offs, and incentives.

(b) Identify best practices in existing green buildings frameworks: Sustainable Buildings for All (SB4A), Oregon Zero Energy Ready Commercial Code, Oregon Reach Code, Energy Trust of Oregon Energy Performance Standard.

(c) Develop a pilot framework based on findings to be presented to City Council for consideration.

(d) Develop and distribute educational materials to inform the community of program offerings.

(e) Develop and distribute educational materials that are translated in a diversity of languages.

Community Priority: LOW

GHG Emissions Reduction Rating: ★★★★☆

(Reduces annual emmissions by 5,000 to 10,000 $MTCO^2e$)

Cobenefits:

- Reduced Pollution Burden

Lead / Liaison

Solid Waste and Sustainability

Community Partners

Design Commission
Energy Trust of Oregon
Oregon Department of Energy
Oregon Department of Environmental Quality

Internal Partners

Economic and Development Services
Urban Design and Planning

BE-6 DEVELOP AN INFORMATION HUB FOR INCENTIVES AND PERMITTING FOR RENEWABLE ENERGY PROJECTS TO STREAMLINE PERMITTING REQUIREMENTS AND PROCESS.

(a) Review approaches, policies, and plans in other cities to assess best practices for development and implementation.

(b) Based on review findings, develop a set of recommended actions to streamline permiting requirements, process, and access to permitting information.

(c) Update renewable energy code.

Community Priority: LOW

GHG Emissions Reduction Rating:

(Reduces annual emmissions by less than 1,000 $MTCO^2e$ or lays the foundation for other efforts)

Cobenefits:

- Equitable Access to Critical Infrastructure

Lead / Liaison

Solid Waste and Sustainability

Community Partners

Design Commission

Internal Partners

Communications
Economic and Development Services
Urban Design and Planning

BE-7 ADOPT A RESIDENTIAL ENERGY SCORE

(a) Review approaches, policies, and plans in other cities to assess best practices for developing and implementing a residential energy score.

(b) Partner with Oregon Department of Energy in developing a scoring and compliance framework.

(c) Develop and distribute educational materials to inform the community of program offerings, and gain input from energy-burdened and climate-vulnerable communities.

(d) Support owners of low-scoring properties in accessing incentives for energy efficiency and weatherization materials and resources.

Community Priority: LOW

GHG Emissions Reduction Rating:

(Reduces annual emmissions by less than 1,000 $MTCO^2e$ or lays the foundation for other efforts)

Cobenefits:

- Economic Inclusion and Cost Savings
- Community Health and Safety

Lead / Liaison

Solid Waste and Sustainability

Community Partners

Community Energy Project
Earth Advantage
Energy 350
Energy Trust of Oregon
Oregon Department of Energy
Oregon Department of Housing and Community Services

Internal Partners

Economic and Development Services

URBAN FORM AND TRANSPORTATION

This chapter focuses on reducing emissions from transportation by supporting access to a variety of transportation options, and reducing the climate impact of land-use and community development practices.

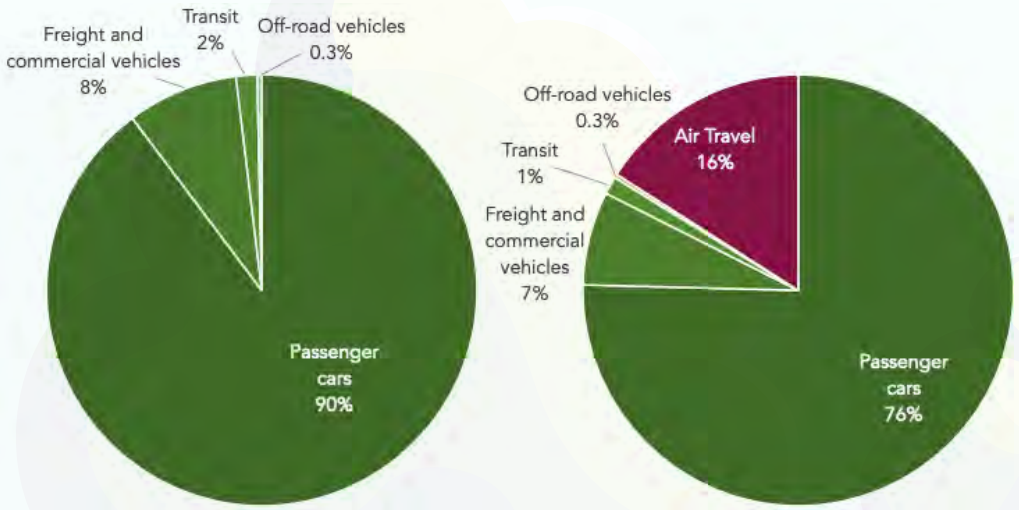
Transportation emissions

Transportation is a major source of greenhouse gas emissions in Gresham, accounting for 14% of all local emissions.

Gresham's greenhouse gas emissions inventory found that of the 300,000 MTCO2e caused by transportation, vehicle emissions caused 90% and transit 10%.

According to the emissions study, however, transportation emissions are likely much higher due to how people commute to and from Gresham and other areas in the greater Portland metro area every day.

Transportation Emissions. Magenta is consumption-based.



Walkable communities, housing options close to transit = less emissions

Urban planning significantly influences transportation emissions. Planning practices determine the type of transportation system that is developed as a community grows, and how easily different transportation options can be used or accessed.

Communities prioritizing car use, rather than walking and transit access, typically have greater greenhouse gas emissions from transportation.

- **Approximately 60% of Gresham's land-use** is designated for low-density housing, which is often situated far from transit, resulting in approximately 70% of all commutes in Gresham being made by car. (Gresham Transportation System Plan, 2013; Census Reporter, 2022.)

Gresham can reduce its emissions from transportation and urban planning through strategies that support accessible, low-cost, and low-carbon transportation options. This includes safe and interconnected networks of sidewalks and bike lanes. Further emissions can be reduced through strategies that support a strong mix of housing options that are close to transit and support high standards of energy efficiency in new developments.

SUPPORTING PLANS AND PROGRAMS

Oregon Climate Friendly and Equitable Communities
Framework supports planning practices that support walkable communities with dense developments with a diversity of housing options that are close to transit.

Gresham Transportation System Plan
Guides making a variety of transportation options available in Gresham based on the community's need for growth and improvements in infrastructure.

UFT-1 INTEGRATE A CLIMATE RESILIENCE AND CLIMATE EQUITY APPROACH TO ALL UPDATES TO THE COMPREHENSIVE PLAN.

(a) Develop and apply a climate lens into all Comprehensive Plan policy updates to support climate resilience and climate equity.

(b) Develop climate lens terminology, definitions, and criteria to best support use of climate lense.

(c) Review climate resilience and climate equity lens approaches and frameworks used in other cities.

Community Priority: MED

GHG Emissions Reduction Rating:

(Reduces annual emissiosn by less than 1,000 MTCO2e or lays the foundation for other efforts)

Cobenefits:

- Reduced Pollution Burden
- Equitable Access to Critical Infrastructure
- Community Health and Safety

Lead / Liaison

Solid Waste and Sustainability

Community Partners

Design Commission

Internal Partners

Urban Design and Planning

UFT-2 SUPPORT DENSE, MIXED-USE DEVELOPMENTS NEAR FREQUENT TRANSIT THROUGH IMPLEMENTATION OF CLIMATE FRIENDLY AND EQUITABLE COMMUNITIES RULES, MIDDLE HOUSING RULES, AND GRESHAM'S HOUSING PRODUCTION STRATEGY.

(a) Review approaches, policies, and plans in other cities to assess best practices.

