



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

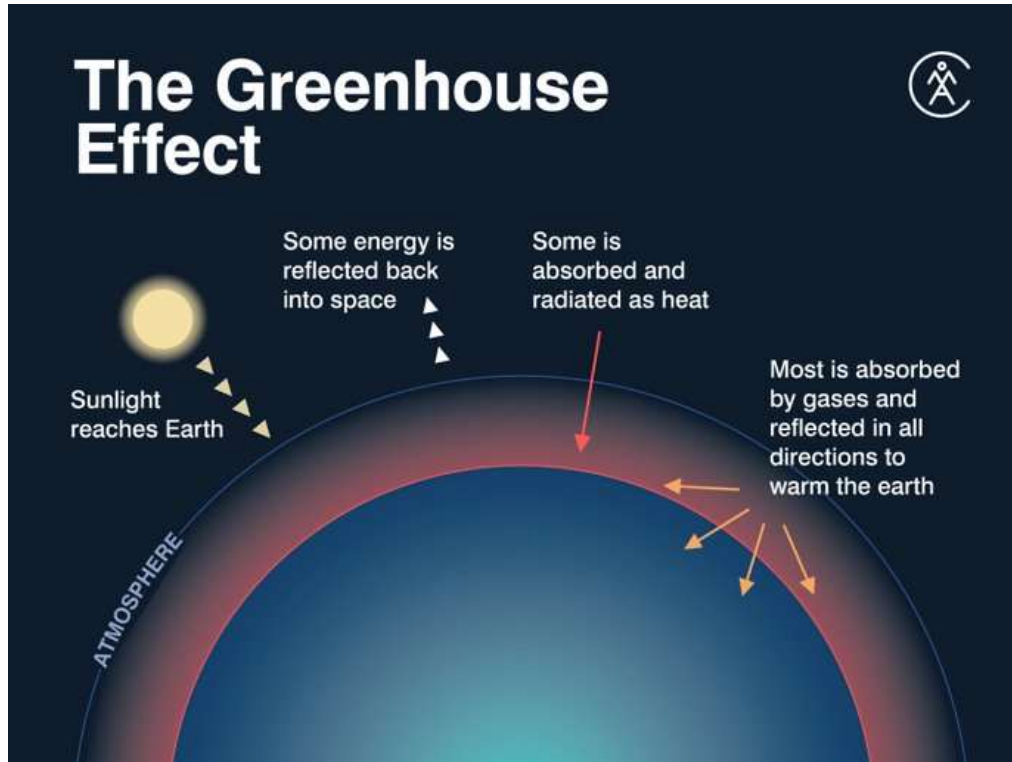
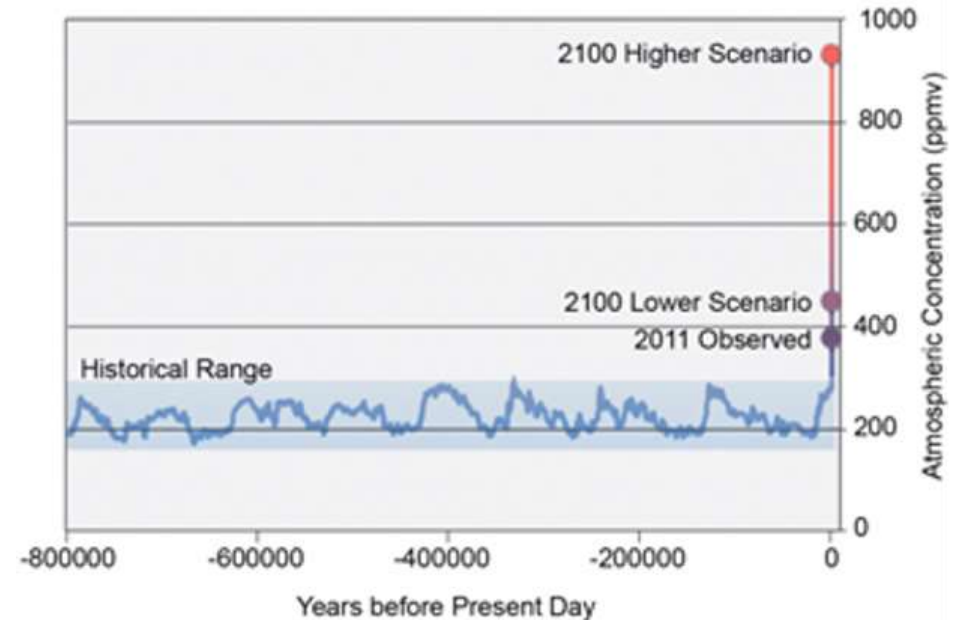


