



TUALATIN CITY COUNCIL MEETING

MONDAY, SEPTEMBER 12, 2022

TUALATIN CITY SERVICES
10699 SW HERMAN ROAD
TUALATIN, OR 97062

Mayor Frank Bubenik
Council President Nancy Grimes
Councilor Valerie Pratt Councilor Bridget Brooks
Councilor Maria Reyes Councilor Cyndy Hillier
Councilor Christen Sacco

To the extent possible, the public is encouraged to watch the meeting live on local cable channel 28, or on the City's website.

For those wishing to provide comment during the meeting, there is one opportunity on the agenda: Public Comment. Written statements may be sent in advance of the meeting to Deputy City Recorder Nicole Morris up until 4:30 pm on Monday, September 12. These statements will be included in the official meeting record, but not read during the meeting.

For those who would prefer to make verbal comment, there are two ways to do so: either by speaking in person or entering the meeting using the zoom link and writing your name in chat. As always, public comment is limited to three minutes per person.

Phone: +1 669 900 6833

Meeting ID: 861 2129 3664

Password: 18880

Link: <https://us02web.zoom.us/j/86121293664?pwd=SS9XZUZyT3FnMk5rbDVKN2pWbnZ6UT09>

Work Session

- 1. 5:30 p.m. (50 min) – Climate Action Plan Update: Greenhouse Gas Emissions Inventory Results.** Staff will provide an update on Tualatin's climate action planning process including a public engagement update, review the greenhouse gas emissions inventory report and future emissions forecast, share best practices to reduce emissions in a targeted way based on the emissions inventory report, and discuss next steps.
- 2. 6:20 p.m. (20 min) – Basalt Creek Park Property Maintenance and Operations Agreement.** At the August 22 meeting, City Council authorized the purchase of parkland in the Basalt Creek area to serve the expanding community as residential units and employment are developed. Staff will present information regarding an agreement for the maintenance and operations of the Basalt Creek parkland property that is being purchased.

3. **6:50 p.m. (10 min) – Council Meeting Agenda Review.** Council will review the agenda for the September 12th City Council meeting.
-

7:00 P.M. CITY COUNCIL MEETING

Call to Order

Pledge of Allegiance

Announcements

1. Public Health Announcement
2. New Employee Introduction – Richard Contreras
3. Proclamation Declaring the Month of September 2022 as Emergency Preparedness Month in the City of Tualatin
4. Proclamation Declaring September 2022 as Hispanic Heritage Month in the City of Tualatin

Public Comment

This section of the agenda allows anyone to address the Council regarding any issue not on the agenda, or to request to have an item removed from the consent agenda. The duration for each individual speaking is limited to 3 minutes. Matters requiring further investigation or detailed answers will be referred to City staff for follow-up and report at a future meeting.

Consent Agenda

The Consent Agenda will be enacted with one vote. The Mayor will ask Councilors if there is anyone who wishes to remove any item from the Consent Agenda for discussion and consideration. If you wish to request an item to be removed from the consent agenda you should do so during the Citizen Comment section of the agenda.

1. Consideration of Approval of the Work Session and Regular Meeting Minutes of August 22, 2022
2. Consideration of **Resolution No. 5643-22** Authorizing the City Manager to Execute a Contract to complete Supervisory Control and Data Acquisition (SCADA) System Improvements

Special Reports

1. Tualatin Community Emergency Response Team (CERT) 2021-2022 Annual Report

General Business

If you wish to speak on a general business item please fill out a Speaker Request Form and you will be called forward during the appropriate item. The duration for each individual speaking is limited to 3 minutes. Matters requiring further investigation or detailed answers will be referred to City staff for follow-up and report at a future meeting.

1. Consideration of **Resolution No. 5644-22** Authorizing the City of Tualatin to Join a Coalition of Cities Challenging the State's Climate Friendly and Equitable Communities Rules

Items Removed from Consent Agenda

Items removed from the Consent Agenda will be discussed individually at this time. The Mayor may impose a time limit on speakers addressing these issues.

Council Communications

Adjournment

Meeting materials, including agendas, packets, public hearing and public comment guidelines, and Mayor and Councilor bios are available at www.tualatinoregon.gov/council.

Tualatin City Council meets are broadcast live, and recorded, by Tualatin Valley Community Television (TVCTV) Government Access Programming. For more information, contact TVCTV at 503.629.8534 or visit www.tvctv.org/tualatin.

In compliance with the Americans with Disabilities Act, this meeting location is accessible to persons with disabilities. To request accommodations, please contact the City Manager's Office at 503.691.3011 36 hours in advance of the meeting.



City of Tualatin

CITY OF TUALATIN Staff Report

TO: Honorable Mayor and Members of the City Council
THROUGH: Sherilyn Lombos, City Manager
FROM: Maddie Cheek, Management Analyst II
DATE: September 12, 2022

SUBJECT:

Climate Action Plan Update: Greenhouse Gas Emissions Inventory Results

EXECUTIVE SUMMARY

Tualatin's Community Climate Action Planning effort is currently underway. Staff will provide a brief update on Tualatin's climate action planning process including a public engagement update, review the greenhouse gas emissions inventory report and future emissions forecast, share best practices to reduce emissions in a targeted way based on the emissions inventory report, and discuss next steps.

PUBLIC AND STAKEHOLDER ENGAGEMENT

The project team recently wrapped up phase 1 of public engagement, focused on building public awareness and understanding of the planning process and learning about the community's concerns and interests related to climate change. Common concerns include concerns related to wildfires and smoke, drought, protecting the ecosystem and river, and extreme weather. Community members also expressed interest in learning more about what actions will have the most impact, how the community can work together to achieve results, protecting animals, bioswales and rain gardens, and how to drive less and improve access to active transportation such as biking and walking.

The project team is hosting a series of mitigation-themed stakeholder meetings in October with representatives from businesses, industry, nonprofit organizations, and other local agencies to discuss challenges and opportunities related to emissions reductions (mitigation) across four different themes: buildings and energy, urban form and land use, transportation – modes and fuel switching, and consumption – food and goods.

GREENHOUSE GAS EMISSIONS INVENTORY RESULTS AND FORECAST

During 2019, all emissions combined totaled nearly 677,000 metric tons of carbon dioxide equivalents (MT CO₂e), or an average of 25 MT CO₂e per resident.

Of this, local emissions (emissions generated *inside* City boundaries) totaled nearly 386,000 MT CO₂e, or an average of 14 MT CO₂e per resident. This is slightly lower than the U.S. average of 15 MT CO₂e per capita, but significantly higher than the global average of roughly 4 MT CO₂e per capita.

Imported emissions (emissions generated *outside* City boundaries) totaled over 290,000 MT CO₂e and include upstream emissions from production of goods, food, fuel, and air travel.

Building energy use made up 42% of Tualatin's total emissions, followed by production of goods (15%), production of food (13%), and transportation energy (12%).

State-level policy is projected to significantly reduce emissions from building energy over the next 30 years. However, to reach the City's goal of net zero carbon by 2050 and meet the targets set out by the 2015 Paris Climate Accords, Tualatin will need to significantly decrease emissions from transportation energy, industrial processes, and refrigerants.

BEST PRACTICES

Given the inventory results and emissions forecast, the project team has outlined a list of "best practices" related to transportation, buildings and energy use, and consumption of food and goods to target Tualatin's community greenhouse gas emissions reduction efforts and make the biggest impact.

NEXT STEPS

This fall, the project team will focus on gathering community feedback on potential adaptation and mitigation actions in line with the "best practices" mentioned above. Engagement strategies include an online open house with an interactive map and three in-person workshops targeted at households, youth, and small businesses. The team will use social media, a newsletter article, listserv updates, and in-person conversations to invite and encourage community members to participate in the online open house and/or the interactive workshops.

ATTACHMENTS:

- PowerPoint slides
- Tualatin's Community Greenhouse Gas Emissions Inventory report



Greenhouse Gas Emissions Inventory Report Results

Tualatin City Council Meeting

September 12, 2022

Overview

- Community + stakeholder engagement update
- Greenhouse gas emissions inventory results
 - Emissions forecast
 - Best practices for emissions reductions
- Next steps
- Discussion



Community + stakeholder engagement update

Public engagement – Key takeaways



Concerns:

- Extreme weather
- Protecting the ecosystem and river
- Drought / water availability
- Wildfires and smoke

Want to learn more about:

- What actions will have the most impact
- EVs and EV charging
- Impacts to plants, animals, and trees
- Community building / working together to make changes
- Renewable energy



Targeted stakeholder engagement

Adaptation-themed stakeholder workshops

Key takeaways:

- Building trust and relationships
- Additional public refuge is needed
- Transit is lacking
- The right of way will be increasingly crowded

Mitigation-themed stakeholder workshops

Topics:

- Buildings + energy use – Oct. 5
- Urban form + land use – Oct. 6
- Transportation – modes and fuel switching – Oct. 18
- Consumption – food + goods – Oct. 19

Greenhouse gas emissions inventory results

The greenhouse effect

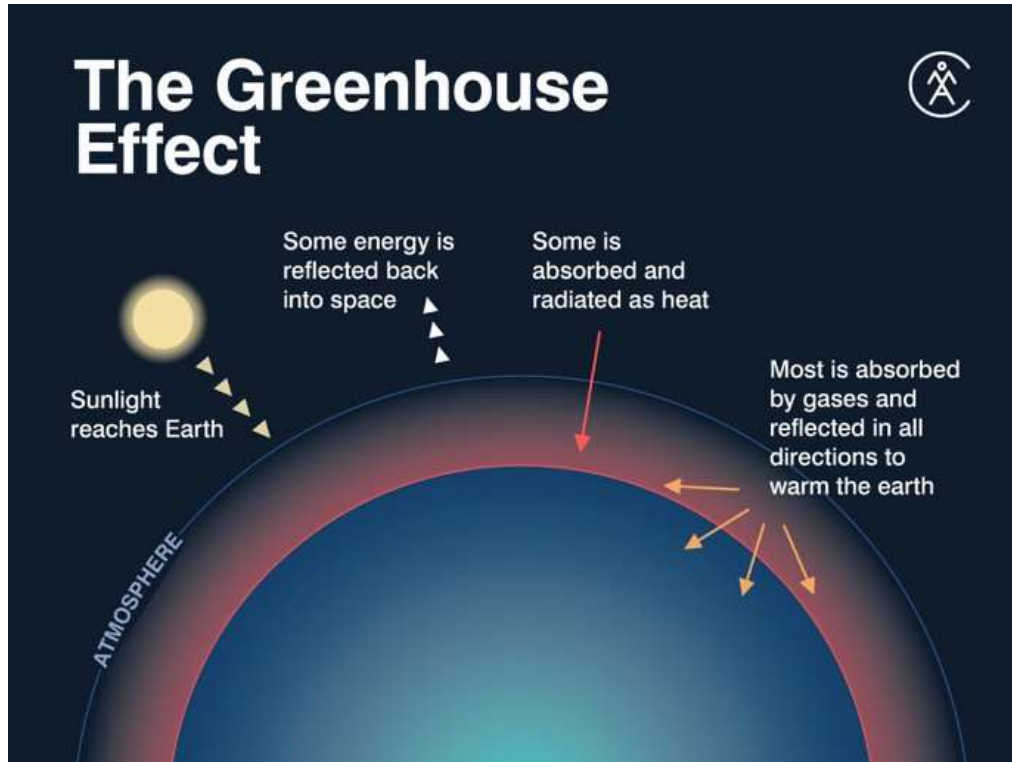
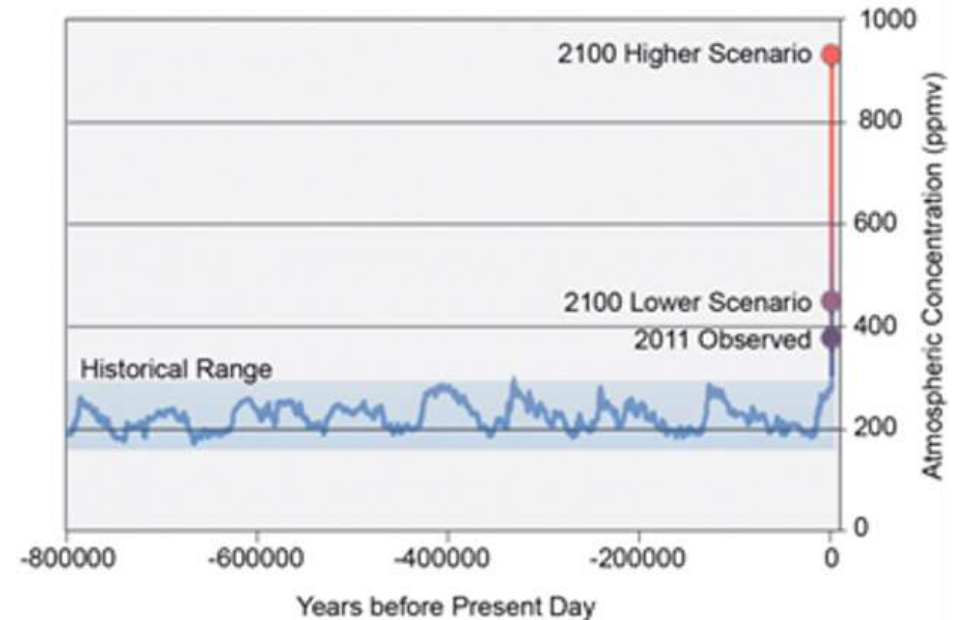


Figure 1: Skyrocketing atmospheric CO₂
Atmospheric Carbon Dioxide Levels

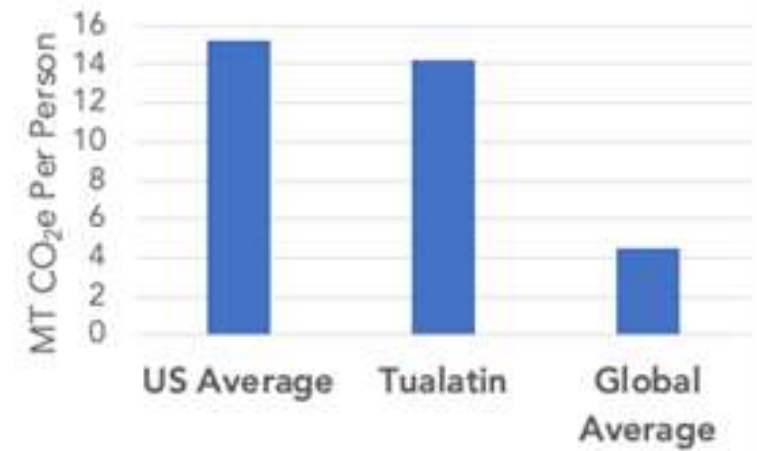


The **more greenhouse gases** in the atmosphere, the **more heat** is prevented from escaping the Earth and **the hotter things get**.

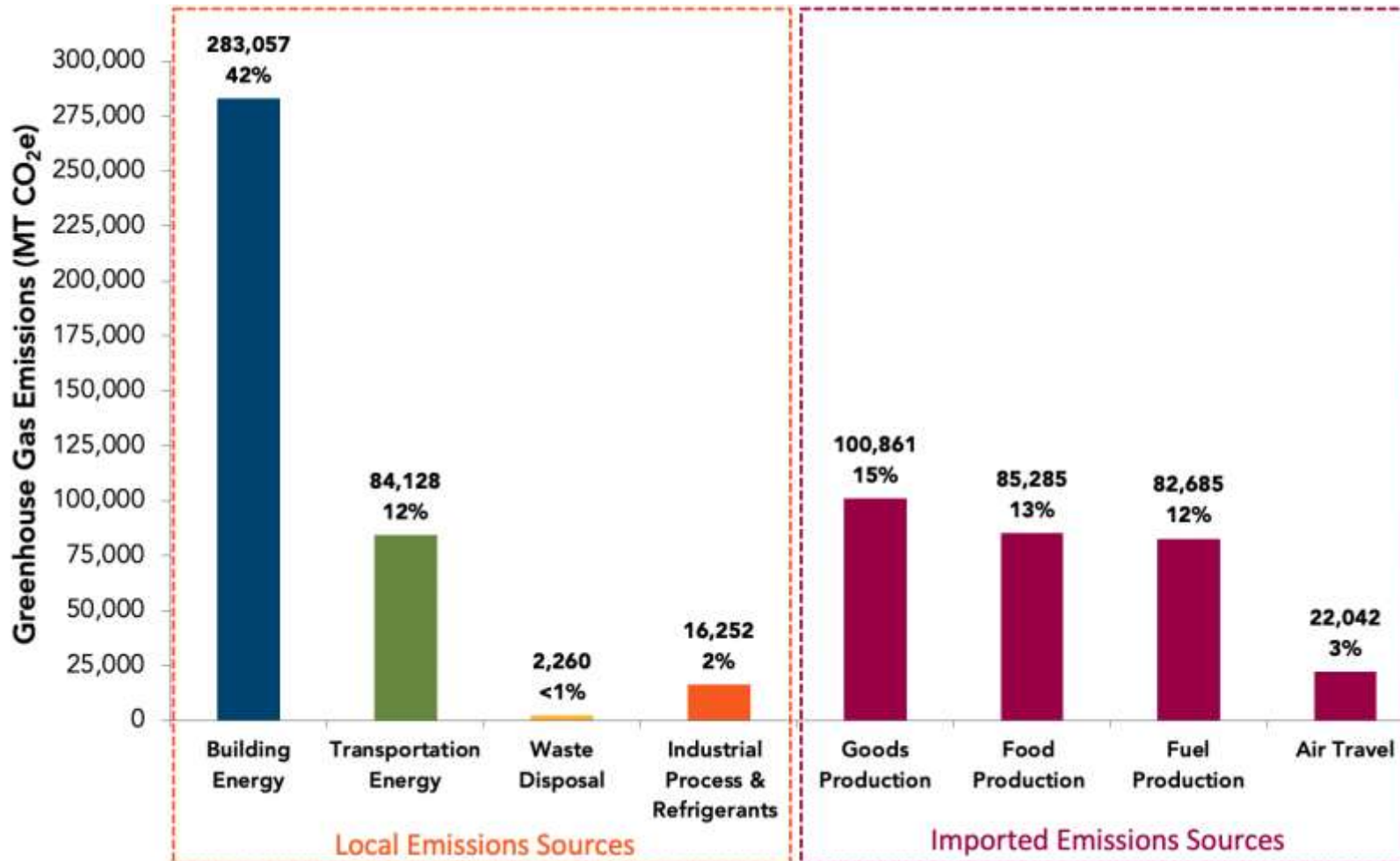
Summary of findings

- During 2019, all emissions combined totaled **nearly 677,000 metric tons of carbon dioxide equivalents (MT CO₂e)**, or an average of **25 MT CO₂e** per resident.
- Of this, local emissions totaled nearly **386,000 MT CO₂e** (57% of total), or an average of **14 MT CO₂e** per resident.
- Imported emissions totaled **over 290,000 MT CO₂e** (43% of total) and include upstream emissions from production of goods, food, fuel production, and air travel.

