



CITY OF BEND

Electrification Policy and Incentives Study

Market Assessment and Policy Options

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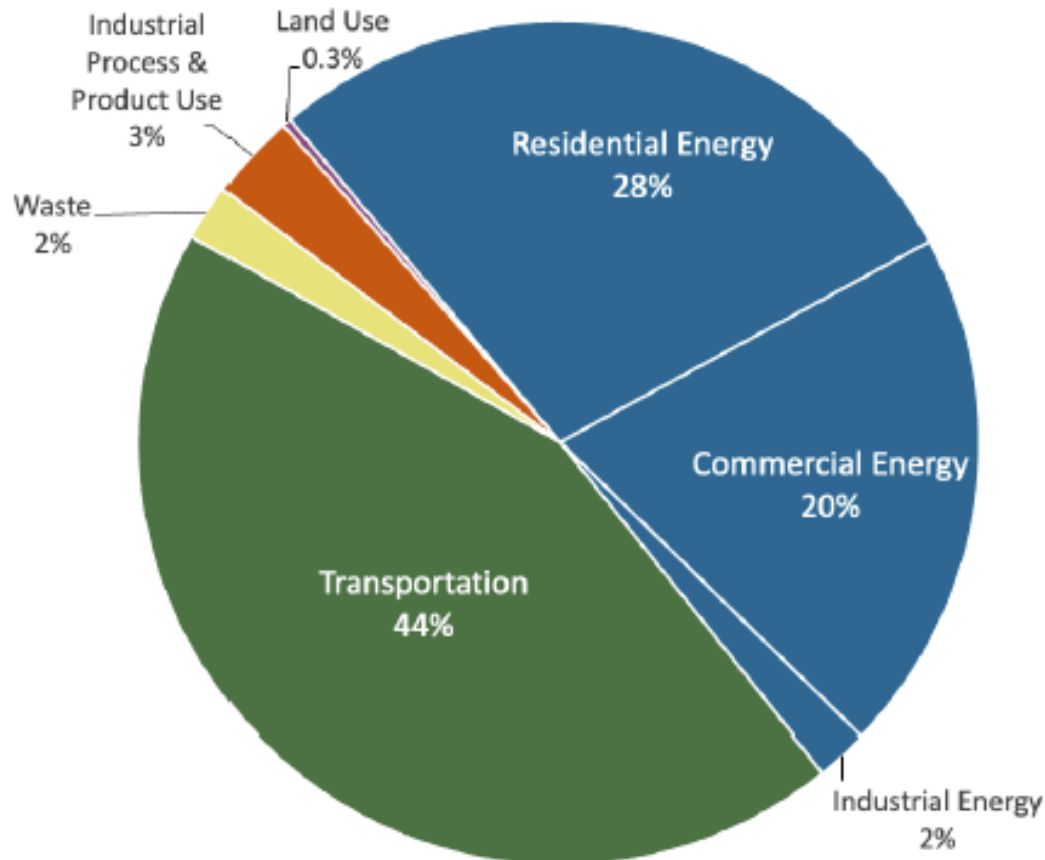
Danielle Walker, Principal Consultant, Brightline Group

October 22, 2025

Background and Today's Objectives

Background & Context

Bend's Community GHG Emissions (2021)



- Buildings contribute 50% of total GHG emissions
- In conjunction with transitioning to a clean electricity grid, electrification of buildings can dramatically decrease GHG emissions
- Council direction in April 2025 to explore incentives and disincentives that encourage residential electrification, with a focus on a fee to disincentivize natural gas use

Meeting Objectives

- 1 Review and discuss data and analysis results completed so far related to cost and climate benefit of electrification
- 2 Receive guidance from Council members on the policy intent of the potential fee
- 3 Discuss additional key policy questions

Data Sources

Data Sources



Regional
Technical Forum

Over 75 'measure workbooks' that include:

- Baseline efficiency
- Energy consumption
- Energy savings
- Costs
- Service life



Regional database that includes:

- More than 100 building characteristics
- Over 2,000 homes
- For 4 northwest states



Program data for Bend single family new construction projects from 2021-2023, including

- Equipment type
- Rebates provided
- Estimates of energy usage



- City permit and housing data
- Utility rates
- Contractor surveys (in progress)