Figure 1: Skyrocketing atmospheric CO₂
Atmospheric Carbon Dioxide Levels

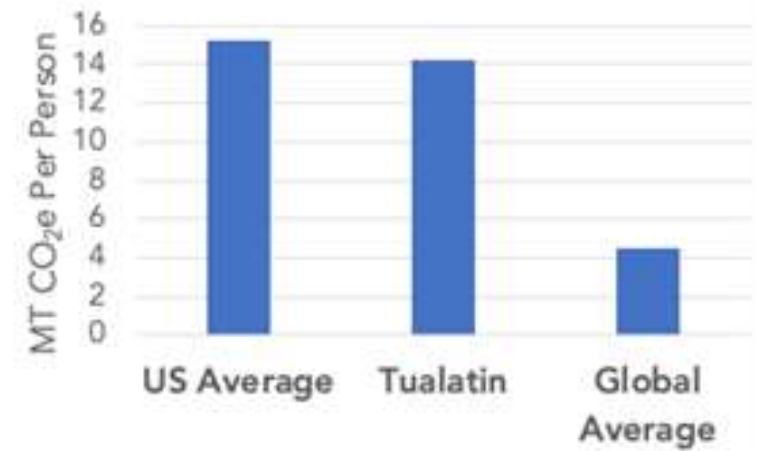


The **more greenhouse gases** in the atmosphere, the **more heat** is prevented from escaping the Earth and **the hotter things get.**