Figure 3: Comparison of per person emissions

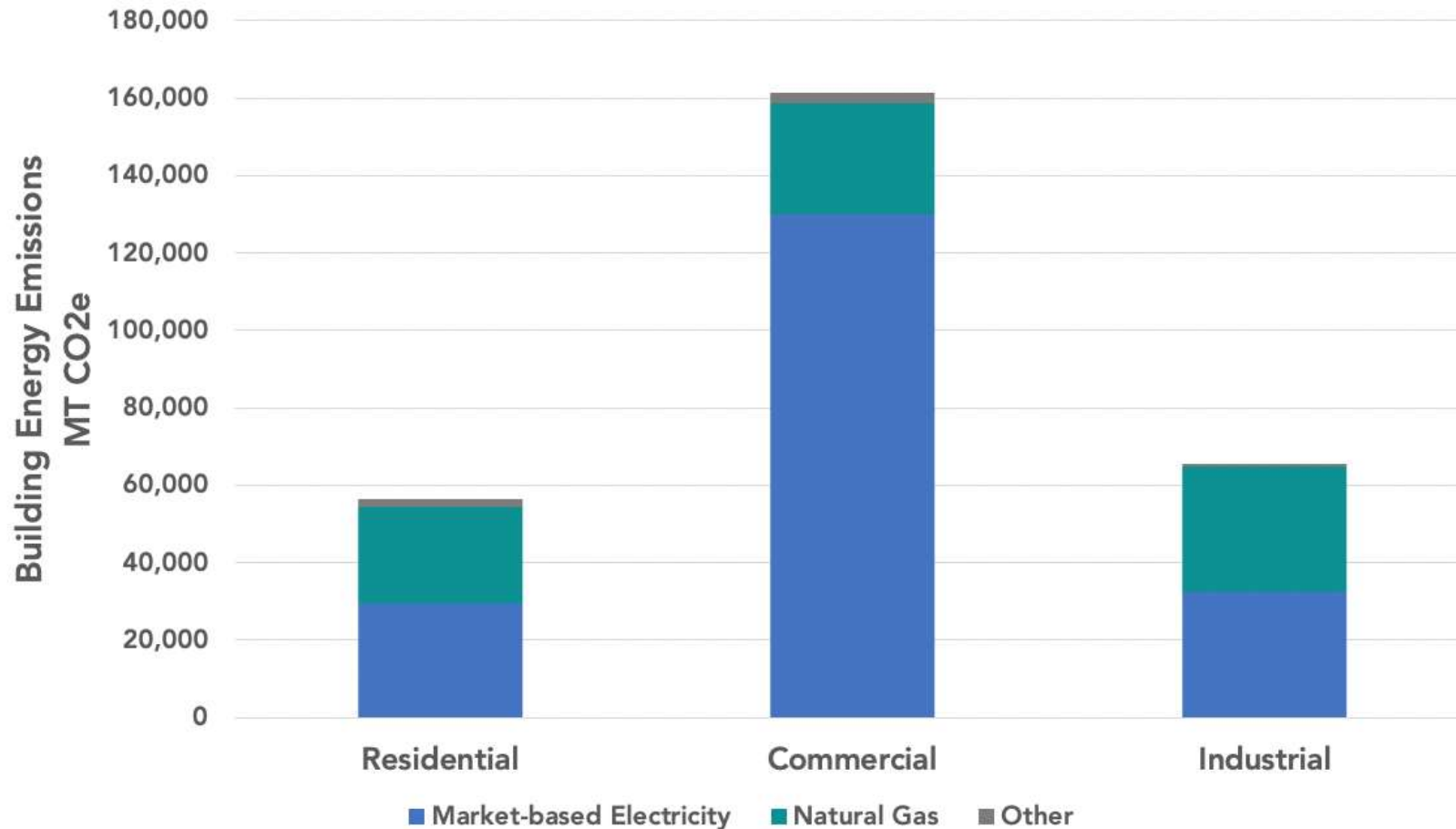


Overview of Tualatin's emissions sources



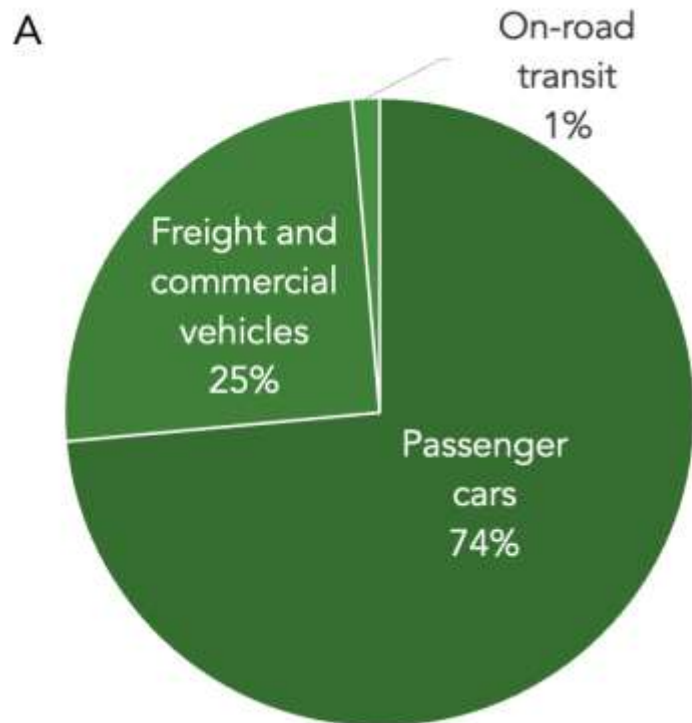
During 2019, all emissions combined totaled **nearly 677,000 MT CO₂e**, or an average of **25 MT CO₂e** per resident

Building energy usage by type and energy source

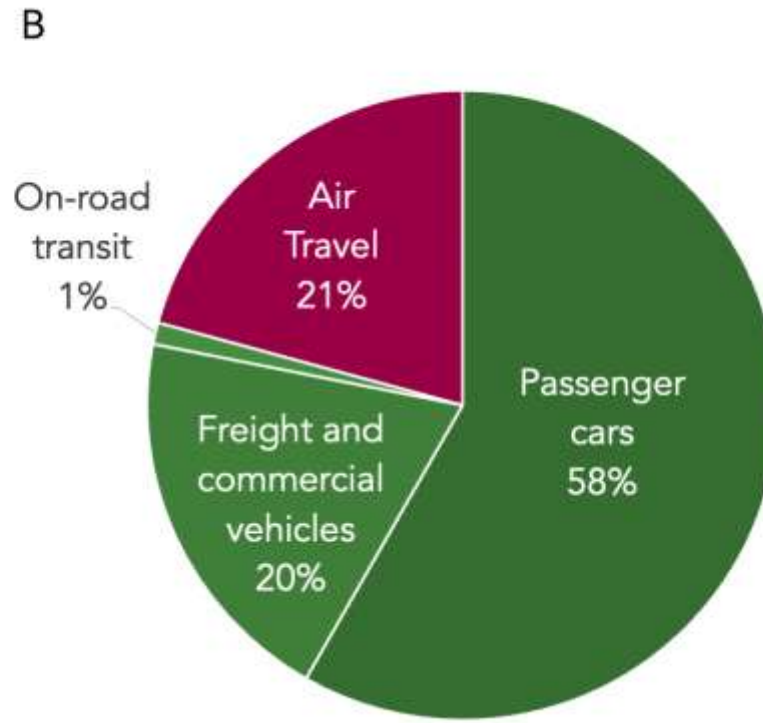


The majority of building energy emissions come from electricity use in commercial buildings.

Transportation emissions breakdown



Excluding air travel

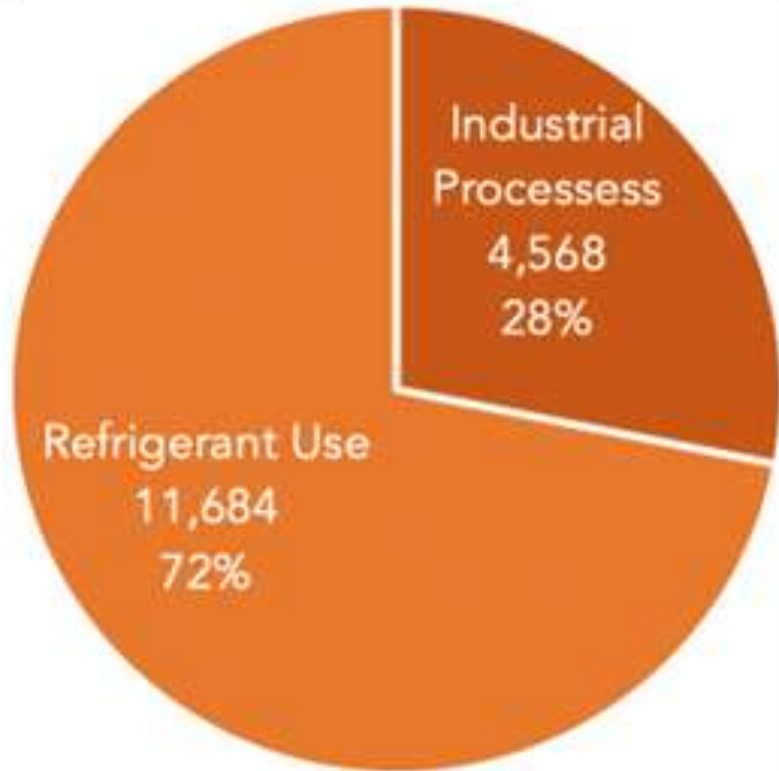


Including air travel

The majority of transportation emissions come from passenger vehicles in Tualatin.

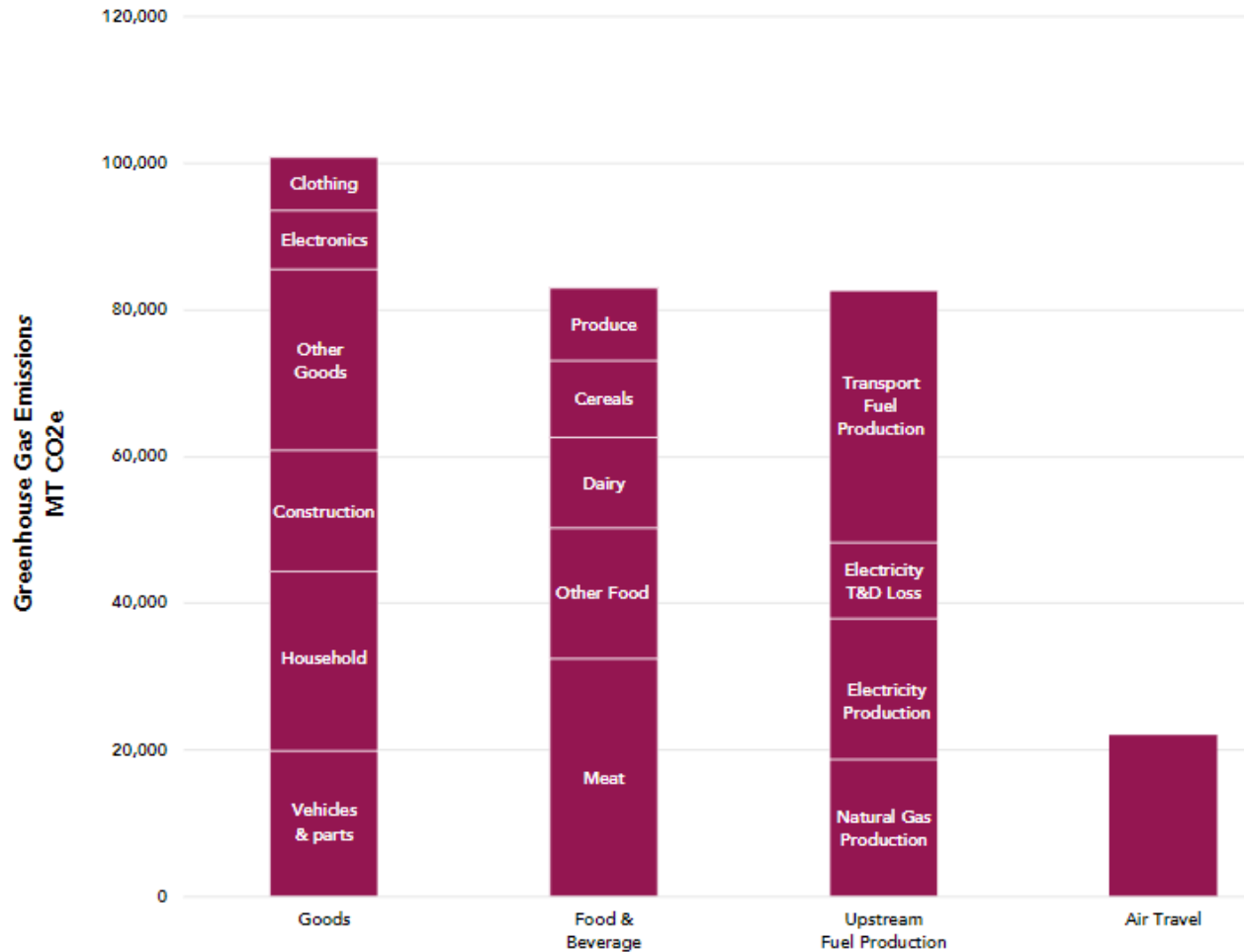
Emissions from industrial processes and refrigerants

Figure 10: IPR Emissions



Fugitive loss of refrigerants from residential and commercial buildings and vehicle air conditioning and refrigeration equipment are the largest proportion of Tualatin's industrial processes and refrigerants emissions.

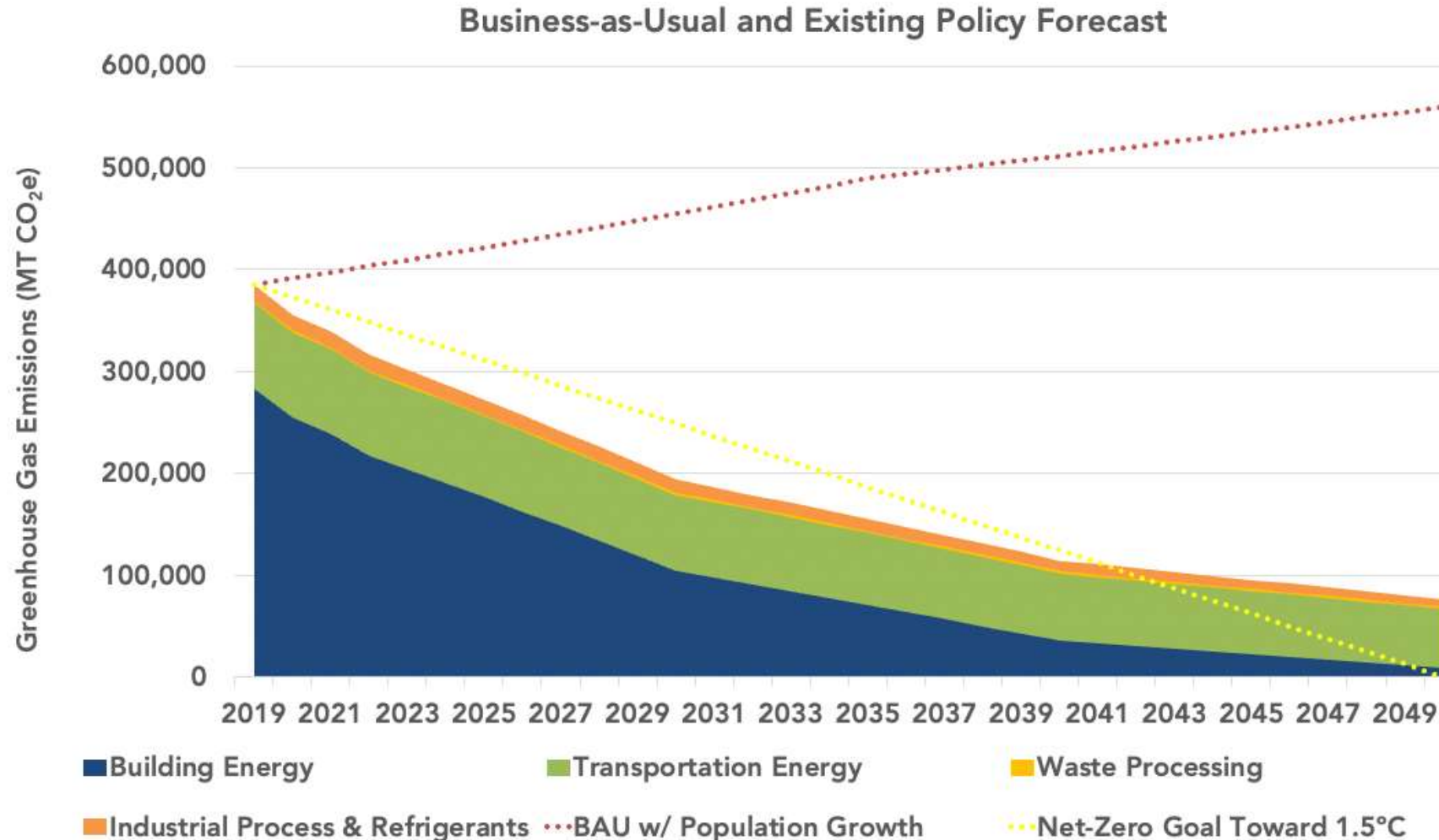
Sources of imported emissions



Imported goods make up the largest share of imported emissions (~15% of all emissions), followed by foods and beverages (~13% of all emissions).

Greenhouse gas emissions forecast

Business-as-usual + existing policy forecast



This is the gap we need to close, using the climate action plan, to reach net zero carbon by 2050.

Additional policies that may reduce emissions

- Inflation Reduction Act
- Oregon Department of Land Conservation and Development (DLCD) - Climate Friendly and Equitable Communities rulemaking



Best practices

Best practices: Transportation – Modes + Fuel Switching

- EVS
 - Rapid switch to electric vehicles (EVs)
 - Add EV charging near dense housing (e.g. apartment complexes) and workplace parking
- Diesel Operators
 - Transition as soon as possible to renewable fuels (e.g. biodiesel, renewable diesel, bio methane/RNG)
- Reduce air travel or purchase carbon offsets with your flight
- Electronic Commute
- Transit
 - Last mile/first mile coordination (e.g. bike share, e-scooters)
- Active Transportation
 - Walk
 - Bike



Best practices: Transportation – Urban Form + Land Use



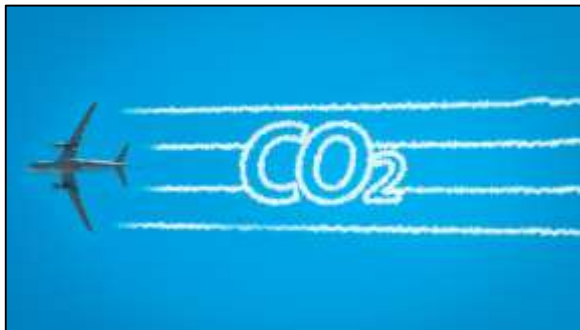
- New Development
 - Urban nodes – 20 minute neighborhood
 - Transit-oriented development
 - Building taller
 - Active transportation routes
- City ordinances to encourage electrification of buildings and transport

Best practices: Buildings + energy

- Purchase electricity from renewable sources
- Smart Energy (offset) or renewable natural gas for gas users
- Electrify buildings + appliances where possible
 - Air heating and cooling (e.g. heat pumps)
 - Water Heating (e.g. heat pumps)
- Energy Efficiency audits
- Weatherization and efficient appliances
- Refrigerants
 - Leak avoidance and repair
 - Switch to refrigerants with lower global warming potential if/when possible
- Rooftop solar
- Shade trees for some buildings



Best practices: Consumption – food + goods



- Borrow or Share, don't buy
- Buy used and durable
- Fix it
- Meal planning to avoid 40% waste
- Eat more plants
- Buy recycled
- Recycle

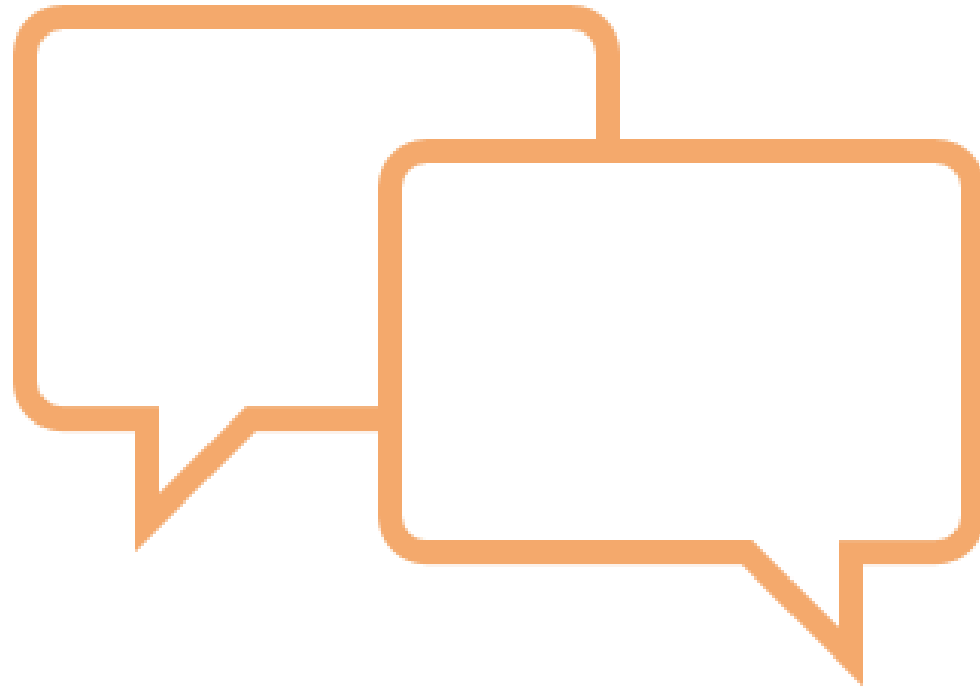
Next steps – Gather feedback on potential actions

- Online open house
- Interactive map (online)
- Interactive workshops for targeted groups
 - Households
 - Youth
 - Small businesses



Image: interactive map where community members can share where they are experiencing climate impacts and where they go to stay safe and comfortable during extreme weather events.

Discussion





City of Tualatin Community Greenhouse Gas Inventory





Acknowledgements

Project team

Maddie Cheek, Management Analyst, Public Works, City of Tualatin
Nic Westendorf, Deputy Public Works Director, City of Tualatin

Special thank you to Oregon Department of Transportation, Oregon Department of Environmental Quality, and Portland General Electric, Northwest Natural, Constellation, and Calpine Energy for providing necessary data for this inventory.

Consulting team



Good Company, a sustainability consulting firm based in Eugene, OR conducted the analysis for the City of Tualatin. Beth Miller, Claudia Denton, and Aaron Toneys of Good Company provided data gathering assistance to City staff and facilitated the use of Good Company's Carbon Calculator for Communities (G₃C – Community), a proprietary GHG inventory tool, to conduct analysis. They are the primary authors of this report.



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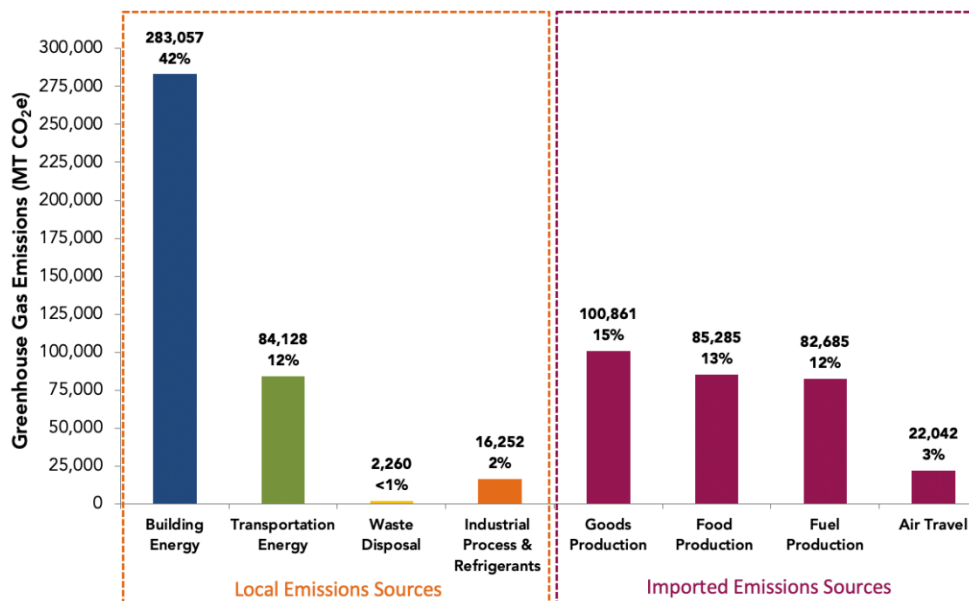
Executive Summary

The City of Tualatin completed a Community Greenhouse Gas (GHG) Inventory to better understand sources of GHG emissions (i.e., climate pollution) to inform development of a community climate action plan (CAP). The inventory follows internationally recognized community GHG inventory protocols and accounts for all significant sources of GHG emissions driven by activities taking place within the City of Tualatin’s geographic boundary. Beyond protocol requirements, the inventory also measures consumption-based emissions from imported goods and food, air travel, and the purchase of carbon offsets.

