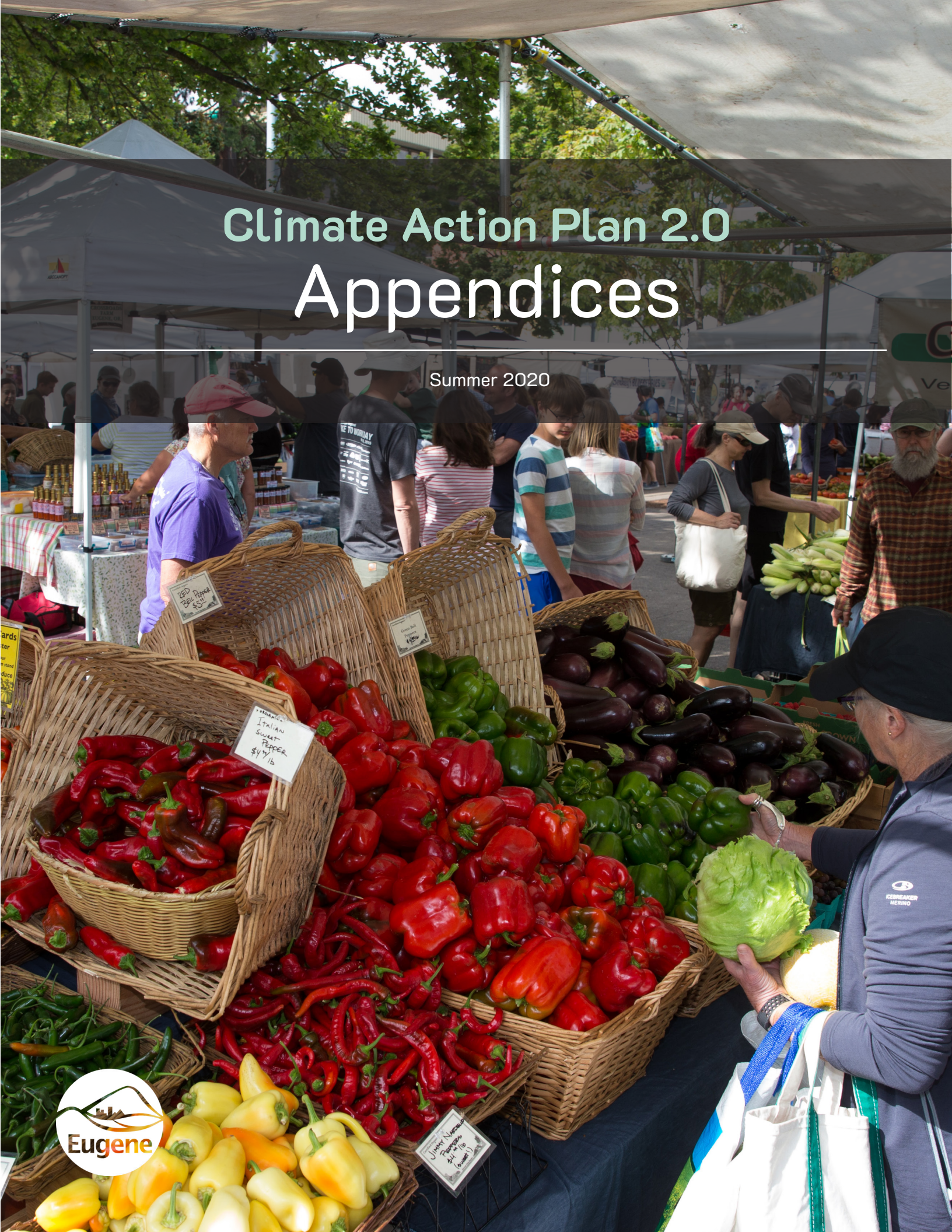
Climate Action Plan 2.0

Appendices

Summer 2020



Eugene

Climate Action Plan 2.0

Appendix 1

Triple Bottom Line Subgroup Analysis and Notes

City of Eugene Actions – Taking a Closer Look

The table below provides a detailed look at every City of Eugene action in the plan. Note – some actions were added to this draft as it was going to publication. Those actions are included in Chapters 5 and 6, and will be added to this table before final publication of the CAP2.0.

City of Eugene Triple Bottom Line Actions – Transportation

TRANSPORTATION	How will this be implmented?	Implementation timescale	GHG Potential Reductions	Equity: Advances social equity	Equity: Advances health or safety	Environment: Improves support of key ecosystem functions	Environment: Reduces contaminants	Economy: Economic benefits	Economy: Financial benefit of public resources
Eugene's 2035 Transportation System Plan establishes a system of transportation facilities and services that will serve the needs of Eugene residents, businesses, and visitors over the next 20 years. The plan includes and addresses: Roadway, bicycle, pedestrian, transit, air and rail networks; Transportation project lists and funding; and Transportation policies.	PW		✸	**See Actions T1-T8 for TBL analysis of components of the TSP. Note that GHG impact is not addivtive over these actions.**					
Action T1 COE to build and complete 261 transportation projects that enhance bicycle, pedestrian and rail facilities in Eugene included in the TSP. See page xxx for a summary of the types of projects included and the TSP for a detailed list of projects.	PW	❯❯❯	◑	●	✸	●	✸	●	◑
Action T2 COE to work towards requiring all employers of a certain size and type, including COE, to prepare, implement and monitor Transportation Options Plans. This action is funded in part by ODOT and is expected to be completed by 2022. (TSP)	PW	❯	◑	◑	●	●	✸	◑	◑
Action T3 COE to provide education and encourage programs, such as SmartTrips and school-based transportation options (like Safe Routes to School), to improve safety for all travelers and encourage the use of active transportation and telecommuting. (TSP)	PW	❯❯❯	◑	●	●	●	✸	◑	◑
Action T4 COE to develop a systemic method for measuring trips made by walking, biking and driving by 2022. (TSP)	PW	❯	N/A	◑	●	●	●	◑	◑
Action T5 COE and LTD to complete the Moving Ahead planning project to identify investment packages for improved transportation corridors. The planning process is expected to be completed in 2020. Implementing the recommendations of the process, including securing federal, state and local funding will begin immediately following the planning process. (TSP)	PW	❯	●	●	●	●	✸	●	◑
Action T6 – COE will adopt new Complete Street Design Standards for capital infrastructure projects by 2022. These standards will inform the design of future COE capital and privately engineered public improvements projects on streets and shared paths. (TSP)	PW	❯	◑	●	●	●	✸	◑	◑
Action T7 – COE to develop a sidewalk infill program and strategy for upgrading unimproved streets, prioritizing Vision Zero, Safe Routes to School, and connectivity to schools, parks, shopping, and important community resources. (TSP)	PW		●	✸	✸	●	✸	●	◑
Action T8 COE to initiate process to update the TSP so that the goals, policies and projects fully meet CRO goals by 2021. Proposed changes to the TSP will be informed by the Strategic Assessment scenario development being completed by ODOT and the Central Lane Metropolitan Planning Organization with input from COE. The scenario development will provide insights as to what measures can be used to achieve the City's emissions reduction goals. (TSP)	PW	❯	✸	◑	✸	●	✸	●	◑

KEY

PW	Public Works	❯	Short term	○	adverse/negative impact
PDD	Planning and Development	❯❯	Mid term	◑	zero/emerging
CS	Central Services	❯❯❯	Long term	●	good/present
				✸	great/abundance

City of Eugene Triple Bottom Line Actions – Transportation

TRANSPORTATION
COMPACT DEVELOPMENT

	How will this be implmented?	Implementation timescale	GHG Potential Reductions	Equity: Advances social equity	Equity: Advances health or safety	Environment: Improves support of key ecosystem functions	Environment: Reduces contaminants	Economy: Economic benefits	Economy: Financial benefit of public resources
Envision Eugene, A Community Vision for 2032 provides a framework for the future that promotes new growth along or near key corridors and core commercial areas, respects neighborhood character, and increases access to services for all residents. Actions T9-T13 provide a link back to Envision Eugene. This is not an exhaustive list of items in the Envision Eugene that will help Eugene achieve its climate goals.	PDD			**See Actions T9-T13 for TBL analysis of components of the Envision Eugene. Note that GHG impact is not addivtive over these actions. Building additional housing will always lead to increases in GHGs. . Assuming housing will be built, building small and compact minimizes the increase.**					
Action T9 COE to create a dynamic Eugene-specific comprehensive plan to address emerging needs. In 2017, Eugene completed the first phase of adopting a Eugene-specific comprehensive plan, which includes the Eugene UGB. This action is expected to be completed by 2025 and is part of the Provide for Adaptable, Flexible and Collaborative Implementation Pillar of Envision Eugene.	PDD		N/A						
Action T10 COE to plan to meet all of the 20-year multi-family housing and commercial job needs within the existing UGB. This action includes planning to integrate new development and redevelopment in the downtown, on key transit corridors, and in core commercial areas. This action is part of the Promote Compact Urban Development and Efficient Transportation Options Pillar of Envision Eugene.	PDD								
Action T11 COE to make compact urban development easier in the downtown, on key transit corridors, and in core commercial areas. This includes removing regulatory barriers, flexible uses within industrial and commercial, reduce financial obstacles, restructure SDCs for smaller homes and denser development, additional incentives, flexible land use codes, and ensure transportation system can support planned densities. This action is part of the Promote Compact Urban Development and Efficient Transportation Options Pillar of Envision Eugene.	PDD								
Action T12 COE to expand housing variety and choice by facilitating the building of smaller, clustered and attached housing. This action includes providing flexibility in land use, remov-	PDD								
Action T13 COE to plan for growth so that an increasing proportion of residents live in 20-Minute Neighborhoods where residents can meet most of their daily needs near their homes without the use of an automobile. This includes identifying location opportunities for flexible codes, transportation infrastructure improvements, parks and open space, partnerships and incentives. This action is part of the Plan for Climate Change and Energy Resiliency Pillar of Envision Eugene.	PDD								
ADDITIONAL COMPACT DEVELOPMENT STRATEGIES Action T14 COE to incentivize transit-oriented development and walkable neighborhoods using tools such as the Multi-Unit Property Tax Exemption (MUPTE), a state-enabled 10-year property tax exemption, to stimulate the construction of multi-unit housing downtown and along key corridors. MUPTE is currently authorized to be used in downtown Eugene. Programs to facilitate more housing downtown, including MUPTE, are an Envision Eugene strategy anticipated to achieve an additional 1,000 dwellings by 2032.	PDD								
Action T15 COE to encourage housing diversity in all neighborhoods. Support the construction of duplexes, triplexes, quadplexes, townhomes, and cottage clusters throughout the community. Directly implement House Bill (HB) 2001, the state law that enables missing middle housing options on lots zoned for residential uses. (HTS Process, Envision Eugene, SB 1051, HB 2001)	PDD								
Action T16 COE to support accessory dwelling construction. COE City Council reduced barriers to accessory dwellings in accordance with Senate Bill (SB) 1051 and HB 2001. For example, City Council removed some land use code barriers and eliminated transportation system development charges (SDCs) for accessory dwellings with an annual cap on the amount of charges that can be waived.	PDD								

TRANSPORTATION
COMPACT DEVELOPMENT

	How will this be implmented?	Implementation timescale	GHG Potential Reductions	Equity: Advances social equity	Equity: Advances health or safety	Environment: Improves support of key ecosystem functions	Environment: Reduces contaminants	Economy: Economic benefits	Economy: Financial benefit of public resources
Envision Eugene, A Community Vision for 2032 provides a framework for the future that promotes new growth along or near key corridors and core commercial areas, respects neighborhood character, and increases access to services for all residents. Actions T9-T13 provide a link back to Envision Eugene. This is not an exhaustive list of items in the Envision Eugene that will help Eugene achieve its climate goals.	PDD			**See Actions T9-T13 for TBL analysis of components of the Envision Eugene. Note that GHG impact is not addivtive over these actions. Building additional housing will always lead to increases in GHGs. . Assuming housing will be built, building small and compact minimizes the increase.**					
Action T17 COE to update its Clear and Objective Housing Regulations to mitigate barriers to housing, increase efficiency and predictability in the review process, and effectively address development impacts. State law entitles housing applications to clear and objective standards, conditions, and procedures. Eugene will need to accommodate approximately 15,000 new homes within our UGB by 2032 while preserving the community's values regarding livability, public health and safety, and natural resource protection. The project is expected to be completed by 2021.	PDD								
Action T18 COE and Lane County to finish the River Road-Santa Clara Neighborhood Plan in collaboration with the River Road and Santa Clara Community Organizations as well as neighbors and businesses. The plan along with the transit-oriented development efforts of the River Road Corridor Study will allow mixed-use development and remove barriers to middle housing.	PDD								
Action T19 COE to develop a Growth Monitoring Program to monitor community and development trends. Housing data is a key part of this program including housing permit data, land divisions, and affordability.	PDD		N/A						

TRANSPORTATION
EV STRATEGIES

	How will this be implmented?	Implementation timescale	GHG Potential Reductions	Equity: Advances social equity	Equity: Advances health or safety	Environment: Improves support of key ecosystem functions	Environment: Reduces contaminants	Economy: Economic benefits	Economy: Financial benefit of public resources
EV Strategy Actions. In partnership with EWEB, LTD, UO, and other community partners, the City of Eugene will implement its Electric Vehicle Strategy, which includes more than 20 actions. Actions T20-T27 link back to the EV Strategy. This is not an exhaustive list of items in the Envision Eugene that will help Eugene achieve its climate goals.	PW			**See Actions T20-T27 for TBL analysis of components of the EV Strategy. Note that GHG impact is not addivtive over these actions.**					
Action T20 COE to evaluate introducing parking and infrastructure requirements for electric vehicles (EV) and small electric vehicles (SEV) at new multi-family housing projects and commercial construction projects by 2021, and to include EV and SEV parking in City-supported affordable housing developments between 2023 and 2025.	PDD								
Action T21 COE to develop policies and priorities around installation of publicly accessible charging stations in the right-of-way, including electric bike charging. COE will perform a study to determine needs and preferred locations for charging infrastructure. This action is scheduled to be completed between 2023 and 2025.	PDD								
Action T22 COE to encourage taxi and transportation network companies (such as Lyft and Uber) to utilize EVs in their fleet and develop charging infrastructure. The City will explore implementing incentives and expedited permitting processes for EVs in these types of fleets. This action is scheduled to be completed between 2023 and 2025.	PW PDD								
Action T23 COE will explore ways to promote use of micro-mobility options such as e-scooters and e-bikes. This action is scheduled to be completed between 2023 and 2025.	PW								
Action T24 COE and EWEB to increase the number of EV-centered ride and drive consumer education events. This action is scheduled to be completed between 2023 and 2025.	PW								
Action T25 COE to set targets for EV adoption by 2035. Publish status of EV adoption in Eugene annually on the City's website by 2021.	PW		N/A						

TRANSPORTATION

EV STRATEGIES

	How will this be implmented?	Implementation timescale	GHG Potential Reductions	Advances social equity	Advances health or safety	Improves support of key ecosystem functions	Reduces contaminants	Economic benefits	Financial benefit of public resources
				Equity		Environment		Economy	
EV Strategy Actions. In partnership with EWEB, LTD, UO, and other community partners, the City of Eugene will implement its Electric Vehicle Strategy, which includes more than 20 actions. Actions T20-T27 link back to the EV Strategy. This is not an exhaustive list of items in the Envision Eugene that will help Eugene achieve its climate goals.	PW		✸	**See Actions T20-T27 for TBL analysis of components of the EV Strategy. Note that GHG impact is not addivtive over these actions.**					
Action T26 COE organization to adopt an EV First procurement policy. There has been an informal practice to consider EV in the replacement of retiring fleet vehicles since 2019. Through an adopted EV First policy, 100% vehicles that become due for replacement, will be evaluated for GHG reduction opportunities. The City's Fleet Board will recommend any vehicle with an available option in the respective class for replacement with either full electric, plug-in hybrid, standard or after-market hybrid. Fleet Board will only approve exceptions to this policy if it can be shown that an EV or hybrid option cannot meet	PW	❯❯❯	●	◑	●	●	●	●	✸
Action T27 COE to conduct an electric car share pilot program at one or more affordable housing sites in Eugene. This action is scheduled to be completed between 2021 and 2025.	PW	❯❯	●	●	●	●	●	◑	○
T28 COE to work towards creating a digital smart trips application that would display all modes of travel by segment type, as well as public parking options, for a planned trip in our community. The vision for the application is that it would show all transit, driving, biking, and walking options between two points, as well as combinations of various modes of travel, carbon emitted, calories burned, and cost of travel. Further, it would allow a user to prioritize their trip to focus on options such as saving time, saving money, or saving the environment. The project is expected to be completed in 2023.	PDD	❯❯	◑	●	✸	●	●	◑	◑
Action T29 COE to explore options to create community wide broadband. Modeled after the downtown dark fiber project, this action would provide greater accessibility for families and residents to work and learn remotely. The ability to work remotely with a high speed and affordable network connection would allow more remote work options and potential to decrease daily commuting.	PDD	❯❯❯	◑	✸	◑	●	●	●	◑
Action T30 COE to implement Internal Fleet Climate Action Plan. This plan includes measures to help the City work towards carbon neutrality including procuring EVs and using alternative fuels like renewable diesel.	PW	❯❯	◑	◑	●	●	●	◑	●

KEY

PW	Public Works	❯	Short term	○	adverse/negative impact
PDD	Planning and Development	❯❯	Mid term	◑	zero/emerging
CS	Central Services	❯❯❯	Long term	●	good/present
				✸	great/abundance

City of Eugene Triple Bottom Line Actions - Building Energy

BUILDING ENERGY

	How will this be implmented?	Implementation timescale	GHG Potential Reductions	Advances social equity	Advances health or safety	Improves support of key ecosystem functions	Reduces contaminants	Economic benefits	Financial benefit of public resources
				Equity		Environment		Economy	
Action B1 The City of Eugene and Northwest Natural Gas are currently working on a new franchise agreement with the intention to decrease community wide emissions associated with natural gas. The agreement is expected to be completed in late 2020. Details will be added to Eugene's list of climate commitments once the agreement is finalized. *Note ghg impact could be greater,	CS	❯	●	◑	●	✸	✸	◑	◑
Action B2 COE to report to City Council different options and funding stategies to support programs for low income EWEB and NWN customers and/or support other loans for small home improvements required to qualify for utility energy efficiency programs by 2021. This action leverages existing	CS PDD	❯	◑	✸	●	●	●	●	◑
Action B3 COE to research and report to City Council potential regulatory options related to advancing energy efficiency and carbon reduction through rental housing standards by end of 2021.	CS PDD	❯❯	◑	●	●	✸	✸	◑	◑
Action B4 COE to implement a voluntary Home Energy Score in partnership with the Oregon Department of Energy by 2021. COE to research and report to City Council on funding and implementation strategies for a mandatory program.	PDD	❯	◑	◑	●	●	✸	●	◑
Action B5 COE to lobby at state level to allow for local adoption of high-performance Reach Code meeting 10% above adopted state-wide building code.	CS PDD	❯❯❯	●	◑	●	●	◑	●	◑
Action B6 COE implementing facilities updates including conservation and efficiency improvements as part of the organization's Internal Climate Action Plan. Current projects include the renovation of Campbell Community Center and Echo Hollow Pool expected to be completed in 2020 and 2021 respectively.	CS	❯❯❯	◑	◑	●	●	●	●	●
Action B7 COE to update existing Green Building policy for City buildings to focus specifically on heavily decreasing Energy Use Intensity when designed, increased energy efficiency investments, on-site renewable energy production, and total ghg lifecycle reductions by January 2022.	CS	❯	◑	◑	●	●	●	●	◑

KEY

PW	Public Works	❯	Short term	○	adverse/negative impact
PDD	Planning and Development	❯❯	Mid term	◑	zero/emerging
CS	Central Services	❯❯❯	Long term	●	good/present
				✸	great/abundance

City of Eugene Triple Bottom Line Actions – Fugitive Emissions

FUGITIVE EMISSIONS

	How will this be implmented?	Implementation timescale	GHG Potential Reductions	Advances social equity	Advances health or safety	Improves support of key ecosystem functions	Reduces contaminants	Economic benefits	Financial benefit of public resources
				Equity		Environment		Economy	
Action F1 COE to operate and promote the Love Food Not Waste commercial food waste collection program. This partnership among local garbage haulers, commercial composters, the City of Eugene and area businesses makes sure that food scraps turn into valuable compost instead of taking up space in our landfill. Business can sign up for Love Food Not Waste through their garbage hauler.	PDD	Long term	zero/emerging	good/present	great/abundance	great/abundance	great/abundance	good/present	great/abundance
Action F2 COE to operate and promote the Curbside Compost Program. As of October 2019, Eugene customers who have residential garbage service have the option to put food waste in their yard debris bin instead of in the garbage.	PDD	Long term	zero/emerging	good/present	great/abundance	great/abundance	great/abundance	zero/emerging	zero/emerging
Action F3 COE to explore methods to capture biogas from organic waste and use it for renewable transport fuel. By 2025, COE will scope out the potential pathways to implement this action, including cost estimates.	PDD	Mid term	N/A	zero/emerging	zero/emerging	great/abundance	great/abundance	zero/emerging	adverse/negative impact
Action F4 COE to convene community partners who use products with large amounts of refrigerants by the end of 2021 to explore options to reduce community-wide refrigerant gas leaks from appliances like air conditioners, refrigerators, and commercial refrigeration systems.	CS	Short term	N/A	zero/emerging	good/present		great/abundance	zero/emerging	zero/emerging
Action F5 COE will continue to use warm-mix asphalt, a low-carbon alternative that has become the default asphalt sold in the region, due in part to COE leadership. Warm-mix pavement materials are mixed and placed on the road at lower temperatures than traditional hot-mix. Benefits of the reduced temperature include cutting fuel consumption and decreasing the production of emissions. Engineering and construction benefits include better compaction of pavements; the ability to pave at lower temperatures, extending the paving season; and the potential to be able to recycle at higher rates.	PW	Long term	zero/emerging	zero/emerging	good/present	good/present	good/present	zero/emerging	zero/emerging
Action F6 Due to the economic impacts of COVID19, the disproportionate impact of hunger on low income communities, and the highest greenhouse gas savings of food waste diversion, COE to prioritize food rescue programs at local level.	PDD	Long term	zero/emerging	great/abundance	great/abundance	good/present	good/present	zero/emerging	zero/emerging
Action F7 COE to continue to explore adopting a franchise-system of residential solid waste collection with the goal of reducing hauler fleet-generated greenhouse gases, route redundancy and road wear.	PDD	Long term	zero/emerging	zero/emerging	good/present	good/present	great/abundance	zero/emerging	zero/emerging
Action F8 COE will continue to work toward the Council directed goal of increasing the volume of waste diverted from landfill from internal operations and facilities from current levels to at least 90% by 2020. PDD has achieved this goal and will work with other departments to implement 90% diversion by 2030 through the Internal Zero Waste program.	PDD	Long term	zero/emerging	zero/emerging	zero/emerging	good/present	great/abundance	zero/emerging	zero/emerging

KEY

PW	Public Works	Short term	adverse/negative impact	
PDD	Planning and Development	Mid term	zero/emerging	
CS	Central Services	Long term	good/present	
			great/abundance	

City of Eugene Triple Bottom Line Actions – Consumption

CONSUMPTION

	How will this be implmented?	Implementation timescale	GHG Potential Reductions	Advances social equity	Advances health or safety	Improves support of key ecosystem functions	Reduces contaminants	Economic benefits	Financial benefit of public resources
				Equity		Environment		Economy	
Action C1 COE will continue to host Fix It Fairs in partnership with the ToolBox Project to help consumers repair goods and instruct participants how to make their own repairs. Fix It Fairs help consumers avoid purchasing more goods. Repair services are available for a variety of products, including small appliances like lamps and toasters, tools, clothing and textiles, small electronics, home and garden tools, furniture, and toys.	PDD	Long term	zero/emerging	good/present	zero/emerging	great/abundance	great/abundance	good/present	adverse/negative impact
Action C2 COE will continue to develop and improve GHG tracking and reporting in the Capital Improvement Program (CIP), which was first incorporated in 2019. The goal of this action is to provide decision-makers with quality information about the GHG impact of material and design choices so that they can better incorporate considerations about the impact of climate change into the decision-making process. The CIP is updated every two years.	PW	Long term	N/A	zero/emerging	zero/emerging	great/abundance	great/abundance	zero/emerging	adverse/negative impact
Action C3 COE will continue to develop a comprehensive waste and consumption public educational campaign touching on topics such as recycling, food waste and low-impact consumption practices.	PDD	Long term	zero/emerging	good/present	zero/emerging	great/abundance	great/abundance	great/abundance	good/present
Action C4 By early 2022, COE to determine most effective policy and program pathway(s) to require construction and demolition waste materials to be sorted for reusable or recyclable materials.	PDD	Short term	zero/emerging	zero/emerging	zero/emerging	good/present	great/abundance	zero/emerging	zero/emerging
Action C5 COE will investigate the increased use of substitute supplementary cementitious materials (SCMs) for Portland cement in all capital construction projects and provide a target level of use by 2021	PW	Short term	zero/emerging	zero/emerging	zero/emerging	great/abundance	great/abundance	zero/emerging	zero/emerging
Action C6 COE to continue to use 50% supplementary cementitious materials (SCMs) on in-place reclamation projects and will commit to evaluating increased standard SCM content.	PW	Long term	zero/emerging	zero/emerging	zero/emerging	great/abundance	great/abundance	zero/emerging	zero/emerging
Action C7 COE to continue to include to specify the materials to be used and not used in contractor proposals for construction products that include concrete and asphalt. COE to explore the use of Environmental Product Declarations (EPDs) and other reporting mechanism with the end goal of documenting and verifying the environmental benefits of products used in concrete and asphalt mixes.	PW	Long term	zero/emerging	zero/emerging	zero/emerging	great/abundance	great/abundance	zero/emerging	zero/emerging

KEY

PW	Public Works	Short term	adverse/negative impact	
PDD	Planning and Development	Mid term	zero/emerging	
CS	Central Services	Long term	good/present	
			great/abundance	

City of Eugene Triple Bottom Line Actions – Resiliency

RESILIENCY

		How will this be implmented?	Implementation timescale	GHG Potential Reductions	Equity: Advances social equity	Equity: Advances health or safety	Environment: Improves support of key ecosystem functions	Environment: Reduces contaminants	Economy: Economic benefits	Economy: Financial benefit of public resources
Action R1 COE to pursue a water reuse partnership with MWMC as part of the community effort to prepare for drought. Demonstrations are expected to begin in 2020. MWMC will add facilities to the wastewater treatment plant to produce the first ever stream of Class A recycled water - the highest quality recycled water class in Oregon, suitable for all water uses except drinking. Initial uses will include local sand and gravel operations, City street tree watering, and 100% of landscape irrigation at the wastewater plant.	PW	Long term	zero/emerging	good/present	good/present	great/abundance	great/abundance	zero/emerging	adverse/negative impact
Action R2 COE to research and incorporate extreme weather safety awareness into the Cities' public outreach program by 2023.	CS	Mid term	zero/emerging	great/abundance	good/present	zero/emerging	zero/emerging	zero/emerging	zero/emerging
Action R3 COE to actively seek funding to update the Eugene-Springfield floodplain maps by 2030 focusing on the Willamette River through Eugene and the Mill Race, Willamette River through Glenwood, and the 42nd Street Levee Seclusion Zone in Springfield.	CS	Long term	zero/emerging	good/present	good/present	great/abundance	great/abundance	zero/emerging	zero/emerging
Action R4 COE to evaluate stormwater design standards taking into consideration climate change modeling by 2022. It is known climate change will affect our weather. Rain is expected to become less frequent, but with more intense showers. This is expected to change flooding traditionally seen in this area and tax the local stormwater system event further.	PW	Short term	zero/emerging	good/present	good/present	great/abundance	great/abundance	zero/emerging	adverse/negative impact
Action R5 COE to update the Eugene-Springfield Wildlife-Urban Interface (WUI) plan and address access routes by 2025.	FIRE PW	Mid term	zero/emerging	great/abundance	good/present	great/abundance	great/abundance	zero/emerging	adverse/negative impact
Action R6 COE to utilize relevant vulnerable populations maps, developed for the Lane Livability Consortium, develop an out-reach plan to engage vulnerable populations to be two weeks ready with emergency supplies by 2023.	CS	Mid term	zero/emerging	great/abundance	good/present	zero/emerging	zero/emerging	zero/emerging	zero/emerging
Action R7 COE to continue to sponsor the Community Emergency Response Team (CERT) training to citizens within the Eugene/Springfield metropolitan area. CERT trains citizens to be prepared to respond to emergency situations within their communities.	CS	Long term	zero/emerging	great/abundance	good/present	zero/emerging	zero/emerging	zero/emerging	zero/emerging
Action R8 COE Parks and Open Space is developing a water conservation and drought management plan. COE Parks and Open Space maintains a Salmon Safe Certification, including implementing recommendations from the certification which help link land management practices with the protection of water quality and imperiled native fish.	PW	Mid term	zero/emerging	good/present	good/present	good/present	good/present	zero/emerging	zero/emerging
Action R9 COE implementing the Comprehensive Stormwater Management Plan, a policy guide to help protect public health and safety, enhance fish and wildlife habitat, and reduce the risk of flooding.	PW	Long term	zero/emerging	good/present	good/present	great/abundance	great/abundance	zero/emerging	adverse/negative impact
Action R10 COE to use Oregon Department of Geology and Mineral Industries (DOGAMI) landslide maps to guide planning efforts including the Urban Reserves Project. The maps for the Eugene-Springfield area were last updated in 2018.	PDD	Long term	zero/emerging	good/present	good/present	great/abundance	zero/emerging	zero/emerging	great/abundance

KEY

- PW – Public Works
- PDD – Planning and Development
- CS – Central Services
- Short term
- Mid term
- Long term
- adverse/negative impact
- zero/emerging
- good/present
- great/abundance

City of Eugene Triple Bottom Line Actions – Resiliency

RESILIENCY
URBAN FORESTRY

		How will this be implmented?	Implementation timescale	GHG Potential Reductions	Equity: Advances social equity	Equity: Advances health or safety	Environment: Improves support of key ecosystem functions	Environment: Reduces contaminants	Economy: Economic benefits	Economy: Financial benefit of public resources
Action R11 COE to increase average city-wide urban tree canopy to 30%, the ideal for a community our size. Eugene currently has ~23% average tree canopy cover. Despite a steady decline over the last decade, the trend can be reversed with a focused replanting investment, infill program, stronger tree preservation and more tree planting on both public and private property. Increase canopy coverage by 3% in years 1-5 and 7% in years 5-10. Monitor progress annually.	PW	Long term	good/present	great/abundance	great/abundance	great/abundance	great/abundance	zero/emerging	adverse/negative impact
Action R12 COE to track and work to maximize Ecosystem Services benefits of the urban forest. Establish baselines in 2020. Annually assess performance utilizing inventory and remote sensing data and tools such as i-Tree and Canopy Analytics to capture incremental progress, trends and outcomes after 10-years. Report on an annual basis to ensure the replacement of trees with future proof varieties that will thrive under the new conditions.	PW	Long term	zero/emerging	great/abundance	great/abundance	great/abundance	great/abundance	zero/emerging	adverse/negative impact
Action R13 COE to develop an updated Urban Forest Management Plan that clearly identifies the baseline conditions and trends, future goals, timelines, roles and responsibilities for different stakeholders, and general performance measures. Plan implementation will begin by July 2021.	PW	Long term	zero/emerging	great/abundance	great/abundance	great/abundance	great/abundance	zero/emerging	adverse/negative impact
Action R14 In 2019, COE was on a 15-year pruning cycle pace. Maximize the health of mature street trees and minimize loss by solidifying a best management practice 10-year pruning cycle by 2025 and maintaining it as canopy coverage increases.	PW	Mid term	zero/emerging	great/abundance	great/abundance	great/abundance	great/abundance	zero/emerging	adverse/negative impact
Action R15 Build on the momentum of the successful 2,021 for 2021 tree planting initiative by establishing a long-term regional collaboration and community engagement campaign to encourage planting on private property, including an annual tree give away.	PW	Long term	zero/emerging	great/abundance	good/present	good/present	good/present	zero/emerging	adverse/negative impact
Action R16 Ensure the health of newly planted public trees by enhancing soil standards and including biochar specifications in all public tree planting and Green Infrastructure projects by 2022. Establish baseline and monitor health of newly planted trees throughout the establishment period to measure success.	PW	Short term	zero/emerging	good/present	great/abundance	great/abundance	great/abundance	zero/emerging	adverse/negative impact

KEY

- PW – Public Works
- PDD – Planning and Development
- CS – Central Services
- Short term
- Mid term
- Long term
- adverse/negative impact
- zero/emerging
- good/present
- great/abundance

Triple Bottom Analysis Action Scoring Rubric

Co-Benfefit	TBL	0	1	2	3
Advances social equity	Equity	Negatively impacts vulnerable/marginalized population	No potential	Small equity impact, or impacts equally	Potential to significantly address social equity
Advances health or safety		Negatively impacts health or safety	No potential	Target-group benefit OR makes community safer	Community benefit AND/OR makes community healthier
Improves support of key ecosystem functions (reduces effects of consumption of natural resources)	Environment	Negative net impact on ecosystem functions	Net Neutral Impact	Conserves or protects ecosystem functions	Restores, or creates ecosystem functions
Reduces pollutants, waste, or human footprint on the environment		Net increases of pollutants, waste, or human footprint	No reduction	Single location reduction	Systemic reduction
Economic benefits (provides jobs and businesses ample economic opportunity and/or economic resilience	Economy	Net reduction of jobs, opportunity, or resilience	No Impact	Provides opportunity OR resilience. New jobs may be temporary.	Provides opportunity AND resilience. New jobs should be "permanent".
Financial benefit of public resources (Forecasts lifecycle financial benefit of public resources)		Net Expense	Net Neutral	Long rate of return or low savings/revenue	Immediate or significant savings/revenue

Building Energy

Action	Advances social equity	Advances health or safety	Improves support of key ecosystem functions (reduces effects of consumption of natural resources)	Reduces pollutants, waste, or human footprint on the environment	Economic benefits (provides jobs and businesses ample economic opportunity and/or economic resilience	Financial benefit of public resources (Forecasts lifecycle financial benefit of public resources)
Action B1 The City of Eugene and Northwest Natural Gas are currently working on a new franchise agreement with the intention to decrease community wide emissions associated with natural gas. The agreement is expected to be completed in late 2020. Details will be added to Eugene's list of climate commitments once the agreement is finalized. *Note ghg impact could be greater, depending on final details of the agreement.	1	2	3	3	1	1
	Actions that increase the cost of energy will negatively impact low-income communities, unless financial assistance is provided.	Reduction of fossil fuel use reduces pollutants in the air and improves air quality. Improves indoor air quality.	Decreased mining impacts for gas including groundwater contamination and land settling.	Reduction of combustion of methane to reduce CO2.	Unknown Impact: Assessment TBD as staff work out agreement with NWN.	Unknown Impact: Assessment TBD as staff work out agreement with NWN.
Action B2 COE to report to City Council different options and funding stategies to support programs for low income EWEB and NWN customers and/or support other loans for small home improvements required to qualify for utility energy efficiency programs by 2021. This action leverages existing programs, with the goal of minimizing administrative costs.	3	2	2	2	2	1
	Supports improved housing quality and lower utility bills.	Reduction of fossil fuel use reduces pollutants in the air and improves air quality. Improves indoor air quality.	Decreased mining impacts for gas including groundwater contamination and land settling.	Reduction of combustion of methane to reduce CO2.	Provides opportunity to local contractors and service providers.	Costs incurred to the City (amount TBD).
Action B3 COE to research and report to City Council potential regulatory options related to advancing energy efficiency and carbon reduction through rental housing standards by end of 2021.	2	2	3	3	1	1
	Would reduce energy costs and Improve housing quality in rental housing.	Reduction of fossil fuel use reduces pollutants in the air and improves air quality. Improves indoor air quality.	Decreased mining impacts for gas including groundwater contamination and land settling.	Reduction of combustion of methane to reduce CO2.	No impact.	Minimal imapct expected.
Action B4 COE to implement a voluntary Home Energy Score in partnership with the Oregon Department of Energy by 2021. COE to research and report to City Council on funding and implementation strategies for a mandatory program.	1	2	2	3	2	1
	Access to Home Energy Scores will have opposing forces working for and against equity; This may also raise the rent on energy effiicenct housing more expensive.	Reduction of fossil fuel use reduces pollutants in the air and improves air quality. Improves indoor air quality.	Decreased mining impacts for coal or gas, including groundwater contamination, acid rain and land settling.	Reduction of combustion of natural gas to reduce CO2.	Provides opportunity to local contractors and service providers.	Neutral or small cost expected.
Action B5 COE to lobby at state level to allow for local adoption of high-performance Reach Code meeting 10% above adopted state-wide building code.	1	2	2	1	2	1
	Emerging. Building a more energy efficient housing stock will help lower energy bills for everyone in the long run. Implementation will impact how marginalized communities will benefit.	Reduction of fossil fuel use reduces pollutants in the air and improves air quality. Improves indoor air quality. Reduce energy burden which promotes financial health, and reduces other stressors. .	Decreased mining impacts for coal or gas, including groundwater contamination, acid rain and land settling.	Reduction of combustion of natural gas to reduce CO2.	Provides job resiliency and new opportunities for builders able to meet the Reach Code.	Neutral/No lifecycle benefit.

Building Energy

Action	Advances social equity	Advances health or safety	Improves support of key ecosystem functions (reduces effects of consumption of natural resources)	Reduces pollutants, waste, or human footprint on the environment	Economic benefits (provides jobs and businesses ample economic opportunity and/or economic resilience	Financial benefit of public resources (Forecasts lifecycle financial benefit of public resources)
Action B6 COE implementing facilities updates including conservation and efficiency improvements as part of the organization's Internal Climate Action Plan. Current projects include the renovation of Campbell Community Center and Echo Hollow Pool expected to be completed in 2020 and 2021 respectively.	1	2	2	2	2	2
	While improving these faciliteis has signficant social equity benefits, improvements to their heating systsms has no significant impact beyond ghg reductions.	Reduction of fossil fuel use reduces pollutants in the air and improves air quality. Improves indoor air quality.	Decreased mining impacts for coal or gas, including groundwater contamination, acid rain and land settling.	Reduction of combustion of natural gas to reduce CO2.	Temporary construction work.	Assumed life cycle savings.
Action B7 COE to update existing Green Building policy for City buildings to focus specifically on heavily decreasing Energy Use Intensity when designed, increased energy efficiency investments, on-site renewable energy production, and total ghg lifecycle reductions by January 2022.	1	2	2	2	2	1
	While improving these faciliteis has signficant social equity benefits, improvements to their heating systsms has no significant impact beyond ghg reductions.	Reduction of fossil fuel use reduces pollutants in the air and improves air quality. Improves indoor air quality.	Decreased mining impacts for coal or gas, including groundwater contamination, acid rain and land settling.	Reduction of combustion of natural gas to reduce CO2.	Temporary construction work.	Assumed life cycle savings.

Transportation

Action	Advances social equity	Advances health or safety	Improves support of key ecosystem functions (reduces effects of consumption of natural resources)	Reduces pollutants, waste, or human footprint on the environment	Economic benefits (provides jobs and businesses ample economic opportunity and/or economic resilience	Financial benefit of public resources (Forecasts lifecycle financial benefit of public resources)
Transportation System Plan. The TSP is a plan that establishes a system of transportation facilities and services that will serve the needs of Eugene residents for 20 years. The plan includes investments in active transportation infrastructure and strategies for increasing electric vehicle usage in Eugene. The TSP includes 5 goals, 49 policies and 105 actions. Actions T1-T8 provide link back to the TSP. This is not an exhaustive list of items in the TSP that will help Eugene achieve its climate goals.	**See Actions T1-T8 for TBL analysis of components of the TSP. Note that GHG impact is not addivtive over these actions.**					
Action T1 COE to build and complete 261 transportation projects that enhance bicycle, pedestrian and rail facilities in Eugene included in the TSP. See page xxx for a summary of the types of projects included and the TSP for a detailed list of projects.	2	3	2	3	2	1
	TSP addresses accessibility for vulnerable populations.	Large safety components are complemented by healthy walking and biking options.	Proper land use within a UGB leads to conservation of ecosystem functions. Reduced impacts from stormwater runoff.	Reducing personal travel by car, a key component of these projects will reduce air pollution.	Expected to provide construction and technical/professional service jobs, though temporary.	Impact unknown. Without a formal economic assessment staff assumes net neutral impact.
Action T2 COE to work towards requiring all employers of a certain size and type, including COE, to prepare, implement and monitor Transportation Options Plans. This action is funded in part by ODOT and is expected to be completed by 2022. (TSP)	1	2	2	3	1	1
	Emerging. Equity Lens needs to be used in the development of these Plans.	Plans will help people find more ways to access active transportation and transit, which often have health benefits.	Proper land use within a UGB leads to conservation of ecosystem functions.	Reducing personal travel by car, a key component of these projects will reduce air pollution. Reduction in stormwater runoff to waterways.	No Impact.	Minimal Impact.
Action T3 COE to provide education and encourage programs, such as SmartTrips and school-based transportation options (like Safe Routes to School), to improve safety for all travelers and encourage the use of active transportation and telecommuting. (TSP)	2	2	2	3	1	1
	Addresses accessibility and provides options for specific communities.	Large safety components are complemented by healthy walking and biking options.	Proper land use within a UGB leads to conservation of ecosystem functions.	Reducing personal travel by car, a key component of these projects will reduce air pollution. Reduction in stormwater runoff to waterways.	No Impact.	Minimal Impact.
Action T4 COE to develop a systemic method for measuring trips made by walking, biking and driving by 2022. (TSP)	1	2	2	2	1	1
	Emerging. Use equity lens in development.	Large safety components are complemented by healthy walking and biking options.	Proper land use within a UGB leads to conservation of ecosystem functions.	Reducing personal travel by car, a key component of these projects will reduce air pollution. Reduction in stormwater runoff to waterways.	No Impact.	Minimal Impact.
Action T5 COE and LTD to complete the Moving Ahead planning project to identify investment packages for improved transportation corridors. The planning process is expected to be completed in 2020. Implementing the recommendations of the process, including securing federal, state and local funding will begin immediately following the planning process. (TSP)	2	2	2	3	2	1
	Moving Ahead focuses on providing transit on key corridors to improve accessibility community-wide.	Transit combined with other active transportation options promote healthy walking and biking options.	Proper land use within a UGB leads to conservation of ecosystem functions.	Combined with Envision Eugene, creates 20-minute neighborhoods and aims to reduce travel by car.	Expected to provide construction and technical/professional service jobs, though temporary.	Impact unknown. Without a formal economic assessment staff assumes net neutral impact.

Transportation

Action	Advances social equity	Advances health or safety	Improves support of key ecosystem functions (reduces effects of consumption of natural resources)	Reduces pollutants, waste, or human footprint on the environment	Economic benefits (provides jobs and businesses ample economic opportunity and/or economic resilience	Financial benefit of public resources (Forecasts lifecycle financial benefit of public resources)
Action T6 – COE will adopt new Complete Street Design Standards for capital infrastructure projects by 2022. These standards will inform the design of future COE capital and privately engineered public improvements projects on streets and shared paths. (TSP)	2	2	2	3	1	1
	Sets policy standard that includes accessibility components for vulnerable populations.	Large safety components are complemented by healthy walking and biking options.	Proper land use within a UGB leads to conservation of ecosystem functions.	Combined with Envision Eugene, creates 20-minute neighborhoods and aims to reduce travel by car.	No Impact.	No Impact.
Action T7 – COE to develop a sidewalk infill program and strategy for upgrading unimproved streets, prioritizing Vision Zero, Safe Routes to School, and connectivity to schools, parks, shopping, and important community resources. (TSP)	3	3	2	3	2	1
	Addresses system-wide safety and accessibility for vulnerable populations.	Large safety components are complemented by healthy walking and biking options.	Proper land use within a UGB leads to conservation of ecosystem functions.	Combined with Envision Eugene, creates 20-minute neighborhoods and aims to reduce travel by car.	Expected to provide construction and technical/professional service jobs, though temporary.	Impact unknown. Without a formal economic assessment staff assumes net neutral impact.
Action T8 COE to initiate process to update the TSP so that the goals, policies and projects fully meet CRO goals by 2021. Proposed changes to the TSP will be informed by the Strategic Assessment scenario development being completed by ODOT and the Central Lane Metropolitan Planning Organization with input from COE. The scenario development will provide insights as to what measures can be used to achieve the City's emissions reduction goals. (TSP)	1	3	2	3	2	1
	Emerging. Apply equity lens in implementation.	Large safety components are complemented by healthy walking and biking options.	Proper land use within a UGB leads to conservation of ecosystem functions.	Reducing personal travel by car, a key component of these projects will reduce air pollution. Reduction in stormwater runoff to waterways.	TSP expected to provide construction and technical/professional service jobs, though temporary.	Impact unknown. Without a formal economic assessment staff assumes net neutral impact.
Compact Development						
Envision Eugene, A Community Vision for 2032 provides a framework for the future that promotes new growth along or near key corridors and core commercial areas, respects neighborhood character, and increases access to services for all residents. Actions T9-T13 provide a link back to Envision Eugene. This is not an exhaustive list of items in the Envision Eugene that will help Eugene achieve its climate goals.	See Actions T9-T13 for TBL analysis of components of the Envision Eugene. Note that GHG impact is not addivtive over these actions. Building additional housing will always lead to increases in GHGs. . Assuming housing will be built, building small and compact minimizes the increase. This GHG analysis impact reflects larger avoided GHG increases.					
Action T9 COE to create a dynamic Eugene-specific comprehensive plan to address emerging needs. In 2017, Eugene completed the first phase of adopting a Eugene-specific comprehensive plan, which includes the Eugene UGB. This action is expected to be completed by 2025 and is part of the Provide for Adaptable, Flexible and Collaborative Implementation Pillar of Envision Eugene.	2	1	2	3	2	1
	Extensive public engagement involved to complete the plan .	Neutral.	Proper land use within a UGB leads to conservation of ecosystem functions. Reduced impacts from stormwater runoff.	Reducing personal travel by car, a key component of these projects will reduce air pollution. Reduction in stormwater runoff to waterways.	Potential for temporary construction jobs relevant to plan	Minimal impact.
Action T10 COE to plan to meet all of the 20-year multi-family housing and commercial job needs within the existing UGB. This action includes planning to integrate new development and redevelopment in the downtown, on key transit corridors, and in core commercial areas. This action is part of the Promote Compact Urban Development and Efficient Transportation Options Pillar of Envision Eugene.	2	3	2	3	2	1
	Plans for different types of housing for different income levels.	Compact development leads to reduced car use, reducing ghgs and air polluiton.	Proper land use within a UGB leads to conservation of ecosystem functions. Reduced impacts from stormwater runoff.	Reducing personal travel by car, a key component of these projects will reduce air pollution. Reduction in stormwater runoff to waterways.	Potential for temporary construction jobs relevant to plan	Minimal impact.

Transportation

Action	Advances social equity	Advances health or safety	Improves support of key ecosystem functions (reduces effects of consumption of natural resources)	Reduces pollutants, waste, or human footprint on the environment	Economic benefits (provides jobs and businesses ample economic opportunity and/or economic resilience	Financial benefit of public resources (Forecasts lifecycle financial benefit of public resources)
Action T11 COE to make compact urban development easier in the downtown, on key transit corridors, and in core commercial areas. This includes removing regulatory barriers, flexible uses within industrial and commercial, reduce financial obstacles, restructure SDCs for smaller homes and denser development, additional incentives, flexible land use codes, and ensure transportation system can support planned densities. This action is part of the Promote Compact Urban Development and Efficient Transportation Options Pillar of Envision Eugene.	2	2	2	3	2	1
	This action allows more equitable location of development closer to transportation and employment for part of the community.	Compact development leads to reduced car use, reducing ghgs and air polluiton.	Proper land use within a UGB leads to conservation of ecosystem functions. Reduced impacts from stormwater runoff.	Reducing personal travel by car, a key component of these projects will reduce air pollution. Reduction in stormwater runoff to waterways.	Potential for temporary construction jobs relevant to plan	Minimal impact.
Action T12 COE to expand housing variety and choice by facilitating the building of smaller, clustered and attached housing. This action includes providing flexibility in land use, removing land use code and permitting process barriers, promoting existing incentives such as EWEB small house incentives, and new incentives such as restructuring SDCs and attached housing loans. This action is a part of the Providing Housing Affordable to All Income Levels Pillar of Envision Eugene.	2	2	2	2	2	0
	Housing stock diversifies and is more obtainable by a greater number of individuals.	Compact development leads to reduced car use, reducing ghgs and air polluiton.	Proper land use within a UGB leads to conservation of ecosystem functions. Reduced impacts from stormwater runoff.	Smaller homes consume less energy and other natural resources	Potential for temporary construction jobs relevant to plan	Loss of SDCs.
Action T13 COE to plan for growth so that an increasing proportion of residents live in 20-Minute Neighborhoods where residents can meet most of their daily needs near their homes without the use of an automobile. This includes identifying location opportunities for flexible codes, transportation infrastructure improvements, parks and open space, partnerships and incentives. This action is part of the Plan for Climate Change and Energy Resiliency Pillar of Envision Eugene.	2	2	2	3	2	0
	Provides more equitable access to services.	Compact development leads to reduced car use, reducing ghgs and air polluiton.	Proper land use within a UGB leads to conservation of ecosystem functions. Reduced impacts from stormwater runoff.	Reducing personal travel by car, a key component of these projects will reduce air pollution. Reduction in stormwater runoff to waterways.	Potential for temporary construction jobs relevant to plan	Infrastructure investments and others will be a net cost to the City.
Additional Compact Development Strategies						
Action T14 COE to incentivize transit-oriented development and walkable neighborhoods using tools such as the Multi-Unit Property Tax Exemption (MUPTE), a state-enabled 10-year property tax exemption, to stimulate the construction of multi-unit housing downtown and along key corridors. MUPTE is currently authorized to be used in downtown Eugene. Programs to facilitate more housing downtown, including MUPTE, are an Envision Eugene strategy anticipated to achieve an additional 1,000 dwellings by 2032.	2	2	2	3	2	2
	TOD and walkable neighborhoods provide targeted benefit for occupants.	Compact development leads to reduced car use, reducing ghgs and air polluiton.	Proper land use within a UGB leads to conservation of ecosystem functions. Reduced impacts from stormwater runoff.	Reducing personal travel by car, a key component of these projects will reduce air pollution. Reduction in stormwater runoff to waterways.	Potential for temporary construction jobs relevant to plan	Lifecycle assumption is a net positive.
Action T15 COE to encourage housing diversity in all neighborhoods. Support the construction of duplexes, triplexes, quadplexes, townhomes, and cottage clusters throughout the community. Directly implement House Bill (HB) 2001, the state law that enables missing middle housing options on lots zoned for residential uses. (HTS Process, Envision Eugene, SB 1051, HB 2001)	3	1	2	3	2	1

Transportation

Action	Advances social equity	Advances health or safety	Improves support of key ecosystem functions (reduces effects of consumption of natural resources)	Reduces pollutants, waste, or human footprint on the environment	Economic benefits (provides jobs and businesses ample economic opportunity and/or economic resilience	Financial benefit of public resources (Forecasts lifecycle financial benefit of public resources)
	Diversity in housing would have significant impact on equity in housing.	neutral.	Proper land use within a UGB leads to conservation of ecosystem functions. Reduced impacts from stormwater runoff.	Reducing personal travel by car, a key component of these projects will reduce air pollution. Reduction in stormwater runoff to waterways.	Potential for temporary construction jobs relevant to plan	Minimal impact.
Action T16 COE to support accessory dwelling construction. COE City Council reduced barriers to accessory dwellings in accordance with Senate Bill (SB) 1051 and HB 2001. For example, City Council removed some land use code barriers and eliminated transportation system development charges (SDCs) for accessory dwellings with an annual cap on the amount of charges that can be waived.	3	1	2	3	2	0
	Diversity in housing would have significant impact on equity in housing.	Neutral.	Proper land use within a UGB leads to conservation of ecosystem functions. Reduced impacts from stormwater runoff.	Reducing personal travel by car, a key component of these projects will reduce air pollution. Reduction in stormwater runoff to waterways.	Potential for temporary construction jobs relevant to plan	Loss of SDCs.
Action T17 COE to update its Clear and Objective Housing Regulations to mitigate barriers to housing, increase efficiency and predictability in the review process, and effectively address development impacts. State law entitles housing applications to clear and objective standards, conditions, and procedures. Eugene will need to accommodate approximately 15,000 new homes within our UGB by 2032 while preserving the community's values regarding livability, public health and safety, and natural resource protection. The project is expected to be completed by 2021.	3	2	2	3	1	1
	Policy level change affects systemic change.	Compact development leads to reduced car use, reducing ghgs and air polluiton.	Proper land use within a UGB leads to conservation of ecosystem functions. Reduced impacts from stormwater runoff.	Reducing personal travel by car, a key component of these projects will reduce air pollution. Reduction in stormwater runoff to waterways.	No Impact.	Neutral.
Action T18 COE and Lane County to finish the River Road-Santa Clara Neighborhood Plan in collaboration with the River Road and Santa Clara Community Organizations as well as neighbors and businesses. The plan along with the transit-oriented development efforts of the River Road Corridor Study will allow mixed-use development and remove barriers to middle housing.	2	1	1	1	1	1
	Plan affects particular neighborhood in Eugene but removes barriers to housing.	Impact unknown.	Impact unknown: Without formal assessment of project components staff assume net nutral impact.	Impact unknown: Without formal assessment of project components staff assume net nutral impact.	Unknown.	Impact unknown at this time.
Action T19 COE to develop a Growth Monitoring Program to monitor community and development trends. Housing data is a key part of this program including housing permit data, land divisions, and affordability.	3	2	2	2	1	0
	Data from this program affects decision making across community with potential to affect policy.	Compact development leads to reduced car use, reducing ghgs and air polluiton.	Proper land use within a UGB leads to conservation of ecosystem functions. Reduced impacts from stormwater runoff.	Supports compact development and reduced travel by car.	No Impact	Some expense to City to set up data collection system.

Transportation

Action	Advances social equity	Advances health or safety	Improves support of key ecosystem functions (reduces effects of consumption of natural resources)	Reduces pollutants, waste, or human footprint on the environment	Economic benefits (provides jobs and businesses ample economic opportunity and/or economic resilience	Financial benefit of public resources (Forecasts lifecycle financial benefit of public resources)
EV Strategy Actions. In partnership with EWEB, LTD, UO, and other community partners, the City of Eugene will implement its Electric Vehicle Strategy, which includes more than 20 actions. Actions T20-T27 link back to the EV Strategy. This is not an exhaustive list of items in the Envision Eugene that will help Eugene achieve its climate goals.	See Actions T20-T27 for TBL analysis of components of the EV Strategy. Note that GHG impact is not addivtive over these actions.					
Action T20 COE to evaluate introducing parking and infrastructure requirements for electric vehicles (EV) and small electric vehicles (SEV) at new multi-family housing projects and commercial construction projects by 2021, and to include EV and SEV parking in City-supported affordable housing developments between 2023 and 2025.	2	2	2	1	2	1
	Equitable support of EV infrastructure within underserved communities.	Reduction of fossil fuel use reduces pollutants in the air and improves air quality.	Associations of long term benefits of lowering GHG emissions related to Fossil Fuel use.	Net neutral impact unless underrepresented communities have access to EV's.	Allows for a strong, more consistent workforce and opportunity for economic development.	No Impact.
Action T21 COE to develop policies and priorities around installation of publicly accessible charging stations in the right-of-way, including electric bike charging. COE will perform a study to determine needs and preferred locations for charging infrastructure. This action is scheduled to be completed between 2023 and 2025.	2	2	2	2	2	1
	Public access to EV infrastructure supports economic growth and vitality.	Reduction of fossil fuel use reduces pollutants in the air and improves air quality.	Associations of long term benefits of lowering GHG emissions related to fossil fuel use.	EV/SEV infrastructure supports the purchase and use of EVs/SEV's, reducing VMT using fossil fuels.	Providing access to transportation allows for a strong, more consistent workforce and opportunity for economic development.	Impact unknown. Minimal impact for planning. Net impact of implemenation unclear.
Action T22 COE to encourage taxi and transportation network companies (such as Lyft and Uber) to utilize EVs in their fleet and develop charging infrastructure. The City will explore implementing incentives and expedited permitting processes for EVs in these types of fleets. This action is scheduled to be completed between 2023 and 2025.	1	2	2	2	2	1
	Emerging. Work needs to include pathways for low-income drivers to access EVs.	Reduction of fossil fuel use reduces pollutants in the air and improves air quality.	Associations of long term benefits of lowering GHG emissions related to fossil fuel use.	EV/SEV infrastructure supports the purchase and use of EVs/SEV's, reducing VMT using fossil fuels.	EVs provide TNC drivers low cost fuel option.	Impact unknown and expected to be cost neutral.
Action T23 COE will explore ways to promote use of micromobility options such as e-scooters and e-bikes. This action is scheduled to be completed between 2023 and 2025.	2	2	2	3	2	1
	Microbiltiy options are often lower cost, making them more accessible across income levels.	Active transpotation tends to have health benefits.	Associations of long term benefits of lowering GHG emissions related to fossil fuel use.	Electric Scooters and Bikes may reduce VMT using fossil fuels.	Offers new economic opportunity for those selling/renting micromobility options.	Net neutral impact expected.
Action T24 COE and EWEB to increase the number of EV-centered ride and drive consumer education events. This action is scheduled to be completed between 2023 and 2025.	1	2	2	2	1	0
	Emerging. Implementation needs to use an equity lens.	Reduction of fossil fuel use reduces pollutants in the air and improves air quality, but impact only achieved if leads to more EV adoption.	Associations of long term benefits of lowering GHG emissions related to fossil fuel use.	The use of EVs/SEV's, reduces VMT using fossil fuels.	No impact.	Minimal impact.
Action T25 COE to set targets for EV adoption by 2035. Publish status of EV adoption in Eugene annually on the City's website by 2021.	2	2	2	2	1	1

Transportation

Action	Advances social equity	Advances health or safety	Improves support of key ecosystem functions (reduces effects of consumption of natural resources)	Reduces pollutants, waste, or human footprint on the environment	Economic benefits (provides jobs and businesses ample economic opportunity and/or economic resilience	Financial benefit of public resources (Forecasts lifecycle financial benefit of public resources)
	Policy applies equally to community and may increase equitable access to EV's.	Reduction of fossil fuel use reduces pollutants in the air and improves air quality.	Associations of long term benefits of lowering GHG emissions related to fossil fuel use.	The use of EVs/SEV's, reduces VMT using fossil fuels.	No impact from developing reporting system.	Minimal imapct.
Action T26 COE organization to adopt an EV First procurement policy. There has been an informal practice to consider EV in the replacement of retiring fleet vehicles since 2019. Through an adopted EV First policy, 100% vehicles that become due for replacement, will be evaluated for GHG reduction opportunities. The City's Fleet Board will recommend any vehicle with an available option in the respective class for replacement with either full electric, plug-in hybrid, standard or after-market hybrid. Fleet Board will only approve exceptions to this policy if it can be shown that an EV or hybrid option cannot meet the business need. This action is a part of the Internal Climate Action Plan.	1	2	2	2	2	3
	No significant impact.	Fewer fossil fuel polluting vehicles create healthier communities.	Reduces energy (gasoline and/or diesel) needs which conserves ecosystem functions.	Reduces fossil fuel pollutants in the community.	City support and high quantity purchasing of an emerging fuel type, renewable diesel, supports growth in this industry.	EVs tend to offer strong lifecycle financial benefit.
Action T27 COE to conduct an electric car share pilot program at one or more affordable housing sites in Eugene. This action is scheduled to be completed between 2021 and 2025.	2	2	2	2	1	0
	Improves access to low-income communities.	Reduction of fossil fuel use reduces pollutants in the air and improves air quality.	Associations of long term benefits of lowering GHG emissions related to fossil fuel use.	The use of EVs/SEV's, reduces VMT using fossil fuels.	Minimal impact expected.	Net cost to City expected.
Action T28 COE to work towards creating a digital smart trips application that would display all modes of travel by segment type, as well as public parking options, for a planned trip in our community. The vision for the application is that it would show all transit, driving, biking, and walking options between two points, as well as combinations of various modes of travel, carbon emitted, calories burned, and cost of travel. Further, it would allow a user to prioritize their trip to focus on options such as saving time, saving money, or saving the environment. The project is expected to be completed in 2023.	2	3	2	2	1	1
	Allows everyone to access information about transporation options.	Promotes active transportation which typically includes health benefits.	Associations of long term benefits of lowering GHG emissions related to fossil fuel use.	Reducing personal travel by car, a key component of these projects will reduce air pollution.	No or minimal impact.	Minimal impact expected.
Action T29 COE to explore options to create community wide broadband. Modeled after the downtown dark fiber project, this action would provide greater accessibility for families and residents to work and learn remotely. The ability to work remotely with a high speed and affordable network connection would allow more remote work options and potential to decrease daily commuting.	3	1	2	2	2	1
	Community wide access to high speed internet has systemic positive impacts on equity.	No net impact	Associations of long term benefits of lowering GHG emissions related to fossil fuel use.	Reducing personal travel by car, a key component of these projects will reduce air pollution.	Growing economic resiliency through enhanced employment options.	Unknown.
Action T30 COE to implement Internal Fleet Climate Action Plan. This plan includes measures to help the City work towards carbon neutrality including procuring EVs and using alternative fuels like renewable diesel.	1	2	2	2	1	2

Transportation

Action	Advances social equity	Advances health or safety	Improves support of key ecosystem functions (reduces effects of consumption of natural resources)	Reduces pollutants, waste, or human footprint on the environment	Economic benefits (provides jobs and businesses ample economic opportunity and/or economic resilience	Financial benefit of public resources (Forecasts lifecycle financial benefit of public resources)
	No significant impact.	Fewer fossil fuel polluting vehicles create healthier communities.	Reduces energy (gasoline and/or diesel) needs which conserves ecosystem functions.	Reduces fossil fuel pollutants in the community.	City support and high quantity purchasing of an emerging fuel type, renewable diesel, supports growth in this industry.	EVs tend to offer strong lifecycle financial benefit.

Fugitive Emissions

Action	Advances social equity	Advances health or safety	Improves support of key ecosystem functions (reduces effects of consumption of natural resources)	Reduces pollutants, waste, or human footprint on the environment	Economic benefits (provides jobs and businesses ample economic opportunity and/or economic resilience	Financial benefit of public resources (Forecasts lifecycle financial benefit of public resources)
Action F1 COE to operate and promote the Love Food Not Waste commercial food waste collection program. This partnership among local garbage haulers, commercial composters, the City of Eugene and area businesses makes sure that food scraps turn into valuable compost instead of taking up space in our landfill. Business can sign up for Love Food Not Waste through their garbage hauler.	2	1	3	3	2	1
	Make composting accessible to all businesses.	No significant impact.	Compost builds soil health and the ability to provide nutrients, hold water and sequester more carbon.	While compost intially adds to the GHGs while breaking down, after it is incorporated into the soil, it nets out for lower GHG emissions with sequestration. Reduces methan emissions in landfill.	Compost product created through the program sold at local stores.	Neutral.
Action F2 COE to operate and promote the Curbside Compost Program. As of October 2019, Eugene customers who have residential garbage service have the option to put food waste in their yard debris bin instead of in the garbage.	2	1	3	3	1	1
	Makes composting accessible more people.	No significant impact.	Compost builds soil health and the ability to provide nutrients, hold water and sequester more carbon.	While compost intially adds to the GHGs while breaking down, after it is incorporated into the soil, it nets out for lower GHG emissions with sequestration. Reduces methan emissions in landfill.	No signicant changes in job opportunities.	Neutral.
Action F3 COE to explore methods to capture biogas from organic waste and use it for renewable transport fuel. By 2025, COE will scope out the potential pathways to implement this action, including cost estimates.	1	1	3	3	1	0
	No significant impact.	No significant impact.	Compost from anaerobic digester with augmentation builds soil health and the ability to provide nutrients, hold water and sequester more carbon.	Reduces fugitive methane and reduces emissions from vehicles. Carbon neutral to carbon negative.	Impact unknown.	Expected net cost to City.
Action F4 COE to convene community partners who use products with large amounts of refrigerants by the end of 2021 to explore options to reduce community-wide refrigerant gas leaks from appliances like air conditioners, refrigerators, and commercial refrigeration systems.	1	2		3	1	1
	No significant impact.	Reduction of fossil fuel use reduces pollutants in the air and improves air quality.	Unclear/more research needed to determine impact.	Montreal protocol already phasing out high intensity refrigerants. Refrigerants are disproportionately intense to atmosphere. Small changes are big changes.	No impact.	Minimal cost to convene.

Fugitive Emissions

Action	Advances social equity	Advances health or safety	Improves support of key ecosystem functions (reduces effects of consumption of natural resources)	Reduces pollutants, waste, or human footprint on the environment	Economic benefits (provides jobs and businesses ample economic opportunity and/or economic resilience	Financial benefit of public resources (Forecasts lifecycle financial benefit of public resources)
Action F5 COE will continue to use warm-mix asphalt, a low-carbon alternative that has become the default asphalt sold in the region, due in part to COE leadership. Warm-mix pavement materials are mixed and placed on the road at lower temperatures than traditional hot-mix. Benefits of the reduced temperature include cutting fuel consumption and decreasing the production of emissions. Engineering and construction benefits include better compaction of pavements; the ability to pave at lower temperatures, extending the paving season; and the potential to be able to recycle at higher rates.	1	2	2	2	1	2
	No significant impact.	Warm-mix asphalt reduces local air pollution during paving process.	Better life cycle durability decreases the need for virgin aggregate.	Systemically reduces fossil fuel and other pollutants during material production.	No significant impact.	Potential to provide savings through material substitutions.
Action F6 Due to the economic impacts of COVID19, the disproportionate impact of hunger on low income communities, and the highest greenhouse gas savings of food waste diversion, COE to prioritize food rescue programs at local level.	3	3	2	2	1	1
	Helps provide local food security.	Provides benefit to the community by food for vulnerable populations and reducing ghg's locally.	Reduced need for agriculture land use, decrease in nutrient and water consumption from agriculture. Reduced topsoil loss.	Reduced need for pesticides and herbicides.	Impact unknown.	Net neutral impact expected.
Action F7 COE to continue to explore adopting a franchise-system of residential solid waste collection with the goal of reducing hauler fleet-generated greenhouse gases, route redundancy and road wear.	1	2	2	3	1	1
	Emerging. Equity lens should be applied during implementation.	Reduction of fossil fuel use reduces pollutants in the air and improves air quality.	Reduction in road wear and fuel consumption equals a reduction in mining needs for aggreagte and fuel	Less hauling = fewer emissions.	Impact unknown.	Netural impact expected.
Action F8 COE will continue to work toward the Council directed goal of increasing the volume of waste diverted from landfill from internal operations and facilities from current levels to at least 90% by 2020. PDD has achieved this goal and will work with other departments to implement 90% diversion by 2030 through the Internal Zero Waste program.	1	1	2	3	1	1
	Emerging. Equity lens should be applied during implementation.	No signficant impact.	Reduction in consumption of materials reduces the need for extraction of natural resources. The product matters more than the package.	If the material can go back into commerce cost effectively, GHGs in new products can be reduced.	No significant impact.	Minimal.

Consumption

Action	Advances social equity	Advances health or safety	Improves support of key ecosystem functions (reduces effects of consumption of natural resources)	Reduces pollutants, waste, or human footprint on the environment	Economic benefits (provides jobs and businesses ample economic opportunity and/or economic resilience	Financial benefit of public resources (Forecasts lifecycle financial benefit of public resources)
Action C1 COE will continue to host Fix It Fairs in partnership with the ToolBox Project to help consumers repair goods and instruct participants how to make their own repairs. Fix It Fairs help consumers avoid purchasing more goods. Repair services are available for a variety of products, including small appliances like lamps and toasters, tools, clothing and textiles, small electronics, home and garden tools, furniture, and toys.	2	1	3	3	1	0
	Fix it Fairs are available to everyone in the community and allow community members to save money by repairing instead of buying new.	No significant impact.	Reduces need for virgin material extractions.	Reduces embodied emissions in new goods.	No significant impact.	Net expense.
Action C2 COE will continue to develop and improve GHG tracking and reporting in the Capital Improvement Program (CIP), which was first incorporated in 2019. The goal of this action is to provide decision-makers with quality information about the GHG impact of material and design choices so that they can better incorporate considerations about the impact of climate change into the decision-making process. The CIP is updated every two years.	1	1	3	3	1	0
	No significant impact.	No significant impact.	Should reduce the consumption of virgin materials and encourage repair of old but durable goods.	Systematic reduction of pollutants and human footprint on the environment if done well.	No significant impact.	Assumed net expense.
Action C3 COE will continue to develop a comprehensive waste and consumption public educational campaign touching on topics such as recycling, food waste and low-impact consumption practices.	2	1	3	3	3	2
	Potential to help people find ways to save money.	Neutral	Should reduce the consumption of virgin materials and encourage repair of old but durable goods.	Systematic reduction of pollutants and human footprint on the environment if done well.	Should increase jobs in repair and resale.	Netural.
Action C4 By early 2022, COE to determine most effective policy and program pathway(s) to require construction and demolition waste materials to be sorted for reusable or recyclable materials.	1	1	2	3	1	1
	No significant impact.	Neutral	Would divert material from landfill and reduce consumption of new goods by reusing as much as possible.	Benefits of reducing consumption revurberate through entire system (less materials mined, transported, and sent to landfill). Benefits beyond a particular area.	No significant impact.	Netural.
Action C5 COE will investigate the increased use of substitute supplementary cementitious materials (SCMs) for Portland cement in all capital construction projects and provide a target level of use by 2021	1	1	3	3	1	1

Consumption

Action	Advances social equity	Advances health or safety	Improves support of key ecosystem functions (reduces effects of consumption of natural resources)	Reduces pollutants, waste, or human footprint on the environment	Economic benefits (provides jobs and businesses ample economic opportunity and/or economic resilience	Financial benefit of public resources (Forecasts lifecycle financial benefit of public resources)
	No significant impact.	No significant im	Should reduce the consumption of virgin materials and encourage repair of old but durable goods.	Systematic reduction of pollutants and human footprint on the environment if done well.	No significant impact.	Unknown.
Action C6 COE to continue to use 50% supplementary cementitious materials (SCMs) on in-place reclamation projects and will commit to evaluating increased standard SCM content.	1	1	3	3	1	1
	No significant impact.	No significant im	Should reduce the consumption of virgin materials and encourage repair of old but durable goods.	Systematic reduction of pollutants and human footprint on the environment if done well.	No significant impact.	Neutral.
Action C7 COE to continue to include to specify the materials to be used and not used in contractor proposals for construction products that include concrete and asphalt. COE to explore the use of Environmental Product Declarations (EPDs) and other reporting mechanism with the end goal of documenting and verifying the environmental benefits of products used in concrete and asphalt mixes.	1	1	3	3	1	1
	No significant impact.	No significant im	Should reduce the consumption of virgin materials and encourage repair of old but durable goods.	Systematic reduction of pollutants and human footprint on the environment if done well.	No significant impact.	Minimal Impact.

Resiliency

Action	Advances social equity	Advances health or safety	Improves support of key ecosystem functions (reduces effects of consumption of natural resources)	Reduces pollutants, waste, or human footprint on the environment	Economic benefits (provides jobs and businesses ample economic opportunity and/or economic resilience	Financial benefit of public resources (Forecasts lifecycle financial benefit of public resources)
Action R1 COE to pursue a water reuse partnership with MWMC as part of the community effort to prepare for drought. Demonstrations are expected to begin in 2020. MWMC will add facilities to the wastewater treatment plant to produce the first ever stream of Class A recycled water - the highest quality recycled water class in Oregon, suitable for all water uses except drinking. Initial uses will include local sand and gravel operations, City street tree watering, and 100% of landscape irrigation at the wastewater plant.	2	2	2	3	1	0
	Will help maintain community services during drought.	Drought management and water conservation improves community safety, particularly in cases of emergency.	Reduction of warm water effluent to river. Reduction of impacts in treatment of drinking water. Benefits to humand and other species like fish.	Reduction of warm water effluent to river in spring and fall. Keeps water cold, better for all species.	No significant impact.	Assumed net expense.
Action R2 COE to research and incorporate extreme weather safety awareness into the Cities' public outreach program by 2023.	3	2	1	1	1	1
	Emergency preparadeness significantly addresses social equity for those that need hazard protection.	Makes community safer.	Neutral impact	Neutral impact	No significant impact.	Minimal impact.
Action R3 COE to actively seek funding to update the Eugene-Springfield floodplain maps by 2030 focusing on the Willamette River through Eugene and the Mill Race, Willamette River through Glenwood, and the 42nd Street Levee Seclusion Zone in Springfield.	2	2	3	3	1	1
	Emergency preparadeness significantly addresses social equity for those that need hazard protection.	Makes community safer.	Flooding in industrial or brownfield areas can contaminate ground and surface water for decades if unplanned for.	Flooding in industrial or brownfield areas can contaminate ground and surface water for decades if unplanned for.	No significant impact.	Seeking funding, so expected to be cost neutral.
Action R4 COE to evaluate stormwater design standards taking into consideration climate change modeling by 2022. It is known climate change will affect our weather. Rain is expected to become less frequent, but with more intense showers. This is expected to change flooding traditionally seen in this area and tax the local stormwater system event further.	2	2	3	3	1	0
	Assumed small equity impact from stormwater protection.	Makes community safer from stormwater flooding.	Flooding in industrial or brownfield areas can contaminate ground and surface water for decades if unplanned for.	Flooding in industrial or brownfield areas can contaminate ground and surface water for decades if unplanned for.	No significant impact.	Net cost to update plan.
Action R5 COE to update the Eugene-Springfield Wildlife-Urban Interface (WUI) plan and address access routes by 2025.	3	2	3	3	1	0
	Emergency preparadeness significantly addresses social equity for those that need hazard protection.	Makes community safer.	A well managed urban forest will be resilient to fire and keep urban habitat healthy.	Improved air qulity in fire events due to limitign grwoth of the fire.	No significant impact.	Net cost to update plan.
Action R6 COE to utilize relevant vulnerable populations maps, developed for the Lane Livability Consortium, develop an outreach plan to engage vulnerable populations to be two weeks ready with emergency supplies by 2023.	3	2	1	1	1	1

Resiliency

Action	Advances social equity	Advances health or safety	Improves support of key ecosystem functions (reduces effects of consumption of natural resources)	Reduces pollutants, waste, or human footprint on the environment	Economic benefits (provides jobs and businesses ample economic opportunity and/or economic resilience	Financial benefit of public resources (Forecasts lifecycle financial benefit of public resources)
	Emergency response and preparation significantly addresses social equity for those that need hazard protection.	Makes community safer.	No net impact.	No net impact.	No significant impact.	Minimal impact.
Action R7 COE to continue to sponsor the Community Emergency Response Team (CERT) training to citizens within the Eugene/Springfield metropolitan area. CERT trains citizens to be prepared to respond to emergency situations within their communities.	3	2	1	1	1	1
	Emergency response and preparation significantly addresses social equity for those that need hazard protection.	Makes community safer.	Neutral.	Neutral.	No significant impact.	Minimal impact.
Action R8 COE Parks and Open Space is developing a water conservation and drought management plan. COE Parks and Open Space maintains a Salmon Safe Certification, including implementing recommendations from the certification which help link land management practices with the protection of water quality and imperiled native fish.	2	2	2	2	1	1
	Extent of human equity benefits from drought prevention and water conservation unable to be fully determined, but is present.	Drought management and water conservation improves community safety, particularly in cases of emergency.	Salmon safe recommendations, water conservation, and drought management actively restores ecosystem functions.	Salmon Safe recommendations aim to systemically reduce pollutants and other human impacts on the environment.	No significant impact.	Minimal impact.
Action R9 COE implementing the Comprehensive Stormwater Management Plan, a policy guide to help protect public health and safety, enhance fish and wildlife habitat, and reduce the risk of flooding.	2	2	3	3	1	0
	Assumed small equity impact from stormwater protection.	Makes community safer from stormwater flooding.	Protects ecosystem functions downriver.	Systemic reduction in contaminants from stormwater and flooding.	No significant impact.	Planning process results in net cost.
Action R10 COE to use Oregon Department of Geology and Mineral Industries (DOGAMI) landslide maps to guide planning efforts including the Urban Reserves Project. The maps for the Eugene-Springfield area were last updated in 2018.	2	2	3	1	1	2
	Hazard awareness and preparation significantly addresses social equity for those that need hazard protection.	Makes community safer.	Slope stability and mainting of vegetation keeps topsoil in place and allows for a healthies watershed.	Neutral.	No significant impact.	Neutral.
Urban Forestry						

Resiliency

Action	Advances social equity	Advances health or safety	Improves support of key ecosystem functions (reduces effects of consumption of natural resources)	Reduces pollutants, waste, or human footprint on the environment	Economic benefits (provides jobs and businesses ample economic opportunity and/or economic resilience	Financial benefit of public resources (Forecasts lifecycle financial benefit of public resources)
Action R11 COE to increase average city-wide urban tree canopy to 30%, the ideal for a community our size. Eugene currently has ~23% average tree canopy cover. Despite a steady decline over the last decade, the trend can be reversed with a focused replanting investment, infill program, stronger tree preservation and more tree planting on both public and private property. Increase canopy coverage by 3% in years 1-5 and 7% in years 5-10. Monitor progress annually.	3	3	3	3	1	0
	For the last four years the division has been working to plant and maintain trees in disadvantaged areas and to assess levels of tree canopy at the neighborhood association level. Over the next ten years this will really be a focus.	Community benefit making communities healthier.	Planting trees restores and creates ecosystem functions.	Emerging reduction of pollutants and human footprint. Energy benefit to reducing air conditioning needs.	No net impact.	Assumed net expense.
Action R12 COE to track and work to maximize Ecosystem Services benefits of the urban forest. Establish baselines in 2020. Annually assess performance utilizing inventory and remote sensing data and tools such as i-Tree and Canopy Analytics to capture incremental progress, trends and outcomes after 10-years. Report on an annual basis to ensure the replacement of trees with future proof varieties that will thrive under the new conditions.	3	3	3	3	1	0
	For the last four years the division has been working to plant and maintain trees in disadvantaged areas and to assess levels of tree canopy at the neighborhood association level. Over the next ten years this will really be a focus.	Community benefit making communities healthier.	Planting trees restores and creates ecosystem functions.	Emerging reduction of pollutants and human footprint.	No net impact.	Assumed net expense.
Action R13 COE to develop an updated Urban Forest Management Plan that clearly identifies the baseline conditions and trends, future goals, timelines, roles and responsibilities for different stakeholders, and general performance measures. Plan implementation will begin by July 2021.	3	3	3	3	1	0
	For the last four years the division has been working to plant and maintain trees in disadvantaged areas and to assess levels of tree canopy at the neighborhood association level. Over the next ten years this will really be a focus.	Community benefit making communities healthier.	Planting trees restores and creates ecosystem functions.	Emerging reduction of pollutants and human footprint.	No net impact.	Assumed net expense.

Resiliency

Action	Advances social equity	Advances health or safety	Improves support of key ecosystem functions (reduces effects of consumption of natural resources)	Reduces pollutants, waste, or human footprint on the environment	Economic benefits (provides jobs and businesses ample economic opportunity and/or economic resilience	Financial benefit of public resources (Forecasts lifecycle financial benefit of public resources)
Action R14 In 2019, COE was on a 15-year pruning cycle pace. Maximize the health of mature street trees and minimize loss by solidifying a best management practice 10-year pruning cycle by 2025 and maintaining it as canopy coverage increases. Create a dashboard that tracks performance in real time.	3	3	3	3	1	0
	For the last four years the division has been working to plant and maintain trees in disadvantaged areas and to assess levels of tree canopy at the neighborhood association level. Over the next ten years this will really be a focus.	Community benefit making communities healthier.	Planting trees restores and creates ecosystem functions.	Emerging reduction of pollutants and human footprint.	No net impact.	Assumed net expense.
Action R15 Build on the momentum of the successful 2,021 for 2021 tree planting initiative by establishing a long-term regional collaboration and community engagement campaign to encourage planting on private property, including an annual tree give away.	3	2	2	2	1	0
	For the last four years the division has been working to plant and maintain trees in disadvantaged areas and to assess levels of tree canopy at the neighborhood association level. Over the next ten years this will really be a focus.	Target group benefit making communities healthier.	Planting trees restores and creates ecosystem functions.	Emerging reduction of pollutants and human footprint.	No net impact.	Assumed net expense.
Action R16 Ensure the health of newly planted public trees by enhancing soil standards and including biochar specifications in all public tree planting and Green Infrastructure projects by 2022. Establish baseline and monitor health of newly planted trees throughout the establishment period to measure success.	2	3	3	3	1	0
	Green infrastructure doubles as a community benefit, increasing value, air quality, beauty, and environmental quality while reducing flooding.	Community benefit making communities healthier.	Vegetation restores and creates ecosystem functions.	Systemic reduction of pollutants and human footprint on the environment.	No significant impact.	Assumed net expense.

Climate Action Plan 2.0

Appendix 2

Eugene Future Physical Conditions White Paper

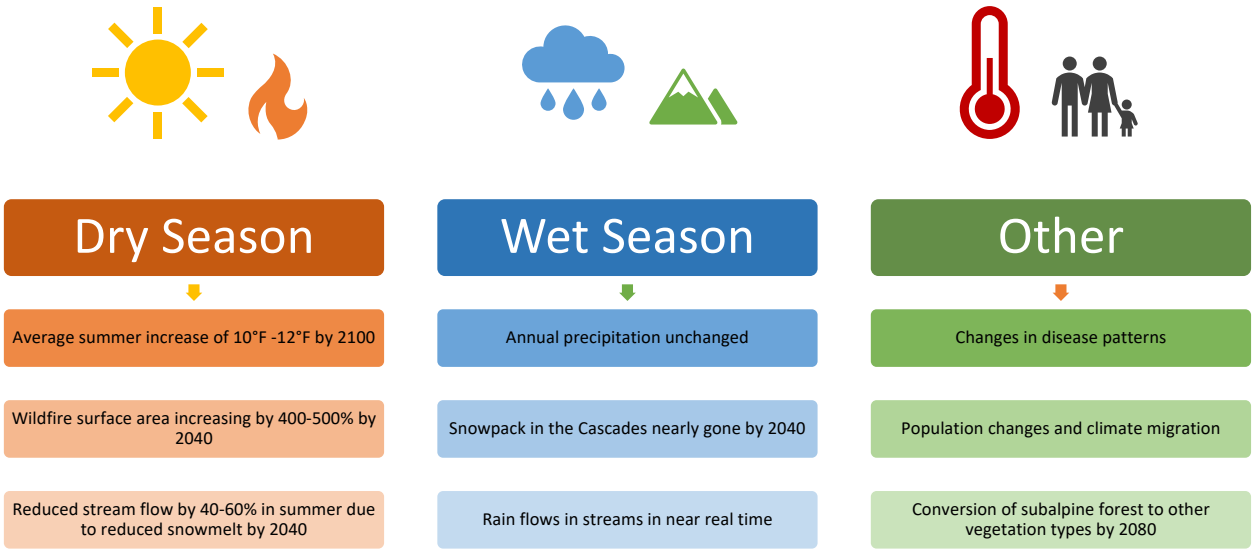
CLIMATE ACTION PLAN 2.0
Changing Climate in Eugene

The Challenge and Opportunity of a Changing Climate

This paper discusses the potential changes and impacts we may see in Eugene as a result of climate change. We are already observing physical changes to Oregon's climate, including hotter temperatures, drought, wildfire smoke and less mountain snow. Understanding the areas of greatest risk gives us the opportunity to act rather than react to these changing conditions and helps us be as resilient as possible. The best available science informs us that global average temperature increases must be capped at 2.0°C (3.6°F) to avoid "severe, pervasive and irreversible impacts for people and ecosystems"[1].

How Will Eugene Change?

Climate studies by Oregon State's Oregon Climate Change Research Institute (OCCRI) and Oregon Health Authority outline the likely changes that we can expect in the Eugene and Willamette Valley area. Dry months will be hotter and drier with increased wildfires, and wet months will have more rain and flood, with less snowpack. Overall, weather will be more extreme, and as the climate and environment changes, populations will increase as people move north and inland to milder conditions.