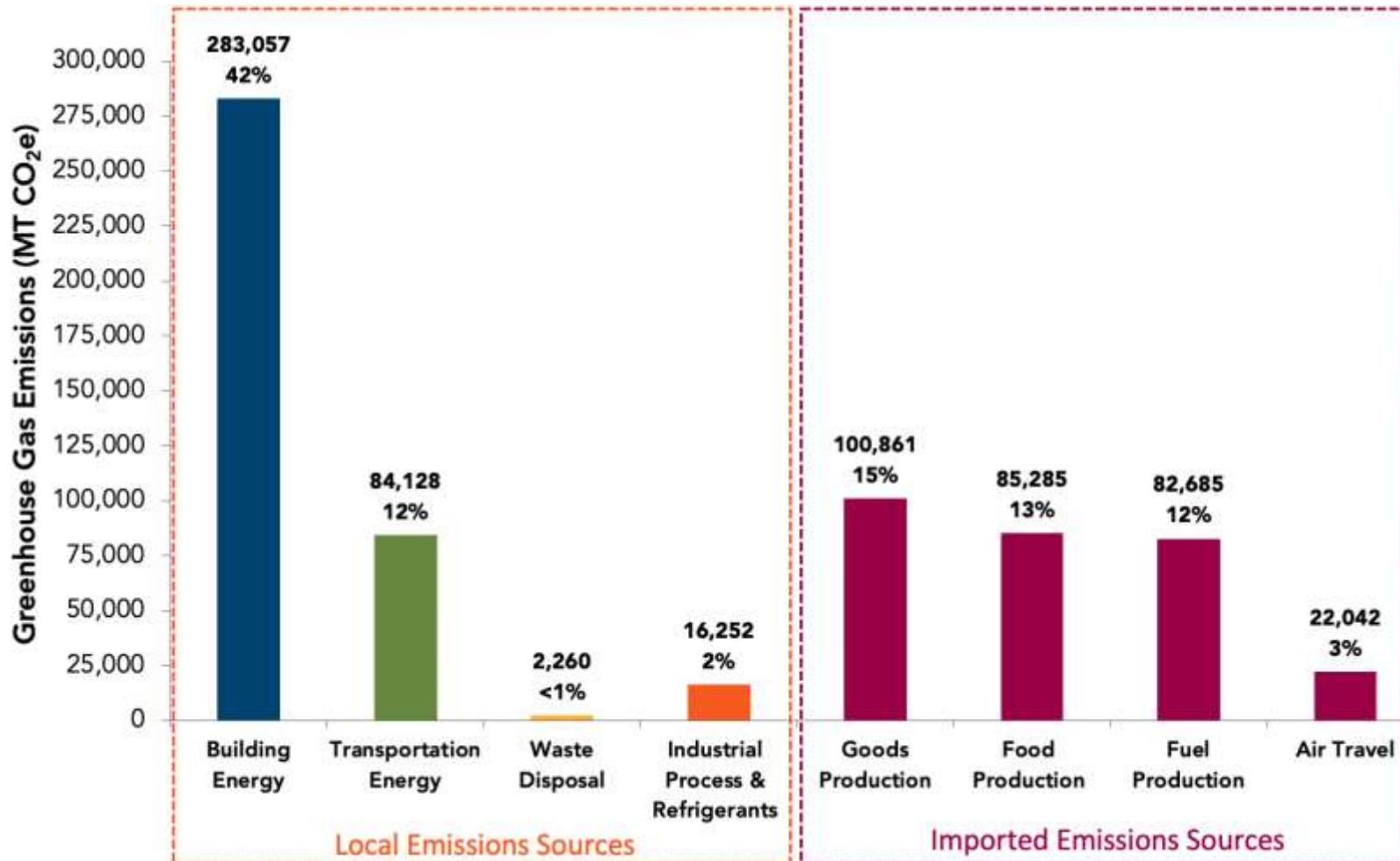
Summary of findings

- 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

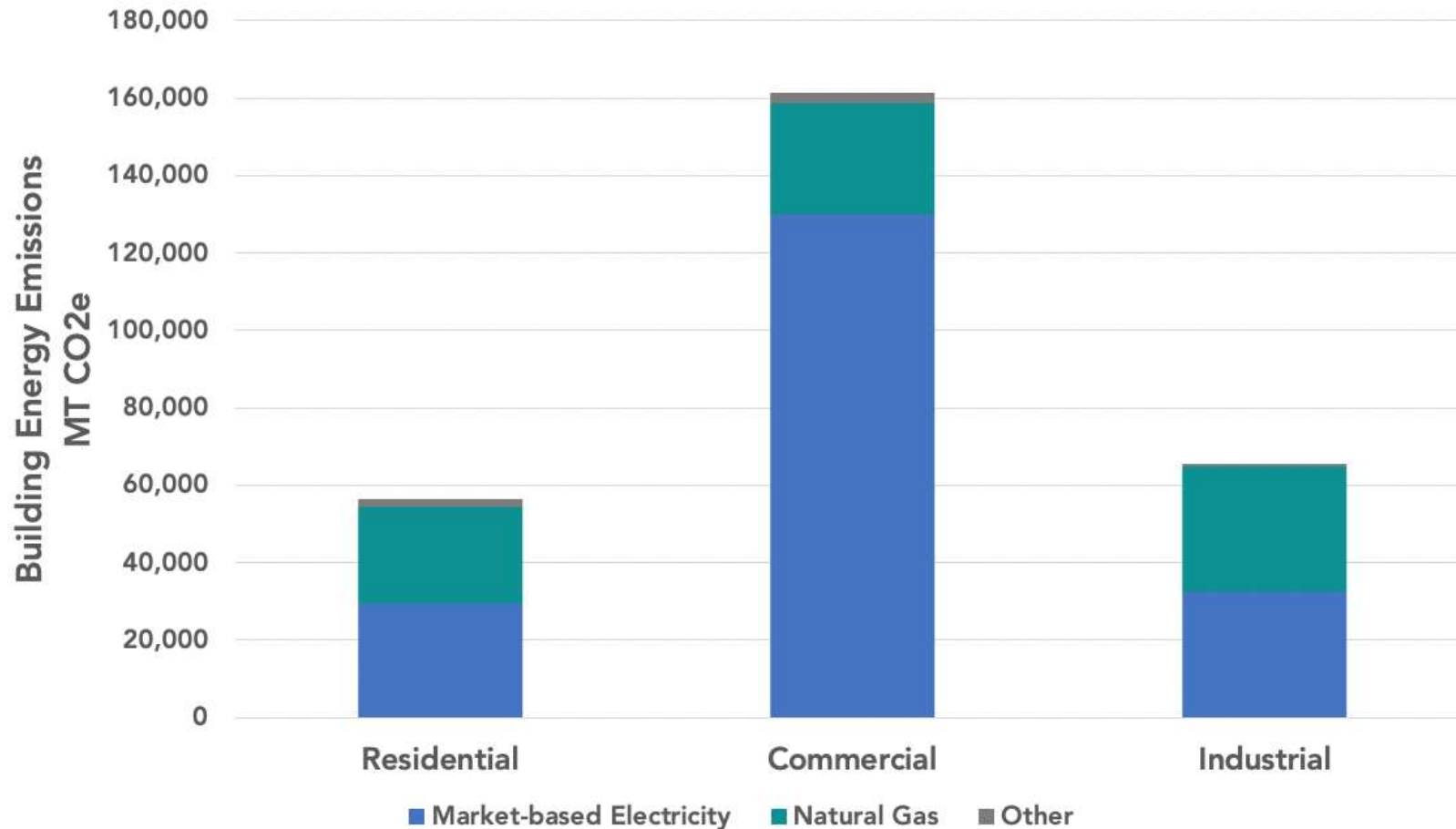