CITY OF BEND

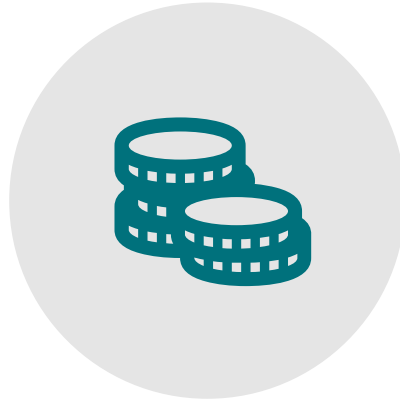
Continued Research

- **Multi-Family**
 - Data is limited in multi-family
 - Initial findings suggest majority of new buildings is electric space and water heating
- **Equipment and Installation Costs**
 - New construction costs can be difficult to collect
 - Ongoing contractor interviews will provide additional local data points
 - Additional analysis on ductless heat pump usage and costs

Key Drivers of Results



EQUIPMENT COSTS



UTILITY RATES



FUEL MIX

Equipment, Costs, and Carbon Assessment

Single Family Homes

Equipment

Gas Base Case	Electric Conversion	Efficient Electric Upgrade
Gas forced air furnace and CAC	Electric forced air furnace and CAC	Air-source heat pump
Gas storage water heater	Electric storage water heater	Heat pump water heater
Gas stove	Electric resistance stove	Induction stove
Gas dryer	Electric dryer	Heat Pump Dryer

Equipment Costs

Equipment data was collected through the Regional Technical Forum, supplemented with web research

Baseline Equipment	Cost
Gas Forced Air Furnace	\$4,741
Central Air Conditioner	\$636
Gas Water Heater	\$3,230
Gas Stove	\$1,699
Gas Dryer	\$1,114
Total	\$11,420

Electric Conversion	Cost
Electric FAF	\$1,877
Central Air Conditioner	\$636
Electric Water Heater	\$590
Electric Stove	\$660
Electric Dryer	\$822
Total	\$4,585

Efficient Upgrade	Cost
Air-source heat pump	\$17,393
Heat Pump Water Heater	\$4,588
Induction Stove	\$1,589
Heat Pump Dryer	\$1,435
Total	\$25,006

Cost differences:

From gas baseline to electric conversion is **\$-6,835**

From gas baseline to efficient upgrade is **\$13,586**

Carbon Impacts - 2025

- CO2 estimates calculated from:
 - Current utility source fuel mix
 - Weighted 85% Pacific Power and 15% Central Electric
- Conversion to inefficient electric equipment increases total CO2 with existing fuel mix of local electric utilities
- Upgrades to efficient electric equipment reduces total current CO2 by 27%

Gas Baseline Equipment	Total MTCO2	Electric Conversion	Total Net MTCO2	Efficient Electric Upgrade	Total Net MTCO2
Gas FAF + CAC	51.87	Electric FAF + CAC	+103.18	Air-source heat pump	-12.51
Gas Water Heater	6.71	Electric Water Heater	+7.01	Heat Pump WH	-1.24
Gas Stove	3.65	Electric Stove	-2.75	Induction Stove	-2.77
Gas Dryer	2.22	Electric Dryer	+3.25	Heat Pump Dryer	-0.58
Total	64.5	Total	+110.69	Total	-17.09



Projected 2030 Carbon Impacts

- 2030 projections using PacifiCorp Oregon Clean Energy Plan goals of 80% reduction over baseline emissions by 2030
- Upgrades to efficient electric equipment reduces total current CO2 by 85%

Gas Baseline Equipment	Total MTCO2	Electric Conversion	Total Net MTCO2	Efficient Electric Upgrade	Total Net MTCO2
Gas FAF + CAC	51.87	Electric FAF + CAC	-20.75	Air-source heat pump	-43.91
Gas Water Heater	6.71	Electric Water Heater	-3.94	Heat Pump WH	-5.61
Gas Stove	3.65	Electric Stove	-3.47	Induction Stove	-3.47
Gas Dryer	2.22	Electric Dryer	-1.12	Heat Pump Dryer	-1.89
Total	64.5	Total	-29.27	Total	-54.88

Energy Cost Impacts

Potential Annual Energy Cost Impacts

- Cost impacts shown across range of equipment:
 - Inefficient electric conversion
 - All efficient upgrades
- Rates collected from Pacific Power, Central Electric Cooperative and Cascade Natural Gas
- Values are only the costs of kWh, does not represent the full bill (e.g. service charges, public purpose charges)