Summary of Findings

- During 2019, with a population of **27,135**, all emissions combined (local and imported emissions) totaled **nearly 677,000 MT CO₂e**, or an average of **25 MT CO₂e** per resident.
- Of this, local emissions totaled **nearly 386,000 Metric Tons of carbon dioxide equivalent (MT CO₂e)**, or an average of **14 MT CO₂e** per resident.
 - The largest sectors were **energy use by buildings** (primarily electricity and natural gas use, 73%) and **transportation** (primarily gasoline combustion, 22%). **Industrial processes and refrigerants** accounted for 4% and **waste disposal** accounted for 1% of local emissions.
 - Commercial electricity made up 45% of building and 33% of local emissions.
- Imported emissions from household consumption and production of fuel and energy sold in Tualatin totaled **over 290,000 MT CO₂e** and include upstream emissions from production of goods (35%), food (29%), fuel production (28%), and air travel (8%).

Figure 1: City of Tualatin's 2019 GHG Emissions



Introduction

Human activity in the form of consumption of fossil fuels is the primary cause of global warming and changes in climate that have occurred over the past few decades and accelerated in recent years.¹ The best available evidence indicates that human-caused greenhouse gas (GHG) emissions must be reduced significantly by 2030 to avoid “severe, pervasive and irreversible impacts for people and ecosystems.”² We are already observing physical changes to Oregon’s climate, including hotter temperatures, drought, wildfire smoke, and less mountain snow². 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 most common international goal to mitigate the worst climate impacts aligns with the Paris Climate Accord, which seeks to limit global average temperature increases to 1.5°C (2.7°F) relative to temperatures at the start of the Industrial Revolution. As of 2018, we’ve already passed the halfway point: average temperatures have increased by more than 1°C (1.8°F) since the Industrial Revolution and are on track to increase to 1.5°C (2.7°F) by 2040¹.

It is with this understanding and urgency that The City of Tualatin commissioned this community greenhouse gas (GHG) inventory and chose a target of 1.5°C in alignment with the Paris Climate Accord. The City of Tualatin’s 2019 Community GHG Inventory includes the following emissions sources:

Building Energy use by residential, commercial, and industrial buildings and facilities represents a large source of community emissions. These emissions come from combustion of natural gas and from electricity generated from fossil fuels to heat water and power buildings. Small quantities of combusted propane and other fuels are also included. Additionally, a fraction of natural gas is lost during local distribution, releasing methane, a potent greenhouse gas pollutant.

Transportation energy, particularly on-road vehicle transportation of passengers and freight, also represents a large fraction of community emissions. Transportation emissions are generated at the tailpipe by combustion of gasoline, diesel, other liquid and gas fuels, or from electricity generation for electric vehicles.

Waste disposal in landfills and **wastewater** treatment produces methane, of which a fraction leaks out to the atmosphere, having a negative climate impact.

Industrial Process & Refrigerants Refrigerant emissions come from transportation and building cooling systems. Refrigerants are powerful global warming gases. Therefore, relatively small losses have a large climate impact. Known, significant industrial process emissions are also included here. These emissions are not from the energy used in a factory, for example, but from the other processes involved in manufacturing. In inventory protocol, this is referred to as Industrial Process and Product Use.

¹ Intergovernmental Panel on Climate (2014). Assessment Report 5 Synthesis Report: Climate Change 2014. <http://www.ipcc.ch/report/ar5/syr/>

² Mote, P.W., J. Abatzoglou, K.D. Dello, K. Hegewisch, and D.E. Rupp, 2019: Fourth Oregon Climate Assessment Report. Oregon Climate Change Research Institute. occri.net/ocar4.

Agriculture, Forestry, & Land Use generate emissions from agricultural activity (e.g., animal waste and agricultural inputs) and community land use change (e.g., development of forest or grasslands). *These emissions are not a significant factor for Tualatin.*

Consumption-based Emissions are generated outside of the community during the production of goods, food, fuels, and service products consumed by residents. Note: *Consumption-based emissions presented in this inventory are estimated (see Appendix D for more information) and therefore the results have a greater level of uncertainty compared to other sources of emissions.*

What's Included? (Boundaries & Methodology)

Protocol and Inventory Boundaries

This community inventory follows [Greenhouse Gas Protocol's](#) Global Protocol for Community-Scale Greenhouse Gas Emissions (GPC).³ The GPC focuses on accounting for sector-based emissions, which can be thought of as local sources of emissions. This inventory also includes an estimate of the emissions embodied in local consumption of consumer goods, construction materials, and food, to inform community climate action planning. Consumption of consumer goods is a large emissions source, but it is often excluded from inventories.

The first step in any GHG inventory is setting the inventory boundary. The boundary includes defining the geographic area, time span, emissions sources and gases covered in the inventory. The greenhouse gas inventory presented in this report is based on data from calendar year 2019 for the City of Tualatin's city limits. 2019 was used as the baseline year because it was the last "normal" year before the COVID-19 pandemic occurred. However, available data was collected for years 2018-2021 in order to assess trends over a short time period. This inventory considers all seven recognized greenhouse gases – carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆), and nitrogen trifluoride (NF₃). All gases are reported in terms of carbon dioxide equivalent (CO₂e), or the amount of carbon dioxide it would take to create the same warming effect.

Scopes

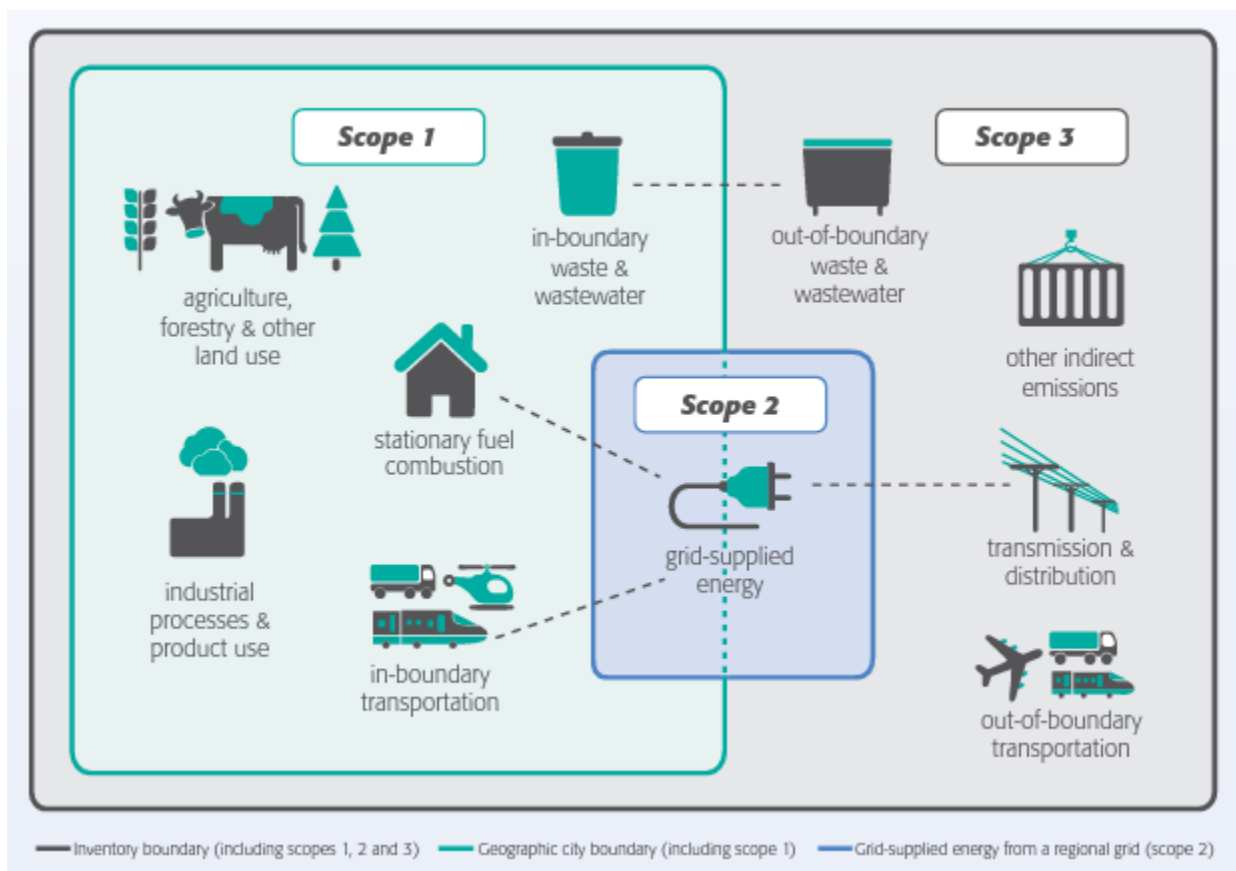
As described above, GHG emissions are often organized by sector (e.g., buildings, transportation, waste, etc.). Another way to organize them is by their origin location, either within a community or outside – these are referred to as *scopes*. Scope categories, as outlined in **Table 1** and **Figure 2** (next page) distinguish between those emissions that occur within the geographic boundaries (Scope 1) from those that occur outside the boundaries, but that are driven by activity from within the geographic boundary (Scope 2 and Scope 3). Emissions sectors and sub-sectors included in the GPC are shown in **Table 2** (page 9). These are compared to emissions included in the 2019 community inventory by scope category.

³ GPC has become the recommended or required standard for international reporting to CDP's Cities Survey and the Global Covenant of Mayors for Climate & Energy. The GPC may be downloaded at <https://ghgprotocol.org/greenhouse-gas-protocol-accounting-reporting-standard-cities>.

Table 1: Scope descriptions

Scope 1	GHG emissions from sources located within the geographic boundary.	E.g., Burning of fossil fuels to heat homes or power cars
Scope 2	GHG emissions occurring as a consequence of the use of grid-supplied electricity within the geographic boundary.	E.g., Emissions from coal and natural gas power plants
Scope 3	All other GHG emissions that occur outside the boundary as a result of activities taking places within the boundary.	E.g., Production of fuels, goods, and food

Figure 2: A graphical illustration of scopes⁴



⁴ Global Protocol for Community-Scale Greenhouse Gas Inventories



Table 2: Crosswalk of Emission and Scope Categories.

Emissions Sector / Sub-Sector	Included in Inventory	Scope 1	Scope 2	Scope 3
Stationary Energy (Buildings)				
Residential Buildings	•	✓	✓	
Commercial Buildings and Facilities	•	✓	✓	
Industrial Facilities	•	✓	✓	
Energy Generation Supplied to the Grid	NE			
Agriculture, Forestry, and Fishing	NO			
Fugitive Emissions from Natural Gas Systems	•	✓		
Fugitive Emissions from Coal Production	NO			
Transportation				
On-Road Passenger and Commercial Vehicles	•	✓	✓	✓
On-Road Freight Vehicles	•	✓		✓
On-Road Transit Vehicles	•	✓	✓	✓
Off-Road Vehicles and Equipment	•	✓		✓
Aviation	NO			
Waterborn Navigation	NE			
Waste & Wastewater				
Solid Waste	•			✓
Wastewater Treatment	•			✓
Biological Treatment of Waste	•			✓
Incineration of Waste	NO			
Industrial Process and Product Use				
Product Use (refrigerants)	•	✓		
Industrial Processes	•	✓		
Agriculture, Forestry, and Land Use				
Livestock	NO			
Land	NO			
Other Agriculture	NO			
Other Scope 3 Emissions Sources				
Household Consumption	•			✓
Air Travel	•			✓
Upstream Energy Production	•			✓
Negative Emissions (Sequestration & Offsets)				
Purchased carbon offsets	•	✓		
NE = Emissions occur but are not reported or estimated - see justification in exclusions NO = Activity or process does not occur within boundary				

Inventory Results

Local Emissions

The Tualatin community generated nearly **386,000 MT CO₂e** of local emissions – about **14.2 MT CO₂e** per resident. **This is less than the U.S. average of 15.2 MT CO₂e per person and considerably greater than global average of 4.5 MT CO₂e per person (Figure 3).**⁵ Protocols refer to local emissions as sector-based emissions. Those emissions are generated close to home and are most often under the community’s direct control. **This quantity of GHGs is equivalent to the carbon sequestered by over 457,000 acres of average U.S. forest⁶ - a land area about 85 times the size of Tualatin.**

Definition: MT CO₂e
 Metric Tons of carbon dioxide equivalent – a unit of measure. Most greenhouse gases are more potent in warming the atmosphere than carbon dioxide. To calculate and compare emissions easily, all gases are calculated and combined into a carbon dioxide equivalent, typically measured in metric tons.

Tualatin’s local emissions are shown on the left side of **Figure 4** and come primarily from Building Energy, such as electricity use and combustion of natural gas by buildings and other facilities (**blue segments**) and transportation sources, mainly gasoline and diesel combustion in vehicles (**green segment**). Emissions from Industrial Process & Refrigerants include federally reported special industrial emissions and

Figure 3: Comparison of per person emissions

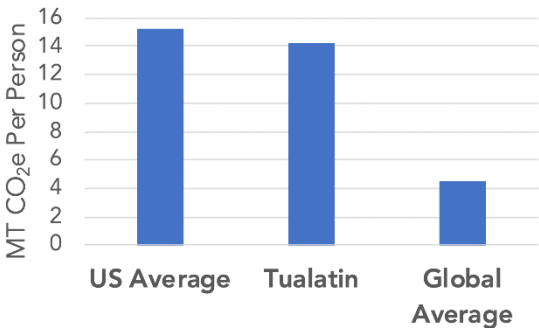
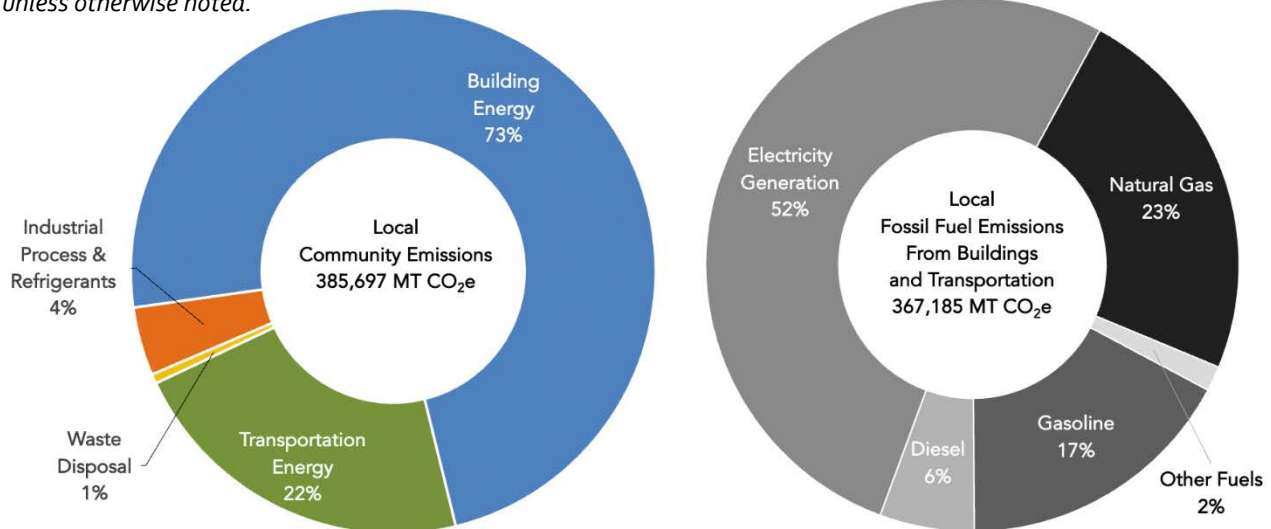


Figure 4: 2019 Local Community Emissions and Fossil Fuel Details, which come from building and transportation energy. *Note: All figures present market-based accounting for electricity emissions unless otherwise noted.*



⁵ Data from World Bank. For details visit <https://data.worldbank.org/indicator/EN.ATM.CO2E.PC>

⁶ US EPA GHG Equivalencies Calculator <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>

refrigerant gas loss from buildings and vehicles (orange). Waste emissions include landfill disposal of community solid waste and wastewater treatment (yellow). In Tualatin, there are no calculated emissions from Agriculture, Forestry, and Land Use. The right side of Error! Reference source not found. details fossil fuel use. Note that all emissions from buildings and transportation are from fossil fuels (95% of total); waste and industrial process and refrigerants are non-fossil fuel emissions. Although all building energy emissions are from fossil fuels, that does not mean that all building electricity is from fossil fuel sources. Electricity generated from zero carbon sources, such as hydropower, does not contribute to the city's emissions.

Imported Emissions

In addition to accounting for local emissions, the inventory also estimates imported (consumption-based) emissions, which are generated outside of Tualatin to produce and provide the imported goods, food, services, air travel, and production and transport of fuels consumed by local households. Imported emissions total about 290,000 MT CO₂e in addition to sources of local emissions. This quantity of GHGs is equivalent to the carbon sequestered by nearly 343,000 acres of average U.S. forest⁷, an area 3.7 times the size of the City of Portland. Figure 5 compares the scale of local, sector-based emissions to imported emissions from household consumption, while

Figure 5: 2019 Community Local + Imported Emissions

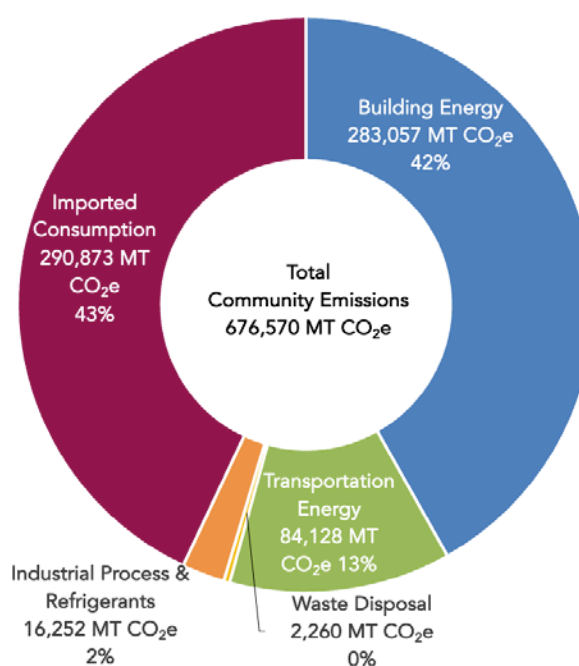


Figure 6 on the following page shows another comparison

Within goods, the largest purchasing categories include vehicles & parts, appliances, and construction materials. Within food, the largest emissions are from the production of meats, particularly beef and lamb products.

Upstream emissions from fuel production (gasoline, diesel, electricity, and natural gas) and air travel from flights taken by residents (regardless of airport location) are also significant sources of consumption-based emissions. For more details on these emissions, see Error! Reference source not found. and the related section on page 15.

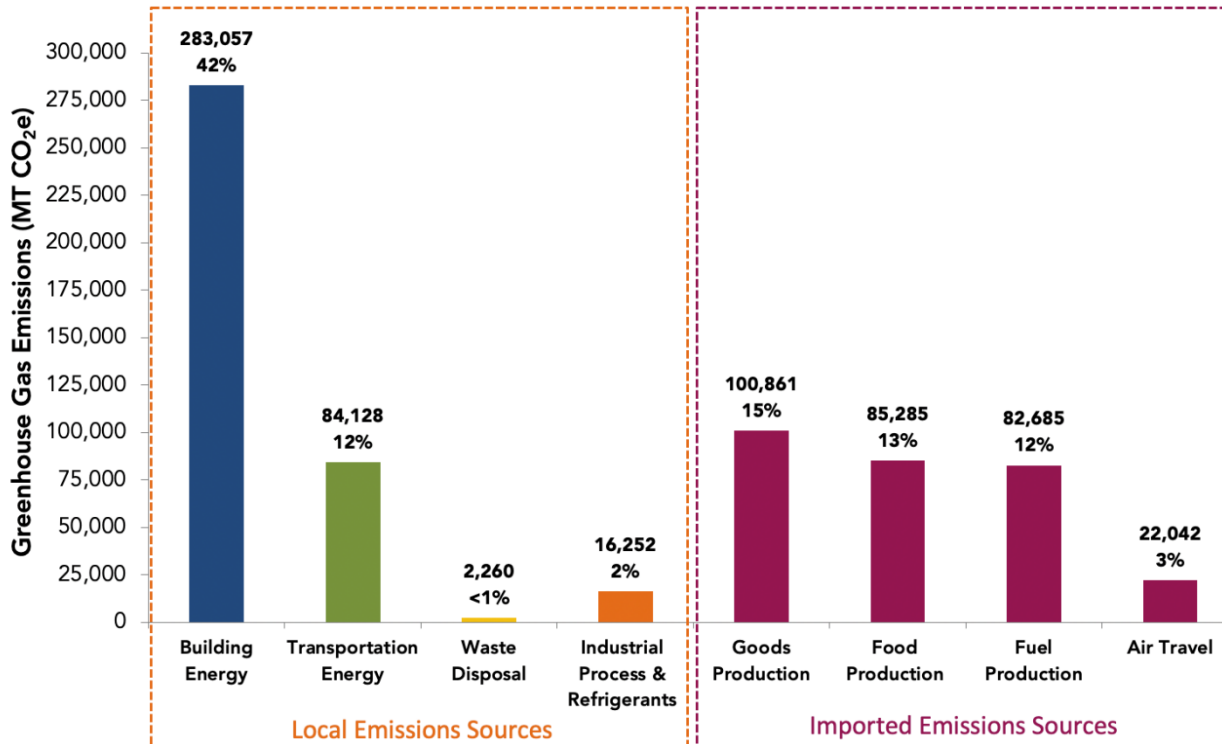
Total emissions

Local and imported emissions combine for a total nearly 677,000 MT CO₂e, or 25 MT CO₂e per resident. This quantity of GHGs is roughly equivalent to the carbon sequestered by 800

⁷ US EPA GHG Equivalencies Calculator <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>

thousand acres of average U.S. forest, an area roughly 4.4 times the size of Crater Lake National Park⁸. There are net **negative emissions** sources as well, from voluntary purchase of **carbon offsets** from Northwest Natural Gas customers (**over 640 MT CO₂e**). Note that the net benefit from Portland General Electric (PGE) customers' purchase of Renewable Energy Credits is already accounted for in the building energy sector (market-based accounting) and reduced emissions by **over 12,000 MT CO₂e**.