(b) Compare land-use densities along transit map to identify opportunities for dense, mixed-use developments near transit.

Community Priority: MED

GHG Emissions Reduction Rating:

(Reduces annual emissiosn by less than 1,000 MTCO2e or lays the foundation for other efforts)

Cobenefits:

- Equitable Access to Critical Infrastructure
- Community Health and Safety

Lead / Liaison

Urban Design and Planning

Community Partners

Design Commission
TriMet

Internal Partners

Solid Waste and Sustainability

UFT-3 REVIEW PUBLIC WORKS STANDARDS TO SUPPORT CLIMATE RESILIENCE IN THE DEVELOPMENT OF NEW INFRASTRUCTURE AND CAPITAL IMPROVEMENT PROJECTS.

(a) Develop and integrate a climate lens to assess public works and CIP projects during the design phase as a means to identify opportunities to reduce emissions on a project-by-project basis.

(b) Develop a standard operating procedure for applying a climate lens to public works and capital improvement projects.

(c) Evaluate public works standards that govern aspects of infrastructure development that are carbon-intense, prioritizing actions that reduce emissions in supply chain, transportation of materials, and construction practices.

Community Priority: LOW

GHG Emissions Reduction Rating:

(Reduces annual emissions by 2,500 - 5,000 MTCO2e)

Cobenefits:

- Reduced Pollution Burden

Lead / Liaison

Solid Waste and Sustainability

Community Partners

Comcast
Local Developers
NW Natural
Portland General Electric

Internal Partners

Solid Waste and Sustainability
Transportation
Water
Watershed
Wastewater

UFT-4 INTEGRATE A CLIMATE RESILIENCE AND CLIMATE EQUITY APPROACH INTO THE TRANSPORTATION SYSTEM PLAN.

(a) Develop and apply a climate lens to use in evaluating Transportation System Plan policies and projects.

(b) Develop climate lens terminology, definitions, and criteria to best support use of climate lens.

(c) Evaluate a transportation planning hierarchy framework that prioritizes active transportation and transit in all transportation planning.

(d) Review climate resilience and climate equity lens approaches and frameworks used in other cities.

(e) Develop a micro-mobility policy that supports the implementation of micro-mobility pilot projects to improve first-and-last-mile connections.

Community Priority: MED

GHG Emissions Reduction Rating:

(Reduces annual emissiosn by less than 1,000 MTCO2e or lays the foundation for other efforts)

Cobenefits:

- Reduced Pollution Burden
- Equitable Access to Critical Infrastructure
- Community Health and Safety

Lead / Liaison

Solid Waste and Sustainability

Community Partners

Design Commission

Internal Partners

Urban Design and Planning

UFT-5 DEVELOP A COMMUNITY ENGAGEMENT CAMPAIGN TO SUPPORT ACTIVE TRANSPORTATION AND TRANSIT OPTIONS.

(a) Support community-based organizations in improving access to active transportation and transit options.

(b) Support active transportation and transit options through City communications and newsletters.

(c) Develop and distribute educational materials to inform the community of project offerings.

(d) Develop and distribute educational materials that are translated in a diversity of languages.

Community Priority: MED

GHG Emissions Reduction Rating:

(Reduces annual emissions by 1,000 - 2,000 MTCO2e)

Cobenefits:

- Equitable Access to Critical Infrastructure
- Community Health and Safety

Lead / Liaison

Urban Design and Planning

Community Partners

Oregon Metro
TriMet
Transportation Subcommittee

Internal Partners

Communications
Community Engagement
Solid Waste and Sustainability

Urban Form and Transportation - Electric Vehicles

UFT-6 CONSIDER CODE TO REQUIRE ALL NEW DEVELOPMENTS TO BE EV-READY.

(a) Review approaches, policies, and plans in other cities to assess best practices for development and implementation.

(b) Consider requirements that new single-detached and middle housing developments provide 200V outlets in garage and driveways to support federal, state, and local electric vehicle charging infrastructure goals.

Community Priority: MED

GHG Emissions Reduction Rating:

(Reduces annual emissions by 1,000 - 2,000 MTCO2e)

Cobenefits:

- Economic Inclusion and Cost Savings
- Equitable Access to Critical Infrastructure

Lead / Liaison

Solid Waste and Sustainability

Community Partners

Forth Mobility
Local Developers

Internal Partners

Economic and Development Services
Urban Design and Planning

UFT-7 SUPPORT THE DEVELOPMENT OF ELECTRIC-VEHICLE CHARGING HUBS IN HIGH-TRAFFIC COMMUNITY DESTINATIONS.

(a) Review approaches, policies, and plans in other cities to assess best practices for development and implementation.

(b) Partner with mobility-focused community-based organizations, property owners and managers, and Portland General Electric to identify and develop charging hub opportunities.

(c) Develop and distribute educational materials to inform the community of project offerings, and gain input from the community.

(d) Develop and distribute educational materials that are translated in a diversity of languages.

(e) Apply for and award grant funding for projects that support community charging hubs.

Community Priority: LOW

GHG Emissions Reduction Rating: ★★☆☆☆

(Reduces annual emissions by 1,000 - 2,000 MTCO2e)

Cobenefits: Equitable Access to Critical Infrastructure

Lead / Liaison

Solid Waste and Sustainability

Community Partners

Blink Charging
ChargePoint
Forth Mobility
Local Property Managers and Owners
TriMet

Internal Partners

Economic and Development Services
Urban Design and Planning
Urban Renewal

UFT-8 DEVELOP AN INFORMATION HUB FOR INCENTIVES AND PERMITTING FOR ELECTRIC VEHICLE CHARGING PROJECTS TO STREAMLINE PERMITTING REQUIREMENTS AND PROCESS.

(a) Review approaches, policies, and plans in other cities to assess best practices for development and implementation.

(b) Consider operation standards for public electric vehicle charging stations that include: (1) maintenance schedule, (2) lighting, (3) charging and parking time limits, (4) signage and instructions, (5) language access, (6) location and siting safety, (7) ADA accessibility, and (8) accepted forms of payment.

(c) Based on review findings, develop a set of recommended actions to streamline permiting requirements, process, and access to permitting information.

Community Priority: LOW

GHG Emissions Reduction Rating: ★☆☆☆☆

(Reduces annual emissiosn by less than 1,000 MTCO2e or lays the foundation for other efforts)

Cobenefits: Equitable Access to Critical Infrastructure

Lead / Liaison

Solid Waste and Sustainability

Community Partners

Oregon Department of Transportation

Internal Partners

Economic and Development Serices
Urban Design and Planning
Urban Renewal

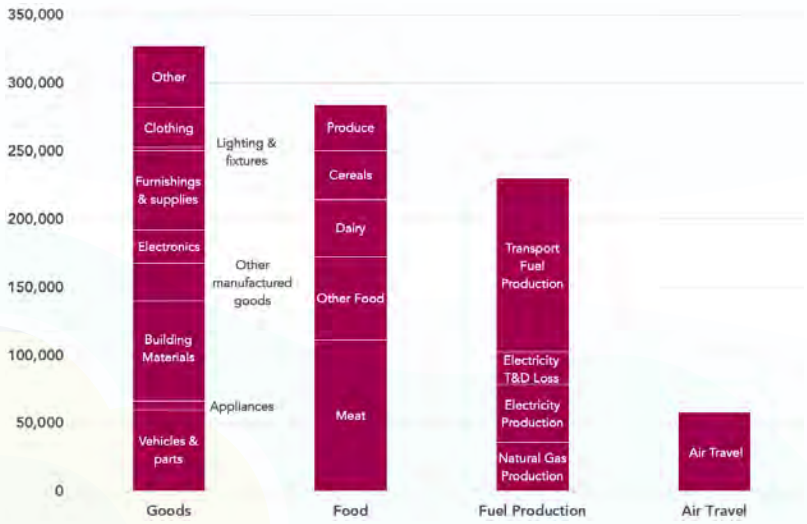
SOLID WASTE AND CONSUMPTION

This chapter focuses on reducing emissions through strategies that support improved recycling, food waste reduction and reuse programs in Gresham.