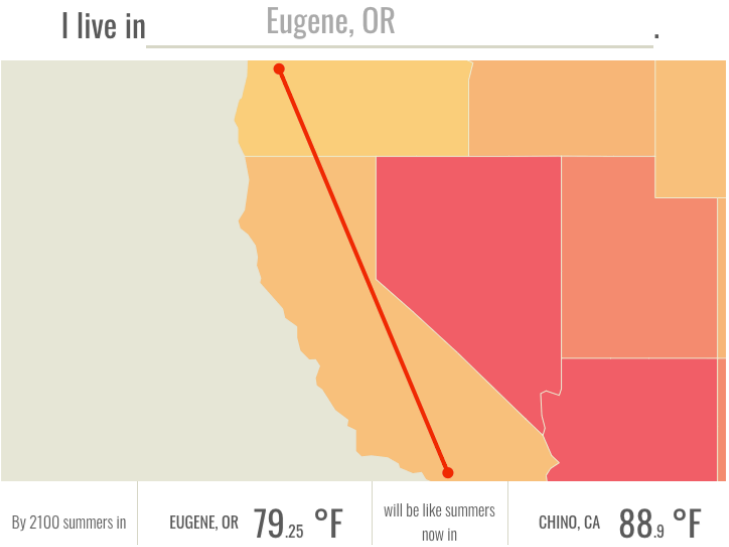


[1] Intergovernmental Panel on Climate Change, Climate Change Synthesis Report 2014.

Dry Season Changes

Temperature

By 2100, in the Eugene area we can expect that our summer average temperature of 79°F to be more like Chino, California (near Los Angeles) at 88.9°F summer average[2]. Hotter temperatures will disproportionately affect the health of vulnerable populations, including the very young, old, and families in poverty. Additionally, heat and drought will affect forests, rivers, and agricultural land.

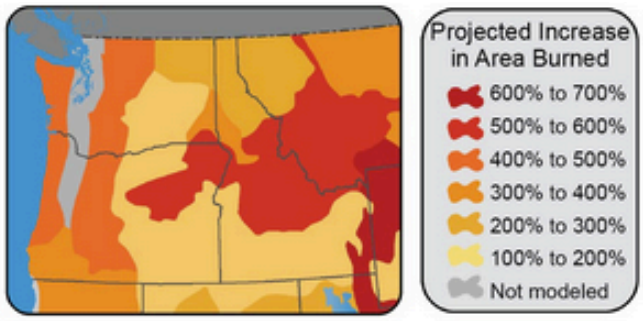


Water

Summer flows in the Willamette River and other waterways are expected to reduce by 40-60% by 2040[3]. This will cause reduced hydroelectric power generation capacity in summer, meanwhile, there will be an increased summer demand for electricity due to higher temperatures and increased population.

Regional Wildfire Risk

The Eugene area is fairly safe from direct burning due to wildfires, although the urban wildland interface (areas close to the boundaries of agricultural and natural resources land) are susceptible. In the past few years, however, we have experienced more wildfire in the Pacific Northwest, a condition that will increase over the next few decades.



OCCRI's analysis has projected the likely scenarios of increased burning in the Northwest. The graphic to the left shows the shift in project increases in fire disturbance. By 2040, we can anticipate a 400% to 500% increase in the number of acres burned[4].

Beyond the threat of local fires, Eugene residents will be exposed to the air quality impacts as surrounding regions burn during the summer months. In the summer of 2017, Oregon residents suffered when winds brought smoke from over 100 fires in British Columbia and multiple Oregon and Washington fires.

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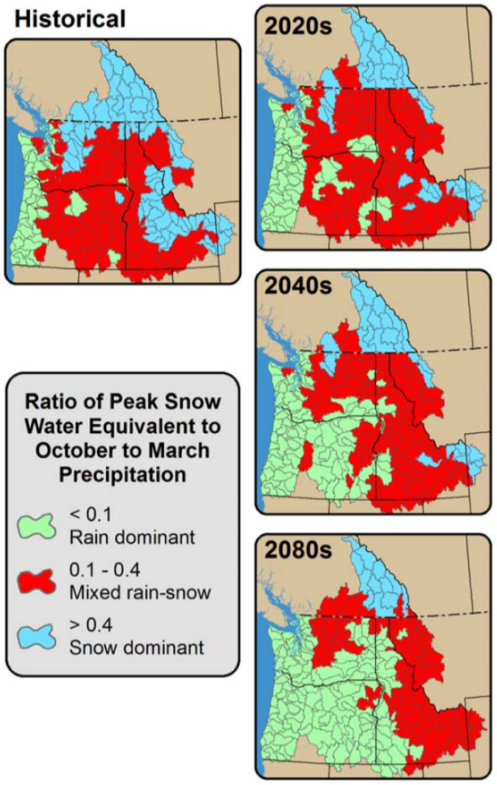
[2] Climate Central, Summer Temperatures 1001 Cities Tool.
[3] Climate Change Impacts in the United States: The Third National Climate Assessment, 2014.
[4] Portland General Electric, OCCRI Report, Published as part of PGE's 2016 Integrated Resource Plan.

Wet Season Changes

Regional Precipitation

One of the most significant changes we are already experiencing is the shift in precipitation from snow to rainfall in the winter months. Winter temperatures are expected to increase 3-5°F (1.6-2.8°C) by 2100[5]. The graphic to the right shows the shift from the blue (snow dominant) and red (mixed rain-snow) in many areas to green (rain dominant)[6].



Eugene is rain dominant, but the winter snow in the Cascades serves as storage for our rivers, streams, and groundwater. The reduction in snowfall means that in the summer months, our rivers and streams will not have the same quantities of flowing water from the melting snow. This lower volume of water means pressures on our water supply, agricultural irrigation, habitat for fish species like salmon and trout, water supply to power hydroelectric electricity, and water recreation such as boating, fishing and rafting that provide helpful cooling during heat waves. Ultimately, we will need to become more resourceful in our collective use and reuse of this resource.

Past and Future Flood Risk

Over time rain events are likely to become more intense. Eugene has experienced flooding in the past, and previously flooded sites are the most susceptible to flood again. Flood risk for Eugene is focused on areas where rivers and streams are adjacent to land, as well as low-lying areas, and wetlands – and more so on the area north of the Willamette river than the area south of the river.

Other Changes

Population Increase

The population in Lane County and Eugene is expected to increase steadily, and within the next two decades there will be more Lane County residents living inside Eugene than outside.

Population[7,8]	Eugene	Lane County
2017	167,780	370,600
2035	224,712	428,816
2065	273,234	513,982

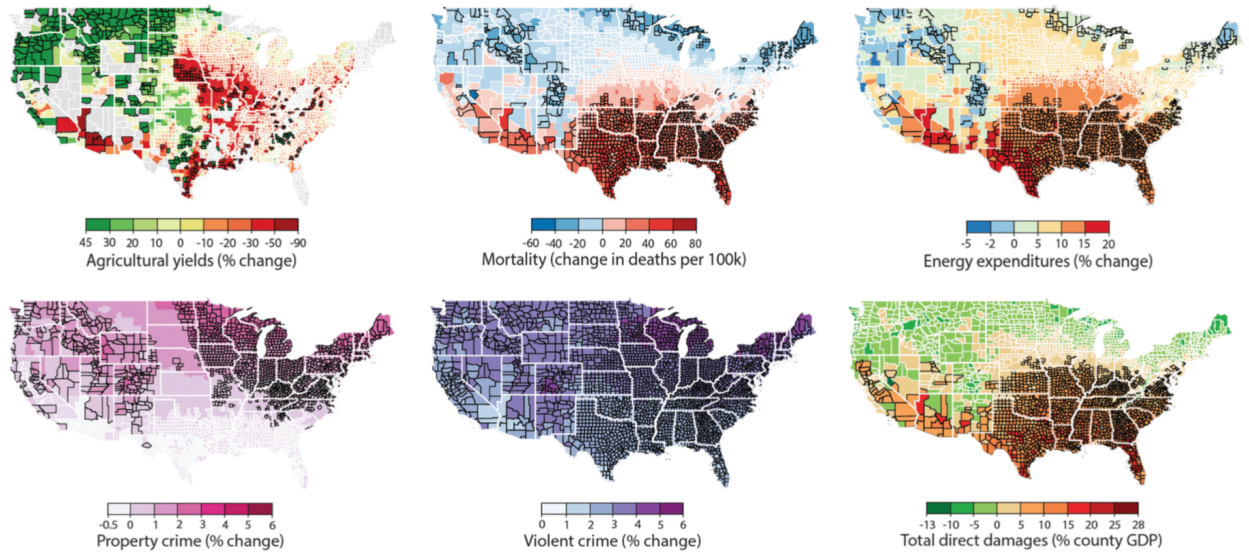
Eugene and Oregon will experience physical climate changes differently than other parts of the country. In

[5] Climate Change Impacts in the United States: The Third National Climate Assessment, 2014.
[6] Portland General Electric, OCCRI Report, Published as part of PGE's 2016 Integrated Resource Plan.
[7] Portland State University Population Estimates
[8] Portland State University Coordinated Population Forecast

many ways, our region is less vulnerable to more significant climate impacts than other parts of the U.S. and other countries. Without strong action, many parts of the world will become uninhabitable due to sea level rise, flooding, high temperatures, drought, loss of drinking water supply, and cascading effects to food production. The desirability of our area could lead to significant migration as other areas become less comfortable or uninhabitable.

Northwest is Less Vulnerable than Much of the United States

While the pacific northwest can expect a fair amount of changes, effects from climate change should be milder than the majority of the country. Agricultural yields, mortality, energy expenditures, and total direct damages should all be mild or favorable in the region by comparison. These are a few of the reasons that Eugene can expect an influx in population. On the other hand, property crime and violent crime are likely to increase.



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Portland State University Population Forecast https://www.pdx.edu/prc/sites/www.pdx.edu.prc/files/Lane_Forecast_Report_201506.pdf

Climate Action Plan 2.0

Appendix 3

Eugene Community Climate Action Plan 2.0 Fossil Fuel and Greenhouse Gas Reduction Forecast, 2018 – 2030 for Existing Plans, Policies, Programs and Opportunities for Additional Actions Towards CRO Goals

PLEASE NOTE: This appendix was edited July 23, 2020 to reflect a numeric error found in Figure 1, which edits Eugene's 2017 Fossil Fuel use from 9 million MMBTU to the correct figure, 13.5 million MMBTU found in Figure 3.

Appendix 3: Eugene Climate Action Plan 2.0
Fossil Fuel and Greenhouse Gas Reduction Forecast, 2018 – 2030 for Existing Plans, Policies, Programs and Opportunities for Additional Actions Towards CRO Goals

Date: October 22, 2019

Note: *During the data collection and analysis portion of preparing this document, the entities that make up the group currently known as "Eugene Climate Collaborative (ECC)" are referred to as "Large Lever Shareholders (LLS)" throughout this document.*

INTRODUCTION

The intent of this memo is to show how close the community gets to accomplishing the Climate Recovery Ordinance (CRO) fossil fuel targets and greenhouse gas (GHG) goals through existing and planned actions of the Large Lever Shareholders (LLS). Our team reviewed LLS plans, policies, and programs, and collected additional data to calculate fossil fuel and GHG emissions reductions. These are used to forecast emissions between 2018 and 2030 and compare that forecast to CRO targets. In addition, this memo also provides suggestions for additional community climate actions towards meeting the goals and targets defined in the CRO.

EUGENE CLIMATE RECOVERY ORDINANCE TARGETS AND GOALS

Updated in 2016, Eugene's Climate Recovery Ordinance includes the following goals and targets:

Section 6.675 Climate Recovery – ***Climate Action Goals***

> *(3) By the year 2030, all businesses, individuals, and others living or working in the city collectively shall* ***reduce the total (not per capita) use of fossil fuels by 50%*** *compared to 2010 usage.*
>
> *(4) By the year 2100, total community greenhouse gas emissions shall be average share of a global atmospheric greenhouse gas level of 350ppm, which is estimated in 2016 to require an* ***annual average emission reduction level of 7.6%.***

Section 6.685 Climate Recovery – ***Targets & Benchmarks***

To reach the climate action goals, the city council adopts the targets and benchmarks contained in subsection (1) of this section, and the city will take other actions that the council determines are necessary, for achieving the targets, benchmarks and other climate action goals.

(1) Targets and benchmarks:
Reduce fossil fuels 50% (from 2010 levels by 2030)

- ***2020: 25% reduction from 2010***
- ***2025: 38% reduction from 2010***
- ***2030: 50% reduction from 2010***
- ***Annual Average, 2010 - 2030: 2.5% reduction***

The CRO does not clearly define the inventory boundaries that align with CRO goals and targets (i.e. what geographic boundaries and type of emissions sources are included in the goal). Therefore, Good Company made a preliminary interpretation for the fossil fuel use targets and report based on both the Eugene Community's Sector-

based and Consumption-based GHG Inventories. *Note: Good Company's interpretation of the CRO GHG Goal should be considered preliminary and subject to change.*

For the purpose of the analysis conducted and presented in this memo the following was assumed:

- CRO fossil fuel targets are based on the fossil fuels combusted within the City's geographic boundary plus fossil fuels used to generate electricity that serves retail load within the City's Urban Growth Boundary.
- Fossil fuel use for electricity is calculated based on EWEB's current and planned (2017 IERP update) supply contracts (market-based electricity accounting). EWEB's utility-specific GHG emissions factor (GHGs / MWh) is provided by Oregon Department of Environmental Quality (ODEQ). ODEQ does not provide a corresponding fossil fuel use factor (MMBTU / MWh) for EWEB, so one was calculated using ODEQ's GHG factor and using natural gas electricity generation as a proxy.
- CRO GHG emissions reduction goals are calculated using 2017 as the baseline year with annual reductions of 7.6% applied to the prior year, not the baseline year; out to 2100. This rate of reduction is applied to sector-based and consumption-based emissions. Note: The fossil fuel use targets and GHG goals have different reduction rates therefore there are slight differences between fossil fuel use and Sector-based GHG graphics in this memo.

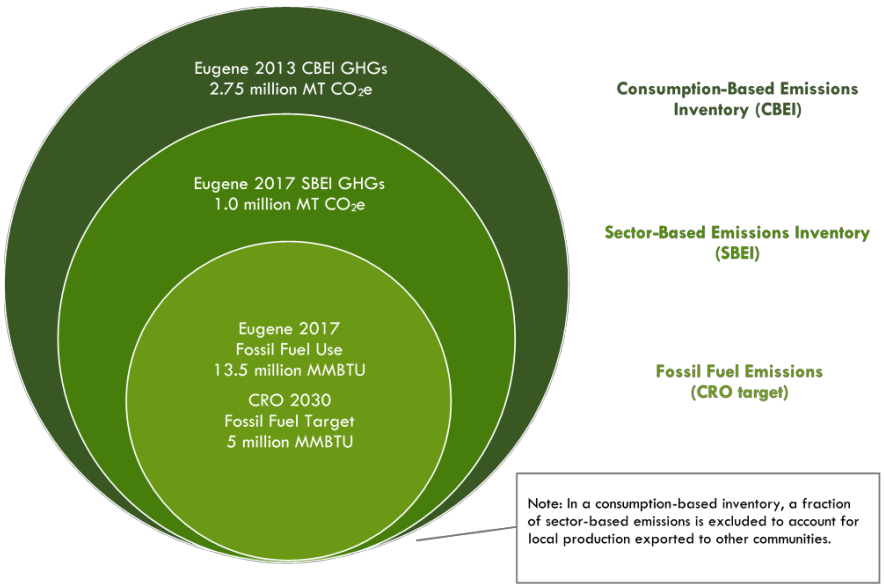
Relationship Between GHG Inventories and CRO Fossil Fuel Target

Figure 1 shows the relationship between the two types of GHG inventories conducted for the Eugene community (Sector-based and Consumption-based) and Eugene's CRO Fossil Fuel Target. As can be seen, the CRO Fossil Fuel Target (CRO Target) is a subset of the Sector-based emissions inventory (SBEI), which is a subset of the Consumption-based emissions inventory (CBEI). The two types of inventories conducted for Eugene is consistent with the State of Oregon's reporting approach. The two inventory types include:

- **Sector-based GHG Inventory** (or local GHG emissions) include GHGs from local fossil fuel combustion (homes and cars) in addition to other local sources of community GHG emissions (e.g. refrigerant gas leaks, landfill methane, etc.). Sector-based emissions are a subset of the largest boundary, Consumption-based emissions.
    - **Local fossil fuel use** is the biggest contributor to the communities Sector-based GHGs (~90%). This boundary is accounted for separately to align with the CRO's fossil fuel targets.
- **Consumption-based GHG Inventory** (or local + imported GHG emissions) include local, Sector-based emissions in addition to "imported" GHG emissions. The imported fraction accounts for GHGs generated elsewhere to produce and transport the goods and food consumed locally in Eugene. Consumption-based GHG inventories are more comprehensive view of the Eugene community's GHG emissions compared to a Sector-based GHG inventory but are also more difficult to accurately account for over time (to track progress towards goals) and the sources of emissions are outside of the Eugene community's direct control which makes taking action to reduce these actions more challenging.

As can be seen in Figure 1, imported, consumption-based emissions are more than 2x local emissions.

Figure 1: Relationship between GHG inventory types and local fossil fuel use.



Note: Circles in figure not to scale - see right-hand text for scale comparison.

EXISTING POLICY FORECAST FOR LOCAL EMISSIONS (SECTOR-BASED)

Figure 2 compares actual 2010 and 2017 community fossil fuel use and the 2030 forecast fossil fuel use after currently adopted plans are implemented to the 2030 CRO fossil fuel target. Existing plans are projected to achieve 40% of the CRO 2030 Target reductions compared to 2010 levels.

Figure 2: Comparison of actual and forecast fossil fuel use to CRO targets.

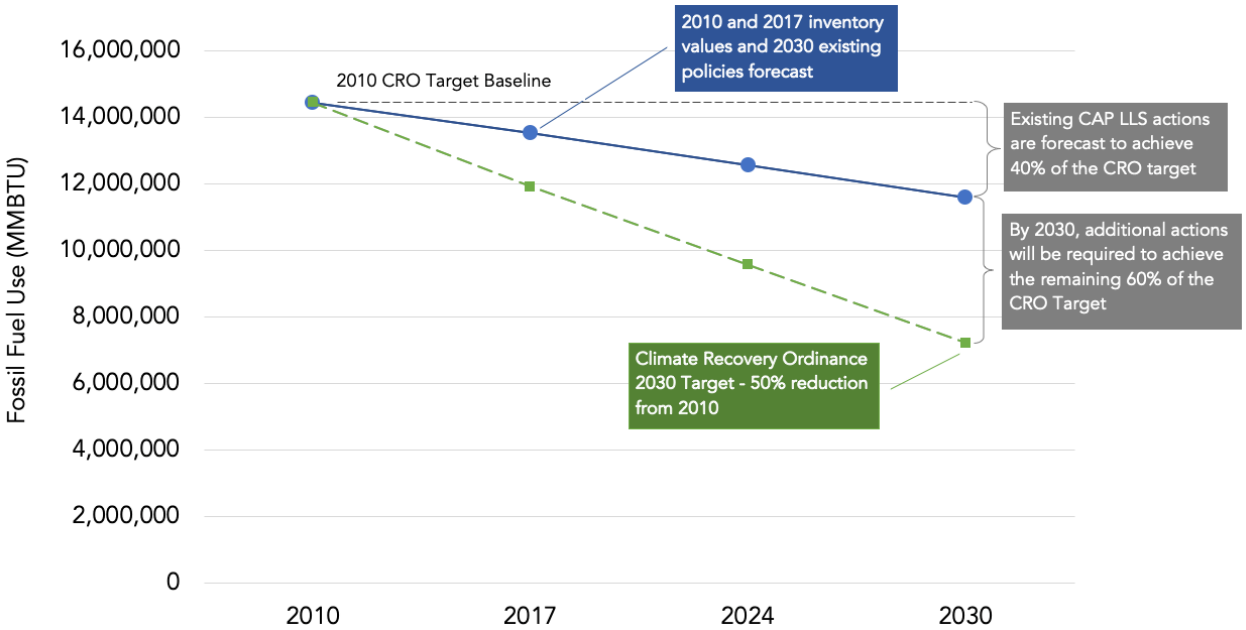


Figure 3 shows Eugene's Fossil Fuel Reduction Forecast for 2030 in greater detail than Figure 2. The y-axis minimum is set equal the CRO GHG 2030 Goal (green dashed line).

The first bar (grey) shows 2017 Fossil Fuel use (in millions of British thermal units, MMBTU). The second bar (blue) shows the increase of fossil fuel use based on a 'Business as Usual' (BAU) forecast of GHGs between 2018 and 2030, which represents the fossil fuel use effect of community population growth. In Eugene population is expected in increase by about 1% annually between 2018 and 2030. The third bar (grey) shows 2030 forecast emissions

assuming 2017 GHG rates and additional population. The fourth bar (orange) shows the expected GHG reductions from actions identified through the CAP2.0 process. For details of included actions see Appendix A, Figure 12. The fifth bar (grey) shows the forecast of GHGs in 2030 post CAP2.0 implementation of existing policies.

As can be seen, existing CAP2.0 policies are not forecast to achieve CRO fossil fuel use targets. A "gap" remains equal to about 4.4 million MMBTU of fossil fuel energy use.

Figure 3: Comparison of actual and forecast fossil fuel use to CRO targets.

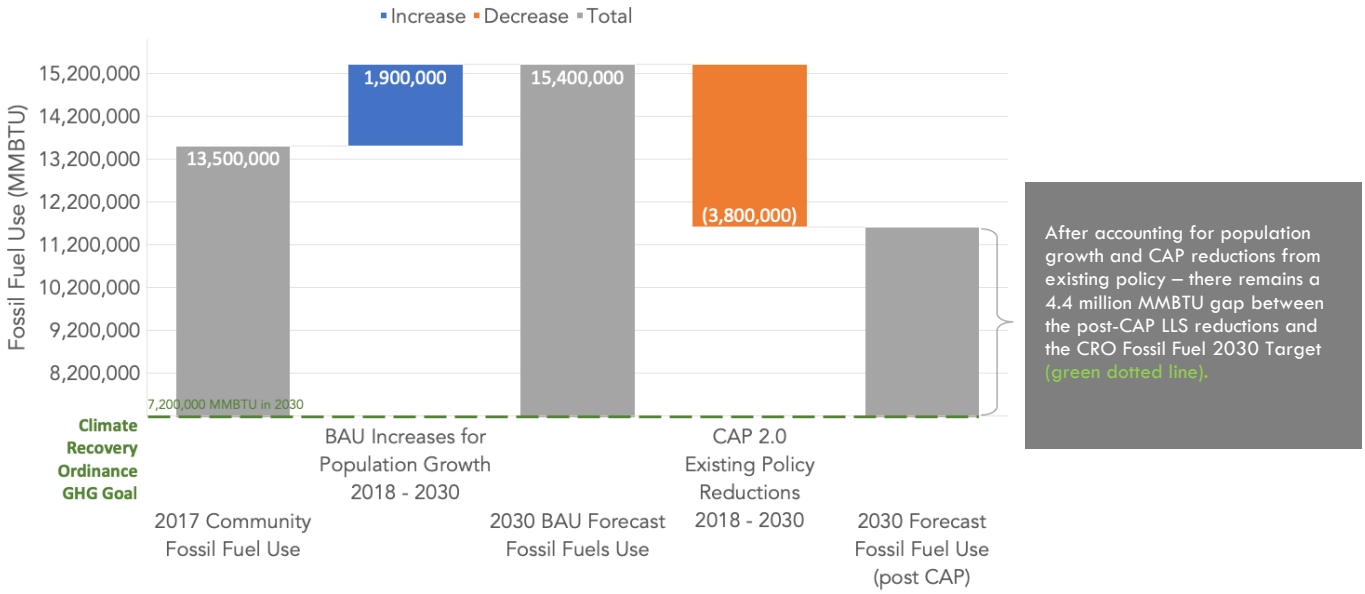


Figure 4 (next page) shows Eugene's GHG Reduction Forecast for local, Sector-based GHGs[1]. The y-axis minimum is set equal to the CRO GHG 2030 Goal. The bars in Figure 4 are the same as Figure 3, except that they represent community GHG emissions instead of fossil fuel use (in metric tons of carbon dioxide equivalent, MT CO_2e).

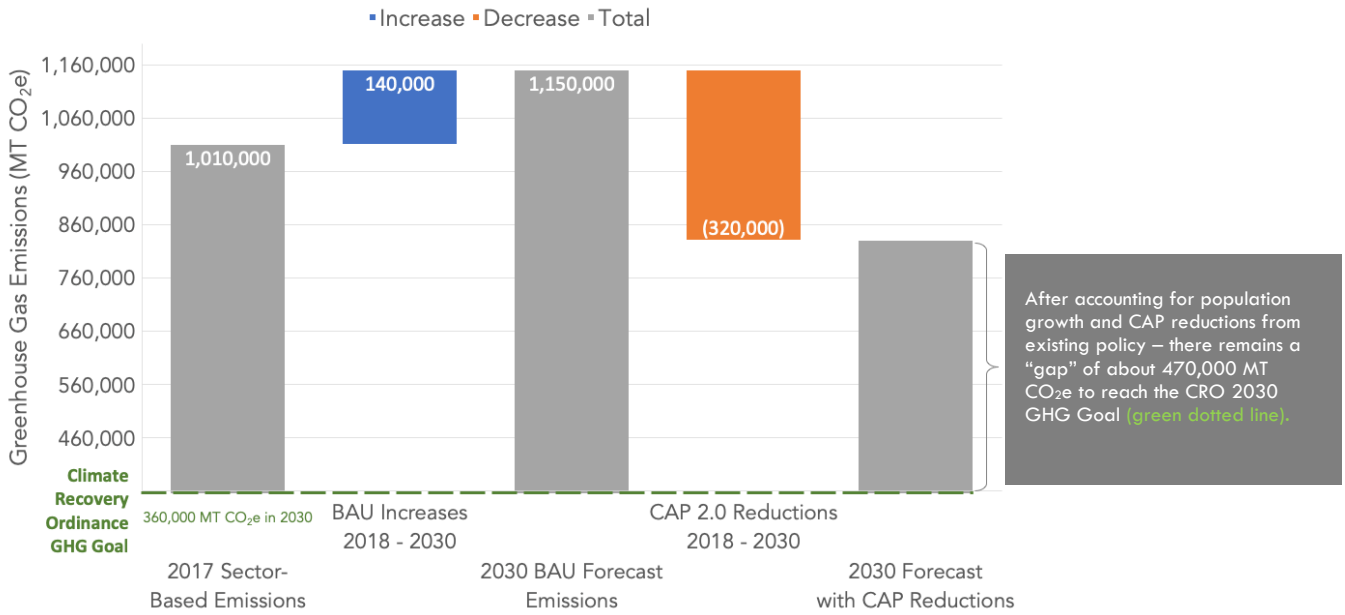
The rates of reduction are different between the Targets (2.5% annually from a 2010 baseline) and the GHG goals (7.6% annually from a 2016 baseline). It's important to note that because the GHG goals are more aggressive than the fossil fuel targets, and that local sources of GHGs are greater than just fossil fuel use (e.g. methane from waste disposal, fugitive refrigerant loss, etc.), progress towards the GHG goal is less than the CRO fossil fuel targets.

As can be seen, existing CAP2.0 policies are not forecast to achieve CRO GHG goals. A "gap" remains equal to about 470,000 MT CO_2e of local GHG emissions.

Figure 4: Sector-based emissions and existing policy forecast.

Note: GHG Goal value in figure based on Good Company CRO interpretation and is subject to change.

[1] For details see Eugene's 2017 Community GHG Inventory. Eugene's 2015 Community inventory may be downloaded at https://www.eugene-or.gov/2170/Climate-Recovery-Resources



Note: GHG Goal value in figure based on Good Company CRO interpretation and is subject to change.

To address the gap, City of Eugene asked Good Company to recommend additional actions to achieve CRO goals and targets by 2030. See GC memo titled *Recommendations for Additional Eugene Climate Actions to Meet Eugene's Climate Recovery Ordinance Targets and Goals* for a full list of recommended actions. City staff selected a group of Good Company's recommended actions.

Figure 5 and Figure 6 show the "gap" actions and scenarios considered.

The top row of Figure 5 lists the local, Sector-based GHG and Fossil Fuel Use gaps (470,000 MT CO_2e and 4.4 million MMBTU respectively). These values correspond to the far right-hand grey bars on Figures 3 and 4. The lower rows in Figure 5 describe the action and scenario; corresponding GHG / fossil fuel reduction; and the percentage of the gap addressed by the action/scenario.

Figure 6 graphically presents the same information as Figure 5 for a select group of actions. The left-hand grey bar is equal to the local, Sector-based CRO gap. The other bars compare the scale of reduction potential for actions / scenarios to the gap. As can be seen, some of the larger actions include State of Oregon adoption of a Cap-and-Invest program[2]; community adoption of electric vehicles; and community participation in Northwest Natural's Smart Energy program.

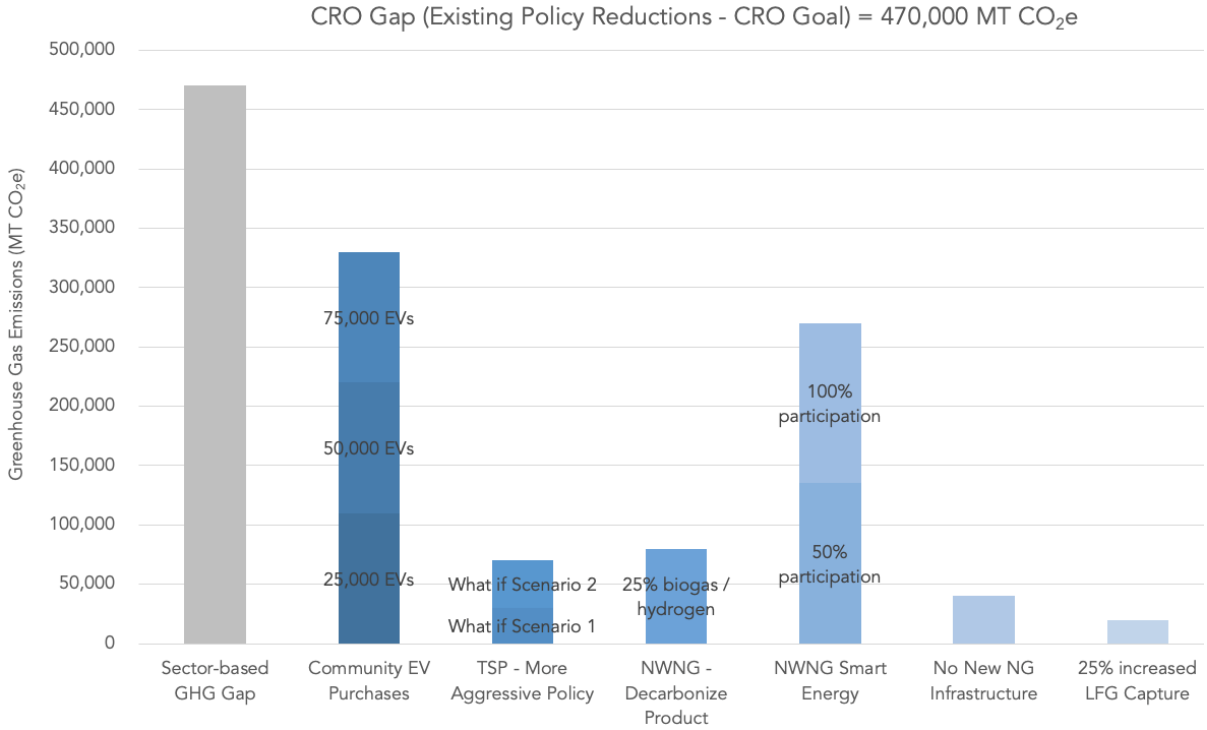
It's important to note that, as of this writing, passage of an Oregon Cap-and-Invest bill (or similar legislation) is highly uncertain. Inclusion of this strategy in this document should not be interpreted as an assumption about the potential of legislation being implemented. It is presented here as an information item to address broad community interest.

Figure 5: Sector-based GHG and Fossil Fuel Use Gap compared to additional actions / scenarios.

[2] HB2020 introduced in 2019 as this analysis was being prepared, but did not pass into Oregon law. Inclusion of this strategy in this document should not be interpreted as an assumption about the potential of similar legislation becoming Oregon law. It is presented here as an information item to address community interest and questions.

Annual Gap - Sector-based GHGs and Fossil Fuel Use	470,000	MT CO2e	4,400,000	MMBTU
	MT CO2e	% of Gap	MMBTU	% of Gap
Building Actions				
Scenario 1: NWNG - 50% Reduced NG infrastructure investment	(20,000)	-4%	(300,000)	-7%
Scenario 2: NWNG - 100% Reduced NG infrastructure investment	(40,000)	-9%	(700,000)	-16%
Scenario 1: NWNG SmartEnergy - 50% participation	(140,000)	-30%	*Action does not reduce FF use	
Scenario 2: NWNG SmartEnergy - 100% participation	(270,000)	-57%	*Action does not reduce FF use	
Scenario 1: NG Appliance Fee, 2020 - 2030	(130,000)	-28%	(2,400,000)	-55%
Scenario 1: Reduce Carbon Intensity of NWNG Product (25% biomethane)	(80,000)	-17%	(1,500,000)	-34%
Scenario 2: Reduce Carbon Intensity of NWNG Product (50% biomethane)	(160,000)	-34%	(2,900,000)	-66%
Scenario 1: Prohibit Financial Incentives for New NG Equipment	*More information required*			
Scenario 1: Increase franchise fee to fuel switch away from NG	*Not modeled per staff guidance*			
Scenario 1: Home Energy Score	(10,000)	-2%	80,000	2%
Transportation Actions				
Scenario 1: TSP What if 1 (in addition to Adopted)	(30,000)	-6%	(400,000)	-9%
Scenario 2: TSP What if 2 (in addition to Adopted)	(70,000)	-15%	(1,000,000)	-23%
Scenario 1: 25,000 additional EVs beyond TSP	(110,000)	-23%	(1,300,000)	-30%
Scenario 2: 50,000 additional EVs beyond TSP	(220,000)	-47%	(2,500,000)	-57%
Scenario 3: 75,000 additional EVs beyond TSP	(330,000)	-70%	(3,800,000)	-86%
Produce Use Actions				
Scenario 1: Refrigerant recharge fee to purchase carbon offsets for 100% of GHGs	(80,000)	-17%	*Action does not reduce FF use	
Waste Actions				
Scenario 1: Landfill gas capture efficiency increases by 10%	(10,000)	-2%	*Action does not reduce FF use	
Scenario 2: Landfill gas capture efficiency increases by 25%	(20,000)	-4%		
Overarching Action				
Scenario 1: Oregon Cap-and-Invest (Draft SB 557, Section 4 goals) *Note: An Oregon Cap-and-Invest program would reduce climate impacts in Eugene using many of the same LLS actions already considered and counted in the LLS forecast. Therefore GHG reductions a Cap-and-Invest policy should not be viewed as wholly independent and additive to existing LLS actions. The Cap-and-Invest program will be complimentary - providing regulatory and financial support towards climate action, but the reductions presented in this row are not 100% additive to reductions previously presented for existing LLS actions.*	*(430,000)*	*Indeterminate. Cap-and-Invest reductions overlap with other LLS and gap filling actions*	*(7,200,000)*	*Indeterminate. Cap-and-Invest reductions overlap with other LLS and gap filling actions*
	*This column shows max cumulative potential in 2030		*This column shows max cumulative potential in 2030	

Figure 6: Sector-based GHG and Fossil Fuel Use Gap compared to additional actions / scenarios.



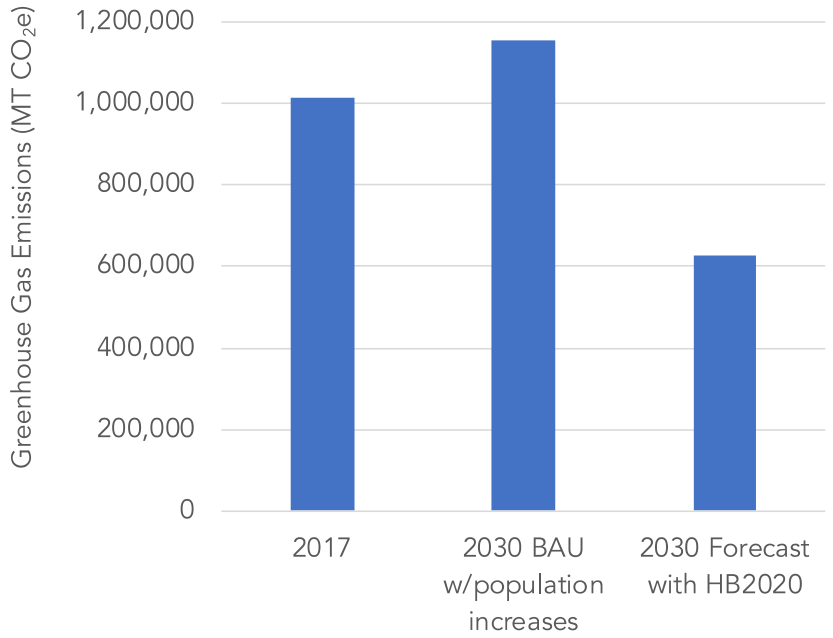
Note: NWNG's Smart Energy program reductions are only applicable to NWNG direct customers and does not include "transport" gas. NWNG "transports" through its pipelines for Eugene natural gas customers who contract with gas suppliers other than NWNG.

Figure 7 presents projected 2030 Eugene GHGs, post-implementation of HB2020. HB2020 was actively in the legislative process as early drafts of this report were being prepared, but ultimately HB2020 di not pass. The introduced text[3], and specifically the goals in Section 1, are used to estimate GHG reductions. To estimate reduction for Eugene it is assumed that citizens of Eugene (on a per capita) basis will be required to reduce emissions at the same rate and in the same amount as all other Oregonians towards the goals stated in Section 1 of HB2020.

The scaling below *may* overestimate the mitigation reductions due to assumed electricity emissions reduction potential based on higher statewide electricity emissions than EWEB's very-low emissions electricity. Alternatively, the Cap and Trade program, *could* recognize Eugene's unique lower carbon electricity sector and finance deeper mitigations for transportation than in other communities to ensure the overall reductions per capita are roughly even around the state.

[3] Downloaded 4/2019 from https://olis.leg.state.or.us/liz/2019R1/Measures/Overview/HB2020.

Figure 7: Eugene's 2017 sector-based GHGs and estimated effects in 2030 post-HB2020 implementation. Note: The following figure is meant to provide a sense of scale comparison to show how emissions reductions from HB2020 would have impacted Eugene's community emissions. This bill did not pass and therefore this information should not be used for community planning purposes other than to illustrate how similar, future bills might change community emissions.



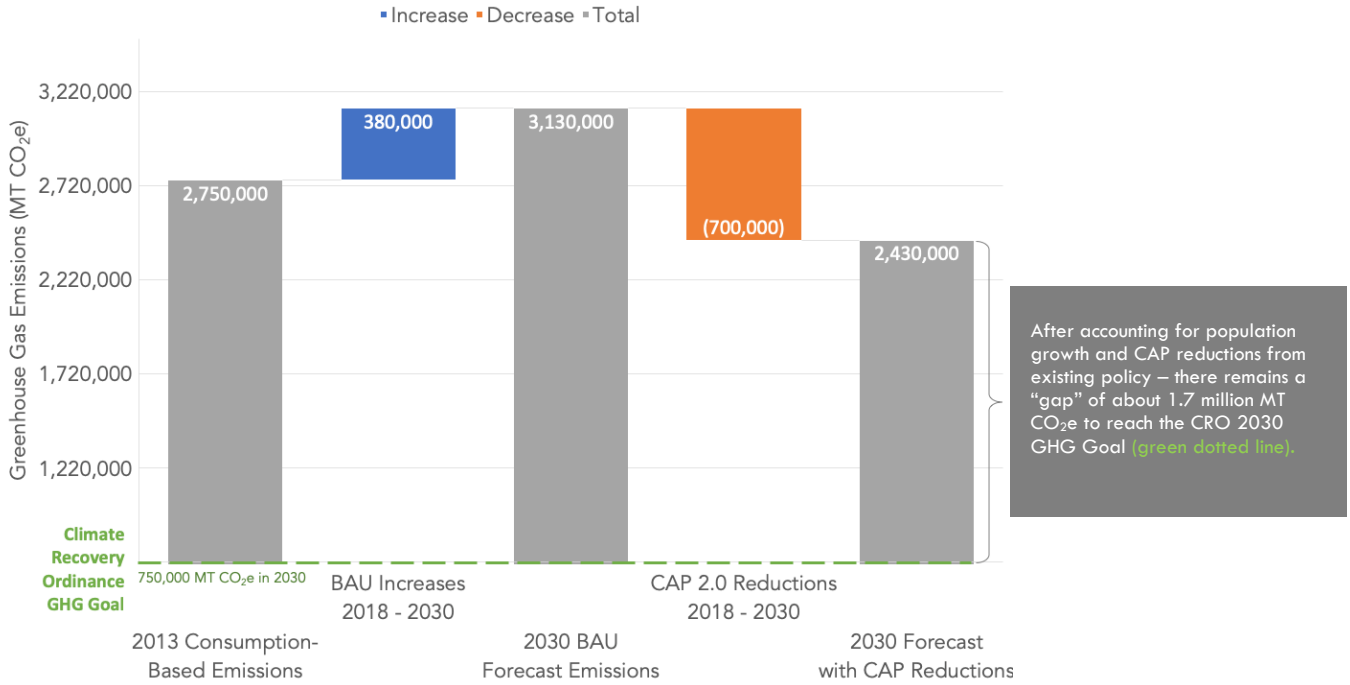
EXISTING POLICY FORECAST FOR LOCAL+IMPORTED EMISSIONS (CONSUMPTION-BASED)

Figure 8 shows Eugene's 2013 consumption-based emissions of goods and food; projected growth based on 2017 emissions rates and population increases; and forecast reductions from existing, already adopted policy. Note that Figures 3 and 4 (Sector-based) are subsets and included in the consumption-based emissions presented in Figure 7 (Consumption-based).

As can be seen, existing CAP2.0 policies are not forecast to achieve CRO GHG goals. A "gap" remains equal to about 1.7 million MT CO_2e of local + imported GHG emissions. As the City and community consider the consumption-based GHG gap, it's important to reiterate that the "imported" fraction of consumption-based GHGs are produced largely outside of the Eugene community's control.

While there are point of purchase decisions and actions that members of the Eugene community can make to reduce the community's consumption-based emissions (such as buying used products instead of new or choosing lower-carbon foods) – there is no currently known way to reduce Eugene consumption-based emissions to zero outside of domestic and international climate policies. If the City / community were to select consumption-based GHGs as the basis for CRO goals it will require the community devising a means to influence or control the energy systems in other states and counties to reduce the GHGs generated in those places as they produce goods for consumption here. It's important to recognize that there isn't any precedent for consumption-based emissions being used as the basis for community goal setting or action planning.

Figure 8: Consumption-based emissions and existing policy forecast.



Note: GHG Goal value in figure based on Good Company CRO interpretation and is subject to change.

Figure 9 and Figure 10 show the "gap" actions and scenarios considered for consumption-based emissions. Since Sector-based GHGs are a subset of Consumption-based emissions, previously discussed Sector-based actions are also a means to reduce Consumption-based emissions.

The top row of Figure 9 lists the Consumption-based GHG gap (1.7 million MT CO_2e). This value corresponds to the far right-hand grey bar on Figure 7. The lower rows describe the action and scenario; corresponding GHG reduction; and the percentage of the gap addressed by the action/scenario.

Figure 9: Sector-based GHG and Fossil Fuel Use Gap compared to additional actions / scenarios.

Annual Gap - Consumption-based GHG Gap	1,700,000	MT CO2e
	MT CO2e	% of Gap
Consumption and Materials Management Actions		
Reduce the average size of new single-family homes (from 2,300 to 1,600 sqft.)	(50,000)	-3%
Eugene optimizes the solid waste system to minimize GHGs	(90,000)	-5%
Scenario 1: 25% of community reduces meat and dairy by 25%	(10,000)	-1%
Scenario 2: 50% of community reduces meat and dairy by 50%	(40,000)	-2%
Scenario 3: 100% of community reduces meat and dairy by 100%	(170,000)	-10%
Community reduces 100% of edible food waste	(50,000)	-3%
Community reduces the carbon intensity of concrete products	*Data not readily available*	
U.S. Remains in Paris Accord	*(550,000)*	*-32%*

*This column shows max cumulative potential in 2030

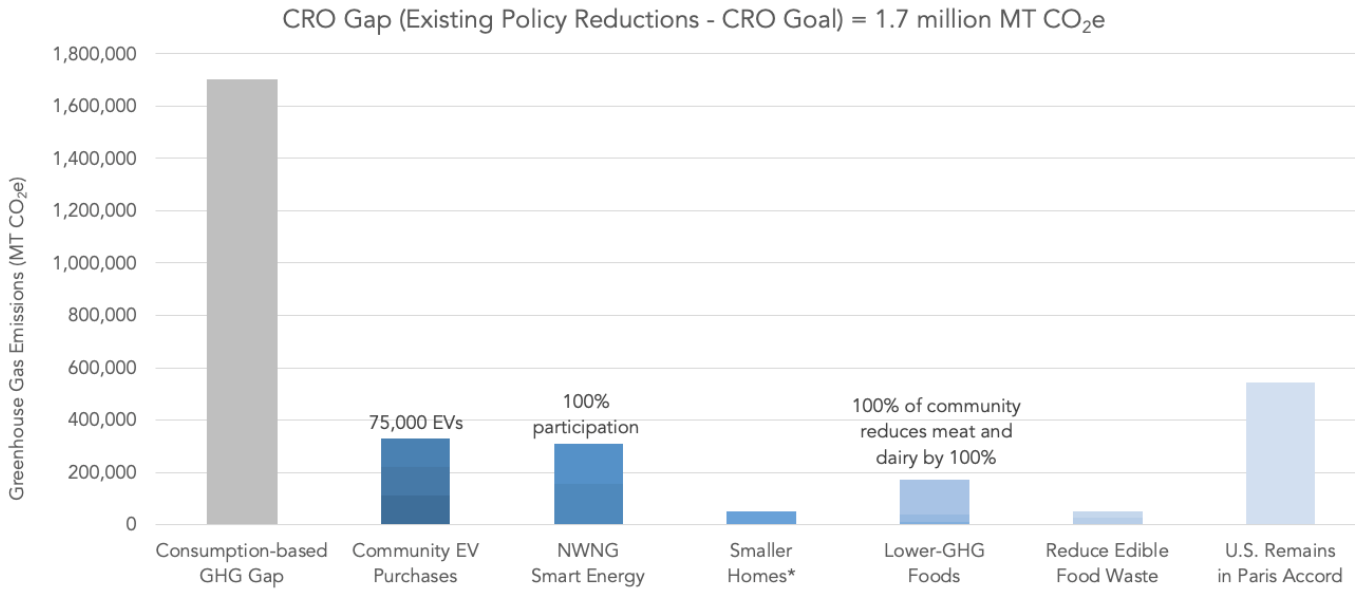
Figure 10 graphically presents the same information as Figure 9 (for a select group of actions). The left-hand grey bar is equal to the local, Sector-based CRO gap. The other bars compare the scale of reduction potential for actions / scenarios to the gap. As can be seen, some of the larger actions include U.S. remaining in the Paris Climate Accord;

community adoption of electric vehicles; community participation in Northwest Natural's Smart Energy program; lower-GHG food choices; and reduction in the amount of edible food waste.

One action of note on Figure 10, is U.S. participation in the Paris Climate Accord and the significance of domestic and international climate policy in general. The U.S. is currently in the process of withdrawing from the Paris Climate Accord. Oregon imports about 44% of its goods from U.S. states outside of Oregon.[4] If the U.S. were to remain in the Accord, the reductions required by the Accord would have had the effect of reducing GHGs from U.S. energy systems thereby lowering the amount of GHGs emitted during the production of the goods imported from other U.S. states into Eugene.

Eugene's consumption-based emissions are primarily a function of the fuels used to generate the energy used to produce goods imported to Eugene for local consumption. Because Eugene has limited control over other states' Energy systems – Federal climate policy, or state level policy in other states is required if Eugene is to reach CRO goals for consumption-based emissions.

Figure 10: Consumption-based GHG and Fossil Fuel Gap compared to additional actions / scenarios.

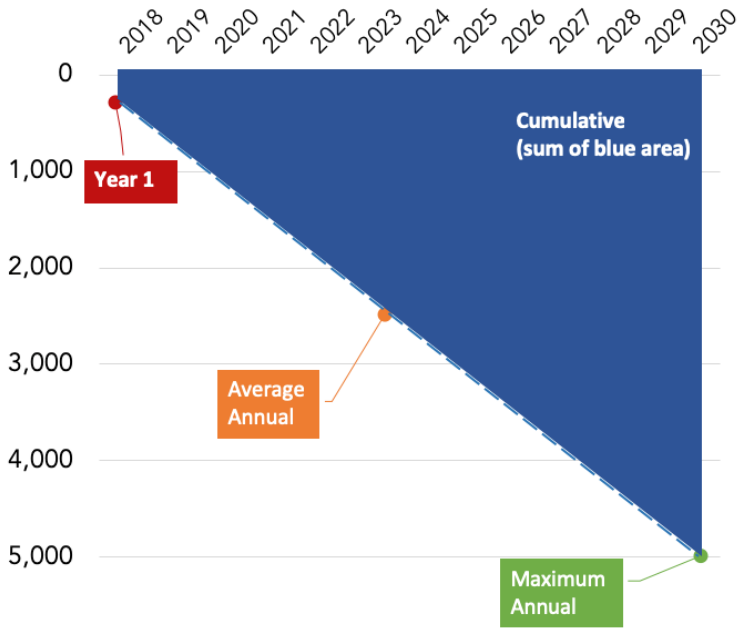


[4] Oregon's Greenhouse Gas Emissions through 2015. Available for download at https://www.oregon.gov/deq/FilterDocs/OregonGHGreport.pdf.

APPENDIX A – EXISTING POLICY FORECAST DETAILS

Fossil fuel and GHG reductions are calculated in four ways for this memo, which are illustrated in Figure 11 and presented in Figure 12. "Year 1" represents reductions expected during the first year of project implementation. "Average Annual" is the annual average of reductions over the life of the action. "Maximum Annual" is the maximum annual reduction in 2030. For some projects, like wastewater biomethane to the natural gas pipeline, Year 1, Average, and Maximum values will all be very similar because almost all of the benefit is realized the moment the system is turned on and every year after for the action. Other actions accumulate over time, such as annual work done to improve the energy efficiency of our community's buildings. These will have different Year 1 and Maximum values because budgets require that the actions are implemented over time.

Figure 11: Illustration of GHG reduction over time.



The following documents and tools were used to calculate reductions. Additional details in Appendix B.

- City of Eugene's 2010 and 2017 Sector-based Community Greenhouse Gas Inventories
- City of Eugene's 2013 Consumption-based Community Greenhouse Gas Inventory
- Portland State University – Population estimates and Lane County Population Forecast
- EWEB Integrated Energy Resource Plan – 2017 update
- NWN's 2018 Integrated Resource Plan
- Eugene 2035 Transportation System Plan (specifically a memo titled "*Eugene Transportation System Plan as it Relates to Climate Recovery Ordinance Goals*")
- City of Eugene, Fleet Internal Climate Action Plan
- City of Eugene, Facilities GHG Reduction Analysis
- Oregon Senate Bill 263 (2015) – Updates to Opportunity to Recycle Act
- City of Eugene / Good Company GHG inventory and analysis for road materials
- Lane County data related to landfill diversion rates and plans for 2025 goal
- Environmental Protection Agency, Waste Reduction Model (v14)
- Interviews with City's staff related to urban forestry
- Oregon's Waste Composition Study for Lane County
- Good Company GHG analysis of wastewater biomethane utilization pathways for MWMC
- City of Eugene Love Food Not Waste program data
- Lane Community College, DRAFT 2018 Climate Action Plan
- Envision Eugene, Residential housing projections
- Oregon Department of Environmental Quality, Oregon's 2018 Greenhouse Gas Inventory
- Oregon Department of Environmental Quality, EWEB emissions coefficients
- Environmental Protection Agency, eGRID 2016
- Energy Information Administration's 2017 Annual Energy Outlook
- Many other organizational documents were reviewed but were not used for reduction calculations. Thank you to everyone who provided information.

Figure 12: Detailed summary of existing plans, by lead organization. For some of the line items, like the Eugene TSP, implementation will be delivered by multiple agencies.

Large Lever Shareholders Plans and Strategy Bundles	Greenhouse Gas (MT CO_2e)				Fossil Fuel Use (MMBTU)			
	Year 1 Potential	Average Annual 2018 - 2030	Maximum Potential, 2030	Cumulative Potential 2018 - 2030	Year 1 Potential	Average Annual 2018 - 2030	Maximum Potential, 2030	Cumulative Potential 2018 - 2030
Eugene Water and Electric Board (EWEB)								
Future Energy Conservation (market-based)	(200)	(1,000)	(2,500)	(17,000)	(3,700)	(14,000)	(27,000)	(190,000)
Future Energy Conservation (location-based)	*(4,000)*	*(22,000)*	*(44,000)*	*(290,000)*	*Not applicable to CRO target*			
Operational Fleet / Facilities Climate Action	(1,000)	(1,000)	(2,000)	(8,000)	(7,000)	(8,000)	(20,000)	(290,000)
Northwest Natural (NWN)								
Future Conservation (cost effective resources only)	(1,100)	(8,000)	(15,000)	(100,000)	(21,000)	(150,000)	(280,000)	(1,960,000)
Cost Effective	*(1,100)*	*(8,000)*	*(15,000)*	*(100,000)*	*(21,000)*	*(150,000)*	*(280,000)*	*(1,960,000)*
Achievable (85% of total)	*(1,500)*	*(16,000)*	*(19,000)*	*(140,000)*	*(28,000)*	*(200,000)*	*(360,000)*	*(2,540,000)*
Technical Total	*(1,700)*	*(5,201)*	*(23,000)*	*(160,000)*	*(33,000)*	*(230,000)*	*(430,000)*	*(2,990,000)*
Smart Energy Program (5% participation rate)	(3,000)	(12,000)	(15,000)	(155,000)	*Not applicable to CRO target*			
Operational Reduction of Local Distribution Loss	(30)	(200)	(400)	(2,500)	(50)	(300)	(2,500)	(17,000)
City of Eugene								
Eugene 2035 Transportation System Plan*	(10,000)	(90,000)	(240,000)	(1,200,000)	(160,000)	(1,100,000)	(2,800,000)	(26,600,000)
Envision Eugene	Included in Eugene TSP modeling and Future Conservation							
Food Materials Management	(5,300)	(5,900)	(6,000)	(74,200)	Not applicable to CRO target			
Food Waste Composting	*(2,900)*	*(3,200)*	*(3,300)*	*(40,500)*				
Food Waste Avoidance	*(2,400)*	*(2,700)*	*(2,700)*	*(33,700)*				
City Operational Reductions	(1,200)	(2,000)	(4,000)	(34,000)	(23,400)	(40,000)	(57,000)	(520,000)
City Operational - Facilities	*(1,000)*	*(1,000)*	*(1,000)*	*(15,000)*	*(21,000)*	*(22,000)*	*(23,000)*	*(281,000)*
City Operational - Fleet	*(200)*	*(1,000)*	*(3,000)*	*(19,000)*	*(3,000)*	*(18,000)*	*(34,000)*	*(239,000)*
Roads - Materials Management	(1,300)	(1,300)	(1,300)	(16,700)	(5,100)	(5,100)	(5,100)	(66,000)
Urban Forest	(340)	(2,100)	(3,700)	(27,500)	Not applicable to CRO target			
30% Tree Canopy Goal	*(300)*	*(2,000)*	*(3,000)*	*(26,000)*				
World Track and Field - Tree Planting Offsets	*(40)*	*(200)*	*(300)*	*(2,000)*				
Lane County								
Material Management - 63% Recovery by 2035	(87,000)	(88,000)	(90,000)	(440,000)	Not applicable to CRO target			
Electric Vehicles in County Fleet	Not calculated. See Eugene > Fleet for sense of scale							
Roads - Materials Management	Not calculated. See Eugene > Roads for sense of scale							
INFO ONLY: Anaerobic Digestion of Food Waste	(2,900)	(3,000)	(3,100)	(18,000)	(40,000)	(41,000)	(42,000)	(246,000)
4J and Bethel School Districts								
Food Waste Composting	Supports and included with City of Eugene > Food				0	0	0	0
Bus Fleet & Fuels	Included in Eugene TSP modeling				Included in Eugene TSP modeling			
Lane Community College								
INFO ONLY: DRAFT Climate Action Plan Goals	(610)	(6,400)	(7,900)	(55,000)	(9,900)	(104,000)	(129,000)	(900,000)
Facilities	*(100)*	*(600)*	*(700)*	*(5,200)*	*(1,100)*	*(11,200)*	*(13,900)*	*(97,300)*
Owned Fleet	*(10)*	*(70)*	*(80)*	*(590)*	*(120)*	*(1,290)*	*(1,590)*	*(11,160)*
Student Commute	*(500)*	*(4,800)*	*(6,000)*	*(42,000)*	*(8,700)*	*(91,300)*	*(113,100)*	*(791,500)*
University of Oregon								
Climate Change Research and Teacking	Not calculated. See Appendix C for details							
Oregon Model for Sustainable Development and Campus Energy Efficiency	(200)	(1,000)	(2,000)	(10,000)	(3,000)	(20,000)	(40,000)	(250,000)
Metropolitan Wastewater Management								
Biogas to NG pipeline (project with NWN)	(6,000)	(5,000)	(7,000)	(69,000)	(82,000)	(86,000)	(90,000)	(944,000)
Lane Transit District								
Fleet & Fuels (electric bus substitution)	(100)	(400)	(900)	(4,700)	(11,700)	(49,600)	(49,600)	(645,300)
Route Efficiency	LTD to analyze in 2019							
State of Oregon								
Net-Zero Residential Building Code	(1,300)	(1,500)	(6,400)	(19,300)	(27,400)	(31,600)	(136,800)	(410,400)
Net-Zero Commercial Building Code	(2,500)	(2,800)	(12,300)	(36,800)	(40,900)	(47,200)	(204,700)	(614,000)
Clean Fuels Program	Included in Eugene TSP modeling				Not applicable to CRO target			
International Agreements								
Paris Climate Accord (reductions by trading partners)	(20,000)	(150,000)	(270,000)	(1,890,000)	Not applicable to CRO target			

*Note – Eugene TSP incorporates aspects of other LLS plans and policies (e.g. LTD planning, Envision Eugene, etc.)

PLEASE NOTE: This appendix was edited July 23, 2020 to reflect a numeric error found in Figure 1, which edits Eugene's 2017 Fossil Fuel use from 9 million MMBTU to the correct figure, 13.5 million MMBTU found in Figure 3.

APPENDIX B: METHODOLOGY AND ASSUMPTIONS

Large Lever Shareholder Existing Policy / Strategy / Action	Methodology Description	Assumptions
Eugene Water and Electric Board (EWEB)		
Future Conservation (Energy Efficiency)	Energy reduction calculated based on 2017 Annual IERP Update - Figure 1. The Figure shows that EWEB's future conservation will maintain electricity use at current levels through 2035. Roughly a 7% reduction from EWEB's 2017 BAU forecast. GHGs were calculated using both market-based and location-based emissions factors. Market-based factors are provided by Oregon Department of Environmental Quality based on EWEB supply contracts that serve local load for calendar years 2010 - 2016. The average of EWEB's 2010 - 2016 factors are used to project reductions from 2018 - 2030. Location-based factors are taken from U.S. Energy Information Administration's 2017 Annual Energy Outlook - 2050 projections for the Northwest Power Pool regional electricity grid.	- The average of EWEB's 2010 - 2016 market-based emissions factors is used to calculate GHG / fossil fuel reductions from future conservation for the years 2018 - 2030. - Fossil fuel factor for EWEB is calculated using the market-based factor (from ODEQ) and an assumption that the electricity is generated 100% from natural gas. ODEQ does not currently provide fossil fuel factors for specific utilitiies, only GHG factors.
Operational Climate Action (EWEB-owned buildings and vehicles)	EWEB's operational climate goals (50% fossil fuel reduction by 2030, and carbon neutral by 2050) are used in combination with EWEB's 2017 inventory to calculate future emissions reductions. EWEB's most recent GHG inventory shows they are ahead of schedule towards meeting their goals (http://www.eweb.org/Documents/Community/2017-ghg-inventory.PDF)	- EWEB achieves goals as written assuming average annual percentage progress towards the goals. - Future reductions exclude those from EWEB's decommissioning of the steam plant as those reductions are already accounted for in the 2017 Eugene Community Inventory. - Future reductions assume EWEB will continue purchaseing low-carbon vehicle fuels at current rates as well as take on additional actions in order to reach EWEB's state fossil fuel and GHG related goals.
Northwest Natural Gas (NWNG)		
Future Conservation (Energy Efficiency)	NWNG provided Energy Trust of Oregon reporting on conservation in Eugene for the period 2011 - 2017. Average annual conservation over that period is 214,000 therms per year. This average is applied to the 2018 - 2030 period to estimate additional future conservation. The range over this period was between 100,000 - 380,000 therms. On average ETO efficiency projects serve about 550 residential households, 35 commercial businesses, and 2 large-scale industrial / agricultural customers. ETO savings are assumed to be "cost effective" measures (i.e. those that pay for themselves and save money over the life of the equipment). There are also additional types of future conservation potential assessed by ETO called "achievable" and "technical". ETO's 2014 Resource Assessment is used to estimate additional local conservation resources that are more expensive that the "cost effective" category, but still represent an opportunity to reduce emissions and fossil fuel use.	- Assumes future conservation is implemented at a similar rate as the 2011 - 2017 period. - See NWNG's 2018 Integrated Resource Plan for additional details https://www.nwnatural.com/uploadedFiles/NW%20Natural%202018%20IRP.pdf
Smart Energy Program (5% participation)	2030 maximum reduction GHG / fossil fuel potential is calculated as 5% of annual emissions as projected for 2030. 2030 projected natural gas use is estimated with 2017 community natural gas use data scaled up 1% annually for the period 2018 - 2030 to account for projected population growth. Eugene community natural gas-related GHGs / fossil fuel use are taken from Eugene's 2017 Community Greenhouse Gas Inventory. Population growth projections are taken from Portland State University's Lane County Coordinated Population Forecast, 2015-2065.	- Community participation rate is 5% in 2030. This assumption was discussed and agreed upon with NWNG staff for the purpose of the existing policy forecast.
Operational Climate Action (5% upstream GHG reduction)	NWNG Climate Action Plan / Goal includes actions to plans to reduce upstream leakage of natural gas by 5%. This goal is applied to GHGs/fossil fuel use for the local distribution system as well as for the entire supply chain. Local distribution system loss estimated is reported by NWNG as 0.0061%. As a benchmark EDF User Guide for Natural Gas Leakage Rate Modeling Tool suggests an average value of 0.3% (https://www.edf.org/sites/default/files/US-Natural-Gas-Leakage-Model-User-Guide.pdf). So NWNG's local distribution system has far less leakage than the average. Total natural gas supply chain loss emissions are estimated using factors from ICLEI's U.S. Community GHG Inventory Protocol (i.e. upstream NG emissions are equal to about 12% of tailpipe emissions. 2030 projected natural gas use is estimated with 2017 community natural gas use data scaled up 1% annually for the period 2018 - 2030 to account for projected population growth. Eugene community natural gas-related GHGs / fossil fuel use are taken from Eugene's 2017 Community Greenhouse Gas Inventory. Population growth projections are taken from Portland State University's Lane County Coordinated Population Forecast, 2015-2065.	- Upstream emissions are calculated using the rates and sources previously described in methodology. - NWNG 5% planned reduction is assumed to be implemented in equal shares over the period of 17 years, 2019 - 2035.

Large Lever Shareholder Existing Policy / Strategy / Action	Methodology Description	Assumptions
City of Eugene		
Envision Eugene / Transportation System Plan	The CAP forecast uses the results from a previous modeling effort for Eugene's 2035 Transportation System Plan conducted by Lane Council of Governments, City of Eugene, and Oregon Department of Transportation staff. These results were presented in a 2/8/2018 memo titled *Eugene Transportation System Plan as it Relates to Climate Recovery Ordinance Goals.* The TSP modeling work considered three scenarios; 1) Adopted plans, 2) What if 1, and 3) What if #2. The "What if" scenarios consider similar actions as the adopted plans at a larger-scale and faster rate. Modeling results provided projected reductions for both GHGs and Fossil Fuel use.	- Assumptions are identical to those documented in the ODOT modeling analysis
Food Waste - Avoiding Edible Waste and Composting	Oregon Department of Environmental Quality's Waste Composition Study provides food waste quantities including the edible fraction of food waste (https://www.oregon.gov/deq/mm/Pages/Waste-Composition-Study.aspx). EPA's WARM v14 (waste reduction model) is used to calculate GHG reductions (https://www.epa.gov/warm/versions-waste-reduction-model-warm#WARM%20Tool%20V14).	- 25% of food waste will be recovered from the waste stream by 2030 to comply with the requirements of Oregon SB263. - 5% of edible food waste is avoided by the community at large as a result of City / County public outreach and education along with other related programming.
Operational Climate Action - Fleet	Good Company worked with City of Eugene to develop the *2018 Fleet Division and Fire Department Internal Climate Action Plan*. The plan focuses first use of telematics to drive operational efficiency and substitution of electricity for gasoline and renewable diesel for fossil fuel diesel. As of 2017 the City is about 60% towards the CRO's 2020 GHG goals and 90% towards the 2030 fossil fuel goals. The Fleet ICAP details the projected GHG and fossil fuel savings for various actions considered for the plan as well as the final scenario and actions selected to reach CRO goals and targets.	- See Fleet ICAP report for findings and details of modeling methodologies and assumptions (https://www.eugene-or.gov/DocumentCenter/View/38211).
Operational Climate Action - Facilities	Solarc worked with City of Eugene to develop the *2017 Facilities Greenhouse Gas Reduction Analysis*. Opportunities considered in the Analysis include energy efficiency, solar energy, as well as substitution of heat pumps for existing natural gas boilers. The Analysis includes projections for GHG and fossil fuel reductions as well as first costs and operational costs associated with a variety of actions to achieve CRO goals and targets.	- See Facilities ICAP report for findings and details of modeling methodologies and assumptions (https://www.eugene-or.gov/DocumentCenter/View/37360). - Scenario 3 from the Facilities GHG Analysis is used to represent City Facilities reductions in the CAP Forecast.
Road Construction - Low-GHG Material Use	Good Company worked with City of Eugene Public Works staff to collect materials-related data used in City construction projects and develop a simple Excel-based tool to calculate GHG reductions associated with substitution of lower-GHG materials for conventional cement and asphalt binder. The Excel-based tool utilizes factors from environmental product disclosures from National Ready Mixed Concrete Association (https://www.nrmca.org/sustainability/EPDProgram/) as well as Circular Ecology's *Inventory of Climate and Energy* (http://www.circularecology.com/embodied-energy-and-carbon-footprint-database.html).	- The analysis uses average, past GHG reductions and assumes similar results going forward.
30% Tree Canopy Goal	The amount of carbon currently stored in Eugene urban forest is provided by City of Eugene via a report using the i-Tree Landscape tool (https://landscape.itreetools.org/report/ef5518cd-7698-47a3-a372-16e29d228a77/sample/). Currently stored carbon is representative of 23% canopy coverage. A carbon to canopy ratio is used to estimate the additional carbon that will be stored by increasing the urban canopy to 30%. Note that these calculations only include carbon storage in the trees and do not include estimates of energy savings associated with shading from the additional canopy coverage.	- Eugene's urban tree canopy increases from 23% to 30% coverage by 2030 - Carbon storage in additional trees is at similar rates to existing
World Track and Field - Tree Planting	This action is aligned with the City's commitment to plan 2021 trees to offset emissions and commemorate the 2021 World Track event to be held in Eugene. The method and factors for calculating carbon storage in the additional trees is provided by U.S. Dept. of Energy's *Method for Calculating Carbon Sequestration by Trees in Urban and Suburban Settings*.	- Tree type is assumes to be a fast growing conifer for all 2,021 trees - Carbon storage for these trees is limited to the growth period 2021 - 2030.

Large Lever Shareholder Existing Policy / Strategy / Action	Methodology Description	Assumptions
City of Eugene		
Envision Eugene / Transportation System Plan	The CAP forecast uses the results from a previous modeling effort for Eugene's 2035 Transportation System Plan conducted by Lane Council of Governments, City of Eugene, and Oregon Department of Transportation staff. These results were presented in a 2/8/2018 memo titled *Eugene Transportation System Plan as it Relates to Climate Recovery Ordinance Goals.* The TSP modeling work considered three scenarios; 1) Adopted plans, 2) What if 1, and 3) What if #2. The "What if" scenarios consider similar actions as the adopted plans at a larger-scale and faster rate. Modeling results provided projected reductions for both GHGs and Fossil Fuel use.	- Assumptions are identical to those documented in the ODOT modeling analysis
Food Waste - Avoiding Edible Waste and Composting	Oregon Department of Environmental Quality's Waste Composition Study provides food waste quantities including the edible fraction of food waste (https://www.oregon.gov/deq/mm/Pages/Waste-Composition-Study.aspx). EPA's WARM v14 (waste reduction model) is used to calculate GHG reductions (https://www.epa.gov/warm/versions-waste-reduction-model-warm#WARM%20Tool%20V14).	- 25% of food waste will be recovered from the waste stream by 2030 to comply with the requirements of Oregon SB263. - 5% of edible food waste is avoided by the community at large as a result of City / County public outreach and education along with other related programming.
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30% Tree Canopy Goal	The amount of carbon currently stored in Eugene urban forest is provided by City of Eugene via a report using the i-Tree Landscape tool (https://landscape.itreetools.org/report/ef5518cd-7698-47a3-a372-16e29d228a77/sample/). Currently stored carbon is representative of 23% canopy coverage. A carbon to canopy ratio is used to estimate the additional carbon that will be stored by increasing the urban canopy to 30%. Note that these calculations only include carbon storage in the trees and do not include estimates of energy savings associated with shading from the additional canopy coverage.	- Eugene's urban tree canopy increases from 23% to 30% coverage by 2030 - Carbon storage in additional trees is at similar rates to existing
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Large Lever Shareholder Existing Policy / Strategy / Action	Methodology Description	Assumptions
Lane Community College		
DRAFT Climate Action Plan	Lane Community College's DRAFT Climate Action Plan has set a goal of carbon neutral operations by 2050. LCC's goal combined with LCC's most recent GHG inventory is used to estimate reductions in 2050 versus GHGs reporting in the baseline inventory.	- Assumes LCC will meet climate goals as written - Assumes an equal, average rate of reduction between 2017 to 2050. CAP Forecast only includes reductions for time period 2019 - 2030.
University of Oregon		
Oregon Model for Sustainable Development and Campus Energy Efficiency	UO staff provided data on building energy and GHGs for inventory years 2012 and 2018. These results show a significant decrease in campus use of natural gas over the time period. These decreases are largely attributed to UO's use of the Oregon Model for Sustainable Development and related campus energy efficiency projects. Campus capital improvements documents were reviewed for the historic square footage of new construction and rennovation projects as well as square footage for planned new construction and rennovation project through 2030. It was found that historic and planned projects are very similar. Therefore the rate of reductions achieved during the period 2012 - 2018 are used to project reductions for the 2019 - 2030 time period.	- Building and project types between histroic capital projects and future projects are largely similar.
Metropolitan Wastewater Management		
Biogas to NG pipeline (project with NWN)	Good Company worked with MWMC staff to perform a detailed GHG analysis and scenario comparison for a variety of potential uses for the community's wastewater treatment generated biogas supply. The analysis results are for the MWMC selected scenario, which is to inject the biogas into NWNG's pipeline to be used as a vehicle fuel. The GHG analysis considered all energy and process emissions sources required to produce the biogas, refine to biomethane quality, and credits the fuel for displacing conventional fossil diesel fuel.	- 100% of MWMC biogas is cleaned and injected into NWNG's pipeline - End-use for 100% of the biogas is to displace vehicle diesel fuel use
Lane Transit District		
Fleet & Fuels	LTD 2013 fuel use data - from the Eugene's 2013 Community Inventory - for buses is used in conjunction with ODEQ fuel carbon intensity scores to estimate reductions associated with shifting 50% of LTD's diesel use (B5) to Springfield Utility Board (SUB) electricity. Carbon intensity scores are provided by Oregon Department of Environmental Quality to support accounting for Oregon's Clean Fuels Program. NOTE: ODEQ's CI score for SUB electricity uses market-based accounting.	- By 2030 11 of LTD's 90 buses are fueled with electricity (or a comparable low-GHG fuel type). This subsitution is estimated to reduce LTD bus fuel use by about 10% from current levels.
State of Oregon		
Net-Zero Residential Building Code	Planned net-zero building codes will apply to future, yet-to-be constructed properties. Mitigation potential is calculated based on Eugene's average 2017 household emissions for energy. Average household emissions are calculated using Eugene's 2017 Community GHG Inventory and U.S. Census Bureau data. The number of new housing starts predicted for 2025 - 2032 is provided in a report titled Eugene Housing Needs Analysis prepared to support Envision Eugene. The study finds that roughly 15,000 new housing units are required in Eugene between 2012 - 2032. To estimate GHG / fossil fuel reductions for this actions, new housing starts projected for the 2025 - 2030 time period are assumed to have zero-net energy and GHGs. These reductions are only calculated for the period 2025 - 2030, but the reductions associated with this code will span the 70 year life of these new structures.	- Net-zero energy is equal to net-zero GHGs - New codes are implemented in 2025 - Assumed to not be included in existing EWEB load projections - Eugene housing needs, as defined in the analysis, are developed at a consistent rate over the study time period (i.e. 15,000 / 20 years = 750 units / year) - Composition of housing types are consistent with Table 28 in the Eugene Housing Needs Analysis
Net-Zero Commercial Building Code	Planned net-zero building codes will apply to future, yet-to-be constructed properties. Development projections for future, additional commercial space needs are not readily available. Future commercial building energy use are estimated for the period, 2019 - 2030 using 2017 commercial building emissions rates scaled up using a 1% annual compounding growth rate to account for new community population. Population growth projections are taken from Portland State University's Lane County Coordinated Population Forecast, 2015-2065. To estimate GHG / fossil fuel reductions for this actions, new housing starts projected for the 2025 - 2030 time period are assumed to have zero-net energy and GHGs. These reductions are only calculated for the period 2025 - 2030, but the reductions associated with this code will span the 70 year life of these new structures.	- Net-zero energy is equal to net-zero GHGs - New codes are implemented in 2025 - Assumed to not be included in existing EWEB load projections - Commercial building development and related energy needs are assumed to be equal to projected population growth

Climate Action Plan 2.0

Appendix 4

Further Information on Actions and Plans

Appendix 3: Further Information on Actions and Plans

Transportation

- Eugene Transportation System Plan
  https://www.eugene-or.gov/3941/Transportation-System-Plan
- Eugene Electric Vehicle Strategy
  https://www.eugene-or.gov/DocumentCenter/View/48124/Eugene-EV-Strategy?bidId=
- Housing Tools and Strategies
  https://www.eugene-or.gov/3960/Housing-Tools-and-Strategies
- Clear and Objective Standards Updates
  https://www.eugene-or.gov/3947/Clear-Objective
- Envision Eugene, Comprehensive Plan
  https://www.eugene-or.gov/3009/The-Envision-Eugene-Comprehensive-Plan

Building Energy

- EWEB Electricity Supply Planning
  http://www.eweb.org/about-us/electricity-supply-planning
- NWN Low Carbon Pathway
  https://www.nwnatural.com/uploadedFiles/NWN_Low%20Carbon%20Pathway%20BI%20OCT%202017%20FINAL_rv.pdf

Fugitive Emissions

- Lane County Solid Waste Management Plan https://lanecounty.org/UserFiles/Servers/Server_3585797/File/Lane_Co_SWMP-2019-07-26-FINAL.pdf
- Lane County Waste Management https://lanecounty.org/cms/One.aspx?portalId=3585881&pageId=15739579

Consumption

- Eugene Fix It Fair https://www.eugene-or.gov/3581/Fix-It-Fairs

Resiliency

- Eugene Urban Forestry https://www.eugene-or.gov/3673/Urban-Forestry
- Eugene Natural Hazard Mitigation Plan DRAFT, document up for approval June 2020 https://www.eugene-or.gov/DocumentCenter/View/48415/DRAFTEugene-SpringfieldAreaMJNHMP2020

Eugene Climate Collaborative Resources

- Lane Community College Climate Action Plan https://www.lanecc.edu/sites/default/files/sustainability/lane_community_college_cap_2.0.pdf
- EWEB Commitment to Climate http://www.eweb.org/community-and-environment/our-commitment-to-the-environment
- University of Oregon Climate Action Plan https://cpfm.uoregon.edu/climate-action-plan-2

Climate Action Plan 2.0

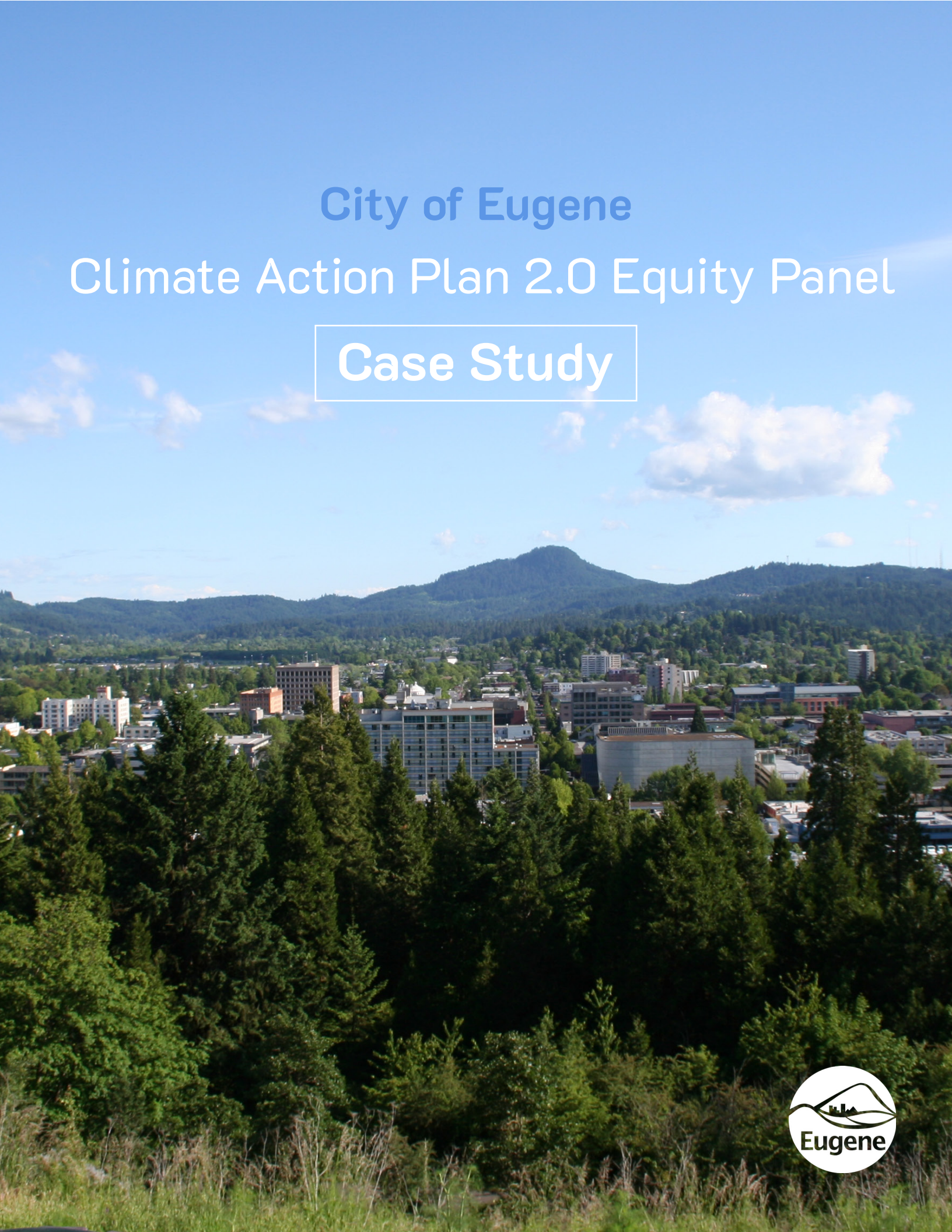
Appendix 5

Eugene Community Climate Action Plan 2.0 Equity Panel Case Study

City of Eugene

Climate Action Plan 2.0 Equity Panel

Case Study



Lead Authors

Chelsea Clinton, Sustainability Manager, City Manager's Office, City of Eugene
Mark Nystrom, Climate Recovery Ordinance Analyst, City of Eugene
Alaí Reyes-Santos, Alaí Community Consulting, LLT

Acknowledgements

City of Eugene Climate Action Plan Equity Panel Team

City of Eugene Working Group

Alaí Reyes-Santos, Facilitator and Consultant, Alaí Community Consulting, LTD
Brittany Judson, Equity Fellow, City of Eugene and USDN
Chelsea Clinton, Sustainability Manager, City of Eugene
Elena M. Domingo, Policy Analyst, City of Eugene
Jennifer Lleras Van Der Haeghen, Office of Human Rights and Neighborhood Involvement Manager, City of Eugene
Mark Nystrom, Climate Recovery Ordinance Analyst, City of Eugene

City of Eugene Equity Panel

Luis Pablo Alvarez, NAACP
Gregoria Gomez, Huerto de la Familia
Danielle Klinkebiel, Huerto de la Familia
Shayleen Macy Eagle Speaker, Sapsik'Wałá Program
Eugene Organ, Lane Independent Living Alliance
Pedro Pacheco, National Alliance on Mental Illness
Kara Smith, Food for Lane County
Meghan Wudtke, Food for Lane County

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125 E Eighth Ave.
Eugene, Oregon 97401

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Section 4. Sharing the Work

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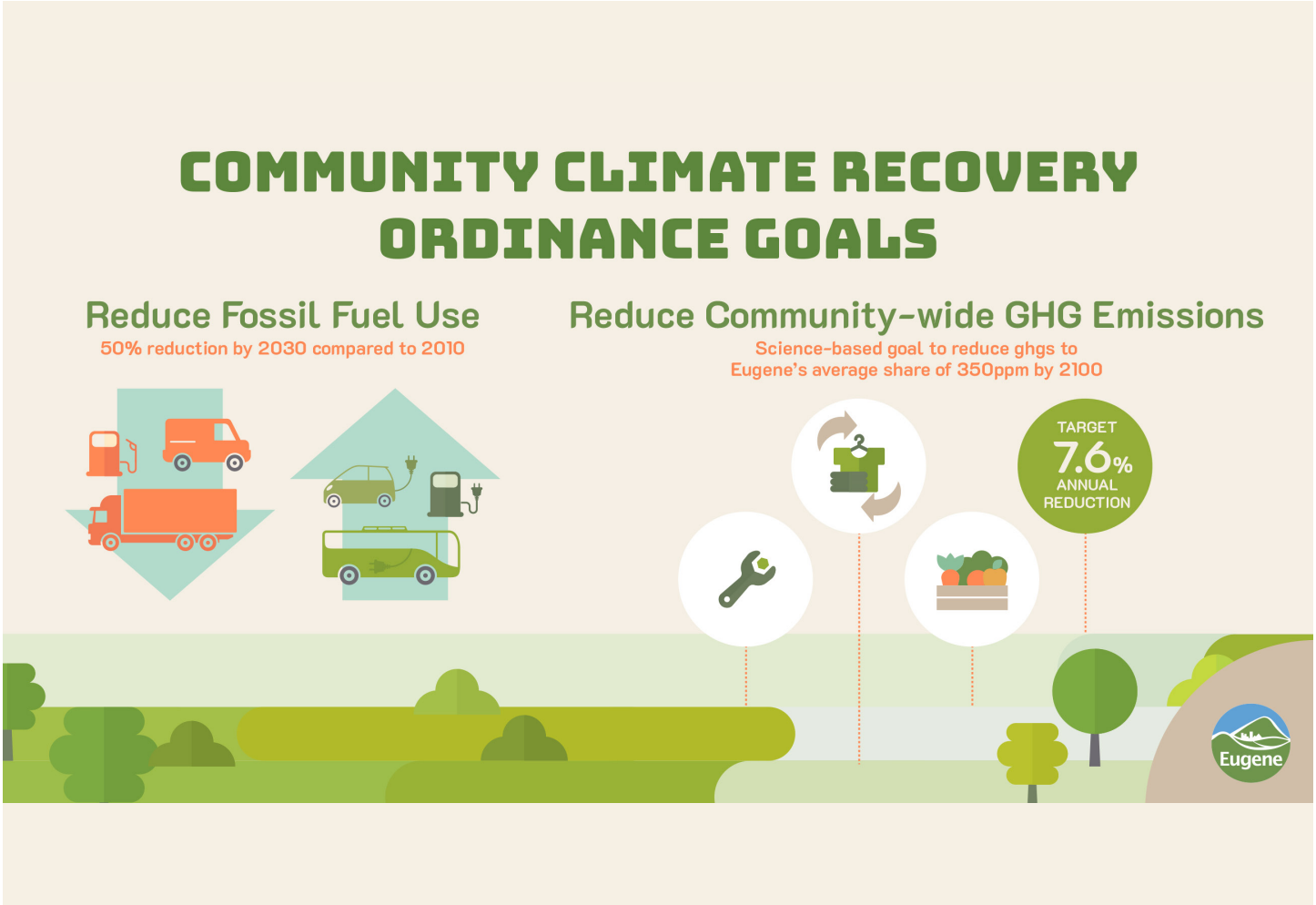


Section 1

Eugene's Climate Journey

The City of Eugene has a long history of innovation, vision, and commitment to sustainability. The City began internally evaluating its operational greenhouse gas emissions nearly 20 years ago. In 2010, the City began working with community partners and the public to create its first climate action plan, the Community Climate and Energy Action Plan (CEAP). The Plan was ground breaking at the time, winning awards for its approach to community outreach.