Utility	2025 Annual Energy Costs	Annual Energy Cost Difference
Gas Energy Usage Charge	\$791	\$0
Pacific Power		
Inefficient Electric Energy Usage Charge	\$3,333	+\$2,541
Efficient Electric Energy Usage Charge	\$943	+\$151
Central Electric Cooperative		
Inefficient Electric Energy Usage Charge	\$1,972	+\$1,180
Efficient Electric Energy Usage Charge	\$558	-\$234

10 Year Cost Impacts – Pacific Power

Home	Scenario	Equipment Cost	Energy Costs (10-year total)	Total Cost
Efficient Gas Equipment		\$11,420	\$7,910	\$19,330
Home A	Converts to all electric, but not efficient electric	\$4,585	\$36,494	\$41,079
Home B	Upgrades to efficient electric	\$25,006	\$10,321	\$35,327

10 Year Cost Impacts – Central Electric

Home	Scenario	Equipment Cost	Energy Costs (10-year total)	Total Cost
Efficient Gas Equipment		\$11,420	\$7,910	\$19,330
Home B	Converts to all electric, but not efficient electric	\$4,585	\$21,589	\$26,174
Home C	Upgrades to efficient electric	\$25,006	\$6,106	\$31,112

Policy Options

Decisions Along a Spectrum

We can consider these questions along a spectrum

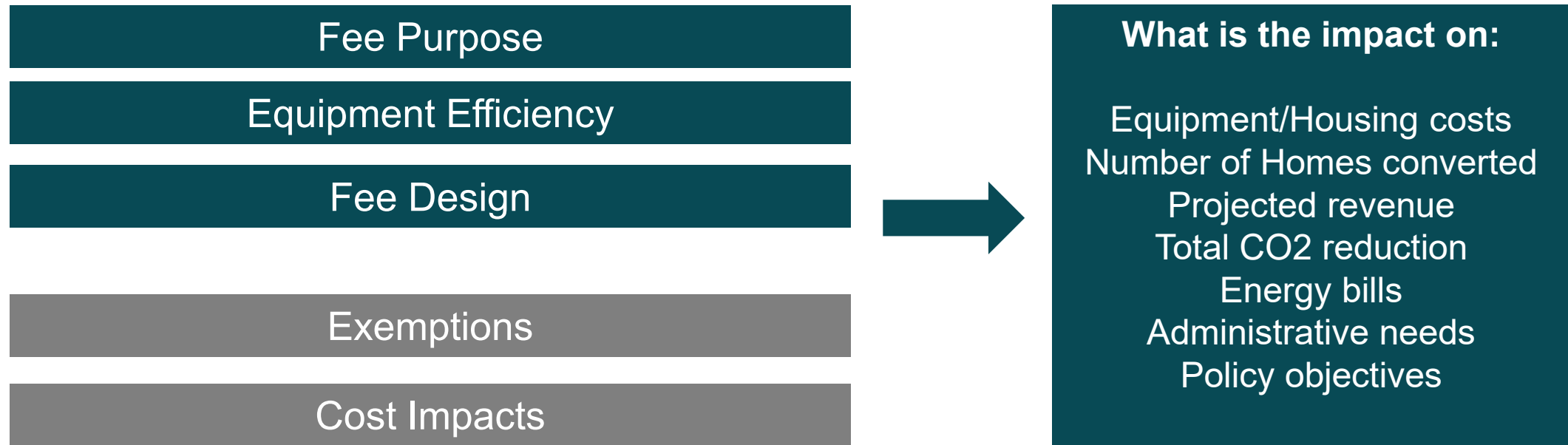
For example:

If a primary role is to send a signal, the fee would be less selective, but potentially less impactful



Policy Discussion Topics

- Staff identified three key policy topics that can be used to assess impacts across a range of scenarios



Policy Outcome

Recover costs
and use
proceeds to
support
electrification
programs but
likely not change
installation
practices