The consumption of goods is the overall largest source of emissions in Gresham, accounting for 41% of all community emissions, and measuring at 879,000 MTCO2e. According to Gresham's greenhouse gas emissions inventory, the goods that contribute the most to waste-related emissions are building materials, food, vehicles and parts, clothing and electronics.

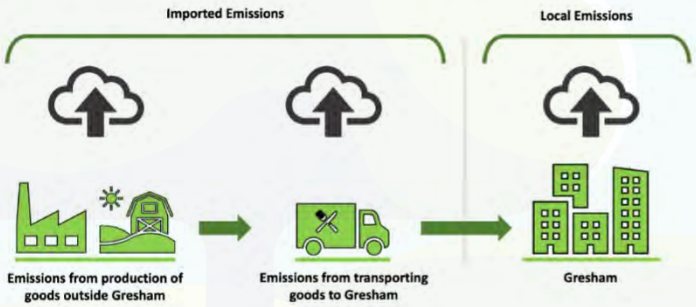
Generally, emissions from consumption are generated outside of Gresham's geographic boundary. Manufactured goods are transported to Gresham, where they are consumed and disposed of.

Community 2019 Imported Emissions by Category



Food waste emissions

Of all the goods consumed in Gresham, food has an oversized emissions impact. One third of all consumption-based emissions in Gresham, measuring at 284,000 MTCO2e, come from the consumption of food.



Studies by the United States Department of Agriculture found that approximately 40% of all food in the United States is waste each year, making it likely nearly half of Gresham's food-based emissions were generated without any benefit. (USDA, 2021)

In addition to being a major source of emissions, food waste is linked to issues of food access and systemic inequities. According to the Oregon Food Bank, approximately 1 in 8 Oregonians experience food insecurity, a statistic that is disproportionately represented by members of Black, Indigenous and people of color (BIPOC) and low-income communities (OFB, 2021).

Gresham can reduce its emissions from consumption through existing programs that support preventing and recovering food waste, such as improved food scrap collection and recovery services. Strategies that support repair and reuse services can improve the community's access to low to no-cost alternatives to purchasing new goods. And often provide opportunities for learning repair skills.

SUPPORTING PLANS AND PROGRAMS

Metro 2030 Regional Solid Waste Plan
Supports the work of local governments to improve the region's solid waste and recycling system.

Oregon Recycling Modernization Act
Guides the improvement of the state's recycling system and requires producers to be involved in the development of recycling options for the materials they use in manufacturing goods and services.

Commercial Food Scrap Separation Requirement
Requires businesses to dispose of their food waste in a separate container from their garbage for composting. renewable energy and battery storage projects.

Solid Waste and Consumption - Food Waste Prevention

SWC-1 CONDUCT FOOD WASTE PREVENTION OUTREACH TO THE COMMUNITY TO DIVERT ORGANIC WASTE FROM LANDFILLS.

(a) Provide technical assistance and information on Eat Smart Waste Less program offerings.

(b) Provide technical assistance and information on Food Waste Stops With Me program offerings.

(c) Provide technical assistance and informational resources on Food Waste Warrior program offerings.

(d) Provide technical assistance and informational resources to schools, businesses, and all residential property types.

(e) Develop and distribute educational materials to inform the community of program offerings.

(f) Develop and distribute educational materials that are translated in a diveristy of languages.

Community Priority: MED

GHG Emissions Reduction Rating:

(Reduces annual emissions by 5,000 - 10,000 MTCO2e)

Cobenefits:

- Reduced Pollution Burden
- Economic Inclusion and Cost Savings

Lead / Liaison

Solid Waste and Sustainability

Community Partners

Local Government Partners
Solid Waste Haulers

Internal Partners

Communications
Community Engagement

SWC-2 SUPPORT VISIBILITY AND ACCESS TO FOOD ACCESS, SECURITY, AND DONATION SERVICES.

(a) Provide technical assistance, informational resources, and support to food access and distribution services.

(b) Provide technical assistance, informational resources, and support to develop and maintain relationshisp between food generators and food access, security, and donation services.

(c) Apply for and award grant fudning for projects that support food access, security, and donation services.

Community Priority: HIGH

GHG Emissions Reduction Rating:

(Reduces annual emissions by 2,500 - 5,000 MTCO2e)

Cobenefits:

- Reduced Pollution Burden
- Economic Inclusion and Cost Savings

Lead / Liaison

Solid Waste and Sustainability

Community Partners

Birch Community Services
Oregon Food Bank
Rockwood Food Systems Collaborative
Snowcap Family Services

SWC-3 IMPLEMENT COMMERCIAL FOOD SCRAP COLLECTION REQUIREMENT.

(a) Provide technical assistance, informational resources, and support to local businesses to divert food waste from garbage and landfill streams.

(b) Provide technical assistance, informational resources, and support to local businesses that generate food waste.

(c) Prioritize implementation in businesses with larger food waste production impacts.

(d) Develop and distribute educational materials to inform the business community of project offerings and requirements.

(e) Develop and distribute educational materials that are translated in a diversity of languages.

Community Priority: HIGH

GHG Emissions Reduction Rating: ★★★☆☆

(Reduces annual emissions by 2,500 - 5,000 MTCO2e)

Cobenefits:

- Reduced Pollution Burden
- Economic Inclusion and Cost Savings

Lead / Liaison

Solid Waste and Sustainability

Community Partners

Local Government Partners
Oregon Metro
Solid Waste Haulers

Internal Partners

SWC-4 DEVELOP A STRATEGY TO EXPAND FOOD SCRAP COLLECTION AND COMPOSTING SERVICES TO RESIDENTIAL SOLID WASTE SERVICE CUSTOMERS.

(a) Identify local transfer stations that are permitted to accept yard debris with residential food scraps.

(b) Collaborate with local solid waste haulers to identify potential service options, opportunities, and barriers.

(c) Collaborate with local solid waste haulers to develop a rate structure that supports expanded residential service.

(d) Conduct community engagement and outreach to residential solid waste customers to identify potential program offerings, opportunities, and barriers.

Community Priority: HIGH

GHG Emissions Reduction Rating: ★★★★☆

(Reduces annual emissions by 5,000 - 10,000 MTCO2e)

Cobenefits:

- Reduced Pollution Burden
- Economic Inclusion and Cost Savings
- Equitable Access to Critical Infrastructure

Lead / Liaison

Solid Waste and Sustainability

Community Partners

Local Government Partners
Neighborhood Associations
Multifamily Property Managers
Solid Waste Haulers

Internal Partners

Communications
Community Engagement
Neighborhood Services

SWC-5 IMPLEMENT GREEN BUSINESS PROGRAM

(a) Provide technical assistance, informational resources, and support to businesses to meet business recycling and food waste reduction requirements.

(b) Provide technical assistance, informational resources, and support to businesses to support waste prevention practices in the community.

(c) Provide technical assistance, informational resources, and support to businesses and community-based organizations in accessing incentives from Energy Trust of Oregon and state programs for energy efficiency and weatherization upgrades.

(d) Develop reports and case studies of successful business and community-based projects that resulted in waste prevention, emisssions reduction, improved resilience, and cost savings.