Overview of Tualatin's emissions sources



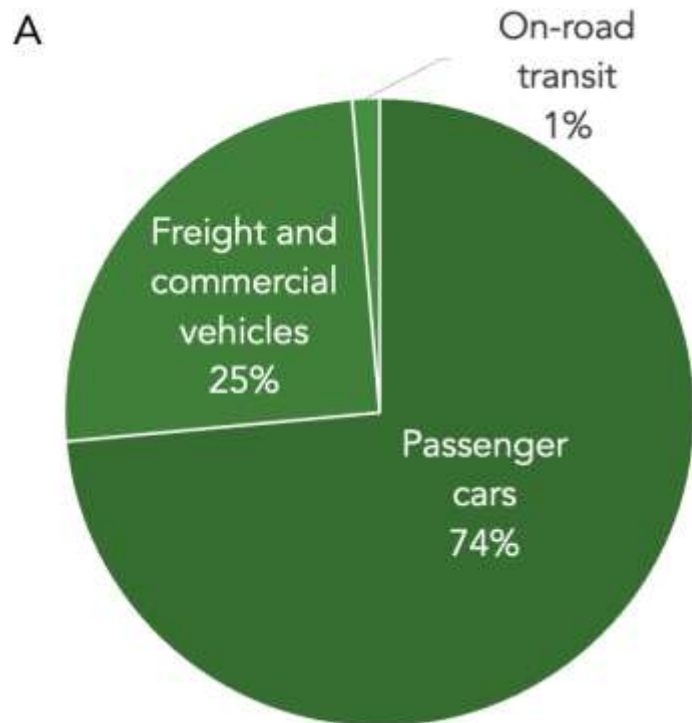
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Building energy usage by type and energy source