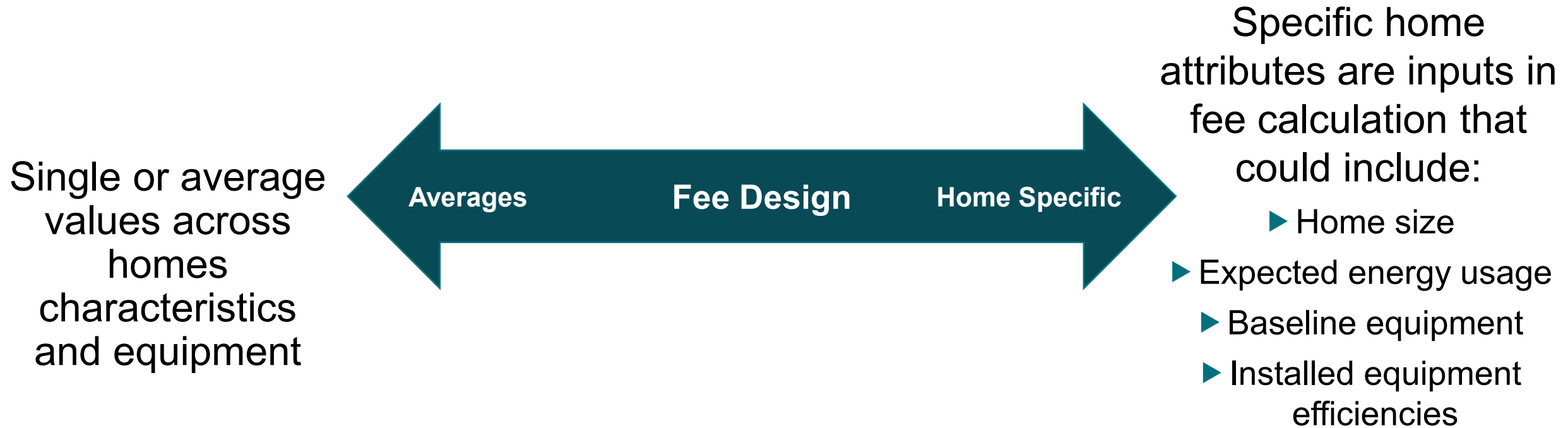


Set sufficiently high
to change decision
making of installed
equipment

Electric or Efficient Electric?



Fee Design



Stakeholder Engagement

Stakeholder Engagement

Joint Committee

- Vetting and providing input into potential calculation factors and exemptions
- Input into the incentive programs

Public Roundtables

- Informing the joint committee on exemptions and other inputs to the calculation as needed
- Information the joint committee on incentive programs

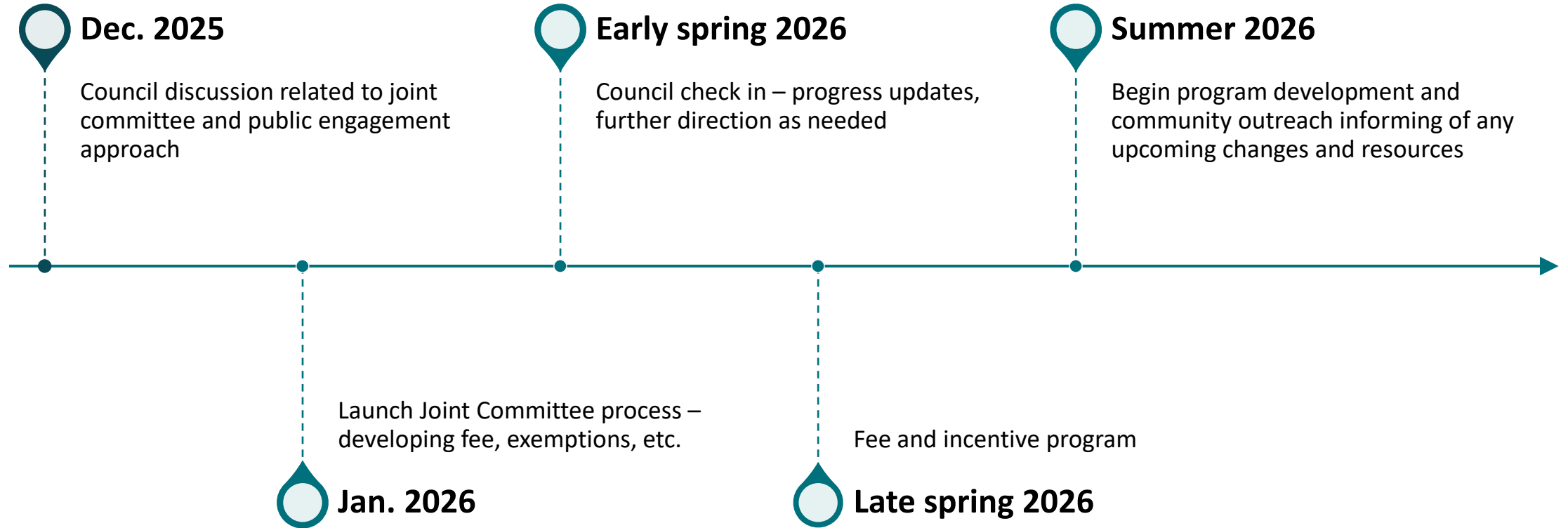
Informal Interviews

- Vetting data and comparing it to real-world experiences in Bend
- Anecdotal insights from development community about challenges related to electrification locally