The Eugene City Council passed the Climate Recovery Ordinance in 2014 and updated it with a community-wide greenhouse gas emissions reduction goal in 2016.

The Panel has allowed me to reflect on how our clients at NAMI will be disproportionately impacted by climate change, and how we must train first responders to support those living with mental illness.

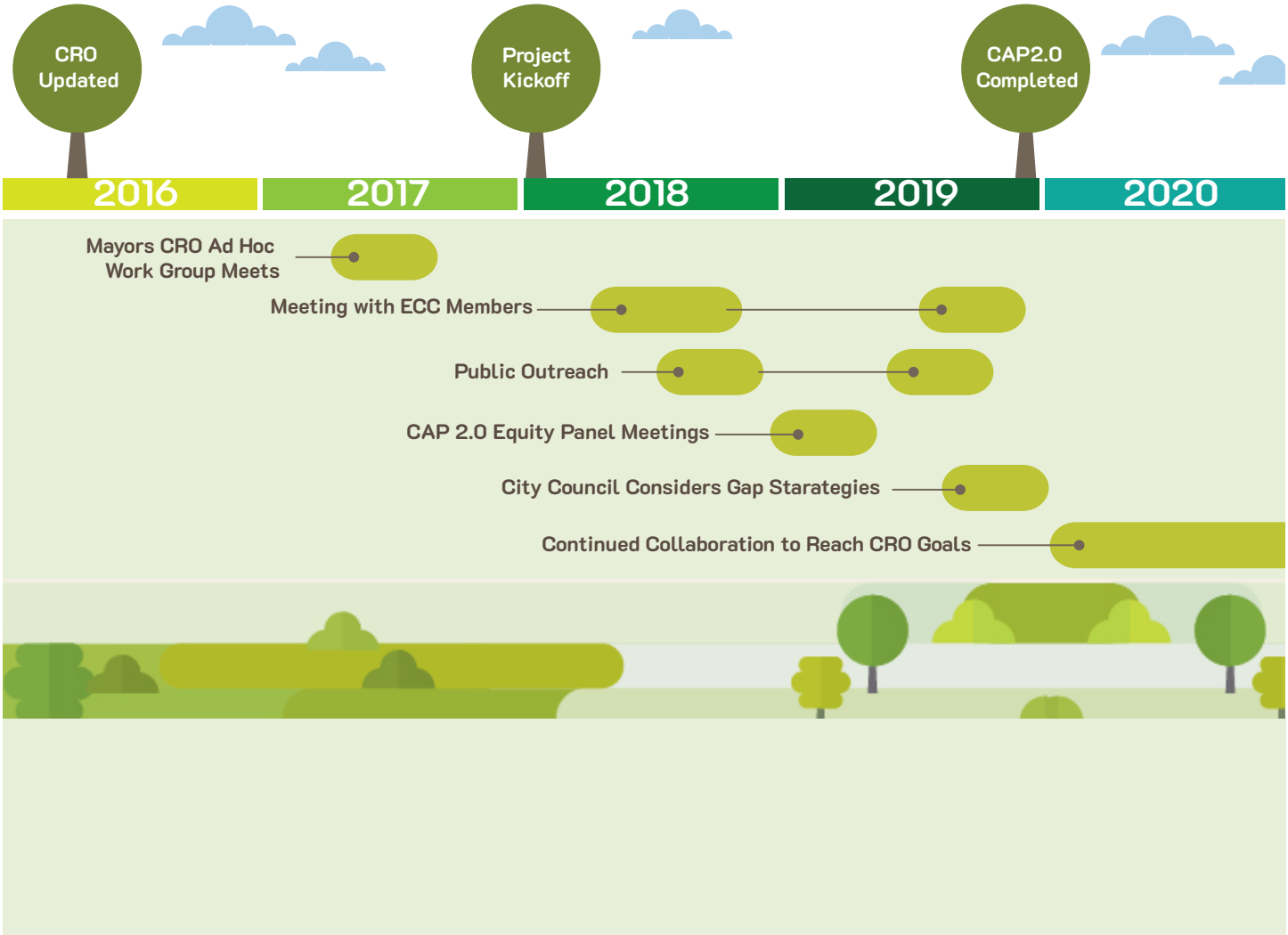
- Pedro

Groundwork
ORGANICS
Blondie's Certified
Organic Blueberries
Creswell, Oregon
541-912-0931
CROSSROADS FARM
HOT
JALAPENOS
2/$1.00
CROSSROADS FARM
PURPLE
SWEET BELL
PEPPERS
$2.00 EACH OR 3/$5.00
CROSSROADS FARM
SUNSUGAR
TOMATOES
$4.00
PER BASKET

In 2017, The Mayor convened a group of key stakeholders to design an approach to update the community Climate Action Plan (CAP2.0) called the Mayors Ad Hoc CRO Work Group (Work Group). That group agreed that the CAP2.0 project approach should be data driven, seeking to understand the size of the gap between Eugene's goals and existing plans to reduce the gap, and only include actions that partners have committed to working on over the next 5-10 years. The group also agreed that the project should include outreach to marginalized communities.

Equity Panel Objectives

1. Learn about the needs of underserved communities in the face of climate change;
2. Produce an equity lens and equity considerations for decision-making processes relevant for the CAP;
3. Produce a set of recommendations and a case study report for public distribution;
4. Share scientific data and policies relevant for the CAP with leaders of underserved community;
5. Foster future partnerships pertinent to climate change with the City and among Panel members. Build overall community capacity to address and prepare for climate change.



A Road Map: Engaging Our Stories

1. Meeting #1: Opening Ground: Getting to Know Each Other
2. Meeting #2: Opening Ground: Introducing Equity Lens
3. Meeting #3: Preparing the Land, Asking the Right Questions: Equity Lens I
4. Meeting #4: Preparing the Land, Asking the Right Questions: Equity Lens II
5. Meeting #5: Gathering Seeds: Introducing Equity Considerations
6. Meeting #6: Gathering Seeds: Our Bodies in the World: Energy, Transportation, Fuels and Consumption
7. Meeting #7: Gathering Seeds: Our Communities Face Climate Change: Health, Emergency Preparedness, and Cultural Transformations
8. Meeting #8: Sowing the Land: Proposing Equity Considerations to City Officials
9. Meeting #9: Watering and Hoping Our Seed Will Grow: Final Recommendations

EUGENE CLIMATE ACTION PLAN

EQUITY PANEL

Section 2

The Recruitment and Selection Process

National research and local experience show that the impacts of climate change tend to disproportionately impact marginalized communities, including indigenous peoples, communities of color, low-income communities, the elderly, and people experiencing disabilities. As people experience more than one of these identities, the impacts are compounded. The Equity Panel was convened in order to capture and elevate the concerns of marginalized communities as they relate to the CAP2.0.

The Equity Panel structure was designed to focus on hearing about the lived experience of participants. Panel members were not required to be experts on climate issues. This allowed for broad outreach to marginalized communities during the recruitment process. Details about the outreach and recruitment process include:

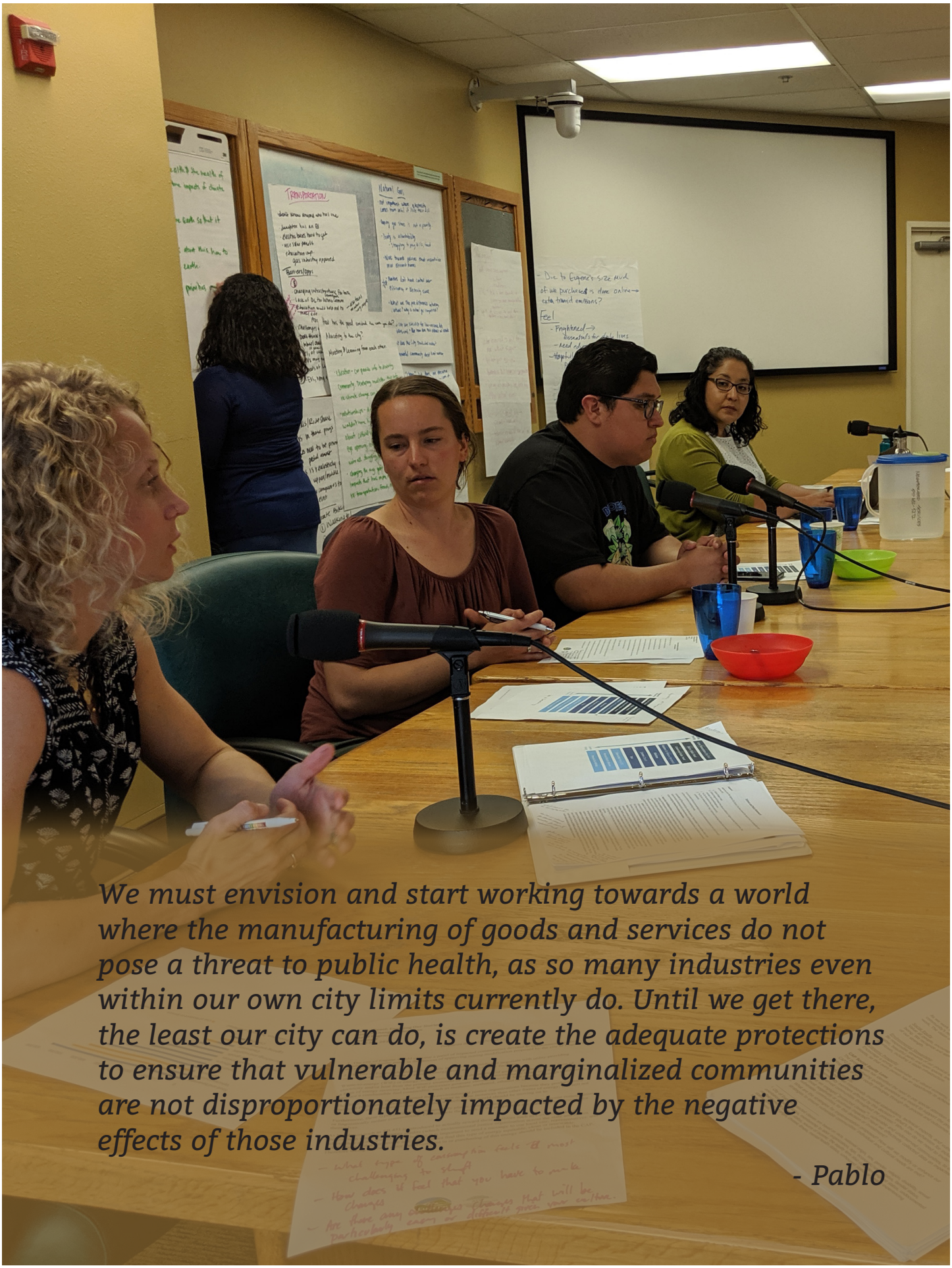
- Outreach efforts were led by an Equity Fellow, funded by the Urban Sustainability Director's Network. The fellow reached out to more than 100 community groups.
- The application was designed to understand each organization's commitment to equity, social justice, and/or environmental justice.
- Sixteen organizations submitted applications
- Each organization was awarded $3,000 to participate. They were required to pay someone who worked for their organization or someone their organization served to participate.
- Staff selected six organizations to participate on the panel:
    - Sapsik'ʷałá,
    - Huerto de la Familia
    - Eugene Springfield NAACP
    - Lane Independent Living Alliance
    - Food for Lane County
    - National Alliance on Mental Illness Lane County
- Each organization chose their own representative. The only requirement of the Panel members was to be an expert on their own lived experience and/or the experiences of those served by their organizations.

Ground Rules

- Assume best intentions
- Listen
- Respect
- Do not interrupt people while they are speaking; wait for you turn.
- Transform ourselves
- If there is a disagreement: breathe, ask questions, communicate respectfully
- Learn from each other
- Respect confidentiality

Tool: TedTalk: Building Intercultural Communities

https://www.youtube.com/watch?v=GeomTrwz-9k



We must envision and start working towards a world where the manufacturing of goods and services do not pose a threat to public health, as so many industries even within our own city limits currently do. Until we get there, the least our city can do, is create the adequate protections to ensure that vulnerable and marginalized communities are not disproportionately impacted by the negative effects of those industries.

- Pablo

Section 3

Facilitating the Equity Panel

The Equity Panel met over six months starting in January 2019 and ending in June. The meetings were facilitated by Alaí Reyes-Santos, a consultant with experience leading conversations

- Meeting location and time were driven by the needs of the Panel members, not staff.
- The Equity Panel met about every 3 weeks. Staff met between each meeting to assess the previous meeting in order to address group needs and what emerged from the storytelling process and to set the agenda for the next meeting.
- The preferred meeting format was to gather information through storytelling, allowing panel members to share their lived experience around a series of topics.
- The Equity Panel agendas were flexible and responsive to the needs of the Panel members. For example, at the request of the Panel, staff started incorporating "science tips" to help participants better understand climate change and related topics.
- Staff originally focused the discussion on three themes: energy use in buildings, transportation and fuels, and consumption. As the storytelling and recommendations unfolded, other thematic areas emerged: adaptation, emergency preparedness, and outreach through community-based advocacy and education about climate change.
- The consultant, with the assistance of staff, summarized the recommendations provided by Panel members. These recommendations were discussed at the final meeting and those that had consensus approval were included in the Recommendations document.

Lessons Learned

- Consider including a mix of community members and staff on the Panel selection committee.
- While all members made a good faith effort to attend the meetings, things came up that prevented some members from attending all meetings. Consider allowing organizations to send two representatives to ensure their perspectives are included at as many meetings as possible.
- Partner with local organizations with translation and interpretation services to understand the full extent of these services throughout the process. This includes translation of documents, slides, etc.; interpretation within the Panel meetings, and both translation and interpretation at presentations of the work to the public (e.g. City Council meetings).

We should plant Native, edible gardens that consume less water, around bus stops, anywhere there is public lands, to provide food for the hungry and model better gardening practices as the climate changes and temperatures rise.

- Kara

Section 4

Sharing the Work

The equity lens and considerations, and the climate equity recommendations provide a strong foundation for Eugene's climate equity work moving forward. The following list outlines places where the panel shared their recommendations already and plans staff have to continue the work in the future.

- Integration into the CAP2.0. The recommendations are woven into the CAP2.0 document, sitting side by side with other climate actions.
- Presentations to the Eugene City Council and Sustainability Commission. In June 2019, representatives from the Equity Panel presented the Equity Panel Recommendations to the City Council. One of the presenters was a monolingual Spanish speaker—marking a first for a City of Eugene City Council meeting. In June 2019, representatives from the Equity Panel also presented the Equity Panel Recommendations to the Eugene Sustainability Commission, a body charged with advising City Council on triple bottom line related issues including climate.
- Community Walks with the Mayor. Mayor Lucy Vinis is meeting with each organization that participated and going on a community walk. The walk (or roll) serves a dual purpose – it promotes the use of active transportation and it also provides the Mayor an opportunity to hear about concerns related to climate change directly from people in or served by the organizations.
- Looking forward: Staff and the Equity Panel organization will continue to look for ways to work together. The City is working on creating a new Equity Panel that will continue to engage in its climate work, but also other policy areas. This has been a successful way to engage new voices in City government and an invaluable way to learn from community members. City staff are excited to continue this work and look for more ways to work with marginalized communities in the future.

Sample Recommended Actions

1. Public transportation subsidies for people living with disabilities.
2. Provide multilingual education about climate change in community spaces, like schools.
3. Provide incentives for climate change education and adaptive actions in workspaces both in the public and private sectors.
4. Use equity lens and considerations throughout decision making and implementation of City projects.
5. Encourage affordable, multi-use, ADA compliant, energy efficient, buildings near public transportation.
6. Use radio, media, and trained community advocates to share information about climate change, emergency preparedness, and adaptation.

PeaceHealth
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Section 5

Equity Panel: Results

The Equity Panel resulted in many tangible and intangible benefits for the City and for our community including:

- **Equity Lens and Considerations:** An equity lens is a tool comprised of reflective questions and principals, intended to improve decision-making and lead to more equitable policies and programs. Panel members stated that they expect that the equity lens will be used, not only to think about the equity implications of a proposal before that action is adopted but continuing to think about the consequences as the project is carried out, allowing for flexibility and revision as circumstances change.
- **Climate Equity Recommendations:** The Equity Panel came up with 44 recommendations for the CAP2.0 on topics including buildings, transportation, adaptation and outreach. In addition, they provided input on current policy decisions.
- **Better Access to Government.** One Panel member was very vocal about how empowering the experience was for her in terms of learning how to access government. The Panel made her feel like she had a voice in her community in a new way.
- **More community capacity for climate work:** The vast majority of the Equity Panel members reported that their knowledge of climate change has grown and that they felt more prepared and motivated to discuss climate change with the communities they serve.
- **Continued partnerships:** City Sustainability staff and the participating organizations have emerging relationships that did not exist before this Panel. The City is actively looking for ways to continue to work with each participating organization.

Tips for Equity Panel Success

Meetings Organization

- Create ground rules together. Share them at every meeting.
- Lead like a flexible focus group.
- Build trust using community building exercises.
- Develop a conflict resolution process.
- Include simultaneous translation as needed.
- Share all documents in Word and printed for accessibility.
- Be realistic about time and desired outcomes. Less tasks, deeper engagement.
- Recognize the policy-making training and community engagement skills panel members bring to the table.

Meeting Content

- Science and public policy sections at every meeting.
- Avoid jargon. Explain city acronyms.
- Weave together open storytelling time, and scientific and political education.
- Relationship with Organizations
- Members should meet one-on-one with facilitator at least once.
- •Midway evaluation with member and organization's executive director.
- Work with a facilitator who does not represent government agencies.
- Articulate attendance requirements. Follow up on absences.

Through Huerto and this Panel I learn how to care for the environment and prepare myself and my community as climate changes. We must educate our children in school about how we must live differently to care for our Earth and each other.

- Gregoria

Appendix 1—Equity Lens

As we work to implement the City of Eugene's Climate Recovery Ordinance and to increase our community's resiliency towards climate change, we will be using the City Council's vision to guide our work.The vision describes the three legs of the Triple Bottom Line framework.

Social Equity

Value all people, encouraging respect and appreciation for diversity, equity, justice, and social well-being. We recognize and appreciate our differences and embrace our common humanity as the source of our strength.

Environmental Stewardship

Be responsible stewards of our physical assets and natural resources. We will sustain our clean air and water, beautiful parks and open spaces, and livable and safe neighborhoods; and foster a vibrant downtown, including a stable infrastructure.

Economic Prosperity

Encourage a strong, sustainable and vibrant economy, fully utilizing our educational and cultural assets, so that every person has an opportunity to achieve financial security.

Climate Action Plan Equity Lens and Considerations

The Climate Action Plan Equity Panel developed the following Equity Lens to guide Eugene's Climate Work.

Guiding Questions:

1. **Stakeholder Involvement:** How have we intentionally involved stakeholders, technical experts, and vulnerable impacted community members affected by this decision? What's the mechanism for including vulnerable and underserved communities throughout the process? Who else do we need to invite?
2. **Engagement of Protected Classes:** Have we engaged "protected classes" [1], vulnerable and underserved communities, to determine who is most negatively or positively impacted? Have we effectively collected data on impacted or vulnerable communities for this decision or investment?
3. **Implementation Strategies:** What are the strategies for implementation proposed? How will we modify or enhance our strategies to ensure vulnerable communities' individual and cultural needs are met? If there is an investment or resource allocation, how does it advance social equity in Eugene? In other words, does it advance the social equity leg of the Triple Bottom Line? Does the decision acknowledge and improve existing disparities?

4. **Addressing historical disparities**: What are intended and unintended consequences? Do those benefit some communities and further marginalize historically underserved ones? Have we created mechanisms to address such disparities?

5. **Planning for equitable outcomes**. What outcomes do we expect? Are they equitable? What are the barriers to more equitable outcomes? (e.g. mandated, political, emotional, financial, programmatic or managerial) What are opportunities that arise to better serve vulnerable communities?

6. **Proper Follow-Up: Does the** proposed action include an equity evaluation process throughout decision-making and implementations? Are equity check-ins embedded in the proposed action? Do the equity check-ins include consultation with equity advisory bodies?

7. **Outreach**: Does the proposed action include funding for appropriate outreach with communities of color, migrants, people with chronic illness and disabilities, people with mental health conditions, and other underserved communities? Is information provided in accessible formats, multiple languages, and various medium such as fliers, radio, internet, television, door-to-door, community ambassadors/advocates, businesses?

8. **Accessibility**: Have city officials and stakeholders held public forums to discuss the action in spaces that are geographically and physically more accessible to working peoples, low-income families, communities of color, migrants, people with chronic illness and disabilities, people with mental health conditions, and other underserved communities? Has translation and interpretation been provided? Has transportation been offered if appropriate?

9. **Historical Awareness:** Does the proposed action include an analysis of why a community is more vulnerable to climate change and policies meant to mitigate it than others? Is there attention to local histories of marginalization, silence and violence that render a specific community more vulnerable to climate change?

10. **Education:** Does the proposed action include providing education about proposed mitigation and adaptation to climate change policies pertinent for low-income families, communities of color, migrants, people with chronic illness and disabilities, and other underserved communities?

Any attempt to reduce gas consumption in transportation must consider how financially and physically accessible public transportation is for people living with disabilities.
- Eugene

1 City of Eugene protected classes are based on race, national origin, sex, gender, religión, disability, sexual orientation, marital status, membership to labor organization, age, economic/social status, familial status, marital/domestic partner status, source of income; the equity lens also considers migrant status, undocumented status, country of origin, chronic illness, mental health status, unhoused status or people experiencing homelessness.

Appendix 2—Recommended Equity and Climate Actions

Buildings

1. Incentives and education for people to create rain and stormwater gardens at home.
2. Stakeholders offer incentives for employees to attend workshops on waste management, composting, energy use, climate change, gardening, transportation, carpooling.
3. Provide education about the climate impacts of having a large, single family home. Land use policies that encourage density and smaller, multifamily homes result in lower emissions and should be encouraged. *
4. City land use policies should encourage higher density land use. Higher density housing results in more walkable, rideable, or roll-able

Fuel and Transportation

5. Subsidies for Ride Source transportation; it is currently financially inaccessible for a community that already faces multiple economic challenges.
6. Provide bike, electric bikes and electric vehicles on loan station.
7. Multi-use, mixed-income residential and commercial zoning provides access to affordable housing, ADA-compliant infrastructure, culturally diverse food supply, access to public transportation.
8. Improve public transportation efficiency.
9. Public campaign on racism, homophobia, sexual violence, ableism in public transportation and bus stations to foster a better social climate for all to use public transportation.
10. Government subsidies and no-interest loans for electric bikes and electric vehicles, especially for low-income people and people with disabilities.
11. Sufficient solar-powered lighting for bike paths.
12. Protect Ride Source and public transportation—needed by many for daily activities, including life-sustaining one such as dialysis.

Adaptation for Climate Change and Natural Disasters

13. Cooling stations and charging stations for unhoused people and people who need electricity to operate health care and disability-related equipment; as well as people with conditions such as multiple sclerosis and nerve disorders.
14. City starts preparing itself for emergencies by considering how low-income communities will not be able to pay for unexpected emergency services, such as private fire fighters, if local fire stations are not prepared for increased summer fires.
15. Emergency stations well distributed where food, water and medical equipment will be accessible.
16. Ensure that people who need power wheelchairs for mobility, refrigeration of medicines, for hearing aids, for screen reading software have access to electricity if the power grid is compromised.
17. Trauma-Informed Training for first responders in an emergency, as well as training on supporting people on the autism spectrum and mental health diagnoses, such as PTSD, chronic anxiety, chronic depression, panic attacks, etc.
18. Train first responders on how to address concerns of communities who have been negatively targeted by police and other government agencies historically, such as migrants, Black, Native, Pacific Islander, low income, undocumented, unhoused, LGBTQ+ communities. First responders must have protocols to name and address people's fears with respect to the state in order to be effective in an emergency.
19. Train multilingual first responders.
20. Establish a citywide protocol to support organizations that deliver food to low income communities in an emergency, such as snow storm. Make sure food supplies are accessible to those who need it most.
21. In the event of an emergency, activate a network of community advocates to share information within underserved communities.
22. Have information available in multiple languages, including Spanish, Mandarin, and other pertinent languages and ensure information is accessible to those who use ASL.
23. Create a confidential list that lets first responders know which households must be contacted or visited during an emergency because inhabitants' health and capacity to receive information has been compromised due to failed power grid.
24. In the case of an evacuation, develop protocol to move and support all those who are dependent on public transit, have limited mobility, and do not have driver licenses.
25. Put in place fire and flooding drills in schools.
26. As heat and fires increase, provide access to asthma and other lung related medicines for people with compromised lungs.
27. Provide incentives for Psychological First Aid trainings for first responders and other public officials mindful of deploying them for natural disasters. Ask CAP stakeholders, such as the universities, to provide trainings for their employees and general public.
28. Support and foster accessible mental health services for underserved communities.
29. Edible forests in public areas with drought-resistant Native plants.

30. Ensure survival of Native food sources.
31. Rain and Stormwater gardens in public areas and stakeholders' lands.
32. Engage Tribal Traditional Ecological Knowledge in decision-making about land and water use.
33. Creation of a standing Climate Change Equity Advisory Committee that consults the people they represent when policies on climate change come up in the City. Remuneration provided for time commitment.
34. Host public hearings in multiple locations that increase access to information to working peoples.
35. Create a database of networks and information for appropriate inclusive outreach.
36. Create climate change education for public schools on mitigation and adaptation.
37. Stakeholders offer incentives for employees to attend workshops on waste management, composting, energy use, climate change, gardening, transportation, carpooling.
38. EWEB subsidies for organizations providing garden education to underserved communities as water needs increase due to droughts.
39. Award and monetary incentive for organizations working primarily with low income communities, migrants, communities of color, and people with disabilities on mitigation and adaptation to climate change.
40. City partnerships with those organizations on specific projects. For instance, making city land accessible for migrant garden education.
41. City hire and train advocates and leaders in underserved communities who serve as ambassadors that provide education on the city's decision-making processes, how to provide input to or make demands of city council, climate change and related practices at the individual and collective levels.
42. City dedicates a staff person (with training and community-based experience and connections) to build trust with members of vulnerable communities on issues of climate change-not relying on small, under-staffed and underfunded organizations to do outreach work for the city; and/or increase capacity of organizations to do the outreach work through allocated funding.
43. Have information available in multiple languages, including Spanish, Mandarin, and other pertinent languages and ensure information is accessible to those who use ASL .
44. Since neighborhood associations are often spaces where people of color and low-income people do not feel welcomed, foster other avenues for community involvement. For instance, provide capacity building to empower community advocates from underserved communities to represent the needs of their communities in political processes and lead community-based emergency response. Activate schools as meeting sites in an emergency or a place to share information with community members.

Perspectives on Key Policy Issues: Natural Gas, Electric Vehicles and Reducing Consumption

Equity Panel Members provided feedback on each of the following policy questions. These notes represent different voices in the conversation, not consensus from the group.

Natural Gas: How would adding a fee for using natural gas or raising prices impact you?

Price Increases

- Additional fees on natural gas would be passed on to renters who do not have any control over their heating/cooking source.
- If offsets are required, subsidies should be offered for income constrained population or a sliding scale should be created based on income levels.

Business Impacts

- Concerned that commercial accounts are not feasible to convert—it may lead to increase in costs at restaurants.

Transitioning from Gas to Electricity

- Consumers are price sensitive; they want cleaner sources of energy until the price becomes too high.
- Keeping gas stoves is not a priority; people are willing to switch to electricity.
- Renters do not have control over efficiency or electricity source.
- Education would be more beneficial than raising prices.
- Converting to natural gas is expensive; financial assistance in the form of grants or no interest loans would be necessary. Include incentives for rentals as well.

Policy Suggestions

- Target policies to focus on the largest consumers of natural gas.
- City should work towards policies that incentivize more efficient homes.
- Require all new developments to be natural gas free and limit new natural gas infrastructure.

Other Concerns

- Hydro is "clean" but dams are destructive. Impact with dams is also felt in communities of color, tribes, and rural communities. Be aware of trade-offs.
- There is a danger of disasters from natural gas in communities.

Consumption: What do you find the most challenging in curtailing your consumption?

Food

- Many types of food are part of culture and tradition; it will be challenging to reduce meat and dairy consumption in particular.
- Lack of access to land is a challenge. By providing more community gardens there would be less consumption of meat and dairy because people would be able to grow their own food.

Other Topics

- Health Care consumption is needed and it is difficult to reduce your demand.
- Educational programs reminding people that while electronics and other devices are necessary, you do not always need the latest "thing".
- More education regarding the greenhouse gas impact of online shopping vs traditional in store shopping.

How does it make you feel when you are told to reduce consumption?

- Carbon emissions due to consumption is a corporate responsibility, not personal. Corporations should take actions which will limit the need for individuals to take action.
- Low income people are already constrained in their consumption; upper income people are the real problem.
- People want to eat healthier and local, but the cost is prohibitive.
- People feel frightened when they hear they need to reduce their consumption; there are essentials for daily lives. People need education about the relationship between consumption and emissions
- People feel under resourced and cannot do more without support—doing all they can to reduce consumption, they need help.
- There are other critical issues so reducing consumption is not the highest priority.
- People feel hopeful because individuals can make a difference—there are possibilities.
- There is a danger of disasters from natural gas in communities.

16101
Electric
1610

Electric Vehicles

What are the barriers to using or owning an electric vehicle (EV)?

- More education regarding EVs is necessary, but the gas industry opposes and has put out misinformation. Provide pros and cons, target young people, and use local news.
- People cannot afford EVs due to high costs
- The perception is that travel is limited to in town—many communities of color have a long distance to travel to get to work.
- Charging stations at apartments are extremely limited. Charging takes a long time and there are not enough chargers.
- People believe electricity costs will go up and charging costs would be prohibitive.
- People without driver's license cannot purchase the cars or get parking spaces.
- EVs are realistically only an option for upper/middle class.
- There is not enough charging infrastructure downtown.
- No current EVs with wheel chair accessibility—there is a demand but no supply.
- EVs may not meet the cultural needs of Latino community.
- EVs are very quiet, they may be dangerous for bikes.
- What are the opportunities around EVs?
- Mass transit is good but not always easily accessible.
- Rentals and Rideshares incentives and have EVs in those programs.
- E-Bicycles need to be promoted more—pedal assist would solve a lot of access problems.
- Push car companies to develop/sell more electric cars.
- Comments about Active Transportation
- Biking is not accessible, some people do not bike, probably never will.
- Develop separate biking and walking lanes away from cars.
- City should develop infrastructure so that walking should be the first priority, then biking, then rideshare.
- Bus takes too long. Need better routes, expand EMX.

City of Eugene - City Manager's Office
125 E Eighth Ave.
Eugene, Oregon 97401

Climate Action Plan 2.0

Appendix 6

Eugene Community Greenhouse Gas Inventory: Sector-Based Inventory for 2010 - 2017, Consumption-Based Inventory for 2013

Eugene, Oregon
Community Greenhouse Gas Inventory
Sector-Based Inventory for 2010 – 2017
Consumption-Based Inventory for 2013

Report prepared by Good Company, January 2019

INTRODUCTION

A greenhouse gas (GHG) inventory quantifies the GHG emissions associated with a specific boundary – such as operational control within an organization or the geographic boundary of a community – for a specific period of time. By conducting inventories at regular intervals, community stakeholders can understand trends and manage emissions from specific sources and activities. The results of Eugene's GHG inventories are being used to support a 2019 update of the Eugene community's Climate Action Plan (CAP2.0) and provides the foundation for a GHG emissions tracking and management system related to the City's Climate Recovery Ordinance (No. 20567).

FINDINGS IN BRIEF

- Fossil Fuel Use
    - Eugene's 2017 fossil fuel use totals 13.5 million British thermal units (MMBTU)[1]. The largest fossil fuel sources used in the community include gasoline/diesel use (55%) and natural gas (39%). Smaller sources include fossil fuels used to generate electricity (4%) and other fuels, including propane and fuel oil (2%).
    - Eugene's total community fossil fuel use has *decreased* by 6% since 2010.
    - On a per capita basis, emissions have *declined* by 13%, while total population has increased by 7%.
- Sector-based Greenhouse Gas Emissions (local emissions)
    - Eugene's 2017 sector-based GHG emissions total **1.01 million MT CO_2e** using market-based electricity emissions.[2]. The largest sources of community emissions include passenger and freight transportation (53%) followed by commercial energy (22%) and residential energy use (10%). See page 9 for more details.
    - Eugene's sector-based GHG emissions have *decreased* by 4% since 2010 using market-based electricity emissions.
    - On a per capita basis, emissions have *declined* by 11%, while total population has increased by 7%.
- Consumption-based GHG Emissions (local emissions + imported emissions)
    - Eugene's consumption-based emissions estimate, which includes production emissions for imported goods, foods and services consumed in Eugene, totals **2.75 million MT CO_2e** using market-based electricity accounting.[3]

[1] A British thermal unit (BTU) is the amount of heat needed to raise one pound of water one-degree Fahrenheit. Reporting in a common energy unit is required as fossil fuels come in various, incompatible volumetric units (gallons for gasoline, or cubic feet for natural gas).

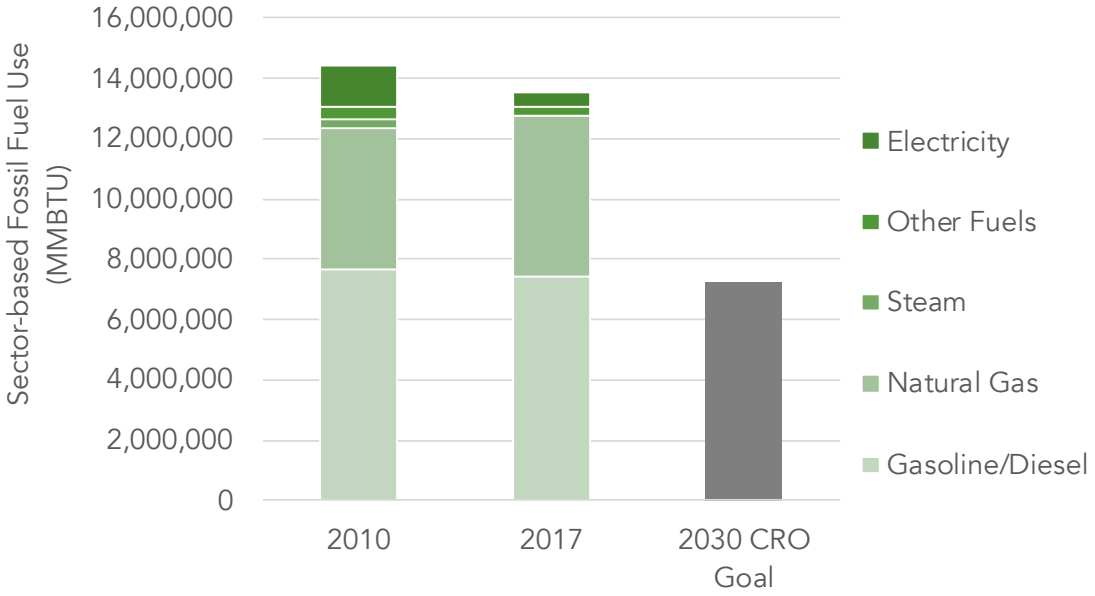
[2] Eugene's sector-based GHG emissions total **1.71 million MT CO_2e**. using location-based electricity accounting. The largest sources include commercial energy use (37%) followed by passenger and freight transportation (31%) and residential energy use (23%). See page 9 for more details about market- and location-based electricity accounting.

[3] Eugene's consumption-based emissions using location-based electricity accounting equal **3.45 million MT CO2e**.

PROGRESS TOWARDS FOSSIL FUEL CRO FOSSIL FUEL TARGET

Between 2010 and 2017, the Eugene community's fossil fuel use has *reduced* by 6%. This reduction from the 2010 baseline was achieved while population *increased* by 7% over the same period. *Per-capita* fossil fuel use has *reduced* by 13% between 2010 and 2017.

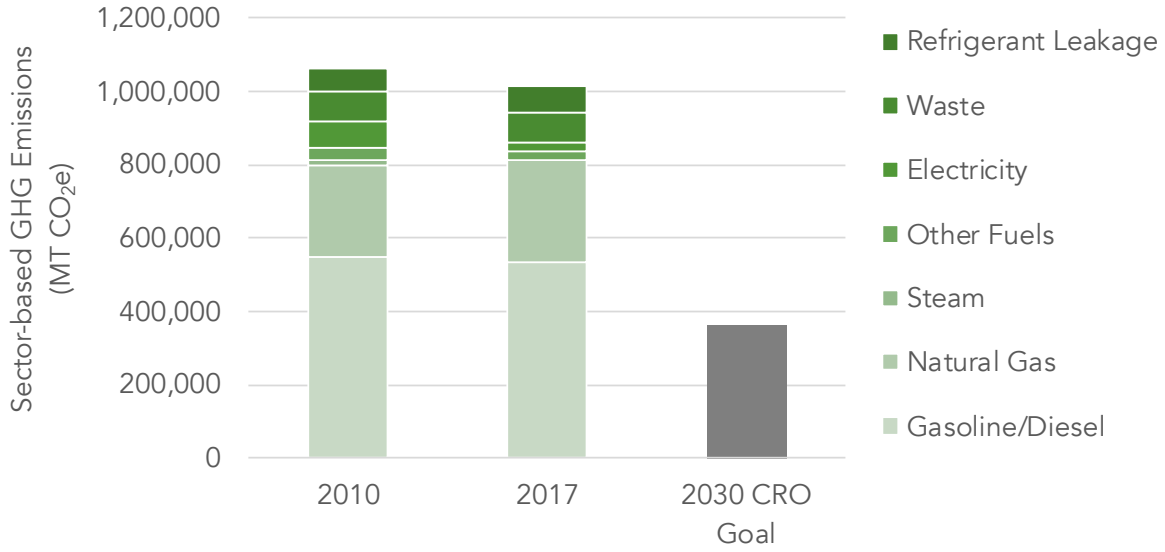
Figure 1: Comparison of 2010 (target baseline) and 2017 fossil fuel use to 203 0 CRO target.



PROGRESS TOWARDS CRO SECTOR-BASED GREENHOUSE GAS GOALS

Between 2010 and 2017, the Eugene community's GHGs have been *reduced* by 3% using market-based electricity accounting. This reduction from the 2010 baseline was achieved while population *increased* by 7% over the same period. *Per-capita* GHGs have *reduced* by 10% between 2010 and 2017.

Figure 2: Comparison of 2010 and 2017 GHGs to 2030 CRO GHG goal.

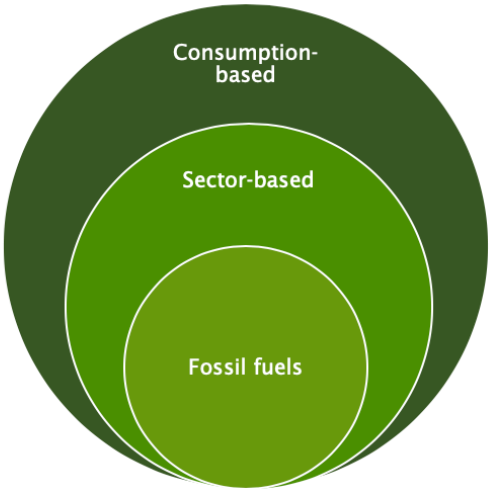


INVENTORY APPROACH

This inventory documents the community of Eugene, Oregon's greenhouse gas emissions (GHGs) for calendar year 2017, with historical data for 2010 through 2015. There was no inventory conducted for 2016. Inventory results are presented using two types of inventory methodologies: Sector-Based and Consumption-Based.

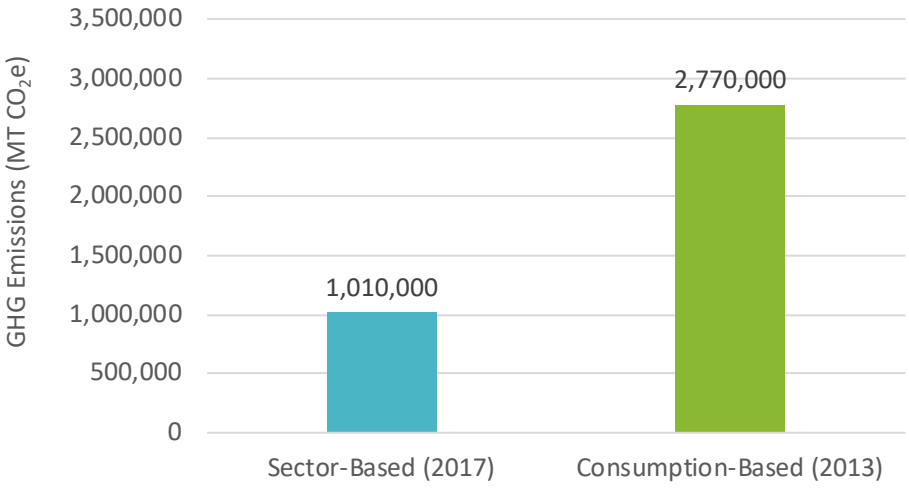
- *Sector-based emissions inventories* (local emissions) include emissions from energy use by homes, businesses, and vehicles as well as emissions from landfilling solid waste and wastewater treatment. GHG emissions from **fossil fuels** are the largest component of the community's Sector-based GHG emissions and have reduction targets in the CRO.
- *Consumption-based emissions inventories* include local, sector-based emissions and also include emissions that are generated during production and delivery of imported goods; energy and food consumed within the Eugene community; and exclude emissions from local production that are exported.

Figure 3: Nested relationship between CRO goals and related inventory work.



These two inventory types together offer a more comprehensive view of the Eugene community's GHG emissions. The community has greater control over sector-based emissions sources, as well as better data, which is why this accounting methodology is most often used to set emissions reduction goals. Consumption-based emissions from the production of imported goods, food, energy, and services are more difficult to measure and track, but when accounted for, make up a significant portion of the community's emissions. Figure 4 compares community emissions using sector-based and consumption based GHG accounting methodologies.

Figure 4: Comparison of 2017 Sector-Based and 2013 Consumption-Based Emissions.



SECTOR-BASED INVENTORY (LOCAL EMISSIONS)

Eugene's sector-based emissions inventory (SBEI) totaled ~**1.0 million metric tons** of carbon dioxide equivalent (MT CO_2e)[4] for calendar year 2017. These emissions are summarized on Figure 5 and use market-based electric emissions accounting. Figure 6 shows community sector-based emissions as calculated using location-based electricity accounting which total **1.7 million MT CO_2e**. *(See page 9 for discussion of electricity-related emissions including location-based and market-based accounting methods).*

Figure 8 (on page 7) details Eugene's Sector-Based emissions for 2017 showing a 10% *reduction* compared to 2010. Eugene's per capita emissions *declined* by 16% as population increased by 7%.

Emissions from the residential, commercial, and industrial (RCI) sectors are dominated by natural gas and electricity use. Electricity use (kilowatt-hours consumed) increased by 2.3% between 2010 and 2017, notably slower than population growth. Electricity emissions, however, *decreased* by 21% due to an increase in the share of low-carbon intensity electricity production on our regional electricity grid to hydroelectric and wind generation. During this period, total natural gas use and the associated emissions *increased* by 13%. The residential sector led the increase, which is attributed to population growth and a colder winter in 2017.

Figure 5: Eugene 2017 emissions by sector
(using market-based electricity accounting)

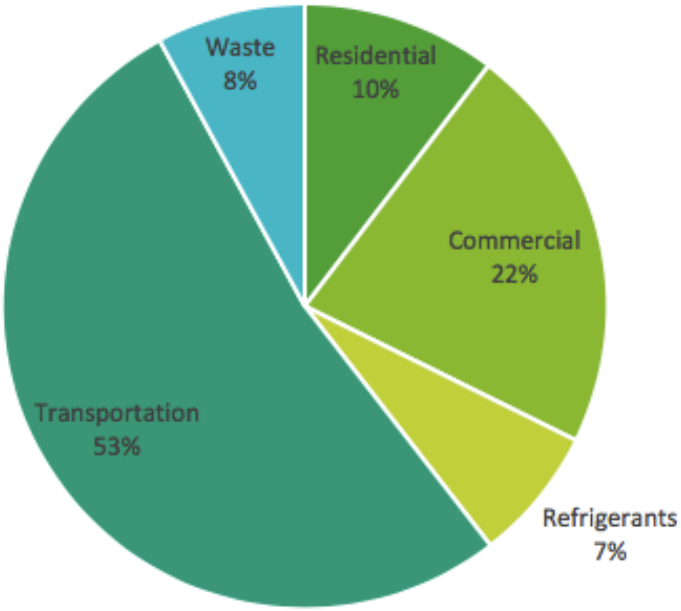
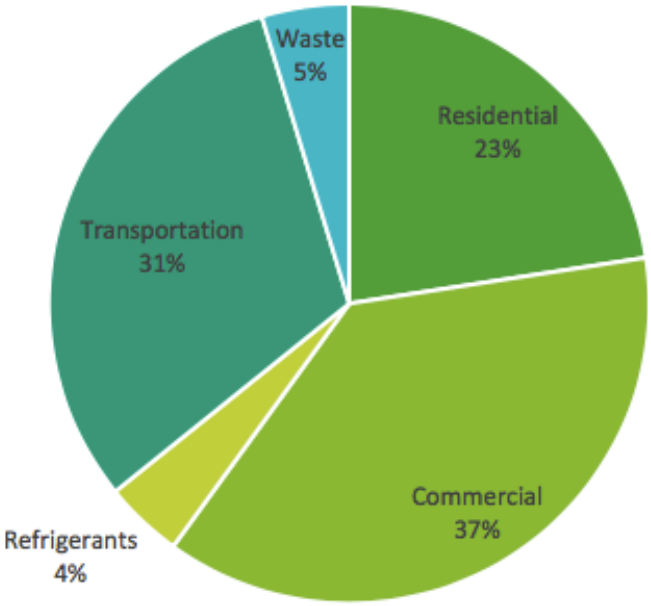


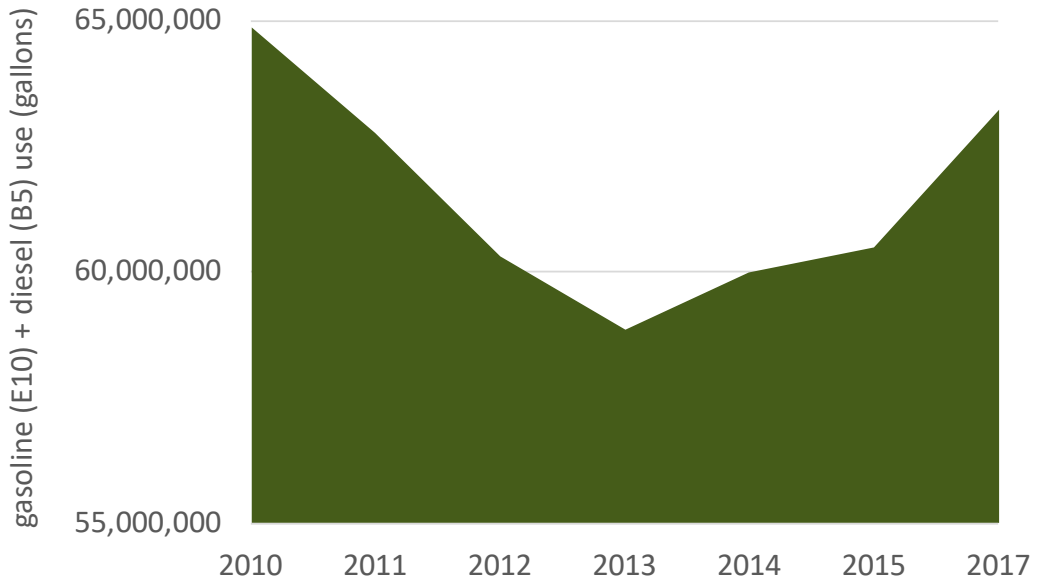
Figure 6: Eugene 2017 emissions by sector
(using location-based electricity accounting)



[4] Metric tons of carbon dioxide equivalent (MT CO_2e) is the international standard unit for measurement and reporting of greenhouse gas emissions.

Transportation emissions are primarily from the combustion of gasoline (E10) and diesel (B5) fuels in local, on-road passenger and freight vehicles as well as off-road equipment.[5] Use of transportation fuels and the associated emissions decreased by 3% between 2010 and 2017. But since 2013, the emissions have shown a rapid increase almost returning to 2010 levels, as shown on Figure 7.

Figure 7: Comparison of vehicle fuel use in Eugene between 2010 and 2017.



Solid waste emissions, as reported by Lane County for Short Mountain Landfill, decreased by 4% compared to 2010. Refrigerant emissions, calculated for Eugene based on Oregon per capita values, increased by 20% between 2010 and 2017.

[5] Oregon's Renewable Fuel Standard requires that all motor gasoline (with limited exceptions) is E10 (10% ethanol and 90% gasoline). Diesel fuel is required to be B5 (5% biodiesel and 95% diesel).

Figure 8: Detailed summary of Eugene's 2010–2015 and 2017 GHG sector-based emissions by sector and energy type. *Note – This table includes emissions using two accounting methods for electricity – Location-based and Market-based. These two methods are described in more detail in Figures 5, 6, and 10. The Sector sub-totals (light green highlighted rows) include location-based emissions for electricity.*

Total Emissions (MT CO2e / year)	2010	2011	2012	2013	2014	2015	2017	Percent Change 2010 to 2017
Residential	**468,256**	**471,635**	**372,627**	**389,072**	**467,885**	**446,035**	**386,659**	**-17%**
Electricity (Location-Based)	367,777	381,102	285,767	297,476	380,867	370,022	291,271	-21%
Electricity (Market-Based)	*28,736*	*14,888*	*12,245*	*20,591*	*12,869*	*11,609*	*9,861*	-66%
Natural Gas	70,801	76,473	74,771	78,758	73,234	65,655	85,079	20%
District Steam	15,143	*Steam plant decommissioned in 2014*						-100%
Other Fuels	14,535	14,060	12,089	12,838	13,784	10,358	10,309	-29%
Commercial & Industrial	**749,788**	**745,248**	**634,972**	**643,130**	**791,415**	**772,608**	**641,430**	**-14%**
Electricity (Location-Based)	553,658	545,969	434,798	433,201	583,601	585,081	433,855	-22%
Electricity (Market-Based)	*43,259*	*21,329*	*18,631*	*29,986*	*19,896*	*18,356*	*14,688*	-66%
Natural Gas	178,352	185,636	190,546	201,412	198,021	176,958	197,055	10%
Other Fuels	17,778	13,643	9,628	8,517	9,793	10,569	10,520	-41%
Transportation	**548,606**	**531,317**	**510,887**	**498,191**	**508,032**	**509,499**	**532,685**	**-3%**
Gasoline (E10)	354,773	341,045	326,015	319,368	324,898	339,062	354,493	0%
Diesel (B5)	193,833	190,272	184,872	178,823	183,134	170,407	178,162	-8%
Electric Vehicles	*not calculated*	*not calculated*	*not calculated*	*not calculated*	*not calculated*	30	30	n/a
Waste	**83,408**	**79,007**	**87,893**	**82,009**	**85,617**	**94,563**	**80,626**	**-3%**
Landfilled Solid Waste	80,024	75,824	84,252	77,980	82,180	90,860	76,972	-4%
Wastewater Treatment Process	3,384	3,183	3,641	4,029	3,437	3,703	3,654	8%
Process & Fugitive Emissions	**60,648**	**62,394**	**64,659**	**66,454**	**69,297**	**73,155**	**72,807**	**20%**
Stationary Refrigerant Loss	24,968	25,682	26,622	27,363	28,522	30,125	29,982	20%
Transportation Refrigerant Loss	35,680	36,712	38,037	39,091	40,775	43,030	42,825	20%
Total Emissions (Location-Based)	**1,910,706**	**1,889,601**	**1,671,038**	**1,678,856**	**1,922,246**	**1,895,860**	**1,714,207**	**-10%**
Total Emissions (Market-Based)	**1,061,266**	**998,748**	**981,349**	**998,756**	**990,543**	**970,693**	**1,013,600**	**-4%**
Per Capita Emissions (Location-Based)	**12.2**	**12.0**	**10.6**	**10.5**	**12.0**	**11.6**	**10.2**	**-16%**
Per Capita Emissions (Market-Based)	**6.8**	**6.4**	**6.2**	**6.3**	**6.2**	**5.9**	**6.0**	**-11%**

*Note: Refrigerant emissions are scaled per capita based on State of Oregon GHG reporting. The most recent Oregon data available, at the time of conducting Eugene's community inventory, was for calendar year 2012. This data is used as a proxy for 2013 forward.

Figure 9: Detailed summary Eugene's 2010–2015 and 2017 sector-based fossil fuel use by sector and energy type. *Note – This table only includes Market-based accounting. This approach was selected by the City as the preferred approach for accounting towards the CRO fossil fuel target, per guidance from Greenhouse Gas Protocol - Scope 2 Guidance. The guidance states that market-based accounting is the preferred method for organizational goal-related tracking.*

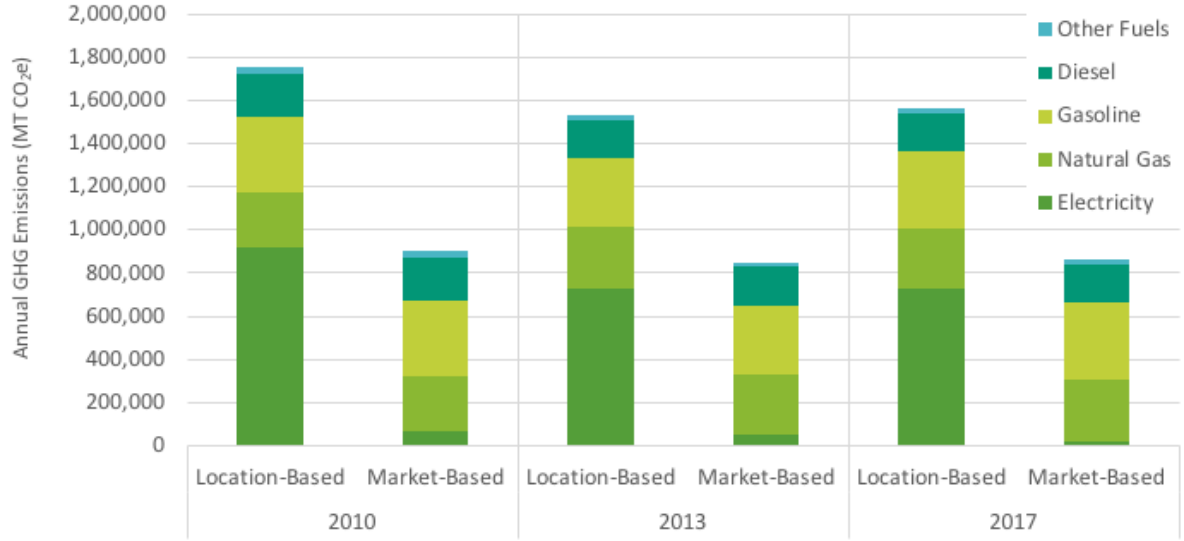
Total Emissions (MMBTU / year)	2010	2011	2012	2013	2014	2015	2017	Percent Change 2010 to 2017
Residential	**2,357,920**	**1,919,902**	**1,808,788**	**2,053,514**	**1,817,242**	**1,551,371**	**1,933,416**	**-18%**
Electricity (Location-Based)	*Market-based accounting used for CRO fossil fuel target*							
Electricity (Market-Based)	*541,461*	*280,539*	*230,733*	*387,993*	*242,481*	*168,269*	*185,810*	-66%
Natural Gas	1,331,175	1,437,831	1,405,819	1,480,797	1,376,936	1,234,425	1,599,635	20%
District Steam	277,449	*Steam plant decommissioned in 2014*						-100%
Other Fuels	207,835	201,532	172,236	184,724	197,825	148,677	147,971	-29%
Commercial & Industrial	**4,412,058**	**4,081,738**	**4,070,109**	**4,472,345**	**4,231,349**	**3,740,772**	**4,128,641**	**-6%**
Electricity (Location-Based)	*Market-based accounting used for CRO fossil fuel target*							
Electricity (Market-Based)	*815,125*	*401,902*	*351,063*	*565,018*	*371,552*	*266,067*	*276,768*	-66%
Natural Gas	3,353,328	3,490,286	3,582,606	3,786,892	3,723,150	3,327,114	3,704,983	10%
Other Fuels	243,605	189,550	136,441	120,436	136,646	147,591	146,890	-40%
Transportation	**7,672,560**	**7,428,954**	**7,141,943**	**6,965,498**	**7,102,514**	**7,132,287**	**7,456,874**	**-3%**
Gasoline (E10)	5,050,874	4,855,425	4,641,448	4,546,816	4,625,536	4,827,199	5,046,890	0%
Diesel (B5)	2,621,687	2,573,529	2,500,495	2,418,682	2,476,977	2,304,844	2,409,740	-8%
Electric Vehicles	0	0	0	0	0	244	244	*Not applicable*
Waste	*Does not include fossil fuel use*							
Landfilled Solid Waste								
Wastewater Treatment Process								
Process & Fugitive Emissions	*Does not include fossil fuel use*							
Stationary Refrigerant Loss								
Transportation Refrigerant Loss								
Total Fossil Fuel Use (Market-Based)	**14,442,538**	**13,430,594**	**13,020,841**	**13,491,356**	**13,151,104**	**12,424,187**	**13,518,930**	**-6%**
Per Capita Fossil Fuel Use (Market-Based)	**92.4**	**85.5**	**82.2**	**84.5**	**81.8**	**76.0**	**80.6**	**-13%**

*Note: Fossil fuels use for market-based electricity are calculated using a natural gas electricity generation benchmark. In other words, fossil fuels use from EWEB's electricity is assumed to be 100% from electricity generated by natural gas. Fossil fuel use for EWEB electricity is calculated using EWEB-specific fossil fuel emissions factors as provided by Oregon Department of Environmental Quality (kg CO_2e / MWh); heat rates for natural gas generated electricity (BTU / kWh) from the U.S. Energy Information Administration (https://www.eia.gov/electricity/annual/html/epa_08_01.html); and natural gas emissions factor (kg CO_2 / MMBTU) from the U.S. Energy Information Administration (https://www.eia.gov/electricity/annual/html/epa_a_03.html).

Figure 8 accounts for electricity emissions using two methods – Location-Based and Market-Based[6] - based on Greenhouse Gas Protocol's *Scope 2 Guidance*. The *Global Community GHG Protocol* requires users to report using the location-based method, which uses an average emissions factor for the Northwest's regional electricity grid to calculate emissions (i.e. Northwest Power Pool). The Guidance suggests conducting a sensitivity analysis using the market-based method. This accounting method uses EWEB's utility-specific carbon intensity[7], based on its owned and contracted generation resources, to calculate emissions. Eugene's market-based emissions are about 29 times less carbon intensive than the regional average, or about 3% of the Northwest Regional Power Pool. This is because EWEB, as a public utility, predominantly contracts with Bonneville Power Administration (BPA) whose generation supply is largely from low-carbon, hydroelectric and nuclear resources, and EWEB's owned, low-carbon resources which include hydro and wind.

Figure 10 presents Eugene's energy-related emissions, by energy type, including both the location-based and market-based electricity-accounting methodologies. Figure 10 highlights the significance of the electric accounting methodology used when presenting results. Scope 2 protocol guidance describes the Location-based method as a representation of the average GHG impacts associated with electricity use within a defined geographic territory and time period. Alternatively, the Market-based method represents electricity that has been purposefully chosen via the GHG impacts associated with EWEB's supply contracts that serve the community. Both methods are useful for different purposes; together, they provide a fuller documentation and assessment of risks, opportunities, and changes to emissions from electricity supply over time. See Greenhouse Gas Protocol's *Scope 2 Guidance* for details.

Figure 10: Comparison of community emissions, by fuel type, using location- and market-based electricity accounting methodologies.



[6] For details about these two accounting methodologies see Greenhouse Gas Protocol's Scope 2 Guidance.
[7] Utility-specific factors are provided by Oregon Department of Environmental Quality (ODEQ) based on EWEB regulatory reporting.

CONSUMPTION-BASED INVENTORY (LOCAL AND IMPORTED EMISSIONS)

In 2013, the City of Eugene, working with the Oregon Department of Environmental Quality, completed a consumption-based inventory (CBEI), that estimated an emissions total of 2.77 million MT CO_2e (3.45 million MT CO_2e using location-based accounting).[8] Many of the same sources found to be significant in the sector-based inventory are also significant in the consumption-based inventory, such as building and vehicle energy use. Many of these emissions are shown in Figure 11 in the Product Use column. Figure 11 also shows the significance of emissions generated outside of Eugene during production of goods, food, energy and services in the Production column. As in the sector-based inventory, waste disposal represents a relatively small fraction of the community's emissions. *Note that the subtotal emissions by category in Figure 11 are not available using market-based accounting.*

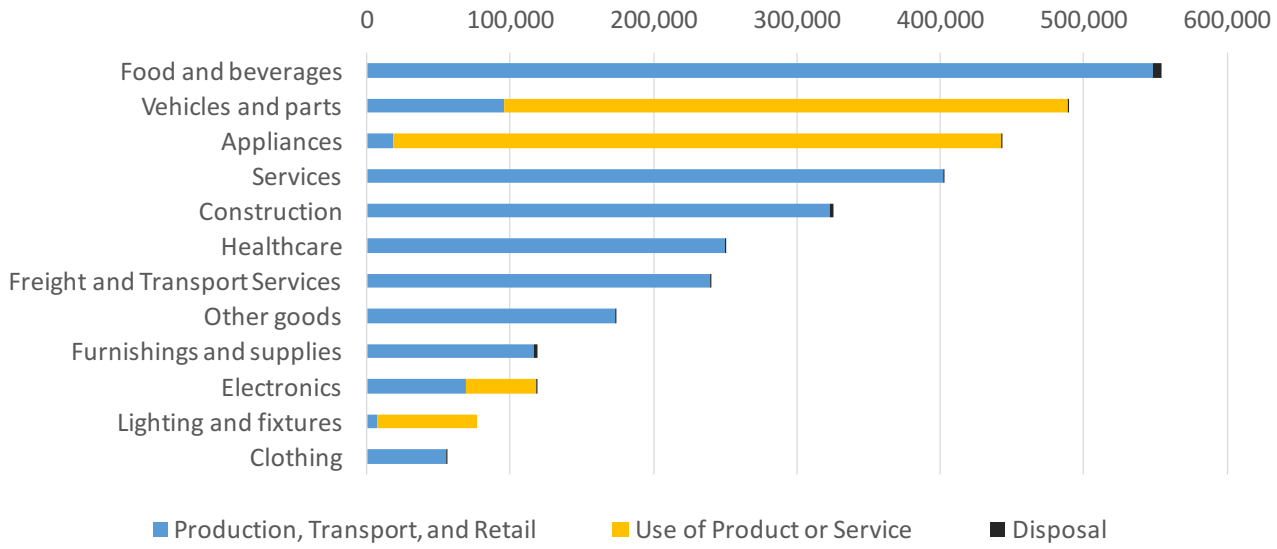
Figure 11: Summary of the Eugene's community's 2013 consumption-based emissions.

Category	Production, Transportation, and Retail	Product Use	Disposal	Total Emissions	Per-Capita Emissions	Percent of Total
Food and beverages	547,984	-	6,304	**554,288**	**3.5**	**16%**
Vehicles and parts	96,107	392,547	84	**488,738**	**3.1**	**14%**
Appliances	18,349	423,810	5	**442,163**	**2.8**	**13%**
Services	401,993	-	568	**402,561**	**2.5**	**12%**
Construction	322,772	-	2,728	**325,500**	**2.0**	**9%**
Healthcare	250,006	-	92	**250,098**	**1.6**	**7%**
Freight and Tranport Services	238,985	-	5	**238,990**	**1.5**	**7%**
Other manufactured goods	173,102	-	53	**173,155**	**1.1**	**5%**
Furnishings and supplies	116,615	-	2,747	**119,362**	**0.7**	**3%**
Electronics	69,330	48,898	44	**118,271**	**0.7**	**3%**
Retailers	134,807	-	-	**134,807**	**0.8**	**4%**
Lighting and fixtures	6,776	69,940	-	**76,716**	**0.5**	**2%**
Clothing	55,097	-	94	**55,191**	**0.3**	**2%**
Other	54,574	-	8	**54,581**	**0.3**	**2%**
Water and wastewater	12,948	-	6	**12,954**	**0.1**	**0%**
Total Emissions	**2,499,445**	**935,195**	**12,736**	**3,447,376**	**21.7**	**100%**
Per-Capita Emissions	**15.7**	**5.9**	**0.1**	**21.7**		
Percent of Total	**73%**	**27%**	**0.4%**	**100%**		

Production of food and beverages, vehicles, construction materials, air travel services, furnishings, electronics, and clothing are all significant consumption categories for the community. Figure 12 (on the next page) summarizes select categories in graphic form to show the scale of emissions by lifecycle stage for select consumption categories. Figure 12 also highlights the need to develop and implement GHG mitigation strategies differently depending on the category of consumption. For example, selecting food types, based on the carbon intensity of production, would be an effective strategy to reduce this large source of community emissions. Whereas for vehicles, the majority of emissions are generated during use, so climate action strategies should focus on selecting vehicles for efficiency and that utilize low-carbon fuels or electricity.

[8] The City plans to work with ODEQ in 2019 to update the CBEI using 2017 data.

Figure 12: Lifecycle emissions, split by lifecycle stage, for select consumption categories.



INVENTORY METHODOLGY

The Eugene **sector-based inventory** follows Greenhouse Gas Protocol's *Global Protocol for Community-Scale Greenhouse Gas Emissions Inventories.* ICLEI'S web-based *ClearPath* Community-Scale Emissions Management Software was used to calculate all greenhouse gas (GHG) emissions for the Eugene's Community Inventories for 2010–2015 and 2017. Data and calculation files are cataloged in a corresponding audit trail organized by inventory year. Changes in previous year's results in this report compared to prior reports is the result of updates to emissions factors and improvements to accounting methodology.

The Eugene **consumption-based inventory** incorporates Eugene's sector-based emissions into a consumption-based emissions inventory model that was developed by Stockholm Environment Institute for Oregon Department of Environmental Quality (ODEQ) to support completion of the State of Oregon's 2005 Consumption-Based Inventory. ODEQ staff used the 2010 version of the Oregon model to estimate the Eugene community's 2013 consumption-based emissions. The City plans to work with ODEQ in 2019 to update the Eugene's CBEI using 2017 data.

All community GHG emissions presented in this report are represented in metric tons of carbon dioxide equivalent (MT CO_2e). Quantities of individual GHGs are accounted for in the ICLEI's *ClearPath* carbon calculator and include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), CFCs, PFCs, and sulfur hexafluoride (SF_6) per the Kyoto Protocol. All GHG calculations use the global warming potentials (GWP) as defined in the International Panel on Climate Change's 5th Assessment Report (IPCC AR5).

Climate Action Plan 2.0

Appendix 7

Eugene Community Climate Action Plan 2.0 Additional Actions

Eugene Community Climate Action Plan 2.0 Additional Strategies

Energy Used in Buildings Strategies	Annual MT CO_2e Reduced
1. **Smart Energy Offset Program.** Move to a mandatory or automatic enrollment of NWN customers to participate in the Smart Energy Program, a carbon offset program (100% participation in 2030 modeled here).	32,000-320,000
2. **Regulate Natural Gas.** Regulate new natural gas infrastructure (residential, commercial, and industrial).	40,000
3. **Biogas and Renewable Hydrogen.** Require NWN to fuel switch to biogas and renewable hydrogen (10% switch modeled)	35,000
4. **Home Energy Score and Commercial Benchmarking Programs.** These programs require disclosure of energy performance of a building.	10,000
5. **Energy Efficiency and Fuel Switching: Support Incentives and Explore Regulatory Options.** Support existing energy efficiency programs and explore ways to require more energy efficiency building standards.	Varies
Transportation Fuels Strategies	
6. **Transportation System Plan Updated to Meet CRO Goals.** City adopts changes to the Eugene 2035 Transportation System Plan goals, policies and projects to fully meet CRO goals. *(TSP already accounts for 240,000 MT CO_2e annual reduction by 2030)*	30,000-70,000
7. **Implement Eugene's Electric Vehicle Strategy.** Electrify the community's on-road passenger vehicles and light trucks as rapidly as possible. (15,000 EVs modeled here.)	66,000
Other Strategies	
8. **Lobby for State and Federal Action.** State and federal action can have significant impact at the local level. 2019 Oregon Cap and Invest Bill (HB 2020) modeled here.	250,000**
9. **Reduce Refrigerant Loss.** Reduce refrigerant gases leaked from appliances. (25% reduction modeled)	20,000
10. **Capture biogas from organic waste.** Biogas from organic waste can be captured and used as a renewable transportation fuel. (25% food waste diversion modeled).	5,000
11. **Offset Program.** Purchase carbon offsets.	Varies
12. **Community Innovation Fund.** Support community initiatives for climate mitigation and resiliency with small grants.	Varies

*Additional policy levers around natural gas may include 1) prohibiting financial incentives for installing natural gas service; 2) prohibiting financial incentives when purchasing natural gas appliances; 3) prohibiting the installation of natural gas appliances; and reducing the term of the franchise agreement to 10 years.

**Used for illustrative purposes only. Legislation varies by year.

1. Smart Energy Offset Program

Natural Gas currently represents 27.8% of Eugene's carbon footprint. This is about 282,000 MT CO_2e in 2017, with 30% from residential use and 70% from commercial and industrial uses. Currently, Northwest Natural allows all customers to buy into their Smart Energy Program. Customers can choose from a flat rate ($5.50/month for residential customers and $10+/month for businesses) or they can pay per therm that they use. These funds are then used to invest in certified offset projects that account for the emissions created. Currently, customers can voluntarily enroll in this program. Policy options include mandatory participation or automatic enrollment (with an opt-out option to ease equity impacts).

Environmental Impacts:

- **Estimated GHG Reduction:** [1],[2]
  - **10% participation:** 32,000 MT CO_2e
  - **25% participation:** 80,000 MT CO_2e
  - **50% participation:** 160,000 MT CO_2e
  - **100% participation:** 320,000 MT CO_2e[3]

Equity Impacts:

- **Estimated Direct Cost to Community:** Average cost of $5.50 per month for residential. Option to opt out, costing $0.
- **Health:** Depending on the types of offsets projects that are funded, multiple co-benefits are possible. However, if funds are not invested locally these may be difficult to measure.

Economic Impacts:

- **Estimated Cost to the City:** Approximately $50,000 or less for city operations.
- **Business:** Dependent on use, minimum price of $10 per month. For large commercial and industrial customers these costs could be significant.

Other Impacts:

- **Resiliency Impacts**: Natural gas provides an alternative fuel source when electricity is unavailable, such as during winter storms when electricity lines have been knocked down.
- Offset projects could be local and provide community and environmental benefits.

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[1] Estimated GHG Reduction is equal to the annual reduction in 2030 adjusted for anticipation population growth.

[2] Northwest Natural's Low Carbon Pathway was included in the CAP2.0 ECC forecast. NWN actions included in the Low Carbon Pathway previously scaled for mitigation potential include a 5% customer participation rate in the Smart Energy offset program. Estimated reductions in this action are in addition to those modeled in the Low Carbon Pathway.

[3] While total ghgs from natural gas were measured at 282,000 MT CO_2e in 2017, they are forecasted to grow to 320,000 MT CO_2e by 2030 if the community continues its current ghg growth trajectory.

2. Regulate Natural Gas

Natural gas currently represents 27.8% of Eugene's carbon footprint. This is about 282,000 MT CO_2e in 2017, with about 30% from residential use and 70% from commercial and industrial uses. Emissions from natural gas are forecasted to increase by 40,000 MT CO_2e by 2030 even if Northwest Natural implements its Low Carbon Pathway projects.

The City could take action to regulate or prohibit new natural gas connections (residential, commercial, or industrial). Possible pathways to accomplishing this goal may include increasing permit fees, prohibiting new infrastructure in the right-of-way, or working with the state to amend the building code at the local level.

Environmental Impacts:

- **Estimated GHG Reduction:** 40,000 MT CO_2e (12,000 MT CO_2e residential, 28,000 MT CO_2e commercial / industrial).[4]

Equity Impacts:

- **Estimated Direct Cost to Community:** Increased permit fees or changes to the building code could add to construction costs.

Economic Impacts:

- **Estimated Cost to the City:** Resources may be needed to work on code amendments, changes to permit fee structures, education, or enforcement. The amount and type of resource will vary depending on the path chosen.
- **Business:**
  - Limiting new commercial and industrial customers access to natural gas could incentivize new or expanding businesses to locate in other communities where no existing restrictions exist.
  - Increased permit fees or changes to the building code could add to construction costs.

Other Impacts:

- **Resiliency Impacts**: Natural gas provides an alternative fuel source when electricity is unavailable, such as during winter storms when electricity lines have been knocked down.
- For some applications, electricity does not provide an efficient replacement for natural gas.

[4] Estimated GHG Reduction is equal to the annual reduction in 2030 adjusted for anticipation population growth.

3. Biogas and Renewable Hydrogen

Natural Gas currently represents 27.8% of Eugene's carbon footprint. This is about 282,000 MT CO_2e in 2017, with 30% from residential use and 70% from commercial and industrial uses. Biogas and renewable hydrogen have a carbon footprint of that is significantly lower than fossil natural gas.[5] This action captures reductions from substituting lower-impact gases for fossil natural gas.

Regional studies have shown that biogas has the potential to replace between 5 – 18% of Oregon's annual natural gas use.[6] Hydrogen production potential for the state has not been assessed, but there is a technical maximum of hydrogen that can be blended within existing natural gas pipelines of no more than 15%. If these fuels are injected into the natural gas pipeline for transport, current research suggests that the best financial value is to use these fuels in the transportation sector due to rules in place around California's Low Carbon Fuel Standard and Oregon Clean Fuels Program.

Environmental Impacts:

- **Estimated GHG Reduction:**[7]
  10% biogas/renewable hydrogen: 35,000 MT CO_2e
  30% biogas/renewable hydrogen: 100,000 MT CO_2e

Equity Impacts:

- **Estimated Cost to Community:** This policy would likely result in higher monthly natural gas bills.

Economic Impacts:

- **Estimated Cost to the City:** This policy would likely result in higher monthly natural gas bills for City operations.

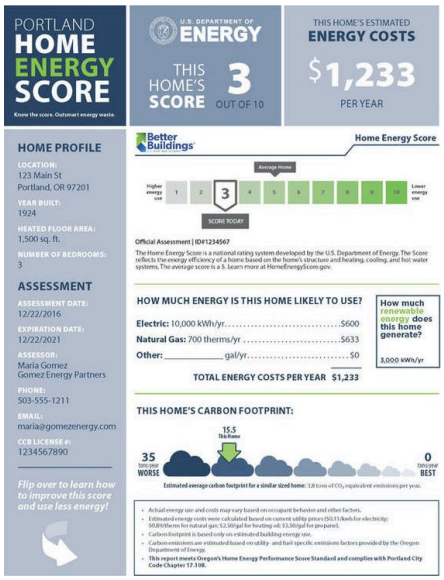
Other Impacts:

- **Resiliency Impacts**: Natural gas provides an alternative fuel source when electricity is unavailable, such as during winter storms when electricity lines have been knocked down.

This is an emerging technology. More research has become available since the date this document was published. The City is monitoring these developments and will take new research into consideration in its decision-making processes.

[5] The carbon footprint of fuels can vary dramatically depending on the energy feedstock and processing.
[6] https://www.oregon.gov/energy/Data-and-Reports/Documents/2018-RNG-Inventory-Report.pdf
[7] Estimated GHG Reduction is equal to the annual reduction in 2030 adjusted for anticipation population growth.

4. Home Energy Score and Commercial Benchmarking Programs



A Home Energy Score (HES) is a value given to a home by a contracted inspector that estimates the energy-related use, associated costs, and cost-effective solutions to improve the home's efficiency. HES are used during a home's sales process to provide important cost and comfort information to all parties. The adoption of a HES program has the potential to provide a market-based incentive for homeowners to invest in energy efficiency improvements.

A commercial benchmarking program could be implemented to track and annually report energy performance to the City for commercial buildings. Typically, these programs focus on large buildings (e.g. 20,000 square feet and larger). This information is made available in an online map as information to be used by building owners, sellers, buyers, tenants, and policy makers.

Environmental Impacts:

- **Estimated GHG Reduction:** 10,000 MT CO_2e for both programs[8]

Equity Impacts:

- **Estimated Direct Cost to Community:** HES audits cost about $150-200 in Portland, Oregon. Staff expect a similar price range in Eugene.
- HES at the time of sale on a home provides better information to all parties involved about the true cost of energy for the home.
- If HES and Commercial Benchmarking programs lead to energy efficiency upgrades, community members may end up with more comfortable and affordable homes and businesses.

Economic Impacts:

- **Estimated Cost to the City:** $75,000/annually.
- **Business:** Detailed commercial energy audits costs vary from $0.12 up to $0.50 per square foot depending on size and complexity of the building[9].

[8] Estimated GHG Reduction is equal to the annual reduction in 2030 adjusted for anticipation population growth.

[9] https://www.pnnl.gov/main/publications/external/technical_reports/PNNL-20956.pdf

5. Energy Efficiency: Support Incentives and Explore Regulatory Options

EWEB and Northwest Natural both offer financial incentives to fund conservation and energy efficiency projects for homes and business. The budget for these programs is limited. The City of Eugene could contribute additional funds to help support these programs for low-income customers and/or support other loans for small home improvements required to qualify for utility energy efficiency programs. This action would leverage existing programs, with the goal of minimizing administrative costs.

The City could also explore regulatory options around energy efficiency such as requiring rental properties to meet specific energy efficiency standards.

Environmental Impacts:

- **Estimated GHG Reduction**: [10] Varies based on investment.

Sample of Actions	Rebate available	Average Cost	MT CO_2e Reduced Per Unit
Electric Ductless Heat Pump	$3,800 *Owner occupied* $1,000 *Rental*	$3,800 one head system; $5,000 for two head	Annual GHG savings[11] = 0.07 Cumulative GHG savings = 1.4
Natural Gas Ductless Heat Pump	$1,000		Annual GHG savings = 0.7 Cumulative GHG savings = 13.0[12]
Insulation for poorly insulated home (must have electric heat)	100% of eligible insulation costs, in lieu of loan		Annual GHG savings = 0.12 Cumulative GHG savings = 2.5[13]
Windows (must have electric heat)	$20/ft^2 of glass with U-factor ≤ 0.30 *Owner Occupied* $10/ft^2 of glass with U-factor ≤ 0.30 *Rental*		Annual GHG savings = 0.08 Cumulative GHG savings = 1.7[14]
Heat Pump Water Heater	$1,000 for Tier 3 units, 50+ gallon tank		Annual GHG savings = 0.03 Cumulative GHG savings = 0.7[15]

Equity Impacts:

- **Estimated Direct Cost to Community:** None or self-determined.
- **Affordability and Comfort:** These investments lower utility bills and increase comfort, especially for low- and middle-income customers.

Economic Impacts:

- **Estimated Cost to the City:** City determines investment amount. This strategy could leverage existing partnerships with Northwest Natural and/or EWEB, minimizing administrative costs.

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[10] Assumptions apply to 1,000 square feet of space. Emission reduction source: https://www.oregon.gov/energy/energy-oregon/Documents/2012%20Energy%20Action%20Plan%20Modeling%20Report.pdf . Estimated GHG Reduction is equal to the annual reduction in 2030 adjusted for anticipation population growth.

[11] ODEQ 2017 EWEB 0.017 MT CO_2e/MWh. Assumes electric baseboard heat to heat pump. Measure R-61 from Source Document.

[12] Source: Energy Information Administration's *2015 Residential Energy Consumption Survey*. Shows natural gas furnace performance at 98% versus a heat pump that has 115% performance, or a 17% performance increase. Assumes average annual use of natural gas is 72.2 MMBTU.

[13] Assumes attic + floor R-0 to R-19. Attic and floor are each about 50% of savings. Measure R-83, 88 from Source Document.

[14] Assumes single pane to double pane windows. Measure R-93 from Source Document.

[15] Measure R-103 from Source Document.

6. Transportation System Plan Updated to Meet the CRO Goals

The Eugene 2035 Transportation System Plan was included in the CAP2.0 ECC Actions and is the most impactful action the City can take (240,000 MT CO2e). The forecasted impact of implementing a TSP that includes the goals, policies and projects needed to fully meet CRO goals is an additional emissions reduction of 30,000-70,000 MT CO2e. **Modeling is in progress to understand the additional scope of work associated with this action.** The following projects, all part of the TSP, are currently in the planning or construction phase:

- Amazon Active Transportation Corridor
- 13th Avenue Bikeway
- Moving Ahead
- Central Eugene in Motion

There are also non-construction plans and projects that will have an impact on greenhouse gas emissions from transportation in Eugene:

- Transit Tomorrow
- SmartTrips: Downtown
- New Mobility including micro-transit, bike share and electric scooters
- Transportation Demand Management requirements for developers and employers

Environmental Impacts:

- **Estimated GHG Reduction:** 30,000 - 70,000 MT CO_2e [16]

Equity Impacts:

- **Estimated Direct Cost to Community:** Funding for projects and programs tends to come from existing revenue streams including the voter approved street bond, gas taxes, and systems development charges. Access to increased transportation options may lower transportation expenses.
- **Health benefit:** Using active transportation often coincides with increased physical activity. This has positive health impacts for many people.

Economic Impacts

- **Estimated Cost to the City:** The base cost for the TSP is included in the table below. **Modeling is in progress to understand the additional scope of work associated with this action.**

Table 6.2: 20 year system cost

Project category	Cost ($2014)
Projects within 20 Years	
Roadway and multimodal projects	$161,200,000
Complete streets upgrades to existing streets	$45,600,000
Rail projects	$28,400,000
Pedestrian and bicycle projects	$72,000,000
Transit projects in multimodal corridors (multimodal corridor bundle)	$171,400,000
Upon Development Projects	$134,200,000 (total) / $67,100,000 (city-funded)
Traffic Signal System Improvements	$21,200,000
Total 20 Year System Cost	**$634,000,000**
Total ODOT and City-Funded Cost (excluding transit and 50% of upon development projects)	**$395,500,000**

Note: (1) City-funded share of 'upon development' project costs is an estimate for use in comparing costs to forecast revenues. Assessments for development will be developed separately. (2) Often, operational projects are not included in system plans. Some are included in this funding estimate, however, due to the reliance on operational improvements to address system performance needs.

Other Impacts: **Resiliency Impacts:** Multiple modes of transportation increase the resiliency of the community in extreme weather events.

[16] Estimated GHG Reduction is equal to the annual reduction in 2030 adjusted for anticipation population growth.

7. Implement Eugene's Electric Vehicle Strategy

About 50% of Eugene's local emissions come from the transportation sector. Electric vehicles offer a low carbon option to help reduce the emissions impact of the transportation sector.

Environmental Impacts:

- **Estimated GHG Reduction:** 4.4 MT CO_2e per EV that displaces a gas-powered car.

Number of EVs	MT CO2e Reduced
5,000	22,000
10,000	44,000
20,000	88,000

Equity Impacts:

- **Estimated Direct Cost to Community:** Varies. In many cases, the overall cost of ownership of an EV is estimated to be lower than gasoline powered vehicles.

Sample of lower cost EVs*	MSRP	With Federal Tax Credit
2018 Smart EQ fortwo	$24,550	$17,050
2019 Nissan Leaf	$30,875	$20,875
2019 Volkswagen e-Golf	$31,390	$21,390
2019 Kia Soul EV	$34,845	$24,845

**Used EVs will likely become a significant part of the market over time. Source: Forth*

- Access to EVs is limited in part by access to charging infrastructure. Distribution of public charging infrastructure and/or policies that result in access to charging for people living multifamily housing will be an important piece of this strategy.
- Reduces local air pollutants, an important health measure

Economic Impacts:

- **Estimated Cost to the City:** TBD/variable. Expected costs include charging infrastructure, staff time for policy and code development, community engagement, and education.
- **Estimated Cost to Business:** Varies. In many cases, the overall cost of ownership of an EV is estimated to be lower than gasoline powered vehicles.