(e) Develop and distribute educational materials that are translated in a diversity of languages.

Community Priority: HIGH

GHG Emissions Reduction Rating:

(Reduces annual emissions by 2,500 - 5,000 MTCO2e)

Cobenefits:

- Economic Inclusion and Cost Savings
- Equitable Access to Critical Infrastructure

Lead / Liaison

Solid Waste and Sustainability

Community Partners

Energy Trust of Oregon
Gresham Chamber of Commerce
Historic Downtown Gresham Association
ODOE
PGE

Internal Partners

Communications
Economic and Development Services
Urban Renewal

SWC-6 SUPPORT IMPLEMENTATION OF OREGON RECYCLING MODERNIZATION ACT.

(a) Provide technical assistance, informational resources, and support to the community to reduce contamination in Gresham's recycling stream.

(b) Collaborate with local solid waste haulers to implement Recycle Plus program to accept non-curbside recyclable materials at residential property types.

(c) Collaborate with local solid waste haulers to implement a rate structure that suports residential Recycle Plus program.

(d) Develop and distribute educational materials to inform the community of Recycle Plus program offerings.

Community Priority: MED

GHG Emissions Reduction Rating:

(Reduces annual emissions by 1,000 - 2,000 MTCO2e)

Cobenefits:

- Reduced Pollution Burden

Lead / Liaison

Solid Waste and Sustainability

Community Partners

Local Government Partners
Oregon Metro
Oregon Product Responsibility Organizations
Solid Waste Haulers
ODEQ

Internal Partners

SWC-7 EXPAND RECOVERY OF CONSTRUCTION AND DEMOLITION MATERIALS.

(a) Collaborate with local developers, construction companies, and solid waste haulers to develop service standards for construction and demolition waste materials.

(b) Collaborate with local developers, construction companies, and solid waste haulers to develop pilot projects for the disposal of construction and demolition waste materials.

(c) Review approaches, policies, and plans in other cities to assess best practices.

(d) Develop and distribute educational materials to inform the community of program offerings.

(e) Develop and distribute educational materials that are translated in a diversity of languages.

Community Priority: LOW

GHG Emissions Reduction Rating: ★★★☆☆
(Reduces annual emissions by 2,500 - 5,000 MTCO2e)

Cobenefits: Reduced Pollution Burden

Lead / Liaison

Solid Waste and Sustainability

Community Partners

Oregon Metro
Solid Waste Haulers
ODEQ

Internal Partners

Transportation

SWC-8 SUPPORT THE VISIBILITY AND ACCESS TO REPAIR AND REUSE SERVICES.

(a) Collaborate with community-based organizations to assess opportunities and barriers to improve access to existing repair and reuse services.

(b) Promote community repair and reuse events through City communications and newsletters.

(c) Develop and distribute educational materials to inform the community of program offerings.

(d) Develop and distribute educational materials that are translated in a diversity of languages.

(e) Apply for and award grant funding for projects that support access to repair and reuse services.

Community Priority: HIGH

GHG Emissions Reduction Rating: ★★☆☆☆
(Reduces annual emissions by 1,000 - 2,000 MTCO2e)

Cobenefits: Reduced Pollution Burden
Economic Inclusion and Cost Savings

Lead / Liaison

Solid Waste and Sustainability

Community Partners

Local Government Partners

Internal Partners

Communications
Community Engagement
Neighborhood Services

SWC-9 SUPPORT THE ESTABLISHMENT OF TOOL SHARE AND LIBRARY SERVICES IN GRESHAM.

(a) Collaborate with community partners to identify host locations, project leads, opportunities, and barriers to tool share and library services.

(b) Promote tool share and library services through City communications and newsletters.

(c) Develop and distribute educational materials to inform the community of project offerings.

(d) Develop and distribute educational materials that are translated in a diversity of languages.

(e) Apply for and award grant funding projects that support tool share and library services.

Community Priority: HIGH

GHG Emissions Reduction Rating:

(Reduces annual emissiosn by less than 1,000 MTCO2e or lays the foundation for other efforts)

Cobenefits:

- Economic Inclusion and Cost Savings
- Community Health and Resilience

Lead / Liaison

Solid Waste and Sustainability

Community Partners

Multnomah County Library
Mudbone Grown

Internal Partners

Communications
Community Engagement
Neighborhood Services

SWC-10 SUPPORT THE USE OF DURABLE TO-GO FOODWARE AND CONTAINERS.

(a) Collaborate with community partners to identify host locations, project leads, opportunities, and barriers to the use of durable to-go foodware and containers.

(b) Promote durable to-go foodware and containers through City communications and newsletters.

(c) Develop and distribute educational materials to inform the community of project offerings.

(d) Develop and distribute educational materials that are translated in a diversity of languages.

(e) Apply for and award grant funding projects that support use of durable to-go foodware and containers.

Community Priority: MED

GHG Emissions Reduction Rating:

(Reduces annual emissions by 1,000 - 2,000 MTCO2e)

Cobenefits:

- Reduced Pollution Burden

Lead / Liaison

Solid Waste and Sustainability

Community Partners

Local Government Partners
Bold Reuse

Internal Partners

Communications

ADAPTATION AND RESILIENCE

COMMUNITY HEALTH AND ECONOMIC RESILIENCE

This chapter focuses on building climate resilience in Gresham through strategies that support community health and safety, along with the well-being of local businesses and community-based organizations.

Studies have shown that climate change presents a severe risk to both community health and economic vitality through conditions that can prevent businesses from opening, disrupt supply chains, and create hazardous living and working conditions. (IPCC, 2022)

Studies have further found that losses in either community health or economic vitality tend to worsen losses in the other and intensify the impacts of social inequalities.

The strategies of this chapter therefore seek to support the community's ability to prepare for, withstand, and recover from extreme weather and hazardous conditions.

Extreme weather and sheltering in place

A central theme of this chapter is supporting the community's ability to shelter in place during extreme weather, particularly during heat events with temperatures that remain above 90 degrees Fahrenheit for long periods of time.

Studies have shown that extreme heat is becoming more frequent and intense in the Pacific Northwest, with nighttime temperatures remaining close to daytime highs, and a greater risk of smoke and fire danger.

Incentives to provide relief at home

During these events, it is essential that the community can find relief at home or work. State and federal programs provide incentives that help bring down the cost of energy efficiency, weatherization and emergency preparedness.

Incentive programs better the community's access to resources that improve indoor temperature and air quality – such as LED lighting, weather stripping, insulation, air filters, heat pumps, and mobile air conditioning units. Many of these resources can have the added benefit of cost savings. One can reinvest savings where they are needed or use them to lower living or business costs.

The strategies of this chapter also respond to calls from the community for more opportunities in building an informed, climate resilient workforce. Local community programs teach green infrastructure project skills, such as air quality monitoring, urban forestry, and emergency preparedness, and offer opportunities for support.

HEAT WAVE OF 2021

Typically, lower nighttime temperatures provide relief from daytime temperature peaks in the summer. However, during the heat wave of 2021, nighttime lows remained dangerously close to the daily average highs of 115, resulting in the deaths of 72 people in Multnomah County.