Next Steps

Next Steps



Other Questions or Discussion

Back Up Slides

City of Ashland Fee

B. *Calculation of Fee.* The carbon pollution impact fee is calculated as follows:

$$\text{Fee} = (\text{SCGHG}) \times (\text{MTCO}_2\text{e}) \times (\text{Service Life})$$

Where:

1. SCGHG is \$208.00 per metric ton (adjusted annually).
2. MTCO₂e is 2.49 metric tons for an average residential natural gas home in Ashland, adjusted for specific appliance usage.
3. Service Life is the expected operational lifespan of the appliance, as detailed below:

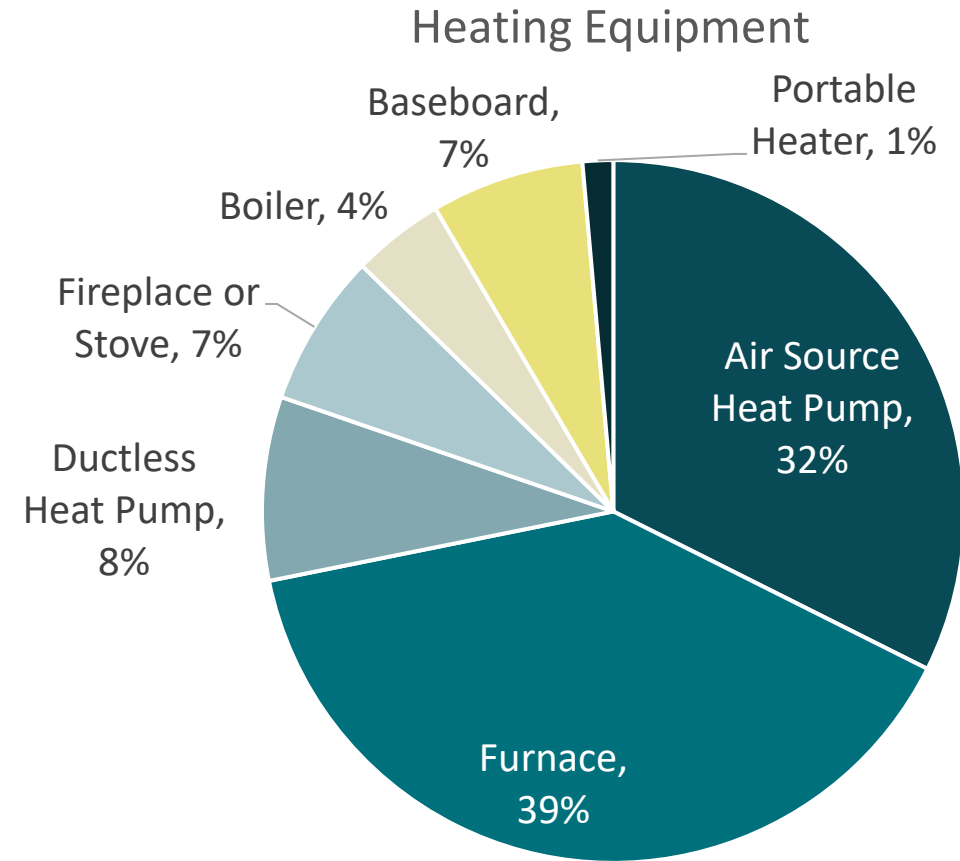
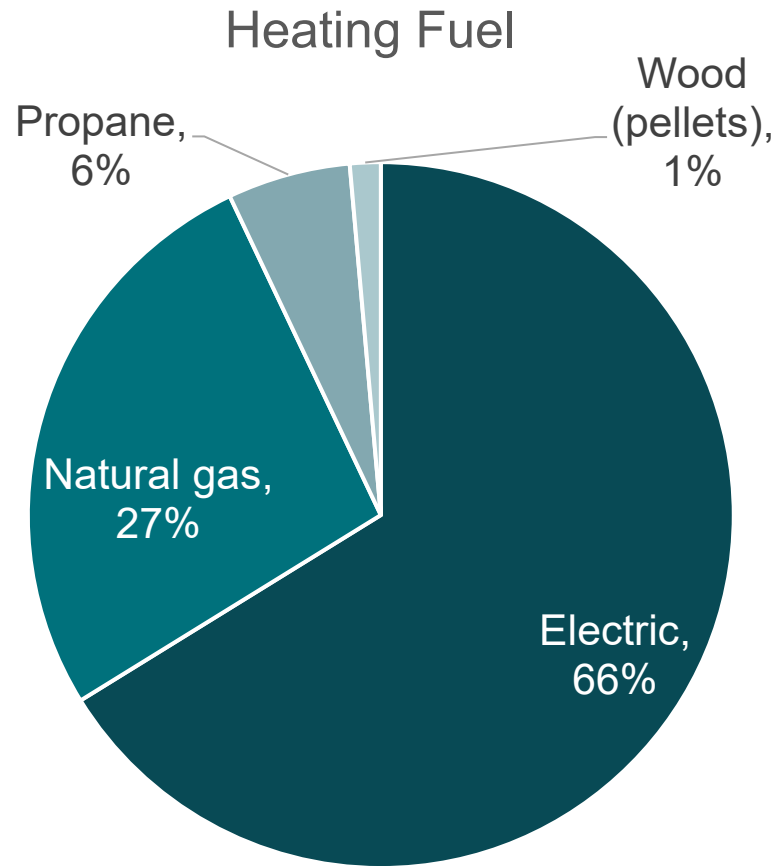
Appliance	CO ₂ e (MT/year)	Service Life (Years)	Fee Example
Furnace	1.32	15	$\$208 \times 1.32 \times 15 = \$4,118.40$
Water Heater	0.62	10	$\$208 \times 0.62 \times 10 = \$1,289.60$
Range	0.12	10	$\$208 \times 0.12 \times 15 = \374.40
Gas Fireplace	0.35	10	$\$208 \times 0.35 \times 10 = \728.00
Clothes Dryer	0.07	10	$\$208 \times 0.07 \times 10 = \145.60