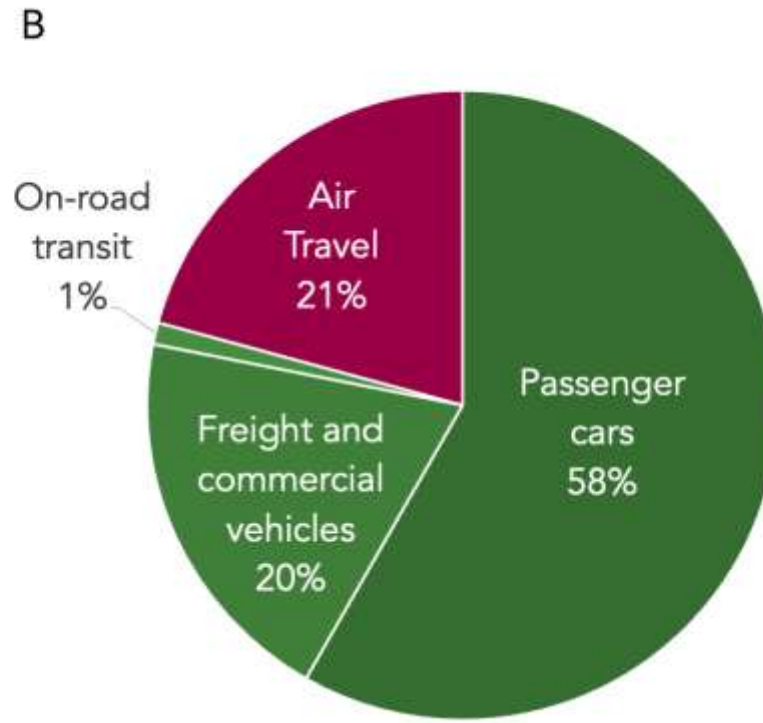


The majority of building energy emissions come from electricity use in commercial buildings.