Figure 6: Tualatin's emissions sources and offsets



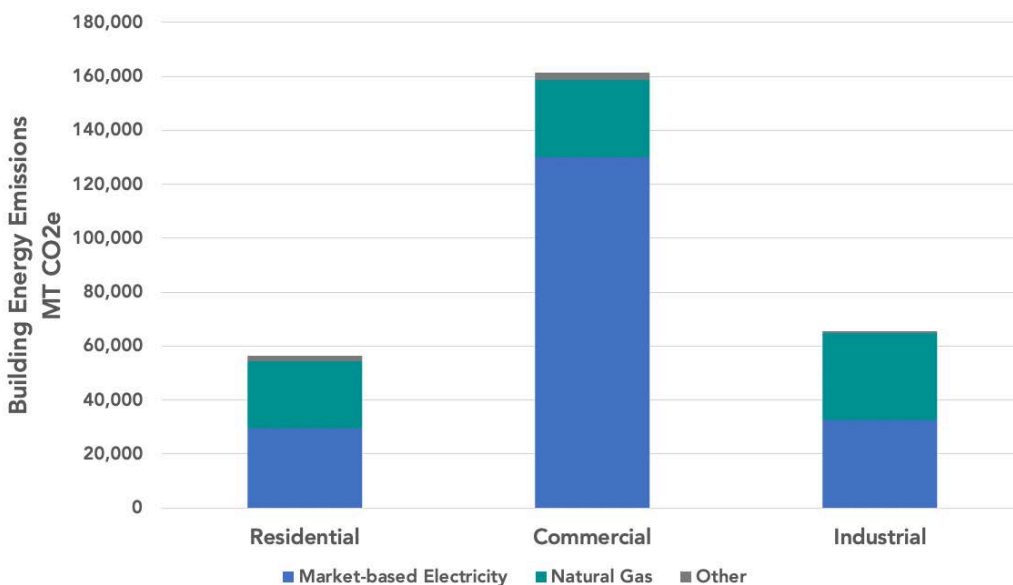
⁸ National Park Foundation <https://www.nationalparks.org/connect/explore-parks/crater-lake-national-park>

Inventory Highlights

Building Energy

Energy used in buildings is Tualatin’s largest source of local GHG emissions accounting for **73%** of local emissions. These emissions come from a mix of electricity, natural gas use, and other stationary combusted fuels and come to over **283,000 MT CO₂e**.⁹ See Appendix D: Summary of Data and Emissions Factors on page 31 for more information on building energy data sources and reporting accuracy. Tualatin’s commercial and industrial uses (**227,000 MT CO₂e**) have more than four times the impact of residential uses (**56,000 MT CO₂e**), over half from commercial electricity use. By energy type, electricity had the largest impact (68% of total building emissions); followed by natural gas (30%); and other fuels (2%). **Figure 7** shows emissions by sub-sector and energy type. Fugitive natural gas escaping from local distribution systems was reported by Northwest Natural and accounts for 0.3% of total building emissions (not visible in the graphic due to small scale). Emissions from electricity usage for wastewater processing are included in the Industrial category and make up 3.5% of those emissions.

Figure 7: Building Energy Usage by Type and Energy Source



The City of Tualatin has installed solar panels that generated nearly 12,000 kWh of electricity to supplement city usage. This solar energy displaced roughly 5 MT CO₂e.

Portland General Electric (PGE) supplies electricity to the Tualatin community. Each electric utility has its own specific emissions factor (MT CO₂e emitted per kilowatt-hour [kWh] of electricity) which is dependent on the utility’s power generation supply contracts. In 2019, PGE’s emissions factor was 0.42 MT CO₂e per megawatt-hour, a 17% decrease since 2010, meaning that the carbon intensity of electricity

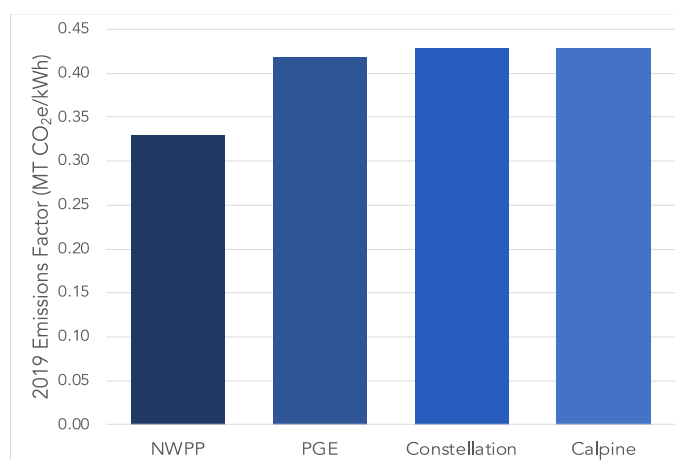
⁹ All emissions estimates use market-based accounting for electricity unless otherwise noted. Market-based electric accounting totals 283,057 MT CO₂e, while location-based accounting totals 249,866 MT CO₂e. See Appendix C page Electricity for information about market-based vs. location-based accounting.

generation decreased over time. The market-based electricity accounting method uses utility-specific factors and accounts for voluntary community participation in utility-sponsored green power programs.

In 2019, PGE’s residential and businesses customers in Tualatin purchased renewable energy in the form of Renewable Energy Credits (RECs) equal to about 6% of demand, which decreased market-based electricity accounting emissions by 12,015 MT CO₂e.

Large users may also choose to buy power from other utilities, which will have different emissions factors. In Tualatin, there are two outside utilities with contracts within the city, Calpine and Constellation energy. Figure 8 contrasts the emissions factors for the region (NWPP) with those for PGE, Constellation, and Calpine.

Figure 8: Electricity Emissions Factors

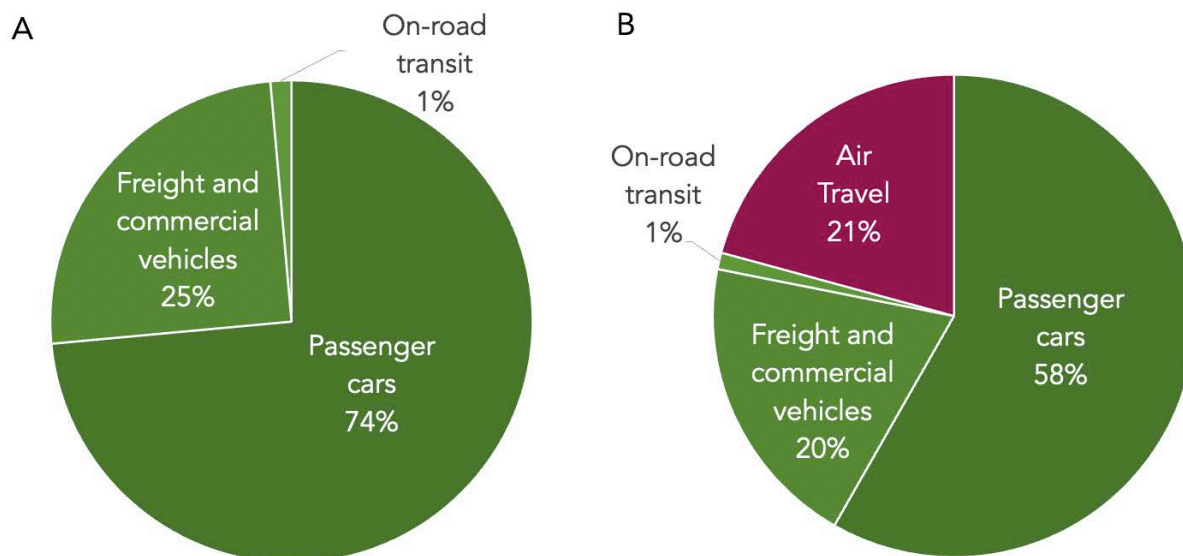


Transportation

Transportation emissions are the second largest source of local emissions for Tualatin, totaling over **84,000 MT CO₂e**. See Appendix D: Summary of Data and Emissions Factors on page 31 for more information on transportation emissions data sources and reporting accuracy. On-road passenger vehicles were the leading source of local transportation emissions and are responsible for **74%** of local transportation emissions. These emissions originate from fossil gasoline sales, primarily used by private use cars and trucks, but may include a small percentage of non-road uses such as small boats. This category also includes the small amount of electricity used by electric vehicles (<1%). The next largest category is fossil diesel sales, primarily used by freight and commercial vehicles at **25%**; the majority of these emissions are expected to be from on-road vehicles but may also include non-road equipment. Additionally, emissions from TriMet’s public transit services were estimated to be **1%**. There were no known offroad fuel sales, although some of the fuel sales probably went to offroad uses (such as gasoline powered lawnmowers). See **Figure 9**.

Tualatin does not have an airport within the geographic boundary so there are no local air travel emissions, but many residents do travel by airplane, and air travel is part of the community’s **consumption-based emissions**. As is shown in **Figure 9**, emissions from air travel (**magenta**) are a significant source of emissions in addition to local transportation emissions (**green**). Consumption-based air travel emissions are estimated at just over **22,000 MT CO₂e**. See Appendix D: Summary of Data and Emissions Factors on page 31 for more information on air travel data sources and reporting accuracy.

Figure 9: Transportation emissions breakdown. A: Tualatin’s transportation emissions excluding air travel, B: Tualatin’s transportation emissions including air travel

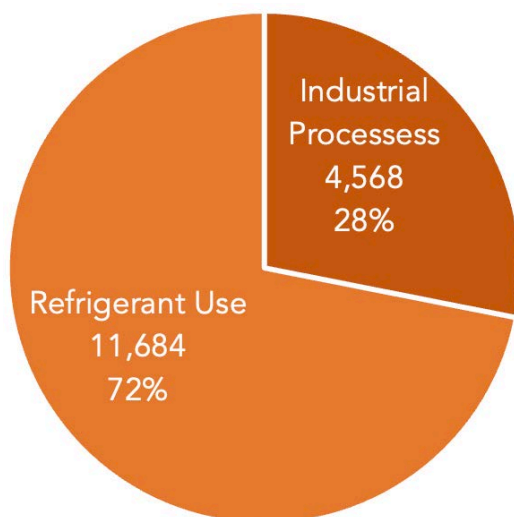


Industrial Process and Refrigerants

Industrial Process and Refrigerant (IPR) emissions are the third largest source of emissions. IPR emissions are fugitive emissions; unintentional emissions, leaks, or discharges of gases and vapors from pressurized equipment or facilities. They come from specialized industrial uses or refrigeration systems – CFCs, HFCs, PFCs, SF₆, and NF₃ – and have a large climate impact, up to 23,500 times the Global Warming Potential of an equivalent weight of CO₂ depending on the gas.

Fugitive loss of refrigerants from residential and commercial buildings and vehicle air conditioning and refrigeration equipment are the largest proportion of Tualatin’s IPR emissions. These sources are estimated for Tualatin using state per capita data, downscaling from emissions reported in the State of Oregon’s 2015 GHG Inventory, and are estimated at about **12,000 MT CO₂e**. Within the State of Oregon, sources of residential, commercial, and transportation refrigerant emissions (in DEQ’s inventory as High Global Warming Potential gases) have grown by 21% since 2009¹⁰.

Figure 10: IPR Emissions



Industrial process emissions (excluding energy use) were identified for one facility within Tualatin using the Oregon Department of Environmental Quality reported greenhouse gas emissions for facilities with

¹⁰ Oregon Greenhouse Gas Sector-Based Inventory <https://www.oregon.gov/deq/aq/programs/Pages/GHG-Inventory.aspx>

air quality permits¹¹. These emissions total close to 5,000 MT CO₂e¹² for 2019. See Appendix D on page 31 for more information on industrial process and refrigerants data sources and reporting accuracy.

Solid Waste & Wastewater

Solid Waste and Wastewater emissions total less than 2,500 MT CO₂e – less than 1% of local emissions. Tualatin haulers send landfilled waste to Arlington Landfill (Eastern Oregon), Wasco Landfill (Eastern Oregon), and Coffin Butte landfill (Western Oregon). These landfill emissions are estimated to total roughly 1,600 MT CO₂e.

Wastewater is processed by Clean Water Services and is included in the analysis. A negligible number of septic systems are located in the city. Total wastewater process emissions, not including septic, are estimated to total **about 675 MT CO₂e**. See Appendix D on page 31 for more information on data sources and reporting accuracy related to solid waste and wastewater treatment.

Imported Emissions

Emissions from Consumption of Imported Goods, Food, Fuel, and Air Travel

Tualatin's inventory goes beyond GPC protocol requirements to highlight the known large sources of **imported emissions** from consumption activities. These emissions are considered Other Scope 3 in GPC protocol. This means the community has less control over management of these emissions as compared to sources of local emissions. These consumption-based emissions will be in another community's local accounting. That said – these emissions are included in the inventory because they are large, they are caused by local demand, it follows State of Oregon inventory practices, and because opportunities exist to reduce these emissions locally by reducing consumption. These emissions were estimated at nearly 290,000 MT CO₂e and make up 43% of total emissions (**Figure 11**). See Appendix D on page 31 for more information on sources and reporting accuracy for imported emissions, including goods, food, services, and upstream fuel production.

¹¹ Available at <https://www.oregon.gov/deg/ag/programs/Pages/GHG-Emissions.aspx>

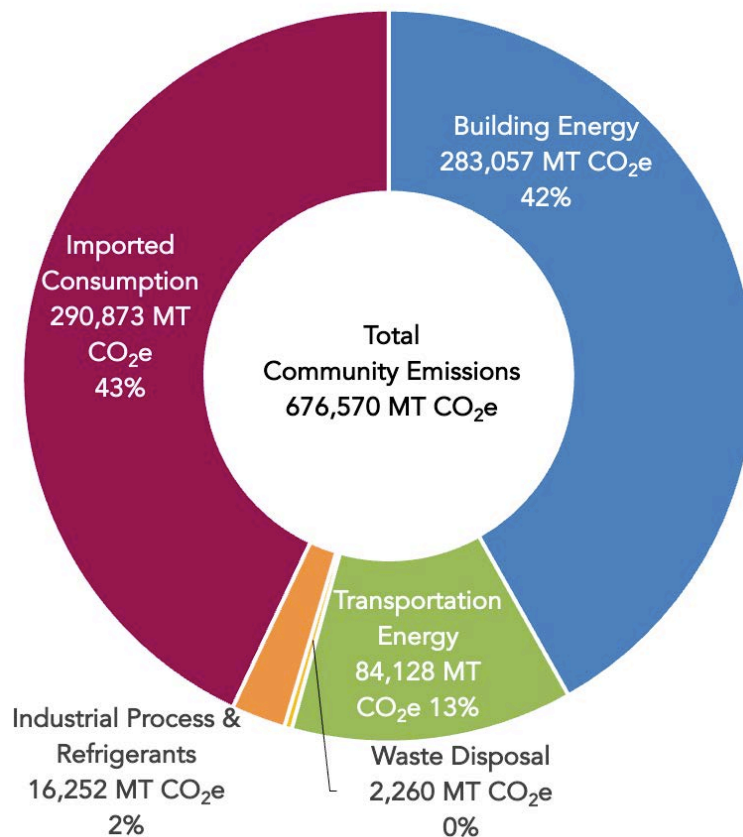
¹² These facilities are monitored by EPA's FLIGHT and/or Oregon DEQ due to the significant climate impacts. EPA's FLIGHT database values will vary from this analysis, as the online tool uses IPCC AR₄ GWP values, and this GHG Inventory uses updated IPCC AR₅ GWP values in line with the most recent science. Oregon DEQ also reports AR₄ GWP values, but individual gas data was not available to convert into AR₅ GWP value totals. Applicable Industrial Process emissions data for Microchip Technologies and ON Semiconductor was calculated from EPA FLIGHT. Applicable Industrial Process emissions data for Owens Corning Corp. was requested from Oregon DEQ. Building energy was excluded.

Consumption of imported **goods** is the largest source for Tualatin’s imported emissions at **35% of imported emissions**. The largest contributors to this category **include building materials, vehicle parts, and furnishings and supplies**Error! Reference source not found. . The next largest category is **food** and beverage, where largest emissions are from **meat**, specifically **beef and lamb** products. Upstream **fuel production**, specifically gasoline production, is another large source, which goes hand-in-hand with passenger transportation being a large local emissions source. **Air travel** is also a significant source of Tualatin consumption-based emissions. Note that these air travel emissions are from air travel trips taken by residents regardless of airport location and are not based on Portland airport fuel use alone.

Category Descriptions

- **Goods:** Emissions from extraction, manufacture, and transportation of raw materials into final products such as building materials, automobile, furniture, clothing, and other goods.
- **Food & Beverage:** Emissions from agriculture (energy for irrigation, production of fertilizers, methane emissions from livestock, etc.), transportation of raw materials, and finished products emissions. Categories include produce, cereals, dairy, meat, and other foods.

Figure 11: 2019 Community Local + Imported Emissions



- **Upstream Fuel Production:** Process and energy emissions from the extraction and production of usable fuel products (e.g., electricity from household outlets, gasoline pumped into cars, natural gas combusted by furnaces, etc.). These upstream emissions are considered at the



community-scale for electricity, natural gas, gasoline, and diesel (not available for propane and fuel oil). These emissions are separate from those that are generated when the fuel is used in your car or house.

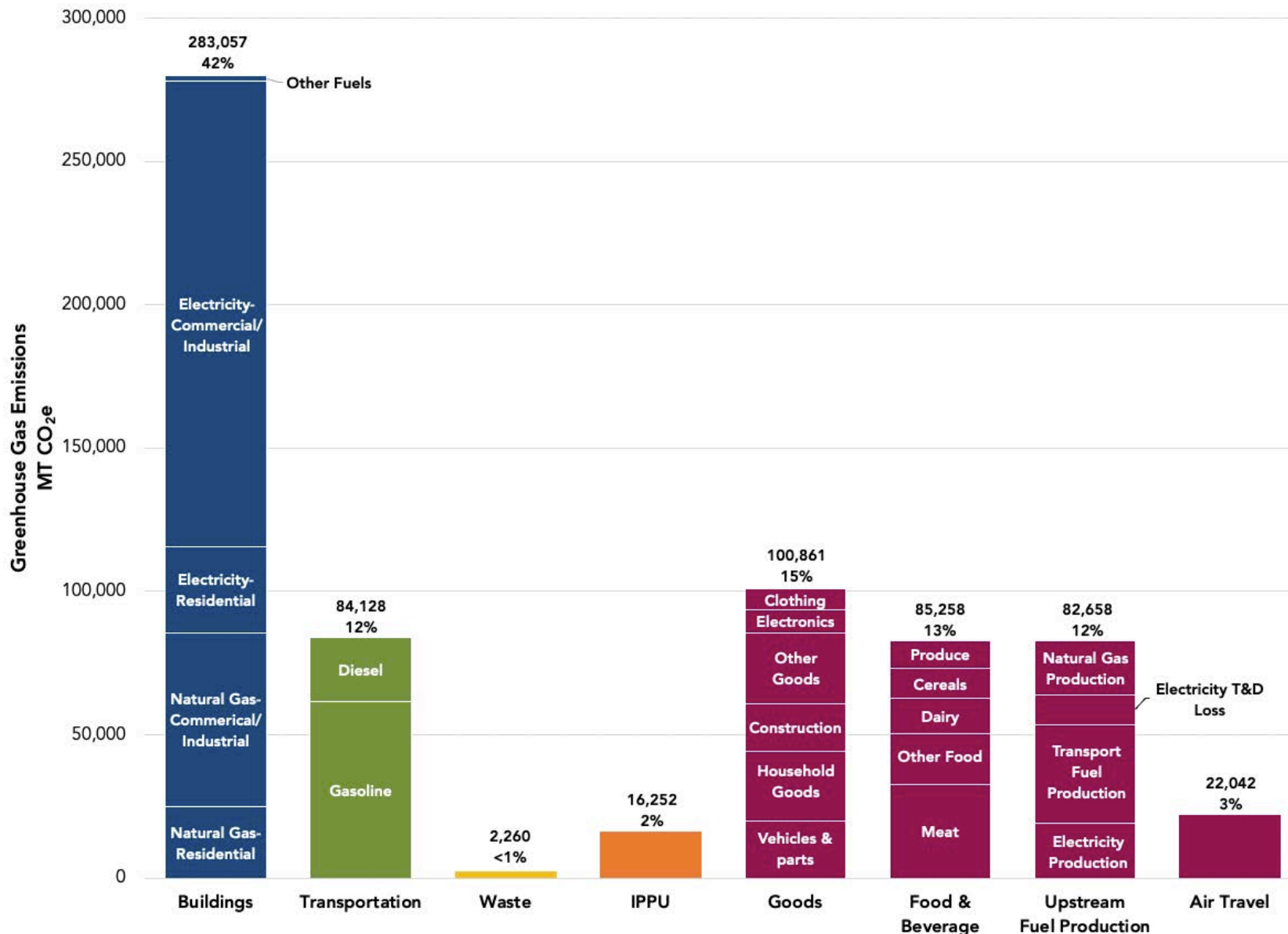
- **Air Travel:** Emissions associated with air travel by the community (regardless of the airport's location).