Social Cost of Carbon

Emissions Year	EPA 1.5%	EPA 2.0%	EPA 2.5%	IWG 3.0% (mean)	IWG 3.0% (95th-pct)
2020	\$ 340	\$ 190	\$ 120	\$ 51	\$ 152
2025	\$ 360	\$ 210	\$ 130	\$ 56	\$ 169
2030	\$ 380	\$ 230	\$ 140	\$ 62	\$ 187
2035	—	—	—	\$ 67	\$ 206
2040	\$ 430	\$ 270	\$ 170	\$ 73	\$ 225
2045	—	—	—	\$ 79	\$ 242
2050	\$ 480	\$ 310	\$ 200	\$ 85	\$ 260
2060	\$ 530	\$ 350	\$ 230	—	—
2070	\$ 570	\$ 380	\$ 260	—	—
2080	\$ 600	\$ 410	\$ 280	—	—

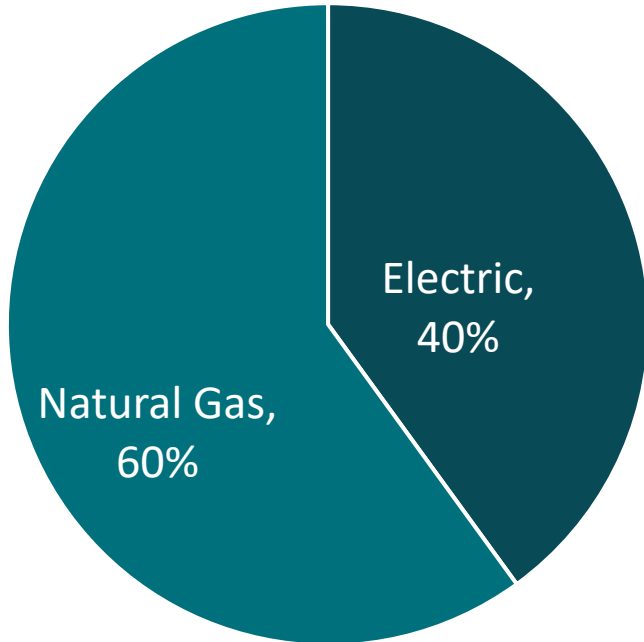


Heating Systems In New Construction – Deschutes County



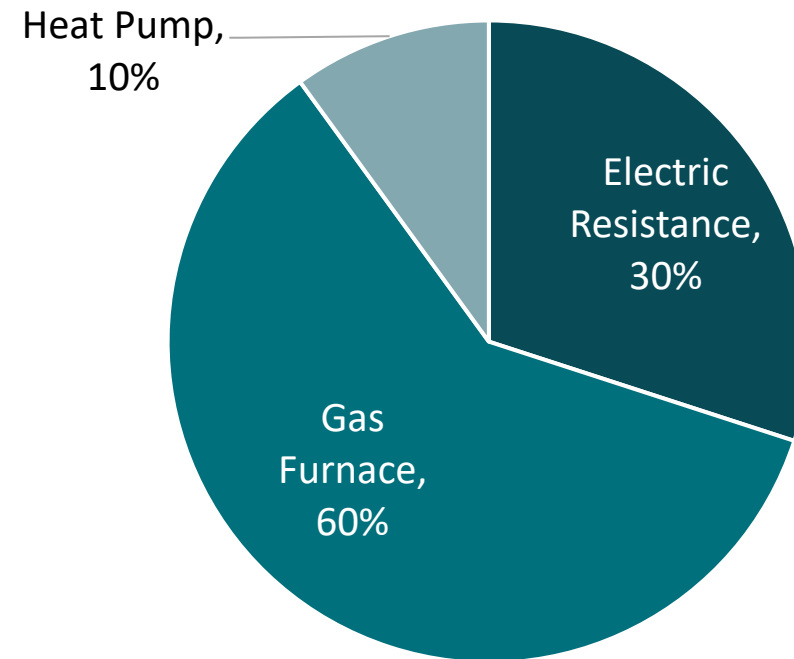
Heating Systems In New Construction – City of Bend - RBSA

Heating Fuel



*When access to gas, 100% of homes have gas heating system

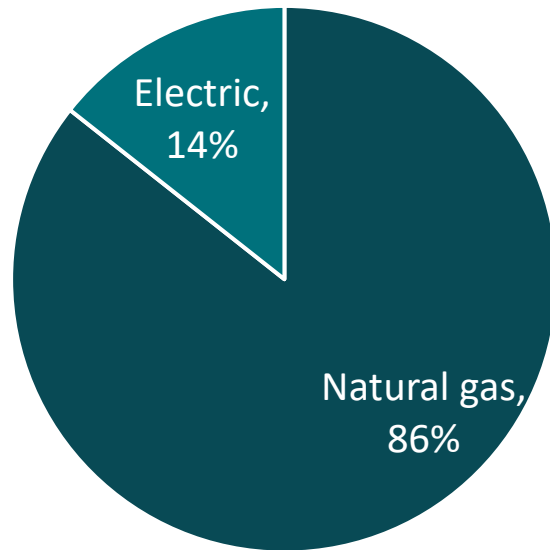
Heating Equipment Type



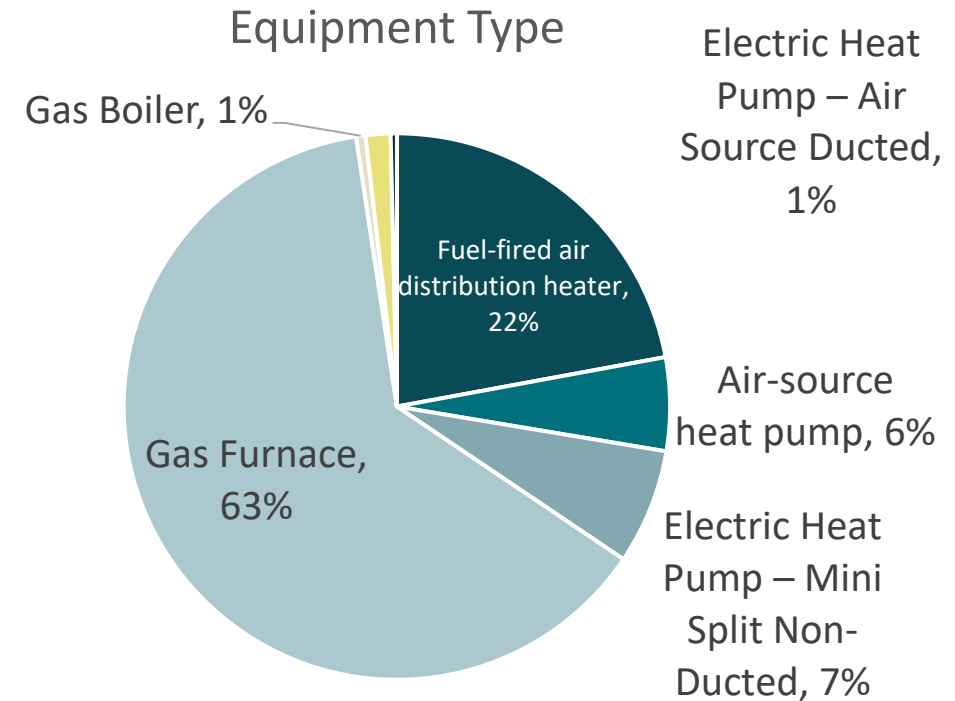
Average installed efficiency of gas furnace is 97.5% (code is 94%)