Transportation emissions breakdown



Excluding air travel

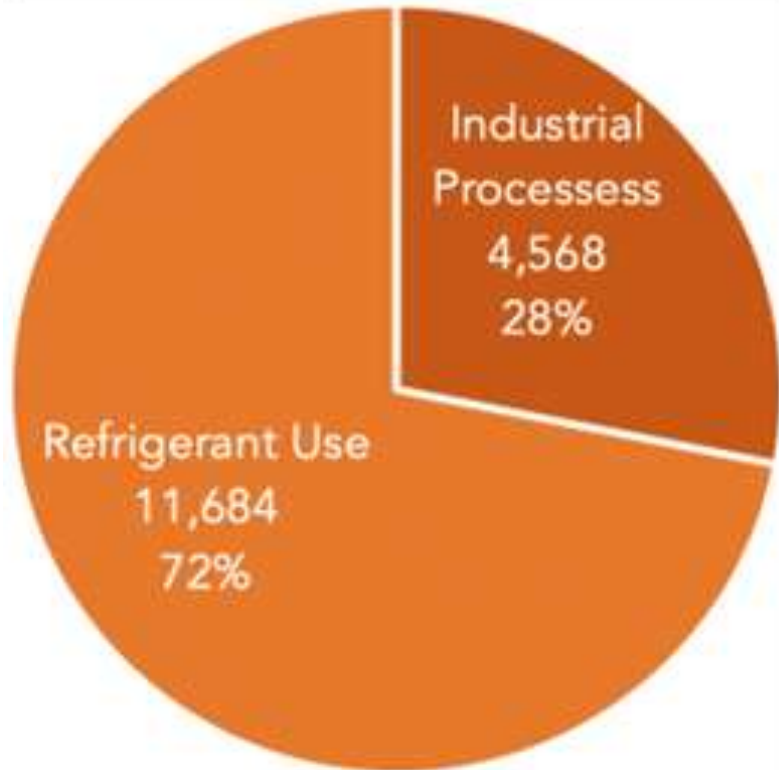


Including air travel

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

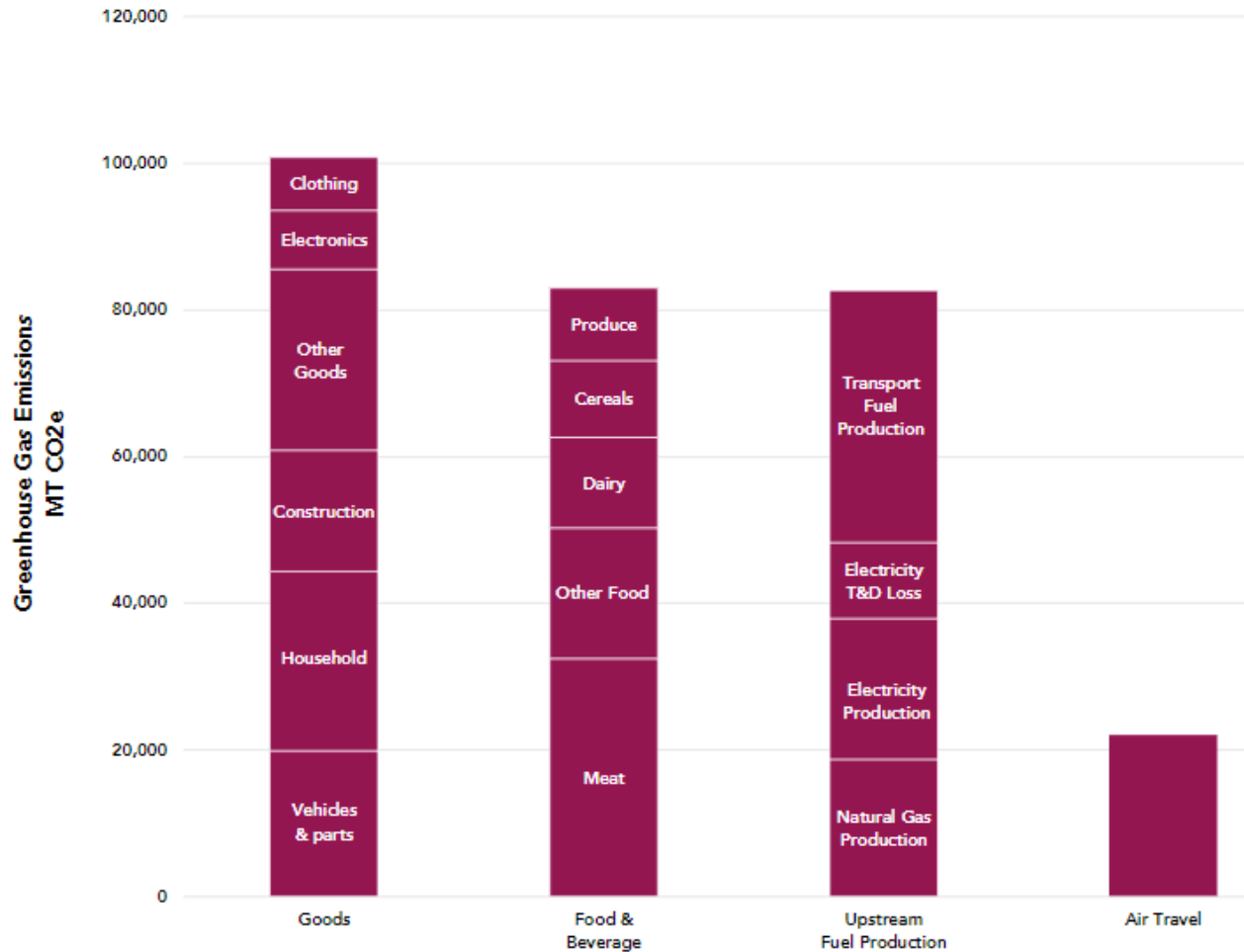
Emissions from industrial processes and refrigerants

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.