8. Lobby for State and Federal Action

State and Federal action can lead to significant emissions reductions at the local level. The 2019 Oregon Cap and Invest Bill (HB 2020) and Federal policies such as maintaining emission standards for cars and light trucks, increased incentives for the electrification of transportation, and choosing to re-commit to the Paris Accords would result in deep cuts in Eugene's emissions.

Environmental Impacts:

- **Estimated GHG Reduction:** [17]
  - Paris Accord re-commitment: 150,000 MT CO_2e average annually through 2030
  - Oregon Cap and Invest (based on HB2020, 2019): 130,000 MT CO_2e average annually (represents roughly estimated reductions beyond existing ECC plans)

Equity Impacts:

- **Estimated Direct Cost to Community:** Varies. Oregon Cap and Invest was estimated to impact each family approximately $100/annually.
- Mechanisms like cap and invest systems and carbon taxes are often regressive. These impacts can be mitigated to some degree with policy solutions.

Economic Impacts:

- **Estimated Cost to the City:** Unknown. Cost varies based on the policy.

[17] Estimated GHG Reduction is equal to the annual reduction in 2030 adjusted for anticipation population growth.

9. Reduce Refrigerant Loss

Refrigerant gases are used in appliances such as air conditioners, refrigerators, commercial refrigeration systems, etc. Refrigerants have a very large impact on the atmosphere when they leak from their cooling systems. In some cases, loss of a single kilogram of gas can result in 1 MT CO_2e in climate impact. Approximately 90% of the losses occur during disposal. The Montreal Protocol includes a phase-out schedule for some high-impact refrigerants[18], which will likely have a positive future effect. But refrigerant emissions continue to grow as a source in the State of Oregon's GHG inventory[19]. The City could develop a program to address this issue, convening industry professionals to help address the problem. Alternatively, a regulatory approach could be taken.

Environmental Impacts:

- **Estimated GHG Reduction**: 20,000 MT CO_2e (25% reduction modeled)[20]

Equity Impacts:

- **Estimated Direct Cost to Community:** Varies based on type of program.

Economic Impacts:

- **Estimated Cost to the City:** Varies based on type of program.
- **Business:** Varies based on type of program.

[18] https://www.epa.gov/sites/production/files/2015-07/documents/phasing_out_hcfc_refrigerants_to_protect_the_ozone_layer.pdf

[19] From *Oregon's Greenhouse Gas Emissions though 2015: An assessment of Oregon's sector-based and consumption-based greenhouse gas emissions* DEQ website

[20] Estimated GHG Reduction is equal to the annual reduction in 2030 adjusted for anticipation population growth.

10. Capture biogas from organic waste

There is opportunity to produce biogas from organic material separated (such as food waste) from the solid waste stream. Anerobic biodigesters accelerate the decomposition process in a closed environment so that methane produced can be collected and used as a renewable transportation fuel or combusted for electrical or heat generation. Short Mountain Landfill already captures biogas from landfilled organic materials. Anerobic digesters could be added to the process to capture biogas and reduce material volume prior to the composting process. Options could include developing a stand-alone Anerobic digesters facility or utilizing existing community wastewater system capacity. Potential partners Lane County and MWMC are already exploring this idea.

Environmental Impacts:

- **Estimated GHG Reduction:** 5,000 MT CO_2e annual reduction from 25% of food waste to Anaerobic Digestion.[21]
- Captured methane would be used to reduce fossil fuel use.

Equity Impacts:

- **Estimated Direct Cost to Community:** Community members may pay more for their waste management and/or wastewater fees.

Economic Impacts:

- **Estimated Cost to the City:** Dependent on partnerships – explore opportunities with community partners. Initial costs include staff time and consultant work.

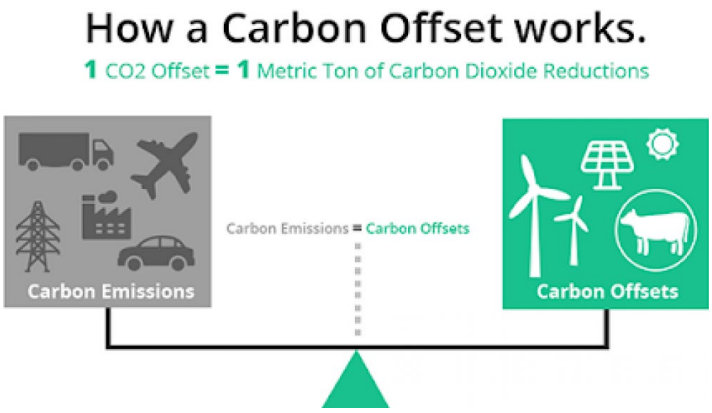
Other Impacts:

- Improved gas capture could result in lower odor impacts near the wastewater facilities.

[21] Estimated GHG Reduction is equal to the annual reduction in 2030 adjusted for anticipation population growth.

11. Offset Program

Carbon offsets are a reduction in emissions of carbon dioxide or other greenhouse gases by purchasing ownership of ghg reductions from verified carbon offset projects. This is done to compensate for ghgs the community has already emitted. The City can choose to invest in a project locally or globally that reduces the equivalent amount of ghgs.



Environmental Impacts:

- **Estimated GHG Reduction:** Scalable**.**
- **Benefits:** Carbon offset programs provide funding for projects that absorb or reduce an equivalent amount of emissions (net-zero emissions).
- **Drawback:** Carbon offsets do not reduce the amount of fossil fuel consumed or emissions released.

Equity Impacts:

- **Estimated Direct Cost to Community:** Unknown; depends on mechanism used to pay for offsets.

Economic Impacts:

- **Estimated Cost to the City:** Scalable ($5-$15/MT CO_2e)

Other Impacts:

- These projects can have co-benefits such as increased water quality, shade, habitat protection, job creation, renewable energy, and long-term cost savings.

12. Community Innovation Fund

Many community groups have innovative ideas for projects that could help the community reach its emissions goals. In many cases, a small amount of money is needed to pay for materials, supplies, and other minor expenses. A fund could be created to help support these community initiatives.

Environmental Impacts:

- Dependent on the project.

Equity Impacts:

- **Estimated Direct Cost to Community:** None.
- Community members, including those from marginalized communities, could have easier access to funds to implement community-driven solutions.

Economic Impacts:

- **Estimated Cost to the City:** Variable.

Other Impacts:

- **Resiliency Impacts**: Empowers neighborhoods to develop local programs to help mitigate emissions and increase resilience.

Climate Action Plan 2.0

Appendix 8

Community Climate Action: Materials Management Planning

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This report was researched and written by Good Company, a sustainability research and management consulting firm located in Eugene, Oregon. The primary authors of this report include:

- Aaron Toneys, Senior Associate
- Joshua Proudfoot, Principal

For further information, please contact

Chelsea Clinton, City of Eugene
Chelsea.d.clinton@ci.eugene.or.us
541-682-5649

Eugene's Triple Bottom Line Vision

As we work to implement the City of Eugene's Climate Recovery Ordinance and to increase our community's resiliency towards climate change, we will be using the City Council's vision to guide our work. The vision describes the three legs of the Triple Bottom Line framework.

Social Equity
Value all people, encouraging respect and appreciation for diversity, equity, justice, and social well-being. We recognize and appreciate our differences and embrace our common humanity as the source of our strength

Environmental Stewardship
Be responsible stewards of our physical assets and natural resources. We will sustain our clean air and water, beautiful parks and open spaces, and livable and safe neighborhoods; and foster a vibrant downtown, including a stable infrastructure

Economic Prosperity
Encourage a strong, sustainable and vibrant economy, fully utilizing our educational and cultural assets, so that every person has an opportunity to achieve financial security.

Climate Action Plan 2.0 (CAP2.0) Social Equity Lens

The project team has identified the need to pay special attention to social equity throughout the CAP2.0 update. The following guiding questions were used during the section meetings to support the project work in deepening the integration of social equity principles through the process and outcomes of the work.

Guiding Questions:

1. Who are the most vulnerable and underserved groups impacted by this decision? How will our decision impact these groups?
2. Does the decision being made ignore or worsen existing disparities or produce other unintended consequences?
3. If there is an investment or resource allocation, how does that advance the social equity leg of the Triple Bottom Line?
4. What are the opportunities and barriers to more equitable outcomes? (e.g. mandated, political, emotional, financial, programmatic or managerial)
5. How have we intentionally involved stakeholders, impacted communities, technical experts, and other community members affected by this decision? Who else do we need to invite?
6. What's the mechanism for including more voices throughout the process?
7. How will we modify or enhance our strategies to ensure impacted and vulnerable communities' individual and cultural needs are met?
8. Do we have the data we need to understand which communities might be impacted? Can we effectively collect data on impacted or vulnerable communities for this decision or investment?

1. Project Description

The City of Eugene is leading a process to update Eugene's 2010 Community Climate Action Plan (Eugene CAP). Eugene's CAP2.0 revision process began in January 2018 and will run through mid-2019. To support the update to Eugene's CAP2.0 Chapter 5 – Materials Management: *Reduce, Reuse, Recycle*, the City received a grant from Oregon Department of Environmental Quality (ODEQ). The purpose of the grant is to align actions included in Eugene's CAP with the overlapping actions and goals included in Oregon's 2050 Materials Management Plan. Specifically - identifying community actions that reduce lifecycle greenhouse gas emissions (GHG) of imported material goods and food consumed in Eugene.

ODEQ conducted a consumption-based greenhouse gas inventory for the Eugene community. The results show that emissions generated during production of goods and food represent a significant share (about 50%) of the community carbon footprint. And while our community cannot regulate how products are produced in other cities and countries – there are local actions that can have a mitigating benefit. This project sought to identify those actions and to identify appropriate metrics and available data to track progress over time.

The grant project plan included 6 tasks:

- Task 1 – Convene Mayor's Ad Hoc Committee
- Task 2 – Convene Eugene CAP Update Planning Committee
- Task 3 – Convene Grant Technical Advisory Committee (TAC)
- Task 4 – Host Local Stakeholder Workgroups
- Task 5 – Provide Content to Update Eugene CAP – Consumption and Waste Chapter
- Task 6 – Provide "How To" Guidance for other Cities

City of Eugene staff worked to convene the Task 1 - Mayor's Ad Hoc Committee and Task 2 - Eugene CAP Update Planning Committee, a team that included City staff and consultants on the CAP project team. City of Eugene staff, ODEQ staff, and Good Company worked together to convene the Task 3 - Grant TAC and Task 4 – Host Local Stakeholder Workgroups. The process of selecting the focus for the 4 Workgroups and selections of the stakeholders is described in the following sections of this report. Good Company prepared the Task 5 and Task 6 Deliverables, which are included in this report.

The intent of this report is to provide a resource to other communities about current research and best practices around community actions that address life-cycle emissions. This report provides a suggested "How-To Guide" on the process approach and shares the details of what was learned in Eugene's experience.

2. How-To Planning Process Overview

For other communities in Oregon planning to align their community climate action plan with Oregon's 2050 Materials Management Plan, we suggest the steps listed to the right.

1. Work with ODEQ to complete a Consumption-Based Community Greenhouse Gas Inventory (CBEI)
2. Use the CBEI results to determine workgroup topics for greatest emission reduction potential
3. Convene community stakeholders for workshops to discuss existing community actions and other best practices for focused topic areas (e.g. food waste).
4. Stakeholders select actions to include in the Climate Action Plan. Actions selected should have a clear lead organization and a defined progress metric.

The first step is to conduct a consumption-based emissions inventory for your community. Inventory results will highlight the largest sources of upstream (imported) material-related emissions in your community. These results can be used in conjunction with community context to select appropriate workgroups that include existing community programs that address the sources of emissions and to consider new actions.

Prior to convening the workgroups – a staff member or consultant should identify a list of best management practice recommendations by trusted authorities, such as Oregon Department of Environmental Quality or West Coast Climate and Materials Management Forum, or actions that have been successful in similar peer communities. One or multiple workshops should be organized to bring together appropriate local experts to prioritize and discuss existing and potential climate actions for opportunities, barriers, other community co-benefits beyond climate impact reductions, appropriate tracking metrics and available data.

Eugene convened a single 2-hour workshop for each topic area and found that more time was required. In retrospect, we recommend either a single, longer workshop, or convening two sessions to ensure consensus on the actions; assign a lead organization; and define an appropriate progress tracking metric based on an available data stream. An example of a meeting agenda used for one of Eugene's workshops is included in Appendix A.

The following sections of this report detail Eugene's experience using this process and the outcomes. In addition to this report – all meeting agendas and PowerPoints are available upon request to support similar efforts in other communities.

2. Eugene's Consumption-Based Emissions Inventory

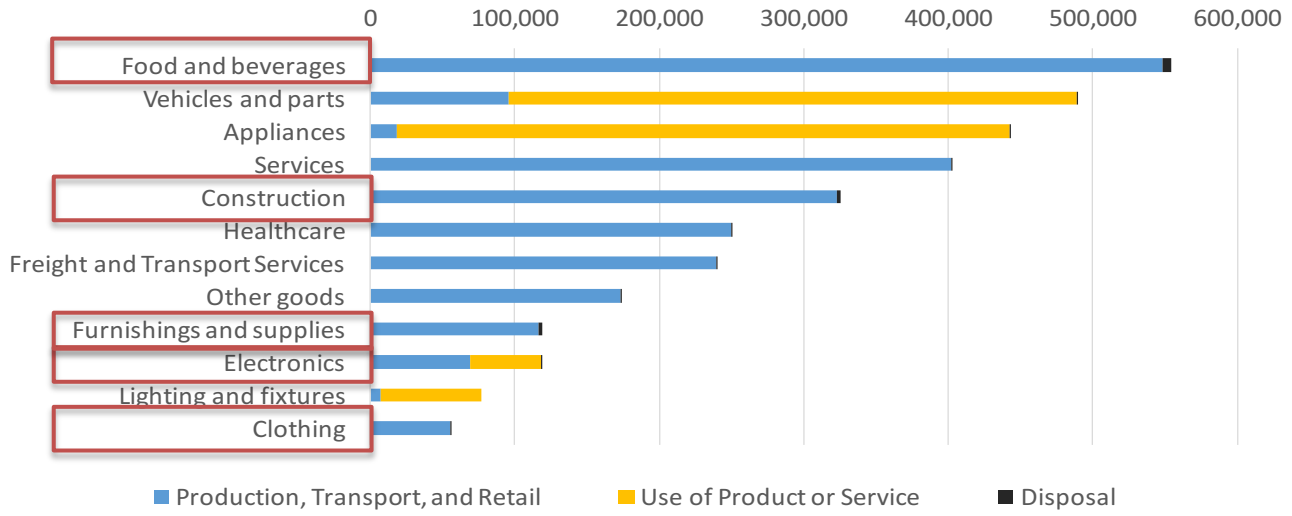
To better understand Eugene's community carbon emissions, the City of Eugene regularly conducts a community greenhouse gas (GHG) inventory. By conducting inventories at regular intervals, community stakeholders can understand trends and manage emissions from specific sources and activities in a Community Climate Action Plan. Eugene's community inventory results are presented using two types of inventory methodologies – Sector-Based and Consumption-Based.

- ***Sector-based emissions inventories*** (in-geographic boundary inventories) include local emissions from energy use by homes, businesses, and vehicles as well as emissions from landfilling solid waste and wastewater treatment.
- ***Consumption-based emissions inventories*** include local, sector-based emissions, *but also include* emissions that are generated during production and delivery of *imported* goods, energy and food consumed within the Eugene community, and exclude sector-based emissions from local production that are exported.

Inventory Results and Selection of Workgroups

Community Climate Action Plans and commonly referenced climate goals (e.g. 80% reduction of 1990 by 2050) typically focus on Sector-based emissions – represented by the yellow and black stacks in the figure below. This approach is reasonable considering that these emissions are local, and communities have greater control over these sources and better data to track progress. However, there is significant scale in the emissions of imported goods and services.

The blue stacks on the figure below represent emissions from the production and transport of imported goods and services consumed by our communities. The purpose of this project is to identify the actions that will mitigate emissions – regardless of where the emissions are being generated around the globe. Based on the inventory results, this project selected workgroups for food, concrete and asphalt, general construction materials, and consumer goods.



3. Findings from Climate Action Workgroups

Workshop 1: Food - Institutional Purchasing and Waste Avoidance

INTRODUCTION

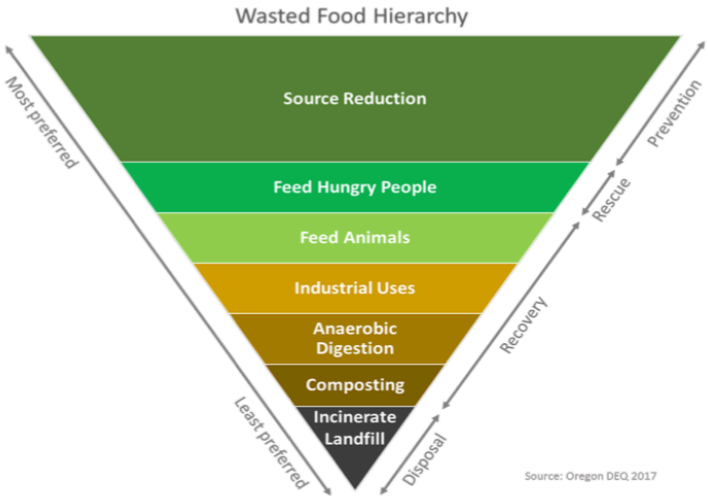
The food and beverages consumed in Eugene represent the largest source (16%) of community consumption-based greenhouse gas emissions. The overwhelming majority of these emissions are generated during food production, processing, transport, and retail – *not in the disposal of food waste*. Upstream emissions from imported food - during production, transport and retail – can seem like they are largely outside of the community's direct control, but there are several high-leverage intervention points to significantly reduce food-related emissions. Specifically, preventing the wasting of food and shifting from high-carbon to low-carbon food types. These action areas were the focus of the food workshop discussion.

GUIDANCE AND RESOURCES

ODEQ's work to date on food includes development of a Strategy for Preventing the Wasting of Food[1] and conducting in-depth research to better understand the causes of waste, collect reliable data on wasted edible food, and assess shifts in waste prevention behaviors or levels of awareness. DEQ's work also includes completing environmental footprints for a variety of food types.

Food Waste Prevention

ODEQ's Waste Food Hierarchy is shown to the right. As can been seen – the most preferred options are reducing waste at the source and capturing edible food to feed the hungry. By avoiding waste and capturing edible food, the community will reduce the total quantity of food it needs to purchase and reduce upstream food-related emissions.

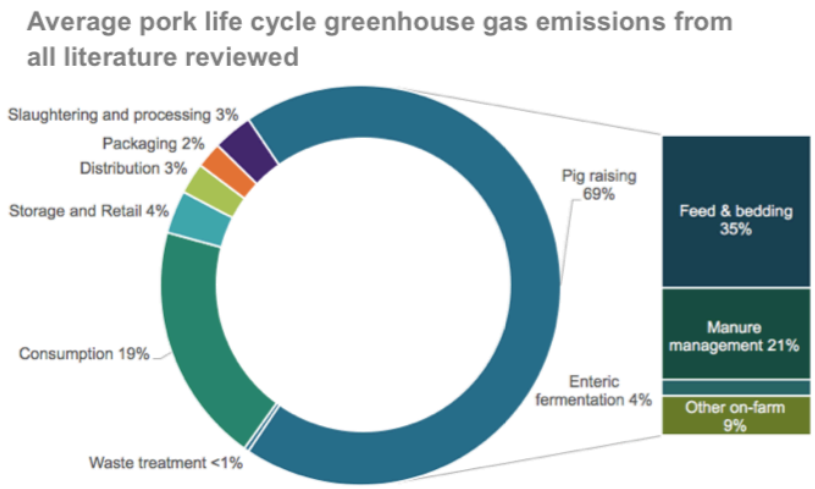


Food Purchasing

Environmental footprints from ODEQ are available for tomatoes, wine, pork, land-based aquaculture, beer, coffee, and citrus fruit and juices. For organizations producing or purchasing these food types – these studies offer details on where, in the product lifecycle, to intervene to reduce emissions. For example, the graphic below shows the sources of lifecycle emissions from the production of pork.

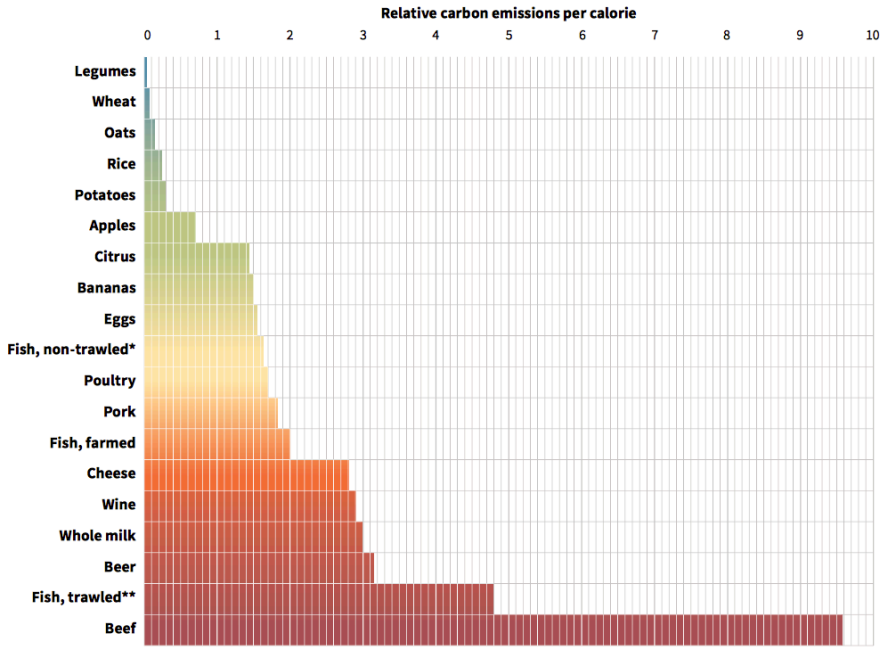
[1] More information at http://www.oregon.gov/deq/mm/food/Pages/foodwastestrategy.aspx

As can be seen, the majority of emissions occur during the pig raising. A potential intervention point could be customers inquiring about manure management practices of pork in their supply chain. Manure management represents a large source of emissions that can be managed in a way to not only reduce emissions, but also generate a renewable form of natural gas.



The larger opportunity related to food is shifting calories from high-carbon food types to low-carbon food types. ODEQ does NOT offer direct guidance on this front and therefore this project sought information from other sources. One of the more compelling and detailed resources identified during this work is *Menus of Change*[2] by The Culinary Institute of America and Harvard's School of Public Health, which seeks to realize a long-term, practical vision integrating optimal nutrition and public health, environmental stewardship and restoration, and social responsibility concerns within the foodservice industry and the culinary profession.

A second example is the City of Portland and Multnomah County's Climate Action Plan, which includes the graphic below that compares emissions from various types of foods. This type of presentation supports the general public's understanding of the impacts associated with food choices and actions that can be taken at the individual level to lower household carbon footprints.



COMMUNITY STAKEHOLDERS

Every one of us interacts with food multiple times every day in buying, cooking, eating, storing, and disposing. Therefore, choosing stakeholders for this workshop was difficult. There are a large number of food-related businesses and institutions involved in a community's food supply chain including farmers, food processors, restaurants, grocery stores, government institutions, and waste

[2] More information at http://www.menusofchange.org

management professionals. Because this project was limited to 1, 2-hour workshop – the project's Technical Advisory Committee decided to focus on the prevention of wasted food and food purchasing for local institutional purchasers including k-12 school districts, University of Oregon's Dormitories, the City of Eugene, and Lane County.

Stakeholder engagement for the workshop and follow-up included:

- Holly Langan, 4J School District, Purchasing and Nutrition Services
- Jennie Kolpak, Bethel School District, Nutrition Services Director
- Becky Wheeler, City of Eugene, Purchasing Manager
- Alexandra Breyer, Deveron Musgrave, City of Eugene, Waste Prevention and Green Building
- Jeff Orlandini and Sarah Grimm, Lane County Waste Management
- Elaine Blatt, Oregon Department of Environmental Quality, Senior Policy Analyst
- Tom Driscoll, University of Oregon, Director of Dining Services
- Carolyn Stein, BRING Recycling, Executive Director

EXISTING STAKEHOLDER ACTIVITY

- **4J School District (4J SD)** includes 33 unique sites. The Love Food Not Waste is implemented at 11 sites. On-site composting is dependent on teacher and kid teams. Some schools have recess before lunch to avoid distractions, increase appetites and reduce waste.

- **Bethel School District (Bethel SD)** includes 11 sites. The district has a goal of less than 5% food production waste. Bethel schools measure, record, and analyze waste data continually. If the waste exceeds the 5% threshold, appropriate adjustments are made to menus and food preparation. All schools use accurate, standardized recipes to reduce waste. The district partnered with local farms (commercial compost system) and participate in the Love Food Not Waste Program (all schools). Some schools have recess before lunch. The schools all use reusable trays.

- **BRING** educators provide programming for all local school districts. BRING's ReThink Business program collaborates with the Love Food Not Waste program. BRING services include waste assessment services and provides Zero Waste advisors for technical assistance.

- **City of Eugene (COE)** runs food waste prevention outreach and education programs, such as Love Food Not Waste and is responsible for implementation of residential and commercial food waste collection. The City also provides funding to support related community organizations. City of Eugene Waste Prevention is helping to fund a 2-year LeanPath study at University of Oregon Housing and UO Office of Sustainability.

- **Lane County Waste Management (LCWM)** promotes LeanPath[3], a company that helps organizations reduce food waste. The County's Master Recycling Program includes education on home composting.

[3] More information at https://www.leanpath.com

- **Oregon Department of Environmental Quality (ODEQ)** – Led the development of Oregon's 2050 Materials Management Vision which considers the full life-cycle of materials – the production and transport states in addition to disposal options. Developed a Strategic Plan for Preventing the Wasting of Food that lays out ODEQ's planned projects over a 5-year period. ODEQ is currently conducting a foundational study to determine the amount and types of food that are wasted in Oregon and why, through state-wide surveys, kitchen diaries and waste bin sorts. The study also includes 15 case studies to identify and test best practices for preventing the wasting of food in commercial kitchens. ODEQ is also studying food rescue channels to identify the most effective strategies. This research will inform ODEQ's future efforts, including planned development of a residential wasted food prevention campaign.

CLIMATE ACTIONS REVIEWED DURING THE WORKSHOP

The following actions were offered to Eugene's food workshop for discussion. These actions are based on ODEQ's research and findings to date as well as other best practices to reduce emissions from food. This list is not comprehensive, but were chosen to begin an ongoing discussion on how to reduce food-related emissions. The actions in bold are those prioritized for discussion by stakeholders during the workgroup.

Prevention of Wasted Food
1. **Conduct a waste audit**
2. Local school participation in ODEQ's "demonstration" on implementing best practices for food waste.
3. SB 263 implementation of household food waste education campaign by City and County governments.
a. Continue Eugene's Food Too Good to Waste campaign
b. Continue / Include food waste avoidance in the Master Recycler curriculum.
4. SB 263 implementation of commercial food waste education campaign by City and County governments.
5. Follow ODEQ research and recommendations for community food waste messaging.
6. Coordinate with ODEQ and partners to share available data to develop more refined recommendations.

Food Purchasing
1. **Shift calories from high carbon to low carbon food types (as appropriate for dietary requirements)**
2. **Engage with supply chain about manure management lagoon practices of beef, dairy, and pork suppliers**

ACTIONS FOR FURTHER CONSIDERATION IN EUGENE'S CAP

- Conduct a waste audit and track waste at local elementary schools.
- Eugene schools to apply for and participate in ODEQ's demonstration projects.

- City of Eugene continues food waste prevention community outreach events.
- Use and build on ODEQ research and recommendations for community food waste messaging and outreach to commercial food service businesses.

METRICS AND DATA TRACKING

GHGs associated with the production and transport of the food consumed in Eugene is the community's largest source of consumption-based emissions. Two ways to address those emissions were discussed during the workshop – prevention of edible food waste and food purchasing. The outcomes of the workshop indicate that focusing on avoiding food waste is the preferred approach as institutional food purchases have a number of barriers that would make it difficult to pursue this type of action.

Therefore, the following metrics and measures focus on avoided food waste. That said, ODEQ's *Purchaser Price Model* and EPA's *USEEIO* model provide emissions coefficients per dollar that could support the calculation of GHG emissions associated with $ spend on various food categories. This may be useful in the future should local institutions choose to pursue this climate action related to food purchasing.

Potential Metrics

- Community edible food waste generated / discarded (short tons / year)
- Elementary school food waste generated / discarded (short tons / year)
- GHG emissions from landfilled food waste – community and elementary schools

GHG Measurement

To calculate GHG emissions, two primary pieces of information are required – 1) Activity data (units) and 2) Emissions Coefficients (GHGs / unit). These are multiplied together to estimate GHG emissions. To calculate a GHG reduction – GHG emissions are calculated for a Baseline and an Action Scenario and the difference between the two calculations is equal to the emissions reduction potential.

The following sections describe publicly available sources of Activity Data and Emissions Coefficients to track GHG from food waste and related climate actions.

Activity Data

- Oregon Department of Environmental Quality *Oregon Solid Waste Characterization and Composition Study*. This study is conducted approximately every 6 years, and contains details about the fraction of food waste for cities or counties that pay to have a composition study done on their area. This data provides a means of monitoring the weight of edible food waste being landfilled.
- City of Eugene program data for Love Food Not Waste

GHG Coefficients

- Environmental Protection Agency's Waste Reduction Model (WARM). WARM provides emissions coefficients (kg CO2e / short ton) for a number of disposal pathways including landfilling, source reduction, composting, and anaerobic digestion.

Calculating GHG Emissions

Food-related GHG emissions for disposal and avoidance scenarios may be calculated using the EPA's WARM model. These emissions can be calculated for the community over time using ODEQ data, or other more local data sets may utilize WARM to calculate the emissions benefits for specific programs.

Calculation Option 1 (Weight-Based Method)

Use EPA's WARM Model to perform the following calculations.

$$\textbf{Baseline Emissions} = Weight\ of\ Material\ Type\ (short\ tons) \times Baseline\ Coefficient\left(\frac{kg\ CO2e}{short\ ton}\right)$$

$$\textbf{Action Scenario Emissions} = Weight\ of\ Material\ Type\ (short\ tons) \times Source\ Redution\ Coefficient\left(\frac{kg\ CO2e}{short\ ton}\right)$$

Note: kg CO_2e = kilograms of carbon dioxide equivalent

Workshop 2: Concrete and Asphalt – Materials and Processes

INTRODUCTION

The construction materials consumed in Eugene represents about 10% of Eugene's community consumption-based emissions. Building materials, as a group, are one of the largest materials categories to flow through Oregon's economy and communities. The overwhelming majority of these emissions are generated during the production of Portland cement and asphalt binder (bitumen). These materials are energy intensive to produce and release process GHGs during production. Action areas discussed during the workshop were focused on lowering the climate impact of materials used in road and sidewalk construction. Actions discussed included lower GHG substitutes for concrete and asphalt; reduced energy processes; and documenting those benefits in environmental product disclosures by the producers of the materials.

GUIDANCE AND RESOURCES

The West Coast Climate and Materials Management Forum's *Climate Friendly Purchasing Toolkit*[4] - provides specific guidance on Concrete and Asphalt. This guidance details best practices for asphalt including: warm-mix asphalt and reclaimed asphalt pavement and asphalt

[4] Available at https://westcoastclimateforum.com/cfpt.

made from shingles. The Guide's concrete best practices include: use of Supplementary Cementitious Materials (SCM); environmental product disclosures (EPD); and recycled aggregate for concrete mixes.

The City of Eugene, Oregon and its vendor partners have a long history of using the asphalt strategies and have recently begun specifying the use of SCMs in appropriate concrete applications. Eugene has been able to reduce its asphalt and concrete emissions by 19% using these strategies. The West Coast Climate Forum has documented Eugene's program in a case study[5] and webinar[6] on their website.

The Oregon Concrete EPD Program is a partnership between Oregon Concrete and Asphalt Paving Association (OCAPA) and the Oregon Department of Environmental Quality (DEQ). It features free environmental product disclosure (EPD) tool access and cost reimbursement incentives for Oregon concrete producers to develop labels for their products.

EPD "Nutrition" Label

Your Building Product

Amount per Unit

LCA IMACT MEASURES	TOTAL
Primary Energy (MJ)	12.4
Global Warming Potential (kg CO^2 eq)	0.96
Ozone Depletion (kg CFC- 11 eq)	1.80E-08
Acidification Potential (mol H^+ eq)	0.93
Eutrophication Potential (kg N^- eq)	6.43E-04
Photo-Oxidant Creation Potential (kg 03 eq)	0.121

Your Product's Ingredients: Listed Here

EPD "nutrition label" for concrete mixes

EPDs are standardized ways of reporting the life-cycle environmental impacts of a wide array of products including concrete and asphalt. EPDs are like a "nutrition label" for products that report a selection of environmental impacts, one of which is global warming potential (i.e. quantity of climate pollution). The disclosures are developed by product vendors upon customer request to certify environmental benefits and impacts and to help the customer choose the materials that best fit their performance objectives.

EPDs provide a means of documenting and verifying the environmental benefits for specific products – for climate impacts as well as other environmental impacts. Within the context of Eugene's CAP, EPDs represent a means to assess and compare different concrete mixes with the goal of lowering the carbon footprint of public and private construction projects. EPDs can be requested from Oregon concrete vendors. If vendors do not have EPDs available or for an example visit the National Ready Mix Concrete Association's (NRMCA) EPD website to view existing concrete EPDs (http://www.nrmca.org/sustainability/EPDProgram/Index.asp).

COMMUNITY STAKEHOLDERS

Stakeholders invited to the workshop or contacted during outreach included representatives from local organizations involved in the design, specifications and construction of roads, curbs, and sidewalks. City of Eugene Public Works has been a leader in the use of low carbon materials and practices and this group was assembled to identify opportunities to scale up the

[5] Case study available at https://westcoastclimateforum.com/cfpt/asphalt/casestudy/eugene.
[6] Climate Friendly Purchasing Toolkit: Asphalt & Concrete webinar available at https://westcoastclimateforum.com/2015-16-annual-forum-webinar-series

City's practices elsewhere in the community. In the future, the community may also want to convene a group of local architects, engineers, material vendors, and structural code experts to identify additional opportunities in the residential and commercial building sectors.

Stakeholder invited to the workshop included:

- Andrew Beattie, City of Eugene, Structural Plans Examiner
- Kelly Hoell, Lane Transit District (LTD), Transit Development Planner
- Jeremiah Legrue, City of Eugene, Structural Plans Examiner
- Jordan Palmeri, Oregon Dept. of Environmental Quality
- Matt Rodrigues, City of Eugene, Traffic Engineer
- Kelly Staines, LTD Maintenance, Facilities Maintenance Supervisor
- Jenifer Willer, City of Eugene, Principal Civil Engineer

City Staff also met with the following participants outside the workshop:

- Tami Canaday, Knife River, Eugene and Florence Division Manager
- Orin Schumacher, Lane County Public Works

EXISTING STAKEHOLDER ACTIVITY

- City of Eugene requires that warm-mix asphalt is required for mainline paving projects and allows for optional use for small and irregular areas. 30% binder replacement with reclaimed asphalt pavement has been used in Eugene for over 30 years. When applicable, higher percentages (35% and 40%) of binder replacement are allowed. Use of reclaimed asphalt pavement and/or shingles to replace virgin asphalt binder is allowed. The City roadway in-place recycling projects require a 50% Portland Cement substitution with SCMs. Substitute materials can be blast furnace slag or fly ash.
- Knife River upgraded its equipment to produce warm-mix asphalt. They produce asphalt concrete mixes with 30% substitution of RAP and are testing a new plant with a 40% substitution. Knife River offers concrete mixes with SCM substitutions upon request.

CLIMATE ACTIONS REVIEWED DURING WORKSHOP

The following actions were offered to Eugene's Concrete and Asphalt workshops for discussion. These actions are based on ODEQ's research and findings to date as well as other best practices from West Coast Climate and Materials Management forum. The actions in bold are those prioritized for discussion by stakeholders during the workgroup.

Request environmental product disclosures (EPD) from concrete vendors to inform selection of concrete mix design
Substitute supplementary cementitious materials (SCM) for Portland cement
Substitute reclaimed asphalt pavement (RAP) and shingles (RAS) for virgin materials

Substitute warm-mix asphalt for hot-mix asphalt

ACTIONS FOR FURTHER CONSIDERATION IN EUGENE'S CAP

- City staff to assess Climate Impact for use of SCMs on in-place recycling to identify project types and circumstances where SCMs would provide an emissions reduction.
- City staff to advocate for minimum SCM percentage in Oregon Department of Transportation Standards in appropriate applications, such as sidewalks where cure time is less of a concern
- City to create maximum SCM limits, by use, through local construction specifications
- City engineering to consider asking for EPDs as part of project bids
- City to convene a working group of local architects and engineers to identify opportunities to incorporate SCMs into projects that don't require early high-strength

METRICS AND CALCULATING GHG EMISSIONS

This section focuses on tracking for *City operations*. No community-scale tracking system was identified that would allow community use of EPDs to comprehensively track environmental impacts related to concrete and asphalt. It may be possible to track material use through data from local vendors, but that information is not publicly available at present.

The City of Eugene Public Works currently tracks use of warm-mix asphalt, reclaimed asphalt, and SCMs. This data is used to estimate annual emissions and calculate reductions compared to conventional products.

Potential Metrics

- % of RAP/RAS substitution for conventional binder
- % of SCM substation for Portland cement
- GHG reduction from baseline

GHG Measurement

To calculate GHG emissions, two primary pieces of information are required – 1) Activity data (units) and 2) Emissions Coefficients (GHGs / unit). These are multiplied together to estimate GHG emissions. To calculate a GHG reduction – GHG emissions are calculated for a Baseline and Action Scenario and the difference between the two calculations is equal to the emissions reduction potential.

The following sections describe publicly available sources of Activity Data and Emissions Coefficients to track GHG from food waste and related climate actions.

Activity Data

- City of Eugene – Weight data (short tons) is available for asphalt materials. Volume (cubic yards) and expense ($) data is available for concrete mixes and cement.

GHG Coefficients

- National Ready Mixed Concrete Association – Industry-Wide EPD for Ready Mixed Concrete[7]
- Concrete Vendors – Product-specific EPDs. May be available upon request from vendor.
- Inventory of Carbon and Energy Database (V2.0)[8]

Calculating GHG Emissions

Calculation Option 1 (Weight-Based Method)

$$\textbf{Baseline Emissions} = Material\ Type\ (activity\ unit) \times Baseline\ Material\ Coefficient\left(\frac{kg\ CO2e}{activity\ unit}\right)$$

$$\textbf{Action Scenario Emissions} = Weight\ of\ Material\ Type\ (activity\ unit) \times\ Action\ Material\ Coefficient\left(\frac{kg\ CO2e}{activity\ unit}\right)$$

Note: kg CO_2e = kilograms of carbon dioxide equivalent

Workshop 3: Building Materials – Recovery and Reuse

INTRODUCTION

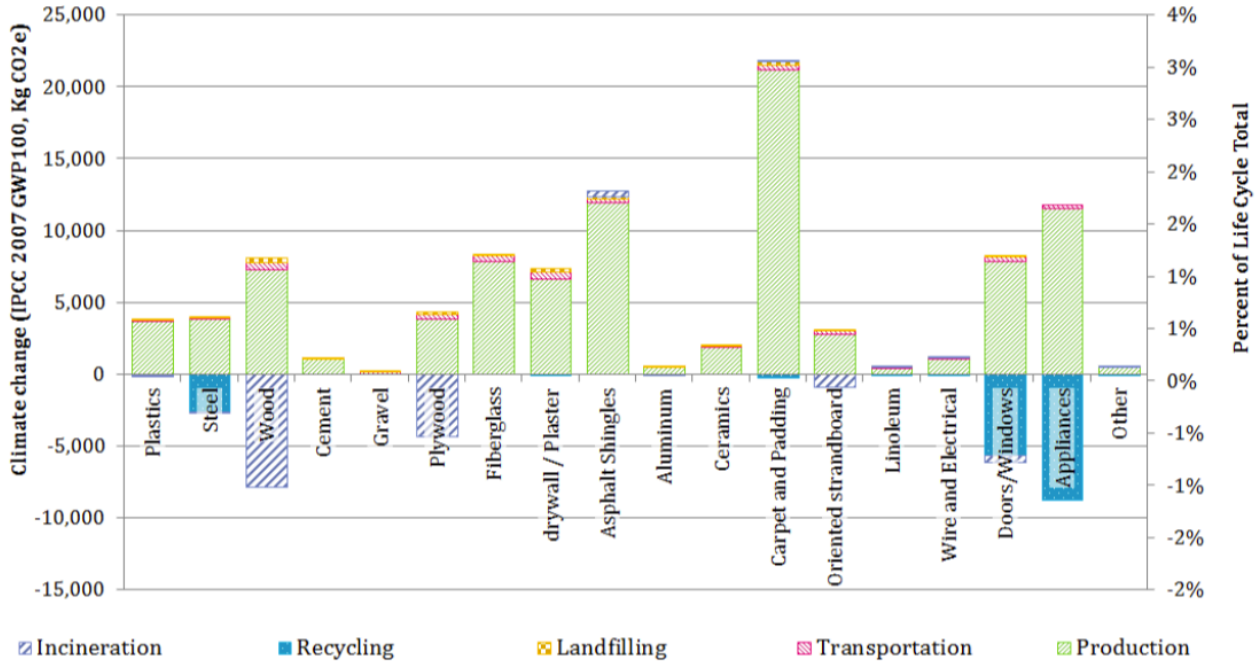
The construction materials consumed in Eugene represents about 10% of Eugene's community consumption-based emissions. Building materials, as a group, are one of the largest materials categories to flow through Oregon's economy. The overwhelming majority of these emissions are generated during production, transport, and retail – and not in the disposal of the materials. While this project is focused on climate impacts, it's important to note that building materials, because of their high volume, also pose significant potential for human health impact (e.g. lead pollution during demolition). Action areas discussed during the workshop included whole building reuse; whole building deconstruction; developing systems to identify high grade materials for recovery prior to demolition; and local infrastructure needs to increase the quality and supply of used building materials.

[7] Available online at https://www.nrmca.org/sustainability/EPDProgram/Downloads/EPD10080.pdf
[8] Available online at http://www.circularecology.com/news/the-ice-embodied-carbon-database-is-now-hosted-for-download-by-circular-ecology

It's important to acknowledge the connection between building materials – such as insulation and appliances – and the energy use over a building's lifecycle. Different makes and models of building materials may have similar production emissions, but very different effects on building energy use. The stakeholders and workgroup convened for this project focused on production-related emissions. Building energy use and its relationship to materials will be covered during the larger Eugene CAP update process. Likewise, the relationship between the size of a structure, its energy use, and effect on other material consumption and GHG emissions will also be covered during the Eugene CAP process.

GUIDANCE AND RESOURCES

ODEQ's research on reducing the lifecycle environmental impacts of building materials has a long history. In 2010, ODEQ released *A Life Cycle Approach to Prioritizing Methods of Preventing Waste from the Residential Construction Sector in the State of Oregon*.[9] This paper provides a bounty of information related to reducing environmental impacts and waste in the residential building sector. Recently, ODEQ refined its guidance with the release of its *Strategic Plan for Reuse, Repair, and Extending the Lifespan of Products in Oregon*.[10] This plan covers the period of 2016 – 2021. To develop the Plan, ODEQ's conducted a year-long evaluation of materials, infrastructure, economics, businesses and nongovernmental organizations, policies, challenges, and opportunities. DEQ research identified three focus product categories – which includes building materials. The following graphic is from their *Background Paper - Appendix B: Building Materials, Figure 2*[11] for Oregon's Strategic Plan.



[9] Details at http://www.oregon.gov/deq/FilterDocs/ADU-ResBldgLCA-Report.pdf
[10] Details at http://www.oregon.gov/deq/mm/Pages/Product-Lifespan-Extension.aspx
[11] Details at http://www.oregon.gov/deq/FilterDocs/wprBackgroundPaperF.pdf

This graphic presents the lifecycle material climate impacts for an average Oregon home over a 70-year lifespan. The materials with the greatest climate impacts (bar above the x-axis) are those that are replaced multiple times - such as carpet, asphalt shingles and appliances. Other materials with relatively large climate impacts include wood, fiberglass and drywall. Some materials are recycled (see blue bars below the x-axis) which negates a portion of its climate impacts. Energy can be recovered from some materials, such as wood (hashed bars below the x-axis) which also negates a portion of climate impacts from power generation.

The *Strategic Plan for Reuse, Repair, and Extending the Lifespan of Products in Oregon* includes the following Strategies and Actions related to building materials. These served as a foundation for items discussed in the Stakeholders Workshop.

- Research whole building reuse
- Evaluate the "price gap" between deconstruction and demolition through addressing environmental and health impacts and associated social costs.
- Grant support for infrastructure and capacity and market development
- Support reuse, repair and durability considerations in public procurement
- Support community-scale education about reuse, repair and product lifespan extension.

COMMUNITY STAKEHOLDERS

Stakeholders invited to the workshop or contacted during outreach included representatives from local organizations involved in the design, construction, permitting, waste management, and retail sale of reused building materials. The stakeholders included:

- Andrew Beattie, City of Eugene, Structural Plans Examiner
- Jeremiah Legrue, City of Eugene, Structural Plans Examiner
- Sarah Grimm, Lane County, Waste Reduction Specialist
- Simon Love, ODEQ, Reuse, Repair and Product Lifespan Extension Specialist
- Ed McMahan, Lane County Home Builders Association, Executive Vice President
- Ethan Nelson, City of Eugene, Intergovernmental Relations
- Jeff Orlandini, Waste Program Supervisor
- Susan Palmer, St. Vincent DePaul, Economic Development
- Stephanie Scafa, City of Eugene, Waste Prevention and Green Building Manager
- Carolyn Stein, BRING Recycling, Executive Director
- Michael Wisth, City of Eugene, Waste Prevention and Green Building Manager

There are many other stakeholders in our community involved in construction that are or could be partners in climate action. Their exclusion from this workshop was not intentional, only a function of available outreach and coordination time available for the project. The City and local partners will continue to engage with those looking to identify and implement effective climate solutions in the future.

EXISTING COMMUNITY ACTIONS

- **BRING** Recycling has been Eugene's local leader on changing attitudes and behaviors regarding waste and as a collection and retail source for used building materials. BRING processes 1.5 million pounds of building materials annually. In addition, BRING provides community education and local environmental certification programs. BRING is currently piloting the concept of providing onsite technical assistance to incorporate reused materials into new construction projects.
- **City of Eugene** provides community education by directly supporting events like BRING's Sustainable Home and Garden Tour and the Cascadia Green Building Council; supporting and assisting development of BRING's Construction Materials Recovery & Reuse pilot; evaluating deconstruction opportunities; and is working on educational opportunities for building codes. The City of Eugene has also begun digitally storing building plans which will make whole building reuse easier in the future.
- **Lane County** offers depot drop off options for metals, wood, brush concrete, cardboard, appliances, and they regularly refer solid waste customers to private recyclers in the community. The County has long provided the funding and facilitation for community education on waste prevention and reuse – most visibly through the Master Recycler program, which has trained hundreds of local residents to manage materials effectively. Lane County provides foundational funding for BRING's Business waste prevention certification program and more recent/y a construction recycling technical assistance program. Lane County supports/promotes a variety of local programs and organizations including St. Vincent de Paul, BRING tour of homes, MECCA, and other projects as available. Lane County also ensures there are options for material recovery from mixed loads of construction waste through disposal rate incentive for the two Eugene facilities that receive and sort mixed construction waste. Lane County recently implemented and is promoting an easy to use online look-up tool and app to find available disposal and recycle options for all materials. In addition, beginning July 1, 2018, Lane County's Glenwood transfer station and the Landfill will implement a construction and demolition recycling requirement per OAR 340-090-0040(3)(L). In short, construction and demolition loads over 6CY must be sorted for recycling by the generator, or be delivered to a material recovery sorting facility.
- **Lane Home Builders Association** has long hosted the annual Builders Garage Sale, which ended last year. Materials that have been sold in the past at the Garage Sale will now be donated to BRING and Habitat for Humanity.
- **St. Vincent De Paul** of Lane County regularly salvages whole homes to provide affordable community housing; refurbishes mobile homes to current energy code; upcycles old window glass into new architectural glass; repairs and resells appliances (removing and properly disposing of refrigerants with high climate impacts); and builds community repair and reuse skills while creating jobs and career paths.

CLIMATE ACTIONS REVIEWED DURING WORKSHOP

The following actions were offered to Eugene's Building Materials workshops for discussion. These actions are based on ODEQ's research and findings to date as well as other best practices to reduce emissions from building materials. This list is not comprehensive, but these were chosen to begin an ongoing discussion on how to reduce emissions. The actions in bold are those prioritized for discussion by stakeholders during the workgroup.

Potential Actions
Define infrastructure needs for additional reused building material extended life and recovery and compete for ODEQ grants as appropriate
Develop outreach / education focused on expanding building material lifespans*2010 CEAP
Skills / apprenticeships / job development in repair, reuse and lifespan extension related businesses
Encourage whole building reuse, as appropriate
Support changes to state building codes to allow for greater use of reused materials
Require that all construction and demolition waste materials to be sorted for reusable or recyclable materials*2010 CEAP
Increase community deconstruction activity
Increase in use of recovered dimensional lumber (related to recent changes in State building codes)
Carpet recovery actions / plans per SB 263

Other action areas suggested by stakeholders:

- Remanufacturing materials into other products
- Upstream actions at manufacturing level

ACTIONS FOR FURTHER CONSIDERATION IN EUGENE'S CAP

- Lane County to implement, monitor, and improve as available, a construction and demolition waste sorting requirement to recover building materials.
- Conduct feasibility study to identify the means to capture high grade materials prior to demolition and related infrastructure needs relative to the value of those materials. See City of Portland deconstruction study as an example and for guidance.
- City of Eugene to conduct feasibility study and scale opportunity for whole commercial building reuse. Develop proactive approach to identifying community opportunities.
- BRING's CMMT program is implemented permanently. This program provides support to new Commercial projects to provide real-time, onsite technical assistance reuse materials. Program funding will need to be identified.

METRICS AND CALCULATING GHG EMISSIONS

Metrics for climate actions related to building materials focus on tracking the amount and types of materials being recovered from the waste stream and the quantity of that material being reused. Available data sources include ODEQ's Waste Composition Survey; Lane County and City of Eugene data; and point of sales data from local non-profits that sell used items. In additional point of sale (POS) data can also be used to estimate weights for certain types of materials – including metal goods and dimensional lumber.

Potential Metrics

- Recovered material weight for reuse, by material type (short tons). This tracking could focus on a couple materials categories – such as metal goods and wood – as a starting place and be built up to support climate action efforts and reporting.
- Point of Sales Data from Local Businesses. This tracking could focus on a couple materials categories – such as metal goods and wood – as a starting place and be built up to support climate action efforts and reporting.
- GHG's reduced from 2013 baseline

GHG Measurement

To calculate GHG emissions two primary pieces of information are required – 1) Activity data (units) and 2) Emissions Coefficients (GHGs / unit). These are multiplied together to estimate GHG emissions. To calculate a GHG reduction – GHG emissions are calculated for a Baseline and Action Scenario and the difference between the two calculations is equal to the emissions reduction potential.

The following sections describe publicly available sources of Activity Data and Emissions Coefficients to track GHG from food waste and related climate actions.

Activity Data

- BRING – Point of sale data ($ / year / material category). Material categories include lumber, fasteners, furniture, plumbing, lighting, etc. For metals and lumber POS data can be used to estimate weights (kg / year / material category). Note that this data many also be available from other local thrift retailers, but that has not been confirmed.
- Lane County – Material recovery facility reports (short tons / year / material category). Lane County receives reports for pass-through to ODEQ. Reports describe number of tons collected from several distinct collection categories by material type (e.g., food waste; wood waste, comingled, metal). Lane County receives monthly reports from the Construction and Demolition sorting facilities describing the materials processed and quantities recovered.

GHG Coefficients

- Weight-Based: Environmental Protection Agency's *Waste Reduction Model* (WARM)

- Dollar-Based: Oregon Department of Environmental Quality's *Purchaser Price Model* was used to derive simple factors that may be used to estimate emissions reductions from sales of used materials.

Calculating GHG Emissions

Readily available data from BRING is POS data in ($). Unfortunately, emissions coefficients (GHGs / $) are not readily available for retail of used building materials. Therefore, in order to calculate emissions reductions, the POS data needs to be converted to a weight equivalent. BRING has the ability to convert the data for specific product categories – specifically metal goods and dimensional lumber. Weight activity data may be used in EPA's WARM to calculate baseline and action scenario emissions using the method described in the following text box.

Lane County collects weight data from reporting by local material recovery facilities. This data does exist but is not publicly available and only captures a fraction of the materials recovered.

Calculation Option 1 (Weight-Based Method)

Use EPA's WARM Model to perform the following calculations.

$$\boldsymbol{Baseline\ Emissions}\ (MT\ CO_2e) = Weight\ of\ Material\ Type\ (short\ tons) \times Baseline\ Coefficient\left(\frac{kg\ CO2e}{short\ ton}\right)$$

$$\boldsymbol{Action\ Scenario\ Emissions}\ (MT\ CO_2e) = Weight\ of\ Material\ Type\ (short\ tons) \times Source\ Redution\ Coefficient\left(\frac{kg\ CO2e}{short\ ton}\right)$$

Workshop 4: Consumer Goods – Repair, Reuse, and Lifespan Extension

INTRODUCTION

Consumption of consumer goods in Eugene represents about 13% of Eugene's community consumption-based emissions. Consumer goods include product categories such as furniture, clothing, electronics, appliances, and a variety of other goods. The overwhelming majority of these emissions are generated during production, transport, and retail – and not in the disposal of consumer goods. Upstream emissions from imported consumer goods - during production, transport and retail – can seem like they are largely outside of the community's direct control, but there are high-leverage intervention points to significantly reduce related emissions – community education around the benefits of repair and reuse of consumer goods, hosting Fix-It Fair events, supporting lending libraries like the ToolBox Project, and supporting local thrift businesses.

ODEQ, United Sutainability Directors Network, and City of Eugene are collectively funding an in-progress research project in Eugene to study the effectiveness of these types of actions. Results will be available in 2019. These results may be used by Eugene and others to inform climate action strategy related to consumer goods.

AVAILABLE GUIDANCE AND RESOURCES

In 2016, Oregon Department of Environmental Quality released its Strategic Plan for Reuse, Repair, and Extending the Lifespan of Products in Oregon.[12] This resource provides detailed background research, strategies and actions as well as a discussion of challenges and barriers. Material areas of focus included in the strategy includes textiles and building materials. ODEQ's strategy also provides grant funding to support specific repair and reuse activities and business.

COMMUNITY STAKEHOLDERS

The stakeholders selected for this workgroup by the Technical Advisory Committee include local experts involved in repair, reuse, and lifespan extension of consumer goods. This includes City and County staff who are experienced with education and outreach and local non-profits that focus on providing recovery, repair and resale services while providing local jobs and training.

Stakeholder organizations invited to the workshop included:

- Anya Dobrowolski, ToolBox Project, Founder, and Fix-It Fairs, Event Manager
- Greg Evans, Lane Community College, Chief Diversity Officer
- Sarah Grimm, Lane County, Waste Reduction Specialist
- Simon Love, Reuse, Repair and Product Lifespan Extension Specialist
- Susan Palmer, St. Vincent DePaul, Economic Development
- Stephanie Scafa, City of Eugene, Waste Prevention and Green Building Manager
- Allie Breyer, Waste Prevention and Green Building
- Carolyn Stein, BRING Recycling, Executive Director

EXISTING COMMUNITY ACTIONS

- **St. Vincent DePaul of Lane County** (SVDP) serves 840,000 people each year through its retail locations and other programming. Retail locations sell repaired, used and recycled items and in the process create local jobs and career paths. SVDP of Lane County collects materials along the I-5 corridor as far south as San Francisco. SVDP has had notable success locally through upcycling used clothing. They employ a fashion designer and 3 additional staff that upcycle clothing for sale at their retail locations and on Etsy. A second notable category is SVDP's work on furniture. They contract with the county to recycle used mattresses into dog beds. They also repair donated wood

[12] Available for download at http://www.oregon.gov/deq/mm/Pages/Product-Lifespan-Extension.aspx.

furniture for retail and reupholster sturdy furniture needing new covers. SVDP is also involved in a variety of other innovative used material related businesses in the community.

- **City of Eugene** Waste Prevention is currently developing a repair and reuse strategy. In 2017, the City hosted three well-attended Fix-It Fairs and supports the ToolBox Project. The 2017 Fix-It Fairs served over 400 people and is planning future events. The City is experimenting with supporting small-scale community repair events and is working with a group of local repair professionals to develop skill-building and hands-on learning programs, and develop an apprenticeship program to develop the pool of skilled repair and reuse professionals in our community with a focus on the younger generation.
- **Lane County Waste Management** provides a unique funding source to support reuse of household goods: a disposal discount of 33% is offered to registered charitable organizations that operate reuse thrift stores. Currently Goodwill, St. Vincent de Paul and Salvation Army are in this program. Lane County also contracts with SVDP's to reuse, refurbish and recycle mattresses and appliances. The County runs the Master Recycler program that is focused on developing local experts on a variety of recycling, repair and reuse topics. The program has trained over 800 people since 2000. The County supports advertising for Materials Exchange Center for The Community Arts (MECCA) and NextStep and also maintains the Repair2Reuse.org website that provides a local database of repair service providers.
- **The ToolBox Project** is a volunteer driven community tool library with over 500 members and 900 tools. The nonprofit focuses on helping community members repair their homes and possessions, and decreases the need to purchase new goods.

CLIMATE ACTIONS REVIEWED DURING WORKSHOP

The following actions were offered to Eugene's Consumer Goods workshops for discussion. These actions are based on ODEQ's research and findings to date as well as other best management practices (BMP) to reduce emissions from building materials. This list is not comprehensive, but these were chosen to begin an ongoing discussion on how to reduce emissions. The actions in bold are those that were prioritized for discussion by stakeholders during the workgroup.

Potential Actions for BMP Research
City and County will continue to pursue grants for local, priority projects in reuse, repair, and lifespan extension, including innovative reuse-oriented solutions in schools
City and County to implement, locally appropriate education and outreach programs to support reuse, repair, and lifespan extension to support the requirements of SB 263 – community-at-large and in-school
Host Fix-It Fairs to provide community access and education on local repair services and vendors
Support ToolBox Project, and similar innovative community reuse solutions, to expand shared resources

Focus on textiles and clothing (data collection and foundational research, increase collection of reusable textiles, shift consumption to durables, support clothing repair business, develop consumer skills)
Focus on furniture (data collection and foundational understanding, increase salvage events, shift consumption to durables, support furniture repair, reuse, and remanufacturing businesses)
Develop skills / job development / apprenticeships to support the repair, reuse, remanufacturing and lifespan extension
City and County to publicly support "Right to Repair" legislation.

Stakeholder Suggested Actions
Identify national campaigns that could be used to build awareness of customers to influence manufacturers.
Conduct feasibility analysis to identify infrastructure needs
Develop a web platform that would include a Repair event calendar
Career and technical education programs in high schools (related to repair and reuse)
Additional community flea markets and swap meets
City / County to host a repair hub incubator

ACTIONS FOR FURTHER CONSIDERATION FOR EUGENE CAP

The actions prioritized for discussion were reviewed by the group for opportunities, barriers, and social equity benefits.

- City and County to implement locally appropriate education and outreach programs to support reuse, repair, and lifespan extension.
- City to continue hosting repair events that provide community access and education on local repair services and vendors. These events will be informed by ODEQ, USDN, and City of Eugene's related research on the long-term effectiveness of this action.
- City and County to regularly convene a workgroup focused on expanding the success of community partners' innovative repair and reuse opportunities - including a focus on textiles. ODEQ microgrants to be sought as appropriate.
- City to create a centralized web platform to allow community to easily access information about local repair businesses, upcoming Fix-It events, and how-to videos.
- County marketing programs to profile local repair organizations.
- As part of CAP2.0, Phase Two, evaluate the feasibility and impact of expanding existing or creating new community education programs on buy less, reused, and durable.

METRICS AND DATA TRACKING

Metrics for climate actions related to building materials focus on tracking the amount and types of materials being recovered from the waste stream and the quantity of that material

being reused. Available data sources include ODEQ's *Waste Composition Survey*: City and County programmatic data; and point of sales data from local non-profits that sell used items.

Potential Metrics

- Point of Sales Data from Local Businesses. This tracking could focus specific materials categories of interest – such as clothing/textiles – as a starting place and be built up to support climate action efforts and reporting.
- Customers served / items repaired at local City repair events
- GHG's reduced from 2013 baseline

GHG Measurement

To calculate GHG emissions, two primary pieces of information are required – 1) Activity data (units) and 2) Emissions Coefficients (GHGs / unit). These are multiplied together to estimate GHG emissions. Emissions can be calculated to represent an annual emissions total for an emissions source, or to estimate a GHG reduction. To calculate a GHG reduction – GHG emissions are calculated for a Baseline and Action Scenario and the difference between the two calculations is equal to the emissions reduction potential.

The following sections describe publicly available sources of Activity Data and Emissions Coefficients to track GHG from food waste and related climate actions.

Activity Data

- SVDP – Point of sale data ($ / year / product category). Note that this data many also be available from other local thrift retailers, but that has not been confirmed.

GHG Coefficients

- Weight-Based: Environmental Protection Agency's *Waste Reduction Model* (WARM)
- Dollar-Based: Oregon Department of Environmental Quality's *Purchaser Price Model* was used to derive simple factors that may be used to estimate emissions reductions from sales of used materials.

Calculating GHG Emissions

As of this writing, there isn't a clear methodology available to calculate GHG emissions / reduction benefit for used and repaired consumer goods. Available activity data and emissions coefficients are incongruent with one another. The only known source for activity data is POS data for businesses. Unfortunately, appropriate emissions coefficients (GHGs / $) are not available to calculate emissions reductions for used consumer goods. Weight-based coefficients are readily available, but activity data by weight are not. Additional work would need to be done to either modify existing dollar-based coefficients for sale of reused goods; develop a dollar to weight conversion factor; or establish a system where the weight of resold materials is tracked.

4. Additional Opportunities in City Operational Procurement

There are two other sources of upstream material emissions in City operations that can be measured with readily available data and managed in climate action planning. These include upstream emissions from purchased energy and production emissions for IT equipment. The City of Eugene is considering these sources in its operation climate action plan and has developed means of measuring and tracking emissions over time. This section describes the City's measurement approach for these two purchasing categories.

There were no workshops held for these purchasing categories, as they are City of Eugene internal actions. They are included to provide a description of the City's approach to these sources of operational emissions and the associated GHG tracking systems.

Purchased Energy – Upstream Production Emissions

Scope 1 and Scope 2 emissions from consumption of energy in buildings and vehicles typically represent a significant source of emissions for most City governments and are commonly accounted for in operational GHG inventories. Scope 1 emissions are "tailpipe" emissions from owned vehicles and equipment. And Scope 2 emissions are "tailpipe" emissions from electricity generation equipment that serves an organizations electricity load.

Scope 1 and Scope 2 emissions represent the majority of emissions associated with combusting fossil fuels. However, there are also Scope 3 emissions associated with the consumption of energy products, or the emissions that happen upstream during the production and transport of fuels. For example, energy is used and there are process methane emissions that occur during the extraction of natural gas that are not accounted for in Scope 1 or Scope 2. Likewise, biogenic carbon dioxide emissions from biofuels (such as biodiesel and ethanol) are excluded from GHG inventory results. For biofuels, the majority of emissions are in Scope 3.

Oregon is unique in many ways, but in this case, Oregon is unique in that that State provides the technical resources that make calculation of Scope 3 energy emissions possible through documentation that support's Oregon's Clean Fuel Standard. When organizations are making decisions about energy purchases, considering life-cycle emissions instead of only tailpipe emissions will lead to more effective decisions on energy purchases and impact on climate action.

Potential Action Metrics

- Annual energy purchases, by type (fuel specific consumption unit / year). Examples of units include gallons, kilowatt-hours, or cubic feet.
- Annual GHG emissions, annual total and by energy type

Available Activity Data

- City annual purchasing records, by fuel type (gallons, kWh, terms)

GHG Emissions Coefficients

- Scope 1 or Scope 2 coefficients
  - Reputable sources of these emissions factors include EPA[13] and The Climate Registry[14].
- Life-cycle carbon intensity (CI) coefficients
  - Request purchased fuel-specific carbon intensity (CI) values from fuel vendors or electric utility (g CO_2e / megajoule)
  - If the above coefficient source is not an option, Oregon Department of Environmental Quality's fuel-specific, life-cycle carbon intensities that support Oregon's Clean Fuels Program.[15]

See next section for details on use of these factors in an operational GHG inventory.

GHG Emissions Tracking

Following operational greenhouse gas protocol – lifecycle fuel emissions are split between Scope 1 (tailpipe emissions) and Scope 3 (upstream, fuel production emissions) for liquid and gaseous fuels. For electricity, lifecycle fuel emissions are split between Scope 2 (tailpipe emissions for electricity generation) and Scope 3 (upstream, fuel production emissions).

This can be done by calculating Scope 1 or 2 emissions using GHG emissions coefficients common to Scope 1 and Scope 2 protocols. Reputable sources of these emissions coefficients include EPA[16] and The Climate Registry[17]. Than calculating life-cycle emissions using ODEQ CI values. Subtract Scope 1 or 2 emissions from life-cycle emissions to calculate Scope 3 emissions. Note that ODEQ values do not include biogenic CO_2 from biofuels; therefore, calculation of Scope 1 emissions for biofuels should also exclude biogenic CO2 to use the method described here. If your organization has completed an operational GHG inventory – it is likely Scope 3 emissions for energy purchases are not being included. Therefore, an organization will need to calculate Scope 3 emissions for the organization's Baseline inventory in order to compare subsequent years' reporting.

[13] Downloaded April 2018 at https://www.epa.gov/sites/production/files/2018-03/documents/emission-factors_mar_2018_0.pdf
[14] Downloaded April 2018 at https://www.theclimateregistry.org/tools-resources/reporting-protocols/general-reporting-protocol/. Requires creation of a free TCR account.
[15] Downloaded April 2018 at http://www.oregon.gov/deq/FilterDocs/cfp-All-CIs.pdf
[16] Downloaded April 2018 at https://www.epa.gov/sites/production/files/2018-03/documents/emission-factors_mar_2018_0.pdf
[17] Downloaded April 2018 at https://www.theclimateregistry.org/tools-resources/reporting-protocols/general-reporting-protocol/. Requires creation of a free TCR account.

Calculation Option 1

Develop an Excel spreadsheet to calculate emissions or use an existing tool like Good Company's Carbon Calculator (G3C).

$$\textbf{Baseline Scope 1 or 2 Emissions } (MT\ CO_2e) = Quantity\ of\ Fuel\ Type\ (megajoule) \times Fuel\ Type\ Scope\ 1\ or 2\ \ Coefficient \left(\frac{MT\ CO2e}{MJ}\right)$$

$$\textbf{Baseline Scope 3 Emissions } (MT\ CO_2e) = Quantity\ of\ Fuel\ Type\ (megajoule) \times Fuel\ Type\ Scope\ 3\ Coefficient \left(\frac{MT\ CO2e}{MJ}\right)$$

$$\textbf{Action Scenario Scope 1 or 2 Emissions } (MT\ CO_2e) = Weight\ of\ Material\ Type\ (short\ tons) \times Source\ Redution\ Coefficient \left(\frac{MT\ CO2e}{MJ}\right)$$

$$\textbf{Action Scenario Scope 3 Emissions } (MT\ CO_2e) = Weight\ of\ Material\ Type\ (short\ tons) \times Source\ Redution\ Coefficient \left(\frac{MT\ CO2e}{\ldots}\right)$$

IT Equipment - Upstream Production Emissions

A large number of City governments in Oregon have completed a supply chain GHG analysis as part of the Local Government Operational GHG Inventory. This analysis estimate Scope 3 emissions associated with the production of goods, food, and services purchased in the course of City operations.

A supply chain analysis is typically conducted using economic input-output models, such as Oregon Department of Environmental Quality's *Purchaser Price Model*[18], EPA's EEIO Model[19], and Carnegie Mellon Green Design Institute's EIOLCA.net[20]. All of these resources provide emissions coefficients for the production of goods and services for a number of economic sectors in the form of kg CO2e / $. These coefficients can be used with an organization's accounting data to calculate Scope 3 supply chain emissions.

The West Coast Climate and Materials Management Forum produced a step-by-step, *How To Guide on Supply Chain Analysis*.[21] The West Coast Climate Forum also produced a *Trends* Analysis that summarizes results for supply chain inventories for a variety of organization types

[18] Available upon request from ODEQ materials management department.
[19] USEEIO available for download at https://cfpub.epa.gov/si/si_public_record_report.cfm?dirEntryId=336332. Note that model can only be opened with LCA software. OpenLCA is a free download that supports use of the USEEIO model. It may be downloaded at http://www.openlca.org
[20] Carnegie Mellon tool available at http://www.eiolca.net
[21] How To Guide available at https://westcoastclimateforum.com/cfpt/HowTo.

and sizes.[22] This resource can be used by organizations to see what purchasing categories commonly generate the greatest quantities of emissions for local governments.

A supply chain analysis provides comprehensive results that allow organizations to compare and highlight various types of purchasing categories in terms or annual total emissions and also the carbon intensity of different product types (CO2e / $). Supply chain inventories are an excellent means of identifying emissions "hot spots" in the supply chain – they do not provide a means to accurately track emissions over time. This is because the analysis relies on models that represent U.S. average emissions instead of vendor-specific emissions. The models can estimate emissions from the purchase of $1 million of computer hardware but cannot accurately account for production emissions for $1 million of HP computers versus $1 million of Apple computers.

In order to accurately manage and track GHG emissions from specific categories of purchases – additional information is required. IT equipment is typically a small source of supply chain emissions for public organizations. However, IT equipment is somewhat unique in that the electronics industry has been on the forefront of conducting life-cycle analysis on their products, which can be used to track organizational emissions for IT equipment purchases.

It's important to note that the life-cycle energy use by IT equipment is not considered in the supply chain analysis but is another important factor to be used in purchasing decisions. The following information is specific to tracking emissions for the production of IT equipment.

Potential Metrics

- Annual GHG emissions from IT purchases

Available Activity Data

- Organizational IT equipment inventory and planned purchases. Data on equipment types; number of units; and vendors for specific types of IT hardware

GHG Emissions Coefficients

- Dell, *Carbon Footprints of Dell Desktops, Laptops, Mobile Devices, and Servers*[23]
- Apple, *Product Environmental Reports*[24]
- The above are examples – look to your preferred vendor for similar reports

GHG Emissions Tracking

Emissions from computer purchases may be tracked on an annual basis or for purchasing decisions using the following formula.

[22] Trends Analysis available at https://westcoastclimateforum.com/cfpt/trendsanalysisintro.
[23] Available online at http://www.dell.com/learn/us/en/vn/corp-comm/environment_carbon_footprint_products
[24] Available online at https://www.apple.com/environment/reports/

Calculation Option 1 (Unit-Based Method)

Use EPA's WARM Model to perform the following calculations.

$$\boldsymbol{Annual\ Emissions}\ (MT\ CO_2e)\ = \#\ of\ Product\ Units \times Emissions\ Coefficient\left(\frac{kg\ CO2e}{unit}\right)$$

Appendix A: Example Workshop Agenda

Eugene Sustainability Office

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Subject: Eugene Community Climate and Energy Actions Plan – Materials Management Chapter Update (CEAP-MM) – Building Materials – Recovery, Reuse and Lifespan Extension Workgroup

Implementation Partners: Andrew Beattie, Jeremiah Legrue, and Mark Whitmill, City of Eugene; Dan Bryant, Square One Villages; Simon Love, Oregon Dept. of Environmental Quality; Ed McMahan, Lane County Home Builders Association; Carolyn Stein, BRING Recycling

Technical Advisory Committee: Carolyn Stein, BRING Recycling, Dan Hurley, Lane County Solid Waste; David Allaway, Oregon Dept. of Environmental Quality; Susan Palmer, St. Vincent de Paul Society of Lane County; Chelsea Clinton, Ethan Nelson, Stephanie Scafa, and Michael Wisth, City of Eugene; Josh Proudfoot and Aaron Toneys, Good Company

Meeting Date: Janurary 9th, 2018

Meeting Agenda

- Welcome, Introductions, and Agenda – 5 minutes – Chelsea
- Project Overview – 5 minutes – Josh
  - Implementation Partner - Participation and Process
    - *Attend today's workshop*
    - *Review Deliverables (CEAP-MM Chapter content and How to Guide)*
- Workshop Context – 15 minutes – Chelsea / Aaron
  - *Social Equity and Eugene's Triple Bottom Line Vision (page 2)*
  - *Community Greenhouse Gas Emissions and Tracking*
- Round Robin on Current Activities – 10 minutes - Group
- Discuss Ideas for New Actions – 80 minutes – Group
  - Review list of Ideas for New Actions
  - Add new actions from group
  - Review the following for each:
    - *Opportunities*
    - *Barriers*
    - *Social Equity Considerations*
    - *Metrics and Available Data*
- Thank you and Next Steps – 5 minutes – Chelsea / Josh
  - *Review of Deliverables – Spring 2018*

Appendix B: Workshop 1: Food – Institutional Purchasing and Waste Avoidance

OPPORTUNITIES, BARRIERS, AND CO-BENEFITS FOR ACTIONS DISCUSSED

Action 1: Conduct a waste audit

Opportunities:

- Participation in "Oregon Green Schools" requires a waste audit.
- UO moved away from trays, which took about two weeks for the students to adjust to, immediately saw decreased food waste.
- Huge amount of food from tray waste in K-12 school setting. Amount of food put on trays is mainly dictated by USDA. Bethel SD utilizes a "no thank you table" for items like fruit, but that approach doesn't work with many main dishes.
- 4J SD looking into providing bulk milk in lieu of cartons so that students can take only what they want.
- By Middle school, only 40% of students are buying lunch at school. By high school, its 8-20%. It makes sense to focus at the elementary level.
- Food for Lane County picks up extra food from UO kitchen.
- BRING and Partners for Sustainable Schools provide waste audit services.
- LCWM provides a $500 grant to schools for waste audits. Audits are used to identify potential actions and set goals.
- 4J SD and Bethel SD have not completed waste audits.
- Bethel schools and UO are tracking internal waste weights.

Barriers:

- Elementary students don't have enough time to eat.
- The amount of time at the table to eat is often small and competing with recess which leads to food waste.
- Kids have choices but have to take required units by USDA requirement.
- Increasing quality helps decrease waste - entrees can't go to the no thank you bin.
- Cost - sampling of schools. Oregon Green Schools is free.

Action 2: Shift calories from high carbon to low carbon food types

Opportunities:

- Offer meat alternatives at schools as a choice.
- 4J SD does meatless Monday once a month.
- UO students willing to eat vegetarian or vegan much of the time.
- UO provides what's in demand.
- UO – adopted many practices from "Menus of change"

Barriers:

- US Government provides subsidy to buy different items on a commodities list. Commodities have a huge impact on what's offered on the menu.
- Multiple food options lead to students eating more, but also may increase overall food waste.

Social Equity:

- For some segment of the community, avoiding meat is not a cultural norm/ this doesn't reflect their values.

Action 3: Engage with supply chain about manure management lagoon practices of beef, dairy, and pork suppliers *Opportunities:*

Barriers:

- Workshop participants did not believe they had the ability to ask these questions of their vendors.

Appendix C: Workshop 2: Concrete and Asphalt – Materials and Processes

OPPORTUNITIES, BARRIERS, AND CO-BENEFITS FOR ACTIONS DISCUSSED

Action 1: Request environmental product disclosures (EPD) from concrete vendors to inform selection concrete mix design

Opportunities:

- LEED Certification points available for EPDs
- Increased customer requests for EPDs will increase of Oregon EPD availability
- OCAPA and DEQ will issue a partial reimbursement for verification costs. Each plant is eligible for up to a $2,500 reimbursement or 75% of their verification costs – whichever is less. Companies that own more than one plant may not qualify for reimbursements for more than 8 plants[25]
- EPDs from local concrete vendors would allow the concrete consumer to make informed choices based on verified information
- City Permitting Department currently has database infrastructure to track EPDs at a project level, but would need directive from City decision-makers to implement
- City Public Works could include a voluntary EPD submittal to accompany project bids

Barriers:

- EPDs from Oregon concrete vendors are not readily available *due to lack of requests from public and private developers.*
- Staff work time and calendar time required to collect data and calculate EPDs for the material producers. Typical calendar time is 3 months. Once verified, EPDs are valid for 5 years.
- Cost to verify EPDs. Typical cost is $5,000 to verify 100 mix designs
- Concrete manufacturers are reluctant to use them until they are required or until there is more certainty about standards. EPDs are viewed as a risk at this point and increased risk leads to increased cost.

Social Equity:

- Ensure small batch plants, with fewer resources to document and verify EPDs, are not negatively affected by onerous requirements

ACTION 2: Substitute SCM for Portland cement

Opportunities:

- SCMs are being utilized on main arterial projects, but not in local street projects.
- Local architects and structural engineers to revise templated specs to allow for greater use of SCMs.

[25] Additional information at http://www.ocapa.net/oregon-concrete-epds

- Concrete vendors to support 56-day strength tests to allow for longer cure times that result in more durable material.
- SCM concrete is often lighter in color and could reduce "heat island effect".
- Local producers could participate in the NRMCA survey and use standardized EPDs for their product offerings.
- Blast furnace slag results in a higher strength product than fly ash.
- Blast furnace slag is readily available in the region and is 20-30% less expensive than Portland cement.

Barriers:

- Learning curve on how to use SCMs can be challenging. For those who create and maintain buildings and infrastructure the perceived risk associated with "experimentation" with unfamiliar mix designs is too great.
- Limited technical resources available to support early use.
- SCMs result in lower 7-day strength than Portland cement, but have the same 28-day strength. This strength issue results in construction delays – particularly for multi-story buildings. Concrete vendors do not recommend using SCMs for concrete mixes that require high, early strength mixes.
- Incorrect use can lead to cracking problems.
- Oregon Department of Transportation standard specification limits maximum SCM substitution to 30%.
- Fly ash supply in the northwest U.S. is an issue and quality varies significantly.

ACTION 3: Substitute RAP or RAS for virgin materials

Opportunities:

- Widely used and proven technique
- Existing AASHTO and ODOT specifications
- Reduces costs, energy use, and GHGs
- Can be used in a variety of asphalt mixes
- Improves strength and durability
- Reduces consumption of virgin natural resources

Barriers:

- RAP / RAS mixes can result in very stiff and difficult to apply mixture
- Variability among reclaimed material stockpiles
- High percentage substitution can lead to quality issues
- Reclaimed aggregate reduces in size as it is reground – this material becomes appropriate for lower speed roadways. The higher the speed, the larger the size of rock.

ACTION 4: Substitute warm-mix asphalt for hot-mix asphalt

Opportunities:

- Eugene vendors all have the equipment necessary to produce warm mix

Barriers:

- ODOT standard specification require that a certain quantity of hot mix asphalt be used prior to use of warm mix
- Lane County follows ODOT specs
- Asphalt vendors, depending on location, may not have the capital equipment needed to produce warm-mix products.
- Local plants may be limited based on local air permit limits

Social Equity:

- Reduction in criteria air pollutants for workers and pedestrians near application site

Appendix D: Workshop 3: Building Materials – Recovery and Reuse

OPPORTUNITIES, BARRIERS, AND CO-BENEFITS FOR ACTIONS DISCUSSED

Action 1: Define Infrastructure Needs

Note: The discussion made clear that the group is not ready to define specific infrastructure needs. The workshop served as a discussion about what actions to take to define community infrastructure / skills needs and assess the feasibility of such actions.

Opportunities:

- Conduct study to identify infrastructure and system deficiencies and assess feasibility
- Infrastructure should support contractor-scale sale of reused materials
- BRING staff can offer real time technical assistance during construction to identify reused material options and availability
- Transfer stations staff could be used to recover high grade materials in real time
- Create separate reuse education materials for commercial versus DIY homeowner
- Host a local contractor inventory swap site
- IT upgrades for inventory management at reused building centers

Barriers:

- Reused material quality and consistent availability
- Time and cost issues associated with reused materials compared to virgin materials
- Contractor liability concerns with reused materials
- Direct salvage not allowed at transfer stations
- Contractor experience in ordering and receiving materials. At conventional building supply centers, a contractor can bring in plans and have material delivered in specific quantities, on specific dates, with consistent quality. In order to be competitive – reused material centers would need to operate in a similar way.

Social Equity:

- Safety and reliability issue related to reused materials
- Development of new services and infrastructure should consider: who will operate it; where it is sited; and what jobs and skills will it provide.

Action 2: Whole Building Reuse

Opportunities:

- Commercial buildings should be the focus
- MUPTE tax incentives could be used to encourage reuse

- Develop a proactive approach to identifying whole building reuse opportunities. This might involve an analysis of Eugene's building stock to identify building types, ages, materials types, etc. that lend themselves to whole building reuse.
- City of Eugene started archiving building plans which will make reuse easier in the future.

Barriers:

- Difficult or expensive to make needed seismic upgrades
- Zoning and code issues associated with changing the building from original to new use
- Premanufactured components are common and can be difficult to modify
- Incomplete building plans and uncertainty about what specific components will perform the structural function when seeking salvaged components

Social Equity:

- Whole building reuse allows community to maintain architectural character
- Issues related to gentrification

Action 3: Increase Building Deconstruction

Opportunities:

- Convene group to develop system to identify deconstruction opportunities
- Include a moment in the permitting process that requires demo contractor, or a similar service provider reviews the building for high-value materials

Barriers:

- BRING used to provide deconstruction services for the community but gave it up because it isn't financially viable. Labor costs are more than the value of the materials.
- Most construction in Eugene is post-1950; therefore, material quality is low.

Social Equity:

- Avoided air emissions of mechanical demolition for nearby residences

Action 4: Require C&D Waste Sorting for Reuse and Recycling

Opportunities:

- Lane County is in the process of developing a C&D waste sorting requirement

Barriers:

- Any sorting requirement will need an extended implementation period to ensure all service providers understand the compliance requirements

Social Equity:

- Compliance may be more difficult for small contractors if it requires significant investment in equipment

Appendix E: Workshop 4: Consumer Goods – Repair, Reuse, and Lifespan Extension

OPPORTUNITIES, BARRIERS, AND CO-BENEFITS FOR ACTIONS DISCUSSED

Action 1: City and County to implement, locally appropriate education and outreach programs to support reuse, repair, and lifespan extension to support the requirements of SB 263 – community-at-large and in-school solutions

Opportunities:

- Educate on buy less, reused, and durable and develop a local buyers guide
- Education about what it actually means to recycling things. Buying Smart.
- Targeting advertising via social media.
- Regularly scheduled event to coordinate local reuse industry representatives.

Social Equity Considerations:

- Affordability of goods
- Time cost of researching repair and durable goods options
- Cultural sensitivity for education and outreach materials

Action 2: Host Fix-It Fairs to provide community access and education on local repair services and vendors

Opportunities:

- Develop smaller-scale Fix-It Fair events (e.g. neighborhood associations, church events, etc.). In the past year, the City has hosted 3 City-wide Fix-It Fairs and 5 repair cafes. Learning and vendor network from these events can support development efforts.
- Use events to promote local repair businesses.
- Develop stock materials that could be used to support smaller scale events
- SVDP community rooms could be used for events
- BRING current hosts 12 repair events per year.
- BRING: 12 events. Absorbing costs. Volunteers have access to BRING bucks.
- Repair of small electric appliances and clothing have been the most popular goods categories during recent events.

Barriers:

- Expense - $5,000 per event to host one City-wide Fix-It Fair.

Social Equity Considerations:

- Location and timing of events
- Cultural sensitivity for education and outreach materials

Action 3: Support ToolBox Project, and similar innovative community reuse solutions, to expand shared resources

Opportunities:

- ToolBox Project concept could be expanded to create lending libraries for other product categories (e.g. kitchen equipment, toys, wedding event items).

Barriers:

- Identifying long-term funding for paid staff
- Increasing and messaging about membership fees.