Figure 12 on the following page gives a full categorical breakdown of all emissions

Negative Emissions

Negative emissions are from carbon offsets purchased by natural gas consumers. Less than 1% of the natural gas used in Tualatin is offset by community members who participate in Northwest Natural's Smart Energy Offsets program (664 MT CO₂e). This program allows customers to purchase carbon offsets from The Climate Trust on their bill to offset emissions from their natural gas use. See Appendix D on page 31 for more information on carbon offset data sources and reporting accuracy.

Figure 12: Full breakdown of emissions categories

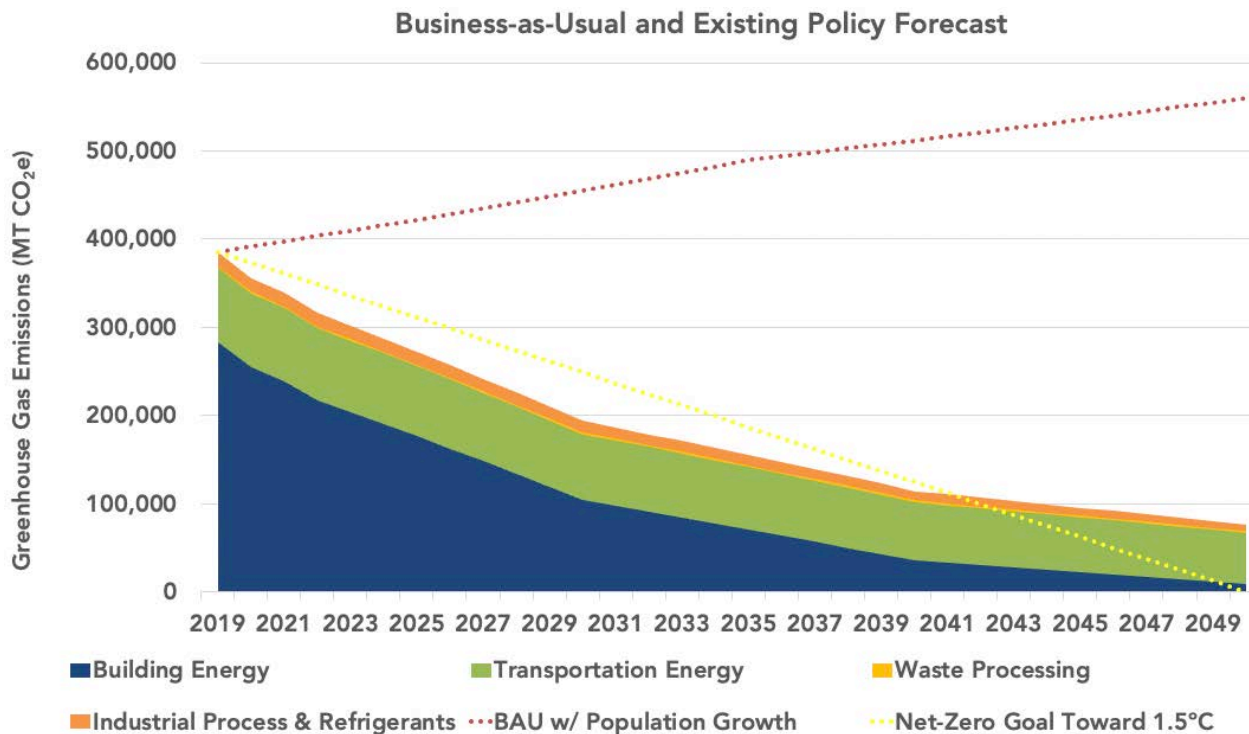


Local Emissions Forecast & the Paris Accord Climate Goal

Local emissions in Tualatin are expected to decrease over time, primarily thanks to strong climate action from the State of Oregon in the stationary energy sector. The Oregon Clean Energy Targets, Oregon Climate Protection Program, as well as specific data from PGE and Northwest Natural, were reviewed for modeling stationary energy emissions reductions and are expected to reduce emissions from electricity, natural gas, and other stationary fuels by 97% in 2050. Additionally, state and federal policy impacting transportation, refrigerants, and waste emissions are included here. **While emissions are estimated to decrease by 80% in 2050 compared to 2019 local emissions without additional mitigation actions, that is still not enough to hit our target of 100% GHG emissions mitigation to limit global warming to 1.5°C.**

Additional goals and actions beyond current projections and legislation will be modeled as part of the community Climate Action Plan to help meet our target. Figure 11 shows forecasted emissions by sector (colored wedges) are compared to forecasted growth based on population growth only (dotted red line) and the Paris Accord 1.5°C warming goal of net-zero emissions by 2050 (yellow dotted line).

Figure 13: Tualatin's Business-as-Usual Forecast (red, population growth with no policy interventions) with Forecasted Emissions Based on Existing State and Federal Policy, and a Net-Zero by 2050 Trajectory (yellow dotted line)



Thanks to the existing state and federal policies impacting GHG emissions, Tualatin can expect a reduction of 80% of local emissions in 2050 compared to 2019, with only about 77,000 MT CO₂e remaining, primarily from the transportation sector. For Tualatin, this is primarily from E10 gasoline sales. While policy can be difficult to detail and implement, there are approaches available to reducing



transportation GHG emissions. *More details on community climate action planning and mitigation will be detailed in the upcoming community Climate Action Plan.*

Note that imported emissions are not included in this forecast. Primarily, this is because changes in imported emissions are very challenging to track, and data is limited. Additionally, policy options are limited as the sources of emissions are local to other communities. Local emissions are more commonly used for community goal setting.

Appendix A: More Detailed Data

Table 3: Detailed Emissions Breakdown

Emissions Sector / Sub-Sector All emissions reported in MT CO ₂ e	2019 Emissions		Per capita	
	Market-based*	Location-based	Market-based	Location-based
Stationary Energy	283,057	249,862	0.7	0.7
Residential Buildings				
Electricity	29,490	32,118	0.1	0.1
Natural Gas	24,721		0.1	
Other Fuels	2,009		0.01	
Commercial Buildings and Industrial Facilities				
Electricity	161,311	125,730	0.4	0.3
Natural Gas	60,935		0.2	
Other Fuels	2,757		0.01	
Fugitive Emissions from Natural Gas Systems	726		0.0	
Wastewater Treatment Energy	1,108	865	0.0	0.0
Transportation	84,128	84,074	0.2	0.2
Gasoline	61,629		0.2	
Diesel	21,068		0.1	
On-Road Transit Vehicles	1,180		0.0	
Electric Vehicles	251	196	0.0	
Waste	2,917		0.01	
Solid Waste Landfill and Compost	2,242		0.01	
Wastewater Treatment & Septic Systems	675		0.00	
Industrial Process and Product Use	16,252		0.04	
Refrigerants	11,684		0.03	
Industrial Process	4,568		0.01	
Consumption-based & Upstream Emissions	290,873	285,248	0.8	0.8
Household Consumption				
Goods	100,861		0.3	
Food	85,285		0.2	
Upstream Energy Production	82,685	77,059	0.2	0.2
Air Travel	22,042		0.1	
Negative Emissions (Sequestration & Offsets)	-677		0.0	
Purchased Offsets	-677		0.0	
Local Emissions	386,355	353,104	1.0	0.9
Local + Consumption	677,228	638,352	1.8	1.7

*For an explanation of market vs location-based accounting see Appendix C: Electricity.

Table 4: Available data over multiple years

Available Emissions Data by Sector (MT CO ₂ e / year)	2018	2019	2020	2021
Building Energy				
Electricity (Market-Based)	No Data	191,909	169,193	153,445
Natural Gas	81,314	85,655	80,702	74,402
Other Fuels *	4,942	4,767	4,587	4,587
Transportation				
Gasoline (E10)	66,886	62,809	63,002	82,319
Diesel (B5)	18,533	21,068	21,725	27,382
Electric Vehicles (Market-Based)	153	251	331	607
Waste				
Landfilled Solid Waste	849	2,242	1,098	1,418
Wastewater Treatment Process	742	675	683	695
Process & Fugitive Emissions				
Refrigerant Loss **	11,684	11,684	11,684	11,684
Manufacturing	7,366	4,568	5,003	No Data
Fugitive Natural Gas	689	726	684	631

* Last available data is from 2019, used as proxy for 2020 and 2021 with population adjustments.

** Data estimated from statewide averages and scaled down for population.

Appendix B: Glossary of Terms

GHG

Short for greenhouse gases. Emission of greenhouse gases are the cause of current climate change. An inventory of GHGs measures gases in units of carbon dioxide equivalents (CO₂e). A GHG inventory is also known as a carbon footprint.

GHGP/GPC/Protocol

This type of inventory follows a set protocol, the GHG Protocol (GHGP) standard for cities and communities known as Global Protocol for Community-Scale Greenhouse Gas Emission Inventories (GPC). This protocol determines what is included within a set boundary and categorizes emissions by sector. See Sector-based inventory for more information.

GWP

Short for global warming potential. This refers to the potency of emissions to trap heat in the atmosphere. Carbon dioxide has a GWP of 1, and other GHG gases are more potent and expressed as a multiple of carbon dioxide. For example, methane has a GWP of 28, meaning one molecule has 28 times the effect of one molecule of carbon dioxide (IPCC AR5 values).

Imported, Consumption-based Emissions (Other Scope 3)

Emissions from consumption of imported goods and services, also known as Other Scope 3 Emissions per GPC protocol, include emissions from upstream fuel production and household consumption, such as food, household goods, and air travel.

IPCC AR5

The United Nations Intergovernmental Panel on Climate Change (IPCC) releases Assessment Reports every six to seven years providing an overview of the state of knowledge concerning climate change science. The fifth report, AR5, is the most recent version released in 2014. The 6th assessment is due to be released shortly after the production of the report.

KWh

Short for kilowatt hour. Kilowatt hours are a standard unit for electricity consumption, and a measure of electrical energy equivalent to a power consumption of 1,000 watts for 1 hour. For example, a 50-inch LED TV uses about 0.016 kWh per hour. It would take roughly 62.5 hours for this TV to use 1 kWh of energy¹³.

Sector-based Greenhouse Gas Inventory (Local Emissions)

This refers to preparing an inventory that is broken down by various sectors of the community that have common GHG characteristics. In this report, sector-based emissions are also known as **local emissions**. This type of inventory follows a set protocol (GPC) determining what is included in each sector. Mainly,

¹³ Electricity Plans: <https://electricityplans.com/kwh-kilowatt-hour-can-power/#:~:text=Here%20are%20some%20of%20the,around%202.3%20kWh%20per%20hour>

sector-based emissions include emissions from building energy and vehicles along with local sources of GHGs from waste, uncontrolled loss of industrial and refrigerant gases, and agriculture. Note that emissions from household consumption of goods and services are not included in sector-based inventories. Standard sectors include:

- **Building Energy:** emissions from energy used or produced in a fixed location, e.g., electricity, natural gas, propane, and fuel oil. The GPC term is stationary energy.
- **Transportation:** emissions from vehicles and mobile equipment.
- **Waste:** landfilled waste emissions and wastewater treatment emissions.
- **Process Emissions & Product Use:** refrigerants and other fugitive gases from industrial processes.
- **Agriculture, Forestry & Land Use:** emissions from agriculture (e.g., animal waste and agricultural inputs) and community land use change (e.g., development of forest or grasslands).

Location-based Electricity Emissions Accounting

Refers to GHG intensity of the regional electricity grid, representing the average impacts of electricity use and efficiency efforts across the region. Contrast with Market-based Electricity Emissions Accounting.

Market-based Electricity Emissions Accounting

Refers to the GHG intensity of electricity contracts with local utilities. Contrast with Location-based Electricity Emissions Accounting.

MT

Short for Metric Ton (~2,200 lbs.). This is a common unit by international standards.

MT CO₂e

Metric Tons of carbon dioxide equivalent – a unit of measure. Most greenhouse gases are more potent in warming the atmosphere than carbon dioxide. To calculate and compare emissions easily, all gases are calculated and combined into a carbon dioxide equivalent, typically measured in metric tons.

Scope (as in Scope 1, Scope 2, Scope 3)

Scopes are one method to define the source of emissions. Scope categories distinguish between emissions that occur within a geographic boundary (scope 1), from electricity generation serving the community (scope 2), and emissions that occur outside the boundary, but that are driven by activity within the boundary (scope 3).

Therm

Common reporting unit of natural gas that represents 100,000 British thermal units. A therm is roughly equivalent to 100 cubic feet of natural gas.



Appendix C: Methodology & Protocols

Protocols and Tools

This inventory follows [Global Protocol for Community-Scale Greenhouse Gas Emissions](#) Inventories by Greenhouse Gas Protocol (GHGP). This inventory also follows GHGP’s [Scope 2 Guidance](#) for location-based and market-based electricity accounting emissions and ICLEI’s [US Community Protocol](#) for guidance on calculation of consumption-based emissions (i.e., other Scope 3 as defined by GPC protocol).

Good Company’s carbon calculator tool *G3C – Community* was used for emissions calculations. Emissions are documented in the Inventory Audit Trail. G3C – Community is an Excel-based calculator that documents all activity data; emissions factors; and emissions calculations used in the inventory. The audit trail catalogs all data, calculation, and resource files used to complete the inventory. These resources are highly detailed and will allow for those conducting future inventories to fully understand and replicate the methods used in this inventory.

GHG emissions presented in this report are represented in metric tons of carbon dioxide equivalent (MT CO₂e). The gases considered in the analysis are consistent with protocol and include carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), Chlorofluorocarbons (CFCs), and perfluorocarbons (PFCs) per the Kyoto Protocol (Sulfur Hexafluoride, SF₆, was not applicable). All GHG calculations use 100-year global warming potentials (GWP) as defined in the International Panel on Climate Change’s 5th Assessment Report (IPCC AR5).

Data Collection

Good Company worked with Tualatin’s staff to collect the data required to calculate emissions. Tualatin’s staff, along with other local and regional government staff and private entities that serve the community, graciously provided time, data, and expertise. Data and emissions factors are described in Appendix D: Summary of Data and Emissions Factors.

Inventory Exclusions

Table 5: Summary of Inventory Exclusions

NE = Emissions occur but are not reported or estimated IE = Included Elsewhere as part of another data set where a split is not available NO = Activity or process does not occur within boundary		
Emissions Sector / Sub-Sector	Key	Justification for Exclusion
Building energy: Potable Water Treatment and Delivery Energy	IE/NE	Tualatin is served mainly from the City of Portland through the Bull Run and groundwater systems. This water is gravity fed, and any additional local pumping is included in building energy. Treatment energy is not included because it occurs outside the city boundary.
Building energy: Energy Generation Supplied to the Grid	NO	No significant activity identified within Tualatin’s geographic boundary. Some local community solar is likely but expected to be insignificant, with the exception of the solar generation by the city mentioned in the report.
Building energy: Agriculture, Forestry, and Fishing	NO	No activity identified within Tualatin’s geographic boundary.



Building energy: Fugitive emissions from Coal Production	NO	No activity identified within Tualatin’s geographic boundary.
Transportation: Rail	NE/E	A short strip of freight rail track is located inside Tualatin. The emissions associated with this are expected to be insignificant and because there are no freight stops within the community, this can be excluded by protocol. A short section of TriMet light rail is located inside Tualatin. The community’s share of transit emissions, including the WES rail, are included in on-road transit emissions.
Transportation: Aviation	NO	Aviation emissions within the GPC are specific to air travel that is confined to the Community’s geographic boundary; no such activity identified within Tualatin’s geographic boundary. That said – the community’s air travel emissions for flights that extend beyond the community’s boundaries are estimated and included as an Other Scope 3 emissions source. These emissions represent an estimate of air travel emissions by community residents for transboundary trips outside of the community’s geographic boundary.
Transportation: Waterborne navigation	NO	There are no marinas along the Tualatin River where it borders the city. Any fuel use for small craft (such as fishing boats) is expected to be insignificant and likely to be included in transportation fuel sales.
Agriculture, Forestry, and Land Use	NO/NE	No livestock activity or industrial-scale agriculture activity identified within Tualatin’s geographic boundary. Land Use change emissions from development is not expected to be significant, but data was not available.

Electricity

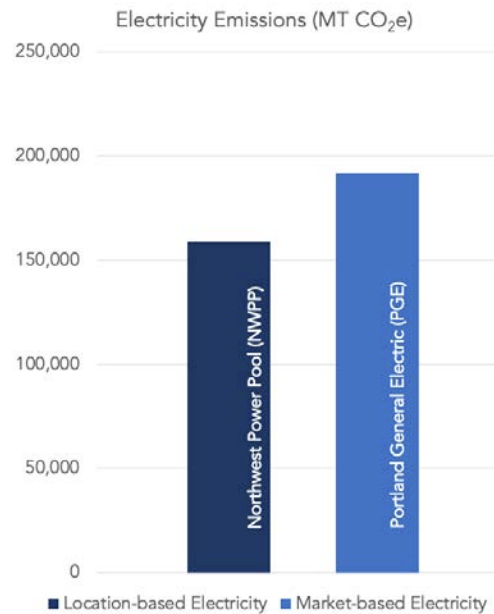
Activity data was collected from Portland General Electric (PGE). Data was collected directly from the utility, including percentage of RECs purchased. A split for commercial and industrial uses was not available.

The Community Inventory Protocol (GPC) requires that communities report electricity emissions using two accounting methods: location-based and market-based.¹⁴ **Market-based accounting** is based on the GHG intensity of electricity contracts with local utilities and is used in most of the figures presented in this report as the GPC protocols recommended methodology to track progress towards goals over time. **Location-based electricity accounting emissions** are calculated using the regional electricity grid’s (Northwest Power Pool, NWPP) GHG intensity and represent the average impacts of electricity use and efficiency efforts.

¹⁴ For details visit http://www.ghgprotocol.org/scope_2_guidance.

- Location-based method** (or regional grid) multiplies an organization’s electricity use by the average emissions intensity of a specific regional electricity grid that is published by the Environmental Protection Agency (eGRID 2019). Note that over time there may be differences in emissions results for inventory years due to the use of an updated eGRID emissions factor (typically released every 1-2 years). Location-based electricity accounting offers a means of assessing the average impacts of electricity use on the regional electricity grid.
- Market-based method** (or utility-specific) represents emissions specific to the utility and takes into account community purchase of renewable energy certificates. Market-based electricity accounting is commonly used for target and goal tracking and is useful to assess and manage GHGs associated with electricity generation and supply. It also highlights benefits for energy efficiency actions, particularly in communities served by utilities with very low GHG electricity. That is, the less electricity used in the community, the more low-GHG electricity there is available for export to communities with more GHG intensive electricity sources.