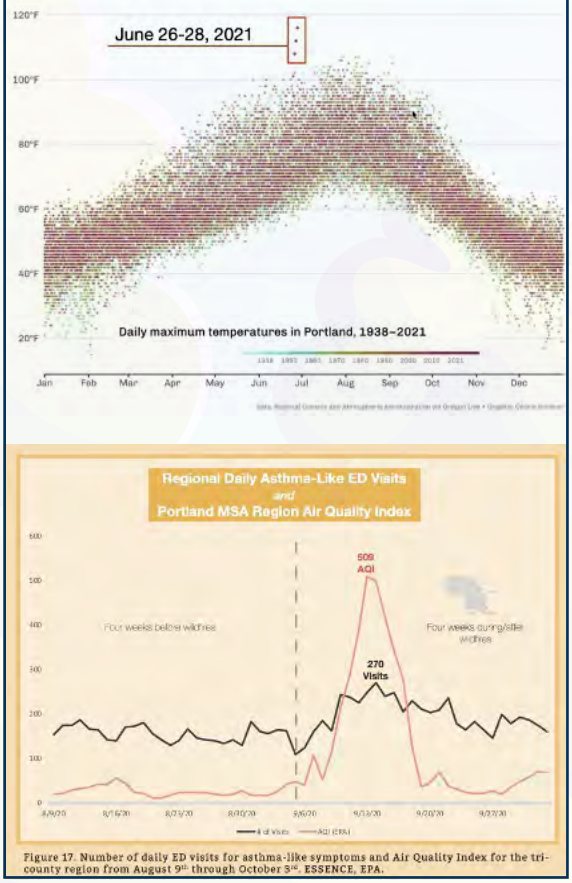


Figure 17. Number of daily ED visits for asthma-like symptoms and Air Quality Index for the tri-county region from August 9th through October 3rd. ESSENCE, EPA.

SUPPORTING PLANS AND PROGRAMS

Multi-Jurisdictional Natural Hazard Mitigation Plan
Guides how local emergency management programs can collaborate to prepare for, respond to, and lessen the impact of natural hazards.

Oregon Solar + Storage Rebate Program for Low-Income Service Providers
Offers rebates and technical assistance to developers and owners of affordable housing developments for on-site solar projects.

Oregon Rental Home Heat Pump Program
Provides rebates, incentives, and technical assistance for installing heat pumps in rental properties, manufactured dwellings, and recreational vehicles in rented spaces.

Community Health and Economic Resilience - Emergency Response and Preparedness

CHR-1 SUPPORT THE DEVELOPMENT OF AN EARLY WARNING AND OUTREACH SYSTEM FOR EXTREME WEATHER AND CLIMATE HAZARDS.

(a) Develop a standard operation procedure to disperse information on hazardous conditions and emergency response resources through community partners that serve climate-vulnerable communities.

(b) Partner with community-based organizations to distribute educational materials that provide information on hazardous conditions and emergency resources.

(c) Partner with community-based organizations to translate educational materials in a diversity of languages.

(d) Apply for and award grant funding to support early warning and outreach system projects.

Community Priority: HIGH

Climate Hazard:
- Fire and Smoke
- Extreme Heat
- Precipitation
- Winter Weather

Cobenefits:
- Equitable Access to Critical Infrastructure
- Community Health and Safety

Lead / Liaison

Solid Waste and Sustainability

Community Partners

Feed'em Freedom Foundation
Greater New Hope Charities
Latino Network
Multnomah County Emergency Management
Multnomah County Health Department
Multnomah County Sustainability Office
Rockwood CDC

Internal Partners

Communications
Community Engagement
Emergency Management
Fire and Police
Neighborhood Services

CHR-2 DEVELOP AND IMPLEMENT A COMMUNITY HEAT STRATEGY.

(a) Develop and implement a City heat strategy and plan to identify and mitigate the affects of extreme summer-time heat, priotizing climate-vulnerable communities.

(b) Audit all City plans and code to identify and assess current heat mitigation strategies.

(c) Make recommendations in City policy and code to advance and priortize desired mitigaiton strategies.

(d) Review GIS data findings in Growing Shade in Gresham Tool and Gresham Heat Strategy to identify and prioritize neighborhoods for tree canopy improvements.

Community Priority: HIGH

Climate Hazard:
- Extreme Heat

Cobenefits:
- Community Health and Safety

Lead / Liaison

Solid Waste and Sustainability

Community Partners

CAPA Strategies
Multnomah County Sustainability Office

Internal Partners

Emergency Management
Fire and Police
Neighborhood Services
Parks and Recreation

CHR-3 DEVELOP COMMUNITY CHIPPING EVENTS TO INCREASE ACCESSIBILITY TO DEBRIS MANAGEMENT AFTER SEVERE STORMS.

(a) Assess resources required and compare to existing pool of budgetary resources.

(b) Collaborate with community partners to identify best service structure and locations.

(c) Develop and distribute educational materials to inform the community of project offerings.

(d) Develop and distribute educational materials that are translated in a diversity of languages.

(e) Apply for and award grant funding to projects that support community chipping.

Community Priority: LOW

Climate Hazard:
- Precipitation
- Winter Weather

Cobenefits:
- Equitable Access to Critical Infrastructure

Lead / Liaison

Solid Waste and Sustainability

Community Partners

Internal Partners

Communications
Community Engagement
Emergency Management
Fire and Police
Neighborhood Services

CHR-4 SUPPORT THE DEVELOPMENT OF RESILIENCE HUBS THAT HOST EMERGENCY SERVICES AND SUPPLY DISTRIBUTION DURING HAZARDOUS CONDITIONS.

(a) Partner with Multnomah County and community-based organizations to identify and develop resilience hub locations and services, priotizing climate-vulnerable communities.

(b) Partner with Oregon Department of Energy, local utilities, and community-based organizations to develop opportunities for community-scale renewable energy generation projects with battery storage at resilience hub locations.

(c) Develop and distribute educational materials to inform the community of project offerings, and to gain input from climate-vulnerable communities.

(d) Develop and distribute educational materials that are translated in a diversity of languages.

(e) Apply for and award grant funding for projects that support resilience hubs and services.

Community Priority: MED

Climate Hazard:
- Fire and Smoke
- Extreme Heat
- Precipitation
- Winter Weather

Cobenefits:
- Equitable Access to Critical Infrastructure
- Community Health and Safety

Lead / Liaison

Solid Waste and Sustainability

Community Partners

Greater New Hope Charities
Latino Network
Multnomah County Emergency Management
Multnomah County Health Department
Multnomah County Sustainability Office
Rockwood CDC
Rockwood Food Systems Collaborative

Internal Partners

Communications
Community Engagement
Emergency Management
Neighborhood Services

CHR-5 INCREASE ACCESS TO WEATHERIZATION MATERIALS AND RESOURCES TO SUPPORT THE COMMUNITY'S ABILITY TO SHELTER-IN-PLACE DURING HAZARDOUS CONDITIONS.

(a) Support community-based organizations to host workshops for energy efficiency, weatherization, and emergency preepardness and response.

(b) Support Gresham residents and businesses in accessing incentives for resources provided by Energy Trust of Oregon, Community Energy Project, and other community-based programs.

(c) Support workforce development opportunities for energy efficiency and weatherization, prioritizing energy-burdened and climate-vulnerable communities.

(d) Support dialogue between property owners, management, and tenants to overcome split incentives for energy efficiency and weatherization.

(e) Develop and distribute educational materials to inform the community of project offerings.

(f) Develop and distribute educational materials that are translated in a diversity of languages.

(g) Apply for and award grant funding that supports the access and distribution of energy efficiency, weatherization, and emergency preparedness resources.

Community Priority: HIGH

Climate Hazard:
- Fire and Smoke
- Extreme Heat
- Precipitation
- Winter Weather

Cobenefits:
- Economic Inclusion and Cost Savings
- Equitable Access to Critical Infrastructure
- Community Health and Safety

Lead / Liaison

Solid Waste and Sustainability

Community Partners

Energy Trust of Oregon
Greater New Hope Charities
Latino Network
Multnomah County Emergency Management
Multnomah County Health Department
Multnomah County Sustainability Office
Rockwood CDC
Rockwood Food Systems CollaborativeUnlimite
Choices, Inc.
Wisdom of the Elders

Internal Partners

Communications
Community Engagement
Emergency Management
Neighborhood Services

CHR-6 SUPPORT FOOD ACCESS AND SECURITY SERVICES DURING HAZARDOUS CONDITIONS.