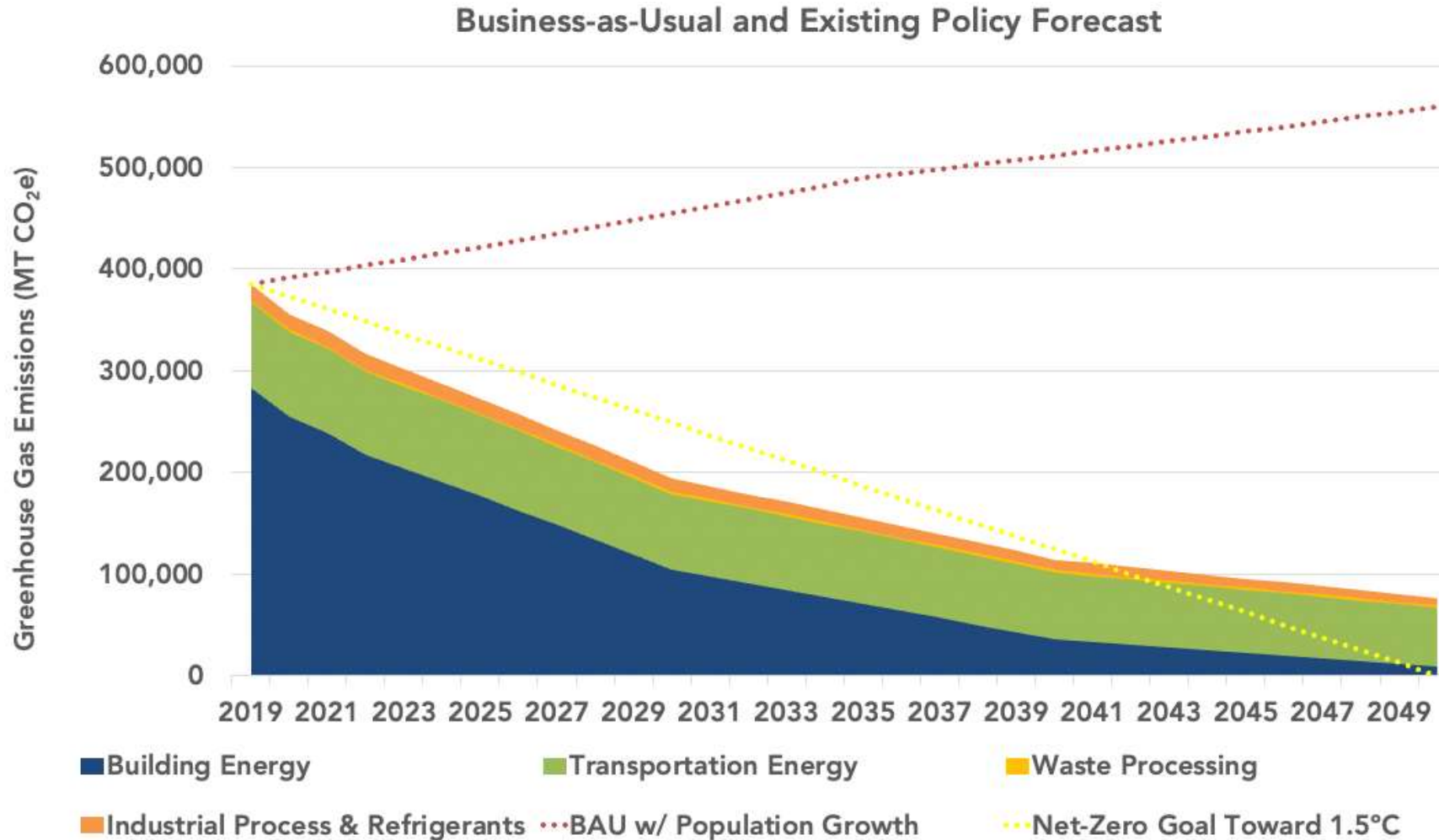
Sources of imported emissions



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

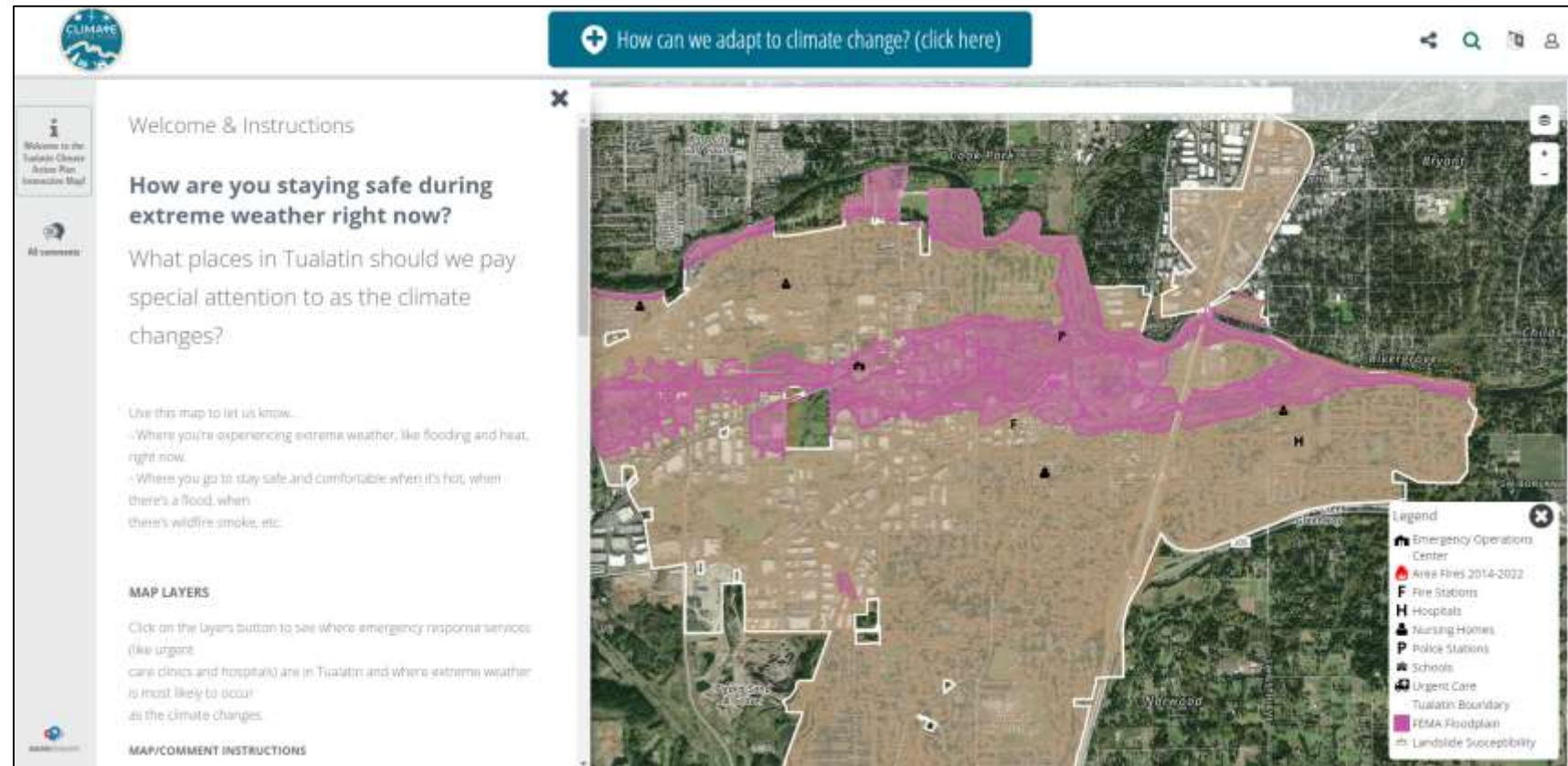


Image: interactive map where community members can share where they are experiencing climate impacts and where they go to stay safe and comfortable during extreme weather events.

Discussion