Figure 14: Electricity emissions using both accounting methods



Appendix D: Summary of Data and Emissions Factors

Emissions Category	Category Description
Building Energy (Stationary Energy in GPC Protocol)	
Residential Energy	<i>These categories include direct emissions from natural gas, fuel oil, and propane combustion by the residential, commercial, and industrial sub-sectors within the geographic boundary. Also includes the emissions from grid electricity used by the same sub-sectors for the same geographic boundary.</i>
Commercial Energy	
Industrial Energy	
<p>Electricity and natural gas data provided by Portland General Electric, Northwest Natural Gas, Calpine, and Constellation Energy. Electricity and gas data included information on retail sales and participation in renewable electricity and carbon offset programs. Residential and commercial fuel oil and propane use was estimated using state-level per capita 2019 fuel usage data downscaled by Tualatin's 2019 population. Emissions factors for natural gas, fuel oil, and propane are from U.S. EPA's emissions factors hub and The Climate Registry's 2018 Default Emissions Factors and are considered highly accurate. Location-based electricity emissions factors are taken from EPA eGRID 2019 data for the Northwest Power Pool (NWPP) sub-region. Market-based electricity accounting emissions factors for electric utilities are taken from Oregon Department of Environmental Quality's report titled, <i>2010 – 2019 Greenhouse Gas Emissions from Electricity Use</i>. Available online at https://www.oregon.gov/deq/air/programs/Pages/GHG-Emissions.aspx. Utility data is considered highly accurate; non-utility data (e.g., fuel oil and propane) is considered to have medium accuracy.</p>	
Fugitive Natural Gas System Emissions	<i>Fugitive loss of natural gas from the local product distribution system.</i>
<p>Northwest Natural Gas reported a 0.12% system leakage rate. Note that the NWN reported rate is less than half of the protocol default proxy value of 0.3%. This data is considered highly accurate.</p>	
Transportation	
On-Road Energy	<i>Direct emissions from gasoline and diesel for passenger & freight transportation.</i>
<p>Fuel sales data for gasoline, diesel, propane, and compressed natural gas (CNG) was provided by the ODOT Fuels Tax Group. It quantifies the total volume of fuel sold within city borders. This data is considered highly accurate. This is following the Fuel sales methodology from the GPC. It has the advantage of being inexpensive to collect and easy to compare across years.</p>	
Transit	<i>Direct emissions from gasoline and diesel (on-road) and electricity (light rail) for passenger transit transportation.</i>
<p>Emissions data was collected from TriMet Transit District's Operational GHG inventory. These emissions were estimated and downscaled by Tualatin's population to TriMet's service territory. Data</p>	



received from TriMet is considered highly accurate; however, the estimate based on population is considered moderately accurate.	
Rail - Passenger & Freight	<i>Direct emissions from gasoline and diesel for passenger and freight transportation within the geographic boundary.</i>
<p>WES emissions are included in transit emissions. No Amtrak or other passenger rail activity occurring in the boundary.</p> <p>A short strip of freight rail track is located inside Tualatin. Data was not available, and emissions are expected to be insignificant. Furthermore, most transportation emissions are based on fuel sale data, of which no fuel is sold for rail uses.</p>	
Off-Road	<i>Direct emissions from gasoline and diesel for off-road vehicles such as construction equipment, etc.</i>
Fuel sales data for dyed diesel and biodiesel was provided by the ODOT Fuels Tax Group. This data is considered highly accurate, although there were no reported dyed fuel sales in 2019.	
Waste	
Landfill Solid Waste	<i>Fugitive methane emissions from mixed solid waste generated in the community regardless of disposal location.</i>
Tualatin has multiple destination landfills. For waste landfilled at Coffin Butte, Wasco, and Arlington landfills, EPA reported 2019 emissions were downscaled based on reported short tons from Tualatin customers. This methodology follows IPCC's first order decay model and is designated by EPA as EE-6 calculations. This activity data is considered highly accurate.	
Wastewater Treatment Process Emissions	<i>Fugitive nitrous oxide emissions from discharge of treated effluent (wastewater).</i>
<p>Wastewater treatment plant process emissions for biogas combustion and effluent discharge are calculated using data provided by Clean Water Services staff. For biogas combustion data included square cubic feet per day of biogas and the percent methane in the biogas.</p> <p>For Nitrogen effluent discharge, data was not available and was estimated using ICLEI U.S. Community GHG Protocol methodology and service population. Emissions calculations for nitrification / denitrification are based on service population.</p> <p>This activity data is considered medium-to-highly accurate.</p>	
Septic Systems	<i>Direct emissions from the combustion of biosolids (wastewater).</i>
Septic fugitive emissions were not estimated for this report and are expected to be minimal.	
Industrial Process & Refrigerants (Industrial Process & Product Use in GPC protocol)	



Refrigerants (Product Use in GPC protocol)	<i>Fugitive loss of refrigerants and other high GWP gases from building and vehicle air conditioning systems.</i>
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Fugitive refrigerant loss and other non-industrial high GWP gas emissions are estimated using Oregon state-level data attributed to the community on a per capita basis. Activity data for state-level fugitive emissions from refrigerants, aerosols, and fire suppression systems is reported in the Oregon Department of Environmental Quality’s (ODEQ’s) Oregon Greenhouse Gas Inventory (as High Global Warming Potential [HGWP] sources) in quantities of CO₂e. Data used is from Oregon’s GHG inventory includes HGWPs for the residential & commercial and transportation sub-sector (industrial emissions calculated separately, see Industrial Processes below). High GWP gas emissions are estimated from State of Oregon totals and therefore are considered as having mid-level accuracy.

Industrial Processes	<i>Fugitive loss of industrial high GWP gases from industrial processes. Stationary building emissions (fuel combustion, etc.) are not included and are part of Building Emissions.</i>
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Three applicable facilities inside the boundary were identified by the EPA FLIGHT tool and/or Oregon DEQ’s air quality monitoring reports. These industrial facilities are required to report significant air quality and/or climate emissions. Only one of these had non-energy emissions.

EPA reports include specific gases and quantities with clear separation of building energy emissions. Pre-calculated values used IPCC AR₄ GWP values and were re-calculated to reflect more accurate IPCC AR₅ GWP values. Building energy emissions were excluded to avoid double counting.

Oregon DEQ reports total emissions in CO₂e and do not list specific high GWP gases or quantities, nor a split between Industrial Process and building energy emissions. Oregon DEQ was contacted with a request for an Industrial Process split which was provided. Emissions were reported using AR₄ GWP values and were not possible to re-calculate using AR₅ values. Other DEQ reported facilities either emitted biogenic emissions or 100% building energy emissions and were not included.

This data is considered highly accurate.

Imported Emissions

Goods	<i>Upstream energy and process emissions raw material extraction, manufacturing, and out-of-state transportation of goods.</i>
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Food	<i>Upstream energy and process emissions from the growing, processing and transportation of foods.</i>
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Services	<i>Upstream energy emissions from air travel by community members from all airports regardless of location.</i>
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Accurate data on quantities and suppliers for the goods and food consumed by community households is not readily available. Therefore, the State of Oregon’s 2015 consumption-based emissions inventory (CBEI) was used to estimate these sources of emissions. State of Oregon CBEI results were downscaled for Tualatin using US Census Bureau data on households’ income and number of households within various income brackets. Note that ODEQ conducts the Oregon CBEI every 5 years and therefore this



<p>methodology may not be used to estimate emissions on an annual basis. Emissions estimates were therefore adjusted for inflation and nationwide trends in spending between 2015 and 2019. Spending trends were taken from the Bureau of Labor Statistics.</p> <p>Air travel is based on U.S. Census Data and Oregon’s version of the UC Berkeley Household Cool Climate Calculator. Given the inventory year and that data is estimated from a large and complicated economic model, this activity data is considered as having mid-to-low accuracy.</p>	
<p>Upstream Fuel Production</p>	<p><i>Upstream energy and process emission from the production and distribution of natural gas, gasoline, diesel, and electricity consumed either directly or indirectly by the Community.</i></p>
<p>Data for gasoline, diesel, natural gas, and electricity use is same as previously described. Lifecycle emissions factors for the various fuel types are provided by Oregon Department of Environmental Quality’s Clean Fuels program carbon intensity scores. Upstream fuel and energy emissions are calculated as the difference between direct tailpipe emissions (reported under Transportation) and total lifecycle emissions. Activity data for electricity and natural gas is considered highly accurate while transportation fuel use is considered moderately accurate because the precise feedstocks for biofuels sold within the community is not readily available. Upstream emissions can vary significantly for biofuels depending on feedstocks and therefore calculated emissions are considered moderately accurate. Upstream emissions factors are for regulatory purposes and are therefore considered highly accurate.</p>	
<p>Negative Emissions</p>	
<p>Purchased Carbon Offsets</p>	<p><i>Community purchase of verified carbon offsets.</i></p>
<p>Carbon offsets purchased by Northwest Natural Gas account holders’ participation in NWN’s Clear Energy program were provided by the utility as therm-equivalents and MT CO₂e. This activity data is considered highly accurate.</p>	



City of Tualatin

CITY OF TUALATIN
Staff Report

TO: Honorable Mayor and Members of the City Council

THROUGH: Sherilyn Lombos, City Manager

FROM: Ross Hoover, Parks and Recreation Director
Rich Mueller, Parks Planning and Development Manager

DATE: September 12, 2022

SUBJECT:
Basalt Creek Park Property Maintenance and Operations Agreement

EXECUTIVE SUMMARY:

At the August 22 meeting, City Council authorized the purchase of parkland in the Basalt Creek area to serve the expanding community as residential units and employment are developed. Staff will present information regarding an agreement for the maintenance and operations of the Basalt Creek parkland that is being purchased. This agreement is used in parkland with building structures in order to reduce City costs, provide security/safety and maintain the property in “as is” condition to preserve the useful property value.

ATTACHMENTS:

Presentation

MAINTENANCE & OPERATIONS AGREEMENT



September 12, 2022

SW Helenius Rd

SW Norwood Rd

Horizon High School



Tapman Creek

141

SW Greenhill Ln

Pacific Hwy

SW Boomes Ferry Rd

SW Grahams Ferry Rd

W Clay St



PURPOSE

- Maintain in "as is" condition to preserve useful value of the property (land & structures).
- Reduce costs for City to maintain and repair.
- Consistent with 2022 Joint Intergovernmental Agreement (IGA) between the City of Tualatin & Metro.



PROVIDER

- Who: Current owners
- Why: Maintain land & keep structures in operational condition
- Term: One year with one year renewal
- Benefit: Reduce costs / property security & safety
- Property: 7.69 acres
- Structures: Approx. 5,000 square feet



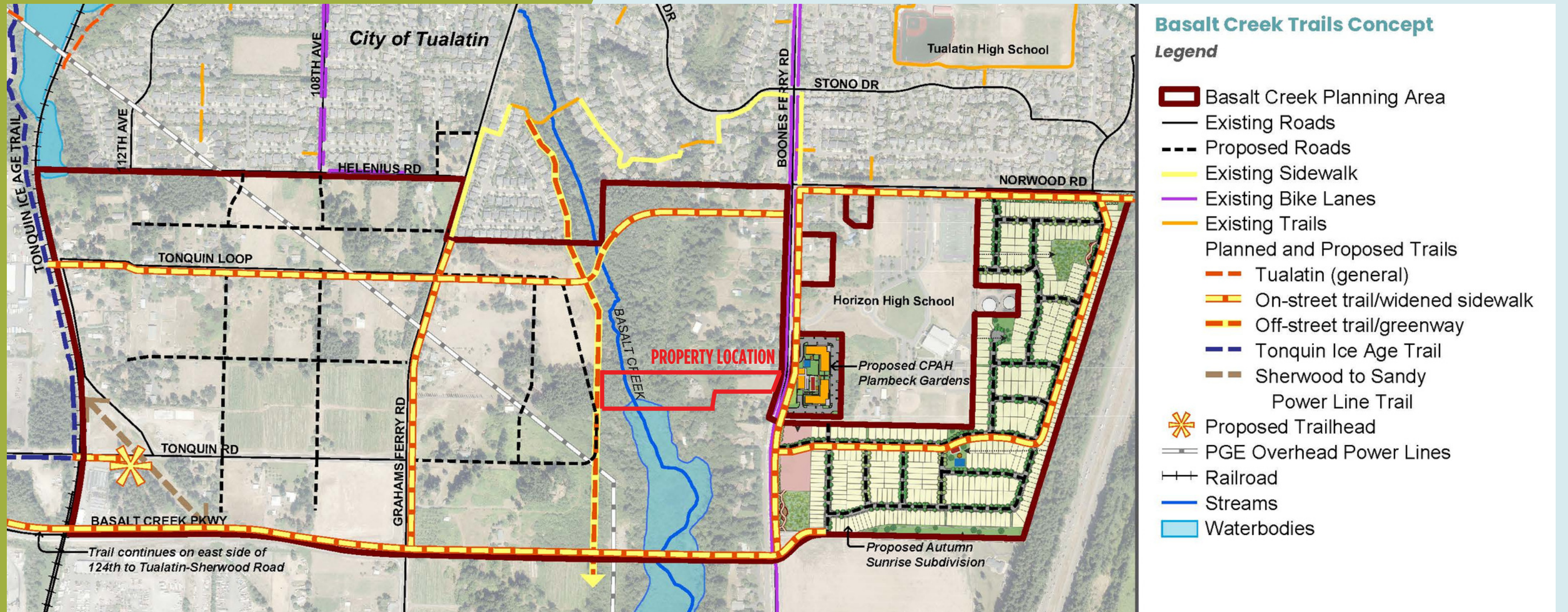
PUBLIC BENEFIT - PROVIDER RESPONSIBILITIES

- Property maintenance
- Parkland Caretaker
- Insurance
- Repairs
- Upkeep
- Safety
- Security
- Landscape & natural area
- Building systems & appliances

NEXT STEPS

- Implement maintenance agreement
- Complete property transaction & close escrow

- Park site planning with future & current community members
- Park design & construction



QUESTIONS & DISCUSSION



Proclamation

Declaring the Month of September 2022 as Emergency Preparedness Month in the City of Tualatin

WHEREAS National Preparedness Month is a nationwide coordinated effort sponsored by the U.S. Department of Homeland Security each September to encourage Americans to prepare for emergencies in their homes, businesses, and schools; and,

WHEREAS disasters often strike quickly, with little or no warning, and residents might be forced to evacuate neighborhoods, schools, and worksites, or be confined to homes; and

WHEREAS the world has grappled with the COVID-19 pandemic, which has impacted the nation and City for an extended period of time, requiring residents to prepared differently for other disasters that may affect their community; and

WHEREAS the challenges posed by climate change, such as more extreme storms, heat waves, drought, wildfires, and flooding may significantly alter the hazards communities face; and

WHEREAS emergency preparedness is the responsibility of every resident of the City of Tualatin, Oregon, and all residents are urged to make preparedness a priority and work together to ensure that individuals, families, and communities are prepared for emergencies of any type; and

WHEREAS Preparedness Month creates a significant opportunity for every resident of the City of Tualatin to reflect and act on shared responsibility to be prepared; and

WHEREAS The City supports and encourages citizen participation in the Tualatin Community Emergency Response Team (CERT) so citizens can be prepared and trained for emergencies; and

WHEREAS individuals, neighborhoods, businesses and communities can all take steps to increase their resilience and look out for one another when major emergencies or disasters strike.

NOW, THEREFORE, IT IS PROCLAIMED by the Tualatin City Council that September 2022 is Emergency Preparedness Month and encourages all residents and businesses to develop their own emergency preparedness plan and work together toward creating a more prepared community.

INTRODUCED AND ADOPTED this 12th day of September 2022.

CITY OF TUALATIN, OREGON

BY _____

Mayor

ATTEST:

BY _____

Proclamation

Recognizing Hispanic Heritage Month

WHEREAS, each year, the United States observes National Hispanic Heritage Month by celebrating the culture, heritage and countless contributions of those whose ancestors were indigenous to North America as well as those who came from Spain, Mexico, the Caribbean, Central America and South America; and

WHEREAS, what began in 1968 as Hispanic Heritage Week under President Johnson was expanded by President Reagan in 1988 to cover a 30-day period starting on September 15 and ending on October 15; and

WHEREAS, this year's theme, "Unidos: Inclusivity for a Stronger Nation," encourages us to ensure that all voices are represented and welcomed to help build stronger communities and a stronger nation; and

WHEREAS, we recognize and honor the many ways that Hispanics have enriched the fabric of our society while also rededicating ourselves to address the lack of equal access to opportunity that many still face; and

WHEREAS, Hispanics continue their rich tradition of significant and diverse contributions to the cultural, educational, economic and political vitality of the City of Tualatin.

NOW, THEREFORE, BE IT PROCLAIMED BY THE CITY COUNCIL OF THE CITY OF TUALATIN, Oregon that September 15 – October 15, 2022 are Hispanic Heritage Month in the City of Tualatin and encourage all residents to celebrate our unique and vibrant history and recommit ourselves to a shared future of healthy, peaceful, safe and sustainable communities for all.

INTRODUCED AND ADOPTED this 12th day of September, 2022.

CITY OF TUALATIN, OREGON

BY _____
Mayor

ATTEST:

BY _____
City Recorder

Proclamación en Honor al mes de la Herencia Hispana

POR LO CUAL, cada año, los Estados Unidos observa el mes Nacional de la Herencia Hispana celebrando la cultura, el patrimonio y las innumerables contribuciones de aquellos cuyos antepasados eran indígenas de Norteamérica al igual que los que vinieron de España, México, El Caribe, Centro y Sur América; y

POR LO CUAL, lo que comenzó en 1968 como la semana de la Herencia Hispana bajo el Presidente Johnson fue expandido por el Presidente Reagan en 1998 para cubrir un periodo de 30 días comenzando el 15 de septiembre y culminando el 15 de octubre; y

POR LO CUAL, el tema de este año, “Unidos: Inclusión para una nación más fuerte,” nos empuja a asegurar que todas las voces sean representadas y bienvenidas para construir comunidades fuertes, y una nación más fuerte; y

POR LO CUAL, reconocemos y honramos las diferentes maneras que los hispanos han enriquecido la tela de nuestra sociedad, más, sin embargo, volver a dedicarnos a abordar la falta de igualdad de acceso a las oportunidades que muchos aun enfrentan

POR LO CUAL, los Hispanos continúan su rica tradición de importantes y diversas contribuciones a la vitalidad cultural, educacional, económica, y política de la Ciudad de Tualatin.

AHORA, POR LO TANTO, QUE SEA PROCLAMADO POR EL CONSEJO DE LA CIUDAD DE TUALATIN, Oregon que el 15 de septiembre a 15 de octubre, 2022 es el mes de la Herencia Hispana en la Ciudad de Tualatin y animamos a todos los residentes a celebrar nuestra historia única y vibrante, y nos comprometemos a un futuro juntos de salud, paz, y comunidades seguras y sostenibles para todos

PRESENTADO Y ADOPTADO ESTE este 12 de septiembre 2022.

CITY OF TUALATIN, OREGON

BY _____
Mayor

ATTEST:

BY _____
City Recorder



City of Tualatin

CITY OF TUALATIN
Staff Report

TO: Honorable Mayor and Members of the City Council
THROUGH: Sherilyn Lombos, City Manager
FROM: Nicole Morris, Deputy City Recorder
DATE: September 12, 2022

SUBJECT:

Consideration of Approval of the Work Session and Regular Meeting Minutes of August 22, 2022

RECOMMENDATION:

Staff respectfully recommends the Council adopt the attached minutes.

ATTACHMENTS:

- City Council Work Session Meeting Minutes of August 22, 2022
- City Council Regular Meeting Minutes of August 22, 2022



OFFICIAL MINUTES OF THE TUALATIN CITY COUNCIL MEETING FOR AUGUST 22, 2022

Present: Mayor Frank Bubenik, Council President Nancy Grimes, Councilor Bridget Brooks, Councilor Maria Reyes, Councilor Valerie Pratt, Councilor Cyndy Hillier, Councilor Christen Sacco

Call to Order

Mayor Bubenik called the meeting to order at 7:00 p.m.

Pledge of Allegiance

Announcements

1. Public Health Announcement

Councilor Brooks reminded residents to check on their vaccine updates as students head back to school.

2. Tualatin Library Foundation Vine2Wine Event

Library Director Jerianne Thompson and Tualatin Library Foundation President Royce Hermens announced the Vine2Wine event to be held on September 18 at the Tualatin Library.

Public Comment

None.

Consent Agenda

Motion to adopt the consent agenda made by Council President Grimes, Seconded by Councilor Brooks.

Voting Yea: Mayor Bubenik, Council President Grimes, Councilor Brooks, Councilor Reyes, Councilor Pratt, Councilor Hillier, Councilor Sacco

MOTION PASSED

1. Consideration of Approval of the Work Session and Regular Meeting Minutes of August 8, 2022
2. Consideration of **Resolution No. 5640-22** Authorizing the City Manager to Execute an Intergovernmental Agreement with Metro for a Clean-Up Grant; and Appropriating Special Purpose Revenues in the City's General Fund During the FY 2022-23 Budget
3. Consideration of **Resolution No. 5641-22** Authorizing the City Manager to Execute a Deed Acquiring Property for Basalt Creek Parkland
4. Consideration of **Resolution No. 5642-22** Authorizing the City Manager to Execute an Intergovernmental Agreement with Metro for Basalt Creek Parkland Acquisition using 2019 Parks and Nature Bond Measure Local Share Program Funds; and Appropriating Special Purpose Revenues in the City's Park Development Fund During the FY 2022-23 Budget

General Business

1. Climate Friendly and Equitable Communities Status and Next Steps

Management Analyst Cody Field presented information on whether the City should formally join the City of Springfield, and at least seven other cities, pursuing legal action seeking to delay implementation of the Climate Friendly and Equitable Communities rules. He stated the cost of the litigation will be divided between the participating cities based on the size of each city's budget. Management Analyst Fields presented background information on the rules stated the CFEC rulemaking effort was initiated by the Oregon Land Conservation and Development Commission in 2020, in response to Governor Kate Brown's Executive Order 20-04, directing state agencies to take actions to reduce and regulate greenhouse gas emissions. He stated the new rules impact the way Tualatin will manage its parking mandates and the amount of time, effort, and analysis required to update the City's transportation system plan, which will likely lead to an increase in costs and staff time. Analyst Fields stated there are three options for the city to consider tonight:

- a. Join in the City of Springfield's legal challenge to the CFEC rules and contribute financially to the cost of litigation.
- b. Not join the legal challenge (note: staff will stay engaged with LOC to ensure we are aware of the state of the legal action and will continue to keep you all apprised).
- c. Consider other strategies - such as "working with state legislators to enact modifications to the adopted CFEC rules."

Oregon Department of Land Conservation and Development (DLCD) Climate Mitigation Planner Evan Manvel shared context to the rule making decision. He stated there are two parts to the rules: to make climate friendly areas and to update parking mandates. Planner Manvel shared neighboring city costs for implementing those rules. He stated ODOT will help to cover the costs of the Transportation System Planning process. Planner Manvel stated DLCD will continue to go to the legislature to ask for funding to help implement the new rules. Planner Manvel stated the commission is open to adjusting the rules as needed and are monitoring the implementation.

COUNCIL QUESTIONS

Councilor Reyes asked what surrounding cities have joined the lawsuit. Acting City Attorney Chris Crean stated West Linn, Lake Oswego, and Hillsboro have joined and Sherwood is considering it.

Councilor Pratt asked if the purpose of the lawsuit is to delay the implementation. Attorney Crean stated there are three rules the court will consider when a rule is challenged to invalidated it being that it is unconstitutional, exceeds the scope of the agencies authority, or the correct procedures were not followed when adopted. He stated if any of those are met it would invalidate the rule and send it back to the agency, at which point they can correct it.

City of Milwaukie Mayor Mark Gamba stated they will not be joining the lawsuit. He stated less than 10% of their city would fall under the required parking minimums. Mayor Gamba stated they have already begun work on several of the climate items and will likely be receiving a grant to cover the expenses of additional items moving forward. He estimates their additional costs to be less than \$100,000 to complete the actions.

Councilor Sacco stated she feels conflicted as she agrees that swift climate action needs to be taken. Her concerns are that items on the list are not equitable to those in the most vulnerable communities. She would lean to looking to other options as a solution.