(a) Partner with community-based organizations to assess impacts of climate hazards and extreme weather on food access and services, and the communities they serve.

(b) Partner with food access and security services, community garden programs, and urban agriculture programs to access to weatherization and climate resilience resources.

(c) Support food access and security services in developing a centralized community food and resilience hub.

(d) Support food access and security services in developing food transportation with cold storage to best manage and distribute donations during hazardous conditions.

Community Priority: HIGH

Climate Hazard:
- Fire and Smoke
- Extreme Heat
- Precipitation
- Winter Weather

Lead / Liaison

Solid Waste and Sustainability

Community Partners

Multnomah County Sustainability Office
Rockwood Food Systems Collaborative

Internal Partners

Communications
Community Engagement
Emergency Management
Neighborhood Services

CHR-6 - CONTINUED SUPPORT FOOD ACCESS AND SECURITY SERVICES DURING HAZARDOUS CONDITIONS.

(e) Support food access and security services in developing educational materials and workshops to inform the community on food resilience.

(f) Partner with food access and security services to develop and distribute educational materials that are translated in a diversity of lanuages.

(g) Apply for and award grant funding for projects that support food access and security projects.

Cobenefits:

- Equitable Access to Critical Infrastructure
- Community Health and Safety

Community Health and Economic Resilience - Workforce Development

CHR-7 SUPPORT WORKFORCE DEVELOPMENT OPPORTUNITIES IN CLIMATE RESILIENCE AND GREEN INFRASTRUCTURE PROJECTS.

(a) Partner with community-based organizations to development workforce development and skills training in energy efficiency, renewable energy, weatherization, emergency response preparedeness, and green infrastructure, prioritizing climate-vulnerable communities.

(b) Partner with community-based organizations to develop and distribute educational materials and workshops to inform the community of project offerings, and to gain input from climate-vulnerable communities.

(c) Develop and distribute educational materials that are translated in a diversity of languages.

(d) Apply for and award grant funding for projects that support workforce development opportunities in climate resilience and green infrastructure.

Community Priority: HIGH

Climate Hazard:

- Fire and Smoke
- Extreme Heat
- Precipitation
- Winter Weather

Cobenefits:

- Economic Inclusion and Cost Savings
- Equitable Access to Critical Infrastructure
- Community Health and Safety

Lead / Liaison

Solid Waste and Sustainability

Community Partners

Blueprint Foundation
Greater New Hope Charities
Latino Network
Leaders Become Legends
Multnomah County Emergency Management
Multnomah County Health Department
Multnomah Sustainability Office
Rockwood CDC

Internal Partners

Communications
Community Engagement
Emergency Management
Fire and Police
Neighborhood Services
Parks and Recreations
Watershed

NATURAL AND BUILT ENVIRONMENT

This chapter focuses on building climate resilience through strategies that support using a climate lens in the management of Gresham's natural and built environment.

A community's natural and built environment consists of roadways, bridges, sidewalks, and stormwater management infrastructure, along with urban tree canopy, parks, and greenspaces.

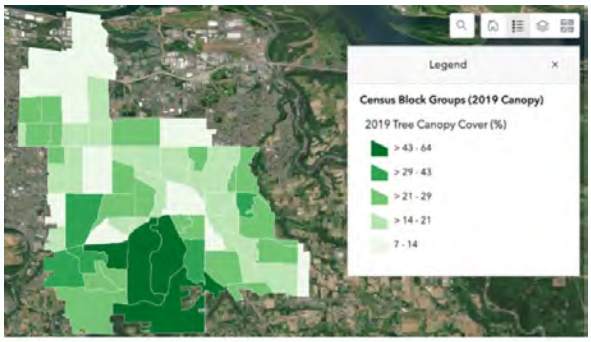
Communities can adopt climate-informed practices into how urban and natural spaces are developed and maintained so to better withstand and recover from natural hazards.

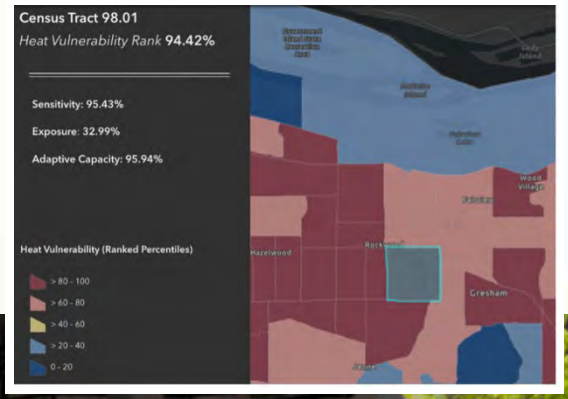
Supporting healthy tree cover

Supporting the maintenance of a healthy urban tree canopy and vegetation is a central theme of this chapter. Trees and understory plants can shade sidewalks and buildings and cool the air.

Studies have shown that trees are a concern in Gresham neighborhoods deficient in tree canopy coverage, and therefore tend to be highly vulnerable to the health impacts of urban heat islands. (CAPA Strategies, 2023)

These neighborhoods tend to be home to diverse and low-income communities who are already likely to experience other vulnerabilities to climate change. Rockwood, for example, has an estimated canopy coverage range of 7%-18%, with 32% of the population identifying as non-white in the 2020 block group census.





SUPPORTING PLANS AND PROGRAMS

Gresham Parks and Recreation Master Plan
Guides the management and improvement of Gresham's outdoor recreation facilities and landscaping.

Gresham Stormwater Management Plan
Guides the management of drinking water, runoff and groundwater.

Gresham Urban Forestry Management Plan
Guides the management of trees and vegetation to maintain a healthy, interconnected urban forest.

Multi-Jurisdictional Natural Hazard Mitigation Plan
Guides how local emergency management programs can collaborate to prepare for, respond to, and lessen the impact of natural hazards.

Natural and Built Environment - Urban Forestry

NBE-1 MAINTAIN AND IMPROVE TREE CANOPY IN NEIGHBORHOODS WITH LOW TREE CANOPY COVERAGE.

(a) Review GIS data findings in Growing Shade in Gresham tool and Gresham Heat Strategy to identify and prioritize neighborhoods for tree canopy improvements.

(b) Partner with Multnomah County Sustainability Office and community-based organizations to develop and distribute educational materials and workshops on program offerings, and to gain input from climate-vulnerable communities.

(c) Develop and distribute educational materials that are translated in a diversity of languages.

(d) Apply for and award grant funding for projects that support tree canopy maintenance and improvements.

Community Priority: HIGH

Climate Hazard: Extreme Heat

Cobenefits:

- Reduced Pollution Burden
- Economic Inclusion and Cost Savings
- Equitable Access to Critical Infrastructure
- Community Health and Safety

Lead / Liaison

Parks and Recreations

Community Partners

CAPA Strategies
Columbia Slough Watershed Council
East Multnomah Soil and Water Conservation District
Friends of Trees
Johnson Creek Watershed Council
Multnomah County Sustainability Office
Urban Greenspaces Institute

Internal Partners

Infrastructure Development Services
Parks and Recreation
Solid Waste and Sustainability
Transportation
Urban Design and Planning
Urban Renewal
Watershed

NBE-2 UPDATE CITY TREE CODE AND POLICIES TO SUPPORT CLIMATE-INFORMED MANAGEMENT OF TREES AND URBAN CANOPY.