Action 4: Focus on textiles and clothing (data collection and foundational research, increase collection of reusable textiles, shift consumption to durables, support clothing repair business, develop consumer skills)

Opportunities:

- SVDP: There is a market for all fabric - reuse in wiping rags. Opportunity for fashion.
- Action: Opportunity for growth in fashion and one-off. COE has micro loan program - maybe an opportunity to work with SVD on job/business development.
- Action: Focus on collection of clothing and textiles.
- Action: City-wide summer swap fest
- Action: Event to gather more textiles - SVD would be willing to deal with the materials

Barriers:

- Sustainable consumption - Changing attitudes around

Action 5: Focus on furniture (data collection and foundational understanding, increase salvage events, shift consumption to durables, support furniture repair, reuse, and remanufacturing businesses)

Opportunities:

- Wood furniture good
- Foam furniture bad
- Workshops to repair and refurbish furniture
- Collaboration across the community
- Action: Promote Campbell Center, Makers Space, others from Anya (?)

Barriers:

- Moving furniture to Fix-It Fair. Only what you can carry
- SVDP won't take problem furniture
- BRING takes wood furniture, but not press board as it falls apart

Social Equity Considerations:

- Affordability
- Pick up vs. drop off

Climate Action Plan 2.0

Appendix 9

CAP 2.0 Project Plan

Climate Action Plan 2.0

PROJECT SUMMARY

In 2016, the Eugene City Council updated the Climate Recovery Ordinance (CRO) to include targets and benchmarks for reaching the 2014 CRO adopted goals, as well as, added a new annual greenhouse gas (ghg) emissions reduction target of 7.6%. During the past year, the City has initiated the development of departmental ghg emissions reduction strategies to address the CRO's internal goal, yet the primary plan for addressing community-wide emissions is the community Climate and Energy Action Plan (CEAP). Completed in 2010, the CEAP has guided a number of City, community based, and local partner agency efforts over the past seven years. As part of the direction from City Council in 2016, the City identified updating the CEAP as an organizational priority.

The focus of this CAP2.0 Proposal is to continue to foster the actions of the City as well as our community's agencies, companies and organizations in moving toward carbon neutrality, reduced fossil fuel use, and adapting to climate change. The project is predicated on a Triple Bottom Line (TBL) approach to include elements of environmental, social equity, and economic sustainability. The TBL serves as a link to the Eugene City Council's goals and vision for a healthy and vibrant community by incorporating a wide breadth of values and perspectives into community wide plans. The TBL priorities which the CAP2.0 incorporates include: 1) increased community understanding of the impacts of climate change and greater involvement in the development and implementation of adopted actions; 2) addressing social equity concerns as they relate to the impacts of climate action; and 3) providing a 'business case' economic assessment to evaluate the cost and benefit for adopted actions.

APPROACH

CAP2.0 focuses on identifying the appropriate organizations, community entities, and companies – we shall deem these 'large-lever shareholders'. Large-lever shareholders are organizations in Eugene who have significant oversight and impact on community-wide fossil fuel use and ghg emissions or have the ability to effect or alter systems that will enable the community to adapt and prepare for climate change.

Large-lever shareholders will be asked to lead on actions that their mission and programs already deliver, identify additional efforts that they can contribute, and help coordinate across the community to implement in an efficient manner. This approach understands the urgency of the topic and is predicated on the requirement that the final updated CAP2.0 will include the actions, the responsible parties, and the secured commitments of resources to implement the identified strategies. This approach is called 'Strategic Doing' and will be modeled throughout the project.

The project team consists of staff from the City Manager's Office, including representatives from the Human Rights and Neighborhood Involvement team, a representative from the City's

Sustainability Commission, as well as consultants from Good Company, program staff and students from the University of Oregon's Community Service Center and Community Planning Workshop, and topical experts and community leaders from across the community as necessary.

This Project Proposal is broken into two stages. The Mitigation and Adaptation Stage focuses on the development of mitigation and adaptation actions with large-lever shareholders. The Individual Action Behavior Change Program Stage is a process to develop a community-wide behavior change program which focuses on neighborhoods and households.

- The **Mitigation and Adaptation Stage** is focused on mitigating emissions and fossil fuel reductions as well as adaption to climate change. This stage delivers on the requirements to meet the community-wide goals within the CRO. In addition, this stage includes actions that will build community resiliency with a focus on the economic and equity impacts of a changing climate.
- The **Individual Action Behavior Change Program Stage** includes the Mitigation and Adaptation Stage and advances the development of a community-wide behavior change program to raise awareness and promote individual and collective action to mitigate emissions and adapt to a changing climate.

The **Mitigation and Adaptation Stage** incorporates the necessary items to update the six chapters of the CEAP 1.0 including what's required to meet the CRO goals by mitigating ghg emissions and fossil fuel use and actions that are geared toward adapting to our changing climate. Three chapters will focus on mitigating the effects of climate change: Buildings and Energy Sourcing; Materials Management (which is an enhanced chapter as part of an Oregon DEQ grant); and Transportation and Urban Form – Long range planning. The project team will quantify the projected ghg emissions and fossil fuel reductions for existing community-wide actions (e.g. food waste composting program, bike/ped plans), and additional commitments that are developed through the project process. All actions will be assessed at the appropriate jurisdictional scale (e.g. City of Eugene, Metro Area, Lane County, state, etc.).

Three additional chapters will focus on climate adaptation: Urban Natural Resources, Food and Agriculture, and Health and Social Services. These chapters aim to increase understanding and clarify actions to prepare for both the acute and chronic effects of climate change, such as flood, drought, or food instability, and the long term community impacts based on population growth and scarcer resources. Again, the invited parties will be the organizations already doing some or all of this work that are able to expand their efforts.

For each chapter, "large-lever shareholders" will be engaged to determine:

1. What Implementation Partners and City do already and its effect on mitigation and adaptation goals,
2. What Implementation Partners and City do for citizens through their programs,
3. What residents/households can do,
4. What lobbying efforts – state and federal policy – to support,
5. How to specifically address human rights and equity in each chapter,
6. What benefit the actions will provide towards meeting the goals and targets of the CRO.

The **Individual Action Behavior Change Program Stage** is additive to the Mitigation and Adaptation Stage. The process includes identifying actions, developing the program, and determining the budgetary resources required for implementation of a long term behavior change program that will provide guidance and support for Eugene residents to reduce carbon emissions and adapt to changes at the household and neighborhood levels. This effort will be based on best practices and successful programs that other communities have employed, emphasizing the Community Based Social Marketing (CBSM) approach to behavior change.

PROJECT SCOPE AND DELIVERABLES

STAGE 1 - MITIGATION and ADAPTION

TASK 1: Community Awareness

Goals:
Add to the City's current CRO related communications the following elements:

- Raise awareness about the City's process to update its Climate Action Plan CAP2.0
- Inform the public about opportunities to provide input into the plan
- Learn from the public about their concerns around climate change and the barriers that they see in addressing climate change in their own life
- Create a webpage that serves as the 'landing page' for CAP2.0 related updates, activities, and information

Approach
The team will establish a project webpage hosted on the City's website that will provide information on the CRO in general, the CAP2.0 process, and expected outcomes. It will also include information on how to participate, which will assist in the creation of an interested parties list. The webpage will be the landing site for all CAP2.0 related communications, including meeting notices, agendas and minutes, presentation materials, surveys (identified above), CRO progress newsletters, and draft documents for comment.

The City intends to develop a series of surveys for this project. The initial survey will be used to establish a baseline understanding of climate change and gauge the level of interest and support or opposition to existing actions. The survey will collect information (with approval) on interested parties for future outreach and survey efforts. A second survey can be initiated during the project process to provide the mechanism for community and shareholder input regarding the proposed actions. Lastly, at least 18 months after the CAP2.0 is finalized, a follow-up survey based on the initial foundational effort will be conducted to gauge any change in awareness or interest in approved actions. Demographic information will be collected with surveys with options to opt out for privacy reasons.

The project team will seek to raise awareness about the CAP2.0 project with the community as a whole, placing specific emphasis on raising awareness with local technical experts, members of the business community, NGOs, neighborhood leaders, and representatives of the City's boards and commissions. In addition, the project team will develop culturally appropriate engagement opportunities and materials to raise awareness among more marginalized communities in Eugene.

To develop specific outreach strategies that work best for each of these communities, the project team will consult with the Human Rights and Neighborhood Involvement Office, Planning Department, and the Parks and Open Space Division to identify best practices and lessons learned from other public review processes. In addition, the project team will consult with regional partners in other municipal sustainability offices to learn what outreach strategies have worked for other communities when talking about the climate and energy.

The project team will utilize the CRO communications campaign work to develop key messages and content appropriate for outreach to different audiences.

Deliverables and Timeline: Month 1- End of Project

- CEAP Webpage
- Printed Materials
- Community Survey(s)
- Lists and contact info of interested parties by content areas and participation interest (e.g. volunteer at events, topical expert, etc.)
- Measures of engagement including number of people engaged, and when possible and where appropriate, demographic information

TASK 2: CAP2.0 Plan Development

Goals:

- Complete progress update of CEAP 1.0
- Identify and assess community wide policies that have potential to reduce ghg emissions and fossil fuel use
- Determine ghg emissions and fossil fuel reduction potential of existing community wide policies
- Assess internal City programs, policies, and authorities and recommend changes to meet CRO goals and CAP objectives

Task 2a. Progress Update, Major Plan Review, Determine policy impact

Approach

Review the original CEAP, document progress to date, and prepare for engagement with implementation partners. The information will be built into an Excel-based dashboard for the City to be able to see the CEAP 1.0 and CAP2.0 at a glance and to record progress.

Review existing major policies and plans at the appropriate regional scale (e.g. Envision Eugene, Transportation System Plan, Lane County Solid Waste Master Plan, etc.). Document the alignment, gaps, and the anticipated mitigation effects of the policies and plans, if implemented, in rough scale. An initial list of policies and plans will be developed by the project team with input from the Mayor's CRO Ad Hoc Work Group.

Deliverables and Timeline: Months 1-3

- Action Implementation Status Table
- Forecasted ghg emissions reductions for adopted plans
- Identification of gaps and elements to scale for baseline mitigation and adaptation if plans were enacted

Task 2b: Development of internal City CRO Evaluation Procedure and Implementation Recommendations

Develop a procedure to evaluate City programs and processes for opportunities to advance the CRO goals. This procedure will be developed by City staff with input from the project team. It will be made available for other large organizations in Eugene to utilize as a model in identifying key questions and points for evaluation in a variety of processes. Examples of programs and policies that this procedure will be applied to are the City's Capital Improvement Program (CIP) and the forthcoming Transportation System Plan Implementation Project. This procedure will guide staff through a Triple Bottom Line evaluation with emphasis on the CRO but will include equity and economic impacts. CMO staff will work with staff in each department to apply this procedure to a list of prioritized processes and programs. Staff will develop recommendations on items that are evaluated using the procedure and provide those to the City Manager.

Deliverables and Timeline: Months 3-9 or after the CEAP is complete

- CRO Evaluation Procedure vetted by City staff and project team
- City staff recommendations for how to alter existing processes and programs to further implement the CRO

TASK 3: Engage Implementation Partners (Agencies, Corporations, NGOs etc.)

Goals:

- Work with large-lever shareholders to identify and evaluate possible actions to include in the CAP2.0
- Measure the impact of the actions, including the impact on the CRO goals, progress in creating a community more resilient to climate change, co-benefits, social equity implications, and economic impacts
- Secure commitments from community partners for the actions to be included in the CAP2.0
- Work with shareholders to evaluate and incorporate community feedback on actions included in the CAP2.0
- Emphasize social equity in the process of developing each chapter as well as in the actions identified by large-lever shareholders

Approach

This task focuses on partnerships with large-lever shareholders. Large-lever shareholders are organizations in Eugene who have significant oversight and impact on community wide fossil fuel use and ghg emissions or have the ability to effect or alter systems that will enable the community to adapt and prepare for climate change. Additional partners will be engaged on each chapter with the goal of integrating triple bottom line values throughout each chapter's process and outcomes, such as equity advisors and the business community. Equity advisors will include representatives from historically underrepresented populations and others who can provide expertise around social equity during the plan development process.

The large-lever shareholders will produce six themed chapters (Buildings and Energy Sourcing; Materials Management; Transportation and Urban Form; Urban Natural Resources; Food and Agriculture; and Health and Social Services). Large-lever shareholders for each chapter will be brought together three times.

- **Shareholder Meeting 1:** Large-lever shareholders will discuss baseline actions of their organization's operations, programs for community members, and planned actions in the next 5-10 years (programs they can scale up or new efforts).

- *Interim Step.* The project team will conduct the technical and economic analysis for completing the actions between the first and second shareholder meeting, evaluating the impact and cost of reducing fossil fuel use and ghg emissions. Co-benefits, as well as any unintended consequences identified, of each action will also be included in the plan with particular emphasis placed on the economic and social equity implications.

- **Shareholder Meeting 2:** Large-lever shareholders will evaluate the impact these actions have towards reaching the CRO goals and preparing the community for the effects of climate change.

- *Interim Step.* The Community Review process (Task 4) will take place to provide widespread engagement of and input from the Eugene community regarding the planned actions.

- **Shareholder Meeting 3:** Large-lever shareholders will evaluate feedback from the community review process in Task 4.

"Strategic Doing" will be a key guiding principle of the development of these chapters. The process will include securing public commitments from actors to complete specific actions or implement specific policies. The final CAP2.0 proposal will only reflect the actions and policies the shareholders or another community entity has agreed to fulfill.

Deliverables and Timeline: Months 3-9

- Chapter shareholders, meeting materials, and best practices
- Mitigation or adaptation actions from large-lever shareholders
- Draft chapters with commitments
- Recommended CAP2.0 implementation and reporting program

TASK 4: Draft CEAP Chapters – Community Review

Goals:

- Inform the community about the actions to be included in the CAP2.0
- Gather community feedback about the proposed CAP2.0 actions
- Respond to feedback in a transparent and systematic way

Approach
The City will embark upon a 3-month long community engagement process to seek input on the DRAFT CAP2.0 actions. Similar to the community awareness outreach outlined in Task 1, the City will seek feedback about the proposed CAP2.0 actions from the community as a whole, placing specific emphasis on soliciting feedback from local technical experts, members of the business community, NGOs, neighborhood leaders, and representatives of the City's boards and commissions. In addition, the project team will develop culturally appropriate opportunities and materials to solicit feedback from more marginalized communities in Eugene.

As in Task 1, expertise from City staff and other partners will be sought to develop a robust community review process. The process will vary by group as the project team seeks to identify the best way to engage with each group. The project team expects to hold some community meetings, provide presentations to some groups, provide opportunities to review and comment on the plan on the website, and provide options for feedback using printed materials.

Summary notes from all meetings will be posted to the website. The project team will respond to comments made in writing as well as the main themes heard in meetings. A draft of the plan with these comments and responses will be posted to the website. Any changes to the CAP2.0 proposal will need to be in alignment with key project principles including making progress on the CRO goals and preparing the community for a changing climate, Strategic Doing, and the Triple Bottom Line values.

Deliverables and Timeline: Months 9-12

- Notes from community meetings
- Comments received in writing and responses to comments provided in a publicly available draft

TASK 5: Complete Final Plan

Goals:

- Finalize plan with large-lever shareholder commitments, public comments, and City of Eugene review
- Present to City Council for formal action

Approach
The project team will complete the final CAP2.0, incorporating findings from the community outreach and city staff recommendations. The Final Plan will be presented to Eugene City Council.

Deliverables and Timeline: Months 12-14

- Final CAP2.0

STAGE 2 – INDIVIDUAL ACTION BEHAVIOR CHANGE PROGRAM

Task 6 – Citizen and Neighborhood CAP2.0 Implementation

The project team recommends using an integrated, inclusive, and community-based approach to engaging citizens in CAP2.0 implementation. Recognizing that traditional outreach approaches do not always engage a broad cross-section of the community, this approach seeks equitable engagement across social, political, economic, and geographic strata. In accordance with the overall project approach, the Individual Action Behavior Change Program Stage seeks to leverage existing resources to implement the CAP2.0 through programs the City and community partners already deliver. The objective of this task will be to identify, develop, assess impact, and determine financial feasibility for engagement activities that result in meaningful behavior change on the part of Eugene citizens. Sub-elements under this task focus on identifying specific, realistic, replicable, and measurable implementation approaches. The task will result in a scaled implementation engagement strategy for the City.

Goals:

- Identify and document current best practices related to sustainable behaviors
- Evaluate gaps in local programs and offerings
- Develop a program to fill gaps

Task 6-A: Identify Best Practices

Review and assess current behavior change programs that are in operation within the community (e.g. Love Food Not Waste, Commuter Solutions, Smart Trips, etc.). This task will engage a core group of program administrators from across the community, mostly from large-lever shareholders, to catalogue citizen-level climate mitigation or adaptation programs in the Metro area. This group will also identify best practices that are occurring in other communities, which will be catalogued by the project team.

Task 6-B: Identify Gaps in Programming

The core group from Task 6-A, working with input from the project team and advisory resources as needed, will evaluate the breadth of citizen-level programs across the city and best practices from other communities to create a framework for action sectors (e.g. energy conservation, food waste prevention, alternative transportation, etc.) that local programs can be indexed against. This process will identify gaps in local programming. The core team will then evaluate the feasibility for addressing those gaps, either within City operations, or through other community partners that are better suited for program deployment (e.g. BRING's RE:Think Business program). The project team will use the core group's recommendations to create a report identifying the primary sectors, programs, and best partners to develop the program.

Task 6-C: Program Development

Should the program fall within the responsibility of the City, or a community partner that the City could support, the project team will work with the core group to develop the framework of a new program and determine: program mission, outcomes, and vision; program operational elements, targeted audiences, key performance metrics, co-benefits and financial estimate for

budgeting purposes. The program will then be evaluated by City division managers and executive directors (as required) to create a 'decision package' and recommendation to be provided as part of the annual budget process for the City.

Deliverables and Timeline: (Months 14-20)

- Report on local programs and best practices from other communities
- Framework and indexing document outlining gaps in local programming
- Recommendations for program development
- Program design and feasibility document that includes co-benefits of the program

Climate Action Plan 2.0

Appendix 10

2020 Mayor's Climate Recovery Ordinance Ad Hoc Work Group Materials

Eugene City Manager's Office

Agenda

Mayor's Climate Recovery Ordinance Ad Hoc Work Group
February 12, 2020

1. Introductions

2. Opening Remarks – Mayor Vinis

3. Sharing Process Outcomes

4. Opening Remarks – Sarah Medary, City Manager

5. Staff Presentations
   - Process overview
   - Content overview

6. Break

7. Small Group Discussions
   - What things do you like about the plan?
   - Are there any components of the plan that are missing or should be changed?

8. Small Group Report Out

9. Closing & Next Steps

Participant List
Mayor's Climate Recovery Ordinance Ad Hoc Work Group

Name	Organization
Mayor Lucy Vinis	Eugene Mayor
Councilor Alan Zelenka	Eugene City Councilor
Councilor Emily Semple	Eugene City Councilor
Councilor Greg Evans	Eugene City Councilor
Carson Schmittle	Sunrise Eugene
Dan Hurley	Lane County
Daniel Borson	Human Rights Commission Representative
Eliza Kashinsky	Budget Committee Representative
Eugene Organ	Lane Independent Living Alliance
J. Ingrid Kesler	Eugene Area Chamber of Commerce Member
Jon Kloor	Northwest Natural
Joshua Skov	Community Member
Kaarin Knudson	Community Member
Kelly Hoell	Lane Transit District
Kristie Hammitt	City of Eugene Assistant City Manager
Linda Heyl	350Eugene
Matt McRae	Community Member
Matt Rodrigues	City of Eugene Public Works Director
Matt Schroettnig	Eugene Water and Electric Board
Pablo Alvarez	Eugene Springfield NAACP
Tiffany Edwards	Eugene Area Chamber of Commerce Staff
Zach Mulholland	Sustainability Commission Representative

Mayor's Climate Recovery Ordinance Ad Hoc Work Group

Self-Introductions and Opening Remarks

The Mayor's Climate Recovery Ordinance Ad Hoc Work Group met on February 12, 2020. The first order of business was to do self-introductions. Mayor Vinis then made opening remarks.

Process: Sharing Worst Outcomes

Next participants were asked to share their worst possible outcome of the process. These were recorded on small cards and shared with the rest of the Work Group.

Name	Comment
Councilor Semple	Big fights. No progress. End of Earth.
Councilor Zelenka	Bogged down in the details trying to rewrite the plan and don't come up with a plan.
Dan Hurley	That we will reopen the plan for major revisions and spend years in process before measurable actions are taken.
Daniel Borson	Good ideas get shot down by nay-sayers and we don't think creatively.
Eliza Kashinsky	Months go by where we talk about what we need to do and we don't end up with a plan that we can actually implement that achieves the goals.
Eugene Organ	Develop a plan that doesn't meet the needs of people with disabilities and of low-income populations.
Ingrid Kessler	Plan: Take no further action whatsoever. Group: Advocate only for our own point of view without truly hearing others.
Jon Kloor	CAP is adopted as is. No changes made.
Joshua Skov	CAP2.0 doesn't get more concrete; No additional resources or buy-in; no additional momentum or enthusiasm; process degenerates into a seething puddle of acrimony and frustration
Kaarin Knudson	Process without responsibilities to follow through on difficult actions; Don't address integrated nature of climate action.
Kelly Hoell	City of Eugene's emissions stay stagnant or go up. Today: People leave angry and the folks in the community who care about climate change splinter into different factions leading to the City emissions staying stagnant or going up.
Kristie Hammitt	1. Unable to come together and hear and learn from each other. No fun. People don't feel safe. CAP2.0 doesn't identify plan improvements.
Lex Worden	There is no way to hold the City or third parties responsible to the plan, the plan is a way for city to feed good about its effort without a way to track and hold itself accountable. I also worry that this plan will not focus enough on issues of equity. Social justice and climate justice are inseparable.
Linda Heyl	Process descends into chaos and work doesn't get done. No completed CAP results.
Matt McRae	Three months and additional resources used and ending with a plan that is too ambiguous to be implemented.

Matt Rodrigues	That lack of consensus will delay meaningful action and foster division.
Matt Schroettnig	Goals that build to ? The impacts (unintended) of success, and goals that don't bring with them the resources necessary for success.
Mayor Lucy Vinis	Fail to agree on a plan forward.
Pablo Alvarez	Not meeting the CRO goal, or meeting it only in theory not practice and having a large group of people even more frustrated with the public process than they already are - disenfranchised people are unempowered people. An unempowered public is one that succumbs to fear.
Sarah Medary	We try to make it perfect, take too much time and don't get to action. Work that requires us to pull together to make true impacts, pulls us apart.
Tiffany Edwards	Inability to work together collaboratively resulting in no action and further frustration. Having a community completely divided and unable to see or respect one another's perspectives.
Zach Mulholland	Pass a plan with no actual policies /funding changes put in the place. For this process: talk and not actually change anything.

Process: Sharing Best Outcomes

The participants were then asked to record and share their best possible outcomes of this process.

Name	Comment
Councilor Semple	Everyone listens. We find innovative ideas leading to an exciting, inclusive, compelling plan. Earth is saved.
Councilor Zelenka	Agreement on what should be included in the plan and that the plan meets our ghg reduction goals with real quantifiable actions.
Dan Hurley	An actionable plan with broad community support that rapidly reduces our emissions and serves as a model for other communities.
Daniel Borson	We have a climate plan that is effective, equitable, actionable, and there is commitment to fund all of the city-wide measures in the plan. Eugene becomes a truly sustainable city for generations to come.
Eliza Kashinsky	Equitable and effective plan that is then followed up on with funding, policy, and that achieves goals. It's flexible enough that it can change if its not achieving the outcomes.
Eugene Organ	A plan that is equitable and understood by residents of Eugene and is agreed to by residents.
Ingrid Kessler	We are ready to implement clear measurable steps to achieve our goals and that we have agreed on specific steps to put our plan in action.
Jon Kloor	Community goals achieved (50% reduction of fossil fuels by 2030 and 7.6% annual ghg reduction) through voluntary actions ultimately creating a model for other cities to follow.

Joshua Skov	Consistent with 1.5 degree warming; -focus on key action areas where City has levers (policy, investment); -make climate justice/equity and climate action one and same; - as a group, give clear guidance to Council and Exec staff to inform policy and investment.
Kaarin Knudson	Process leads to collective sense of the benefit of action and the will to follow through with action. Climate responsiveness is integrated in every policy conversation and informs those decision continually. WE see and benefit from our investment in program and feel proud.
Kelly Hoell	Minimize suffering. We see each other as teammates. We find many ways to work together to achieve the emission reduction levels science says we need while improving health and quality of life for all in the process.
Kristie Hammitt	Efficient, inclusive, process that builds trust and confidence in commitment to implement identified actions and achievable goals.
Lex Worden	The plan is able to have measurable and transparent points of accountability. The plan recognizes that social equity is inseparable from climate justice. The plan ensures the involvement and support of disenfranchised groups such as the Kalapuya Ilini tribe, the homeless communities, and the black and brown communities of Eugene.
Linda Heyl	We get clarity about how the work will get done and form subgroups to work between now and the next meeting on sections of the plan so that we have a stronger draft to react to and perfect, coming into the next meeting.
Matt McRae	This group works together to provide clear and actionable input that results in an actionable plan that helps us. Improve social equity while radically reducing greenhouse gas emissions.
Matt Rodrigues	The process brings us together is implementable and integrates social justice and advances our broader community goals.
Matt Schroettnig	Plan goals that are achievable and promote better individual and large lever shareholder accountability, while working to integrate the impacts of climate change on our many communities.
Mayor Lucy Vinis	We agree on specific improvements to the plan that hold us all accountable to achieve measurable outcomes and meaningful public engagement, that we are united in the sense of purpose in the work ahead.
Pablo Alvarez	That we surpass the CRO goals and that instead of focusing on resource allocation to minimize suffering, we can in turn focus on the maximization of thriving communities.
Sarah Medary	You feel good about the plan, can support it, and line up at public forum and say yes, let's get going. You each feel seen, valued and heard thru the process. We build trust.
Tiffany Edwards	A thorough and mutual understanding of the full scope of the issue, its impacts, and implications; and complete alignment on a solution that leads to meaningful action.

Zach Mulholland	Adopt a climate action plan that meets the City's ghg reduction goals that has broad community awareness and support.

Staff Presentations: Process and Content Overview

Jason Dedrick gave an overview of the CAP2.0 process and answered questions. Chelsea Clinton provided an overview of the CAP2.0 including the process of developing the CAP2.0, the forecast for carbon emissions in 2030, and the Additional Actions the City of Eugene is doing to narrow that gap. She answered questions from the Work Group as well.

Small Group Discussions and Work Group Themes

The Ad Hoc work group then formed four break-out groups that held facilitated discussion. Each group were presented with the questions what things do you like about the plan? And are there any components of the plan that are missing or should be changed? *(Comments organized by group can be found in the appendix of this document.)*

What do you like about the Plan?

Clear and accessible. Good education material.

- Clear metrics and images
- Accessible language (to some groups). It was not technical enough for some.
- Balanced use of texts and images
- Good non-technical language
- Easy to read/accessible
    - Spanish?
    - Provide links to weeds
- Explaining complex concepts in an accessible way
- Easy to look at graphic layout
- Good content, appreciate the work
    - High level community education
    - How are we going to meet the CRO goals
- Graphics – useful for education material

Equity Actions

- List of equity actions
    - Want them to be funded and staffed
- Equity piece
- Equity being considered
- Recognition of historically underserved
- Equity panel and incorporation of equity aspects

Realistic actions

- Like that the sector-based is realistic*
- Control vs influence
- Actions are things people or organizations said they would do

- Trying to be realistic
- Attainable goals – implement

Data/Graphs

- Quantification of gap
- Waterfall graph and explanation
- Actions based on solid data/research

Stakeholder Involvement

- Stakeholder involvement and equity considerations
- Inclusive plan development process

Consumption-based Accounting

- Like consumption based-accounting. Raises awareness. (But not doing anything)
- Using consumption-based inventory and approach

Other Comments

- Climate adaptation/resilience components
- Good baseline based on voluntary contributions by large lever shareholders
- Useful public education
- City could with partners, 10-year plan to help people transitioning
- Breadth of strategies
- List of 12 additional strategies
    - Want them to be funded and staffed
    - Some need equity considerations
- Attempt is comprehensive
    - Focus on TBL
    - Equity is being considered
    - Sections on how to adapt and education
- 3-bucket approach could be made to work
- Good starting point

What would you change or add to the Plan?

The plan needs more detail.

- The current draft looks more like a set of strategies than an action plan. It requires people to read the appendices to understand some of the specifics included in the plan. Thus, the language of the current draft is very accessible to most but does not provide the depth of information people with more technical knowledge would like to find in an action plan.
- The plan should explain the assumptions behind each strategy. This will provide clarity and avoid the perception of " greenwashing" language and imagery.
- Not enough focus on 'How and why',
- List of programs and policies needed to reach over-arching goals
    - Goals for each sector
    - Then add targets (e.g. how many EV's each year)

    - Each sector has targets and plans to reach
- Orange bar needs an action plan
- Add McKenzie Curve
- Actions lack specificity (timeline, resources, sub targets, tracking progress, how do we know if we succeed?)
- Not clear whether actions will be described further in implementation plan
- Incorporate clear timelines for plan and specific actions (e.g. TSP, etc.)
- Integrate Equity Panel recommendations into CAP and other City work/not clear how these are used
- Lots of good education, but detail/tech in nature, use, and tools
- Beef up tool, details in plan
- Large omissions – lots
- Have the team/group be able to detail the omissions/ have the opportunity to
- No objectives, timelines, metrics for evaluation, success, accountability/responsible people (e.g. standard pieces of project management)
- Education material – should be more detailed
- Implementation planning, not addressed
- The plan should accommodate expected changes at the state and federal levels (regulations, programs, etc.)
- Implementation timelines and cost estimates should be provided for each action/strategy.
- Consumption based emissions goal left out

Additional Topics to Include

- Lacks small actions individual community members can make
- No guidance for how large membership groups can engage their members
- Need to include consumption-based
- Need to incorporate additional strategies that impact consumption/affect behavior
- Does not address the need for behavioral change
- Communications/education plan

Prioritization

- Going to need to prioritize
- Need focus/clarity about what actions to do
- Prioritization
- Big goals – but how take incremental steps to get there

Integrate the CRO Internally at the City and Through Other Work Community-Wide

- Help connect the dots between various moving parts/components of CRO implementation
- City can mandate how it acts internally
- Have city staff be more integrated
- In level of COE organization for everyday work if all staff
    - COE staff /internal work (e.g. COE fleet)
    - External community work

Plan Shows a Path to fully meet the CRO

- Plan doesn't fully meet the CRO goals (needs to)

- List everything that needs to be done
    - Could empower the community
- Strategies need to reach CRO goals are not in the plan
- No goals are aspirational (wrong to avoid) definitive goals are necessary, start here then how get there

Funding Strategy

- Funding mechanisms need to be identified
- Get actions to cost portion then invest accordingly
    - Least cost planning, taking co-benefits into account
    - Need to overlay equity and cost/benefit
- Need to be able to identify new strategies to fund
- Revenue tool – not only greenwashing
- Local investment funds
- Be able to get more 'bang for buck'
- Most reduction for investments
- Budget priorities
- Climate versus homeless – doesn't have to be one or the other
    - E.g. pg 27 address housing
- No budget – not addressed

Accountability /Metrics

- The plan lacks enforcement and accountability details. The group would like to see more specifics on how the strategies and actions will be accomplished.
- More accountability for large lever shareholders and their actions
- How lacking success will be measured (metrics)
- Ask partners to do the same tracking/metrics+ info as City
- No mechanism to hold large lever shareholders accountable for implementation
- No mechanism to enforce subplans are working/implemented
- Feedback loop – reports, dashboard – for community
- NO sense of how actionable/reasonable components of the plan are (subplans)

Stronger Connection to Housing, TSP

- It should be explained how the plan aligns with Envision Eugene (High-density housing along transit corridors).
- Not all the possible City levers are included (Zoning)
- TSP implementation not sufficient- bike/ped master plan should support broader transition
- Housing – underdiscussed because it is such a big part
- Misses opportunity to capture diverse housing in the plan, like alternative, small homes (HB 2001)
- Inter-related considerations – bring it all together
    - E.g. more population, transportation
- Look at holistically – e.g. what it takes to run a city
- State laws changed around housing

Process Concerns

- It would be good to wait for TSP and NWN process to be finished, so they can be included in the plan. This will avoid the use of general language and estimates about the benefits of those two processes.
- The iterative process for the adoption of the plan should be made more explicit.
- Commit to how often plan will be revisited/revised
- Ability to adjust (staff expertise) as science evolves
- Next steps are not clear/no new actions that we are not already doing
- Not a stretch plan/reiterates what we are already doing
- The 12 additional strategies are not yet in the plan
- Disappointing in lack of consideration of offsets, invest in, have ability to invest in offsets, efficiency investments
- Northwest Natural Smart Energy – look at carefully, not definitive carbon reduction

Community Engagement Concerns

- Make the community engagement process more explicit. One person questioned if equity panel included people with lived experiences versus White people representing marginalized groups.
- Engagement Plan
- Get Equity woven into the prioritization (+ climate) of all city actions
    - how will bodies like planning commission factor this into decisions
- Be clear how we want the community to engage in CAP2.0
    - Provide seamless ways for the community to engage/participate in CRO implementation plan
    - Ways to engage that work for different part of community
    - Community education component
- How do we get the community aware about the plan and involved in its implementation?
    - Consider revisiting ideas from original ad hoc group
- Get the public outreach needed to help council make informed decisions
    - Cost/ton
    - Scale of actions
    - Tech feasibility

Resiliency

- Lacks a resiliency plan
    - Vulnerable populations
- Adaption strategy
    - Add rooftop/rain capture (add to plan)
    - De-central measures,
    - Community/backyard food production

ECC Commitment, Integration

- The commitment of ECC organizations should be made more explicit and detailed.
- Large Lever shareholders were not asked for stretch plan – what other actions would they take?
- It should be made clear the spheres of action (City, ECC, Community)

Small Group Reporting and Next Steps

The small group facilitators shared a brief overview of the small group discussions. City staff then reported that theses notes would be delivered and next-steps would be shared in the coming weeks. The meeting was then adjourned.

Appendix 1: Small Group Discussions Notes

Participants were broken into four small groups and had facilitated discussions about the positive aspects of the existing CAP2.0 document and the improvements that are needed. The participants were given color codes, and each had their own facilitator. The notes from each group are summarized below with the facilitator in parenthesis.

Red Group (Fabio)

Positives:

- Clear metrics and images
- Accessible language (to some groups). It was seen as not technical enough for some. See below
- Breadth of strategies
- Stakeholder involvement and equity considerations
- Balanced use of texts and images
- Good starting point
- Good non-technical language
- Breadth of strategies

Improvements needed:

- The current draft looks more like a set of strategies than an action plan. It requires people to read the appendices to understand some of the specifics included in the plan. Thus, the language of the current draft is very accessible to most, but does not provide the depth of information people with more technical knowledge would like to find in an action plan.
- It should be made clear the spheres of action (City, ECC, Community)
- The plan lacks enforcement and accountability details. The group would like to see more specifics on how the strategies and actions will be accomplished.
- The iterative process for the adoption of the plan should be made more explicit.
- The commitment of ECC organizations should be made more explicit and detailed.
- Implementation timelines and cost estimates should be provided for each action/strategy.
- It should be explained how the plan aligns with Envision Eugene (High-density housing along transit corridors).
- It would be good to wait for TSP and NWN process to be finished, so they can be included in the plan. This will avoid the use of general language and estimates about the benefits of those two processes.
- The plan should explain the assumptions behind each strategy. This will provide clarity and avoid the perception of “greenwashing” language and imagery.
- The plan should accommodate expected changes at the state and federal levels (regulations, programs, etc.)
- Make the community engagement process more explicit. One person questioned if equity panel included people with lived experiences versus White people representing marginalized groups.

Black Group (Jason)

Positives

- Like consumption based-accounting. Raises awareness. (But not doing anything)
- Like that the sector-based is realistic*
- Control vs influence
- List of 12 additional strategies
    - Want them to be funded and staffed
    - Some need equity considerations
- List of equity actions
    - Want them to be funded and staffed
- Actions are things people or organizations said they would do
- Quantification of gap
- Easy to read/accessible
    - Spanish?
    - Provide links to weeds
- Waterfall graph and explanation

Improvements needed:

- Lacks small actions individual community members can make
- No guidance for how large membership groups can engage their members
- Engagement Plan
- Not all the possible City levers are included (Zoning)
- List of programs and policies needed to reach over-arching goals
    - Goals for each sector
    - Then add targets (e.g. how many EV's each year)
    - Each sector has targets and plans to reach
- Funding mechanisms need to be identified
- Get actions to cost portion then invest accordingly
    - Least cost planning, taking co-benefits into account
    - Need to overlay equity and cost/benefit
- Get Equity woven into the prioritization (+ climate) of all city actions
    - how will bodies like planning commission factor this into decisions
- Lacks a resiliency plan
    - Vulnerable populations
- Plan doesn't fully meet the CRO goals (needs to)
- More accountability for large lever shareholders and their actions
- List everything that needs to be done
    - Could empower the community
- Orange bar needs an action plan
- Communications/education plan
- How lacking success will be measured (metrics)
- Need to include consumption-based
- Commit to how often plan will be revisited/revised
- Ability to adjust (staff expertise) as science evolves
- Ask partners to do the same tracking/metrics+ info as City

- Get the public outreach needed to help council make informed decisions
    - Cost/ton
    - Scale of actions
    - Tech feasibility
- Add McKenzie Curve

Yellow Group (Pavel)

Positives:

- Explaining complex concepts in an accessible way
- Climate adaptation/resilience components
- Easy to look at graphic layout
- Actions based on solid data/research
- Good baseline based on voluntary contributions by large lever shareholders
- Inclusive plan development process
- Equity panel and incorporation of equity aspects
- Using consumption-based inventory and approach

Improvements needed:

- Next steps are not clear/no new actions that we are not already doing
- Need to be able to identify new strategies to fund
- Not a stretch plan/reiterates what we are already doing
- The 12 additional strategies are not yet in the plan
- Strategies need to reach CRO goals are not in the plan
- TSP implementation not sufficient- bike/ped master plan should support broader transition
- NO sense of how actionable/reasonable components of the plan are (subplans)
- Does not address the need for behavioral change
- No mechanism to hold large lever shareholders accountable for implementation
- No mechanism to enforce subplans are working/implemented
- Large Lever shareholders were not asked for stretch plan – what other actions would they take?
- Actions lack specificity (timeline, resources, sub targets, tracking progress, how do we know if we succeed?)
- Not clear whether actions will be described further in implementation plan
- Need to incorporate additional strategies that impact consumption/affect behavior
- Integrate Equity Panel recommendations into CAP and other city work/not clear how these are used
- Feedback loop – reports, dashboard – for community
- Incorporate clear timelines for plan and specific actions (e.g. TSP, etc.)
- How do we get the community aware about the plan and involved in its implementation?
    - Consider revisiting ideas from original ad hoc group
- Be clear how we want the community to engage in CAP2.0
    - Provide seamless ways for the community to engage/participate in CRO implementation plan
    - Ways to engage that work for different part of community
    - Community education component

- Help connect the dots between various moving parts/components of CRO implementation

Green Group (Michelle)

Feelings:

- Clarity – about what? Know goal, but how in 10 weeks
- Out time is used well- time is valuable
- Enthusiastic, motivation

Positives:

- Attempt is comprehensive
    - Focus on TBL
    - Equity is being considered
    - Sections on how to adapt and education
- Trying to be realistic
- Attainable goals – implement
- Recognition of historically underserved
- Equity piece
- Equity being considered
- 3-bucket approach could be made to work
- Useful public education
- Graphics – useful for education material
- Good content, appreciate the work
    - High level community education
    - How are we going to meet CRO goals

Improvements needed:

- Consumption based emissions goal left out
- City could with partners, 10-year plan to help people transitioning
- No goals are aspirational (wrong to avoid) definitive goals are necessary, start here then how get there
- Disappointing in lack of consideration of offsets, invest in, have ability to invest in offsets, efficiency investments
- Revenue tool – not only greenwashing
- Local investment funds
- Adaption strategy
    - Add rooftop/rain capture (add to plan)
    - De-central measures,
    - Community/backyard food production
- Northwest Natural Smart Energy – look at carefully, not definitive carbon reduction
- Not enough focus on 'How and why',
- Lots of good education, but detail/tech in nature, use, and tools
- Beef up tool, details in plan
- Going to need to prioritize
- Be able to get more 'bang for buck'
- Most reduction for investments
- City can mandate how it acts internally
- Budget priorities

- Climate versus homeless – doesn't have to be one or the other
    - E.g. pg 27 address housing
- Have city staff be more integrated
- In level of COE organization for everyday work if all staff
- COE staff /internal work (e.g. COE fleet)
- External community work
- Large omissions – lots
- Have the team/group be able to detail the omissions/have the opportunity to
- No objectives, timelines, metrics for evaluation, success, accountability/responsible people (e.g. standard pieces of project management)
- Education material – should be more detailed
- No budget – not addressed
- Implementation planning, not addressed
- Need focus/clarity about what actions to do
- Prioritization
- Big goals – but how take incremental steps to get there
- Housing – underdiscussed because it is such a big part
- Misses opportunity to capture diverse housing in the plan, like alternative, small homes (HB 2001)
- Inter-related considerations – bring it all together
    - E.g. more population, transportation
- Look at holistically – e.g. what it take to run a city
- Sate laws changed around housing

Mayor’s Climate Recovery Ordinance Ad Hoc Work Group

February 12, 2020

Agenda

- Introductions
- Climate Action Plan 2.0 Process and Document Overview
- Small Group Discussions

Mayor’s CRO Ad Hoc Work Group: 2017 Recap

Major Themes from the 2017 Mayor's CRO Ad Hoc Work Group

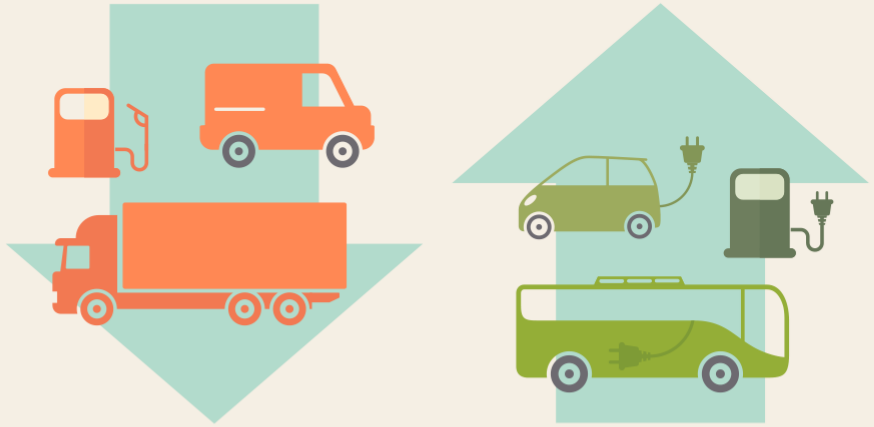
- Large Lever Shareholders
- Triple Bottom Line
- Strategic Doing
- Adding Momentum to existing efforts
- Clear and accessible communications

CAP2.0 Process and Document Overview

COMMUNITY CLIMATE RECOVERY ORDINANCE GOALS

Reduce Fossil Fuel Use

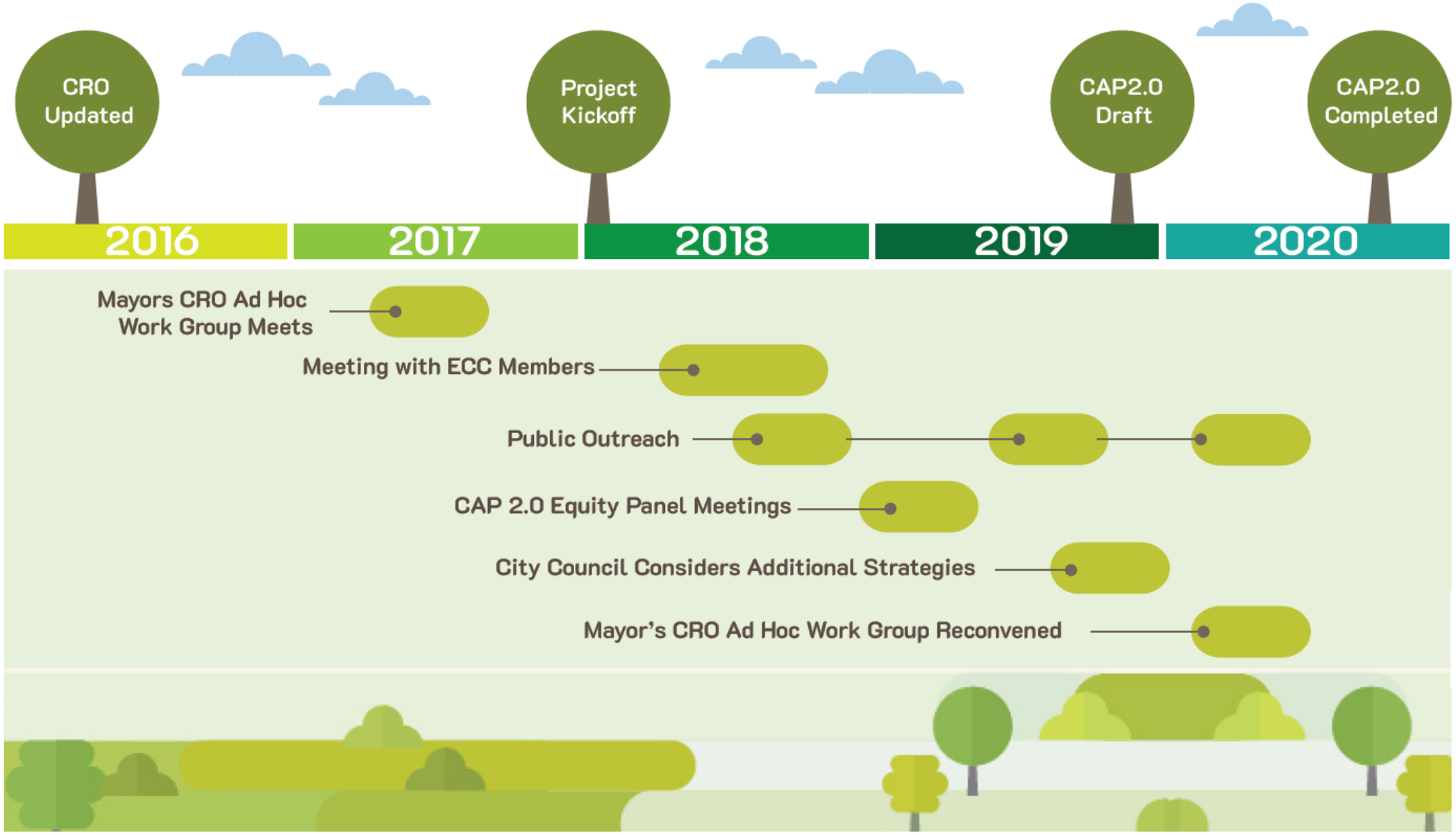
50% reduction by 2030 compared to 2010



Reduce Community-wide GHG Emissions

Science-based goal to reduce ghgs to
Eugene's average share of 350ppm by 2100

Eugene


CRO Updated
Project Kickoff
CAP2.0 Draft
CAP2.0 Completed
2016
2017
2018
2019
2020
Mayors CRO Ad Hoc Work Group Meets
Meeting with ECC Members
Public Outreach
CAP 2.0 Equity Panel Meetings
City Council Considers Additional Strategies
Mayor's CRO Ad Hoc Work Group Reconvened

EUGENE CLIMATE COLLABORATIVE

LARGE LEVER SHAREHOLDERS

By starting with the engagement of systems level actors, we are laying the foundation to make it easier for everyone – individuals, households, businesses, and other organizations – to take actions that support the CRO goals.

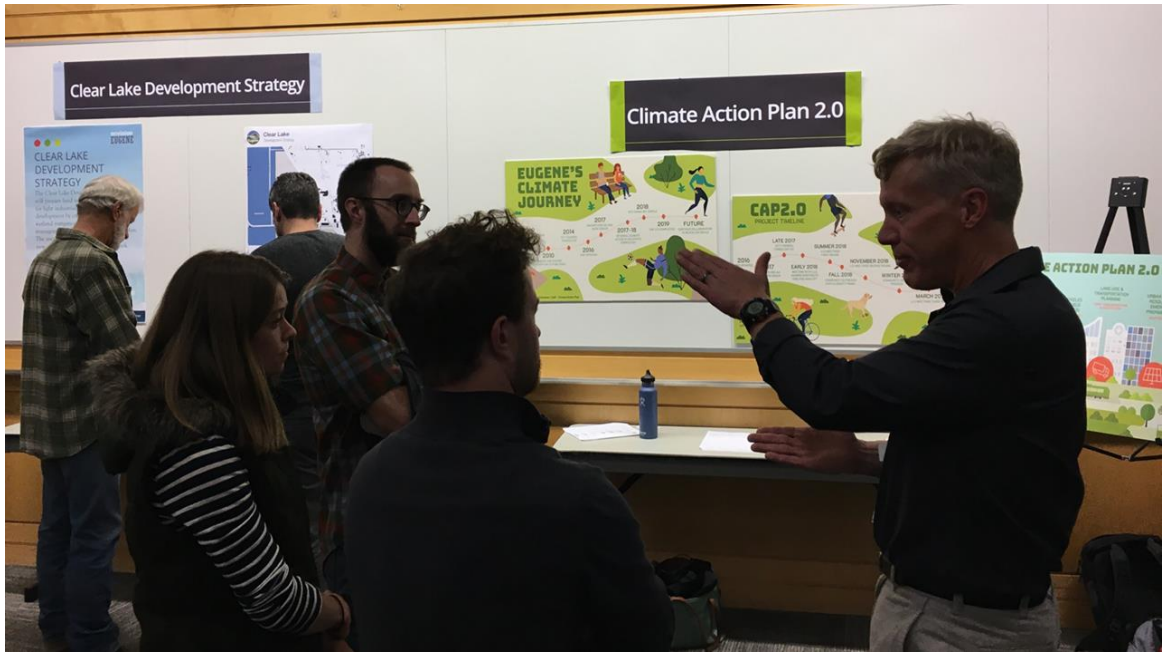
- Eugene
- Lane County Oregon
- Bethel School District
- Eugene Area Chamber of Commerce
- 4J
- Lane Community College
- University of Oregon
- Lane Transit District
- EWEB
- PeaceHealth
- Metropolitan Wastewater Management Commission
- NW Natural

ECC partners are defined as organizations who have significant oversight and impact on community-wide fossil fuel use and greenhouse gas emissions or have the ability to affect or alter systems that will enable the community to adapt and prepare for climate change.

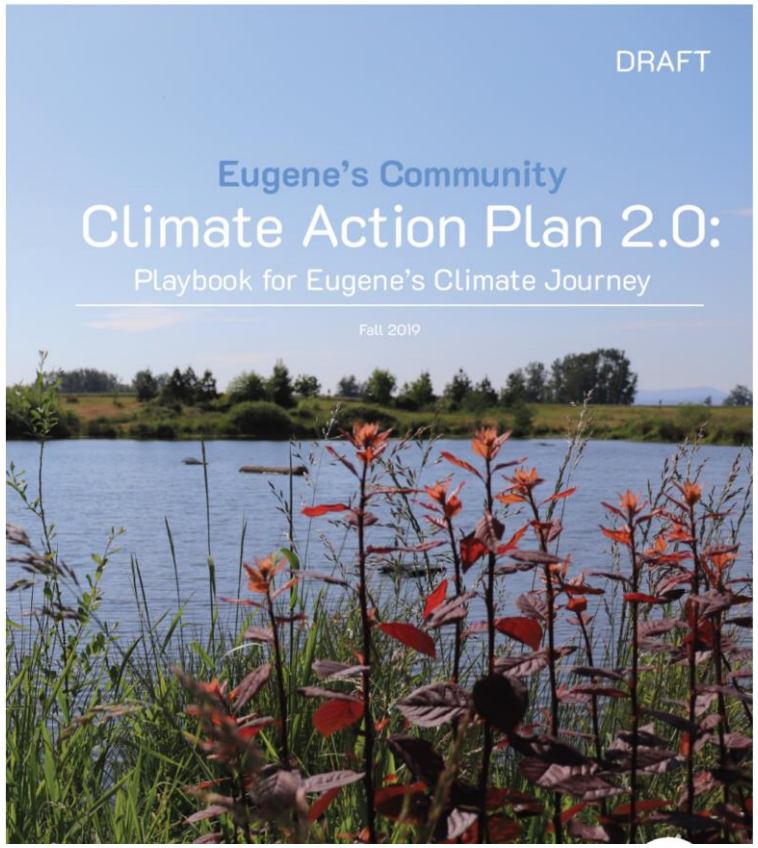
EUGENE CLIMATE ACTION PLAN

EQUITY PANEL

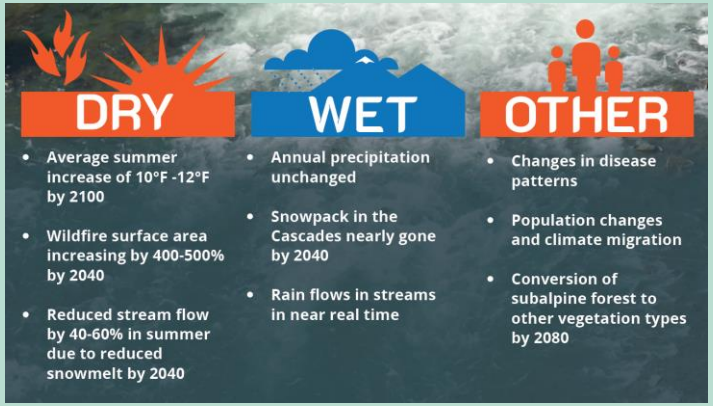
Community Engagement

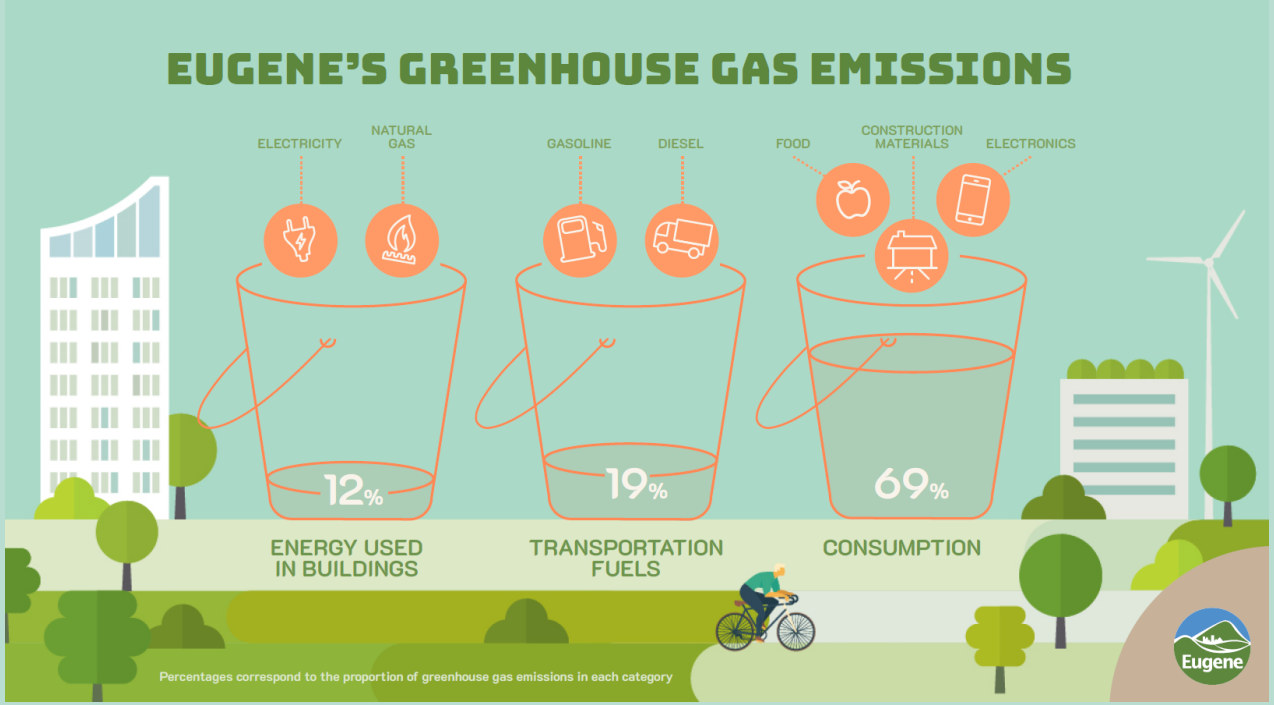


Draft CAP2.0 Released in November 2019



2030 Goal: 790,000 MT CO_2e


DRY
Average summer increase of 10°F -12°F by 2100
Wildfire surface area increasing by 400-500% by 2040
Reduced stream flow by 40-60% in summer due to reduced snowmelt by 2040
WET
Annual precipitation unchanged
Snowpack in the Cascades nearly gone by 2040
Rain flows in streams in near real time
OTHER
Changes in disease patterns
Population changes and climate migration
Conversion of subalpine forest to other vegetation types by 2080


EUGENE'S GREENHOUSE GAS EMISSIONS
ELECTRICITY
NATURAL GAS
GASOLINE
DIESEL
FOOD
CONSTRUCTION MATERIALS
ELECTRONICS
12%
19%
69%
ENERGY USED IN BUILDINGS
TRANSPORTATION FUELS
CONSUMPTION
Percentages correspond to the proportion of greenhouse gas emissions in each category
Eugene

Additional Strategies

1. Blue – NWN Process
2. Salmon – Back Soon
3. Green – Moving Forward
4. Yellow – Always An Option

1. Smart Energy Program

SMART ENERGY
Presented by NW Natural

2. Regulate Natural Gas

3. Biogas and Renewable Hydrogen

4. Home Energy Score and Commercial Benchmarking

5. Energy Efficiency and Fuel Switching

6. TSP Updated to Meet CRO Goals

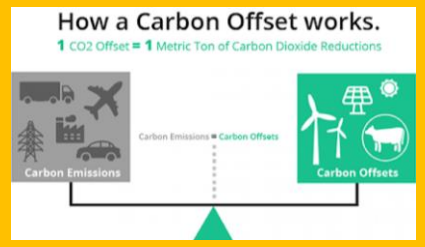
7. Implement Eugene's Electric Vehicle Strategy

8. Lobby for State and Federal Action

9. Reduce Refrigerant Loss

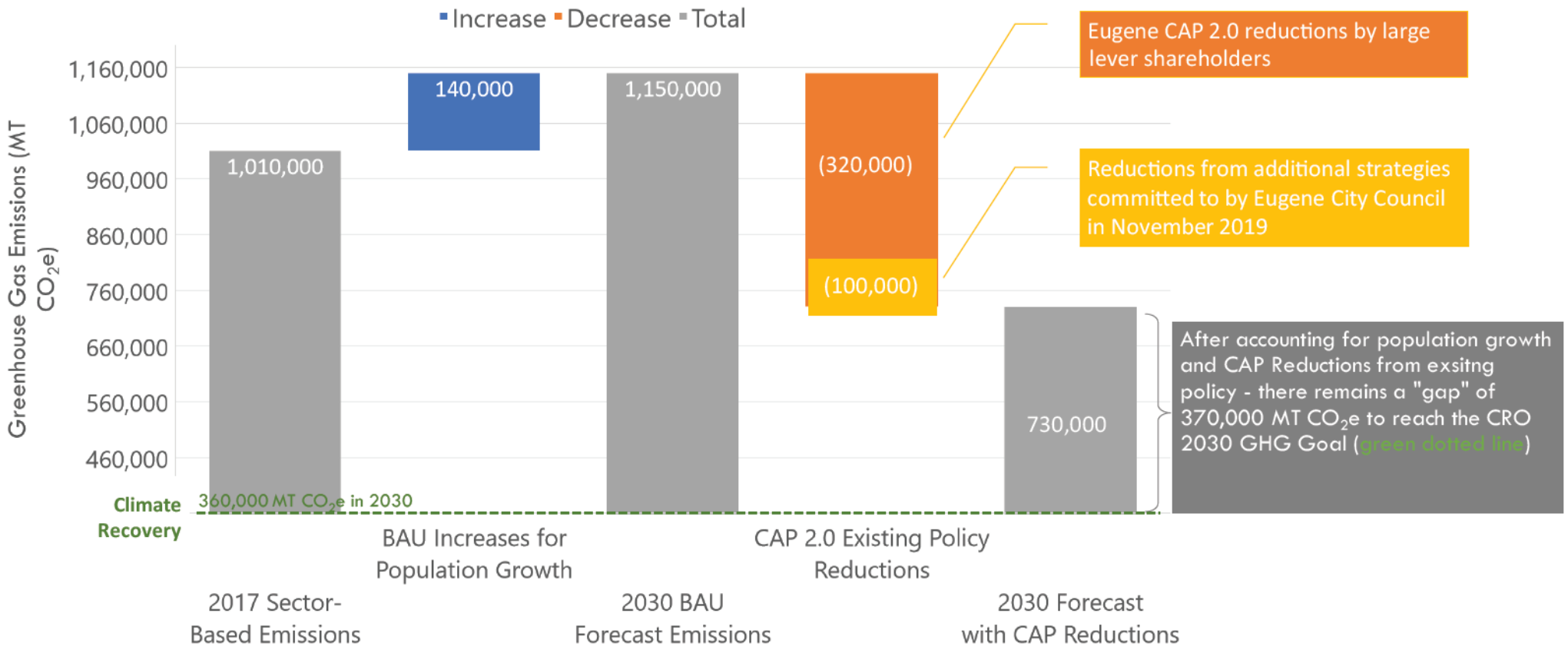
10. Capture Biogas From Organic Waste

11. Offset Program

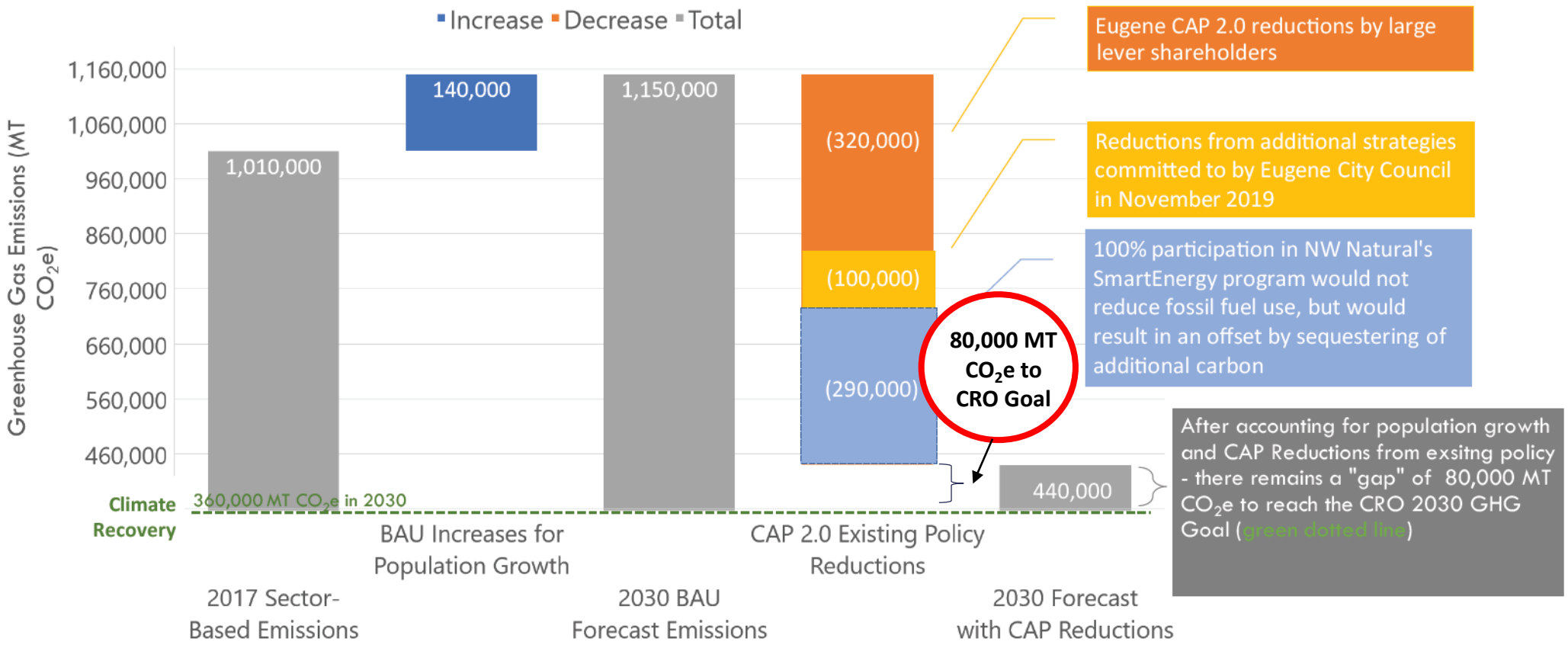


12. Community Innovation Fund

Meeting the 2030 CRO Greenhouse Gas Emissions Goal



Meeting the 2030 CRO Greenhouse Gas Emissions Goal – Adding Offsets for Natural Gas



CAP2.0 Equation

Questions

Eugene City Manager's Office

Agenda

Mayor's Climate Recovery Ordinance Ad Hoc Work Group
March 11, 2020

1. Agenda Review

2. Review Group Purpose & Process

3. Review of Work Group Themes

4. Small Group Discussions – New Content Themes
    - Does the approach for addressing these themes feel good?
    - If you have a specific comment on a theme, what is the one most important piece?

5. Small Group Discussion – Process and Implementation Themes
    - Does the approach for addressing these themes feel good?
    - If you have a specific comment on a theme, what is the one most important piece?

6. Small Group Report Out

7. Review Process for Collecting & Evaluating New Plan Actions

8. Closing

Participant List
Mayor's Climate Recovery Ordinance Ad Hoc Work Group

Name	Organization
Mayor Lucy Vinis	Eugene Mayor
Councilor Alan Zelenka	Eugene City Councilor
Councilor Emily Semple	Eugene City Councilor
Councilor Greg Evans	Eugene City Councilor
Dan Hurley	Lane County
Daniel Borson	Human Rights Commission Representative
Eliza Kashinsky	Budget Committee Representative
Eugene Organ	Lane Independent Living Alliance
J. Ingrid Kesler	Eugene Area Chamber of Commerce Member
Jon Kloor	Northwest Natural
Joshua Skov	Community Member
Kaarin Knudson	Community Member
Kelly Hoell	Lane Transit District
Kristie Hammitt	City of Eugene Assistant City Manager
Lex Worden	Sunrise Eugene
Linda Heyl	350Eugene
Matt McRae	Community Member
Matt Rodrigues	City of Eugene Public Works Director
Matt Schroettnig	Eugene Water and Electric Board
Pablo Alvarez	Eugene Springfield NAACP
Tiffany Edwards	Eugene Area Chamber of Commerce Staff
Zach Mulholland	Sustainability Commission Representative

Mayor's CRO Ad Hoc Work Group Meeting Summary Notes

March 11, 2020

1. Agenda Review

Staff reviewed the agenda with the Work Group. No changes were made.

2. Review Group Purpose and Process

Staff shared the purpose statement for the group and the process moving forward.

Purpose Statement:

The Community Climate Action Plan 2.0 (CAP2.0) is Eugene's roadmap to achieving the community climate action goals in the CRO as well as a climate resiliency plan. The purpose of the Mayor's CRO Ad Hoc Work Group is to provide guidance on how to modify the Draft CAP2.0 and to provide input on additional actions to add to the plan to fully meet the CRO goals. The Work Group will provide guidance on the following:

- The high-level topics, or themes, that should guide the document revision process
- Evaluation criteria for additional actions to add to the plan
- Additional actions to add to the CAP2.0 to achieve CRO goals, including some prioritization of the suggested additional actions
- CAP2.0 community engagement process moving forward

Process:

- Feb 12 – Work Group Meeting 1: Listening Session
- Mar 11 – Work Group Meeting 2: Themes + Additional Action Process
- Early April - Community Meeting
- Mid-April – Work Group Meeting 3: Evaluate New Actions
- Early May – Work Group Meeting 4: Release updated document

3. Review of Work Group Themes

Staff walked through the themes from the first Work Group meeting as well as how staff plan to act on each theme.

New Content to be added to the plan

1. **More Detail**
    - Expanded Description of Actions
    - Add case studies on key topics like housing and transportation
    - Move Triple Bottom Line Analysis from appendix into body of document
    - Add a thermometer to show overall progress
    - Add a timeline

2. **Additional Topics**
    - Add actions households and individuals can take
    - Add case study on consumption that includes the consumption-based goal

3. **Prioritization**
    - Add a timeline to demonstrate when actions will be addressed

4. **Integrate the CRO Internally at the City and Through Other Community-Wide Work**
    - Add Department responsible for each City of Eugene Action

5. **Pathway to the CRO**
    - Add additional actions from Ad Hoc WG Members and community members
    - Incorporate 12 Additional Strategies considered by City Council in 2019
    - Add graph to show current trajectory and the pathway to hit the CRO goals

6. **Funding**
    - Add cost information to City of Eugene Actions

7. **Accountability/Metrics**
    - Add graph that shows current trajectory and pathway to meet CRO goals

8. **Stronger Connection to Housing and Transportation System Plan**
    - Add a case study on housing
    - Add a case study on transportation

9. **Resiliency**
    - Add new actions from Ad Hoc WG Members and community members

Process and Implementation Changes

1. **Integrate the CRO Internally at the City and Through Other Community-Wide Work**
    - Continue to convene and work with staff throughout the City to incorporate CRO into all City work

2. **Funding Strategy**
    - Budget Committee and City Council are the bodies that consider funding allocations and new revenue sources

3. **ECC Commitment/Integration**
    - ECC contributed actions that they plan to do in the next 5-10 years
    - Continue to work with ECC as part of CAP2.0 implementation to collaborate and find ways to move this work forward together

4. **Accountability/Metrics**
    - Sustainability Commission will lead dashboard effort to identify key metrics for the CAP2.0

5. **Community Engagement Concerns**
    - Topic Ad Hoc Work Group will cover later in this process

6. **Process Concerns**
    - CRO provides some guidance on when to report out; further discussion at 4th Ad Hoc Work Group Meeting
    - 12 strategies will be included in the new draft
    - As other plans are finalized, they will be integrated into this work as much as possible (TSP, Northwest Natural Franchise Agreement outcome)

4. Small Group Discussion

The Work Group broke up into small groups to discuss the theme and proposed revisions. See the Small Group discussion notes at the end of the document for notes from each group.

5. Review Process for Collecting and Evaluating New Plan Actions

Staff shared that ideas for additional actions to be added to the plan will be collected from the community and the Ad Hoc Work Group. The Work Group will make a recommendation about which actions will be included in the plan. Staff will be following up with Work Group members about what the criteria for evaluating actions should be.

Small Group Discussion Notes

Organized by Theme (See below for notes organized by each group)

New Content

- **More Detail**
  - TBL Analysis - Who controls content should COE staff grade own work? Social Equity considerations (representation?)
    - Suggestion: First step>Staff start. Second step>Review Committee?
    - Broader set of voices/TBL panel(urban Res. Example) or Equity Panel, Sustainability Commission, standing committee that reflects city
    - TBL not a great system
    - Incorporate Qualitative co-benefits
  - Every action needs responsible party, timeline & funding
  - Showing equity achievements
  - Connect actions with education and community
  - Simplifying large actions engagement in larger institutions for all ages/level of understanding
  - TBL - How will it be implemented and by who? (throughout plan)
  - Confusing/opaque - add more content to be more concrete
  - Needs to be enough to define scope of item (what is not included)
  - Define scope of each item clearly (1)
  - Scope of item has detail of what will be done
  - Moving to an action list, building, out content to other things-Housing, Transportation, urban forest, urban
  - The examples of other climate plans helpful for detail
  - Thermometer-one that goes down emissions sector based/consumption based (related to individual House Holds
  - Eugene Carbon>include app in plan>free challenge & app trends)
  - **Need both>High level (skeleton)
  - Still have feeling of eagerness, powerful, to make consumption piece more effective for all
  - Capture influence, not so much prioritization, prioritization is not important as is influence
  - Specific for low income household, matching fund for energy efficiency-clean energy fund
  - Actions in COE plan but lack of objectives

- **Additional Topics**
  - Show how City & city partners can help them take actions
  - Can City partner with groups to make larger impact (ex. Large leverage shareholders), <u>rather than</u> focus on individuals/households
  - Focus on biggest impact?
  - **Consumption-based Goal:**
    - lofty & confusing
    - Focus on sector-goal instead?
    - Public Information Campaigns to address public behavior
  - Add sequestrations targets, Other category: ex. Fossil Fuel Bond

- Community involvement participation(understanding)
- Clean Energy Fund
- Need to strike the right balance between additional detail and accessibility of CAP documents/Need specific consumption-based actions not just an explanation of what they are

- **Prioritization**
  - Near, Mid, long-term actions
  - Mackenzie Curve?
  - GHG reductions/cost
  - *Develop list & refine overtime>ECC relationships needed
  - state goals by sub-goals (ex. Smaller annual targets)
  - Clarify prioritization (prioritizing actions) vs. timeline (could be smaller timelines for each actions), include both
  - *Each action needs timeline (Include in Appendix?), if appropriate
  - timeline
    - prioritize where most effort/energy/impact (all items)
    - front load highest reduction actions (earlier planning $$)
  - Timeline
    - what does it mean?
    - when will it be implemented?
      - can we begin now or later?
    - the thermometer. Doesn't show that CAP-first statement
    - What we are going to do to meet CRO, then detail the HOW
    - Identify dependencies, other actions, other state/fed actions
    - What new content is needed-Also gather from community (lists)
    - Need a clear path to goals from each sector/Bucket
    - High level backbone
      - Sector-Based
      - Consumption-Based - Emissions-List to reduce
  - Look at what is <u>necessary</u> not just feasible
      - done first with front and plan

- **Integrate the CRO Internally at the City and through other work community-wide**
  - Partner agencies should be identified in actions along with responsible party (funding opportunities)
  - Housing/Land Use options to address Emissions
  - Add civic components to build trust for institutions (not just enviro. Actions)
  - Tell stories of success (ex. PW-warm asphalt pioneered) ex. Consumption analysis, ex. EPD>test Arci moto vehicle
  - Communicating(aligning) from other plans that align with CAP(little and big)
  - Create connections to report through stories
  - Want to see an all staff city mtn-make it a priority-know how it applies to your job

- **Pathway to the CRO**
  - Communicate success, CLEAR path, checkpoints
  - Community engagement-Plan-who is in charge, equity, urban forest, land use, housing, food security, going to be lots of community input-Details
  - Get content from other city/community groups/TSP>also goes to transportation commission
  - Intergrade with other committees/clear communication about other work going
  - Pieces of content are missing and there are concerns about who (staff) making decisions
  - TSP/Needs bike/peds, include EV plans and emission, LTD plan
  - Assess the right to level and detail
  - Important (and difficult) to set criteria for selecting new/additional CAP strategies
  - Need to ID strategies to reach CRO goals, not just list in appendix
  - Highlight actions that have been committed to and those that have not

- **Funding Strategy**
  - Incorporate other co-benefits (ex. health)
  - Intergrade TBL into curve
  - Get listed on unfunded needs budget to get in front of committee- URGENT!
  - Needs to get approved by council & next immediate steps
  - Present funding recs options to council
  - Not enough to say how much costs
  - Actions need to be integrated into existing budgets (TSP/CIP) or CMO budget plans process
  - Plan for list of actions to real implementation (requires funding)
  - Need plan to move from plan to implementation-Need Funding plan!
  - rough estimates to aid in budget planning, describe the scale (FTE, other resources); show a comparative value to actions/ROI
  - Show who is paying
  - Pleased about cost information for CAP actions being added/BC nexus

- **Accountability/ Metrics**
  - How can COE enforce other agencies?
  - Add triggers> Can't just show not meeting goals
  - "Automatic trigger" to update to ensure meeting goals (ex. Every 2 to 5 years) (ex. "Meet reductions or buy offsets at $ amount) *Incentives
  - Triggers that are incentives to meet goals (Do nothing and then pay vs. Do something and pay nothing)
  - Include progress metric (Liked Bend Plan e.g.) and co-benefits
  - Influenced-what decisions are influenced by others externalities-catalyze
  - Show ranges of what can be achieved by implementing strategies
  - Targets 5,10,15 years out with lineage to TSP and housing strategies
  - Need action plan with specific measurements to hold the city accountable

- **Stronger connection to housing, TSP**
    - Don't like case studies idea
    - show connection to other plans, "Connections Chapter", "Crosswalk Options"
    - (ex. How does TSP relate to climate work?)
    - *move TSP targets into CAP (ex. Increase Bike/Peds/Transit use) >How actually do this?>What is plan?>How are projects prioritized to meet TSP targets?
    - *Align CAP & TSP targets
    - Case Study=examples, not complex pull from other communities
    - "Case Study" language is not descriptive enough/hard to understand. Need better language

- **Resiliency**
    - City doesn't have expertise ad hoc
    - Equity recommendations (44 actions)
        - How are we going to pay for it?
        - How will they be implemented?
    - Need other experts, otherwise limitations
    - New Theme - Mental health preparedness/psychological resiliency/stability
    - Look to other communities/orgs ideas
    - Not have in mitigation plan/separate plan concurrently material and psychological; planning and reacting
    - Info display aligned with how long time spent on avg web page, format favorite: Milwaukie
    - Integrate CRO into internal work and accountability - showing overall effort and what other agencies are doing
    - Emotional resiliency
    - To Be Kind/psychology,
    - add a component,
    - Mental/emo. Preparedness
    - Community city could help this in a community
    - Training/reduce barriers>>
        - *Not full agreement that COE should initiate should be <u>community</u> (in driver's seat)-based/not COE role(only partner)
        - Look to large community's -e.g. UP

Process and Implementation

- **Integrate the CRO Internally at the City and through other work community-wide**
    - Need to properly fund/staff, integrate with city staff
    - Look back at 12 strategies-get more detail
    - Opportunities to strengthen communication related to city work, internal climate action plan for decision makers. Translate to staff.
    - Have understanding of where emissions live for COE OPS (GHG Study)
    - Identify actions, all city mtn, CRO goals
    - Create internal training on how staff work relates to emissions? GHG

- **Funding Strategy**
    - Look where opportunities are
    - Build upon them
    - Tailored to current relationships/stakeholders need more trust building
    - As different partners work to reduce-going over is OK- (Neg. emissions)
    - Discussion about funding strategies and process for figuring them out
    - Concern about not having opportunities for input on funding strategies outside of BC/CC process
    - Discussion about BC/CC subcommittee to discuss CAP funding strategies (CSI model)
    - Discussion about the benefit/cost analysis of CAP strategies bet bang for the buck
    - Concern about the staff capacity to implement CAP

- **Accountability/ Metrics**
    - Metrics
        - Break down final targets into smaller projects/timelines (ex. TSP-Bike/Peds targets)
        - What data is available vs. needed
        - *Develop Accountability mechanisms for actions and community partners/companies
    - Accountability
        - How does CAP align with Vision Eval Tool? (ODOT/LCOG)
        - Identify community/policy levers and outputs (ex. Emissions, health, etc.)
        - How does these results integrate with CAP?
        - *Scenario planning by the MPO
    - Include equity metric, dashboard critical
    - Identify areas where transparency is limited
    - Demonstrate confidence to community through:
        - Clear articulation of commitments
        - How were getting there
        - Who is accountable? What are the barriers?
    - more to metrics/accountability (Bend example-we liked)
    - More accountability built into the CAP, aside from the 5-year milestones
    - Like Dashboard, but what does it look like?

- **ECC Commitment/ Integration**
    - ECC is small>Who are we missing? (ex. airport)
    - How can city regulate? Reach out to other large emitters>Ask for plan.
    - If legitimate reason why COE can't regulate, <u>explain</u> why. (community education)
    - Need to identify <u>all</u> large level shareholders in community
    - What does accountability look like (ECC)?
    - How will ECC work together?
    - Spell out vision for ECC, past, present, future, going to be group problem solving, make contribution, like UO contributions
    - Highlight partnerships that have developed, they become case studies

- Need explicit commitments from large lever shareholders and accountability to follow through
- Use ECC for info share, keep doing work
- ECC-partners that helped us get where we are today
- ECC- not encompass all, could engage more (list of more emitters e.g. DEQ list)
- Coordinate with state/Fed

- **Process Concerns**
  - Clarify regular update process 2 or 5 years
  - Ad Hoc Process
    - Confusion about who decides which actions included in final plan
    - Can Ad Hoc review final doc before presented to council?
    - Can AHG members get meeting materials ahead of time?
  - 12 Additional Strategies
    - Show> timeline, responsible party, funding, scale, equity concerns> (Biomass>facilities next to low income, comm. of color)
  - Process Concerns
    - *Need chance to review final document <u>before</u> 4th/Final meeting
    - Reconvene group AHG in future to check in
  - Explicit in the plan, what's on-going
  - review process, minimum-yearly process with community input, especially marginalized, who serving
  - Plus, include revisions, shift priorities, adaptive could be the work of Ad Hoc members very std models e.g. "Plan-Do-Check-net"
  - Process decisions-How do they get made>
  - Accountability/Metrics - City Council has the authority
  - Details about staff decisions, who, how, maybe include actions/empty from community
  - Keep open mind about community input
  - ECC- functioning groups coming out (e.g. EV start)
  - Recognize/acknowledge that a lot of things will have to change very quickly, and that CAP does not encapsulate all of them?
  - Noted iterative nature of future CAP updates
  - Concern about 3-5 year goals not being met by CAP strategies
  - Need to hear greater sense of urgency from the council
  - Need greater clarity on whether CAP 2.0 should include all strategies later via iterative process
  - When city staff do not include strategies/actions in CAP, there should be an explanation of why not
  - Too much convo about the document, not enough about the actions

- **Community Engagement Concerns**
    - What does this look like?
    - Reaching wider audiences (social media? Not just website), sustainable events; videos
    - Communicating often (big/small stories) w/ impacts and hard #s, incorporate into school curriculum
    - On-going advisory, 2 groups- one community, two equity group
    - Who is not at the table? Stakeholders, invite large emitter (e.g. industry)
    - More connection, but objective to support CRO goals
        - More for shared learning
        - Review- Are we doing the work we say we are doing?
        - Make sure that we are moving forward with plan. Don't get stuck in review process.
        - Want energy to go into outcomes NOT process and mitigation efforts
        - Community engagement - COE sustainability office, only 1 staff.
    - Chapter on community engagement
    - Discussion about greater use of community surveys of statistically valid sample of city residents (to inform CAP work)
    - Council's role in educating the public about the gravity of the problem and the slate of solutions and tools available
    - How to talk to the community about the sacrifice needed
    - CAP as an opportunity to create a better, more equitable community
    - Define community members' responsibilities vs. city responsibilities
    - Concern about people feeling not being heard>Planning up to date did not include enough listening
    - Better ways to communicate a compelling vision for a post fossil future
    - Figure out more ways to get out to the community (vs. community having to come to a public meeting)
    - Be clear when the city is asking for input (vs. trying to educate)

Organized by Group (See above for notes organized by theme)

BLACK Group

Likes:

- Pathway to CRO
- More detail-timeline
- Responsible party for actions
- Add Strategies> to get to the 0/goal (TBD Ok)
- Comment: Like all but see problems in categories, like intentions, "How would success be measured" (not included in themes), Thermometer, Graph to show trajectory

Changes/Comments:

- TBL Analysis
  - Who controls content should COE staff grade own work? Social Equity considerations (representation?)
  - Suggestion: First step>Staff start. Second step>Review Committee? -Broader set of voices/TBL panel(urban Res. Example) or Equity Panel, sus, commission,*standing Comm. That reflects city
  - TBL not a great system
  - Incorporate Qualitative co-benefits
- **Timeline** - Near, Mid, long-term actions
  - Mackenzie Curve?
  - GHG reductions/cost
  - *Develop list & refine overtime>ECC relationships needed
- **Cost**
  - incorporate other co-benefits (ex. health)
  - Intergrade TBL into curve
- **Actions**
  - Every action needs responsible party, timeline & funding
  - 4 - Partner agencies should be identified in actions along with responsible party (funding opps)
- **Timelines**
  - state goals by sub-goals (ex. Smaller annual targets)
  - Clarify prioritization (prioritizing actions) vs. timeline (could be smaller timelines for each actions), include both
  - *Each action needs timeline (Include in Appendix?), if appropriate
- **Household/Individuals**
  - Show how city & city partners can help them take actions
  - Can city partner with groups to make larger impact (ex. Large leverage shareholders), <u>rather than</u> focus on individuals/HHs
  - *Focus on biggest impact?
- **Consumptions-based Goal:**
  - lofty & confusing

    - Focus on sector-goal instead?
    - Public Information Campaigns to address public behavior
- **Funding**
    - Get listed on unfunded needs budget to get in front of committee- URGENT!
    - Needs to get approved by council & next immediate steps
    - Present funding recs options to council
    - *Not enough to say how much costs
    - Actions need to be integrated into existing budgets (TSP/CIP) or CMO budget plans process
    - *Plan for list of actions to real implementation (requires funding)
- **Case Studies**
    - Don't like case studies idea
    - show connection to other plans, "Connections Chapter", "Crosswalk Options"
    - (ex. How does TSP relate to climate work?)
    - *move TSP targets into CAP (ex. Increase Bike/Peds/Transit use) >How actually do this?>What is plan?>How are projects prioritized to meet TSP targets?
    - *Align CAP & TSP targets
- **Accountability**
    - How can COE enforce other agencies?
    - Add triggers> Can't just show not meeting goals
    - "Automatic trigger" to update to ensure meeting goals (ex. Every 2 to 5 years) (ex. "Meet reductions or buy offsets at $ amount) *Incentives
    - *Triggers that are incentives to meet goals (Do nothing and then pay vs. Do something and pay nothing)
- **Resiliency**
    - City doesn't have expertise AD HOC
    - Equity recommendations (44 actions) >How are we going to pay for it?> How will they be implemented
    - Need other experts, otherwise limitations
- **Additional Topics**
    - Add sequestrations targets, Other category: ex. Fossil Fuel Bond
- **Ad Hoc Process**
    - Confusion about who decides which actions included in final plan
    - Can Ad Hoc review final doc before presented to council?
    - *Can AHG members get meeting materials ahead of time?