Councilor Brooks stated after the executive session she had more questions than answers so she reached out to surrounding cities. She would like to see this be more of a conversation than a lawsuit as that does not align with her values. Councilor Brooks would like to look to creative solution making to solve this problem.

Councilor Pratt asked how DLCD will work with cities this is cumbersome to. Planner Manvel stated the rule is not one size fits all as there are exemptions and stricter rules varying by city sizes. He stated there is a provision where Metro can come up with their own solution for parking. Planner Manvel stated there is flexibility to reopen the rules as development happens.

Councilor Reyes asked the Mayor to state the problem and the solution for the audience. Mayor Bubenik stated this is an executive order to establish Climate Friendly Equitable Communities. He stated the frustration is in the rule making process and that city's concerns were not incorporated in the rules. Mayor Bubenik stated the lawsuit would put a pause on the rules as they work through addressing their concerns. Councilor Reyes stated she is in support of Climate Friendly Communities but wants to make sure the equity concerns are addressed.

Council President Grimes stated she would like to pause the rules so there can be time to make the necessary changes and accommodations so the rules can be successful.

Mayor Bubenik stated the city does not have staff to address these new rules. He agrees with the goals but not the implementation. Mayor Bubenik stated Metro's plate is full and he does not see them addressing this in the future. He stated he would like to join the lawsuit.

Councilor Hillier stated if she felt like DLCD had the desire to make the changes they would have already done it. She has concerns with their good faith and how a negotiation would go with DLCD.

Councilor Pratt expressed concerns with how a lawsuit could affect a relationship with DLCD.

Councilor Brooks stated she would rather pay a lobbyist to gather support around this instead of joining a lawsuit. She doesn't feel it is the best way to move forward and build good repore with partner agencies.

Motion to have staff bring back a resolution to authorize the city to participate in the coalition of cities challenging the State's Climate Friendly and Equitable Communities rules made by Council President Grimes, Seconded by Councilor Hillier.

Voting Yea: Mayor Bubenik, Council President Grimes, Councilor Reyes, Councilor Hillier

Voting Nay: Councilor Brooks, Councilor Pratt, Councilor Sacco

MOTION PASSED

Councilor Brooks asked what outcome measures would make the Council more comfortable before taking a final vote on the item at the next meeting.

Council Communications

Councilor Brooks stated she plans to attend the Tualatin Chamber of Commerce Key Leaders Breakfast to be held on September 8.

Councilor Hillier invited the Community to attend the upcoming Inspiring Truth Event at Rolling Hills. She stated more information can be found on Eventbrite.

Adjournment

Mayor Bubenik adjourned the meeting at 8:15 p.m.

Sherilyn Lombos, City Manager

_____ / Nicole Morris, Recording Secretary

_____ / Frank Bubenik, Mayor



OFFICIAL MINUTES OF THE TUALATIN CITY COUNCIL MEETING FOR AUGUST 22, 2022

Present: Mayor Frank Bubenik, Council President Nancy Grimes, Councilor Bridget Brooks, Councilor Maria Reyes, Councilor Valerie Pratt, Councilor Cyndy Hillier, Councilor Christen Sacco

Mayor Bubenik called the meeting to order at 5:00 p.m.

1. *Tualatin Made: A Manufacturing and Workforce Growth Program in Tualatin.*

Economic Development Manager Jonathan Taylor, Oregon Manufacturing Extension Partnership (OMEP) Consultant Jude Kirstein and ODOT Senior Consultant Bob Cannon presented the Tualatin Made program. Manager Taylor stated the proposed program tonight will utilize up to \$100,000 of the \$410,000 allocated by Representative Prusak to her district through the State Legislature portion of the American Rescue Plan. He stated the Tualatin Made program is a proposed collaborative partnership with the City of Tualatin, OMEP, and the Chamber of Commerce that will focus on assisting Tualatin manufacturers and their employees. Manager Taylor stated this is a flexible program that provides scholarships to local manufacturers to cover contracted programs provided by OMEP. He stated the program will focus on assisting businesses in three key areas: business strategy, manufacturing operations, and workforce solutions. Manager Taylor stated the program will be entirely administered from application to completion by OMEP.

Consultant Kirstein spoke to Tualatin Made and the challenges the 234 manufacturing companies are experiencing and how they can help to engage their workforce and attract talent to Tualatin. She stated the program focuses on business strategy, manufacturing operations, and workforce solutions. Consultant Cannon explained how their programs work and how they allocate consultants to work with different entities to help dig into challenges and identify problems. Consultant Kirstein stated they stabilize leadership and help to engage the workforce through their process by creating efficiencies in the organization, establishing more jobs, looking to create investments into the right equipment, and evaluating cost avoidances. Consultant Kirstein stated they are an organization that uses real-world manufacturing experience to bring thoughtful problem solving approaches to eliminate obstacles faced by Oregon manufacturers. Manager Taylor stated this program will help to focus investments on small and medium businesses. Consultant Kirstein stated their process starts with manufacturers seeking guidance and then they complete an on-site assessment at no charge. If their services are deemed useful by the business they then complete a scope of work and work to help to understand and evaluate the current state of the business and then create implementation steps to achieve their desired future state.

Manager Taylor stated he is proposing using the \$100,000 of the funding in two phases. The first \$50,000 will be used for the pilot phase and the remaining \$50,000 for the second phase. He stated they will focus on five key success factors: revenue growth, reduced expenditures, employees retained, employees hired, and wage growth.

Councilor Pratt asked how many companies can be helped through this funding. Consultant Kirstein stated they would be able to help between 8-24 companies with partial and full scholarships.

Councilor Pratt asked if the program would include information on how to grow their companies successfully. Consultant Cannon stated that is one of the factors they address.

Councilor Pratt asked how they make sure the funding is being spent appropriately. Consultant Cannon stated a third-party survey is done at the end of their time that measures a variety of factors. Manager Taylor stated those numbers will be provided to the City.

Councilor Reyes asked how businesses can contact OMEP. Manager Taylor stated outreach will be multi-faceted through many channels including the Chamber of Commerce, CIO's, and other direct communications. Consultant Kirstein stated they have already connected with 60 manufacturers in Tualatin.

Councilor Reyes asked if there are specific industries they target. Consultant Cannon stated they work with anything manufacturing and some distribution and warehousing.

Councilor Reyes asked what the commitment time-frame is for the City. Manager Taylor stated the program length will depend on the success of the pilot program.

Councilor Brooks asked if they do an organizational analysis to determine where they are. Consultant Kirstein stated that is part of the scoping process.

Councilor President Grimes asked how long they think the pilot program funding will last. Manager Taylor stated it is likely to go quickly as one initial company is seeking \$25,000.

2. Core Opportunity and Reinvestment Area Update.

Economic Development Manager Jonathan Taylor and Consultant Elaine Howard presented the Prosperity Plan. Manager Taylor provided a brief background on the plan timeline to date. He stated the plan is a multi-year endeavor to securely position the community for long-term economic prosperity. Manager Taylor stated the plan effort values include more housing, leaving no existing business behind, enhanced connectivity, foster and promote identity, maintain and grow existing employment lands, and economic prosperity for all. He stated plan priorities include small business assistance, land acquisition, housing, developer assistance, community identity, environmental stewardship, blight remediation, and transportation. Manager Taylor shared the opportunity study area that focused on keeping future redevelopment near major transportation modes, enhance current employment lands, prepare for major regional transportation projects, remedy areas that are prone to environmental issues, enhance existing connectivity, fund major infrastructure projects to prepare for future growth, and meet community needs and desires. He stated tonight there are four key policy questions for consideration:

1. Does the Council agree with the plan vision?
2. Does the Council agree with the proposed goals and strategies?
3. Which impact option does the Council prefer?
4. Does the Council approve the proposed boundary?

Manager Taylor shared the recommended vision: the Core Opportunity and Reinvestment Area Plan is a guiding document in our community's effort to strengthen the social, cultural and economic vitality of central Tualatin by funding projects that improve the property values,

eliminates existing and future blight, and creates an active civic core. He spoke to goal one that addresses blight remediation and encourages and facilitates the development of historically underutilized and vacant parcels and buildings through direct or public-private partnerships. Manager Taylor shared two proposed projects for remediation including the 18970 Catalyst Project and Flood Mitigation efforts. He stated goal two is to enhance connectivity by providing residents, workers, and visitors access to a connected and efficient multi-modal system within, and to/from the area. Manager Taylor shared proposed projects for goal two including a main street corridor, trail system construction, and multi-access to hindered areas. Manager Taylor state goal three address multi use development and encourages and facilities attainable multi-family housing that is complementary to commercial development with expanded employment opportunities and life style amenities. He stated a proposed project targets historically vacant and underdevelopment land. Manager Taylor stated goal four addresses economic development that helps to establish opportunities for entrepreneurial growth and economic vitality. He stated goal five addresses community identity and cultivates a shared identity that represents the area's long standing traditions and culture while fostering community connections and a healthy relationship to the environment. He stated they will do this by creating more recreational opportunities and implementing community design plans. Manager Taylor stated proposed projects include the Tualatin River Plaza and Access Habitat Restoration Project and the Community Design Standard Master Plan. He stated remaining goals include industrial development, public utilities, flood mitigation, and environmental stewardship. Manager Taylor stated the plan document and projects can be changed throughout the life of the plan.

Consultant Howard spoke to the impact options. She shared the low community impact solution stating the maximum indebtedness would be \$53 million over a 21 year time frame which is \$39 million in today's dollars. Consultant Howard stated the major projects in the low impact scenario include the Main Street Corridor and the 18970 Catalyst Project which would assist 98 businesses, provide 19-37 housing units, improve 7% of the land, and improve 26 road miles. She stated the total net tax increment revenues would be \$66,484,549. Consultant Howard shared the high community impact option which includes a maximum indebtedness of \$139 million over 30 years which is \$81 million in today's dollar. She stated major projects would include the Main Street Corridor, 18970 Catalyst Project, Tualatin River Plaza, and trail development which would assist 119 businesses, provide 56-112 housing units, improve 25-37% of the land, build .7 trail miles, and improve 26 road miles. She stated the total net tax increment revenues would be \$164,595,865.

Manager Taylor shared the proposed boundary. He stated changes to the proposal include the removal of Bridgeport Village, eliminates quadrant two, removes the RV Park new build site, and expands the district right-of-way to include Tualatin Road, Martinazzi Avenue, 65th Avenue, and easements for trail systems. He stated next steps include a presentation to the Tualatin Development Commission on September 12, Planning Commission approval, and final adoption on November 28th.

Mayor Bubenik thanked those who were part of the working committee.

Mayor Bubenik asked if the Council agrees with the planned vision.

Councilor Brooks asked if blight can include environmental issues such as flooding and carbon off gassing to help build resiliency. Consultant Howard stated they will work to address that and look at how to incorporate that into the plan.

Councilor Pratt would like to see the vision include environment and bike and pedestrian improvements.

Councilor Brooks would like to see the arts included in the social and cultural portion of the plan.

Councilor Hillier would like to see the word engaged incorporated into the plan.

Mayor Bubenik asked if the Council agrees with the proposed goals and strategies. Council agreed with the goals and strategies.

Mayor Bubenik asked which impact option the council prefers. He noted the citizen committee would like to see the high impact option.

Councilor Brooks stated she is in favor of the high impact option as it seeks solutions that really work.

Councilor Pratt asked what the administrative cost is. Consultant Howard administrative costs are more since they are bigger projects and include the need to hire a staff position to manage these projects. Councilor Pratt stated she in favor of the high impact option.

Council President Grimes asked what staff's recommendation is. City Manager Lombos stated staff is comfortable with the high impact option and feel it is a good investment.

Councilor Pratt asked if the overlying entities are ok with these options. Manager Taylor stated Tualatin Valley Fire District was part of the working group and was ok with it.

Council consensus was reached to move forward with the high impact option.

Mayor Bubenik asked if the council is okay with the proposed boundary.

Councilor Brooks stated the changes are very relevant and she is favor of the proposed boundary.

Council consensus was reached on the proposed boundary.

3. 6:30 p.m. (30 min) – Council Meeting Agenda Review, Communications & Roundtable.

Councilor Hillier stated she attended the DEI work group meeting.

Councilor Pratt stated she attended the Concert on the Commons and the Clackamas County Metro-Sub Committee on Regional Flexible Funds Allocation.

Councilor Sacco stated she attended the Core Area Reinvestment Area meeting, the Diversity Equity and Inclusion Planning Committee meeting, and the Tolling Diversion Sub Committee meeting.

Councilor Brooks stated she attended the Policy Advisory Board Committee meeting, did research on the climate discussion from the executive session, met with the Water Consortium, and attended the Concert on the Commons.

Council President Grimes stated she attended the Concert on the Commons and congratulated staff on a successful season.

Mayor Bubenik stated he attended the Core Area Reinvestment Opportunity meeting and the Washington County Coordinating Committee meeting.

Adjournment

Mayor Bubenik adjourned the meeting at 6:50 p.m.

Sherilyn Lombos, City Manager

_____ / Nicole Morris, Recording Secretary

_____ / Frank Bubenik, Mayor



City of Tualatin

CITY OF TUALATIN Staff Report

TO: Honorable Mayor and Members of the City Council
THROUGH: Sherilyn Lombos, City Manager
FROM: Nic Westendorf, Deputy Public Works Director
DATE: September 12, 2022

SUBJECT:

Consideration of Resolution 5643-22 Authorizing the City Manager to Execute an Amendment to the Contract to complete Supervisory Control and Data Acquisition (SCADA) System Improvements.

RECOMMENDATION:

Staff recommends Council approve the resolution authorizing the City Manager to execute an amendment to the contract with Control Systems Northwest LLC to complete the design, build, testing, and installation of a new Supervisory Control and Data Acquisition (SCADA) System.

EXECUTIVE SUMMARY:

What's SCADA and why upgrade?

A Supervisory Control and Data Acquisition (SCADA) System is a computerized system used to remotely control and monitor the City's water distribution system.

The current SCADA system was installed in the 1990s and received some updates in 2004. The system no longer meets the operational needs of the City and is nearing the end of its useful life, which is about 20 years. In order to keep the SCADA system functional, a replacement of the system's physical equipment and the software used to run it is required.

Improvements to the SCADA system will allow City staff to better manage the water system, especially during peak summer demand when high levels of water use require more monitoring. A new SCADA system will help the water system accommodate growth within the City, ensuring that water is flowing throughout the system efficiently. Improved SCADA monitoring capabilities can help detect changes within the water system, increasing resiliency and responsiveness of staff to problems that need to be quickly addressed.

Contract Details

A Request for Proposals (RFP) was issued in January of 2021. The City received 11 proposals prior to the close of the RFP on February 19, 2021. Control Systems Northwest LLC was the highest scoring proposal and was selected for the project.

The project will be completed in 4 phases; the development of a masterplan, design of a new system, building/testing of the new system, and finally, installation and implementation of the system. If Council approves the proposed amendment, the total value of the contract will be set at \$1,980,372. This includes Phase 1, which is already underway. Attachment A outlines the deliverables and cost breakdown for each proposed phase of the project.

The current contract only included a not to exceed price for Phase 1 of the project, which began in July 2021. Phase 1 included an assessment of the current SCADA System and the creation of a Master Plan to guide the rest of the upgrade project. The original contract only included Phase 1 of the project, because the cost and fully defined scope of Phases 2-4 was yet to be determined. Now that Phase 1 is nearing completion, staff now have cost and scope for the remaining Phases.

Now that Phase 1 is nearing completion (Sept. 2022), staff is asking Council for authorization to execute an amendment for Phases 2-4; the design, build/testing, and installation of the new SCADA System.

Phase 2 will begin shortly after approval of the proposed contract, with Phases 3 and 4 following over the next year and half. The scope for the 3rd and 4th Phases will be determined after Phase 2 is complete. Due to the nature of the work, each Phase builds upon key decisions made in earlier phases of the project. The entire project is expected to be completed by Spring 2024.

The total not to exceed price being considered includes all phases of the project, including Phase 1 which is nearly complete. The total cost of the entire project is \$1,980,372.

OUTCOMES OF DECISION:

Adopting Resolution 5643-22 will allow the City to proceed with the SCADA System Improvement project as described in the Executive Summary section above.

ALTERNATIVES TO RECOMMENDATION:

The City Council could choose not to adopt Resolution 5643-22 and not proceed with the SCADA System Improvement project. This is not recommended as the system has reached its end of life and needs replacement.

FINANCIAL IMPLICATIONS:

Funds for this project are budgeted in the Water Operating Budget

ATTACHMENTS:

- Attachment A – SCADA Phasing and Cost Overview
- Attachment B – Contract Amendment No.1 - Phase 2 (Design)
- Resolution 5643-22

Exhibit A - SCADA Phasing and Cost

Task Description	Cost
Phase 1 SCADA	
Preliminary Engineering - SCADA Upgrade Master Plan	\$53,772
Total Phase 1 Costs	\$53,772
Phase 2 SCADA	
Engineering - Equipment Electrical Design	\$85,000
Engineering - Installation Design	\$95,000
Total Phase 2 Costs	\$180,000
Phase 3 SCADA	
Control Panel Equipment Procurement and Fabrication	\$755,300
Radio and Antenna Equipment Procurement	\$80,200
Cellular Equipment Procurement	\$23,000
Instrumentation Procurement	\$81,000
PLC Software Development	\$77,000
OI Software Development	\$23,500
HMI Software Development	\$77,000
Control Panel Factory Testing	\$11,000
City Services Building Computer and Software Upgrades	\$55,000
Total Phase 3 Costs	\$1,183,000
Phase 4 SCADA	
Equipment Installation	\$180,500
Field Testing/Startup/Commissioning	\$62,000
Total Phase 4 Costs	\$242,500
Subtotal Overall Estimated Project Costs (Phases 1-4)	\$1,659,272
Contingency (20% of Phases 2-4)	\$321,100
Total Overall Estimated Project Costs (Phases 1-4)	\$1,980,372

Schedule
8/21 - 9/22
10/22 - 12/22
1/22 - 6/23
10/23 - 3/24

ATTACHMENT B

Scope of Work Amendment No. 1 City of Tualatin

SCADA System Upgrade – Phase 2 Design July 2022

Background

The City of Tualatin (City) selected Control Systems NW LLC, (CSNW) to help upgrade its existing supervisory control and data acquisition (SCADA) system. The City plans to upgrade its SCADA system in phases. Phase 1, initiated in June of 2021, intended to identify the existing SCADA system assets and work with the City on a plan to modernize the SCADA instrumentation, communications, controllers, computer systems, and operational processes. Phase 1 is scheduled to be finalized in August 2022. Phase 2, discussed in this Scope of Work, is to perform the engineering design services required for the modernization of the SCADA sites as determined in Phase 1. This includes the design of the electrical installation of control system equipment and instrumentation, fabrication-level design drawings of the control panels, and a SCADA radio study for the 450 Megahertz (MHz) radio system. Future phases will include equipment procurement, control panel fabrication, control panel shop testing, and control software development (Phase 3), and electrical and control system installation, startup, testing, commissioning, and training (Phase 4). Contract Phases 3 and 4 will be executed at the City Managers discussion after completion of Phase 2 of the project.

The design and radio study shall include the following sites:

1. ASR Well
2. Avery A1 Reservoir
3. Avery A2 Reservoir
4. Avery Pressure Reducing Pressure Sustaining (PRPS)
5. Boones Ferry Pump Station/Flow Control Valve (FCV)-Pressure Reducing Valve (PRV)
6. Chesapeake PRPS
7. City Services Building
8. Dakota hills PRPS
9. Frobase Reservoirs (C Tanks)
10. Lake Oswego Intertie
11. Leveton FCV-PRV
12. Martinazzi Pump Station
13. Metzger Meter
14. Mohawk PRPS
15. Norwood Reservoir/Pump Station (B Tanks)
16. Osage PRPS
17. Park Lift Station
18. Park PCV-PRV
19. Sherwood PRV

20. 57th PRPS
21. 65th PRPS
22. 72nd FCV-PRV
23. 108th FCV-PRV

CSNW will perform the services described in this Scope of Work up to the level of effort identified in the attached Exhibit B – Fee Estimate. If additional effort is required, that extra work will be mutually determined by the City and CSNW.

Task 1 – Project Administration Services

Objective: Administer project records and coordinate with the City and CSNW project team.

Approach:

- 1.1 Manage the CSNW project team to track work elements accomplished, work items planned for the next phase, man hours, scope changes, time, and budget. Prepare monthly progress reports to summarize work accomplished for the week, anticipate work for the following weeks, and identify potential problems or changes. Submit a monthly invoice summarizing costs and remaining budget. Coordinate with City staff on various project tasks.

CSNW Deliverables:

- Monthly progress reports in electronic format (PDF).
- Monthly invoices in electronic format (PDF).

Task 2 – SCADA Upgrades Design

Objective: Prepare electrical design plans and control panel design fabrication plans for the electrical and control system work at the facilities identified in the Background section.

Approach:

- 2.1 Visit each site to review the existing control system installation and plan for the proposed electrical and control system improvements. Review as-built information for each site and compare as-builts to actual installation in the field for accuracy.
- 2.2 Prepare electrical plans for upgrading the SCADA components at each of the City facilities. *Electrical plans will include electrical installation plans for each facility that will be utilized by CSNW for installation as part of a future Phase 4.*
- 2.3 Prepare control panel fabrication plans for the proposed control panels at each of the City facilities. *Control panel fabrication plans will include the control system drawings necessary for CSNW's control panel shop to fabricate the control panels as part of a future Phase 3. CSNW also will utilize the fabrication drawings to prepare a Bill of Materials (BOM) and finalize estimated equipment and fabrication costs.*
- 2.4 Submit 90-percent design plans for City review. The 90-percent documents will be submitted to the City, and after the City has reviewed, One (1) project manager from CSNW will attend one (1) review meeting with the City to address staff comments. Upon completion of

addressing the 90-percent comments, CSNW will submit a revised set of documents to the City for final comments.