(a) Update the City's tree goals, policies, procedures, and regulations to reflect and support best practices in urban forestry, green infrastructure, climate resilience, and maintenance of existing tree canopy.

(b) Develop and apply a climate lens into all updates to support climate resilience and climate equity.

(c) Develop climate lens terminology, definitions, and criteria to best support use of climate lense.

(d) Review climate resilience and climate equity lens approaches and frameworks used in other cities.

Community Priority: HIGH

Climate Hazard:
- Extreme Heat

Cobenefits:
- Reduced Pollution Burden
- Economic Inclusion and Cost Savings
- Equitable Access to Critical Infrastructure
- Community Health and Safety

Lead / Liaison

Urban Design and Planning

Community Partners

Columbia Slough Watershed Council
East Multnomah Soil and Water Conservation District
Friends of Trees
Johnson Creek Watershed Council
Urban Greenspaces Institute

Internal Partners

Infrastructure Development Services
Parks and Recreation
Solid Waste and Sustainability
Watershed

NBE-3 CONSIDER RECOGNIZING CITY PARKS AND NATURAL SPACES AS ESSENTIAL GREEN INFRASTRUCTURE TO ACCESS FUNDING OPTIONS FOR NATURE-BASED SOLUTIONS.

(a) Consider recognizing City parks and natural spaces as essential green infrastructure and source of essential ecosystem services in City policy as a means to access funding sources that support nature-based solutions and environmental resilience.

(b) Review approaches, policies, and plans in other cities to assess best practices for development, implementation, trade-offs, and incentives.

(c) Based on review findings, develop a set of recommended actions for recognizing City parks as essential green infrastructure and sources of essential ecosystem services.

Community Priority: MED

Climate Hazard:
- Fire and Smoke
- Extreme Heat
- Precipitation
- Winter Weather

Cobenefits:
- Community Health and Safety

Lead / Liaison

Parks and Recreation

Community Partners

Columbia Slough Watershed Council
East Multnomah Soil and Water Conservation District
Friends of Trees
Johnson Creek Watershed Council
Urban Greenspaces Institute

Internal Partners

Parks and Recreation
Solid Waste and Sustainability
Urban Design and Planning
Watershed

NBE-4 SUPPORT THE USE OF PERMEABLE MATERIALS WHEN REPLACING IMPERMEABLE SURFACES

(a) Review approaches, policies, and plans in other cities to assess best practices for development, implementation, trade-offs, and incentives.

(b) Develop a framework to assess whether permeable materials are appropriate where impermeable surfaces are being removed, replaced, or repaired.

(c) Develop a list of appropriate permeable materials, local sources of procurement, and cost.

(d) Apply for and award grant funding to projects that support the use of permeable materials.

Community Priority: LOW

Climate Hazard: Precipitation

Cobenefits: Community Health and Safety

Lead / Liaison

Watershed

Community Partners

American Public Works Association - Oregon Chapter
Oregon Associaiton of Clean Water Agencies

Internal Partners

Infrastructure Development Services
Transportation

NBE-5 ASSESS ALL CITY CULVERTS TO IDENTIFY VULNERABILITIES TO FLOODING AND WASHOUTS DURING SEVERE STORMS.

(a) Identify culverts most impacted by or vulnerable to flooding and washouts as a result of climate hazards and severe weather.

(b) Develop and implement a strategy to upgrade culverts identified as vulnerable to flooding or washouts.

Community Priority: LOW

Climate Hazard: Precipitation

Cobenefits: Community Health and Safety

Lead / Liaison

Watershed

Community Partners

Columbia Slough Watershed Council
Johnson Creeek Watershed Council

Internal Partners

Infrastructure Development Services
Transportation

NBE-6 SUPPORT THE DEVELOPMENT OF A NETWORK OF COMMUNITY AIR QUALITY MONITORS.

(a) Partner with Multnomah County Sustainability Office and community-based organizations to identify and develop air quality monitor locations, prioritizing climate-vulnerable communities that are close to roadways and industry.

(b) Partner with community-based organizations to develop workforce development and opportunities in the construction, operation, and maintenance of air quality monitors, prioritizing climate vulnerable communities that are close to roadways and industry.

(c) Partner with community-based organizations to develop and distribute educational materials and workshops to inform the community of project offerings, and gain input from climate-vulnerable communities.

(d) Apply for and award grant funding for projects that support the development of air quality monitors.

Community Priority: HIGH

Climate Hazard:

- Fire and Smoke
- Pollution

Cobenefits:

- Reduced Pollution Burden
- Economic Inclusion and Cost Savings
- Equitable Access to Critical Infrastructure
- Community Health and Safety

Lead / Liaison

Solid Waste and Sustainability

Community Partners

Blueprint Foundation
Leaders Become Legends
Neighbors for Clean Air

Internal Partners

Urban Renewal

INTERNAL CITY OPERATIONS

This chapter focuses on reducing emissions and building climate resilience in City operations, building on the Internal Operations and Facilities Sustainability Plan of 2011.

These strategies support the continued success in energy efficiency and renewable energy that bring both cost savings and reduced emissions in City operations.

A major focus is the City's renewed participation in Energy Trust of Oregon's strategic energy management program. This supports the City in assessing the performance of its facilities, and in accessing incentives that lower the cost of high-efficiency upgrades, such as LED lighting and heat pumps.

Further, this chapter highlights the importance of aggressively pursuing incentives for on-site renewable energy projects to further reduce emissions and costs.

Portland General Electric awarded $600,000 in grant funding to the City for onsite generation at the Public Safety building in 2022. This project will drive the City closer to having net-zero emissions in its operations.

Additionally, this chapter highlights the importance of using state and federal incentives for electric vehicles and charging infrastructure. Both measures reduce emissions from the City fleet and the cost of maintaining vehicles.

A low-emissions fleet will be a critical step in achieving the City's performance targets. Emissions from the City fleet have doubled over the last decade as the fleet has grown, and now account for over 15% of the City's emissions impact.

While emissions from the City fleet have increased, the City's overall emissions have decreased. In 2018, the City achieved a 43% reduction in emissions through improvements in energy efficiency and renewable energy. This reduction was driven primarily by: installation of solar arrays and biogas co-generators at the Wastewater Treatment Plant; upgrading City streetlights to LEDs; installation of solar arrays at City Hall; and increases in renewable energy from PGE. These measures have put the City ahead of its 2030 emissions reduction target.

For a full discussion of the City of Gresham's greenhouse gas emissions inventory and internal sustainability plan, see Appendix C: City of Gresham Greenhouse Emissions Inventory 2017-2018 and Appendix E: Internal Operations and Facilities Sustainability Plan.