- **Process Likes:**
    - Dashboard, but what does it look like?
    - Like the way they're outlined
    - What does #1 mean?

Changes/Comments

- **Funding**
    - Need plan to move from plan to implementation-Need Funding plan!

- **Community Engagement**
  - What does this look like?
- **ECC Commitment**
  - ECC is small>Who are we missing? (ex. airport)
  - How can city regulate? Reach out to other large emitters>Ask for plan.
  - *if legitimate reason why COE can't regulate, explain why. (community education)
  - *Need to identify all large level shareholders in community
- **Integrate CRO internally**
  - Housing/Land Use options to address Emissions
  - Add civic components to build trust for institutions (not just enviro. Actions)
  - Tell stories of success (ex. PW-warm asphalt pioneered) ex. Consumption analysis, ex. EPD>test Arci moto vehicle
- **12 Additional Strategies**
  - Show> timeline, responsible party, funding, scale, equity concerns> (Bio Mass>facilities next to low income, comm. of color)
- **Process Concerns**
  - *Need chance to review final document before 4th/Final meeting
  - Reconvene group AHG in future to check in
- **Metrics**
  - Break down final targets into smaller projects/timelines (ex. TSP-Bike/Peds targets)
  - What data is available vs. needed
  - *Develop Accountability mechanisms for actions and community partners/companies
- **Accountability**
  - How does CAP align with Vision Eval Tool? (ODOT/LCOG)
  - Identify community/policy levers and outputs (ex. Emissions, health, etc)
  - How does these results integrate with CAP?
  - *Scenario planning by the MPO
- **Process**
  - Clarify regular update process 2 or 5 years

Red Group

- **More Detail**
  - Showing equity achievements
  - Connect actions with education and community
  - Simplifying large actions engagement in larger institutions for all ages/level of understanding
- **Additional Topics**
  - community involvement participation(understanding)
- **Prioritization**
  - timeline
  - prioritize where most effort/energy/impact (all items)
  - front load highest reduction actions (earlier planning $$)

New Theme - Mental health preparedness/psychological resiliency/stability

- **Integrate CRO Internally**
    - communicating(aligning) from other plans that align with CAP(little and ig)
    - -create connections to report through stories
- **Pathway to CRO**
    - Communicate success, CLEAR path, checkpoints
- **Funding**
    - rough estimates to aid in budget planning, describe the scale (FTE, other resources); show a comparative value to actions/ROI
    - Show who is paying
- **Case Studies for Housing/Transportation**
    - Case Study=examples, not complex pull f
- **Resiliency**
    - Look to other communities/orgs ideas
    - not have in mitigation plan/separate plan concurrently material and psychological; planning and reacting
- Info display aligned with how long time spent on avg web page, format favorite: Milwaukie
- Integrate CRO into internal work and accountability - showing overall effort and what other agencies are doing
- **TBL**
    - How will it be implemented and by who? (throughout plan)
- **Community Engagement** -
    - Reaching wider audiences (social media? Not just website), sustainable events; videos
- **Accountability/Metrics**
    - Include equity metric, dashboard critical
    - Identify areas where transparency is limited
    - Demonstrate confidence to community through:
        - Clear articulation of commitments
        - How were getting there
        - Who is accountable? What are the barriers?
- **Community Engagement**
    - Communicating often (big/small stories) w/ impacts and hard #s, incorporate into school curriculum
- **ECC Commitment**
    - What does accountability look like (ECC)?

Green Group

<u>New content</u>

- **More Detail**
    - Confusing/opaque
    - add more content to be more concrete
    - Needs to be enough to define scope of item (what is not included)
    - Define scope of each item clearly (1)
    - Scope of item HAS detail of what will be done-

    - Moving to an action list, building, out content to other things-Housing, Transportation, urban forest, urban
    - The examples of other climate plans helpful for detail
- **Timeline**
    - what does it mean
    - when will it be implemented
        - can we begin now or later
    - the thermometer. Doesn't show that CAP-first statement
    - What we are going to do to meet CRO, then detail the HOW
    - Identify dependencies, other actions, other state/fed actions
    - What new content is needed-Also gather from community (lists)
    - Need a clear path to goals from each sector/Bucket
    - High level backbone
        - Sector-Based
        - Consumption-Based - Emissions-List to reduce
- **Prioritization**
    - Look at what is <u>necessary</u> not just feasible-done first with front & plan
- **Add Additional Actions**
    - Community engagement-Plan-who is in charge, equity, urban forest, land use, housing, food security, going to be lots of community input-Details
    - Get content from other city/community groups/TSP>also goes to transportation commission
    - Intergrade with other committees/clear communication about other work going
    - Pieces of content are missing and there are concerns about who (staff) making decisions
    - TSP/Needs bike/peds, include EV plans and emission, LTD plan
    - Assess the right to level and Detail
- **Accountability/Metrics**
    - Include progress metric (Liked Bend Plan e.g) and co-benefits
    - Influenced-what decisions are influenced by others externalities-catalyze
- **More Detail**
    - Actions in COE plan but lack of objectives
- **Resiliency**
    - emotional resiliency
    - To Be Kind/psychology,
    - add a component,
    - mental/emo. Preparedness
    - community city could help this in a community
    - training/reduce barriers>>
        - *Not full agreement that COE should initiate should be <u>community</u> (in driver's seat)-based/not COE role(only partner)
        - Look to large community's -e.g UP
- **Integrate CRO internally at City**
    - Want to see an all staff city mtn-make it a priority-know how it applies to your job
- **More Detail**

    - Thermometer-one that goes down emissions sector based/consumption based (related to individual House Holds
    - Eugene Carbon>include app in plan>free challenge & app trends)
    - **Need both>High level (skeleton)
    - Still have feeling of eagerness, powerful, to make consumption piece more effective for all
    - Capture influence, not so much prioritization, prioritization is not important as is influence
- **Additional Topic**
    - Clean Energy Fund
- **More Detail**
    - Specific for low income household, matching fund for energy efficiency-clean energy fund

<u>Process and Implementation</u>

- Explicit in the plan, what's on-going
- **Process Concerns**
    - review process, minimum-yearly process with community input, especially marginalized, who serving
    - Plus, include revisions, shift priorities, adaptive could be the work of Ad Hoc members very std models e.g. "Plan-Do-Check-net"
- **Community Engagement**
    - On-going advisory, 2 groups- one community, two equity group
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    - Have understanding of where emissions live for COE OPS (GHG Study)
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    - Accountability/Metrics - City Council has the authority
    - Details about staff decisions, who, how, maybe include actions/empty from community

    - Keep open mind about community input
    - ECC- functioning groups coming out (e.g. EV start)
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    - How will ECC work together?
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    - As different partners work to reduce-going over is OK- (Neg. emissions)
    - Use ECC for info share, keep doing work
    - ECC-partners that helped us get where we are today
    - ECC- not encompass all, could engage more (list of more emitters e.g. DEQ list)
    - Coordinate with state/Fed
- **Accountability/Metrics**
    - more to metrics/accountability (Bend example-we liked)

Yellow Group

- Does Approach feel good?
    - Specific comments on themes
    - -too much convo about the document, not enough about the actions
    - Need to ID strategies to reach CRO goals, not just list in appendix
    - Highlight actions that have been committed to and those that have not
    - Need explicit commitments from large lever shareholders and accountability to follow through

<u>New Content Themes</u>

- Show ranges of what can be achieved by implementing strategies
- Targets 5,10,15 years out with lineage to TSP and housing strategies
- Need greater clarity on whether CAP 2.0 should include all strategies later via iterative process
- Recognize/acknowledge that a lot of things will have to change very quickly, and that CAP does not encapsulate all of them?
- Noted iterative nature of future CAP updates
- Concern about 3-5 year goals not being met by CAP strategies
- Need to hear greater sense of urgency from the council
- Chapter on community engagement
- Need action plan with specific measurements to hold the city accountable
- Pleased about cost information for CAP actions being added/BC nexus
- Important (and difficult) to set criteria for selecting new/additional CAP strategies

- Need to strike the right balance between additional detail and accessibility of CAP documents/Need specific consumption-biased actions not just an explanation of what they are
- "Case Study" language is not descriptive enough/hard to understand. Need better language

Process/Implementation Themes:

- More accountability built into the CAP, aside from the 5-year milestones
- Discussion about funding strategies and process for figuring them out
- Council's role in educating the public about the gravity of the problem and the slate of solutions and tools available
- How to talk to the community about the sacrifice needed
- CAP as an opportunity to create a better, more equitable community
- Concern about not having opportunities for input on funding strategies outside of BC/CC process
- Discussion about BC/CC subcommittee to discuss CAP funding strategies (CSI model)
- Discussion about the benefit/cost analysis of CAP strategies bet bang for the buck
- Concern about the staff capacity to implement CAP
- Define community members' responsibilities vs. city responsibilities
- Concern about people feeling not being heard>Planning up to date did not include enough listening
- When city staff do not include strategies/actions in CAP, there should be an explanation of why not
- Better ways to communicate a compelling vision for a post fossil future
- Figure out more ways to get out to the community (vs. community having to come to a public meeting)
- Be clear when the city is asking for input (vs. trying to educate)
- Discussion about greater use of community surveys of statistically valid sample of city residents (to inform CAP work)

Mayor’s Climate Recovery Ordinance Ad Hoc Work Group

March 11, 2020

Agenda

- Review Group Purpose and Process
- Review Themes from 1st Work Group Meeting
- Evaluation Criteria for Additional Actions

Purpose and Process Update

Mayor's CRO Ad Hoc Work Group Purpose Statement

The Community Climate Action Plan 2.0 (CAP2.0) is Eugene's roadmap to achieving the community climate action goals in the CRO as well as a climate resiliency plan. The purpose of the Mayor's CRO Ad Hoc Work Group is to provide guidance on how to modify the Draft CAP2.0 and to provide input on additional actions to add to the plan to fully meet the CRO goals. The Work Group will provide guidance on the following:

- The high-level topics, or themes, that should guide the document revision process
- Evaluation criteria for additional actions to add to the plan
- Additional actions to add to the CAP2.0 to achieve CRO goals, including some prioritization of the suggested additional actions
- CAP2.0 community engagement process moving forward

Mayor’s CRO Ad Hoc Work Group Process

- Feb 12 - WG Meeting 1: Listening Session
- Mar 11 – WG Meeting 2: Themes + Additional Action Process
- Early April - Community Meeting
- Mid-April – WG Meeting 3: Evaluate New Actions
- Early May – WG Meeting 4: Release updated document

Work Group Themes

Work Group Themes: Positive Aspects of the Plan

1. Clear and accessible; Good education material
2. Equity Actions
3. Realistic Actions
4. Data/Graphs
5. Stakeholder Involvement
6. Consumption-based Accounting

Work Group Themes: Suggested Changes

1. More Detail
2. Additional Topics
3. Prioritization
4. Integrate the CRO Internally at the City and through other work community-wide
5. Pathway to the CRO
6. Funding Strategy
7. Accountability/ Metrics
8. ECC Commitment/ Integration
9. Stronger connection to housing, TSP
10. Process Concerns
11. Community Engagement Concerns
12. Resiliency

Theme Review: New Content

1. **More Detail**
   - Expanded Description of Actions
   - Add case studies on key topics like housing and transportation
   - Move Triple Bottom Line Analysis from appendix into body of document
   - Add a thermometer to show overall progress
   - Add a timeline

2. **Additional Topics**
   - Add actions households and individuals can take
   - Add case study on consumption that includes the consumption-based goal

3. **Prioritization**
   - Add a timeline to demonstrate when actions will be addressed

4. **Integrate the CRO Internally at the City and Through Other Community-Wide Work**
   - Add Department responsible for each City of Eugene Action

5. **Pathway to the CRO**
   - Add additional actions from Ad Hoc WG Members and community members
   - Incorporate 12 Additional Strategies considered by City Council in 2019
   - Add graph to show current trajectory and the pathway to hit the CRO goals

6. **Funding**
   - Add cost information to City of Eugene Actions

7. **Accountability/Metrics**
   - Add graph that shows current trajectory and pathway to meet CRO goals

8. **Stronger Connection to Housing and Transportation System Plan**
   - Add a case study on housing
   - Add a case study on transportation

9. **Resiliency**
   - Add new actions from Ad Hoc WG Members and community members

Theme Review: Process and Implementation

1. **Integrate the CRO Internally at the City and Through Other Community-Wide Work**
   - Continue to convene and work with staff throughout the City to incorporate CRO into all City work

2. **Funding Strategy**
   - Budget Committee and City Council are the bodies that consider funding allocations and new revenue sources

3. **ECC Commitment/Integration**
   - ECC contributed actions that they plan to do in the next 5-10 years
   - Continue to work with ECC as part of CAP2.0 implementation to collaborate and find ways to move this work forward together

4. **Accountability/Metrics**
   - Sustainability Commission will lead dashboard effort to identify key metrics for the CAP2.0

5. **Community Engagement Concerns**
   - Topic Ad Hoc Work Group will cover later in this process

6. **Process Concerns**
   - CRO provides some guidance on when to report out; further discussion at 4th Ad Hoc Work Group Meeting
   - 12 strategies will be included in the new draft
   - As other plans are finalized, they will be integrated into this work as much as possible (TSP, Northwest Natural Franchise Agreement outcome)

Small Groups

New Actions: Collection Process and Evaluation Criteria

Community Input

Community Meeting,
Early April

https://engage.eugene-or.gov/,
Late March

New Action Evaluation Criteria

Co-benefit		○ Adverse/zero	◐ Zero/ Minimal	● Good/present	✸ Great/abundance
GHG Reduction Potential		None	Less than 10,000 $MTCO_2e$	10-30,000 $MTCO_2e$	30-40,000 $MTCO_2e$
Advances social equity	Equity	Negatively impacts vulnerable/marginalized population	No potential	Small equity impact, or impacts equally	Potential to significantly address social equity
Advances health or safety	Equity	Negatively impacts health or safety	No potential	Target-group benefit OR makes community safer	Community benefit AND/OR makes community healthier
Supports key ecosystem functions (reduces effects of consumption of natural resources)	Environment	Negative net impact on ecosystem functions	Net neutral impact	Conserves or protects ecosystem function	Restores, or creates ecosystem functions
Reduces other pollutants, waste, or human footprint on the environment (reduces contaminants)	Environment	Net increases of pollutants, waste, or human footprint	No reduction	Single location reduction	Systemic reduction
Provides jobs and businesses ample economic opportunity and/or economic resilience	Economy	Net reduction of jobs, opportunity, or resilience	No impact	Provides opportunity OR resilience. New jobs may be temporary.	Provides opportunity AND resilience. New jobs should be "permanent".
Forecasts lifecycle financial benefit of public resources	Economy	Net expense	No lifecycle benefit	Long rate of return or low savings/revenue	Immediate or significant savings/revenue

	GHG Potential Reductions	Advances social equity	Advances health or safety	Improves support of key ecosystem functions	Reduces contaminants	Economic benefits	Financial benefit of public resources
		Equity		Environment		Economy	
Transportation System Plan	✸ x30	●	✸	✸	✸	●	◐
Envision Eugene	✸ x30	●	✸	✸	✸	●	●
Food Materials Management - Composting	✸	✸	✸	◐	◐	✸	◐
Food Materials Management - Waste Avoidance	✸	●	✸	●	◐	◐	○
City Operational Reductions - Facilities	●	●	✸	◐	◐	●	●
City Operational Reductions - Fleet	●	●	✸	◐	✸	●	●
Roads - Materials Management	●	●	✸	◐	●	◐	◐
Urban Forest - Tree Canopy Goal	●	✸	●	✸	✸	◐	◐
Urban Forest - World Track and Field Tree Planting	◐	✸	●	✸	●	◐	○
Green Infrastructure in Parks and Open Space	NOT MODELED	✸	✸	●	◐	◐	●
City of Eugene evaluating Capital Improvement Projects on their potential GHG impacts	NOT MODELED	◐	✸	◐	◐	◐	○
Parks program: City of Eugene and Lane County providing recreational activities throughout the area	NOT MODELED	●	◐	✸	✸	●	○
City of Eugene Natural Hazard Mitigation Plan	NOT MODELED	◐	◐	✸	●	◐	✸

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- The high-level topics, or themes, that should guide the document revision process
- Evaluation criteria for additional actions to add to the plan
- Additional actions to add to the CAP2.0 to achieve CRO goals, including some prioritization of the suggested additional actions
- CAP2.0 community engagement process moving forward

Mayor’s Climate Recovery Ordinance Ad Hoc Work Group

March 11, 2020

Mayor's CRO Ad Hoc Work Group Purpose Statement

The Community Climate Action Plan 2.0 (CAP2.0) is Eugene's roadmap to achieving the community climate action goals in the CRO as well as a climate resiliency plan. The purpose of the Mayor's CRO Ad Hoc Work Group is to provide guidance on how to modify the Draft CAP2.0 and to provide input on additional actions to add to the plan to fully meet the CRO goals. The Work Group will provide guidance on the following:

- The high-level topics, or themes, that should guide the document revision process
- Evaluation criteria for additional actions to add to the plan
- Additional actions to add to the CAP2.0 to achieve CRO goals, including some prioritization of the suggested additional actions
- CAP2.0 community engagement process moving forward

Mayor’s CRO Ad Hoc Work Group Process

- Feb 12 - WG Meeting 1: Listening Session
- Mar 11 – WG Meeting 2: Themes + Additional Action Process
- Early April - Community Meeting
- Mid-April – WG Meeting 3: Evaluate New Actions
- Early May – WG Meeting 4: Release updated document

Theme Review: New Content

1. **More Detail**
   - Expanded Description of Actions
   - Add case studies on key topics like housing and transportation
   - Move Triple Bottom Line Analysis from appendix into body of document
   - Add a thermometer to show overall progress
   - Add a timeline

2. **Additional Topics**
   - Add actions households and individuals can take
   - Add case study on consumption that includes the consumption-based goal

3. **Prioritization**
   - Add a timeline to demonstrate when actions will be addressed

4. **Integrate the CRO Internally at the City and Through Other Community-Wide Work**
   - Add Department responsible for each City of Eugene Action

5. **Pathway to the CRO**
   - Add additional actions from Ad Hoc WG Members and community members
   - Incorporate 12 Additional Strategies considered by City Council in 2019
   - Add graph to show current trajectory and the pathway to hit the CRO goals

6. **Funding**
   - Add cost information to City of Eugene Actions

7. **Accountability/Metrics**
   - Add graph that shows current trajectory and pathway to meet CRO goals

8. **Stronger Connection to Housing and Transportation System Plan**
   - Add a case study on housing
   - Add a case study on transportation

9. **Resiliency**
   - Add new actions from Ad Hoc WG Members and community members

Theme Review: Process and Implementation

1. **Integrate the CRO Internally at the City and Through Other Community-Wide Work**
   - Continue to convene and work with staff throughout the City to incorporate CRO into all City work

2. **Funding Strategy**
   - Budget Committee and City Council are the bodies that consider funding allocations and new revenue sources

3. **ECC Commitment/Integration**
   - ECC contributed actions that they plan to do in the next 5-10 years
   - Continue to work with ECC as part of CAP2.0 implementation to collaborate and find ways to move this work forward together

4. **Accountability/Metrics**
   - Sustainability Commission will lead dashboard effort to identify key metrics for the CAP2.0

5. **Community Engagement Concerns**
   - Topic Ad Hoc Work Group will cover later in this process

6. **Process Concerns**
   - CRO provides some guidance on when to report out; further discussion at 4th Ad Hoc Work Group Meeting
   - 12 strategies will be included in the new draft
   - As other plans are finalized, they will be integrated into this work as much as possible (TSP, Northwest Natural Franchise Agreement outcome)

Climate Action Plan 2.0

Appendix 5

Triple Bottom Line Evaluation of City of Eugene Actions

Eugene's Triple Bottom Line Actions

Eugene City Council's Vision is to:

> *Value all people, encouraging respect and appreciation for diversity, equity, justice, and social well-being. We recognize and appreciate our differences and embrace our common humanity as the source of our strength; Be responsible stewards of our physical assets and natural resources. We will sustain our clean air and water, beautiful parks and open spaces, livable and safe neighborhoods, and foster a vibrant downtown, including a stable infrastructure; Encourage a strong, sustainable and vibrant economy, fully utilizing our educational and cultural assets, so that every person has an opportunity to achieve financial security.*

This is based to the concept of a triple bottom line—valuing equity, environment, and economy. The Mayor's CAP2.0 workgroup understood that not all actions the City of Eugene is taking will result in emissions reductions. This section looks at some of the key actions the City is taking and evaluates them on six different criteria. The scoring of these actions can be found on the next page.

Co-benefit		**Adverse/zero**	**Zero/ Minimal**	**Good/present**	**Great/abundance**
GHG Reduction Potential		None	Less than 10,000 $MTCO_2e$	10-30,000 $MTCO_2e$	30-40,000 $MTCO_2e$
Advances social equity	Equity	Negatively impacts vulnerable/marginalized population	No potential	Small equity impact, or impacts equally	Potential to significantly address social equity
Advances health or safety	Equity	Negatively impacts health or safety	No potential	Target-group benefit OR makes community safer	Community benefit AND/OR makes community healthier
Supports key ecosystem functions (reduces effects of consumption of natural resources)	Environment	Negative net impact on ecosystem functions	Net neutral impact	Conserves or protects ecosystem function	Restores, or creates ecosystem functions
Reduces other pollutants, waste, or human footprint on the environment (reduces contaminants)	Environment	Net increases of pollutants, waste, or human footprint	No reduction	Single location reduction	Systemic reduction
Provides jobs and businesses ample economic opportunity and/or economic resilience	Economy	Net reduction of jobs, opportunity, or resilience	No impact	Provides opportunity OR resilience. New jobs may be temporary.	Provides opportunity AND resilience. New jobs should be "permanent".
Forecasts lifecycle financial benefit of public resources	Economy	Net expense	No lifecycle benefit	Long rate of return or low savings/revenue	Immediate or significant savings/revenue

City of Eugene Triple Bottom Line Actions

	GHG Potential Reductions	Advances social equity	Advances health or safety	Improves support of key ecosystem functions	Reduces contaminants	Economic benefits	Financial benefit of public resources
		Equity		Environment		Economy	
Transportation System Plan	x30	●	✸	✸	✸	●	◑
Envision Eugene	x30	●	✸	✸	✸	●	●
Food Materials Management - Composting	✸	✸	✸	◑	◑	✸	◑
Food Materials Management - Waste Avoidance	✸	●	✸	●	◑	◑	○
City Operational Reductions - Facilities	●	●	✸	◑	◑	●	●
City Operational Reductions - Fleet	●	●	✸	◑	✸	●	●
Roads - Materials Management	●	●	✸	◑	●	◑	◑
Urban Forest - Tree Canopy Goal	●	✸	●	✸	✸	◑	◑
Urban Forest - World Track and Field Tree Planting	◑	✸	●	✸	●	◑	○
Green Infrastructure in Parks and Open Space	NOT MODELED	✸	✸	●	◑	◑	●
City of Eugene evaluating Capital Improvement Projects on their potential GHG impacts	NOT MODELED	◑	✸	◑	◑	◑	○
Parks program: City of Eugene and Lane County providing recreational activities throughout the area	NOT MODELED	●	◑	✸	✸	●	○
City of Eugene Natural Hazard Mitigation Plan	NOT MODELED	◑	◑	✸	●	◑	✸
City of Eugene implementing the Comprehensive Stormwater Management Plan	NOT MODELED	●	✸	●	●	◑	●
City of Eugene environmental justice and land use compatibility to avoid siting new heavy industrial uses near residential lands	NOT MODELED	◑	◑	✸	●	◑	●
Investigate need and plan for community cooling centers and/or smoke refuge centers	NOT MODELED	◑	◑	✸	✸	●	●
City of Eugene developing a water conservation and drought management plan and implementing Salmon Safe Certification recommendations	NOT MODELED	✸	✸	●	●	◑	◑

KEY

- ○ adverse/negative impact
- ◑ zero/emerging
- ● good/present
- ✸ great/abundance

CITY OF BEND

Community Climate Action Plan

Bend Community Climate Action Plan

Climate Mitigation Strategies and Actions: 2020-2025

Energy Supply

Table 1. Energy Supply - Climate Action Strategies

Implementation Actions	Implementation Responsibilities	Progress Metric	Target	Cumulative Emission Reductions Potential* (each circle below represents 200,000 metric tons of emissions)	Savings or Expenditure Range (per metric ton of emissions reduced)	Co-benefits
STRATEGY: *ES1- Provide 100% renewable electricity supply to the community*						
ES1A – Develop a roadmap to **achieve a 100% renewable electricity supply** for the community.	Lead: City of Bend Partners: Utility	• Percent of community subscribed to renewable power. • Total load and percentage of total load served by renewables.	100% renewable energy procured by 2025.	4,410,000 ●●●●● x4.4	$10 to $35	
STRATEGY*: ES2 - Contract for a natural gas offset program for community gas use*						
ES2A – Develop a program that allows residential and commercial customers to offset their natural gas use.	Lead: Utility Partners: Not yet identified	• Percentage of the community households and organizations subscribed to gas that have offset emissions. • Total number and percentage of therms offset.	25% of customer participation in the program.	1,860,000 ●●●●● x1.8	$20 to $45	
STRATEGY*: ES3 - Expand distributed commercial and residential solar photovoltaics (PV)*						
ES3A – Increase community education on renewable energy and available incentives by developing and delivering educational programs.	Lead: Community Partners Partners: Energy Trust of Oregon, Utility	• Number and percentage of households educated.	32 Added MW of solar PV by 2036. 1.6 MW of solar PV added annually.	200,000 ●○○○○	$75 to $50	
ES3B – Promote renewable energy incentives offered by utilities by providing information about these incentives to individuals and companies applying for building permits.	Lead: City of Bend Partners: Energy Trust of Oregon, Utility	• Number and percentage of permit applicants that have been reached.				
ES3C – Create new incentive packages that increase the installation of renewable energy systems on residential and commercial buildings	Lead: City of Bend Partners: Energy Trust of Oregon, Private Developers, Utility	• Number and percentage of new buildings with installations. • Number and percentage of existing buildings with installations. • Total generation capacity of installed systems.				

Note:
This Target, Cumulative Emission Reductions Potential, Savings or Expenditure Range, and Co-benefit data is based on all eight actions in ES3.

City of Bend · Community Partners · Utility · Energy Trust of Oregon · Private Developers · Lending Agencies · Deschutes County · Public Agencies

Savings · Expenditures · Economic Vitality · Affordability · Supports the Natural Environment · Community Health and Safety · Adaptation and Resilience · Social Equity · Workforce Development Agencies

**Emissions reduction potential assumes stated strategy target is achieved. For more details on methodology and calculations, see Appendix D.*

Energy Supply

Table 1. Energy Supply - Climate Action Strategies

Implementation Actions	Implementation Responsibilities	Progress Metric	Target	Cumulative Emission Reductions Potential* (each circle below represents 200,000 metric tons of emissions)	Savings or Expenditure Range (per metric ton of emissions reduced)	Co-benefits
STRATEGY*: ES3 (cont.) - Expand distributed commercial and residential solar photovoltaics (PV)*						
ES3D – Create revolving loan funds to finance renewable energy projects. These funds will be more accessible than current loan options to low- and moderate-income residents. The City will investigate different options for fund administration.	Lead: City of Bend Partners: Lending Agencies	• Total dollars distributed through fund annually. • Number and percentage of buildings using loan program.				
ES3E – Develop community solar projects that residents can subscribe to for access to offsite solar energy.	Lead: Community Partners Partners: Utility, City of Bend	• Number and total generation capacity of projects. Total number of subscribers for each project.				
ES3F – Pilot microgrid and battery storage projects powered by renewable energy that can operate independently of the energy grid.	Lead: City of Bend, Community Partners Partners: Utility	• Number of microgrids in total. • Total installed renewable generation capacity inside of microgrids. • Percentage of local load served by microgrids.	32 Added MW of solar PV by 2036. 1.6 MW of solar PV added annually.	200,000	$75 to $50	10, 7.5, 5, 2.5
ES3G – Support and expand workforce development programs in renewable energy trades that are delivered by community organizations.	Lead: Community Partners, Workforce Development Agencies Partners: Not yet identified	• Number of people trained per year. • Number and percentage of those trained that are fully employed in this profession.				
ES3H – Create a commercial, property-assessed clean energy program that allows renewable energy projects to be financed through property tax assessment.	Lead: Deschutes County Partners: Not yet identified	• Total installed generation capacity as percentage of total commercial load. • Number of participants in program.				

Note: *This Target, Cumulative Emission Reductions Potential, Savings or Expenditure Range, and Co-benefit data is based on all eight actions in ES3.*

City of Bend | Community Partners | Utility | Energy Trust of Oregon | Private Developers | Lending Agencies | Deschutes County | Public Agencies

Savings | Expenditures | Economic Vitality | Affordability | Supports the Natural Environment | Community Health and Safety | Adaptation and Resilience | Social Equity | Workforce Development Agencies

**Emissions reduction potential assumes stated strategy target is achieved. For more details on methodology and calculations, see Appendix D.*

Energy Supply

Table 1. Energy Supply - Climate Action Strategies

Implementation Actions	Implementation Responsibilities	Progress Metric	Target	Cumulative Emission Reductions Potential* (each circle below represents 200,000 metric tons of emissions)	Savings or Expenditure Range (per metric ton of emissions reduced)	Co-benefits
STRATEGY*: ES4 - Build/explore a biodigester at the wastewater treatment facility*						
ES4A – Build a biodigester at the wastewater treatment facility, after confirming feasibility of the project.	Lead: City of Bend Partners: Not yet identified	• Percent of onsite load served by the digester, • Gallon equivalents of fossil fuel displaced in transportation or electricity produced.	72,000 therms annual production.	140,000	$10	10, 7.5, 5, 2.5
STRATEGY*: ES5 - Install solar panels on public buildings*						
ES5A – Install solar panels on public buildings to demonstrate public sector leadership.	Lead: City of Bend, Public Agencies Partners: Not yet identified	• Number and percentage of buildings with rooftop solar. • Total installed capacity of renewables. • Percentage of total load that is served by rooftop solar.	1.2 MW of additional capacity on schools. 0.710 MW of additional capacity on City buildings.	20,000	$50	10, 7.5, 5, 2.5

City of Bend | Community Partners | Utility | Energy Trust of Oregon | Private Developers | Lending Agencies | Deschutes County | Public Agencies

Savings | Expenditures | Economic Vitality | Affordability | Supports the Natural Environment | Community Health and Safety | Adaptation and Resilience | Social Equity | Workforce Development Agencies

**Emissions reduction potential assumes stated strategy target is achieved. For more details on methodology and calculations, see Appendix D.*

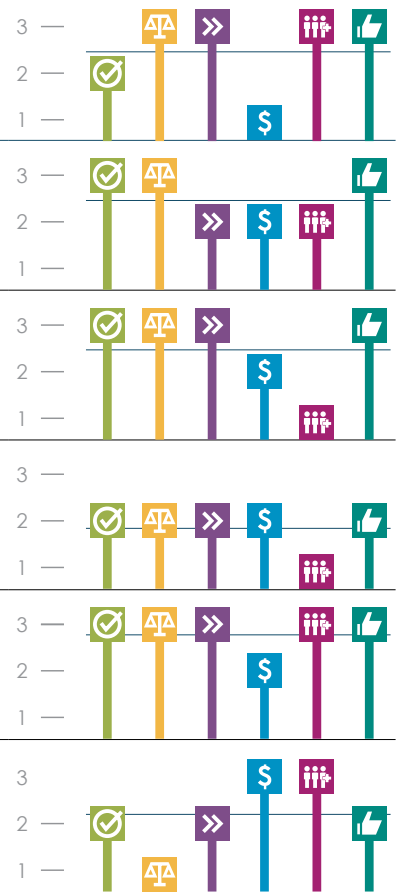
CITY OF **MILWAUKIE**

Milwaukie Community Climate Action Plan

Table 10. Land use and transportation planning – City-led mitigation strategies

MITIGATION STRATEGIES | Land Use and Transportation Planning

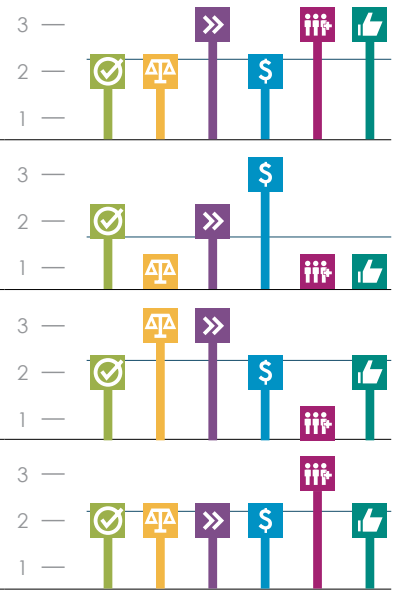
	Action	How will this be implemented?	Implementation timescale	Potential GHG reductions	Cost/savings per $MTCO_2e$ reduced	Co-benefits
IN PROGRESS	Implement the Safe Access for Everyone (SAFE) street and sidewalk improvement program to expand bike and pedestrian access	O C	Short term	Emissions already incorporated into BAU forecast		
	Partner with Metro and TriMet to increase transit service, particularly to underserved employment areas	C	Short term		$$	
	Implement a Transportation Management Agency (TMA) with area partners	C	Short term		$$	
	Implement "electric vehicle ready" zoning regulations for commercial buildings and multifamily housing	L E	Short term		Data unavailable	
	Incentivize employers to encourage active transportation and transit	E C	Short term		$$	
IN PROGRESS	Promote the purchase of sidewalk credits in areas outside of pedestrian corridors and redirect funds to areas needing this infrastructure	L	Short term		$$	



O	City operations	L	City law/code	E	City educates	C	City partners for collective action	P	Partners lead, City participates	SF	City partners to lobby state/feds		Short term	$ net savings	3 high
	Addresses Milwaukie's superactions		Opportunity for social equity		Mitigates and adapts in one action	$	Revenue generation of cost avoidance		Leverages existing efforts		Community support		Mid term	$ net expenditure	2 medium
													Long term		1 low

MITIGATION STRATEGIES | Land Use and Transportation Planning (continued)

	Action	How will this be implemented?	Implementation timescale	Potential GHG reductions	Cost/savings per $MTCO_2e$ reduced	Co-benefits
IN PROGRESS	Promote "neighborhood hubs" through Comprehensive Plan policies	L			$$	
IN PROGRESS	Implement parking pricing in downtown	L			Data unavailable	
	Implement variable system development charges to encourage accessory dwelling unit development	L			$$$$	
	Lower parking ratios near high capacity corridors	L		Data unavailable	Data unavailable	



O City operations
L City law/code
E City educates
C City partners for collective action
P Partners lead, City participates
SF City partners to lobby state/feds
Short term
Mid term
Long term
$ net savings
$ net expenditure
3 high
2 medium
1 low
Addresses Milwaukie's superactions
Opportunity for social equity
Mitigates and adapts in one action
Revenue generation of cost avoidance
Leverages existing efforts
Community support

Note on the SAFE program: Mitigation scaling for the SAFE program is accounted for in a number of transportation related actions in the analysis including: Work with partner agencies to address bike and pedestrian gaps; Incentivize employers to encourage active transport; and Promote "neighborhood hubs". Emissions reductions from this strategy are also accounted for in Metro's Climate Smart Strategy, which is included in the BAU reduction estimate.

Eugene City Manager's Office

Agenda

Mayor's Climate Recovery Ordinance Ad Hoc Work Group
May 12, 2020

1. Agenda Review
2. Review Group Purpose & Process
3. Preview of CAP2.0 Data
4. Discuss Evaluation of Ideas for New Actions for the CAP2.0
5. Q&A with Josh Proudfoot, Good Company
6. Closing

Participant List
Mayor's Climate Recovery Ordinance Ad Hoc Work Group

Name	Organization
Mayor Lucy Vinis	Eugene Mayor
Councilor Alan Zelenka	Eugene City Councilor
Councilor Emily Semple	Eugene City Councilor
Councilor Greg Evans	Eugene City Councilor
Dan Hurley	Lane County
Daniel Borson	Human Rights Commission Representative
Eliza Kashinsky	Budget Committee Representative
Eugene Organ	Lane Independent Living Alliance
J. Ingrid Kesler	Eugene Area Chamber of Commerce Member
Jon Kloor	Northwest Natural
Joshua Skov	Community Member
Kaarin Knudson	Community Member
Kelly Hoell	Lane Transit District
Kristie Hammitt	City of Eugene Assistant City Manager
Lex Worden	Sunrise Eugene
Linda Heyl	350Eugene
Matt McRae	Community Member
Matt Rodrigues	City of Eugene Public Works Director
Matt Schroettnig	Eugene Water and Electric Board
Pablo Alvarez	Eugene Springfield NAACP
Tiffany Edwards	Eugene Area Chamber of Commerce Staff
Zach Mulholland	Sustainability Commission Representative

Mayor's CRO Ad Hoc Work Group Meeting Summary Notes

May 12, 2020

1. Agenda Review

Staff reviewed the agenda with the Work Group and discussed how to use Zoom. The Mayor made remarks. No changes were made to the agenda.

2. Review Group Purpose and Process

Staff shared the purpose statement for the group and the progress the group has made.

Purpose Statement:

The Community Climate Action Plan 2.0 (CAP2.0) is Eugene's roadmap to achieving the community climate action goals in the CRO as well as a climate resiliency plan. The purpose of the Mayor's CRO Ad Hoc Work Group is to provide guidance on how to modify the Draft CAP2.0 and to provide input on additional actions to add to the plan to fully meet the CRO goals. The Work Group will provide guidance on the following:

- The high-level topics, or themes, that should guide the document revision process
- Evaluation criteria for additional actions to add to the plan
- Additional actions to add to the CAP2.0 to achieve CRO goals, including some prioritization of the suggested additional actions
- CAP2.0 community engagement process moving forward

Process:

- Feb 12 – Work Group Meeting 1: Listening Session
- Mar 11 – Work Group Meeting 2: Themes + Additional Action Process

3. Preview of CAP2.0 Data

Staff provided a status update on the Triple Bottom Line analysis subgroup and incorporation of 12 themes create at the last meeting of the Mayor's CRO Ad Hoc Work Group. Staff presented data related to the pathway to the CRO, sector based versus consumption-based emissions information, and data visualization tools.

Member Discussion

- Wedge analysis discussion; identifying strategies in the present to achieve CRO goal.
- Concern about not having strategies in place to achieve CRO goal and getting behind in achieving goal years down the road; inquired if figures can show if we are where we need to be in our CRO goals in this moment.
- Discussion about graphs; discussion about carbon offsets and related methods.
- Appreciation for how graphs are laid out; 2030 goals and reductions still needed; concerns about NW Natural Gas franchise agreement and community vision next steps.

- NW Natural gas negotiations and expectation of reductions from negotiations; ad hoc member responsibility within workgroup and larger picture of that work within framework.
- Assigning responsibility to actions and reductions that remain unfinished/unmet.
- CAP 2.0 intended to spell out what is necessary and needed to reach CRO goals rather than forecast of actions and goals; does city's mission aligns with the goals and how gap will be addressed.
- Include historic emissions from 2010-2-17 for context; history of fossil fuel goals over last 12 years, current progress and lessons to be learned; Oregon's consumption based emissions increasing, actions addressing these should be prominent in plan; emission cuts over time will become more difficult as we get closer to CRO goals.
- Will 26 bundled actions allow us to hit reduction goals; turn thermometer upside down.
- Appreciation for tradeoffs discussed by Councilor Zelenka and Mayor Vinis; breaking out actions by similar scale and tradeoffs would be nice to have in CAP 2.0.
- Clarity sought by members may not be possible, re: IPCC gap strategy "technology to come".
- Need balance between modeling actions and filling in gaps with new technology.
- Consumption based emissions needs to be as clearly laid out for the public as sector-based emissions.

4. Break

5. Discuss Evaluation of Ideas for New Actions for the CAP2.0

Staff discussed homework assigned to ad hoc members to rank additional actions provided by the community from the recent Engage Eugene Survey, and challenges to completing the Additional Ranking Survey before the Ad Hoc Work Group Meeting. Staff addressed concerns about non-response bias and appreciation for Ad Hoc member participation in the discussion. Staff responded to questions from members related to the discussion. Mayor Vinis discussed thoughts about member thoughts and concerns related to action ranking.

Member Discussion: Each member was provided opportunity to speak about their personal challenges doing homework, or reasons for not completing the homework.

- Information was too much; not comfortable assigning a rank or number out of respect to community members.
- Bundles are already in CAP 2.0 (actions contributed are already actions in CAP 2.0); afraid to reprioritize actions already prioritized.
- Amount of data was daunting and needed more time; didn't like the format.
- Expressed trust for staff to move new actions forward; agreed that is easy to unintentionally elevate one item over another when important.
- Did not allocate time to complete in time; agreed that ranking doesn't weigh as heavily as getting as much done as possible.
- Felt conflicted about process trying to rank actions; conceptualized tasks in two ways: scaled ranking by "biggest impact, mid-range impact, too-difficult-for-city-to-take-

leadership-on" but no sense of scale for achievability of some actions; concerns around feasibility of some actions; struggled using rubric.
- Had overlooked member survey completion; wanted more information and conversation with others about actions before ranking them.
- Expressed conflict with ranking bundles and adding bundles; reiterated comments made by others about difficulty to rank actions already represented in CAP 2.0 compared to those that are new; wants to prioritize actions within the bundles; did not feel input was meaningful.
- Did not see survey in instructions; shared concerns regarding how information about ranking was going to be used and overstepping boundaries as a representative of any agency.
- Missed survey in email; too much information to get through in the time given; trade off of time given to this compared to how input could be used was not best way to spend time for ad hoc members.
- Didn't see survey in email; felt there would be mission drift using the rubric but appreciated the evaluation criteria; used own methods for prioritization.
- A lot of information to go through in a short time frame; echoed comments about conflict with ranking different approaches to engage data and ideas collected from community; need more data about actions before prioritizing.
- Kept in mind work as a representative for an agency while ranking and struggled with high level of actions and lack of data about impacts of actions; spoke to need to engage community to move actions forward.
- Inquired about impacts of prioritizing and ranking.
- Inquired if all bundles could be included; inquired about Ad Hoc member involvement moving forward with individual actions.
- Business owner considerations related to feasibility of enacting all actions; expressed appreciation for prioritization opportunity.
- Spoke to ranking considerations – scale, cost, social equity; need to address ownership of actions moving forward.
- Inquired if action "ownership" would be represented in the future.
- Echoed comments about prioritization and action "ownership"; expressed desire to attach a name for action completion to achieve the action.
- Additional conversation about "ownership" and difference between voluntary ownership and ownership by policy.

6. Q&A with Josh Proudfoot, Good Company

Josh Proudfoot with Good Company addressed thoughts about how to go about ranking additional actions including scale, time feasibility, cost and co-benefits related to social equity, public cost and upcoming technology. Josh addressed challenges tackling consumption-based emissions including issues with addressing behavioral changes and the use of economic development and neighborhood associations to address environmental and cultural changes need to change consumption patterns. Josh addressed questions from Ad Hoc members, below.

Member Questions + Discussion

- Spoke to synergy related to consumption -based emissions and community engagement; spoke about need for a climate advisory board over next 10 years related to community engagement, represented in the CAP 2.0 to help bring down consumption.
- Spoke to previous work related to consumption- based actions.
- Inquired about role of local government to track consumption based inventory as well as city purchasing methods for lower carbon alternatives to high intensity products that the city purchases; spoke about other ways local governments can address environment locally and by state; city promote reuse and manufacturing; city can enable construction of smaller homes.
- Inquired of Josh if building electrification, bikes and EV's are priority.
- Inquired of next steps and how to use Josh's recommendations.

7. Next Steps and Closing

Staff provided information about next steps and dates and addressed next steps with additional action ranking. The CAP 2.0 will be released in early July to give credence to community and give space for staff to incorporate feedback. Staff answered questions from Ad Hoc members. Mayor Vinis made final remarks. Staff expressed appreciation for participation and encouraged Ad Hoc members to send feedback as available.

Member Questions + Discussion:

- Inquired if members can get clarity about how actions are going to be used versus reprioritizing what is already in the plan; doesn't want to rework prioritization without big picture in mind.
- Inquired about when members will get a look at next draft of CAP and if they will receive it before going before council.
- Inquired about how ill additional actions will be incorporated into final document.

Mayor’s Climate Recovery Ordinance Ad Hoc Work Group Meeting #3

Tuesday, May 12th, 2020

Housekeeping

- Ad Hoc members are Panelists, public viewers are Attendees.
- Only Ad Hoc Work Group Members will be unmuted
- There is no chat functionality in this meeting.

Agenda

- Review Group Purpose and process
- Preview of Data for CAP 2.0
- Review and Discussion of New Actions

Process Review

Review of Group Purpose

The purpose of the Mayor's Climate Recovery Ordinance Ad Hoc Work Group is to provide guidance on how to modify the Draft CAP2.0 and to provide input on additional actions to add to the plan to fully meet the CRO goals.

- The high-level topics, or themes, that should guide the document revision process
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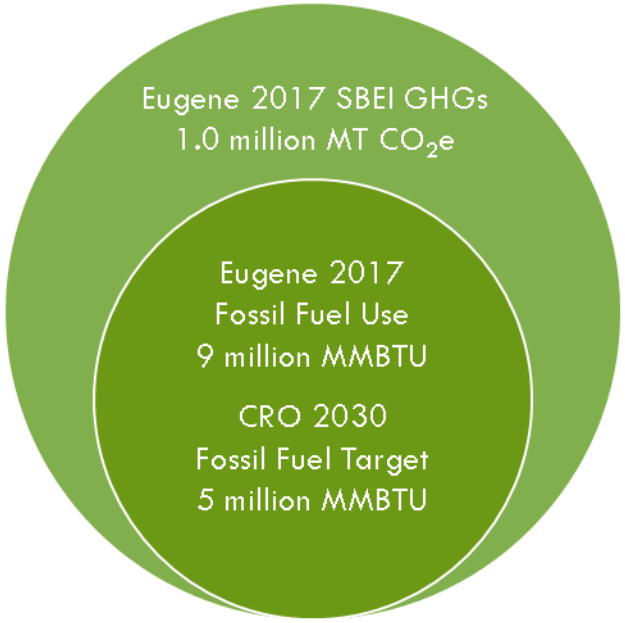
Mayor’s CRO Ad Hoc Work Group Meeting Review

- February 12, 2020
  - Overview of CAP2.0 process and content
  - Small Group Discussions to identify positive aspects and areas for improvement
- March 11, 2020
  - Sharing of themes
  - Small group discussion regarding details for each theme

Preview of Data for CAP 2.0

Relationship between sector-based emissions and CRO fossil fuel target.

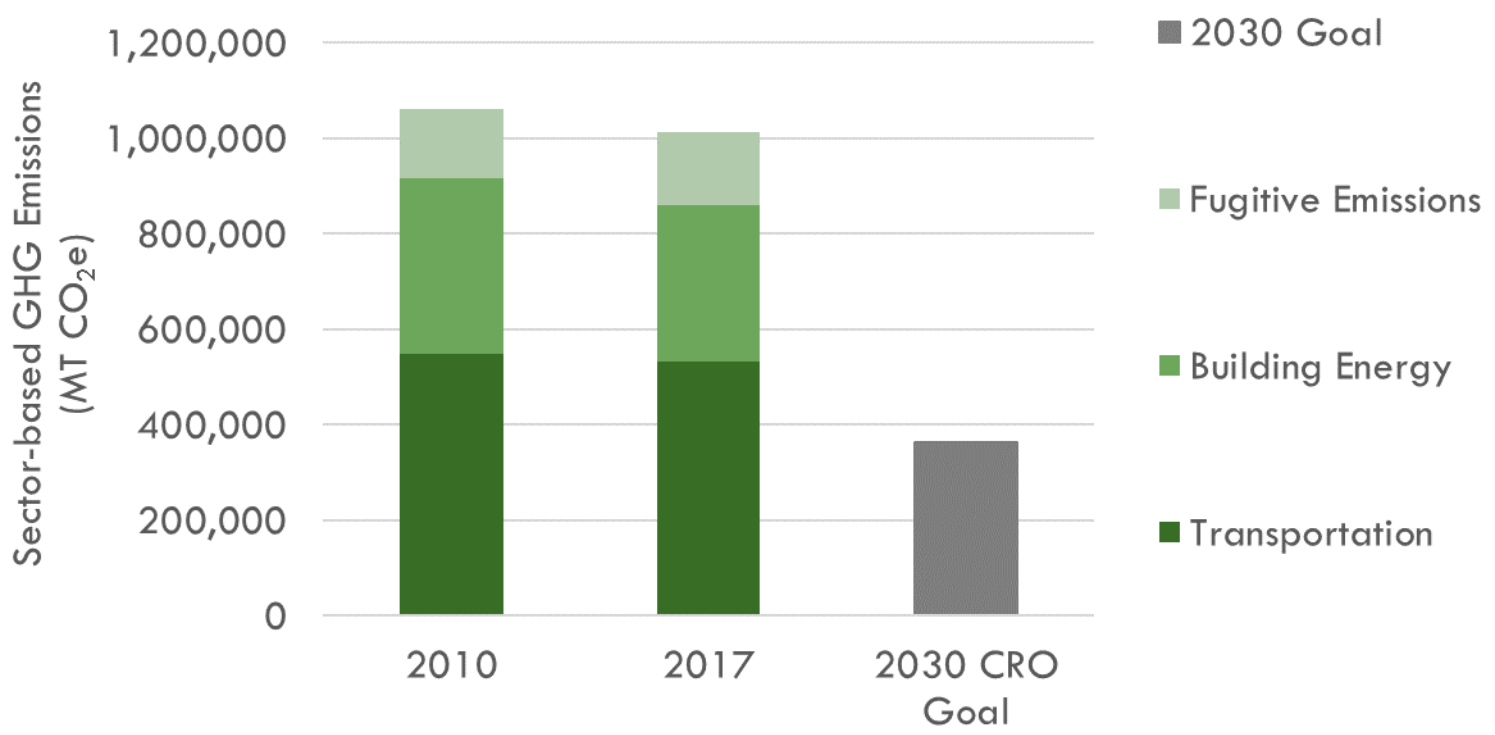


Sector-Based Emissions Inventory (SBEI)

Fossil Fuel Emissions (CRO target)

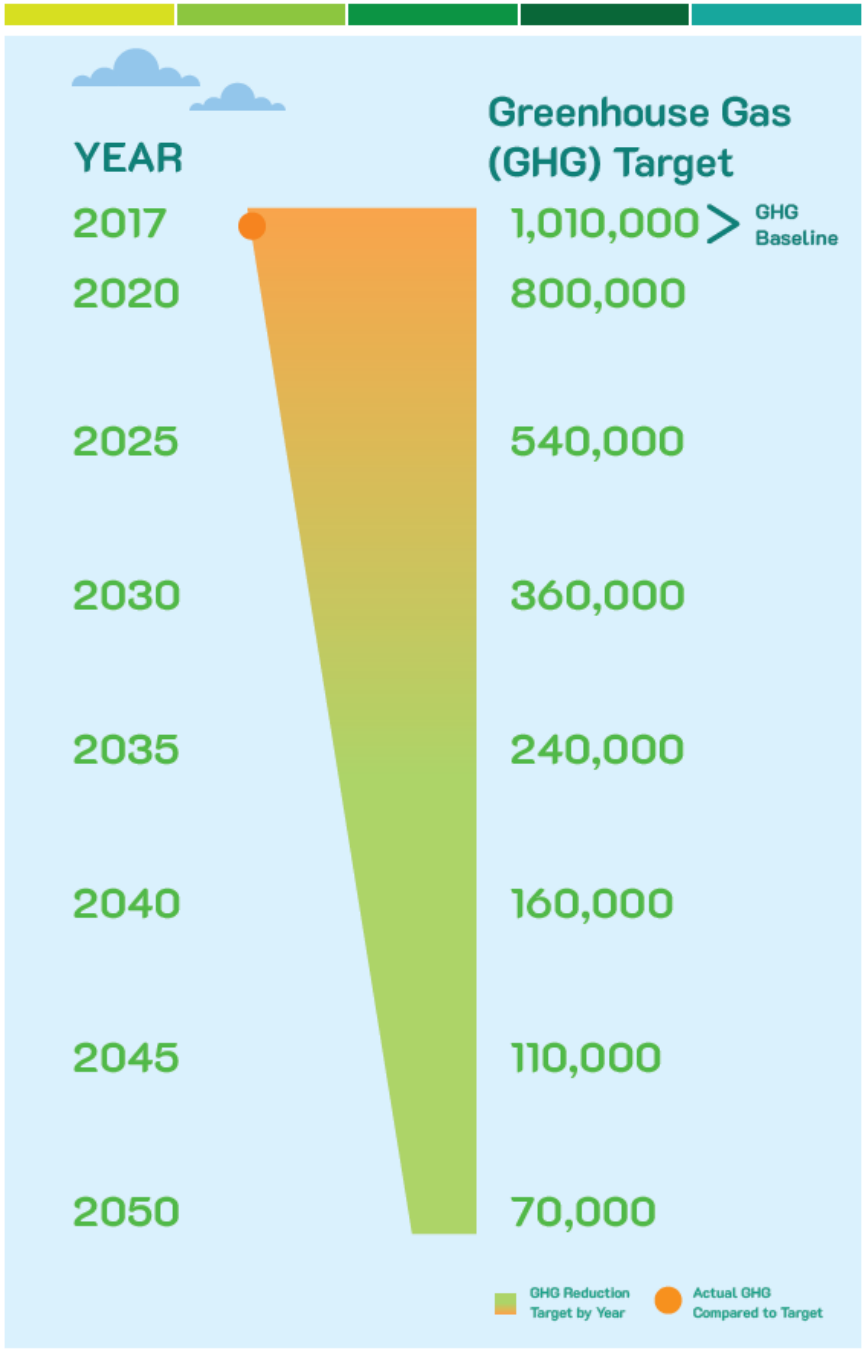
- 85% of our local emissions come from the use of transportation fuels and natural gas, or fossil fuels.

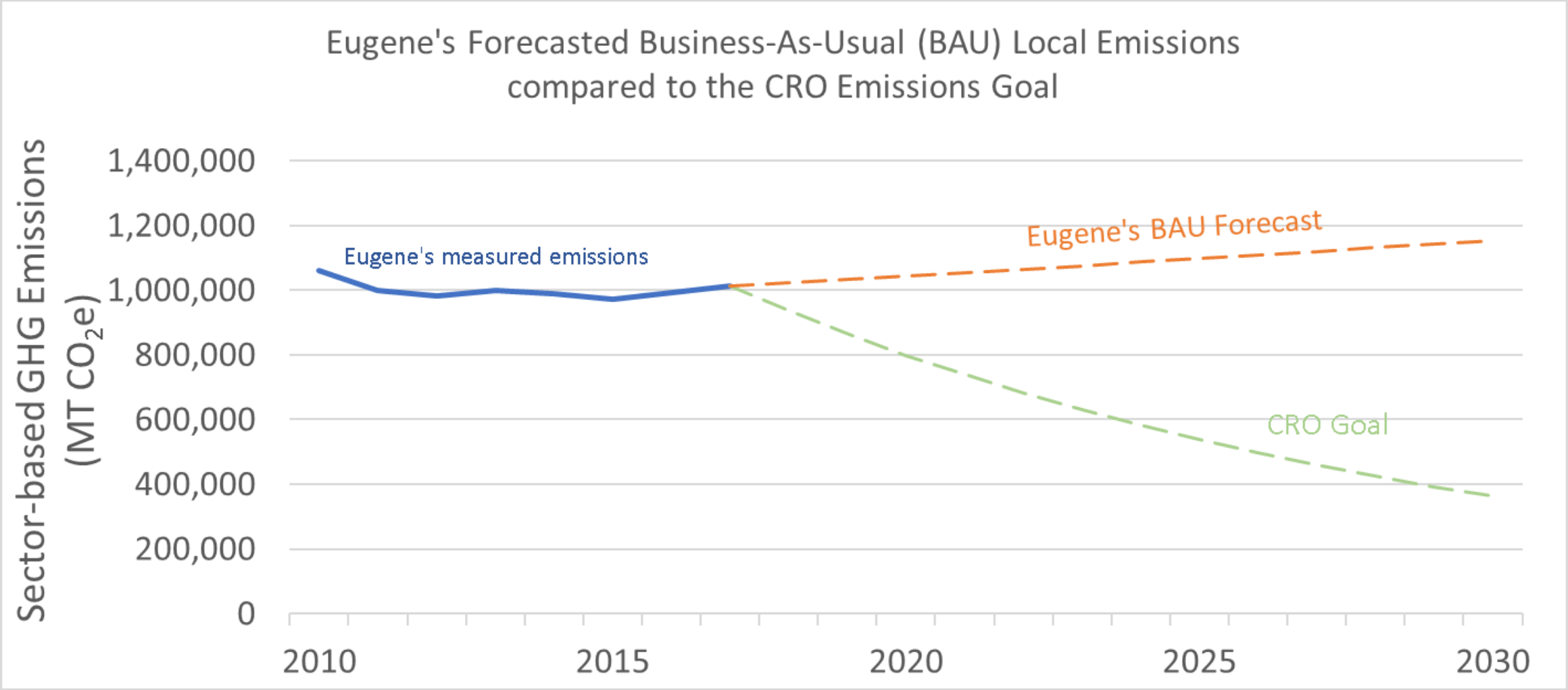
Comparison of 2010 and 2017 GHGs to the 2030 CRO Goal



Emissions declined about 3 percent from 2010 to 2017, decreasing from 1.061 MT CO_2e in 2010 to 1.013 MT CO_2e in 2017.

Greenhouse Gas Emissions Target Thermometer




Eugene's Forecasted Business-As-Usual (BAU) Local Emissions compared to the CRO Emissions Goal
Sector-based GHG Emissions (MT CO_2e)
1,400,000
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
2010
2015
2020
2025
2030
Eugene's measured emissions
Eugene's BAU Forecast
CRO Goal

Pathway to the CRO

2030 Goal:

790,000 MT CO_2e

CAP2.0 Pathway to the CRO Actions	Maximum Potential 2030
Goal	**(790,000)**
Emissions Reduction by Bucket	
Transportation	(387,000)
Building Energy	(75,000)
Fugitive Emissions	(23,000)
Total Reductions from Commitments by Bucket	**(485,000)**

Emissions Reductions by Bucket

Strategies to Reach the Goal
1. Northwest Natural Franchise Agreement (Expected Fall 2020)
2. State and Federal Action
3. Community Vision (Ideas from the Ad Hoc Work Group Process)
4. Carbon Offsets as a short term solution

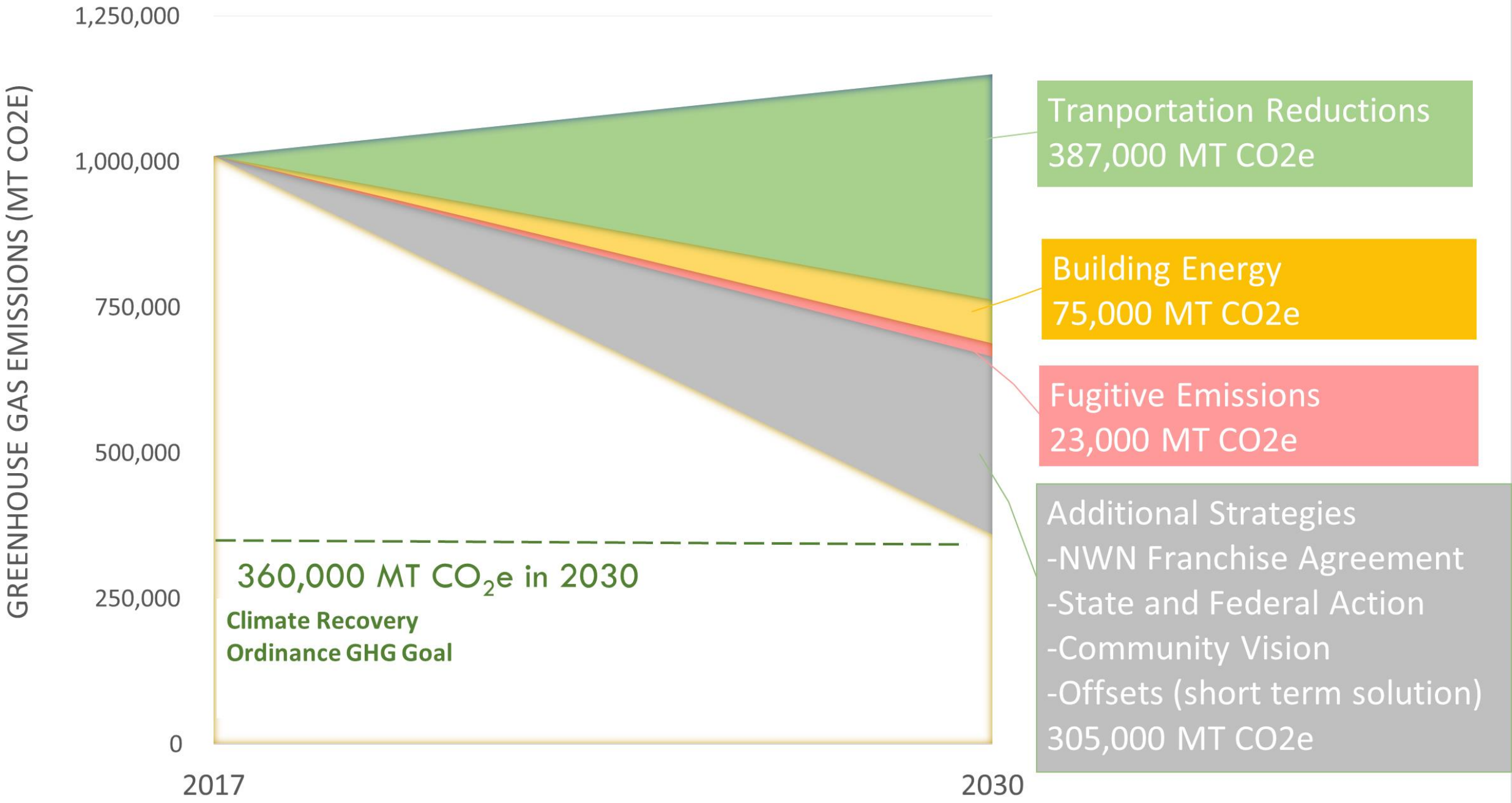
305,000 MT CO2e

Needed to meet the CRO Goal

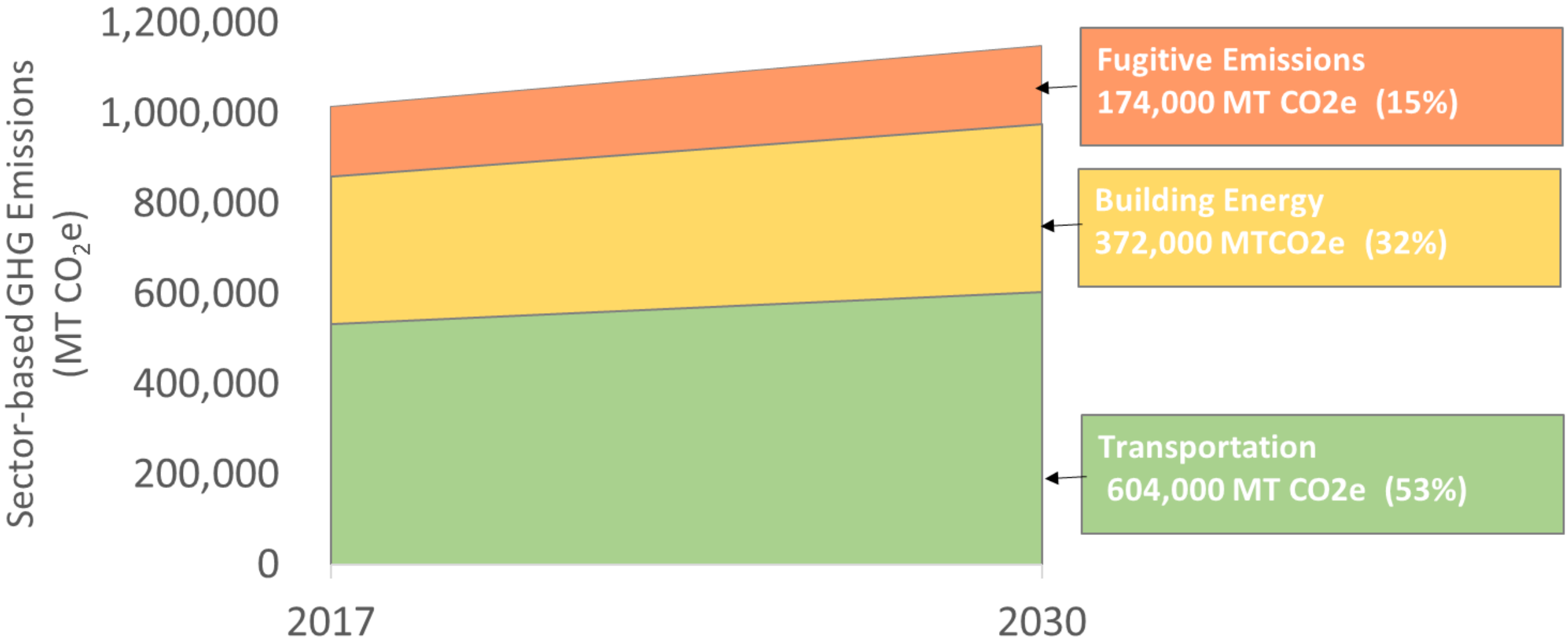
Strategies to Reach the Goal

Visualizing the Pathway to the CRO

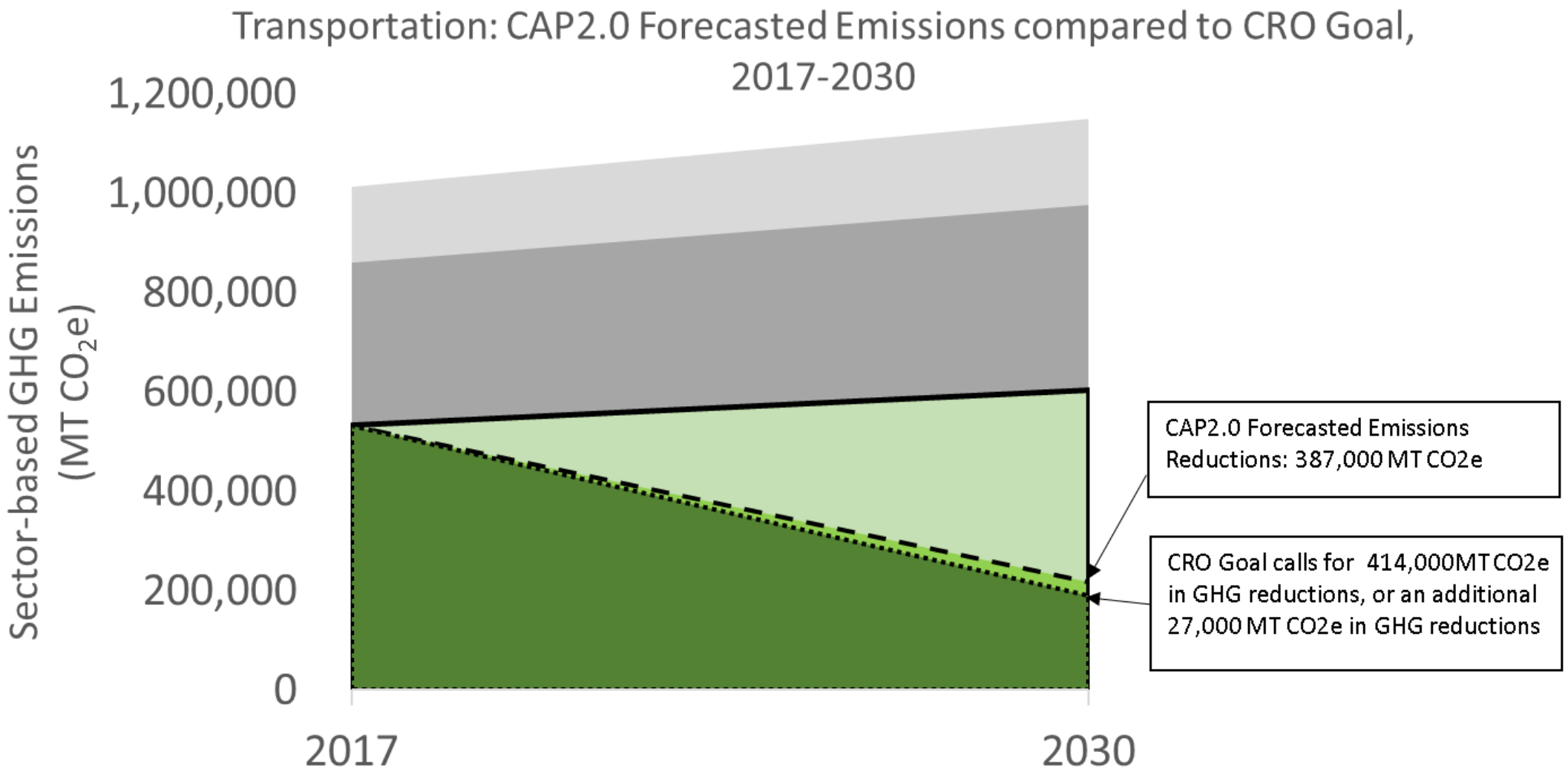
CAP2.0 REDUCTIONS BY BUCKET

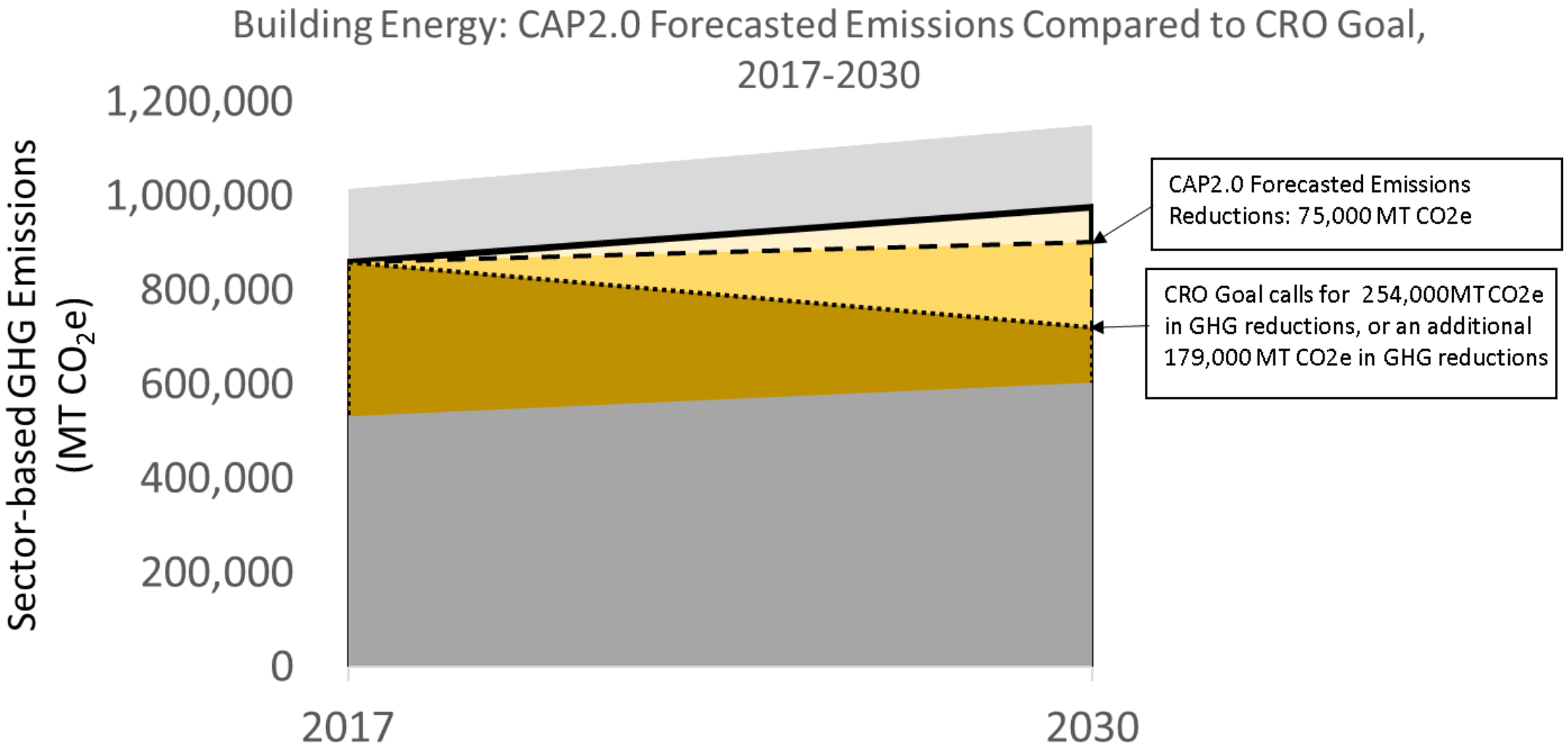


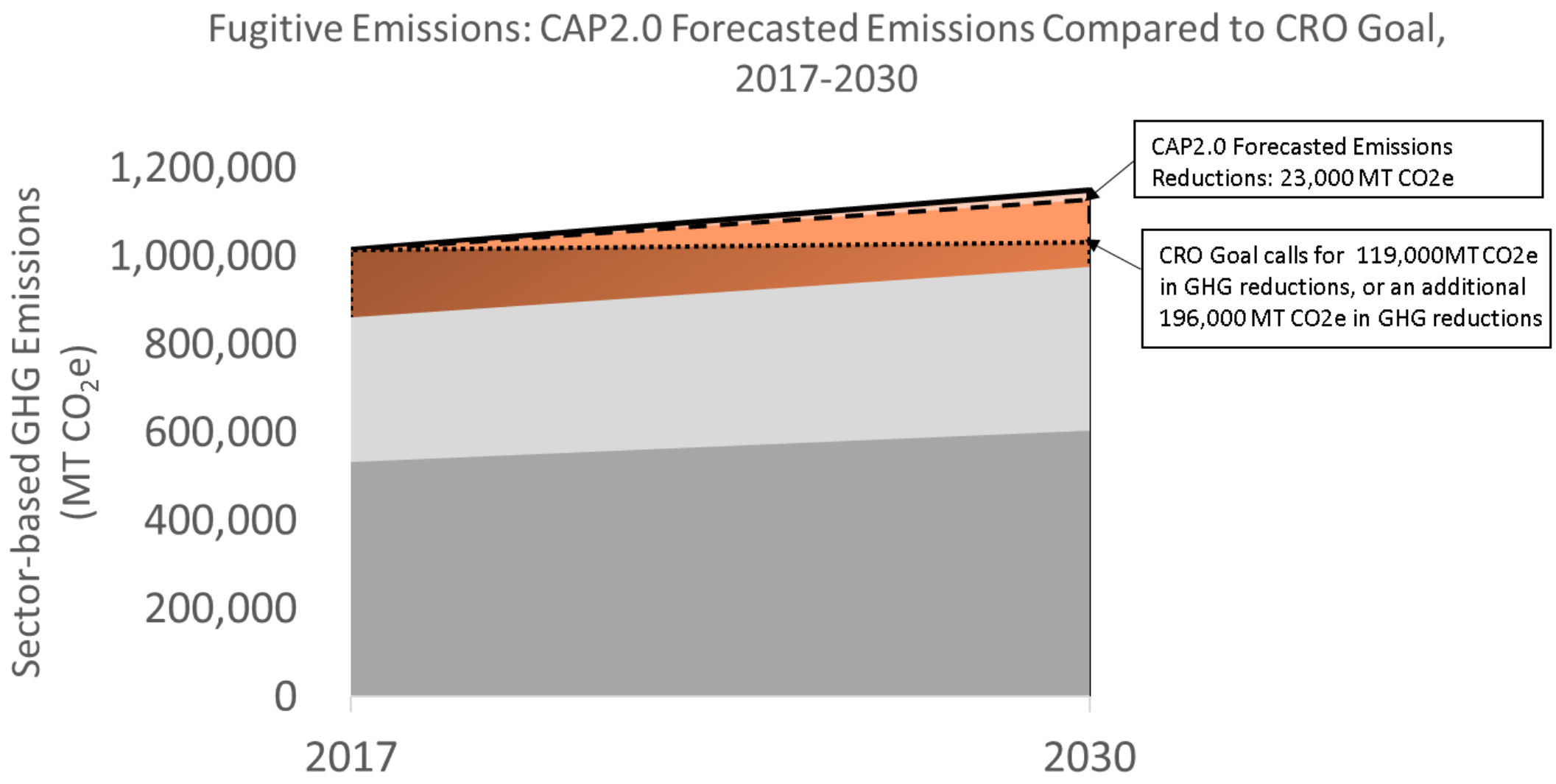
CAP2.0 Business as Usual Forecasted Emissions divided by bucket, 2017-2030

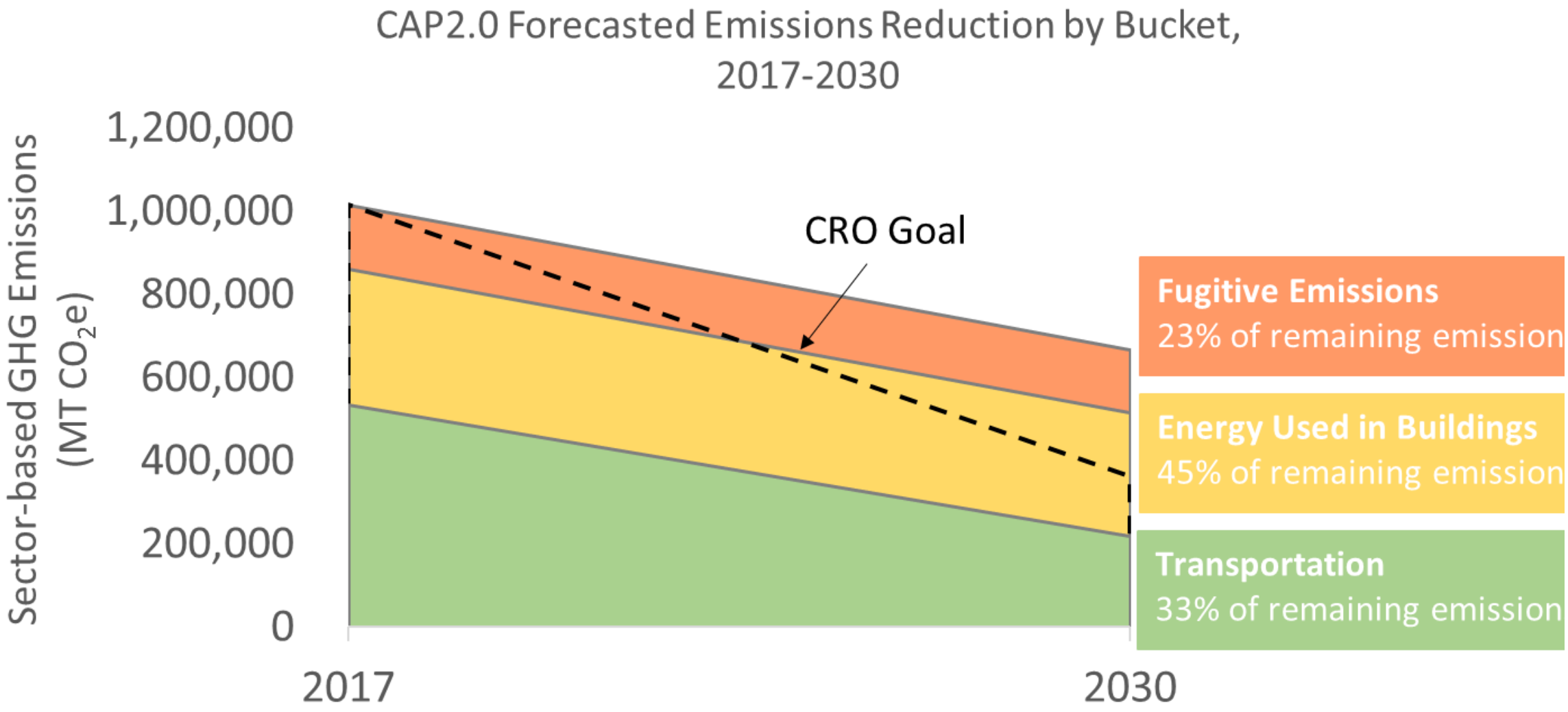


*Bucket proportions in 2030 mirror proportions in 2017. Forecasts by bucket are beyond the scope of this project.


Transportation: CAP2.0 Forecasted Emissions compared to CRO Goal, 2017-2030
Sector-based GHG Emissions (MT CO_2e)
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
2017
2030
CAP2.0 Forecasted Emissions Reductions: 387,000 MT CO2e
CRO Goal calls for 414,000MT CO2e in GHG reductions, or an additional 27,000 MT CO2e in GHG reductions


Building Energy: CAP2.0 Forecasted Emissions Compared to CRO Goal, 2017-2030
Sector-based GHG Emissions (MT CO_2e)
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
2017
2030
CAP2.0 Forecasted Emissions Reductions: 75,000 MT CO2e
CRO Goal calls for 254,000MT CO2e in GHG reductions, or an additional 179,000 MT CO2e in GHG reductions


Fugitive Emissions: CAP2.0 Forecasted Emissions Compared to CRO Goal, 2017-2030
Sector-based GHG Emissions (MT CO_2e)
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
2017
2030
CAP2.0 Forecasted Emissions Reductions: 23,000 MT CO2e
CRO Goal calls for 119,000MT CO2e in GHG reductions, or an additional 196,000 MT CO2e in GHG reductions


CAP2.0 Forecasted Emissions Reduction by Bucket, 2017-2030
Sector-based GHG Emissions (MT CO_2e)
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
2017
2030
CRO Goal
Fugitive Emissions
23% of remaining emission
Energy Used in Buildings
45% of remaining emission
Transportation
33% of remaining emission

Engage Eugene Survey: Additional Actions

Presentation and Analysis of Results of Action Ranking: Bundles

- Building Electrification (Including Reducing Natural Gas)
- Energy Reduction
- Renewable Energy
- Accelerate TSP
- Active Transportation (Reduce Car Use)
- Decrease or Offset Air Travel
- Electric Air Travel
- Improve Traffic Flow
- Increase Electric Vehicles
- Increase Transit Use
- Parking
- Reduce Delivery Vehicles
- Reduce Waste
- Refrigerants
- Food Emissions (Food Production and Food Waste)
- Low-GHG Concrete Construction
- Plastics
- Reduce Consumption
- Carbon Sequestration
- Funding & Offsets
- Land Use (Including TOD)
- Private Sector Mitigations
- Reduce Wear on Roads
- Smaller Homes (Reduce Consumption, Increase Density)
- Community Engagement
- Create community resiliency group

CAP2.0 Next Steps

- May 20 – City Council Work Session
- June 10 - Mayor's CRO Ad Hoc Work Group Meeting
- June 17 - City Council Work Session
- Early July – Revised CAP2.0 released
- July 8 - City Council Work Session
- July 15 – City Council Work Session
- July 27 - City Council Work Session

[Ad Hoc Picture Here]

Closing

Transportation Total	**(387,000)**
Eugene 2035 Transportation System Plan (Action T1)	(240,000)
Transportation System Plan Aligned with CRO Goals (Action T2)	(70,000)
EVs - (15,000 in addition to TSP assumptions)	(66,000)
COE Internal CAP - Fleet (Action xxx)	(3,000)
EWEB CAP - Fleet	(1,000)
LCC CAP - Owned Fleet	(100)
LCC CAP - Student Commute	(6,000)
LTD Bus Fleet & Fuels	(900)

Transportation Reductions

Building Energy Total	**(75,000)**
Home Energy Score and Commercial Benchmarking	(10,000)
COE Internal CAP - Facilities (Action xxx)	(1,000)
EWEB Future Energy Conservation (market-based)	(2,500)
EWEB CAP - Facilities	(1,000)
NWN Smart Energy Program (5% participation) (Action xxx)	(17,000)
NWN Future Conservation / Efficiency (Action xxx)	(15,000)
NWN Distribution System Loss Reduction (Action xxx)	(400)
MWMC / NWN Biomethane to natural gas pipeline (Action xxx)	(7,000)
LCC CAP - Facilities	(700)
UO CAP - New/Existing Building Energy Efficiency	(1,900)
Oregon Net-Zero Residential Building Code	(6,400)
Oregon Net-Zero Commercial Building Code	(12,300)

Building Energy Reductions

Fugitive Emissions	**(23,000)**
Reduce fugitive refrigerant loss - Facilities	(10,000)
Reduce fugitive refrigerant loss - Fleet	(10,000)
COE Food Waste Diversion to Composting	(3,300)

Fugitive Emissions Reductions

Eugene City Manager's Office

Agenda

Mayor's Climate Recovery Ordinance Ad Hoc Work Group
June 10, 2020

1. Opening & Agenda Review

2. Review of Community Actions
   - Presentation
   - Questions and Comments

3. Break

4. Community Engagement Approach
   - Presentation
   - Questions and Comments

5. Check-Out

6. Closing & Next Steps

Participant List
Mayor's Climate Recovery Ordinance Ad Hoc Work Group

Name	Organization
Mayor Lucy Vinis	Eugene Mayor
Councilor Alan Zelenka	Eugene City Councilor
Councilor Emily Semple	Eugene City Councilor
Councilor Greg Evans	Eugene City Councilor
Dan Hurley	Lane County
Daniel Borson	Human Rights Commission Representative
Eliza Kashinsky	Budget Committee Representative
Eugene Organ	Lane Independent Living Alliance
J. Ingrid Kesler	Eugene Area Chamber of Commerce Member
Jon Kloor	Northwest Natural
Joshua Skov	Community Member
Kaarin Knudson	Community Member
Kelly Hoell	Lane Transit District
Kristie Hammitt	City of Eugene Assistant City Manager
Lex Worden	Sunrise Eugene
Linda Heyl	350Eugene
Matt McRae	Community Member
Matt Rodrigues	City of Eugene Public Works Director
Matt Schroettnig	Eugene Water and Electric Board
Pablo Alvarez	Eugene Springfield NAACP
Tiffany Edwards	Eugene Area Chamber of Commerce Staff
Zach Mulholland	Sustainability Commission Representative

Mayor's CRO Ad Hoc Work Group Meeting Summary Notes

June 10, 2020

1. Opening and Agenda Review – Jason

Staff discussed process and agenda for the meeting. Sarah Medary, City Manager Pro Tem and Mayor Lucy Vinis made remarks. Staff provided next steps and instructions.