- 2.5 Provide internal quality assurance and quality control (QA/QC) review services as part of this Scope of Work. Services will include a formal internal QA/QC process, which provides review of CSNW's design and final deliverables.
- 2.6 Prepare 90-percent and final construction cost estimates.
- 2.7 Finalize design plans and submit plans to the City for the City's internal use and records.

Provided by City:

- Attendance at site visits and access to the sites during the site visits.
- Attendance at 90-percent review meeting.
- 90-percent plan review comments.

CSNW Deliverables:

- Attendance at 90-percent review meeting.
- 90-percent design plans and updated 90-percent design plans in electronic format (PDF).
- 90-percent and final construction cost estimates in electronic format (PDF).
- Final plans in electronic format (PDF) for the City's use.

Task 3 – SCADA Radio Study

Objective: CSNW's subcontractor, Accu-Comm, to perform a SCADA Radio Frequency (RF) study with the intent of upgrading the City's analog and serial based 450 MHz radio system to a digital and Ethernet based 450 MHz radio system. As part of the study, Accu-Comm to identify methods to increase the speed of the system and methods to make it scalable for additional facilities.

Approach:

- 3.1 Visit each of the sites to ascertain existing radio system infrastructure, cabling, etc., and to determine what can't be used in the proposed system and what is suitable for re-use. This subtask will be performed by Accu-Comm as a subcontractor to CSNW and will include ascertaining potential antenna height above ground elevation for each site, as well as transmission line distances.
- 3.2 Perform computer Terrain Analysis. Using the sites and locations specified in the Background section and the results from the site visits, perform a computer-based Terrain Analysis from a Master Telemetry Unit, to each remote site using as fine a gradient vertical database available that is compatible with Softwright's TAP program. This subtask will be performed by Accu-Comm.

- 3.3 Develop system topology. Based on the results of the Terrain Analysis, develop a system topology that has clear Line of Site (LOS) between Ethernet capable RF routing equipment locations with regard to terrain infringement. This subtask will be performed by Accu-comm.
- 3.4 Perform detailed RF measurements and tests. Revisit the sites to perform detailed RF measurements and path availability tests based upon actual data transfers and log the test results. *This will involve temporarily placing RF equipment, antennas, masts, and possibly other infrastructure, as necessary, to perform these tests at each site. Path will be rejected if they do not meet manufacturer-specified minimums.* This subtask will be performed by Accu-comm.
- 3.5 Finalize system topology. Based on the outcome of tests performed in subtask 3.4, finalize a system topology to be employed for approval by the City with the assistance of Accu-Comm. This topology will include cost estimates for a 450 MHz upgrade at each site.
- 3.6 Provide report to the City and meet with City staff to discuss the report. Provide Accu-Comm's report to the City once an approval of the recommended system topology is obtained. Meet with the City to review and discuss critical aspects of the report.

-

Provided by City:

- Access to City facilities and wireless communications systems during site visits.
- City staff to be available during site visits.
- Attendance at meeting to discuss radio survey results.

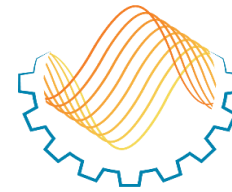
CSNW Deliverables:

- Attendance by Accu-Comm at site visits for testing.
- Radio survey results from wireless vendor in electronic format (PDF).
- Attendance at meeting with City to discuss radio survey results.

Project Schedule

Task	Anticipated Completion
Task 1 – Project Administration Services	
Task 2 – SCADA Upgrades Design	
2.1 – Attend Site Visits to Plan Improvements	1 Month After NTP
2.2 – Prepare Electrical Plans	3 Months After NTP
2.3 – Prepare Control Panel Fabrication Plans	3 Months After NTP
2.4 – Submit 90-Percent Documents for City Review and Revise Plans	3 Months After NTP
2.5 – Perform Internal QA/QC Review	4 Months After NTP
2.6 – Prepare Construction Cost Estimates	3 to 4 Months After NTP
2.7 – Finalize Plans and Submit to City	4 Months After NTP
Task 3 – SCADA Radio Study	
3.1 – Visit Sites to Ascertain Existing Infrastructure	1 Month After NTP
3.2 – Perform Computer Terrain Analysis	2 Months After NTP
3.3 – Develop System Topology	2 Months After NTP
3.4 – Perform Detailed RF Measurements and Tests	3 Months After NTP
3.5 – Finalize System Topology	3 Months After NTP
3.6 – Provide Report to City and Meet with City Staff	3 Months After NTP

CONTRACT COMPLETION DATE: 4 Months

EXHIBIT B**Fee Estimate****Amendment No. 1****City of Tualatin****SCADA System Upgrade - Phase 2 Design****Jul-22**

CSNW
 Control Systems Northwest
 Subsidiary of RH2 Engineering

Description		Total Hours	Total Labor	Total Sub/Material	Total Expense	Total Cost
Task 1	Project Administration Services	38	\$ 8,014	\$ -	\$ 236	\$ 8,250
1.1	Manage CSNW Team and Prepare Progress Reports and Monthly Invoices	38	\$ 8,014	\$ -	\$ 236	\$ 8,250
Task 2	SCADA Upgrades Design	650	\$ 124,614	\$ -	\$ 15,388	\$ 140,002
2.1	Attend Site Visits to Plan Improvements	100	\$ 19,068	\$ -	\$ 2,759	\$ 21,827
2.2	Prepare Electrical Plans	104	\$ 19,496	\$ -	\$ 2,687	\$ 22,183
2.3	Prepare Control Panel Fabrication Plans	236	\$ 44,356	\$ -	\$ 5,314	\$ 49,670
2.4	Submit 90-Percent Documents for City Review and Revise Plans	88	\$ 17,412	\$ -	\$ 2,269	\$ 19,681
2.5	Perform Internal QA/QC Review	22	\$ 5,282	\$ -	\$ 352	\$ 5,634
2.6	Prepare Construction Cost Estimates	60	\$ 11,412	\$ -	\$ 993	\$ 12,405
2.7	Finalize Plans and Submit to City	40	\$ 7,588	\$ -	\$ 1,015	\$ 8,603
Task 3	SCADA Radio Study	44	\$ 10,124	\$ 20,802	\$ 822	\$ 31,748
3.1	Visit Sites to Ascertain Existing Infrastructure	6	\$ 1,414	\$ 4,600	\$ 35	\$ 6,049
3.2	Perform Computer Terrain Analysis	-	\$ -	\$ 2,300	\$ -	\$ 2,300
3.3	Develop System Topology	-	\$ -	\$ 2,300	\$ -	\$ 2,300
3.4	Perform Detailed RF Measurements and Tests	6	\$ 1,414	\$ 4,600	\$ 35	\$ 6,049
3.5	Finalize System Topology	-	\$ -	\$ 2,300	\$ -	\$ 2,300
3.6	Provide Report to City and Meet with City Staff	32	\$ 7,296	\$ 4,702	\$ 751	\$ 12,750
PROJECT TOTAL		732	\$ 142,752	\$ 20,802	\$ 16,446	\$ 180,000

EXHIBIT C
CONTROL SYSTEMS NW LLC
2022 SCHEDULE OF RATES AND CHARGES

RATE LIST	RATE	UNIT
Professional I	\$158	\$/hr
Professional II	\$173	\$/hr
Professional III	\$190	\$/hr
Professional IV	\$205	\$/hr
Professional V	\$220	\$/hr
Professional VI	\$234	\$/hr
Professional VII	\$251	\$/hr
Professional VIII	\$261	\$/hr
Professional IX	\$261	\$/hr
Control Specialist I	\$143	\$/hr
Control Specialist II	\$156	\$/hr
Control Specialist III	\$171	\$/hr
Control Specialist IV	\$186	\$/hr
Control Specialist V	\$198	\$/hr
Control Specialist VI	\$212	\$/hr
Control Specialist VII	\$228	\$/hr
Control Specialist VIII	\$237	\$/hr
Technician I	\$120	\$/hr
Technician II	\$131	\$/hr
Technician III	\$148	\$/hr
Technician IV	\$160	\$/hr
Technician V	\$175	\$/hr
Technician VI	\$191	\$/hr
Technician VII	\$207	\$/hr
Technician VIII	\$218	\$/hr
Administrative I	\$78	\$/hr
Administrative II	\$92	\$/hr
Administrative III	\$111	\$/hr
Administrative IV	\$131	\$/hr
Administrative V	\$149	\$/hr
CAD/GIS System	\$27.50	\$/hr
CAD Plots - Half Size	\$2.50	price per plot
CAD Plots - Full Size	\$10.00	price per plot
CAD Plots - Large	\$25.00	price per plot
Copies (bw) 8.5" X 11"	\$0.09	price per copy
Copies (bw) 8.5" X 14"	\$0.14	price per copy
Copies (bw) 11" X 17"	\$0.20	price per copy
Copies (color) 8.5" X 11"	\$0.90	price per copy
Copies (color) 8.5" X 14"	\$1.20	price per copy
Copies (color) 11" X 17"	\$2.00	price per copy
Technology Charge	2.50%	% of Direct Labor
Mileage	\$0.625	price per mile (or Current IRS Rate)
Subconsultants/Subcontractors	15%	Cost +
Materials/Equipment	15%	Cost +

RESOLUTION 5643-22

A RESOLUTION AWARDDING A CONTRACT FOR SUPERVISORY CONTROL AND DATA ACQUISITION (SCADA) SYSTEM IMPROVEMENTS.

WHEREAS, in January, 2021, the project was posted and the City issued a request for proposals for the Supervisory Control and Data Acquisition (SCADA) System Improvements.

WHEREAS, eleven (11) bids were received and reviewed in February, 2021;

WHEREAS, based on the City’s public contracting requirements, Control Systems NW, LLC had the highest scoring proposal and submitted a bid for the project in the amount of \$1,980,372; and

WHEREAS, funds are available for this project in the FY 2022/2023 Water Operating Fund;

NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF TUALATIN, OREGON, that:

Section 1. The City awards the contract to design, build, test, and install a new Supervisory Control and Data Acquisition (SCADA) system to Control Systems NW, LLC.

Section 2. The City Manager is authorized to execute a contract with Control Systems NW, LLC in the amount of \$1,980,372.

Section 3. The City Manager or designee is authorized to execute Change Orders totaling up to 10% of the original contract price.

Section 4. This resolution is effective upon adoption.

Adopted by the City Council this 12th day of September, 2022.

ATTEST

CITY OF TUALATIN OREGON

BY _____
City Recorder

BY _____
Mayor



City of Tualatin

**CITY OF TUALATIN
Staff Report**

TO: Honorable Mayor and Members of the City Council
THROUGH: Sherilyn Lombos, City Manager
FROM: Lindsay Marshall, Management Analyst II
DATE: September 12, 2022

SUBJECT:
Tualatin Community Emergency Response Team (CERT) 2021-2022 Annual Report

EXECUTIVE SUMMARY:
Tualatin's Community Emergency Response Team (CERT) will give their annual report for 2021-2022.

The CERT program educates volunteers about disaster preparedness for the hazards that may impact their area and trains them in basic disaster response skills, such as fire safety, light search and rescue, team organization, and disaster medical operations. Supported by the Federal Emergency Management Association (FEMA), CERT offers a consistent, nationwide approach to volunteer training and organization that professional responders can rely on during disaster situations, allowing them to focus on more complex tasks.

ATTACHMENTS:

-PowerPoint presentation Tualatin CERT 2021-2022 Annual Report



Report to City Council

Cathy Holland
President, Tualatin CERT and Ham Team

September 12, 2022

CERT Team Status Report

- Must thank Tualatin City staff for their support
- Battled covid challenges
- Continued training – hybrid & online
- 153 CERT team members
- 78 ham radio license holders
- 6 GMRS radio license holders
- New ham radio repeater
- New GMRS repeaters
- Started coordination with Lake Oswego Fire
- Responded to mobilization requests
 - Blender Dash
 - ¡Viva Tualatin

September is



FEMA Training Prepares Us – Emergencies When First Responders Are Overwhelmed

- Ice storm
- Smoke/fire threat
- Extreme heat
- Pandemic

- Flood
- Earthquake

Consequences

- Power outage
- Internet outage
- Cell phone outage
- Blocked roads
- Evacuation
- Breathing hazard
- Limit contact with people
- Supply shortages

Consequences

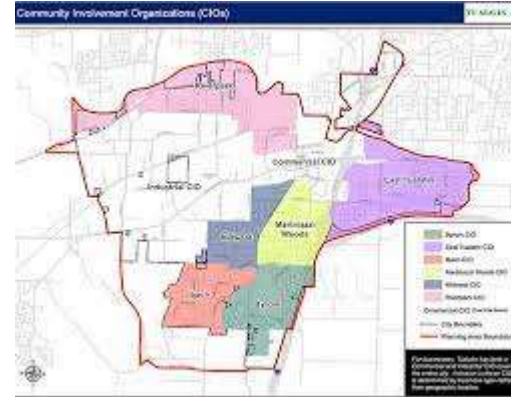
- Power outage *ice storm, fire/smoke*
- Internet outage *ice storm*
- Cell phone outage *ice storm*
- Blocked roads *ice storm, flood*
- Evacuation *fire/smoke*
- Breathing hazard *fire/smoke, pandemic*
- Limit contact with people *pandemic*
- Supply shortages *pandemic*

Consequences

- Power outage *ice storm, fire/smoke*
- Internet outage *ice storm*
- Cell phone outage *ice storm*
- Blocked roads *ice storm, flood*
- Evacuation *fire/smoke*
- Breathing hazard *fire/smoke, pandemic*
- Limit contact with people *pandemic*
- Supply shortages *pandemic*
- Utility outages
- Gas/diesel supply disrupted
- Structures damaged
- Safety services overwhelmed
- Injuries
- Families separated
- Special needs

Tualatin Is Preparing

- City-wide
- Neighborhoods
- City government (and external agencies)
- Businesses
- CERT volunteers help



Tualatin CERT – *Community Emergency Response Team*

- All volunteers
- Help our entire community prepare for disaster
- 501(c)3 non-profit organization
- Supported by City of Tualatin
- Programs for residents and businesses
 - Tualatin Neighborhood Ready
 - Tualatin CERT training
 - Radio communications
 - Businesses



2022 Spring Hybrid Basic Training – Check-In



2022 Spring Hybrid Basic Training – Search & Rescue/Medical Practice



2022 Spring Hybrid Basic Training – Fire Control Practice



Tualatin Neighborhood Ready

- For families and their nearby neighbors (or local businesses)
- Free presentation + great family prep guideline
- Introduction to preparing:
 - Family plan
 - Emergency supplies & storage
 - Find utility shut-offs
 - Home hazards
 - Evacuation go bags
 - Communication tips
 - Working with your neighbors



- Visit tualatincert.org, click **Tualatin Neighborhood Ready**
- Contact TualatinReadyMYN@gmail.com

Tualatin Neighbor Ready Info Booth - ¡Viva Tualatin



Tualatin CERT Training

- Free training course (25 hours):
 - Earthquake awareness & disaster preparation
 - Fire suppression techniques
 - Disaster first aid/triage
 - Search and rescue
 - Team organization
 - Open to all Tualatin residents and employees
- Volunteer to help in our community
- Visit tualatincert.org, click **Tualatin CERT**
- Contact info@tualatincert.org



Communication is the KEY!

- CERT sponsors radio activities
- Improve disaster communication
- Amateur radio
 - aka ham radio
 - Radio operators & equipment available to help
 - FCC license required
 - Must pass exam
 - Training available
- Walkie Talkies (GMRS)
 - FCC license required
 - No exam required
- Visit tualatincert.org, click **Amateur Radio**
- Contact info@tualatincert.org

Businesses

- Like a home, businesses should be preparing
- Help employees prepare
- CERT training available (contact info@tualatincert.org)
 - Individual CERT training
 - Custom group training
- Visit tualatincio.org, click **Commercial CIO**
- Contact tualatincommercialcio@gmail.com

2022/23 Tualatin CERT Projects

- Zoom Tualatin Neighborhood Ready Prepare 1-hour Classes
 - October 12th at 7 pm via Zoom
 - Restart in person neighborhood meetings
 - Restart Pohl Center education outreach
- Basic CERT Training Fall 2022 (hybrid)
- Basic CERT Training Spring 2023 (in person, we hope)
- Hold Community Emergency Fair – Spring 2023
 - Previous plans put on “hold” due to Covid
 - Partnership with Washington County – Quake Up
- Expand GMRS Radio Network

Tonight's Tip – To Start Preparing

- **Distribute a family contact list**
 - Include somebody out of the area
 - Keep a printed copy
 - Update when you change your clocks!

- **Store emergency water**
 - 1 gallon / person / day
 - Work your way up to a 2-week supply
 - Don't forget about pets

- **Utilities**
 - Know when, where, and how to turn off gas

Thank you!



Visit tualatincert.org

Contact info@tualatincert.org

Questions?



City of Tualatin

CITY OF TUALATIN Staff Report

TO: Honorable Mayor and Members of the City Council

THROUGH: Sherilyn Lombos, City Manager

FROM: Cody Field, Management Analyst II

DATE: September 12, 2022

SUBJECT:

Consideration of Resolution 5644-22 Authorizing the City of Tualatin to Join a Coalition of Cities Challenging the State's Climate Friendly and Equitable Communities Rules.

EXECUTIVE SUMMARY:

On July 21st, 2022, the Land Conservation and Development Commission (LCDC) permanently adopted the Climate Friendly and Equitable Communities (CFEC) Rules. The rulemaking effort was first initiated by the LCDC in September of 2020, in response to Governor Kate Brown's Executive Order 20-04, directing state agencies to take action to reduce and regulate greenhouse gas emissions. The Department of Land Conservation and Development (DLCD) was responsible for development of the rules.

The City of Springfield, and at least seven other Oregon cities, plan to file a legal challenge to the rules within 60 days of the August 17th, 2022 effective date. The rules can be challenged under ORS 183.400 under the following three circumstances:

- The rule violates constitutional provisions;
- The rule exceeds the statutory authority of the agency; and
- The rule was adopted without compliance with applicable rulemaking procedures.

Legal Council has advised Council Members that the CFEC rules likely exceed the statutory authority of the Department of Land Conservation and Development (DLCD). Additionally, DLCD did not follow correct procedures in enacting the rules. Specially, the fiscal impact statement provides no reference to actual financial numbers, despite acknowledging that the rules will have a fiscal impact on local governments

On August 11, 2022, City Council convened an executive session to consult with legal counsel and address the question of whether the City of Tualatin should formally join legal action seeking to delay implementation of the CFEC rules. This discussion was continued at the August 22nd Council meeting. At this meeting, Council approved a motion requesting staff to return to Council with a resolution authorizing them to take the steps necessary to participate in the litigation.

RECOMMENDATION:

A majority of the Tualatin City Council voted at its August 22, 2022 meeting in favor of directing staff to return with a resolution in support of joining the legal challenge to the CFEC rules.

OUTCOMES OF RECOMMENDATION:

Council approval of Resolution 5644-22 would direct the City Manager to pursue actions to join the legal challenge to the CFEC rules.

ALTERNATIVES TO RECOMMENDATION:

Council may alternatively continue the discussion to a later date or, alternatively, decline to approve Resolution 5644-22.

FINANCIAL IMPLICATIONS:

The cost of litigation will be divided between the cities participating in the legal challenge. The cost for each city will be based on the size of a city's budget less American Rescue Plan Act (ARPA) funds and any pass-through funding. Tualatin's proportional share will depend on the number of cities that participate in litigation.

ATTACHMENTS:

- Resolution 5644-22

RESOLUTION NO. 5644-22

A RESOLUTION AUTHORIZING THE CITY TO JOIN A COALITION OF CITIES CHALLENGING THE STATE'S CLIMATE FRIENDLY AND EQUITABLE COMMUNITIES RULE

WHEREAS, on July 21, 2022 the Land Conservation and Development Commission (“LCDC”) adopted amendments to the Oregon Administrative Rules Chapter 660, divisions 8, 12 and 44, commonly referred to as the Climate Friendly and Equitable Communities Rules (“Rules”), which impose mandates upon the City that will result in millions of dollars of unfunded work; and

WHEREAS, the Rules were adopted to implement the Governor’s Executive Order 20-04 and were intended to address issues of climate change and equity, but LCDC’s rulemaking process has failed to reach its objectives, and the Rules, as adopted, will adversely affect communities and fail to promote true equity; and

WHEREAS, the Rules are too prescriptive, conflict with other rules and do not provide flexibility to address the unique aspects of a particular project; and;

WHEREAS, the City believes that additional time is needed to resolve the shortcomings in the rules in order to achieve the goals of Executive Order 20-04; and

WHEREAS, the City is committed towards implementing measures – including its forthcoming Climate Action Plan and Equitable Housing Strategic Financial Plan - that will not only promote but also directly address climate change and equity issues; and

WHEREAS, a coalition of local governments is being formed to challenge the Rules through the use of a common attorney as any challenge to the Rules presents legal and factual issues that are common to all local governments; and

WHEREAS, the City finds that it has a mutual joint interest in seeking joint legal review of the Rules with other local governments; and

WHEREAS, an Intergovernmental Agreement is being finalized to permit the coalition of local governments to jointly challenge the Rules and coordinate public communications strategies related to the litigation.

NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF TUALATIN, OREGON, that:

Section 1. The City Council hereby authorizes the City Manager to take any and all steps necessary to join the coalition of cities challenging the Rules, including but not limited to executing an Intergovernmental Agreement for this purpose subject to City Attorney approval.

Section 2. This resolution is effective upon adoption.

INTRODUCED and ADOPTED by the City Council this ___ day of _____, 2022.

CITY OF TUALATIN, OREGON

BY _____
Mayor

APPROVED AS TO FORM

ATTEST:

BY _____
City Attorney

BY _____
City Recorder