SCOPES 1 AND 2 EMISSIONS	
Year	Reduction Target
2020	20% reduction
2030	40% reduction
2040	60% reduction
2050	80% reduction

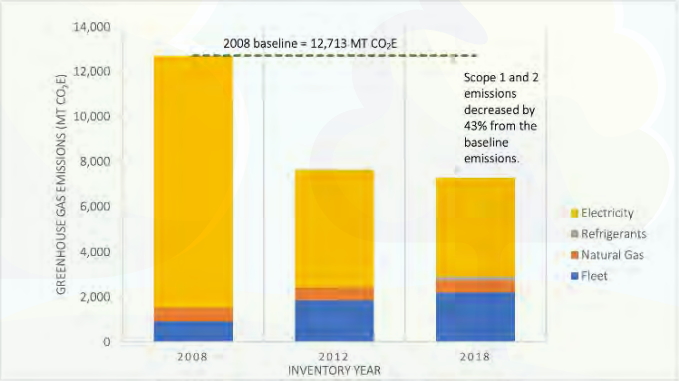
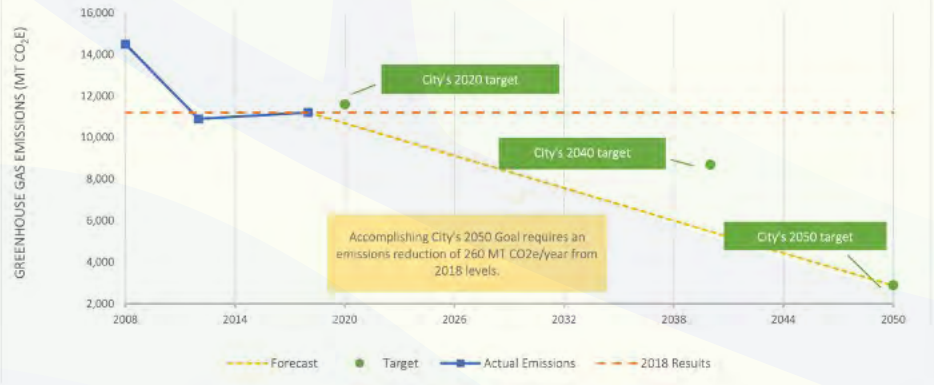


Figure 6: Comparison of Scope 1 and 2 emissions, by source, over time.



SUPPORTING PLANS AND PROGRAMS

Oregon Medium and Heavy-Duty Zero Emissions Plan.
Guides the state to support the availability and affordability of medium and heavy-duty vehicles that operate on electricity or low-carbon alternative fuels.

Oregon Clean Fuels Program
Supports the transition to low-carbon fuels for all vehicle types and uses.

Internal City Operations - Energy and Emissions

ICO-1 SUPPLY CITY BUILDINGS WITH 100% RENEWABLE ENERGY.

(a) Develop performance targets for renewable energy sourcing and procurement.

(b) Partner with Oregon Public Utilities Commission and local utilities to develop opportuntities that increase the City's supply of renewable energy.

(c) Parter with Oregon Department of Energy and local utilities to develop opportunities for onsite renewable energy generation with battery storage at City buildings.

(d) Apply for and award grant funding for projects that support onsite renewable energy generation and battery storage at City buildings.

Community Priority: HIGH

GHG Emissions Reduction Rating:

(Reduces annual emissions by 2,500 - 5,000 MTCO2e)

Cobenefits:

- Reduced Pollution Burden
- Economic Inclusion and Savings
- Community Health and Safety

Lead / Liaison

Solid Waste and Sustainability

Community Partners

Energy Trust of Oregon
NW Natural
Oregon Departmentof Energy
Oregon Public Utilities Commission
Portland General Electric

Internal Partners

Finance
Facilities
Fire and Police
Wastewater Treatment Plant

ICO-2 ACHIEVE 100% ZERO ONSITE EMISSIONS IN CITY BUILDINGS AND OPERATIONS.

(a) Develop performance targets for energy efficiency, energy sourcing, and procurement of low-to-zero emissions equipment.

(b) Partner with Oregon Public Utilities Commission and local utilities to develop opportuntities that increase the City's supply of renewable energy.

(c) Develop opportunities to update or replace existing equipment and vehicles with models that are more efficient and produce fewer emissions in their operation.

(d) Renew participation in Energy Trust of Oregon's Strategic Energy Management program for assistance in realize energy and cost savings.

Community Priority: HIGH

GHG Emissions Reduction Rating:

(Reduces annual emissions by 2,500 - 5,000 MTCO2e)

Cobenefits:

- Reduced Pollution Burden

Lead / Liaison

Solid Waste and Sustainability

Community Partners

Energy Trust of Oregon
NW Natural
Oregon Department of Energy
Oregon Department of Environmental Quality
Portland General Electric

Internal Partners

Finance
Fire and Police
Fleet
Infrastructure Development Services
Transportation
Wastewater Treatment Plant

IC0-3 USE STRATEGIC ENERGY MANAGEMENT IN CITY BUILDINGS.

(a) Renew participation in Energy Trust of Oregon's Strategic Energy Management program.

(b) Develop a city-wide energy strategy that supports emissions reduction targets, energy efficiency, procurement of renewable energy supply options, and procurement of low-to-zero emissions equipment.

(c) Conduct energy assessments on City buildings and facilities to identify opportunities for making upgrades to more efficient equipment and equipment that produce fewer emissions.

(d) Develop standard operating procedures that support energy efficient practices in the operation of City buildings and facilities.

(e) Use Energy Star Portfolio Manager to track and analyze energy-use data from City buildings.

(f) Establish a revolving fund that uses incentives awarded by Energy Trust of Oregon and Oregon Department of Energy to invest in further energy efficiency and emissions reduction measures.

(g) Apply for and award grant funding and incentives to projects that support energy efficiency, renewable energy, and low-to-zero emissions equipment upgrades in City buildings and operations.

Community Priority: HIGH

GHG Emissions Reduction Rating:

(Reduces annual emissions by 2,500 - 5,000 MTCO2e)

Cobenefits:

- Reduced Pollution Burden
- Economic Inclusion and Savings

Lead / Liaison

Solid Waste and Sustainability

Community Partners

Energy Trust of Oregon

Internal Partners

Facilities
Fire and Police
Fleet

Internal City Operations - Wastewater Treatment Plant

ICO-4 PURSUE GRANT FUNDING TO INCREASE ONSITE ENERGY GENERATION AT WASTEWATER TREATMENT PLANT THROUGH ADDED CAPACITY IN ANAEROBIC DIGESTION AND BIOGAS COGENERATION.

Expand the capacity of WWTP to receive fats, oils, and grease (FOG) through the addition of a third anaerobic digester.

Convert existing anaerobic digesters to operate at thermophilic levels (higher operating temperatures) to increase the rate of digestion and biogas production.

Construct a biogas storage bubble and expand biosolids receiving area to efficiently manage increased production of biogas.

Expand the existing cogeneration system from 800kW to 1,200 kW.

Construct a food waste slurry receiving station to increase production of biogas.

Develop a renewable natural gas (RNG) treatment facility to treat biogas production to certified RNG standards in order to export treated gas and receive funds for RNG credits sold.

Community Priority: MED

GHG Emissions Reduction Rating:

(Reduces annual emissions by 5,000 - 10,000 MTCO2e)

Cobenefits:

- Reduced Pollution Burden
- Economic Inclusion and Savings
- Community Health and Safety

Lead / Liaison

Wastewater Treatment Plant

Community Partners

Jacobs Engineering
NW Natural
Oregon Department of Energy
Oregon Department of Environmental Quality
Portland General Electric

Internal Partners

Finance
Facilities
Solid Waste and Sustainability

WHAT'S NEXT?

COMMUNITY ENGAGEMENT MOVING FORWARD

Creating this plan is just the beginning of the journey for addressing Gresham's contribution to climate change.

The City and community must work together to implement the developed strategies. This will require ongoing community engagement on a project-by-project basis.

PERFORMANCE TARGETS

Developing performance targets for every chapter of this plan is important to build a clear path forward for reducing emissions and building resilience.

Performance targets provide achievable outcomes that progress can be compared to.

PROGRESS REPORT

The City will need to measure, analyze and report on the progress of the Climate Action Plan. Progress metrics help assess how well strategies are achieving their intended outcomes and the overall goals of the plan.

Setting performance targets requires an organization-wide effort to ensure that they are ambitious, realistic and cost effective.

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