2. Review Group Purpose and Process

Staff shared the purpose statement for the group and the progress the group has made.

Purpose Statement:

The Community Climate Action Plan 2.0 (CAP2.0) is Eugene's roadmap to achieving the community climate action goals in the CRO as well as a climate resiliency plan. The purpose of the Mayor's CRO Ad Hoc Work Group is to provide guidance on how to modify the Draft CAP2.0 and to provide input on additional actions to add to the plan to fully meet the CRO goals. The Work Group will provide guidance on the following:

- The high-level topics, or themes, that should guide the document revision process
- Evaluation criteria for additional actions to add to the plan
- Additional actions to add to the CAP2.0 to achieve CRO goals, including some prioritization of the suggested additional actions
- CAP2.0 community engagement process moving forward

Process:

- Feb 12 – Work Group Meeting 1: Listening Session
- Mar 11 – Work Group Meeting 2: Themes + Additional Action Process
- May 12 – Work Group Meeting 3: Revised CAP 2.0 Data Preview; Processing Community Actions

3. Review of Community Actions – Chelsea Clinton

Staff discussed history of community vision actions including current action bundles and how group arrived here. Staff addressed adding granularity and feedback about new actions, including feedback about actions that seemed redundant. Staff addressed the process actions have undergone, as well as how actions will be spoken about in the document moving forward. Staff invited feedback about document in time for final wrap up mid June.

Questions and Comments

- Inquired about how staff will address priority among community actions.
    - Staff spoke to the work already committed to in the CAP2.0 and need to start there. Once complete, staff will look to Council and community to decide what's next, the process moving forward will be public.
- What does it mean to include community actions in plan? Expressed disagreement with some actions and inquired how staff will decide which are included.
    - Staff will be clear about what has been committed to and what is not committed to (ECC Actions, COE Actions, community vision in its chapter); City Council and City Manager want to know where the community wants to go and including this in the document helps know what community feels about what is next.
- What do we do with the ones we don't think should be in the plan?
    - Staff understood the feedback from the last meeting was to include all actions, and addressed language that can be used in the plan and with Council to make sure actions are vetted properly before consideration.
- Furthered previous comments and concerns about actions that should not be included (which would negatively impact emission reduction goals), i.e., making bus fares free and associated impact.
    - Staff suggested an intro paragraph to frame what actions represent, and what they don't represent, as well as concerns about vetting moving forward.
- Discussed concerns about requirements for business community related to costs and feedback for staff as they frame these actions in the document for the community; spoke about the need to incentivize participation of these actions rather than mandating.
- Addressed timeline considerations and involvement of ECC partners moving forward; spoke about specific actions in the community vision actions that could be used to address emissions reduction.
- We don't need to have all the answers, resources, planning clearly now, however doesn't like label "community vision" because it doesn't express enough commitment; these actions are a commitment to address in the future; inquired what City Council's role will be when they come to approve this, or a line item veto of approving certain actions (rather than a package deal).
- Wants to include Energy in actions, especially since actions will take investment in local businesses, and businesses of marginalized communities, to close the loop economically to keep more money in the community to add to long term resiliency.
- Appreciated previous comments and wants accountability and educational feedback loops between public, ECC partners, and city officials; is there an opportunity to assign an entity to carry these actions forward for feedback to write up impact of individual actions items moving forward, as well as how to mobilize around how to make it happen or know what the challenges are.
    - Staff said it is too late to do that within CAP 2.0 planning process, but that perhaps moving forward outside of July timeline, the City can figure out how ECC can engage with these actions specifically.

- Expressed disappointment that Natural Gas actions were included in community vision list. Concerned because of ongoing confidential negotiations related to the Northwest Natural Franchise Agreement. Conversations around City commitments to natural gas actions should be limited to negotiations at this time.
    - Staff clarified that the ideas included in the community vision are ideas from the community and do not represent commitments from the City.
- Expressed appreciation for work. Shares concerns for prioritization but understand process moving forward, including accountability.
- Discussed how actions are to be framed is very important; expressed that some language is problematic like "require", "ban", etc., especially related to Council priorities. Talked about how people without context for this process will interpret these actions, and discussed thoughts about some actions that may be difficult to achieve; inquired of staff what the intent for actions was for the evening.
    - Staff said intent is to get feedback about actions as they are to be presented in the document and reiterated messages being about framing.
- Can we let Ad Hoc Members do a Sharepoint site to edit the actions moving forward, perhaps have folks vote on the actions, etc. Member would like to provide feedback about preamble moving forward.
- Encouraged members to "see the forest through the trees", spoke about difference between committed-to actions and community vision actions; shared concern about how actions will move forward; desire to stay focused on priority as document moves forward to Council rather than stay too focused on details; expressed confidence in staff and Council to vet actions moving forward.
- Inquired about ensuring accountability to reach goals set forth, especially for addressing the gap. Member inquired of staff what impact the public forum will have on the Plan if the CAP 2.0 has already been published.
    - Staff addressed question about accountability by saying ECC Partners will have support to move forward on actions they have committed to. Staff spoke to how to address Gap between ECC actions and CRO goal, including role of community vision actions. Staff explained public input has been gathered over the past several years up to this point, it is time to finish and implement the Plan, when adjustments can be made through public input and Council direction.
- Inquired what happens if there is a budget shortfall (i.e. aggressive transportation goals and impacts on work moving forward), and how will staff plan for that moving forward.
    - Staff spoke about budget processing related to climate advocacy moving forward.
- Discussed importance of remembering climate justice and equity in actions moving forward.
- Mentioned concern about lack of clarity if the group was trying to fix the document or improve the Plan; expressed concern about community vision actions and lack of accountability to complete these, as well as concern about the community's potential lack of confidence in plan if there isn't commitment to complete those actions.

    - Staff addressed the process for gathering and processing community actions. Staff reiterated these actions strongly communicate what the community wants to complete after the first commitments are completed and asked for members to participate in accountability moving forward to achieve desired community outcomes.
- A lot hinges on how community vision is addressed (held, addressed, committed to); expressed thoughts about difference between including actions in a document as opposed to including actions in the Plan; expressed appreciation for aforementioned ways to incorporate actions.
- Feels the ad hoc group failed to reach its goals and is not doing the work to vet and process ideas from community in order to turn them into commitments that will close the gap in the Plan. Contemplated that if group needs more time to get commitment for actions, then that time should be given.
- Hears desire for consensus around community vision actions and discussed concerns about some actions. Discussed difficulty in achieving consensus about deciding which actions can be committed to by individuals and businesses and reiterated comments about incentives rather than mandates. Discussed discomfort about settling on consensus without further vetting of comments.

4. Community Engagement Approach – Chelsea Clinton

Staff introduced the intention of this section and purpose of these ideas.

Staff presented thoughts about community engagement moving forward to include considerations for a reconvening of the equity panel, work of the Sustainability Commission and citizen advisory boards, individual and household and action campaign, Eugene Climate Collaborative, Sustainable Business Engagement Strategy, Reporting and Accountability to include CRO annual report (would go to Equity Panel in early fall and Council in later fall), CAP 2.0 Dashboard (10 or so metrics, more will be overwhelming), and GHG emissions inventories.

Questions and Comments

- Spoke about challenges in budget process related to how spread out climate work is throughout the city and getting folks engaged in the process despite the city's efforts to make information accessible. Discussed need to make how the City funds items clearer to the community so they understand what work is being funded.
    - Staff further discussed challenges in budgeting and provided an example about one challenge related to road challenges and how funding can be mixed together.
- Wants to make sure information is accessible before each April, and engagement is spread out throughout the year.
- Addressed need for Citizen Advisory Board, otherwise accountability is fragmented and difficult to achieve related to advancing climate goals.

- Encouraged to see Sustainable Business Engagement Strategy which came from the Eugene Sustainability Commission efforts and conversations, and expressed appreciation for inclusion of this plan.
- Staff reiterated Councilor Syrett's inquiry about engaging directly with neighborhood associations and discussed that staff does not have capacity to respond deeply to each association. Staff requested feedback for achieving this goal.
- Make sure we are allocating resources for outreach in a way that reaches a majority of the people, especially people who are likely to be directly impacted by climate change; inquired about accountability and integration of these thoughts across department.
    - Staff discussed ways to get information out across the organization internally including the internal climate action team which could be one solution to make sure internal departments are working in a coordinated fashion.
- Can we set goal to update document every 3-5 years with additional actions and updated target?
    - Staff shared CRO requires the CAP to be updated every 5 years.
- Discussed how budget can reveal priorities an d inquired how is the City aligning commitments over time and importance of staying on the timeline.
- Spoke about challenges related to additional liaison efforts, and addressed business engagement strategy to engage small businesses that are minority owned
- Staff wanted to hear comments on neighborhood association piece and from Linda around advisory committee
- Discussed challenges of integrating sustainability commission and liaison efforts with other committees due to timing of committee work and meetings.
- Discussed work of sustainability commission compared to their lack of work within the CAP and lack of bandwidth for work in implementation over the years; further discussed possibilities working with a Climate Citizen Advisory Board.
- Expressed appreciation for work on monitoring progress and communicating progress and reporting. Spoke to the challenge of engaging the middle population who often get overlooked and left behind because it's not as easy for them to engage due to life circumstances (like those employed and too busy to go to COE website and read report). Spoke about an idea to use visuals annually in high traffic areas like downtown, that are simple to communicate what work is being done.
- Discussed thoughts about a Climate Panel (Advisory board idea from Ad Hoc member) to work on large number of items over large number of years; discussed use of structured conversations about how city can work with neighborhoods.
- Discussed disagreement with comment about lack of staff resources, expressed hopes around getting around excuses people have for not attending meetings and increasing engagement; expressed desire for using increased creativity in reaching out to folks.

Staff discussed thoughts about breaking norms in terms of how we engage and use our capacity for time engagement.

5. Check Out-Group

Staff discussed purpose of Check Out time to reflect on Ad Hoc Work Group process and thoughts about initial intentions. Staff spoke about goals for this closing out and what members can think they can commit to carry work forward.

Discussion:

- Very willing to support work of CRO and Plan especially in regards to housing and homelessness crisis. Expressed appreciation for any process where "trust is identified as a challenge where technical content is the agenda". Expressed desire for members to focus on shared goals rather than differences as its importance to move work forward.
- Expressed thought that there is so much work to be done, and much of that work is making connections. Referenced budget committee and different community groups and committees that come together to make that work happen, and the need for sharing information; willing to commit to do this in areas they have influence including within the city, both personally and professionally. Discussed importance of equity and racial justice in personal and professional life. Expressed that this process was helpful in meeting other individuals and hearing different perspectives and thoughts about process and Plan moving forward.
- Discussed components they appreciated about the process including staff's role in listening to feedback and expressed appreciation for Chelsea and her work. Discussed how the process worked and thoughts about how it could have been done – does not feel confident these goals will be met and gaps addressed but is hopeful there is genuine desire to get things done. Would like to see things that increase their confidence that city will meet goals. Feels that goals are not scientifically robust enough to achieve climate needs and would like to see city address this climate crisis to same degree as pandemic response. Discussed ability to commit to being an advocate and encourage diversity of advocacy and engagement, as well as persistence. Discussed desire to see more people of color including representatives of the Kalapuya tribe involved with the process.
- Expressed thanks to elected officials and staff for content, expressed concern about gap among strategies and not leaving process with total confidence in final produce to this end. Committed to pursuing a climate advisory board like Lane County and discussed importance of community confidence and trust. Discussed items they think are missing and thoughts about being "on board" with plan.
- Discussed comparison of experiences with engagement outside Oregon, and that in Oregon, and Eugene particularly, feels impressed with engagement among staff, elected leaders, and general community. Discussed work professionally around electrification, and personally about individual actions in the future.
- Appreciated staff efforts to engagement and listening to community members, discussed challenges around engaging different voices and values with climate work. Appreciated hearing other folks and expressed their thoughts about the group bringing back the same concerns over the past three meetings . Discussed confusion about why

that was and belief that staff need to keep that in mind for implementation in the future. Mentioned desire to be involved with equity panel moving forward.

- Discussed challenge as Large Level Stakeholder in engaging smaller businesses for a cohesive voice. Discussed future needs for process and potential challenges engaging businesses in the future. Expressed fear for delayed involved and anxiousness for wanting to be committed to bring people to the table before it becomes too late. Discussed work in the future as Intergovernmental Relations Manager for LTD and connection with Eugene Chamber. Discussed thoughts about reflecting on the group in hindsight.
- Discussed previously expressed fears and wishes city was further along with those larger questions. Expressed belief that the Ad Hoc process failed because they hadn't figured out how to close the gap or incorporate commitment to community actions. Inquired if perhaps staff can come up with recommendation for closing the gap and send before Council. Remains committed to climate goals and commitment to creating actionable goals and expressed they wish the group was in a better place.
- Expressed agreement that group did not achieve goal of identifying gaps but appreciates the work of staff so far. Discussed efforts to commit to work moving forward including opportunity to create a new "business as usual" in light of life altering crises as they arise. Expressed need to strengthen marginalized communities to increase community strength and to create a sustainable economy not so dependent/impacted by crises.
- Discussed thoughts about how they could assist these efforts through work on Budget Committee by bridging resources to people coming up with solutions to address gaps in goals and climate work in general. Discussed thoughts about process and appreciation for continuance of work in light of the pandemic, but missed the work of the small groups in going in depth. Discussed nervousness about if goals of group were met, or if their fears were validated.
- Expressed thankfulness for community involvement and importance of work members were asked to do. Discussed thoughts about how this work is hard and difficult and that incompleteness is appropriate given largeness of work. Discussed commitment to do everything possible to keep communicating and work on Electric Board and discussed how her work across communities nationally will further the work of Eugene.
- Expressed appreciation for commitment and passion for climate work that is not simple or straight forward. Discussed thoughts about what has happened throughout the process, including in light of COVID-19 and racial inequity.
- Expressed appreciation for this work and Chelsea's work. Discussed thoughts about expectations initially for the group and would have liked to end with a more streamlined list. Expressed desire to get to implementation.
- Expressed thoughts about process and thoughts about developing a plan, especially one that gets to zero. Talked about the amount of work to do in implementation and discussed commitment as a City Councilor to turn the Plan into Action. Expressed thanks to Mayor Vinis for putting together the workgroup, to Chelsea for doing the work, and to community members for their work and future work.

- Discussed thoughts about the process of the workgroup including the amount of work community members did outside of the meetings, and staff to get components in place to move forward. Discussed role in the city organization and commitment to carrying work forward in those various programs.

6. Closing and Next Steps

Mayor Vinis provided concluding remarks. Staff discussed key takeaways and expressed appreciation for work of the TBL Subgroup in analyzing COE actions. Staff made closing remarks.

Mayor’s Climate Recovery Ordinance Ad Hoc Work Group Meeting #4

Tuesday, June 10th, 2020

Housekeeping

Agenda

- Review Group Purpose and process
- Preview and Discussion of Community Vision
- Preview and Discussion of Community Engagement
- Closing

Process Review

Review of Group Purpose

The purpose of the Mayor's Climate Recovery Ordinance Ad Hoc Work Group is to provide guidance on how to modify the Draft CAP2.0 and to provide input on additional actions to add to the plan to fully meet the CRO goals.

- The high-level topics, or themes, that should guide the document revision process
- Evaluation criteria for additional actions to add to the plan
- Additional actions to add to the CAP2.0 to achieve CRO goals, including some prioritization of the suggested additional actions
- CAP2.0 community engagement process moving forward

Mayor’s CRO Ad Hoc Work Group Meeting Review

- February 12, 2020
  - CAP2.0 Overview
  - Small Group Discussions – positives and areas for improvement
- March 11, 2020
  - Sharing of themes
  - Small group discussion – theme details
- May 12, 2020
  - Revised CAP2.0 Data Preview
  - Discussed processing 300 Community Actions

Community Vision Actions

Community Vision Actions

Transportation

- TSP, Active Transportation, and Transit
- Compact Development
- Electric Vehicles
- Parking
- Reduce Delivery Trucks
- Airport and Air Travel

Building Energy

- Building Electrification
- Natural Gas
- Other Building Energy Actions

Fugitive Emissions

Consumption

- Food
- Concrete
- Plastics
- Reduce Consumption

Resiliency

Additional Actions

- Fossil Fuel
- Community Engagement
- Economic Development

Community Engagement

1. Reconvene the Equity Panel

- Reconvene representatives from frontline communities to advise on CAP2.0 and CRO implementation.

- Continue to pay organizations supporting equity panel members.
    - Funding is available for the upcoming year. Need to identify ongoing funding.

2. Citizen Advisory Committees

- Sustainability Commission
  - Sustainability Commission is the policy advisory group to City Council and the City Manager.
- Additional Citizen Advisory Groups that impact CRO implementation include:
  - Budget Committee, work
  - Planning Commission,
  - Human Rights Commission,
  - Active Transportation Committee,
  - Engage Eugene Technical Advisory Committee,
  - Citizen Street Repair Review Panel
  - Neighborhood Associations.

3. Individual, Household, and Neighborhood Action Campaign

The City will roll out a communications and behavior change campaign to encourage climate action at the individual and household level in fall 2020.

4. Eugene Climate Collaborative

The City will continue to convene and engage the Eugene Climate Collaborative to advance actions in the CAP2.0 and future climate action.

5. Sustainability Business Engagement Strategy

The City will develop a business engagement strategy in partnership with the business community.

6. Reporting and Accountability

CRO Annual Report.

The annual report will also include a summary of key initiatives and work areas for the year ahead,.

Fall timing.

CAP2.0 Dashboard.

Develop a dashboard to track key metrics (approximately 10) in the CAP2.0 to be updated annually. The goal of the dashboard is to provide easy access to key metrics that align with the actions in this plan in a format easily accessible to the community.

Greenhouse Gas Emissions Inventories.

In alignment with the CRO, the City will update its internal and community ghg inventories every two years.

CAP2.0 Next Steps

- June 17 - City Council Work Session
- Early July – Revised CAP2.0 released
- July 8 - City Council Work Session
- July 15 – City Council Work Session
- July 27 - City Council Work Session

Closing

Climate Action Plan 2.0

Appendix 11

Community Ideas for Potential Actions Survey Results

Emissions Category	Bundled action	Name of climate action *Verbatim from survey	Brief description of the climate action *Verbatim from survey	What are the environmental, economic, and equity co-benefits or challenges of the climate action? What other co-benefits or challenges should be considered? *Verbatim from survey
	Building Electrification	See below.		
	Building Electrification	Electrification and Energy Conservation of Building Energy	Residential and multi -family residences should be required to upgrade to electric appliances and heating systems over the next 10-15 years. This allows for newer non electric home heating units to run their life cycle. Home energy conservation measures should be incentivized through a city, county, or state program. Rooftop solar and community solar programs should be promoted. Home energy scores should be required at time of ownership transfers with energy saving recommendations and hearing and cooling costs detailed. Inefficient appliances and wood stoves would require upgrades before sales. Water using fixtures should be upgraded to low flow type.	Environmental benefits would be more efficient use of heating, cooling, and lighting which reduces GHG emissions overall. This also leads to reduced utility costs to renters and owners and water savings to the community.
	Building Electrification	Building Fuel Switch 3/5	Switch to electric as systems/appliances need replacement.	Large reduction of GHGe. Electric for home use is less expensive. Home/business generation of solar and deployment of microgrids improve resilience. End dangerous rail traffic adjacent to low income neighborhoods. NG accident response should be paid for by NG industry.
	Building Electrification	Building Fuel Switch 5/5	Assistance for low income households to make the change.	Large reduction of GHGe. Electric for home use is less expensive. Home/business generation of solar and deployment of microgrids improve resilience. End dangerous rail traffic adjacent to low income neighborhoods. NG accident response should be paid for by NG industry.
	Building Electrification	Promote fuel switching in buildings	Actively promote EWEB's incentives for property owners to switch from natural gas to electric for heating and water heating.	Reduced GHGs, reduced fossil fuel use, reduced energy price volatility (electricity price is more stable than fossil fuel prices), ability to power homes from local energy sources (all fossil natural gas is imported), ability to power homes with a diversity of energy sources, reduced risk of gas explosions in buildings, reduced use of fracking pollution in gas producing regions. Risk: consider increased dependency on electricity to operate building systems - electric system failures become increasingly consequential. Challenge: Requires increased electricity generation - including siting challenges and transmission requirements.
	Building Electrification	Incentives for electric heating in new buildings	Provide information and incentives for developers and property owners to build homes that use electricity for heating, cooking, and water heat, instead of using natural gas. This could include providing information or marketing and could include provision of financial incentives (1 year tax exemption?) for builders that decide not to use natural gas.	reduced greenhouse gas emissions, reduced fossil fuel use, reduced fracking pollution in regions where gas extraction is taking place, reduced risk of natural gas explosions in buildings, reduced need for construction in the right of way to expand the natural gas distribution system, improved economic outcomes for Eugene's publicly owned water and electric utility.
	Building Electrification	Prohibit financial subsidies for switching to fossil fuel burning equipment	Prohibit NW Natural, and other entities, from offering incentives and subsidies for fossil fuel burning equipment, such as those offered for natural gas heaters.	
	Building Electrification	Grants and low interest loans to replace gas equipment, inefficient electric heat, and increase energy efficiency	Offer grants and low interest loans to replace gas equipment or inefficient electric heating systems with energy efficient electric systems and to invest in energy efficiency improvements	Can save people money by lowering upfront cost of energy efficiency investments and saving money on energy bills over time
	Building Electrification	Require landlords install efficient electric heat by 2030	Require landlords install efficient electric heating systems by 2030 to lower cost and emissions of heating rental units	Save renters money on their energy bills
	Building Electrification	10.Address "other fuels" Emissions in GHG inventory. What comprises this category?		
	Reduce/Eliminate Use of Natural Gas	See below.		
	Reduce/Eliminate Use of Natural Gas	Assume phased out natural gas use: 20% by 2025, 50% by 2030, 100% by 2050.		Energy costs may change for households and businesses depending on project-level circumstances. Cost burden for developing and maintaining utility infrastrucrture may change as customers migrate from one energy type to another.
	Reduce/Eliminate Use of Natural Gas	Restructuring of NW Gas Franchise Agreement 1/6	The continuation of using GHG emitting gas as an energy source needs to be phased out over the next 10-15 years in order for the city meet its carbon reduction goals. The following steps must be enacted: - prohibit new gas line infrastructure and new gas hook ups - eliminate NW Gas incentivizing campaigns - promote fuel switching from gas to electric appliances - require NW Gas to use renewable natural gas in a phased in process; 20% by 2025, 50% by 2030, 80% by 2050 - install penalty triggers if these RNG measures are not met.	Long term costs show switching off of fossil fuel energy sources to renewable sources benefits the consumer. No price can be administered to clean air and the lives saved by reducing the affects of climate change. The environmental benefits of phasing out methane laden natural gas is incomparable to renewable energy such as hydro, wind or solar sources.
	Reduce/Eliminate Use of Natural Gas	Restructuring of NW Gas Franchise Agreement 2/6	The continuation of using GHG emitting gas as an energy source needs to be phased out over the next 10-15 years in order for the city meet its carbon reduction goals. The following steps must be enacted: **- prohibit new gas line infrastructure and new gas hook ups**	Long term costs show switching off of fossil fuel energy sources to renewable sources benefits the consumer. No price can be administered to clean air and the lives saved by reducing the affects of climate change. The environmental benefits of phasing out methane laden natural gas is incomparable to renewable energy such as hydro, wind or solar sources.
	Reduce/Eliminate Use of Natural Gas	Restructuring of NW Gas Franchise Agreement 3/6	The continuation of using GHG emitting gas as an energy source needs to be phased out over the next 10-15 years in order for the city meet its carbon reduction goals. The following steps must be enacted: **- eliminate NW Gas incentivizing campaigns**	Long term costs show switching off of fossil fuel energy sources to renewable sources benefits the consumer. No price can be administered to clean air and the lives saved by reducing the affects of climate change. The environmental benefits of phasing out methane laden natural gas is incomparable to renewable energy such as hydro, wind or solar sources.
	Reduce/Eliminate Use of Natural Gas	Restructuring of NW Gas Franchise Agreement 4/6	The continuation of using GHG emitting gas as an energy source needs to be phased out over the next 10-15 years in order for the city meet its carbon reduction goals. The following steps must be enacted: **- promote fuel switching from gas to electric appliances**	Long term costs show switching off of fossil fuel energy sources to renewable sources benefits the consumer. No price can be administered to clean air and the lives saved by reducing the affects of climate change. The environmental benefits of phasing out methane laden natural gas is incomparable to renewable energy such as hydro, wind or solar sources.

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	Reduce/Eliminate Use of Natural Gas	Restructuring of NW Gas Franchise Agreement 5/6	The continuation of using GHG emitting gas as an energy source needs to be phased out over the next 10-15 years in order for the city meet its carbon reduction goals. The following steps must be enacted: **- require NW Gas to use renewable natural gas in a phased in process; 20% by 2025, 50% by 2030, 80% by 2050**	Long term costs show switching off of fossil fuel energy sources to renewable sources benefits the consumer. No price can be administered to clean air and the lives saved by reducing the affects of climate change. The environmental benefits of phasing out methane laden natural gas is incomparable to renewable energy such as hydro, wind or solar sources.
	Reduce/Eliminate Use of Natural Gas	Restructuring of NW Gas Franchise Agreement 6/6	The continuation of using GHG emitting gas as an energy source needs to be phased out over the next 10-15 years in order for the city meet its carbon reduction goals. The following steps must be enacted: **- install penalty triggers if these RNG measures are not met.**	Long term costs show switching off of fossil fuel energy sources to renewable sources benefits the consumer. No price can be administered to clean air and the lives saved by reducing the affects of climate change. The environmental benefits of phasing out methane laden natural gas is incomparable to renewable energy such as hydro, wind or solar sources.
	Reduce/Eliminate Use of Natural Gas	Energy Use in Buildings: 1. Regulate natural gas use to reduce emissions by 200,000 MT by 2030 1/4	A.Require 100% electricity for energy use in new buildings (Prohibit gas in new construction)	Sorry, too big a topic for here
	Reduce/Eliminate Use of Natural Gas	Energy Use in Buildings: 1. Regulate natural gas use to reduce emissions by 200,000 MT by 2031 2/4	B.Prohibit new service connections in existing buildings	Sorry, too big a topic for here
	Reduce/Eliminate Use of Natural Gas	Energy Use in Buildings: 1. Regulate natural gas use to reduce emissions by 200,000 MT by 2032 3/4	C.Prohibit incentives from NWN for new customers	Sorry, too big a topic for here
	Reduce/Eliminate Use of Natural Gas	Energy Use in Buildings: 1. Regulate natural gas use to reduce emissions by 200,000 MT by 2033 4/4	E.Require offsets	Sorry, too big a topic for here
	Reduce/Eliminate Use of Natural Gas	Action B7 addition: Reduce use of natural gas	Include regulation of natural gas: specifically, start with a ban on new natural gas infrastructure and gas hookups in new buildings. Support and encourage fuel switching from natural gas to electricity. Pay for incentives. Consider a tax on natural gas to pay for them. Do a public education campaign about the necessity and advantages (climate change, health, safety) of switching.	Reduce greenhouse gas emissions and use of a fossil fuel. Reduce methane leaks from infrastructure in Eugene and elsewhere. Reduce indoor air pollution from gas stoves, resulting in reduction or decreased severity of respiratory illnesses.
	Reduce/Eliminate Use of Natural Gas	Building Fuel Switch 1/5	No new NG infrastructure or accounts.	Large reduction of GHGe. Electric for home use is less expensive. Home/business generation of solar and deployment of microgrids improve resilience. End dangerous rail traffic adjacent to low income neighborhoods. NG accident response should be paid for by NG industry.
	Reduce/Eliminate Use of Natural Gas	Building Fuel Switch 2/5	. No new NG appliances.	Large reduction of GHGe. Electric for home use is less expensive. Home/business generation of solar and deployment of microgrids improve resilience. End dangerous rail traffic adjacent to low income neighborhoods. NG accident response should be paid for by NG industry.
	Reduce/Eliminate Use of Natural Gas	Lobby the state to update the building code to prohibit natural gas in new buildings	When city staff participate in state building code development, lobby for changes to the building code to prohibit natural gas use in new buildings.	reduced ghg emissions, reduced fossil fuel use, reduced fracking pollutions in gas producing regions.
Building Energy	**Reduce/Eliminate Use of Natural Gas**	No natural gas in new City owned buildings	Adopt a policy to prohibit the use of natural gas in all new city buildings and major renovations of city buildings.	Reduced GHGs, reduced fossil fuel use, reduced fracking pollution in gas producing regions.
	Reduce/Eliminate Use of Natural Gas	NO NEW GAS INFRASTRUCTURE	STOP ALLOWING NEW GAS INFRASTRUCTURE NOW; GET NW NATURAL OFF CLIMATE COMMITTEES	WE CAN INVEST IN A LOCAL GREEN NEW DEAL
	Reduce/Eliminate Use of Natural Gas	No new gas	Just a repeat of the equity recommendation: Require all new developments to be natural gas free and limit new natural gas infrastructure.	
	Reduce/Eliminate Use of Natural Gas	Limit new natural gas infrastructure	Bar the expansion of natural gas infrastructure (underground pipes) beyond its current footprint	
	Reduce/Eliminate Use of Natural Gas	restrict any new natural gas infrastructure and encourage solar ready construction	work with building codes to create climate friendly construction.	limiting natural gas usage is a clear environmental necessity. Co benefits could include incentives or requirements to have new construction include electric heat pumps for heating/cooling which would save future occupants significant money particularly for small business and people living on limited incomes.
	Reduce/Eliminate Use of Natural Gas	Make new contract with Northwest Natural Gas limited to 5 Years or Less	Renewal of agreements with Northwest Natural Gas needs to be limited to a 5 Year agreement, in order to phase out any additional New Gas Hookups as soon as possible.	"Natural" gas is highly polluting, when measured from extraction to burning. Some 30 communities in California have committed to No New Gas Hookups. We must do this to gain in Drawdown. Utilities should increase promoting conversions to Heat Pumps: more energy conservation, will save carbon emissions over gas, will save consumers money over time.
	Reduce/Eliminate Use of Natural Gas	No natural gas in new buildings	Ban the installation of natural gas equipment and gas lines into new buildings	
	Reduce/Eliminate Use of Natural Gas	No new gas equipment	Ban the installation of natural gas burning equipment. If old equipment needs to be replaced, offer grants and low-interest loans to cover the cost of replacing with energy efficient electric equipment.	Replacing gas equipment with electric could have upfront costs that should be ameliorated.
	Reduce/Eliminate Use of Natural Gas	Establish a City program to promote fuel switching from gas to electric in existing buildings	(EWEB has incentives in place already – the City can actively promote the purpose and incentives)	
	Reduce/Eliminate Use of Natural Gas	Establish a City program to promote the use of electric instead of gas in new construction	(This could be information or incentives or both - or could be a prohibition on expansion of the NG distribution system as discussed within the context of the NG Franchise Agreement)	
	Reduce/Eliminate Use of Natural Gas	Lobby the state to update state building code to reduce or eliminate natural gas in new construction		
	Energy Reduction	See below.		
	Energy reduction	Assume net zero energy buildings.		
	Energy reduction	3.Conservation and efficiency interventions reduce emissions from residential, business and organization buildings by 20% by 2030		
	Energy reduction	4.By Jan 2022, businesses (with more than X employees?) develop plans to achieve Net-zero building energy use by 2030		
	Energy reduction	Establish Eugene Clean Energy Fund 1/4	a.#1 Priority for offset funds from gas users is back to COE - weatherizing, solar installation, etc	Co-benefits for low-income households.

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	Energy reduction	Strive for net zero buildings.	How close are we to net zero energy use in our public buildings? What would it take to require net zero for future building projects? How would building codes for commercial and residential buildings need to be revised. How might this be phased in? Fund studies.	
	Energy reduction	Housing 4/8	Increase Housing upgrades with Energy Efficiency requirements	Drawdown by promoting Conservation and less Consumption, citywide. Neighborhood groups can help with this Plastic recycling efforts could be valuable means to reduction.
	Energy reduction	Require rentals meet minimum energy score by 2030	Require rentals meet a minimum home/business energy score by 2030	Save renters money on their energy bills.
	Energy reduction	9.Zero-energy and zero energy-ready construction is achieved in all new residential, commercial and retail buildings and major renovations by 2030 (OR Executive Order 17-20)		
	Energy reduction	Home and business energy score requirement	Require home/business energy scores be included in rental and sale materials for homes and businesses	Makes it easier for homeowners and businesses to invest in energy efficiency when purchasing a building and incentivizes landlords to improve efficiency prior to listing for rent or sale.
	Renewable Energy	See below.		
	Renewable energy	Assume a percentage of solar rooftop generation potential is realized and 100% biogas potential is realized, and remaining energy is purchased as Renewable Energy Credits, creating 100% renewable supply/purchases.		
	Renewable energy	Future of Energy for Eugene and Lane County	City of Eugene staff & council leave FAR TOO MUCH of the energy planning to EWEB to take care of on their own. There needs to be active public meetings between EWEB, City staff and public, to plan the next 10, 20 and 30 years of energy production, what renewable sources will be developed and incentivized, and more development of residential, community and commercial SOLAR projects. Solar is expanding around the U.S. and Oregon at a rapid pace, but barely moves at a crawl here in Lane County & Eugene. This must change quickly!	We need short and long-term planning about moving from fossil fuel energy supplies (natural gas, gasoline, diesel) to renewable energy sources. This should be a top-10 priority for CAP 2.0.
	Renewable energy	2.Carbon-free electricity capacity expands to accommodate electrification	Formalize an on-going planning with EWEB to plan for future clean electricity needs	
	Renewable energy	5.Rooftop and community solar generation expands by (X capacity) and includes storage component (NOTE:We received multiple comments supporting Commercial and residential solar on roofs)		
	Renewable energy	Maximize distributed solar power on rooftops.	Use existing rooftops to reduce strain on undeveloped land. Reduce cost of new infrastructure, since existing buildings are already on the grid. Increase resiliency by distributing power sources around ur community, assuming you allow a two way flow to and from the grid.	
	Renewable energy	Incentivize micro-grid development in neighborhoods	There are new innovations in energy production everyday. Lets open up potential by incentivizing it. Currently EWEB and NW Natural hold a monopoly. Lets diversify.	Greater resilience with greater diversity
	Renewable energy	Housing 7/8	Promote Rooftop Solar	Drawdown by promoting Conservation and less Consumption, citywide. Neighborhood groups can help with this Plastic recycling efforts could be valuable means to reduction.
	Renewable energy	Housing 8/8	Introduce "Community Solar" practices ~ support viable solar array in your area when your own roof is not situated for solar	Drawdown by promoting Conservation and less Consumption, citywide. Neighborhood groups can help with this Plastic recycling efforts could be valuable means to reduction.
	Renewable energy	100% biogas requirement	Require all natural gas for Eugene to come from bio-gas or renewably sourced hydrogen. Phase in over 10 years and include cost containment measures to limit total potential cost.	May raise natural gas prices
	Renewable energy	Enact a policy to require all new City buildings (or city-funded buildings, or buildings undergoing major renovation) operate on 100% renewable energy		
	Renewable energy	Establish Commercial and Residential Property Assessed Clean Energy programs in Eugene		
	Building Energy: Land Use (Including TOD)	See below.		
	Building Energy: Land Use (Including TOD)	Accelerate or increase plans for compact development, increasing active transportation, increasing transit, and decreasing private vehicle use (walkable neighborhoods, transit oriented development).		Community health benefits. Lower transportation costs compared to private automobile ownership.
	Building Energy: Land Use (Including TOD)	8.Envision Eugene plans implemented for compact development as mixed-use neighborhoods in the downtown and along six transportation corridors for multifamily and new commercial development by 2030		
	Building Energy: Land Use (Including TOD)	Emphasize transit oriented development in planning and economics development activities. 1/2	Encourage new development, both residential and commercial, to be located along high-frequency transit corridors. Discourage new development in car dependent locations. Modify the zoning ordinance to prioritize and intensify residential development in areas closest to the City center and most conducive to biking and walking.	Residential and job development near services and along transit corridors will the need for private auto use and thus reduce GHG emissions. In transit oriented cities, retail activity is string where people move from one mode of transportation to another. The City can use this fact to spur economic growth at nodes where key transit stations and active transportation paths intersect. This in turn will provide equitable employment and shopping opportunities for those who can not afford, or who choose not to use private autos.
	Building Energy: Land Use (Including TOD)	Emphasize transit oriented development in planning and economics development activities. 2/2	Modify the zoning ordinance to prioritize and intensify residential development in areas closest to the City center and most conducive to biking and walking.	Residential and job development near services and along transit corridors will the need for private auto use and thus reduce GHG emissions. In transit oriented cities, retail activity is string where people move from one mode of transportation to another. The City can use this fact to spur economic growth at nodes where key transit stations and active transportation paths intersect. This in turn will provide equitable employment and shopping opportunities for those who can not afford, or who choose not to use private autos.
	Building Energy: Land Use (Including TOD)		ATC: ● Support Transit Oriented Development in key corridors. Discourage car dependent residential development.	
	Building Energy: Land Use (Including TOD)	Update land use policies 1/2	Update land-use policies to promote building up rather than sprawling horizontally. Use incentives/ disincentives to minimize existing and new impermeable surfaces.	Shorter transportation distances, less material consumed for paving, more efficient buildings, more land to absorb carbon.
	Smaller Homes (Reduce Consumption, Increase Density)	See below.		

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	Smaller homes (reduce consumption, increase density)	Reduce consumption in goods and materials consumed, and increase housing density, decreasing needs for transportation.		
	Smaller homes (reduce consumption, increase density)	Increase minimum units of housing per acre	Increase density by increasing the minimum number of units per acre	
	Smaller homes (reduce consumption, increase density)	Housing 1/8	City Zoning Codes need changing.	Drawdown by promoting Conservation and less Consumption, citywide. Neighborhood groups can help with this Plastic recycling efforts could be valuable means to reduction.
	Smaller homes (reduce consumption, increase density)	Housing 2/8	Add Smaller Homes, more Dense Neighborhoods, ADUs etc to promote urban development effectively	Drawdown by promoting Conservation and less Consumption, citywide. Neighborhood groups can help with this Plastic recycling efforts could be valuable means to reduction.
	Smaller homes (reduce consumption, increase density)	Reduce restrictions and fee costs on building ADU's	Reduce restrictions on and fee costs of building ADU's	
	Smaller homes (reduce consumption, increase density)	Remove height restrictions downtown	Allow taller buildings to be built downtown by removing, or changing, the current height restrictions	
	Smaller homes (reduce consumption, increase density)	Reducing oer capita and total community wide GHG emissions from housing and transportation	revise city housing and land use policies to allow for smaller homes that are able to be sited throughout all existing neighborhoods to provide greater access to jobs and services for all residents.	Smaller homes will lower the amount of energy needed for heating and cooling and will be more affordable. More housing options throughout the city will lower transportation demand and reduce our number one source of GHG emissions.
	Smaller homes (reduce consumption, increase density)	Enable smaller dwellings 1/2	1. Remove City policy barriers to construction and occupancy of smaller dwellings and cohousing. For example: Remove limits on the number of unrelated occupants who can live in the same dwelling Remove arbitrary limit on the amount of a lot that can be covered by structures (50%) Reduce minimum lot size for an ADU, especially in LDR zones Reduce SDCs for smaller dwellings - to be proportional to the size of the dwelling Allow alley access lots outright in all zones	Reduced GHG emissions, reduced energy use for heating and cooling, reduced material use for housing construction, reduced fossil fuel use for heating, reduced cost of housing, increased availability of housing that is affordable, increased housing options, more housing available for residents looking for housing, reduced VMT, increased urban density that reduces dependency on automobiles and improves efficiency of the transit system.
	Smaller homes (reduce consumption, increase density)	Enable smaller dwellings 2/2	2. Incentivize construction and occupancy of smaller dwellings. For example: Temporarily eliminate SDCs for ADUs Further reduce SDCs for smaller homes	Reduced GHG emissions, reduced energy use for heating and cooling, reduced material use for housing construction, reduced fossil fuel use for heating, reduced cost of housing, increased availability of housing that is affordable, increased housing options, more housing available for residents looking for housing, reduced VMT, increased urban density that reduces dependency on automobiles and improves efficiency of the transit system.
	Smaller homes (reduce consumption, increase density)	Incentivize construction of small homes and multifamily housing (by refining land use polices and development fees)	(recognizing "encourage" small and multifamily homes is included within the buildings category – the location within the plan is less important – the language to specifically incentivize is necessary to drive adoption of new policies)	
	Accelerate TSP	See below.		
	Accelerate TSP	Accelerate adoption of TSP.		
	Accelerate TSP	Tactical Urbanism for Transportation	With traffic low and growing interest in bicycling/walking, implement key projects of the TSP (such as all of the planned protected bikeways, including High Street, River Road, Oakway/Cal Young, etc) using temporary measures such as traffic cones, planters, etc. Where key sections of sidewalk are missing or in disrepair, take space on the street for walking.	Changing the flow of traffic without warning could raise safety concerns, so significant signage/lighting would be needed. These projects are not equally distributed throughout the community, so not everybody would have a chance to take advantage of the expanded network of bike/ped temporary enhancements, so looking for similar opportunities in west Eugene, Bethel, north Eugene would be helpful
	Accelerate TSP	Increase bike/ped funding 1/3	Increase bike/pedestrian funding to at least $10 million per year to fully build out the bike/ped portions of the TSP in 5 years.	Reduce vehicle emissions and increase exercise
	Accelerate TSP	Increase bike/ped funding 2/3	Add additional projects to the Bike/ped portion of the TSP.	Reduce vehicle emissions and increase exercise
	Accelerate TSP		ATC: Accelerate Current Actions in the Transportation System Plan: Key actions need more support. These include research to understand public attitudes toward AT to prioritize investments that will make the most difference. Street design and bike parking are critical to creating an AT friendlier environment. Along with community partners, the city should also develop a mass marketing campaign to encourage walking and biking.	
	Accelerate TSP	Accelerate Current Actions already identified in the Transportation System Plan	The rates of active transportation in Eugene have not grown in recent years despite significant city efforts to encourage it. Increased emphasis should be given to collecting and understanding current AT data. We must fully understand the attitudes and barriers to AT so that our investments can be evidence-based and critical resources applied where they are most likely to change travel behaviors. Street design and appropriate bike parking are sure to be critical first steps in creating a landscape friendlier to biking and walking. There is little mass marketing to support AT; along with community partners, the city should develop a robust media campaign encouraging people to walk and bike.	
	Active Transportation (Reduce Car Use)	See below.		
	Active transportation (reduce car use)	Using a variety of policies, programming, and approaches, increase active transportation and decrease car use including 100% of all k-12 student commuting.		Community health benefits. Lower transportation costs compared to private automobile ownership. Pavement repair savings.

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	Active Transportation (reduce car use)	Get serious about non-auto transportation	Develop accurate real-time counts of trips made by each mode of travel, and set annual goals for reducing auto trips. Simultaneously develop a list of prioritized actions that will be taken each year if the target is not met.	Ultimately, there would be economic, environmental and equity benefits of less reliance on cars--but the transition period could create significant economic and equity hardships, as many people currently depend on cars to work multiple jobs/transport children, and this is particularly true for low-income people.
	Active transportation (reduce car use)	Housing Along Transit Corridors 4/6	Get more compact housing that's affordable to working individuals/families built along transit corridors, in whatever way possible. Require that residents can easily access the corridor, rather than being fenced off and having to walk a long way around to reach the street. Then increase the appeal of that housing by actions such as: **-Offer Smart Trips and similar programs to those living on or within two blocks of frequent transit corridors to encourage decreased driving.**	Small homes with low use of autos would have dramatic environmental and economic benefits, and ensuring that the housing is affordable to working class people would help with equity in the housing market. The City alone cannot build this type of housing--it would require cooperation and possibly incentives from the private sector.
	Active transportation (reduce car use)	Housing Along Transit Corridors 5/6	Get more compact housing that's affordable to working individuals/families built along transit corridors, in whatever way possible. Require that residents can easily access the corridor, rather than being fenced off and having to walk a long way around to reach the street. Then increase the appeal of that housing by actions such as: **-Separate charges for rent from charges for parking, to create a monthly financial incentive to minimize car ownership.**	Small homes with low use of autos would have dramatic environmental and economic benefits, and ensuring that the housing is affordable to working class people would help with equity in the housing market. The City alone cannot build this type of housing--it would require cooperation and possibly incentives from the private sector.
	Active Transportation (reduce car use)	Close streets to motor vehicle traffic 1/7	Select two streets, one north-south and another east-west to close and continue to do this every year until the city core is accessible only by bike, walking or buses. This is a radical solution that requires emergency treatment and major change. We are at the point where drastic transformation is required. See recent precedent actions: **i.Banning cars on SF's Market Street, once a radical idea, approved unanimously: https://www.sfchronicle.com/bayarea/article/Plan-to-remake-SF-s-Market-Street-without-car-14535887.php**	Traffic safety in lives saved is the biggest benefit but also quality of life and creating a more pleasurable city atmosphere.
	Active Transportation (reduce car use)	Close streets to motor vehicle traffic 2/7	Select two streets, one north-south and another east-west to close and continue to do this every year until the city core is accessible only by bike, walking or buses. This is a radical solution that requires emergency treatment and major change. We are at the point where drastic transformation is required. See recent precedent actions: **ii.What happens when a city bans cars from its streets?: https://www.bbc.com/future/article/20191011-what-happens-when-a-city-bans-car-from-its-streets**	Traffic safety in lives saved is the biggest benefit but also quality of life and creating a more pleasurable city atmosphere.
	Active Transportation (reduce car use)	Close streets to motor vehicle traffic 3/7	Select two streets, one north-south and another east-west to close and continue to do this every year until the city core is accessible only by bike, walking or buses. This is a radical solution that requires emergency treatment and major change. We are at the point where drastic transformation is required. See recent precedent actions: **iii.Cars Were Banned on 14th Street. The Apocalypse Did Not Come: https://www.nytimes.com/2019/10/13/nyregion/14th-street-cars-banned.html**	Traffic safety in lives saved is the biggest benefit but also quality of life and creating a more pleasurable city atmosphere.
	Active Transportation (reduce car use)	Close streets to motor vehicle traffic 4/7	Select two streets, one north-south and another east-west to close and continue to do this every year until the city core is accessible only by bike, walking or buses. This is a radical solution that requires emergency treatment and major change. We are at the point where drastic transformation is required. See recent precedent actions: **iv.NYC Council passes $1.7B plan to add 250 miles of protected bike lanes and 1M sqft of pedestrian space: https://www.6sqft.com/city-council-speaker-johnsons-1-7b-streets-plan-will-bring-250-miles-of-protected-bike-lanes-to-nyc/**	Traffic safety in lives saved is the biggest benefit but also quality of life and creating a more pleasurable city atmosphere.
	Active Transportation (reduce car use)	Close streets to motor vehicle traffic 5/7	Select two streets, one north-south and another east-west to close and continue to do this every year until the city core is accessible only by bike, walking or buses. This is a radical solution that requires emergency treatment and major change. We are at the point where drastic transformation is required. See recent precedent actions: **v.New Arizona Development Bans Residents From Bringing Cars: https://www.wsj.com/articles/new-arizona-development-bans-residents-from-bringing-cars-11574164801**	Traffic safety in lives saved is the biggest benefit but also quality of life and creating a more pleasurable city atmosphere.

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	Active Transportation (reduce car use)	Close streets to motor vehicle traffic 6/7	Select two streets, one north-south and another east-west to close and continue to do this every year until the city core is accessible only by bike, walking or buses. This is a radical solution that requires emergency treatment and major change. We are at the point where drastic transformation is required. See recent precedent actions: **vi.The Spine of San Francisco Is Now Car-Free, Laura Bliss, January 29, 2020: https://www.citylab.com/transportation/2020/01/market-street-car-free-san-francisco-bike-lanes-transit/605674/**	Traffic safety in lives saved is the biggest benefit but also quality of life and creating a more pleasurable city atmosphere.
	Active Transportation (reduce car use)	Close streets to motor vehicle traffic 7/7	Select two streets, one north-south and another east-west to close and continue to do this every year until the city core is accessible only by bike, walking or buses. This is a radical solution that requires emergency treatment and major change. We are at the point where drastic transformation is required. See recent precedent actions: **vii.Here is a Eugene citizen's initiative to close down street around Saturday Market when the market is open. Citizens for Car Free Community Fun https://cfcfcf.org. This type of action should be supported and allowed to go to fruition.**	Traffic safety in lives saved is the biggest benefit but also quality of life and creating a more pleasurable city atmosphere.
	Active Transportation (reduce car use)	Reward citizens for use of bicycling, walking and public transportation 1/3	There is a Federal Bike Credit (https://www.bikeleague.org/content/bicycle-commuter-benefit) that could reduce taxes of people who participate in bicycling to work.	This action is inclusive of everyone in the city of Eugene. It gives the public a way to contribute to the solution.
	Active Transportation (reduce car use)	Reward citizens for use of bicycling, walking and public transportation 2/3	Incentivize the use of bicycling, walking and public transportation usage at the city and corporation level.	This action is inclusive of everyone in the city of Eugene. It gives the public a way to contribute to the solution.
	Active Transportation (reduce car use)	Reward citizens for use of bicycling, walking and public transportation 3/3	Require city employees and employees of companies and organizations to log their work-time travel (including air travel) and use this data to encourage and reward moving away from fossil fuel usage. There are websites such as https://getthereoregon.org (already used in a statewide campaign) to log miles and keep track of personal metrics. There would be little financial cost to implementing logging of miles since the website is already in place. Point to Point and GetThereChallenge do not go far enough in encouraging alternative modes of transportation. They should be used throughout the year instead of periodically once a year.	This action is inclusive of everyone in the city of Eugene. It gives the public a way to contribute to the solution.
	Active Transportation (reduce car use)	Incentives to use alternate modes of transportation	Walk Bicycle Bus	Less cars More healthy citizenry
	Active Transportation (reduce car use)	Incentivize non-car transportation.	Use a combination of carrots (e.g. free buses) and sticks (e.g. gas taxes) to incentivize walking/biking/busing over car use.	
	Active Transportation (reduce car use)	Active Transportation Action Plan	Direct staff to draft and implement an Active transportation plan to reach the City's Active Transportation goals of tripling/quadrupling bike/ped trips	Improved health from active transport and reduced vehicle emissions
	Active Transportation (reduce car use)	Active Transportation Investments: Invest	Invest all available transportation dollars in supporting people walking, bicycling and riding the bus. Focus lobbying efforts at the state and federal levels to secure more funding or to eliminate restrictions that direct current funding to supporting people driving more (such as the Oregon Constitution that directs gas taxes to support people driving more). Consider closing a significant street length to vehicular traffic, in the fashion of a permanent Sunday Streets program, as was done last year for a section of Market Street in San Francisco	
	Active Transportation (reduce car use)	v.Third party partners could be invited to do this work, as was done near the Matthew Knight Arena, and as the City is planning to do with shared e-scooters.		
	Active Transportation (reduce car use)	Parking: 2/5	Use the revenue generated to accelerate AT infrastructure improvements.	
	Active Transportation (reduce car use)	Parking: 4/5	Provide rebates or other incentives to people who choose not to drive hence not taking up road or parking space.	
	Active Transportation (reduce car use)	Eliminate cars downtown 1/4	During certain periods, no cars downtown.	Reduce emissions and develop a multi-modal culture.
	Active Transportation (reduce car use)	Eliminate cars downtown 2/4	Also, build infrastructure.	Reduce emissions and develop a multi-modal culture.
	Active Transportation (reduce car use)	Give up your car campaign.	Encourage citizens to give up their cars. Give incentives to not own a car. Incentives can be monetary or in the form of credits for renting electric cars when traveling distances too far to bike.	Cars in the campaign could be given or sold to other people who are going to buy a car. Used cars reduces the manufacture of new cars and are less expensive making them more economically equitable.
	Active Transportation (reduce car use)	ATC 2/3	ATC: ● Invest all available transportation dollars on focused AT investments. Lobby all possible agencies to increase that funding. Consider closing some streets to vehicular traffic.	
	Active Transportation (reduce car use)	Reduce parking requirements	Reduce parking space requirements for all housing types to make it cheaper to live without car	
	Active Transportation (reduce car use)	Active Transportation vouchers	Offer all students $100-$300 vouchers to purchase active transportation equipment. Can target reduced price lunch or particular grades to start.	Reduce emissions, increase exercise, target low-income first

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	Active Transportation (reduce car use)	Anticipate and plan for autonomous vehicles.	Develop city-wide policies and programs to enable Autonomous Vehicles that support reductions in Vehicle Miles Travelled (VMT) and GHG emissions.	
	Active Transportation (reduce car use)	Reduce car uses by school children	Encourage school children to walk, bicycle or ride school buses, not drive to schools	Reduced traffic congestion, wear and tear on roadways, fuel consumption and potential for accidents.
	Active Transportation (reduce car use)	Restrict high schoolers from driving to school	If high school student were not allow to drive to school, it would encourage students to utilize alternate modes of transportation and teach that driving is a critical part of the climate crisis. It is an unprecedented request that commiserates with the need to for change. On October 1, 2016, the total number of high school students enrolled in Eugene was 5263(from https://www.4j.lane.edu/wp-content/uploads/2017/12/Enrollment-as-of-10.01.2017.pdf). If the city cannot legally restrict high school students from driving to school, then create economic disincentives such as higher parking fees and advertise to discourage driving to school.	Not only would limiting the number of students driving school decrease greenhouse gases, it would also teach the importance of everyone pitching in to help solve the climate crisis. It would make students use other resources such as public transportation and bicycling. And it would educate young people to make wise transportation choices throughout their lives.
	Active Transportation (reduce car use)	Housing	Create 10 minute neighborhoods	Drawdown by promoting Conservation and less Consumption, citywide. Neighborhood groups can help with this Plastic recycling efforts could be valuable means to reduction.
	Electric Bikes	See below.		
	Electric Bikes	incentives and promotion - Equal opportunity for bicycles 1/2	In the same way electrice vehicles are being incentivized and promoted in the CAP, bicycle with or without electric assist should be apportioned the same benefits as e-vehicles. Also the use of electric cars for city business is great but the three wheeled PEBL, Micro Car Ebike is less expensive and has a place in the fleet of city vehicles for around town use. https://www.better.bike/	Since bicycles less expensive than electric cars, they are a more economically equitable form of transportation to promote.
	Electric Bikes	Support E-Bike Usage:	Electric assist bicycles are enabling active transportation, among all age groups, at game-changing rate.6 Recent research from the University of California's Institute of Transportation Research suggests that e-bicycling, more so than conventional bicycling, is an effective substitute for trips by car, and that financial incentives are an important element in ebike adoption.7 Working with EWEB and other partners, the City should encourage the adoption of ODOT approved Electric Assisted Bicycles8 through a variety of incentives, including	
	Electric Bikes	ATC 3/3	ATC:● Working with partners, explore incentives to encourage the adoption of ODOT approved E-bikes.	
	Electric Bikes	Support electric bike usage	Working with EWEB and other partners, encourage the adoption of ODOT approved e-bike through a variety of incentives, such as providing secure public charging stations or advocating for rebate programs to enable e-bike purchases.	Recent research shows that e-biking, even more than conventional biking, is an effective substitute for trips by car. E-bikes use very little power compared to e-cars, and are effective at promoting healthful exercise among adults, especially older folks or those with physical limitations. They are effective for transporting groceries and other goods, and so enabling the purchase and use of an e-bike will help close the equity gap for people who can not afford an auto to perform daily needs.
	Electric Bikes	Create a E-bike incentive	Offer small economic incentives for purchasing e-bikes. This could be a sliding scale that would offer low income residents a higher incentive (unlike the current model that lets anyone benefit from EV incentives).	Environmental--e-bikes offer a relatively cheap level of mobility that is typically reserved for cars. People could get out of their cars and on to a bike. Economic--there are regional producers of e-bikes. They could benefit. Equity--removing barriers for low income buyers would make adoption more likely. Co-benefits--gets people out of cars, less congestion, less need for parking. Gets people biking--even if using e-assist people will peddle and get some exercise.
	Bike/Ped Infrastructure Development	See below.		
	Bike/Ped Infrastructure Development	Bike/ped street grid	Improve active transit safety by dedicating a grid of streets to bike/ped only	TSP is largest element of GHGe reductions. Support TSP goal for active transit through safety and normalizing of bike /ped transportation. Discourage rise in private vehicles by reducing resources supporting that choice. Support those requiring motorized transportation with small vehicle, communal service. Maximize GHGe reduction achieved through code and zoning rules that increase residential density and proximity to work/shopping. Gain resiliency, vitality, community.
	Bike/Ped Infrastructure Development	Rebates and monetary incentives for bicycles	Rebates and monetary incentives were discussed in the CAP to encourage the use of electric vehicles and is applauded. There should also be the same or larger incentives for bicycles. Anyone who wants a bicycle for transportation should be subsidized if needed. Bicycle adoption has a greater cost effectiveness toward reducing greenhouse gases, and they are a socially equitable solution. They should be intensely promoted.	Compared to electric cars, bicycles are a much more equitable solution and the environmental cost of producing bicycles are many folds smaller. The cost effectiveness of incentivizing bicycles compared to cars is huge.
	Bike/Ped Infrastructure Development	Stolen bike fund	Create fund to help people who have had their bike stolen purchase another one	
	Bike/Ped Infrastructure Development	Prioritize the implementation of the pedestrian and bicycle projects within the Eugene Transportation System Plan		
	Bike/Ped Infrastructure Development	ATC 1/3	ATC: ● Improve security lighting on shared paths. Consider creative art on bike paths to drive more usage.	
	Bike/Ped Infrastructure Development	Bikes for emergency response	Develop bike brigades for emergency response that could act quickly and be available in catastrophic emergency situations. Mountain bikes could navigate where cars and ambulances might not.	Overlapping and multiple agency solutions could share the cost of implementation. This would concurrently address City of Eugene Natural Hazard Mitigation Plan in Appendix 5, Triple Bottom Line Actions with increasing and normalizing bicycle use.

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	Bike/Ped Infrastructure Development	Automatic Bike registration	Require bike shops register bikes when sold or brought in for repair	fight bike theft
	Bike/Ped Infrastructure Development	Increase bike/ped funding 3/3	Continue increasing funding for active transport until its percentage of total transportation funding is equal to the desired percentage of total trips from these modes of transport (e.g. if desire is for 40% of all trips to be done by active transport, dedicate 40% of transportation funds)	Reduce vehicle emissions and increase exercise
	Bike/Ped Infrastructure Development	Bike library	Start a bike/Active transportation library where students can check out active transportation equipment and trade in when it no longer fits so it can be used by another student.	Reduce vehicle emissions, increase exercise, reduce emissions from product creation
	Bike/Ped Infrastructure Development	Increase bike parking opportunities	Install more bike parking infrastructure in public spaces and in partnership with business	
	Bike/Ped Infrastructure Development	Supply Free Bike Share.	Develop a Free Bike Share Program	Develops a multi-modal culture and provides bicycles for everyone without a barrier. Together with Free Public Transportation.
	Bike/Ped Infrastructure Development	Transportation ReConfigured 3/7	Alternatives like scooters, bike, car sharing opportunities	Transportation is our largest category for Emissions. More with our above suggestions can Drawdown pollution with participation by attentive citizens. Change is needed to get people out of individual cars.
	Bike/Ped Infrastructure Development	Housing Along Transit Corridors 3/6	Get more compact housing that's affordable to working individuals/families built along transit corridors, in whatever way possible. Require that residents can easily access the corridor, rather than being fenced off and having to walk a long way around to reach the street. Then increase the appeal of that housing by actions such as: **- Prioritize bike/ped improvements to access schools/parks/services for those living along high-frequency transit corridors.**	Small homes with low use of autos would have dramatic environmental and economic benefits, and ensuring that the housing is affordable to working class people would help with equity in the housing market. The City alone cannot build this type of housing--it would require cooperation and possibly incentives from the private sector.
	Bike/Ped Infrastructure Development	"Grow" riders	Growing riders means normalizing youngsters to a bike culture so they choose bikes over cars when it's time for them to make their transportation choice through education such as in Safe Routes to School as well as providing bicycles to students in need. Accompanying this action with a campaign for positive peer pressure around normalizing bicycle usage and include bicycle education into the school curriculum is important.	Riding bicycles is good exercise and has heath benefits. Also it could free parents from driving their children from place to place. And if most students rode bikes to school, they would create a culture and environment that would promote even more bike riding in others around town.
	Bike/Ped Infrastructure Development	Create a safe, separated, contiguous bike and walk network throughout the City, as outlined in the TSP. 1/13	1. Close one north-south and one east-west street in downtown to cars, and convert them to a transit, bike, and pedestrian-only streets.	Walking and biking benefits everyone. When streets are safe for walking and biking, they are safe for users of scooters, wheelchairs, and other personal mobility devices. Walking is free, and bikes and other personal mobility devices are more affordable than cars. Human-powered transportation is resilient in a disaster, and does not require fuel or electricity. Walking and biking does not pollute. People who walk and bike to destinations spend more at local businesses than drivers, reducing the need for parking. Eliminating car parking minimums reduces the cost of housing between $20,000 - 50,000 per spot, making housing more affordable.
	Bike/Ped Infrastructure Development	Create a safe, separated, contiguous bike and walk network throughout the City, as outlined in the TSP. 2/13	2. More protected bike lanes.	Walking and biking benefits everyone. When streets are safe for walking and biking, they are safe for users of scooters, wheelchairs, and other personal mobility devices. Walking is free, and bikes and other personal mobility devices are more affordable than cars. Human-powered transportation is resilient in a disaster, and does not require fuel or electricity. Walking and biking does not pollute. People who walk and bike to destinations spend more at local businesses than drivers, reducing the need for parking. Eliminating car parking minimums reduces the cost of housing between $20,000 - 50,000 per spot, making housing more affordable.
	Bike/Ped Infrastructure Development	Create a safe, separated, contiguous bike and walk network throughout the City, as outlined in the TSP. 3/13	3. Prioritizing bicyclists and pedestrians at traffic signals so their wait time is shorter than drivers.	Walking and biking benefits everyone. When streets are safe for walking and biking, they are safe for users of scooters, wheelchairs, and other personal mobility devices. Walking is free, and bikes and other personal mobility devices are more affordable than cars. Human-powered transportation is resilient in a disaster, and does not require fuel or electricity. Walking and biking does not pollute. People who walk and bike to destinations spend more at local businesses than drivers, reducing the need for parking. Eliminating car parking minimums reduces the cost of housing between $20,000 - 50,000 per spot, making housing more affordable.
	Bike/Ped Infrastructure Development	Transportation ReConfigured 4/7	More Bike & Walk Safety Infrastructure	Transportation is our largest category for Emissions. More with our above suggestions can Drawdown pollution with participation by attentive citizens. Change is needed to get people out of individual cars.
	Bike/Ped Infrastructure Development	Transportation ReConfigured 5/7	More separate Bike Lanes, perhaps Bike Only streets separate from cars	Transportation is our largest category for Emissions. More with our above suggestions can Drawdown pollution with participation by attentive citizens. Change is needed to get people out of individual cars.

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Transportation	**Bike/Ped Infrastructure Development**	Transportation ReConfigured 6/7	Make walking easier with Sidewalk upgrades, better Routes to School, etc	Transportation is our largest category for Emissions. More with our above suggestions can Drawdown pollution with participation by attentive citizens. Change is needed to get people out of individual cars.
	Bike/Ped Infrastructure Development	Create a safe, separated, contiguous bike and walk network throughout the City, as outlined in the TSP. 4/13	4. Increase the number of striped bike crossings that connect bike pathways.	Walking and biking benefits everyone. When streets are safe for walking and biking, they are safe for users of scooters, wheelchairs, and other personal mobility devices. Walking is free, and bikes and other personal mobility devices are more affordable than cars. Human-powered transportation is resilient in a disaster, and does not require fuel or electricity. Walking and biking does not pollute. People who walk and bike to destinations spend more at local businesses than drivers, reducing the need for parking. Eliminating car parking minimums reduces the cost of housing between $20,000 - 50,000 per spot, making housing more affordable.
	Bike/Ped Infrastructure Development	Create a safe, separated, contiguous bike and walk network throughout the City, as outlined in the TSP. 5/13	5. Eliminate fatalities and serious life-changing injuries from traffic collisions for all road users, in alignment with the City's Vision Zero Plan.	Walking and biking benefits everyone. When streets are safe for walking and biking, they are safe for users of scooters, wheelchairs, and other personal mobility devices. Walking is free, and bikes and other personal mobility devices are more affordable than cars. Human-powered transportation is resilient in a disaster, and does not require fuel or electricity. Walking and biking does not pollute. People who walk and bike to destinations spend more at local businesses than drivers, reducing the need for parking. Eliminating car parking minimums reduces the cost of housing between $20,000 - 50,000 per spot, making housing more affordable.
	Bike/Ped Infrastructure Development	Create a safe, separated, contiguous bike and walk network throughout the City, as outlined in the TSP. 6/13	6. Remove on-street parking for privately-owned vehicles to create the safe space for the public good.	Walking and biking benefits everyone. When streets are safe for walking and biking, they are safe for users of scooters, wheelchairs, and other personal mobility devices. Walking is free, and bikes and other personal mobility devices are more affordable than cars. Human-powered transportation is resilient in a disaster, and does not require fuel or electricity. Walking and biking does not pollute. People who walk and bike to destinations spend more at local businesses than drivers, reducing the need for parking. Eliminating car parking minimums reduces the cost of housing between $20,000 - 50,000 per spot, making housing more affordable.
	Bike/Ped Infrastructure Development	Create a safe, separated, contiguous bike and walk network throughout the City, as outlined in the TSP. 7/13	7. Eliminate car parking minimum requirements from the City Code.	Walking and biking benefits everyone. When streets are safe for walking and biking, they are safe for users of scooters, wheelchairs, and other personal mobility devices. Walking is free, and bikes and other personal mobility devices are more affordable than cars. Human-powered transportation is resilient in a disaster, and does not require fuel or electricity. Walking and biking does not pollute. People who walk and bike to destinations spend more at local businesses than drivers, reducing the need for parking. Eliminating car parking minimums reduces the cost of housing between $20,000 - 50,000 per spot, making housing more affordable.
	Bike/Ped Infrastructure Development	Create a safe, separated, contiguous bike and walk network throughout the City, as outlined in the TSP. 8/13	8. Require secure and covered bike parking near the entrance of all public buildings and for new construction.	Walking and biking benefits everyone. When streets are safe for walking and biking, they are safe for users of scooters, wheelchairs, and other personal mobility devices. Walking is free, and bikes and other personal mobility devices are more affordable than cars. Human-powered transportation is resilient in a disaster, and does not require fuel or electricity. Walking and biking does not pollute. People who walk and bike to destinations spend more at local businesses than drivers, reducing the need for parking. Eliminating car parking minimums reduces the cost of housing between $20,000 - 50,000 per spot, making housing more affordable.
	Bike/Ped Infrastructure Development	Create a safe, separated, contiguous bike and walk network throughout the City, as outlined in the TSP. 9/13	9. Use smaller electric-assist bicycles and cargo bikes by City staff.	Walking and biking benefits everyone. When streets are safe for walking and biking, they are safe for users of scooters, wheelchairs, and other personal mobility devices. Walking is free, and bikes and other personal mobility devices are more affordable than cars. Human-powered transportation is resilient in a disaster, and does not require fuel or electricity. Walking and biking does not pollute. People who walk and bike to destinations spend more at local businesses than drivers, reducing the need for parking. Eliminating car parking minimums reduces the cost of housing between $20,000 - 50,000 per spot, making housing more affordable.

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	Bike/Ped Infrastructure Development	Create a safe, separated, contiguous bike and walk network throughout the City, as outlined in the TSP. 10/13	10. Provide a tax credit or other financial incentive to trade in any car for, or to purchase, an electric assist bicycle, tricycle, or other electric micro-mobility transportation device, similar to those for electric vehicles.	Walking and biking benefits everyone. When streets are safe for walking and biking, they are safe for users of scooters, wheelchairs, and other personal mobility devices. Walking is free, and bikes and other personal mobility devices are more affordable than cars. Human-powered transportation is resilient in a disaster, and does not require fuel or electricity. Walking and biking does not pollute. People who walk and bike to destinations spend more at local businesses than drivers, reducing the need for parking. Eliminating car parking minimums reduces the cost of housing between $20,000 - 50,000 per spot, making housing more affordable.
	Bike/Ped Infrastructure Development	Create a safe, separated, contiguous bike and walk network throughout the City, as outlined in the TSP. 11/13	11. Require large employers to have secure bike parking and shower facilities for bike commuters.	Walking and biking benefits everyone. When streets are safe for walking and biking, they are safe for users of scooters, wheelchairs, and other personal mobility devices. Walking is free, and bikes and other personal mobility devices are more affordable than cars. Human-powered transportation is resilient in a disaster, and does not require fuel or electricity. Walking and biking does not pollute. People who walk and bike to destinations spend more at local businesses than drivers, reducing the need for parking. Eliminating car parking minimums reduces the cost of housing between $20,000 - 50,000 per spot, making housing more affordable.
	Bike/Ped Infrastructure Development	Create a safe, separated, contiguous bike and walk network throughout the City, as outlined in the TSP. 12/13	12. Require police departments to use the Bike Index registry (https://bikeindex.org/) to help in the prevention of bike theft and recovery of stolen bikes, especially now that the Eugene Police Department no longer offers bike registration. If your bike gets stolen, and you can't afford to replace it, how will you get around?	Walking and biking benefits everyone. When streets are safe for walking and biking, they are safe for users of scooters, wheelchairs, and other personal mobility devices. Walking is free, and bikes and other personal mobility devices are more affordable than cars. Human-powered transportation is resilient in a disaster, and does not require fuel or electricity. Walking and biking does not pollute. People who walk and bike to destinations spend more at local businesses than drivers, reducing the need for parking. Eliminating car parking minimums reduces the cost of housing between $20,000 - 50,000 per spot, making housing more affordable.
	Bike/Ped Infrastructure Development	Create a safe, separated, contiguous bike and walk network throughout the City, as outlined in the TSP. 13/13	13. Expand emergency preparedness and responder vehicle fleets to include electric assist cargo bikes and trailers.	Walking and biking benefits everyone. When streets are safe for walking and biking, they are safe for users of scooters, wheelchairs, and other personal mobility devices. Walking is free, and bikes and other personal mobility devices are more affordable than cars. Human-powered transportation is resilient in a disaster, and does not require fuel or electricity. Walking and biking does not pollute. People who walk and bike to destinations spend more at local businesses than drivers, reducing the need for parking. Eliminating car parking minimums reduces the cost of housing between $20,000 - 50,000 per spot, making housing more affordable.
	Bike/Ped Infrastructure Development	Create a safe, separate, contiguous bike and walk network	The top reason people do not walk or ride a bike is because they do not feel safe doing so. A safe, separate, contiguous bike and walk network would provide this space. Reassign travel lanes and on-street parking from cars to people on foot, bikes, scooters, and public transit, instead of private vehicles.	People who cannot afford a car, or who cannot or choose not to drive a car, will have a safe place to travel without fear of getting killed or seriously injured. Land allocated to the storage of cars will be freed up for more productive uses.
	Bike/Ped Infrastructure Development	Bike and Pedestrian Path Safety:	Improve lighting for improved security on shared paths. Consider creative art installations on bike paths to drive bike use, like the solar powered LED lights	
	Bike/Ped Infrastructure Development	Transportation Realignments	More city infrastructure needs to be realigned to promote bike - ped - public transit type operation.	Ant new street infrastructure upgrades should reflect a bike-ped mentality first and vehicle operation secondary. This upgrade plan should plan for a long range arterial connectivity across town for uninterrupted movement of bike ped transit.
	Bike/Ped Infrastructure Development	Prioritize active transportation development	Infrastructure that prioritizes automotive throughput is inherently at odds with resilient communities, and provides direct disincentives to travel in any way but in private automobiles. In order to decrease the number of VMT, we must transition our road infrastructure to prioritize first walking, biking, and public transit; then freight; and finally private vehicles. We must make it harder to drive in order to attract the kind of mode share that will reduce GHG emissions.	Building resilient, walkable infrastructure has a vast number of benefits. It makes our streets more walkable and therefore more valuable and economically productive. It encourages local business development and encourages people to linger in commercial spaces rather than ferry themselves between pre-determined destinations. It makes our community more equitable, because car ownership no longer becomes a requirement for living in our city; we currently exclude the very young, old, and infirm. It will also have a measurable outcome on quality and length of life. Our spaces will still remain accessible to those for whom a private vehicle is the best option for their use case, but it will slow them down. Our sidewalks will be used by more than those who have no other alternative. Indeed, there are few social and environmental problems that are not improved or solved by building active transportation infrastructure.
	Bike/Ped Infrastructure Development	Fossil fuels and greenhouse gasses should much more aggressively be addressed and animal agriculture and environmental conservancies also need to be addressed ...all of it much more specifically than your outline	eliminating road expansion of any kind. Bicycle and pedestrian zones expanded.	Increased community connections and empowerment of marginalized populations

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	Bike/Ped Infrastructure Development	Streets for bikes and pedestrians.	Have a network of streets that are closed to car travel (except for emergency vehicles and residents/visitors of houses on that block) so that bicyclists and pedestrians can get everywhere in the city safely and easily. Currently there is a network of arterial roads for cars only, with no equivalent for bikes and walkers.	
	Decrease or Offset Air Travel	See below.		
	Decrease or Offset Air Travel	Decrease air travel and offset remaining emissions through ticket fees.		
	Decrease or Offset Air Travel	Add a $10 a flight ghg surcharge on every flight in and out of the EUG airport.	There are currently 1M flights annually, that would raise $10M dedicated to carbon mitigation or adaptation/resilience. Flying accounts for a huge share in the consumption based emissions so this would be directly related to climate change. The fee would not be regressive. $10 per flight ($20 RT) would not be enough to encourage people to commute to Redmond, Ashland, or Portland to fly instead.	Flying emits a tremendous amount of ghgs. This small fee would discourage people from flying somewhat. However, the carbon reduction could offset the emissions from the flights with the investment of funds. Economic--raises $10M annually for the community for carbon mitigation and resilience. The $10M would be spent locally creating new jobs Equity--income could be used to enhance lower income housing, transportation, and other services. Challenges--is it legal? Would the airport object because they are competing with other airports?
	Decrease or Offset Air Travel	Air Travel Challenge. Track trips & miles being purchased at EUG and promote a campaign to all of Eugene to bring down air travel by 2030	Publish on Highway 99 billboard the yearly progress report	Challenge all people of Eugene and Lane County to lower air miles traveled with a target by 2030 for collective reduction. Put the challenge on a billboard on Hwy 99 for all to be aware of as the head to the airport. If people have to see the impact they will have with their next trip, along with seeing their actions as inconsistent with the rest of Eugene's goals on carbon reduction, they will begin to challenge their own thinking!
	Decrease or Offset Air Travel	Add user fee to Taxi, Ubers, etc trips to EUG airport	Similar to previous Airport Offset action: charging a User Fee for public transportation to airport is another way to discourage flying. The funds from this fee should return to City of Eugene for Clean Energy projects as outlined by the CAP.	Air travel is very expensive from carbon emissions standpoint.
	Decrease or Offset Air Travel	Air Travel Offsets	City of Eugene should create a "user fee" on all airline tickets purchased to/from EUG airport. This User Fee would amount to an offset that allows collecting funds in the City of Eugene to be applied to carbon emission reduction projects.	Americans, Oregonians and Eugenians all need to understand how significant air travel contributes to climate change. Currently, only the people focused on climate change are aware of its disproportionate impact when compared to other Eugene carbon emissions. While the city may not believe it is responsible for these emissions, there are steps the City can take to educate, promote alternatives, and inform its residents on consuming less air travel.
	Decrease or Offset Air Travel	Add signage at airport educating public on the carbon footprint of air travel 1/3	More awareness, education, data presented on billboards of trips in/out of EUG and total emissions resulting is needed.	Same
	Decrease or Offset Air Travel	Add signage at airport educating public on the carbon footprint of air travel 2/3	More education on how significant carbon emissions from air travel is for each ticket purchased is need.	Same
	Decrease or Offset Air Travel	Add signage at airport educating public on the carbon footprint of air travel 3/3	Funds from offsets already suggested could be used to help with expenses of air travel reduction campaign.	Same
	Decrease or Offset Air Travel	Engage with airport planners to address planned addition of new terminal at EUG airport which will have a major impact on Eugene carbon emissions.	City of Eugene should weigh in on planned airport expansion and highlight in the CAP what today's air travel carbon emissions add up to, and what the expansion of the airport will due to Eugene's carbon emissions (i.e. # of new trips possible after expansion is complete).	Air travel is extremely expensive from a carbon emissions standpoint. One seat on an airplane from West Coast to East coast costs 1 ton/seat for one way trip. To return to West Coast is 2 tons/seat on the airplane. City needs to educate people on lowering consumption of air travel. A billboard showing air travel carbon emissions to/from EUG posted on Highway 99 would be an effective visibility tool.
	Decrease or Offset Air Travel	Eugene Airport	A customer Use Fee or Offset per plane ticket could be charged and the funds should go to a local clean energy fund to help offset the greenhouse gas emissions from the use of fossil fuel in jets used at the airport.	Funds from the Clean Energy Fund could be used to help citizens with lower income to purchase more energy efficient electric appliances, or to go toward funds to purchase more electric buses for the LTD fleet.
	Decrease or Offset Air Travel	Airport planning to seriously and fairly include environmental and equity considerations, other than growth and economy	The Eugene Airport Master Plan (2018) is designed to accommodate the fast-growing demand for increased air service in the Eugene community.	Challenge: The airport reconstruction project will emit large amounts of greenhouse gases due to construction (materials, energy inputs). Challenge: Our economy could be in a down-turn for a number of years due to COVID-19 epidemic, and there are many more pressing priorities than providing additional plane flights. Challenge: A large number of Oregonians could decide to stop engaging in one of the most carbon spewing activities of our time, i.e. plane travel, and the construction would be a huge waste of money and ghg emissions. Challenge: This facility is not and will not be used by the least economically advantaged of our citizens and an increase automobile and air traffic could further reduce air quality and pollutants in W Eugene (an area where many lower income families live). Challenge: The CAP 2.0 should have a goal of reducing public transportation ghg emissions and an airport reconstruction project would promote an outdated, some think illicit mode of transportation. Co-Benefit: The funds proposed for this facility make-over would be better spent on an improvement in electric bus and train transportation systems, both local and state-wide.
	Decrease or Offset Air Travel	Air travel study	Conduct a study to estimate the GHG impacts of increased air travel resulting from expansion of the Eugene airport	environmental, economic, and equity outcomes depend on what degree the information influences policy decisions.
	Decrease or Offset Air Travel	Offsets for air travel	Require flights to and from the Eugene airport to offset their emissions	
	Decrease or Offset Air Travel	Conduct a study to estimate the GHG impacts of increased air travel resulting from expansion of the Eugene airport		
	Decrease or Offset Air Travel	Engage with Travel Lane County to help motivate local vacations, not distant vacations	City should engage and work with Travel Lane County to help conduct these outreach campaigns to lower air travel and encourage more local vacationing. They could create a credit system that people could receive credits for each trip planned locally in Oregon over flying elsewhere for vacation.	same
	Electric Air Travel	See below.		
	Electric air travel	Assume all regional air travel (Pacific Northwest) becomes		
	Electric air travel	Electric flights from airport	Work with regional partners in Bend, Portland, etc. to test and implement regional electric flights	Help Oregon become a leader in the future of electric flight
	Improve Traffic Flow	See below.		
	Improve Traffic Flow	Reduce congestion, improving fuel efficiency for all		
	Improve Traffic Flow	Improve roadways for to reduce congestion.	Moving vehicles cause less air pollution. Reducing speed limits in conjunction with improved intersections, reduces idleing time with no measurable travel time increases	

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	Improve Traffic Flow	Study congestion pricing for Beltline Highway	Conduct a study to determine the potential effect of congestion pricing on Beltline Highway traffic congestion.	Outcomes depend on if or how study results influence policy. If congestion pricing is used to address congestion on Beltline Hwy. rather than widening of Beltline Hwy., a) hundreds of millions of dollars could be saved and used for other things, b) ghg emissions could be reduced, c) fossil fuel use could be reduced, d) revenues could be used to provide low-carbon alternatives
	Improve Traffic Flow	Reassign current traffic lanes to Bike and EV with separation.	Major lanes must have separated bike and ev/bike traffic lanes. An example might be West 11th, which could have an electric trolly from Springfield to Walmart and a two directional separated bike lane.	Those who don't want to use the Free Public Transportation, might prefer to use their own environmentally friendly mode of transporation.
	Increase Electric Vehicles	See below.		
	Increase Electric Vehicles	Using a variety of incentives, policies, and programming, assume 100% switch to electric vehicles by 2030.		Lower lifecycle costs compared to gasoline vehicles for fuel and maintenance.
	Increase Electric Vehicles	incentives and promotion - Equal opportunity for bicycles 2/2	Also the use of electric cars for city business is great but the three wheeled PEBL, Micro Car Ebike is less expensive and has a place in the fleet of city vehicles for around town use. https://www.better.bike/	Since bicycles less expensive than electric cars, they are a more economically equitable form of transportation to promote.
	Increase Electric Vehicles	Ban sale of gas	Ban sale of gas by a date certain (e.g. 2040)	
	Increase Electric Vehicles	Ban sale of Internal Combustion engine vehicles	Ban sale of Internal Combustion engine vehicles beginning a date certain (e.g 2023, 2025, 2027, 2030)	
	Increase Electric Vehicles	charging stations in highly visible locations	One important gap is the Charging Infrastructure element of the Strategy. There is no action item for the placement of public charging stations in highly visible locations. Having charging stations in highly visible locations is a key driver of EV awareness and adoption. This has been confirmed in numerous studies. The City is now redeveloping the park blocks and the EWEB riverfront properties into multi-use areas that will be important civic centers for decades to come. As such, they are ideal places to incorporate public charging into parking areas. With implementation of the Central Eugene in Motion project, there are additional opportunities to place EV charging stations in highly visible locations to draw people to downtown Eugene to shop and socialize. EV charging stations within a half mile of restaurants, coffee shops, specialty stores and entertainment, pull people into the area. Third party partners could be invited to do this work, as was done near the Matthew Knight Arena, and as the City is planning to do with shared e-scooters. I'd like to share, that in about 2 years the State of Oregon could have new building codes that require EV charging in all new multi-family and commercial construction. We are working to help make this happen at the state level. Currently, since studies have found that 80% of charging is done at home, this limits electric vehicle ownership to people who have a garage at home with electric outlets. In order to make EV ownership possible to residents living in multi-family housing, the City needs to take this opportunity to incentivize the retro-fitting of existing multi-family housing parking areas, to further reduce Green House Gas emissions in the transportation sector.	
	Increase Electric Vehicles	Electrification of Transportation	The electrification of transportation should be incentivized through electric vehicle rebates, EV charging system rebates, and a build out of public EV charging stations. This could be for electric bicycles as well as cars. The public transit bus system should also be phased into electric buses over a 10 year period on all Lane County buses.	Initial infrastructure costs would be incurred but could be recouped through EV charging fees. The benefits are clean transportation with no emissions and lower long term operational costs to users. Low interest loans could be given to low income earners on substantially reduced costs of used EV's.
	Increase Electric Vehicles	Increased charging stations outside of Eugene.	The ECC should partner to put electric car charging stations around the region to encourage the more widespread use of EVs.	Environmental--range anxiety is the largest barrier to EV adoption. By providing charging stations in selected rural locations around the region (popular parks, tourist destinations, smaller communities) the ECC members (COE, Lane County, EWEB, LTD, etc) could reduce the anxiety of City residents. If they know they can leave the City and reliably charge, they will be more likely to purchase an EV. Economic--it would encourage regional economic development by attracting high income EV owners to different parts of the region. Equity--if other communities see an influx of Eugene-based tourists visiting there will be job creation. However, not a lot of direct equity. Challenges--finding the funding, finding hosts that have appropriate electrical infrastructure.
	Increase Electric Vehicles	ii.The City is now redeveloping the park blocks and the EWEB riverfront properties into multi-use areas that will be important civic centers for decades to come. As such, they are ideal places to incorporate public charging into parking areas.		
	Increase Electric Vehicles	iii.With implementation of the Central Eugene in Motion project, there are additional opportunities to place EV charging stations in highly visible locations to draw people to downtown Eugene to shop and socialize.		
	Increase Electric Vehicles	iv.EV charging stations within a half mile of restaurants, coffee shops, specialty stores and entertainment, pull people into the area.		
	Increase Electric Vehicles	vi.I'd like to share, that in about 2 years the State of Oregon could have new building codes that require EV charging in all new multi-family and commercial construction. We are working to help make this happen at the state level.		
	Increase Electric Vehicles	vii.Currently, since studies have found that 80% of charging is done at home, this limits electric vehicle ownership to people who have a garage at home with electric outlets. Consider incentivizing free-standing chargers for home use.		
	Increase Electric Vehicles	viii.In order to make EV ownership possible to residents living in multi-family housing, the City needs to take this opportunity to incentivize the retro-fitting of existing multi-family housing parking areas.		
	Increase Electric Vehicles	Add EV infrastructure	Install electric vehicle charging options in town, at parking meters, light poles, parking lots, etc. Require more EV charger stations for multifamily housing developments.	
	Increase Electric Vehicles	EV share program 1/3	Purchase communal EV's, create a sharing program - or contract for same.	Reduce transportation GHGe. Reduce congestion and the funding consumed by roads, parking lots. Redirect funding to support the program. Encourage fewer and more efficient trips. Establish a culture and expectation of sharing. Have shared resource in place quickly, to build acceptance in time to meet GHGe requirements. Work with EWEB and PUD's to support rising EV use.

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	Increase Electric Vehicles	EV share program 2/3	. Establish a dense network of charging stations.	Reduce transportation GHGe. Reduce congestion and the funding consumed by roads, parking lots. Redirect funding to support the program. Encourage fewer and more efficient trips. Establish a culture and expectation of sharing. Have shared resource in place quickly, to build acceptance in time to meet GHGe requirements. Work with EWEB and PUD's to support rising EV use.
	Increase Electric Vehicles	EV share program 3/3	Require charging stations in all new residential and commercial construction. Sliding scale to participate, free for those in greatest need.	Reduce transportation GHGe. Reduce congestion and the funding consumed by roads, parking lots. Redirect funding to support the program. Encourage fewer and more efficient trips. Establish a culture and expectation of sharing. Have shared resource in place quickly, to build acceptance in time to meet GHGe requirements. Work with EWEB and PUD's to support rising EV use.
	Increase Electric Vehicles	EV's in student driver programs	Work with student driver training programs to train students using Electric Vehicles	
	Increase Electric Vehicles	Work with dealerships to increase EV sales	Work with dealerships to increase training to staff on how to sell EV's and troubleshoot issues they face selling EV's. Require every lot have a minimum number of electric models available.	
	Increase Electric Vehicles	Grants and low interest loans for EV's	Reduce high upfront cost for EV's by offering grants or low-interest loans	
	Increase Electric Vehicles	Energy storage in charged batteries.	Coordinate with fleet operators to provide inexpensive energy storage already contained in batteries of fleet vehicles. Fleets could include state, county and city vehicles such as police cars and other first responders, as well as LTD buses, UPS and FedX vehicles.	
	Increase Electric Vehicles	EV chargers at gas stations	Require gas stations install at least one EV charger	
	Increase Electric Vehicles	Transportation ReConfigured 7/7	*Build more Electric Vehicle Charging stations + add fast charging stations	Transportation is our largest category for Emissions. More with our above suggestions can Drawdown pollution with participation by attentive citizens. Change is needed to get people out of individual cars.
	Increase Transit Use	See below.		
	Increase Transit Use	Increase transit ridership, for example by making transit free, assuming an increase in ridership by 37% (Corvallis example)		Lower transportation costs compared to private automobile ownership.
	Increase Transit Use	Housing 6/8	All new developments on outskirts of Town must be required to consider Public Transportation and Access first for City Approval for the development.	Drawdown by promoting Conservation and less Consumption, citywide. Neighborhood groups can help with this Plastic recycling efforts could be valuable means to reduction.
	Increase Transit Use	Transit	Triple the percentage of trips made on foot, by bicycle, by scooter (and other micro-mobility devices) and by transit from 2014 level by 2030.	Challenges: overcome cultural car addiction, need massive PR public health campaign to make the cultural shift, leadership from all sectors; funding for projects. Co-benefits: Make the polluters pay for the damage they're doing and this will pay for the transition, direct benefit: reduce GHG from vehicles, decrease congestion, improve quality of life (less noise, less congestion).
	Increase Transit Use	Drastically increase travel opportunities with public transit	Improve LTD service with increased frequency, longer hours, and shorter transfer times.	Challenges: some people will lose service, which will cause a hardship for those people. Co-benefits: many more previously excluded groups will have greatly improved frequency of service (elderly, people of color, disabled communities), resulting in greatly increased ridership and reducing GHGs and improve equity
	Increase Transit Use	Increase transit ridership	Make riding buses free	Challenges: since part of transit is paid for with business taxes, we'd need a different model to fund it, like most other communities. Our community has to make it a priority Benefits: increases ridership, lowers GHGs, improves quality of life, builds community.
	Increase Transit Use	Free Public Transportation.	Zero Barrier Public Transportation. No Fees at all. On and off.	That's clear. I think the forces that object to free public transportation are those who don't like "some people' on the bus with them. You can deal with the problem if it arises, but it is about educating people to our equal rights and extending our tolerances.
	Increase Transit Use	Housing Along Transit Corridors 2/6	Get more compact housing that's affordable to working individuals/families built along transit corridors, in whatever way possible. Require that residents can easily access the corridor, rather than being fenced off and having to walk a long way around to reach the street. Then increase the appeal of that housing by actions such as: **- Provide a free bus pass to those living on or within two blocks of one of the main frequent transit corridors**.	Small homes with low use of autos would have dramatic environmental and economic benefits, and ensuring that the housing is affordable to working class people would help with equity in the housing market. The City alone cannot build this type of housing--it would require cooperation and possibly incentives from the private sector.
	Increase Transit Use	Housing Along Transit Corridors 6/6	Get more compact housing that's affordable to working individuals/families built along transit corridors, in whatever way possible. Require that residents can easily access the corridor, rather than being fenced off and having to walk a long way around to reach the street. Then increase the appeal of that housing by actions such as: **-Perhaps create a neighborhood association specifically for those living along transit corridors, to seek out ways to make these the most desirable places in town to live.**	Small homes with low use of autos would have dramatic environmental and economic benefits, and ensuring that the housing is affordable to working class people would help with equity in the housing market. The City alone cannot build this type of housing--it would require cooperation and possibly incentives from the private sector.
	Increase Transit Use	NO-FARE PUBLIC TRANSIT	We need to do the relatively-easy and immediately possible actions right away. When Corvallis went to fare-free public transit, ridership increased by 37%. Eugene can do this immediately.	fewer cars = lower emissions, safer to walk and bike, more communal, equitable for all, public=truly public; other cities can be pressured to follow model, etc., etc.
	Increase Transit Use	Transportation ReConfigured 1/7	Work with LTD to increase ridership + access	Transportation is our largest category for Emissions. More with our above suggestions can Drawdown pollution with participation by attentive citizens. Change is needed to get people out of individual cars.
	Increase Transit Use	Transportation ReConfigured 2/7	FREE all LTD buses: create a budget to suppot	Transportation is our largest category for Emissions. More with our above suggestions can Drawdown pollution with participation by attentive citizens. Change is needed to get people out of individual cars.

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	Increase Transit Use	Bus Fares:	Make LTD busses free, as was done recently for residents of Kansas City, MO. Kansas City officials believe they will recoup that cost and more from an economic boost driven by increased mobility. 3 Kansas City's situation is, of course, different from Eugene's.4 Closer to home, busses in the City of Corvallis, OR have been fare-less since 2011. The Corvallis Transit System replaced fares with a transit operations fee, collected via utility billing.	
	Increase Transit Use	Transit-Oriented Development:	Do everything reasonable to encourage new residences and jobs to be located along high-frequency transit corridors, i.e., the six "key corridors" identified in Envision Eugene — and to discourage new development in car dependent locations (for example, north of Beltline). In transit-oriented cities, retail activity is strong in locations where people move from one transportation mode to another. Working with the Economic Development teams for Eugene, Springfield, and surrounding communities, investigate the opportunities to spur economic growth at nodes where key transit stations and AT paths intersect. The Zoning Ordinance should be modified to prioritize residential development in areas closest to the city center and most conducive to walking and biking.	
	Increase Transit Use	Eliminate cars downtown 3/4	Free public transportation helps. Also free parking outside of town near transportation hubs.	Reduce emissions and develop a multi-modal culture.
	Increase Transit Use	Eliminate cars downtown 4/4	Also free parking outside of town near transportation hubs.	Reduce emissions and develop a multi-modal culture.
	Increase Transit Use		ATC: ● Make LTD busses free, as was done in Corvallis and Kansas City, Mo.	
	Parking	See below.		
	Parking	Using a variety of incentives and policies (code, fees, bans), decrease parking in commercial areas and car transportation, and assume transit or active transportation instead.		
	Parking	Citywide Parking Plan	Develop and implement a city-wide parking plan (and associated policies) that supports reduced reliance on single occupant automobiles.	**increased city revenue** Reduced vehicle miles traveled, reduced greenhouse gas emissions, reduced fossil fuel use, improved health outcomes, reduced risk of automobile crashes, reduced automobile congestion. Depending on how revenue is used: Improved equity outcomes (purchase transit passes for low-income households?)
	Parking	Develop and implement a city-wide parking plan (and associated policies) that supports reduced reliance on single occupant automobiles.		
	Parking	Parking: 1/5	Eliminate free parking downtown as much as possible, both public and private.	
	Parking	Parking: 3/5	Also, eliminate monthly parking passes, especially in downtown Eugene, in favor of people needing to pay by the day or hour to park.	
	Parking	Parking	Eliminate off-street car parking minimum requirements, and increase bike parking minimum requirements in City Code.	Challenge: the change will create negative feedback. When you deincentivize driving cars and make taking your bike on trips super easy and secure, we acknowledge cars are not part a climate solution. When people ride bikes & walk, it is good for health & safety.
	Parking		ATC: ● Eliminate free parking downtown. Adopt policies that de-prioritize parking in City ROWs.	
	Parking	Parking	Implement congestion pricing and/or limited traffic zones	See previous pro's and con's
	Parking	Parking: 6/5	Adopt a policy that deprioritizes auto parking in all City Rights of Way.	
	Reduce Delivery Vehicles	See below.		
	Reduce delivery vehicles	Assume portion of deliveries are made by bike or electric bike.		Cargo bike is not be suitable for all transport needs. Would require new physical requirements for drivers. Additional time required for the trips would need to align with the delivery business model.
	Reduce delivery vehicles	Ban or severely reduce usage of fossil fuel delivery trucks 1/2	Start using electric cargo bike in place of delivery vehicles that use fossil fuels. See how it's being done in the Netherlands and Germany: https://www.youtube.com/watch?v=MrYLwv9x8HU Identify companies that mail order items and require them to use electric cargo bikes.	14 Reasons Why Cargo Bikes Are Better Than Delivery Trucks: https://www.icebike.org/cargo-bike-delivery/ Cargo bikes are faster than cars, good for traffic, cheaper, good for the environment, can handle almost anything, and workers are healthier.
	Reduce delivery vehicles	Ban or severely reduce usage of fossil fuel delivery trucks 2/2	Identify companies that mail order items and require them to use electric cargo bikes.	14 Reasons Why Cargo Bikes Are Better Than Delivery Trucks: https://www.icebike.org/cargo-bike-delivery/ Cargo bikes are faster than cars, good for traffic, cheaper, good for the environment, can handle almost anything, and workers are healthier.
	Reduce delivery vehicles	Local Products First	Create a culture of local first.	The greatest environmental impact of a city is through its consumerism. Cut down transportation costs of good by buying local. This should include the development of local business.
	Reduce Wear on Roads	See below.		
	Reduce wear on roads	Increase life of roadways using a variety of methods, reducing emissions to repave or reconstruct roads.		
	Reduce wear on roads	Research and implement ways to increase the life expectancy of roads 1/4	i. consolidating freight garbage routes,	
	Reduce wear on roads	Research and implement ways to increase the life expectancy of roads 2/4	ii. minimizing turns on bus routes (that cause wear at intersections),	
	Reduce wear on roads	Research and implement ways to increase the life expectancy of roads 3/4	iii. finding ways to eliminate the redundancy of garbage trucks on city streets.	

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	Reduce wear on roads	Research and implement ways to increase the life expectancy of roads 4/4	iv. planting more street trees to shade the road surface.	
	Reduce wear on roads	Tax road repair by vehicle weight.	Tax for road repair by vehicle weight.	Encourages the use of lighter, less damaging vehicles, which saves emission both in regard to the vehicle and in road repair environmental cost.
	Reduce Waste	See below.		
	Reduce waste	Reduce waste sent to county facilities from Eugene by		
	Reduce waste	Consumption and Waste	Reduce waste sent to county facilities from Eugene by 90% by 2030	People can reduce consumption of new goods by purchasing used goods, which come with a lower cost, fewer ghg emissions for new materials, and less packaging than purchasing new goods. Co-benefits are used goods are often cheaper, and have a lower transportation emissions for packaging. One challenge is that older appliances or vehicles may be less energy efficient than new.
	Refrigerants	See below.		
	Refrigerants	Reduce emissions from refrigerants by 70,000 MT by		
	Refrigerants	Reduce emissions from refrigerants by 70,000 MT by 2030	Many refrigerants, such as chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs) damage the ozone layer, and are extremely potent greenhouse gases. Leakage of CFCs and HCFCs is common with air conditioning, refrigeration equipment and fire extinguishers, especially in older appliances. A campaign to educate, encourage and provide low-interest loans to businesses and non-profits (grocery stores, food pantrys, fire extinguisher companys) to purchase newer equipment (less likely to leak) and to transitioning to equipment that uses safer and lower ghg emission (ghg e) alternatives to HFCs. The same may be done with low income renters and homeowners, to encourage the use of newer equipment to reduce ghg e and possibly lowering electricity costs.	Turning over air conditioning and refrigeration equipment to decrease CFC/HCFC emissions would increase consumption emissions. The lower ghg e equipment is expensive and could take away from funding other projects, so an analysis of economic impacts versus ghg e benefits would be helpful. Low income households are unlikely to be able to afford the purchase of new appliances so loans could make this happen.
	Private Sector Mitigations	See below.		
	Private Sector Mitigations	Reduce emissions produced by (10 largest emitters, industries with emissions over X) by 50% by Jan 2030.		
	Private Sector Mitigations	Help Businesses reduce emissions from business supply chains by X % by 2030	Supply chain evaluation and improvements for all businesses. Maybe City of Eugene would add a Business Engagement position to make this program a success.	More than three quarters of the greenhouse GHG emissions associated with many industry sectors come from their supply chains. Companies are beginning to incorporate systems for reducing GHG emissions not only into their own business practices but are now seeking ways to drive down emissions beyond their own operations. The City of Eugene could facilitate this process and be a climate leader.
Fugitive Emissions	**Private Sector Mitigations**	Reduce emissions produced by (10 largest emitters, industries with emissions over X) by 50% by Jan 2030.	See Eugene businesses at end of DEQ document: https://www.oregon.gov/deq/aq/Documents/ghg2018FacilityEmissions.xlsx Formal, ongoing plan and program to work with largest emitters on reducing emissions, complying with state regs as they happen, etx	
	Private Sector Mitigations	Work with large emitters on Climate Action Plans	Require all large emitters, those that submit Air Quality Permits for emitting more than 2,000 tons per year, submit GHG reduction plans and work with these entities to provide support if necessary to help them lower emissions	Large emitters are likely to have high capital costs associated with replacing equipment. Working with these entities to help them replace equipment at an appropriate time, such as when equipment is at the end of its life cycle, could reduce potential costs of GHG reduction.
	Private Sector Mitigations	We should be targeting returning net emissions to pre-industrial levels by 2050	If we reduce emissions to pre-industrial levels by 2050 we will see the planet cool and avoid even the consequences of a 1-2 degree Celsius increase	
	Private Sector Mitigations	Green New Deal	Develop a local economic development program that promotes green infrastructure. Incentivize entreprenuers and local cooperative endeavors in this sector. RAIN should be funded to start a Green Cooperatives track.	Local economy reduces transportation costs from imported goods and increases local wealth. Cooperatives empower workers to hold companies to best practices and have a better track record for long term success than LLC sole proprietorships.
	Emmissions General	Consider "building blocks" chart to summarize emissions reductions by 2030.	The chart incorporates only numbers and information that we have received from the city about what is now considered part of the CAP. Here are some important points these data tell us: 1. The current remaining gap is about 186,000 MTCO2e 2. The Transportation sector is now expected to reduce its emissions by close to 100%. 3. Energy in Buildings has the largest remaining emissions (about 272,000 MT) 4. NWN is committing to about 39,000 MT reductions, leaving its personal “gap” at about 243,000. 5. Requiring more reductions by NWN seems very reasonable. 6. 45,000 EVs on the road by 2030 is prob less than the 50% goal mentioned (committed to?) in the EV strategy. 7. Fuel-switching, Rooftop energy generation and Landfill diversion are not valued as contributions to the building blocks, and should be.	
	Food Emissions (Food Production and Food Waste)	See below.		
	Food Emissions (food production and food waste)	Decrease emissions for Food and Beverages in Consumption-based inventory by 30% by 2030 (NOTE: about 150,000 MT CO2e) by reducing emissions from production, transportation, and waste		
	Food Emissions (food production and food waste)	Food system and agricultural alignment	Partner with Lane County to align agricultural practices with best climate mitigation practices though policy and incentives.	Agriculture is the biggest CO2 emitter and has the otential to be a mitigator.

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	Food Emissions (food production and food waste)	5.Decrease emissions for Food and Beverages in Consumption-based inventory by 30% by 2030 (NOTE: about 150,000 MT CO2e)	This can be done by: Eating Local and seasonal campaign and structural ($) supports and signage all over Eugene; Structural support for grow your own (more community gardens, making plots in private farm acreage made available to public), Eat Less Meat campaign (Comm Engagement), Campaign to reduce wasted food (Comm Engagement), Packaging awareness and behavior change (Comm Engagement), Engagement campaign for grocery stores to identify local offerings.	Reduction of transportation greenhouse gas (ghg) emissions for food, transportation emissions for bottles and cans. Reduction of ghg for production of food that is not eaten (wasted). Reducing the amount of meat diet can have health benefits, as can growing one's own produce, and being social in a community garden. Home grown produce is cheaper than store bought, especially if vegetable/fruit starts are available through organizations like Lane County Master Gardeners. Behavioral change can be part of community grown-your-own education efforts, which has a social benefit.
	Food Emissions (food production and food waste)	Develop a climate-friendly food purchasing policy for city food purchases		
	Food Emissions (food production and food waste)	Reducing Food Waste	Create a system to enable the large generators of food waste (groceries, university dining halls, hospitals/retirement communities and other institutions that feed large numbers of people) to get the wasted food to people/groups who can use it. It would have to involve communicating what food waste there is, sorting it into perishable and non-perishable, transporting it, having facilities to store and/or process it, and distributing the food to recipients. Goals would be to use the food as food (not just as compost) while also helping institutions see how they can reduce the amount of food they waste in the first place.	Food waste is a huge generator of greenhouse gases, and the amount of food that is wasted is staggering. The challenges would be creating and operating the system to re-distribute, process and store the food--it certainly would outstrip the capacity of FOOD for Lane County alone--and paying for the system.
	Food Emissions (food production and food waste)	Increase composting of organic waste including food waste	City of Eugene (COE) has both residential and commercial food waste collection programs. To increase the success of these programs education of the public and business owners could occur. A campaign to reduce wasted food and an engagement campaign for grocery stores: Including promoting local foods (Capella Mkt is a great example of this) would fit well with promotion of composting (Comm Engagement).	Recovery of carbon for use in our soils is important to reducing ghg e and to the recovery of soil productivity. Education of the public to reduce wasted food, to grow their own food and to recover carbon for the benefit of soil productivity will help create a more conservation oriented and more resilient population. This education can focus on adults and children. The COE could work with the School Garden Project and Huerta de la Familia to coordinate education of and inspiring children.
	Food Emissions (food production and food waste)	Housing Along Transit Corridors 1/6	Get more compact housing that's affordable to working individuals/families built along transit corridors, in whatever way possible. Require that residents can easily access the corridor, rather than being fenced off and having to walk a long way around to reach the street. Then increase the appeal of that housing by actions such as: **- Supplying enough community garden space so that everyone who wants a garden, can have one--and until there is enough garden space, give priority to those living along transit corridors.**	Small homes with low use of autos would have dramatic environmental and economic benefits, and ensuring that the housing is affordable to working class people would help with equity in the housing market. The City alone cannot build this type of housing--it would require cooperation and possibly incentives from the private sector.
	Food Emissions (food production and food waste)	Urban Farming	Develop Urban Farming	Bring Food production and consumption closer to home. Encourage use lands outside the urban growth boundary to turn toward food production.
	Food Emissions (food production and food waste)	Develop Urban Landscaping, forestry, agriculture 4/5	4. Homeless Garden Project – mirror Santa Cruz program: http://homelessgardenproject.org	
Consumption	**Food Emissions (food production and food waste)**	Develop Urban Landscaping, forestry, agriculture 5/5	5. Incentivize more Neighborhood Association community gardens	
	Food Emissions (food production and food waste)	Grow food in park strips	Instead of grass and a very limited array of trees, use the "park strips" (area between sidewalk and curb) all over town to plant food for local consumption. Fruit trees, berry bushes, etc.	
	Food Emissions (food production and food waste)	Support local and regional food security	Do more to connect Eugeneans with local food growers. The city could fund events like Fill Your Pantry, move ahead on a downtown farmers market building, support CSAs, highlight local farms, connect households with grow-your-own resources, etc.	There are resiliency co-benefits, and economic co-benefits since buying locally keeps dollars local.
	Food Emissions (food production and food waste)	MAJOR INVESTMENT IN PUBLICLY OWNED LOCAL FOOD PRODUCTION	MAJOR INVESTMENT IN PUBLICLY OWNED LOCAL FOOD PRODUCTION	control over farming practices, emissions; majorly reduced transportation emissions, climate preparedness; baseline equity; regional self-suffiency; economic stability; accessible, meaningful, essential work
	Food Emissions (food production and food waste)	support local agriculture	Move ahead on creating year round farmers market. Support efforts to have a label system for foods that have been raised locally with carbon friendly practices	support local farmers. Encourage sustainable farming practices. Increase local food security by relying less on foods that require long distance transportation. Continue to create opportunities for people with limited incomes to assess local healthful foods.
	Food Emissions (food production and food waste)	Food Waste	This can be a low cost action with large impact. Food waste is#3 of 100 researched actions to curb climate change. We can do a lot more education to increase household composting, including offering free compost small buckets like SF and other locations have offered. These could be distributed by volunteers who can offer tips etc on composting, or picked up for free from DEQ along with info. Continue to work with restaurants around food waste and create a standardized take out food container with info on food waste and the CAP.There would be a deposit and return policy for these containers. DEQ has already done one workshop, much more outreach is needed. More work with larger apartment buildings to enable composting.	working directly with restaurants to curtail food waste would be an economic benefit to those businesses and could possibly positively affect pricing.
	Low-GHG Concrete Construction	See below.		
	Low-GHG concrete construction	Require new construction to use low-GHG concrete.		
	Low-GHG concrete construction	Eugene Airport Master Plan - construction considerations	To lower greenhouse gas emissions in the plans for a larger airport in the future, the use of low carbon concrete should be part of the construction design.	

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	Low-GHG concrete construction	Climate friendly concrete	Adopt a policy to mandate use of low-carbon concrete mix for all appropriate city uses (both roads and buildings) except for extenuating circumstances and/or Require environmental product disclosures (EPD) from concrete vendors to inform selection of concrete mix.	Reduced greenhouse gas emissions, increased concrete longevity (further reducing lifetime ghg emissions per unit of concrete), reduced limestone mining in limestone producing regions.
	Low-GHG concrete construction	Adopt a policy to use low-carbon concrete mix for all appropriate city uses unless except for extenuating circumstances	and/or Require environmental product disclosures (EPD) from concrete vendors to inform selection of concrete mix.	
	Plastics	See below.		
	Plastics	Recycle 100% of plastics and process locally, phasing out single use plastics (assume all remaining plastics can be recycled)		
	Plastics	Infrastructure to process Plastics Recycling + Products locally	Save on transportation costs by having a processing and manufacturing developed right here in Lane County to recycle ubiquitous Plastics.	Keep plastics out of the land fill. Employ many individuals. Create new products from recycled materials.
	Plastics	Phase out single use plastics	Phase out most/all single use plastics over 10 years	Reduce plastic pollution and emissions associated with plastic production
	Plastics	Producer responsibility for plastic waste	Require producers or sellers of plastic waste be responsible for paying for recycling facilities for the waste	Reduce the amount of plastic sold in the community and helping create ways to recycle the rest
	Reduce Consumption	See below.		
	Reduce Consumption	Decrease emissions for all other Consumption-based factors in Consumption-based inventory by 30% by 2030 (about 400,000 MT CO2e)		
	Reduce Consumption	Decrease emissions for all other Consumption-based factors in Consumption-based inventory by 30% by 2030 (about 400,000 MT CO2e)	This catch-all category includes: Services, Healthcare, Construction, Freight and Transport, Other Goods, Furnishings and Supplies, Electronics, Vehicles and Parts and Clothing.	Benefits would be reducing personal, business, and government expenses, putting less in the landfill, using fewer natural and human-created resources (plastics, metals, fossil fuels, wood, cotton, etc...), and reducing ghg e. Could be part of a consumption awareness and resilience program (Comm Engagement). Should occur along with “Fix-It” classes and fairs (public &/or non-profit endeavors) and with coodination with the ToolBox Project. Benefit is more funding available to other carbon reducing activities. Challenge is, as with many of these proposed efforts, successfully affecting behavioral change. A reduction in services and purchases would decrease money moving into the private sector, which reduces city funding, which could decrease the potential for funding the campaigns proposed for ghg e reduction.
	Reduce Consumption	Develop Urban Landscaping, forestry, agriculture 3/5	3. Require new buildings using wood to source FSC certified wood produced in Oregon (i.e. raises demand substantially for this to motivate more private foresters to produce it)	
	Reduce Consumption	Require all construction and demolition waste materials to be sorted for reusable or recyclable materials.		
	Reduce Consumption	Continue and expand Fix-It fairs and add classes		This has environmental, economic and equity co-benefits. Reducing the purchase of new items saves on resources and on GHG emissions, it saves money for individuals and families and it can involve people from all backgrounds and income level.
	Reduce Consumption	More tool libraries	See Eugene Toolbox Project.	
	Reduce Consumption	Implement city policies to reduce the GHG emissions resulting from the five most GHG intensive products		
	Reduce Consumption	City to convene an ongoing community workgroup focused on expanding the success of community partners' innovative repair and reuse opportunities - including a focus on textiles		
	Reduce Consumption	Adopt and promote circular economy principles and practices.	See policies widespread in Europe.	Co benefits are many. Improved health and lower health costs for all of us, including those with little or no political power. Restoration of our planets natural balance under which people and all life can thrive.
	Reduce Consumption	Housing 5/8	Promote Green Roofs, permeable surfaces, "Green" concrete on the streets, BioSwales	Drawdown by promoting Conservation and less Consumption, citywide. Neighborhood groups can help with this Plastic recycling efforts could be valuable means to reduction.
	Reduce Consumption	Update land use policies 2/2	Use incentives/ disincentives to minimize existing and new impermeable surfaces.	Shorter transportation distances, less material consumed for paving, more efficient buildings, more land to absorb carbon.
Resiliency	**Carbon Sequestration**	See below.		
	Carbon sequestration	Increase urban landscaping.		Physical and mental health benefits associated with being in nature and greenspace. Potential for energy savings from shading and related reduced urban heat island effect.
	Carbon sequestration	Develop Urban Landscaping, forestry, agriculture 1/5	1. Public rain gardens and bioswales include biome-appropriate food plants	
	Carbon sequestration	Develop Urban Landscaping, forestry, agriculture 2/5	2. Reforesting Eugene with goals of xx% canopy by 2025, 2030 target dates	
	Carbon sequestration	Embrace climate restoration.	Adopt policy to require carbon capture in building materials used for streets, roads and buildings. Also provide a matching grant to Friends of Trees.	
	Carbon sequestration	Build the tree canopy	Institute a Tree Ordinance that enforces the preservation of existing mature trees. Mature trees cannot be simply replaced with saplings. Planning permits should review tree destruction including plans for civic projects. A comprehensive canopy development and mantainence strategy should be passed. Give neighborhoods the power to approve or prevent tree removal.	
	Carbon sequestration	Update City of Eugene Urban Forest Plan	Update the 1993 City of Eugene Urban Forest Management Plan to reflect newer information, updated priorities, and climate change considerations.	If implemented, updated management strategies should result in improved urban forest health, improved climate outcomes (urban cooling), improved air quality, improved longevity of street trees.
	Carbon sequestration	Purchase land for sequestration	Purchase farm and forest land for purpose of sequestration	Land purchased can also provide trails and ecosystem services like protecting clean water in our watershed.
	Carbon sequestration	Update the 1993 City of Eugene Urban Forest Management Plan		

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	Carbon Sequestration	Improve ecological function of private and city property	Native habitat generally has far more biodiversity and ecological function than land with nonnative vegetation. Decreased biodiversity is an outcome of climate change. However, habitat on City and private land within Eugene is already compromised because of landscaping choices. Efforts should be made on City land to greatly expand locally native vegetation using best practices for improving biodiversity. Incentives should be provided to private land owners (eg, homeowners) to do the same.	Challenges: replacing existing landscaping would entail costs. Managing a high biodiverse property may be more costly initially during transition than an impoverished landscape (eg, mowed grass, ivy-covered space). Benefits: carbon storage, citizen access to more nature, more resilient landscape to climate change, air and stormwater filtration, reduced summer peak temperatures.
	Funding & Offsets			
	Funding & offsets	Create fees or taxes to purchase offsets.		
	Funding & offsets	Establish Eugene Clean Energy Fund 2/4	b.#2 Priority is Lane County Ag & Forestry	Co-benefits for low-income households.
	Funding & offsets	Establish Eugene Clean Energy Fund 3/4	c.Create funds now for future offset money to have a location to go	Co-benefits for low-income households.
	Funding & offsets	Establish Eugene Clean Energy Fund 4/4	d.In the mean time, other sources of funding, like matching business/resident contributions	Co-benefits for low-income households.
	Funding & offsets	Building Fuel Switch 4/5	Require Fossil Fuel bonds.	Large reduction of GHGe. Electric for home use is less expensive. Home/business generation of solar and deployment of microgrids improve resilience. End dangerous rail traffic adjacent to low income neighborhoods. NG accident response should be paid for by NG industry.
	Funding & offsets	Increase franchise fee	Increase franchise fee and use funds to support climate action. Potential funding mechanism for other proposed actions.	Would increase cost of natural gas to consumers, could save people money if invested wisely
	Funding & offsets	d.Tax Uber and Lyft to pay for their increase in vehicle miles traveled (VMT), emissions, and traffic.		
	Funding & offsets	Clean energy fund	Similar to Portland's clean energy fund, ask that the businesses that are the largest emitters pay into a fund for clean energy projects. The largest emitters may be direct emitters, or indirect via their product supply chain emissions.	This may make products more expensive for the largest emitters, such as Walmart or Chevron. The clean energy fund could focus on funding projects for under-served communities and non-profits and require prevailing wage.
	Funding & offsets	Fee bates: Funding for electrification	Charge a fee for fossil fuels (nat gas, gasoline, heating oil), and use the money to fund rebates for electrification efforts (electric vehicles, gas-to-heat-pump conversions, etc).	It needs to be fair. There could be waivers for low income households, or 100% funding of conversions, or other considerations to make it more fair.
	Funding & offsets	Local investement for offsets	Utilize City offset dollars within our local community to help create offsets locally that will benefit our community.	These could be used to help address the equity issues within implementing some of the changes that are needed. This would lead to additional reductions in GHG without the burden being placed on those who are least equipped to handle it. It will also build our local capacity to do these types of projects.
	Funding & offsets	Buy Carbon Offsets	It offers no guarantee of success in reducing or offsetting emissions to eliminate "the gap". As the discussion of action 16 suggests, for a little more than $100 per household at $15 per MT for offsetting carbon dioxide, we could eliminate this gap immediately by buying certified carbon offset credits. In fact, this number is off by a factor of 5. Certified offsets are currently available for as little as $2/MT or even lower. This could be achieved immediately by a local tax. That tax could be adjusted by income and various other factors for each household. It could be phased out when and if some of the other actions were implemented, especially market solutions like cap-and-trade or carbon taxes. this can be done immediately and doesn't require the delays and uncertainties of the other actions	
	Funding & offsets	Increase gas tax	Increase gas tax 15 cents to pay for for bike/ped infrastructure	
	Funding & offsets	Increase Registration fees on new ICE vehicles	Increase registration fees on new internal combustion vehicles sold after 2020 (e.g additional $20 per year on models from 2021, extra $40 per year on models from 2022, etc.). Use funds for bike/ped infrastructure.	
	Funding & offsets	Offsets for gasoline	Require gas stations purchase offsets for the gasoline they sell	
	Funding & offsets	Consider fossil fuel risk bonds	Surcharge based trust funds or increased insurance requirements to safeguard the city from risks associated with fossil fuel transport through the city and storage of fossil fuels in the city.	Protect the city from the expense of damages incurred from explosions and spills, toxic contamination, climate induced natural disasters, and the costs of climate adaptation. Existing insurance held by fossil fuel companies and carriers are generally inadequate. Provide funds for climate related disasters, climate adaptation, pollution cleanup, and other fossil fuel related costs. These often hit poor people and people of color hardest.
	Funding & offsets	Local financial investment system	Following the Divest - Invest model, disenvest any city and county funds (retirements and reserves etc) from financial systems that support the fossil fuel industries. Reinvest those resources into local financial institutions that invest in local development.	HUGE equity and economic benefits of keeping local resources local and recirculating in our economy. Im sure you can research the environmental benefits of disinvesting from fossil fuel extraction.
	Community Engagement	See below.		

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	Community Engagement	Faith and Families	A big issue with emissions surrounds consumption patterns and Climate Justice. This cannot be addressed with a technological fix. As a member of UUCE church and Interfaith Earthkeepers with members in Church Women United we are finding ways to reach out to diverse Faith Centers to articulate and practice the recommendations of the Equity panel using the language of love, stewardship, simplicity, choosing kindness. This is a partnership the city could utilize and support.	
	Community Engagement	Public Engagement	Governments & businesses should be part of a big PR campaign that confronts the climate emergency and everyone needs to be part of the just clean energy transition. Messaging should prioritize and support bicycling, busing, and walking as climate solutions.	There would be huge social benefits to engaging communities in climate solutionary thinking and actions. Every job should be a "green job" and every one should be evaluated on their contribution to solving the problem at every level. Reduce GHGs, green job opportunities for full employment, greater equity if we deal with the most impacted communities first since they did least to create the problem and are suffering health effects first and worst.
	Community Engagement	Public engagement	City leaders (Mayor & City Councilors) must promote a rapid transition off fossil fuels. Hold council meetings throughout the neighborhoods to promote broad buy in.	Challenges: leaders are already busy with business as usual. We have to stop doing some things; we definitely have to stop thinking the old solutions will work for this new paradigm we are entering. We have to change or die. We are not good at changing. This takes bold leadership. Benefits: solidarity that is built by working together to save ourselves, valuing what is important.
	Community Engagement	12.Community Engagement using Eugene Carbon Free Challenge	The City of Eugene has helped to fund a 350 Eugene program to educate and encourage the use of the online program Eugene Carbon Free Challenge. This program has helped individuals and families to reduce greenhouse gas emissions for the last year. This collaborative effort can continue into the future.	It is possible to continue this program to engage more of Eugene's population in reducing their GHG emissions.
	Community Engagement	Public engagement	Let's become a bike- & pedestrian-centric community! Create a bicycling campaign using billboards, radio, TV, and newspapers ads.	Challenge: again, changing from car-centric; it costs money to change, or people may not have the time to commute by bike or walking Benefits: owning and using bike/ped is much more economical than maintaining and operating an internal combustion engine vehicle; cleaner air, less noise, improve community quality of life.
	Community Engagement	Public engagement 1/2	The fact of our climate emergency is kin to the COVID-19 pandemic, in that it's a slow moving but deadly situation that we must work together to address. We should be mentioning, referring to and acknowledging this at every public meeting.	Challenges: leaders don't want to alarm people, but telling the truth is vital to getting folks to do what's necessary in this moment. If leaders don't take the opportunity to communicate and build awareness in this emergency, they are shirking their duty to protect the public they were elected to serve. That's the challenge of being leaders in this time. The benefits are obvious: we will make progress when we know our leaders have a vision and set of actions they are taking that we can be part of.
	Community Engagement	Public engagement 2/2	On page 93 in Appendix 5 of CAP 2.0, Eugene's Triple Bottom Line Actions, the category of "Parks program: City of Eugene and Lane County providing recreational activities throughout the area" gets low marks. To address this area of deficit, create bike paths with art value. Intriguing art on the bike paths would entice riders to ride to these installations and make the ride more enjoyable. Examples of treatment of bike paths on the web include Starry Night in the Netherlands where glow-in-the-dark shards are embedded into the bike path and light up at night. And the list of ideas is as vast as the imagination. See: https://www.wnyc.org/story/in-a-dutch-town-a-glowing-bike-path-inspired-by-van-gogh/ for one example.	Using artist in the community and collaboration with student artist would widen the intersection of social, arts, and city beautification.
	Community Engagement	Emergency PR campaign to help public become aware of the urgency of the climate crisis	We need more than just infrastructure- we need a massive PR campaign. People need to hear every day that Eugene is prioritizing and supporting bicycling, public transportation, and walking as a climate solution. It needs to be an effort - as in wartimes – to publicize the urgency of our climate crisis. In conjunction, create a bicycling campaign using billboards, radio, TV, and newspapers ads. Preface public meetings and any congregations with announcements of the urgency of this existential crisis. An acknowledgement of this should be made at the beginning of every city staff meeting at the same time as acknowledging the history of meeting on Kalapuya land.	

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	Community Engagement	Create Mayor's Youth Council	Besides a climate emergency we have a Democracy emergency. There is a youth movement of activists leading, but we also need to reframe activism (which many students and parents are not comfortable with) to be more inclusive and speak to civics, citizenship and participation. A Mayors Youth Council would be well placed to link school district and other Educational/Business institutions into a program that would train Middle and High schoolers in the skills and processes of Democracy. It could become a model for other towns and cities.	
	Community Engagement	Create a Youth Climate Master Program	Perhaps a project supported by the Mayors Youth Council, modeled after organizations like the Master Gardeners, Youth Climate Action Network (YouCAN) and Plant for the Planet. In conjunction with school districts mentored by Lane C.C., U of O students a program able to do outreach to classroom, assemblies, professional training, community workshops, special events, Faith centers. Empowering students in youth to youth as well as youth to adult presentations in Climate Literacy and Climate Justice.	
	Create community resiliency group	See below.		
	Create community resiliency group	Help people prepare for impacts	Organize a Local Resilience Coordinating Council to design and implement actions to build and sustain mental wellness and resilience during the climate emergency.	many
	Create community resiliency group	Create a Resilience Coordinating Council. 1/6	Implement a Resilience Coordinating Council offered by the International Transformational Resilience Coalition (ITRC) with the help of its founder Bob Doppelt. •The RCC will develop a culturally and demographically appropriate strategy to build population-level mental wellness and resilience. The following are examples of what the strategy could include: **oMaking mental wellness and resilience information and tools available to all adults and youths in the community through educational forums, community cafes, public education campaigns, conferences, train-the-trainer workshops, and more.**	The proposed Resilience Coordinating Council has been endorsed by The Lane County Psychologists Association and 350 Eugene's Resilience and Regeneration Workgroup, April 2020. It would pull together many stakeholders and fortify our community's capacity to withstand and move through, as successfully as possible, the common challenges we face together.
	Create community resiliency group	Create a Resilience Coordinating Council. 2/6	Implement a Resilience Coordinating Council offered by the International Transformational Resilience Coalition (ITRC) with the help of its founder Bob Doppelt. •The RCC will develop a culturally and demographically appropriate strategy to build population-level mental wellness and resilience. The following are examples of what the strategy could include: **oStrengthening family and friend social support networks, and connecting them across geographic, cultural, and economic lines to provide broad-based emotional support, practical assistance, information and resource sharing.**	The proposed Resilience Coordinating Council has been endorsed by The Lane County Psychologists Association and 350 Eugene's Resilience and Regeneration Workgroup, April 2020. It would pull together many stakeholders and fortify our community's capacity to withstand and move through, as successfully as possible, the common challenges we face together.
	Create community resiliency group	Create a Resilience Coordinating Council. 3/6	Implement a Resilience Coordinating Council offered by the International Transformational Resilience Coalition (ITRC) with the help of its founder Bob Doppelt. •The RCC will develop a culturally and demographically appropriate strategy to build population-level mental wellness and resilience. The following are examples of what the strategy could include: **oEmpowering local residents to take ownership for countering unhealthy cultural norms, sharing mental wellness and resilience information, addressing emerging problems, assisting struggling individuals, hosting local "resilience hubs" to link people to essential resources in disasters, and in other ways create a local culture that fosters mental wellness and resilience.**	The proposed Resilience Coordinating Council has been endorsed by The Lane County Psychologists Association and 350 Eugene's Resilience and Regeneration Workgroup, April 2020. It would pull together many stakeholders and fortify our community's capacity to withstand and move through, as successfully as possible, the common challenges we face together.

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	Create community resiliency group	Create a Resilience Coordinating Council. 4/6	Implement a Resilience Coordinating Council offered by the International Transformational Resilience Coalition (ITRC) with the help of its founder Bob Doppelt. •The RCC will develop a culturally and demographically appropriate strategy to build population-level mental wellness and resilience. The following are examples of what the strategy could include: **oRegularly evaluating progress and using the data to continually learn, grow, and improve the strategy, while advocating for funding and other resources needed to enhance and sustain the initiative.**	The proposed Resilience Coordinating Council has been endorsed by The Lane County Psychologists Association and 350 Eugene's Resilience and Regeneration Workgroup, April 2020. It would pull together many stakeholders and fortify our community's capacity to withstand and move through, as successfully as possible, the common challenges we face together.
	Create community resiliency group	Create a Resilience Coordinating Council. 5/6	Implement a Resilience Coordinating Council offered by the International Transformational Resilience Coalition (ITRC) with the help of its founder Bob Doppelt. •The RCC will develop a culturally and demographically appropriate strategy to build population-level mental wellness and resilience. The following are examples of what the strategy could include: ng for funding and other resources needed to enhance and sustain the initiative. **oBuild a local culture that sustains mental wellness and resilience by embedding the principles and methods in the goals and protocols of local civic, non-profit, private and public organizations, and by establishing them in county and city policies.**	The proposed Resilience Coordinating Council has been endorsed by The Lane County Psychologists Association and 350 Eugene's Resilience and Regeneration Workgroup, April 2020. It would pull together many stakeholders and fortify our community's capacity to withstand and move through, as successfully as possible, the common challenges we face together.
	Create community resiliency group	Create a Resilience Coordinating Council 6/6	•Organizing a broad and diverse Resilience Coordinating Council (RCC) to co-design and implement actions that foster and sustain mental wellness and resilience within the entire population before and during the ongoing climate emergency. •The RCC should be authorized by city government (possibly in collaboration with the County). An existing ACEs, trauma-informed care, social resilience, or other local network of civic and non-profit organizations should then be asked and authorized to take the lead. If that is not possible, a neutral civic or non-profit organization can be asked to organize the RCC. No matter what approach is used, emergency management, mental health, and direct service program professionals should serve as equal participants, advisors, and coaches, not lead the RCC. •The RCC should assess the community's capacity for mental wellness and resilience in the face of the climate emergency. This involves projecting the likely near and long-term, direct and indirect, acute and chronic impacts climate disruption will have on the local population, identifying group and community strengths that help foster and sustain mental wellness and resilience, and factors that diminish the influence of those assets. •The information identified in the assessment should be used to form a vision and strategy to build and sustain population-level mental wellness and resilience during the long climate emergency.	
	Create community resiliency group	Neighborhood connections	City should continue funding neighborhood associations for essential connections of city residents with their environment. Each neighborhood group supported will be active with appropriate emergency response information, e.g.alter abled care, individuals living alone, food safety, etc	Neighbors meeting, sharing, listening. Enlarging safety nets for children, elders, pet care, support as needed. Many benefits thru local networking, neighborhood development.
	Create community resiliency group	Neighborhood Associations	Support existing neighborhood associations as a vehicle for outreach, education, resilience and emergency preparedness. Facilitate new associations where they do not exist.	
	Fire Health and Safety	Incorporate mitigation actions for heat waves and smoke intrusion within the next update of the Eugene/Springfield Natural Hazards Mitigation Plan		
	Community Well Being	See below.		
	Community Well Being	Fossil fuels and greenhouse gasses should much more aggressively be addressed and animal agriculture and environmental conservancies also need to be addressed ...all of it much more specifically than your outline **2 / 2**	Community space creation... Community gardens and agriculture vastly expanded.	Increased community connections and empowerment of marginalized populations

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	Community Well Being	Slow Design - SloWalks	Besides prescriptive numeric targets, explore efficiencies and synergies of Slow design. One example is the SloWalks Movement (modeled after Slow Food) which has a fledgling relationship with the city parks recreation department and Riverbend hospital. SloWalks are primarily for seniors, alterabled, those recovering from illness/surgery but also for families with babies and toddlers who want companionship and/or supported solitude. Contact with nature is essential for wellbeing, walking develops community networks and resilience. The city could help facilitate transportation (electric vehicles) and highlight routes with 'deep time' solutions signage.	
	Food and Shelter	See below.		
	Food and Shelter	Grey water diversion	Support the use of grey water for landscape or other use. Support could be in the form of a discount on sewer fees, or just educational. This would lower the volume at the waste water facility and lower water consumption.	There is a challenge to make sure grey water re-use is done right. Maybe offer no-cost permits?
	Food and Shelter	ESSENTIAL SURVIVAL NEED HOUSING SUPPORTS	ESSENTIAL SURVIVAL NEED HOUSING SUPPORTS. We could, for example, invest now in 2000+ units of tent, Conestoga hut, tiny houses, eco-land trust communities, etc.	Combined with fareless transportation, communal gardening/farming, and co-operative living would be a relatively low emissions way to support the welfare of the 2000+ people in dire need now and prepare us for climate refugees to come.
	Employment	Funding for green job training	Provide grants for green job training programs and apprenticeships that help to move people into living-wage careers in solar, energy efficiency, and other green industries. Prioritize BIPOC communities and low-income individuals for job training programs.	By creating resources for green workforce development that are focused on frontline communities, you provide opportunities to improve the social determinants of people's health while building up a local base to implement rooftop solar, energy efficiency retrofits, and green infrastructure. This, in turn, dramatically reduces energy consumption and dependence on fossil fuels. This could be funded by a corporate tax on the wealthiest businesses in the city, and funds should held to a high degree of public scrutiny and accountability.
	Education	See below.		
	Education	Ecological Literacy in Schools and Community 1/3	Work with and encourage school boards to include age appropriate ecological literacy curriculum. Understanding Climate is a subset of the deeper question of Ecological literacy. Ecological literacy is relational/experiential/practical as well as intellectual. Beyond just planting trees, both of the above programs could help facilitate hands on outdoor restoration and engage families and wider community in the 'habitat of learning'.	
	Education	Ecological Literacy in Schools and Community 2/3	Ocean Watershed Literacy (O.W.L) Behavior and choices of urban populations influences emissions throughout Lane county from the coast to the Cascades and beyond. Ocean Watershed Literacy can explore the often omitted role of the Ocean as the heart of climate system, teach the essential role of forestry and regenerative agriculture in Drawdown solutions.	
Equity	**Education**	Ecological Literacy in Schools and Community 3/3	Indigenous Knowledge Systems We will not solve the problems of our time with the same mindset that created them. With humility understanding there are different ways of 'coming into knowing', of asking ethical questions and of living in harmony with place, we newcomers would do well to listen to 1st Nations people, if they choose to share. City programs could do more to facilitate such an exchange and reach a wider audience.	
	Education	It is still disturbing to find the LANGUAGE used in #1 above to be completely vague. The #1 action of CAP 2.0 is provide a numerically accurate plan to reduce carbon emissions in accordance with the CRO goals by 2030. Please use concrete language.	An area that has not been acknowledged by the City is Education. While the City may see it a 4J's responsibility to teach Climate literacy, justice and eco-literacy concepts, the City should acknowledge this as an important subject area under Resiliency, and hold meetings with 4J to determine where they are on addressing climate education.	There should be recognition in the CAP 2.0 of Eugene's dependency on its rural businesses and people for farming and forestry. It should be working collaboratively with Lane County to address these two specific subjects and looking for ways to fund carbon offsets that go into the County ag and forestry work rather than sending that money somewhere else around the globe!
	Internet for All	Internet access for all households	As we are now experiencing with the Pandemic, internet access enables less travel to work, school, entertainment. Tho network availability is a major expense. Utilities or the City could be the provider and regulate distribution to all households.	Less financial outlay for individuals and more accessibility for the future.

The following are additional comments provided by respondents to be considered by the Mayor's CRO Ad Hoc Work Group when evaluating additional actions to be added to the CAP2.0.

1	Measurable targets and graphic charts should be provided for a simplistic educational process for the public. An ongoing city wide process should be enacted to show residents how their daily actions equate to effecting climate change. Not only should metric based emissions be explained but most importantly consumptive based emissions. Actual GHG emissions numbers need to be equated with everyday lifestyle actions such as; ordering ten Amazon delivered packages a week, leaving the lights on all day, the thermostat set at 72 all day in the winter, a 20 minute shower, or car idling while checking phone messages or making a call. Also emphasized, should be the urgency these lifestyle changes should be enacted in order to reduce the effects of climate change in the next ten years.
2	Since Climate Action will ultimately affect the day-to-day life of nearly everyone in Eugene, it's important that the average reader gets a concrete picture of how his/her life should change, and what changes have the greatest impact. Simply counting on others (like members of the Eugene Climate Collaborative) to do all the work is a recipe for inaction and indifference.
3	The Ad Hoc meetings are not as efficient as they should be due to taking time at meetings to collect inputs from each group member. You should be asking committee members to write down their ideas and submit them ahead of each Ad Hoc meeting, City staff can clean them up and eliminate duplicate ideas, and then bring a clean list to each Ad Hoc meeting to get consensus from the committee on what the priorities are from this collective list. IF you only intend to hold 3-4 Ad Hoc meetings, they need to be as efficient as possible!
4	Great job. The document is a great start. The outreach and work of the Mayor's Ad Hoc Work Group has been impressive. This is super complicated work--thanks for the opportunity to weigh in.
5	The City certainly can not do everything, and is even more likely to than before to be resource constrained in the light of the current economic crisis. It will be crucial to focus energy and resources on the key activities most likely to have an impact in the immediate term. Demonstration of a positive economic benefit is likely to loom large in future benefit analyses.
6	Consider an additional Willamatte River crossing to create shorter distances traveled from one major area of Eugene to another. to reduce congestion on 6th and 7th Avenues and Beltline/Delta Hwy junction. Suggestion: River Road to Valley River Drive.
7	These comments have been collected by 350 Eugene, and are submitted pretty much as they were received. 350 Eugene does not necessarily endorse all of these.
8	These comments have been collected by 350 Eugene, and are submitted pretty much as they were received. 350 Eugene does not necessarily endorse all of these. Thank you!!

The following are additional comments provided by respondents to be considered by the Mayor's CRO Ad Hoc Work Group when evaluating additional actions to be added to the CAP2.0.	
9	Thank you for all the work you're doing.
10	Please do not OVERLOOK air travel in CAP 2.0 content. It is NOT a matter of whether the City has this responsibility, but what you do to encourage different behavior from your City. These ideas should apply to residents and businesses of Eugene.
11	These comments were collected by 350 Eugene, and are submitted close to what I received, with some personal additions. 350 Eugene does not necessarily endorse all of these.
12	As a young student at the University of Oregon who is deeply concerned about climate change, I strongly urge you to continue doing what you have done - taking this project seriously and gathering input from the community, especially those people who will be most affected by climate change.
13	I emailed a copy of the proposal to Chelsea Clinton, the mayor and city manager
14	Thank you for your diligence. As our experience of the COVID19 teaches us, maintaining mental health is vital to navigating its impacts. The proposed Resilience Coordinating Council is comprehensive and addresses many of the Mental and Public Health Actions already under consideration. We have a local leader who is willing to guide the implementation process, namely Bob Doppelt. We need this! We can do this!
15	Thank you for continuing to take a serious look at improving our CAP. It's been too long in the making of it and we must make significant progress now. We're running out of time.
16	Thank you for creating a CAP that can inspire and lead Eugenians toward a better future for us all.
17	The social equity provisions in the City of Portland and Multnomah County's 100% renewable mandates may be worth looking into--especially the requirement in those plans that ensure 2% of energy needs to be filled by community-generated electricity by 2035 and 10% by 2050. This helps to change not just the carbon-intensity of energy but also the ownership over power and control of energy.
18	This massive undertaking requires a dedicated body to track and coordinate the actions. This body should include government, business, and citizen stakeholders and be empowered to enforce compliance with goals. Please define such a body, how it will be equitably populated, and how positions will be funded.
19	Climate actions with bicycle concerns are generally much less expensive to implement yet have a high cost of performance. Solutions to the Coronavirus pandemic have shown that our society can and will tolerate unprecedented, radical action. And as in the pandemic, we knew it was coming and without preparation, the results will be catastrophic. If a solution seems unreasonable, it may still be necessary. And some of the most radical solutions will be the ones that make the biggest difference.

The following are additional comments provided by respondents to be considered by the Mayor's CRO Ad Hoc Work Group when evaluating additional actions to be added to the CAP2.0.	
20	The City of Eugene is too small a unit for comprehensive change needed to close the gap. Partnership with Land County needs to incorporate rural and agricultural interface.
21	Please focus the remaining effort on the CAP 2.0 update on those actions that are controlled by or heavily influenced by decisions by City staff and City Council.
22	Prioritize actions by the GHG reduction potential vs cost to implement.
23	Focus on actions that the city can take as a matter of policy and not on issues that are upstream (like statewide or national carbon pricing). In the same vein, making recommendations for individuals, as opposed to policy actions by the city, will take the focus off actions the City actually has control over.
24	Cap 2.0 does not meet goals. We need programs that CAN meet goals. The actions in 2.0 are vague and have no measurable action steps. That means special interests will slow the process by throwing everything into endless review and consultation, like this survey does. Control of this process must be give to those without special interests that benefit from inaction.
25	Action B14 is entirely within the control of the City of Eugene and bold and decisive action should be taken to lead us toward a more sustainable, more equitable city. We can lay the literal ground work now to build a city that reflects the community vision that is captured by the CAP and build a more resilient community.
26	I do not want to continue to see NW NATURAL and Representatives from the Chamber of Commerce involved in drafting a climate action plan. Our government and action policies are not meant to be run by special interest lobbying groups.
27	Please Keep working together with purpose and choose 1 or 2 areas of focus with timelines, reporting requirements etc to assess progress. Thank You.
28	This is a lot to review for a citizen. I hope some responses come in, with some good ideas. Thanks for everyone's efforts.
29	Public announcements through emails newspaper Radio Mailings
30	Please be much more specific and aggressive in your plans with activist experience and participation. Thank you
31	Make the commitment to 7% Reduction Annually. And hold to that amount.

The following are additional comments provided by respondents to be considered by the Mayor's CRO Ad Hoc Work Group when evaluating additional actions to be added to the CAP2.0.	
32	The urgency is now to Drawdown our community consumption of Fossil Fuels. The CAP2.0 needs a major Lift to accomplish the goals that have languished since a Climate Action Plan was adopted in 2014. Having a paid City employee to monitor and engage the many aspects of this CAP2.0 is highly recommended. We need to focus on short and longer term goals, make the difficult choices, fund the infrastructure proposals, monitor and adjust the DrawDown actions as time limits are shortened. A new tool box with the diverse political will to solve problems, create Green jobs, engage people, fund many projects large and small can bring us to future security, together.
33	Since 69% of emissions are consumption-related, actions and initiatives related to consumption should receive the lion's share of attention and funding. Also while you're at it with revisions, please make the document functional instead of pretty. I was taken aback to encounter large pictures and very little text, lots of typos, and downright terrible data visualizations (whoever is doing the graphics, please go study Edward Tufte's work on how to create charts and graphs that are accurate, useful, and clear).
34	The Covid crisis has demonstrated that we are capable of more significant change that we thought, when the urgency of the situation is clear. The urgency of climate change is becoming more clear every day, so give people the opportunity to do their part and make needed changes.

The following are additional comments regarding the respondents' opinions about what are the most important aspects of the 12 themes to focus on during the revision process, what they feel is missing, and what else the City should focus on in revisions of the CAP 2.0.

1	All need to be included. Fundamentally: #5 and #2: Deciding on and stating sufficient clear targets for Sector-Based emissions (Building Blocks for Emission Reductions to reach the CRO goals) and actions for each. #7: Accountability and metrics. Use a format like the layout used by Bend. GHG inventories every 2 years. #9. Commit to and flesh out planning for compact housing and transportation. #11. Community Engagement plan. Establish a coordinator position for this. Establish an on-going Advisory Group to work with staff. #6: Give funding serious consideration.
3	1,2,3,4,7,9,11, and 6
4	Prioritization and accountability/metrics. The plan should not be telling the City how to do the work, but should set goals and directions. Creating a stronger connection to the TSP and Housing Strategies could help address some of the issues that have been raised to date.
5	Add an additional theme: Air Travel from EUG Airport. This topic deserves a separate focus from Transportation due to its significantly higher contribution of carbon emissions from each airline trip taken. Air Travel could be folded into Consumption and try to educate Eugene consumers of air travel on lowering their trips and making Eugene more aware of carbon emissions they contribute from each trip.
6	Transportation is the single largest segment contributing to greenhouse gas emissions.
7	Identify a funding strategy for the CAP2.0 work.
8	The two most important themes to focus on as Eugene revises our CAP 2.0 are: the need to center those most affected by climate change (low-income people and members of marginalized communities), as partially incorporated in Themes 8 and 12 ,and the importance of committing solidly to a pathway to the CRO, as incorporated in Theme 5.
9	#2-- add more

The following are additional comments regarding the respondents' opinions about what are the most important aspects of the 12 themes to focus on during the revision process, what they feel is missing, and what else the City should focus on in revisions of the CAP 2.0.	
10	As a psychologist, I am aware that preparing people for climate-change public health impacts is crucial. Helping people get through events such as those posed by COVID19, wildfires, earthquakes, job loss, food shortages, etc, can be addressed through the CAP2.0 by educating and providing psycho-social-spiritual resiliency skills via a Resilience Coordinating Council as conceived by Bob Doppelt and his organization the International Transformational Resilience Coalition (ITRC): The science is clear that global temperatures will, in the not too distant future, rise beyond the threshold that greatly accelerates destructive climate impacts. If we remain unprepared, the resulting damage caused by more extreme storms, wildfires, heat waves, droughts, and other disasters, as well as the continuous disruptions to ecological, social, and economic systems people rely on for food, water, shelter, jobs, income, and other basic needs, will generate mental health and psycho-social-spiritual problems on a scale that modern society has never experienced. This tsunami of harmful psychological, emotional, and behavioral reactions will disrupt the daily lives of all local residents, and threaten their health, safety, and wellbeing. They are also likely to thwart efforts by the city, state, and federal government to reduce the climate emergency to manageable levels. The climate emergency is planetary. The impacts will affect everyone, rich and poor, young and old, of all ethnic and racial backgrounds. Few of the many outstanding emergency management, mental health, and direct human service programs that exist in our local area focus on building population-level mental wellness and resilience for the type and scope of mental health and psycho-social-spiritual problems the climate emergency will generate. Even then, if we remain unprepared, as the emergency worsens, these local organizations are likely to be increasingly overwhelmed by the demands for treatment and supports. New ways of thinking, and new and expanded approaches are therefore urgently needed to prevent and heal climate change-generated mental health and psycho-social-spiritual problems. The centerpiece of the expanded approach should be the establishment of a community-centered structure for organizing mental wellness and resilience activities called a Resilience Coordinating Council. The purpose of the RCC is to bring together a wide range of uncommon partners to co-create, implement, and continually improve actions that transform unhealthy cultural norms, build strengths, and construct a local culture that fosters and sustains mental wellness and resilience. The RCC should complement and reduce the demands on local emergency response, mental health, and direct service programs.
11	#7: The theme of accountability & metrics: what actions to reach goals, who's responsible, how much they cost and when will they be accomplished - a plan the community can understand and get behind.
12	I support all 12 themes. A few comments: In Theme 1, list specific actions the city and partners will take. Under Theme 8, I can't see where the University of Oregon, as an institution (as opposed to individual UO employees) has committed to any actions. They need to step up. Under Theme 11: Obtain input from informed community groups, community experts, and individuals regularly. Establish a Community Climate Accountability and Advisory Board.
13	7 - Accountability and Metrics. I have found that the City of Portland and Multnomah County 100% renewable commitments were very strong but that benchmarks for making progress on the goals were not so clear. Setting strong goals rooted in the best available science is important, but making sure there is a clear roadmap for getting there and measuring progress is almost just as important in my experience.

The following are additional comments regarding the respondents' opinions about what are the most important aspects of the 12 themes to focus on during the revision process, what they feel is missing, and what else the City should focus on in revisions of the CAP 2.0.	
14	clear, specific, measurable, scheduled and enforced actions that meet the goal actions assessed annually by a community board, consequences for failure ongoing cooperation & communication among all stakeholders to achieve efficiency & unity identify funding
15	It should be recognized that it will take courage and radical actions that requires emergency treatment to make the necessary changes. The most effective actions will probably be the most radical and unprecedented.
16	The maain DETAIL !!!??? is the 60% gap. This indicates to me that a wholistic systems wide approach needs to be rethought. THERE CAN BE NO GAP. This plan needs to partner with Lane County to include surrounding agricultural areas. Ag is a big contributor to CO2 and also a big possible mitigator. Education and policy needs to be put in place to change farmingpractices. Grass seed needs to phased out and organic so9il regenerative farms need to be subsidized.
17	Most important: Increased detail - For each action, how much of a change needs to be made by when and ideally who (what agency or City department) is charged with leading the effort. Second most important: Expand the actions to be taken in the are of consumption
18	Description of the actions, how they relate to the CRO and timelines for completion.
19	Theme 9: Create a stronger connection to the Transportation System Plan and Housing Strategies.
20	Cap2.0 does not meet goals. It has no way to meet goals. Cull what works. And have a ad hoc committee of environmentalists to propose a variety of strategies that we can choose from that meet goals. Meeting goals is the issue. Now, you seem to be spinning our wheels. Also, Free Public Transportation today. That you have special interest forces involved in this process and directing your actions, like this survey, is very disheartening.
21	Metrics and prioritization as well as community engagement. I'd like to see our community invested in this plan more (I hear more about 350 Eugene than I do about the CAP).
22	Add more detail, prioritize items, and show how we're going to reach the CRO. Make it real!

The following are additional comments regarding the respondents' opinions about what are the most important aspects of the 12 themes to focus on during the revision process, what they feel is missing, and what else the City should focus on in revisions of the CAP 2.0.	
23	1) This list--great for the future--is, at this point, off the mark. There is only one thing that should be on the list right now. A PLAN TO MEET THE GOALS. Anything short of that is unacceptable. 2) I suggest members of local climate organizations--Sunrise, XR, 350, NAACP, Beyond Toxics, Civil Liberties Defense Center, etc.--be authorized to rewrite the CAP. Representatives to serve on the committee should be chosen by the organizations themselves. City Staff should serve only as a resource for the self-directed citizen committee. The committee should be tasked with coming up with at least three CAP options. Members of the committee should be paid. This committee should be formed and a timeline set in very short order.
24	I would suggest #3, #7, #9, #10. In particular #9 as there is significant opportunity with the passage of the 2001 state bill to densify housing. We can work to put parameters that both increase climate friendly housing and to prohibit or limit possible abuses like densifying and allowing more B&B's etc..... We can work to create both energy efficient and affordable housing and pair that with accessible transportation.
25	Detail, prioritization, and accountability are the most important aspects of the 12 themes.
26	#5 (are the goals even possible?), #1/3/5 (more details on priority actions, at least in appendices), #7/9/5 (accountability, metrics, reporting, who's doing what), #4 (clear city integration/leadership), #6 (funding strategy, ie fees for fossil fuels to fund electrification?), #5/9/10 (holistic/connected planning)
27	Please continue to involve community through alternative social media during this time of no meeting attendance
28	Please focus on reducing consumption patterns and including environmental activists
29	Aggressively push Eugene Climate Collaborative ahead immediately to gain on lost time toward reducing city Carbon Footprint. Engage business community to create mutual CFC goals and objectives. Create annual attainable reduction goals and report to citizens biannually on the progress achieved by both City and County actions, investments, projects. Add City Funding Commitments to all the "themes" hereby adapted. Be assertive tho realistic in ten year funding priority. How will it pay back to the whole community? Is this a jobs building opportunity, post Pandemic necessity? Budgeting to be adjusted every two years as progress is achieved over the ten year timeline.
30	Critically important to hold to a Plan to Drawdown effectively ASAP. Initiate Free or low cost Internet Access for all households. Plastics recycling infrastructure to collect, process & create useable products here in Lane County/Eugene Focus Transportation issues to drawdown: free buses, transit alternatives e.g. scooters, bikes, car sharing options. Bike & pedestrian safety modifications in our infrastructure.

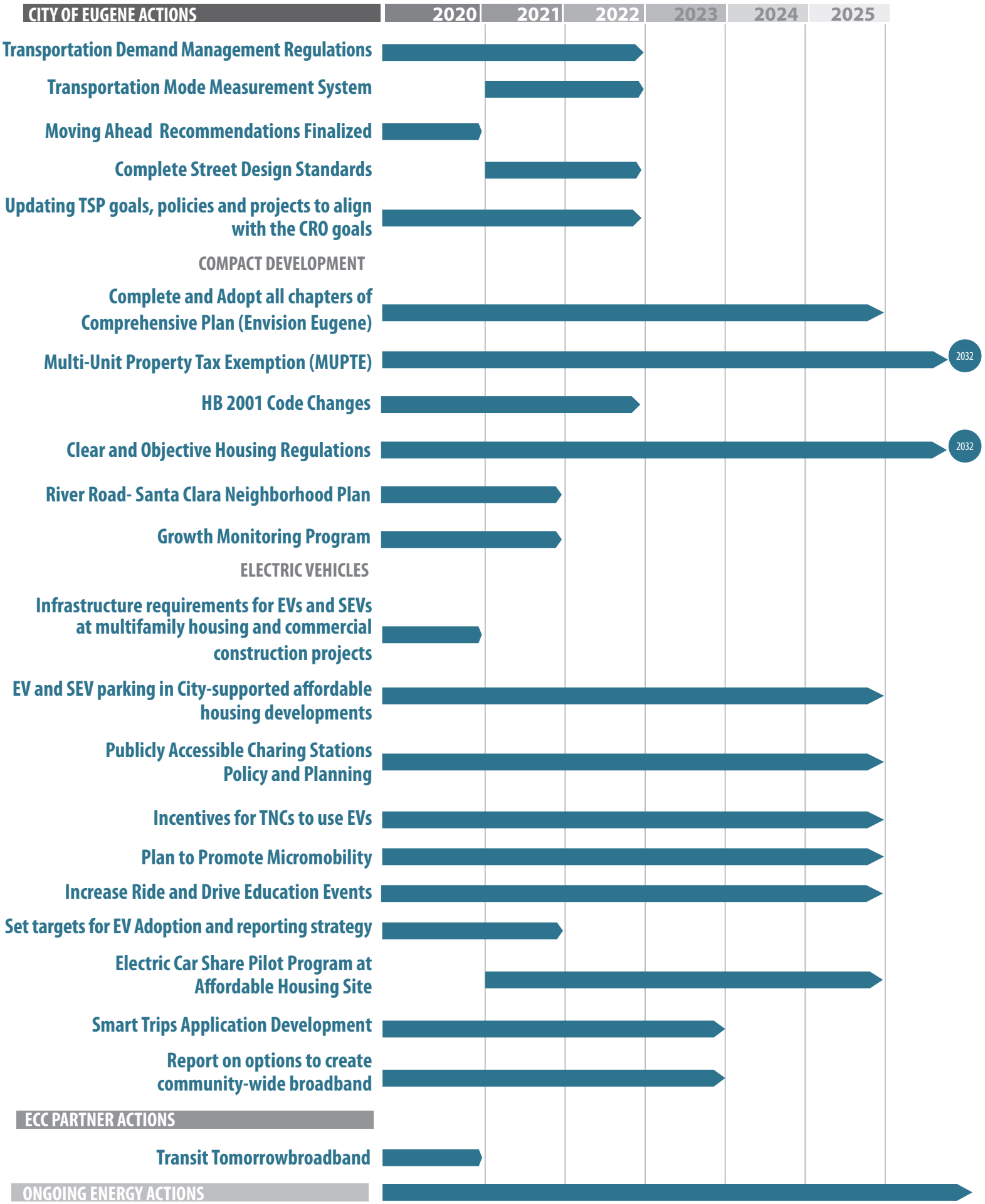
The following are additional comments regarding the respondents' opinions about what are the most important aspects of the 12 themes to focus on during the revision process, what they feel is missing, and what else the City should focus on in revisions of the CAP 2.0.	
31	#1, 3, 5 & 6 above are the most important. Taken together, they have the potential to create what's needed: an actual PLAN, with specific actions and commitments, that arrives at measurable outcomes within a targeted timeline. The current document appears to be mainly a brainstorm list, which is merely one early step in making an actual plan.
32	Prioritize actions, flesh them out with details, and get started implementing them, measuring the results, and revising as necessary. This includes implementing the TSP and Housing Strategies and meeting the timelines included in them.
33	3,5,6, and 7. On 5, the adopted plan should include the adoption and implementation of a combination of actions to reach the goals. We should review what alternative sets of actions that reach the goals could be, then recommend a particular set for adoption

Climate Action Plan 2.0

Appendix 12

Timeline of City of Eugene and Eugene Climate Collaborative Actions

Transportation Actions



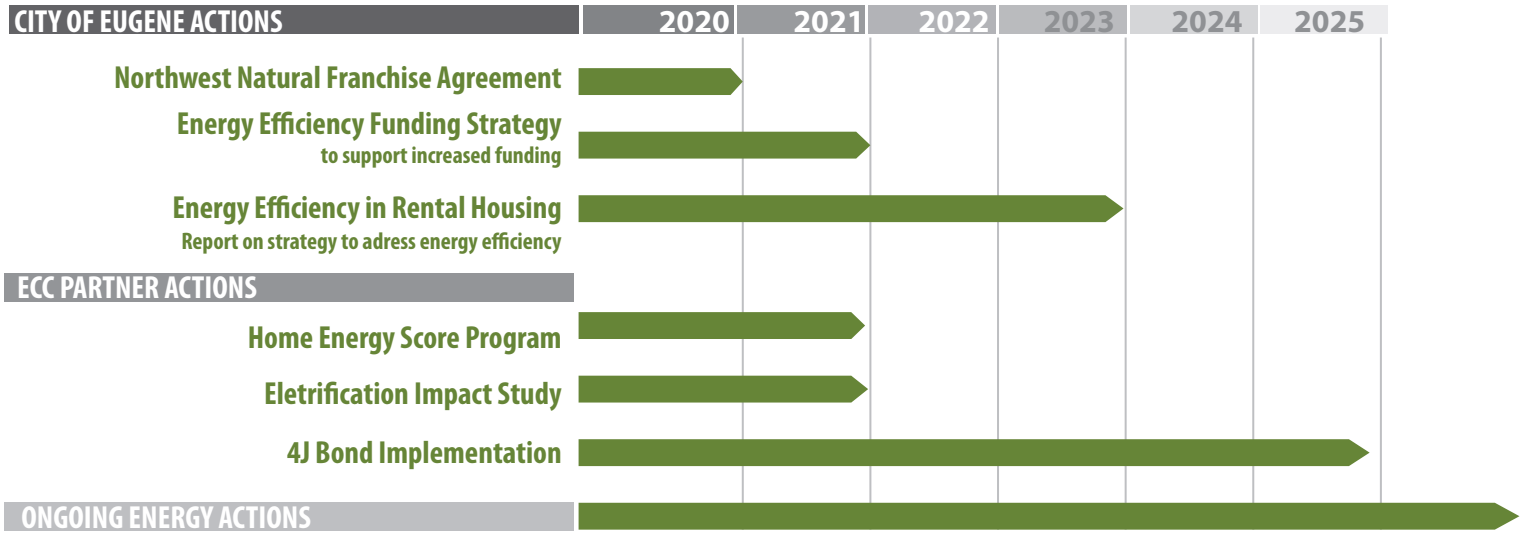
COE ACTIONS

Transportation System Plan
SmartTrips and Transportation Options Education
Envision Eugene
Accessory Dwelling Units
City's EV First Vehicle Procurement Policy

ECC ACTIONS

LTD programs to support transit access for all income-levels
LTD programs to make transit more convenient and accessible
Safe Routes to School
PeaceHealth Rides
EWEB to focus on EV targeted market transformation
EWEB to incentivize EV charging infrastructure installation
EWEB explores options to increase EV access to underserved populations
LTD electrification of bus fleet.
LCC, UO, Lane County, and EWEB motor pool investments.
4J and Bethel bus fleet investments.

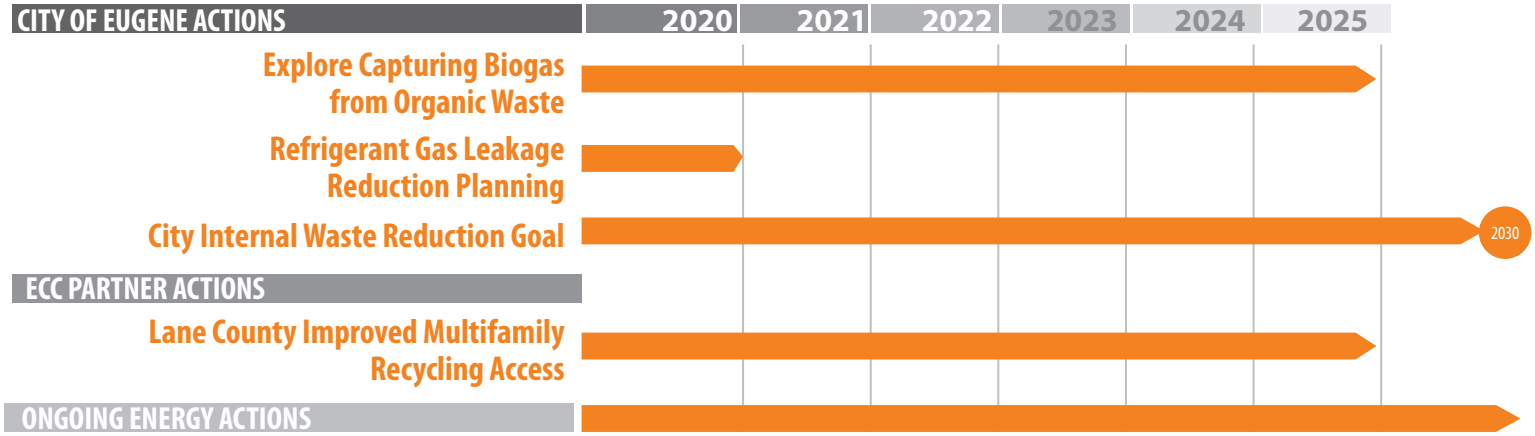
Building Energy Actions



COE ACTIONS
- Lobby for Statewide Building Code Reach Code Energy Efficiency Increase
- COE Facilities energy efficiency improvements

ECC ACTIONS
- EWEB GHG and Fossil Fuel Reduction Goals
- EWEB Smart Electrification and Energy Efficiency Programs
- EWEB and NWN Limited Income Assistance Program
- EWEB Conservation Program
- EWEB Demand-Side Management Program
- NWN Smart Energy Program
- NWN and ETO Energy Efficiency Programs
- LCC's CAP2.0 Energy Efficiency Projects
- UO's CAP2.0 Energy Efficiency Projects
- UO Implementing Oregon Model for Sustainable Development
- UO $core Program
- Bethel Energy Performance Projects

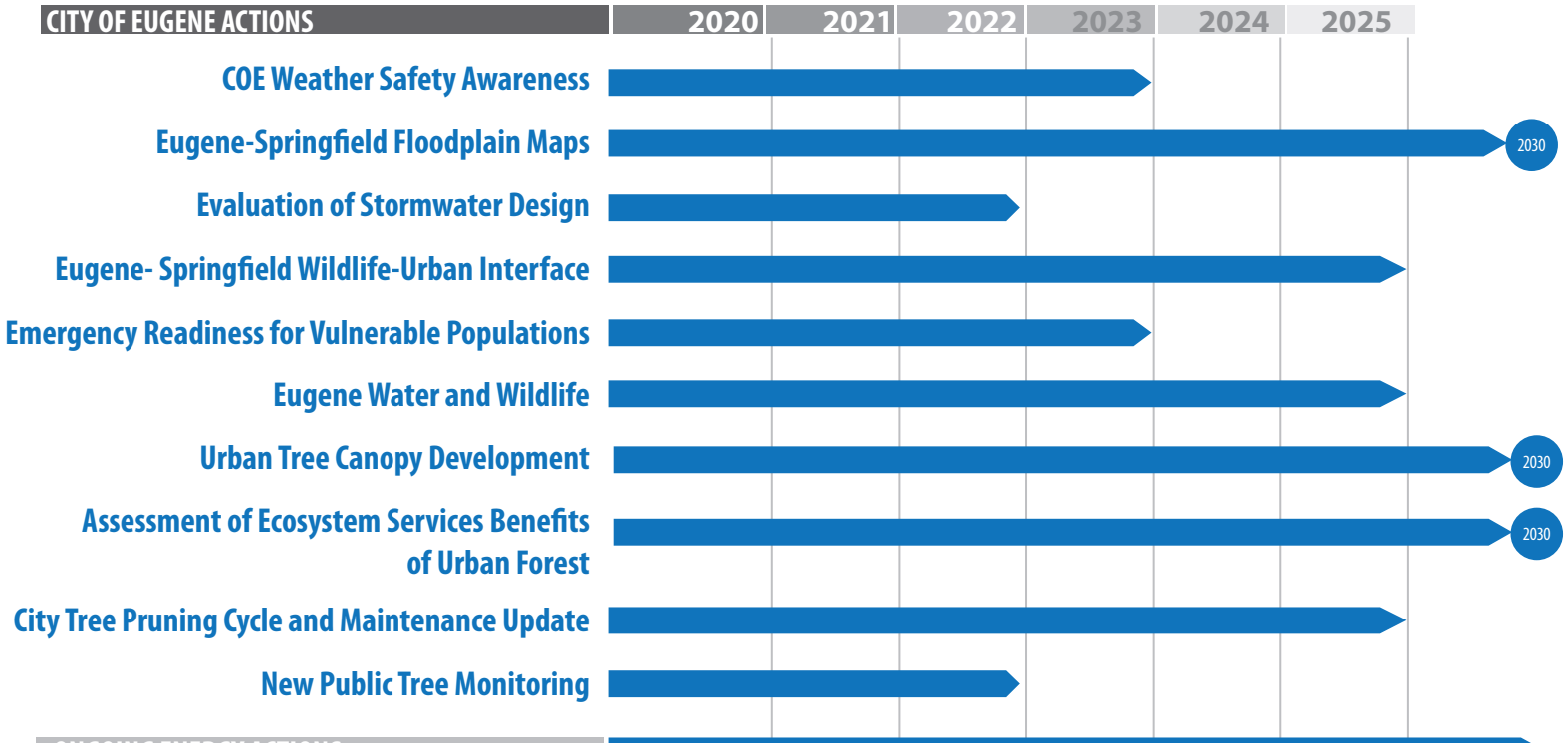
Fugitive Emissions Actions



COE ACTIONS
- Love Food Not Waste Commercial Compost
- Curbside Compost Program
- COE Warm-Mix Asphalt Practice
- Link Industrial Food Producers with food-insecure populations
- Explore Franchise-system for Residential Solid Waste Collection

ECC Partner Actions
- Lane County Improved County-wide data collection and reporting on waste
- Lane County to explore diverting organics from waste stream
- Lane County Annual Audit at Material Recovery Facilities
- Lane County Support Produce Stewardship Legislation
- Lane County Increased Access for Non-English Speakers
- Lane County Business Waste Prevention Campaign
- UO Zero Waste Program
- Bethel and 4J expanded composting programs

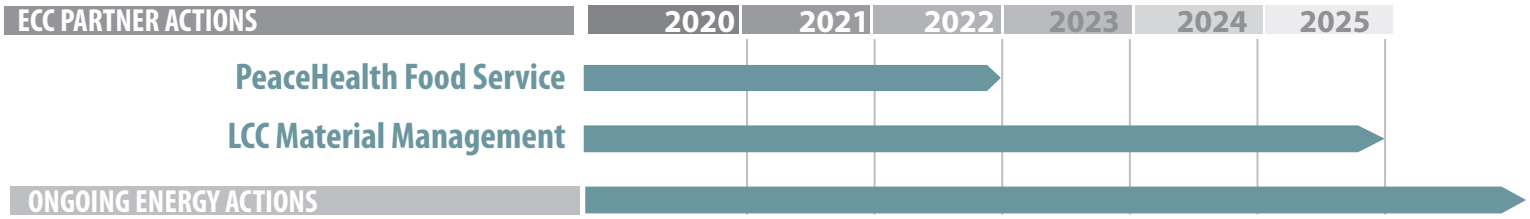
Resiliency Actions



COE ACTIONS
- Using Recycled Water
- Community Emergency Response Team
- Eugene Stormwater Management
- Landslide Maps to Assist City Planning
- Update Urban Forest Management Plan
- Campaign for Private Tree Planting

ECC ACTIONS
- UO Disaster Resilience Research
- Lane County Public Health Infectious Disease Surveillance
- PeaceHealth Provides Indicent Command System Training
- Pure Water Partners
- Firewise Incentive Program
- Lane County Floodplain Management

Consumption Actions



COE ACTIONS
- Fix It Fair
- GHG Tracking
- Waste and Consumption Education Campaign

ECC ACTIONS
- Local Lunches at 4J
- Bethel Farm to School
- Lane County Recycling