Heating Systems In New Construction – City of Bend – Energy Trust of Oregon (2021-2023)

Heating Fuel

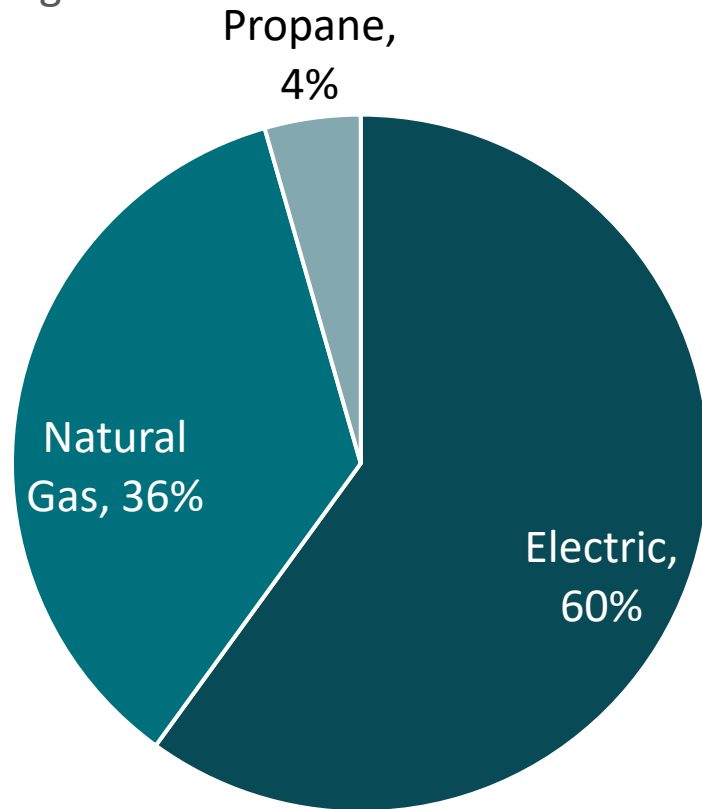


Equipment Type



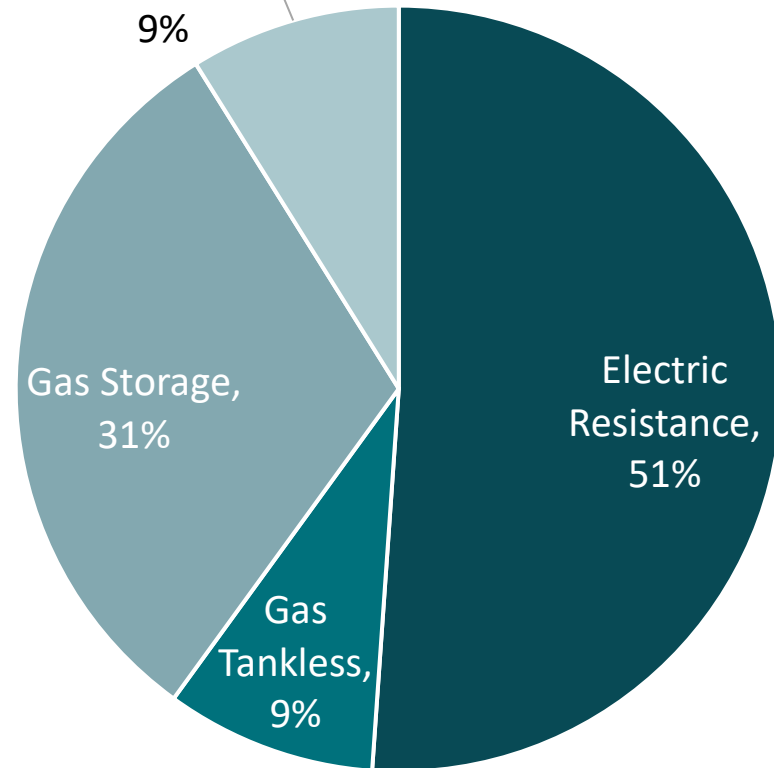
Water Heating in New Construction – Deschutes County

Heating Fuel



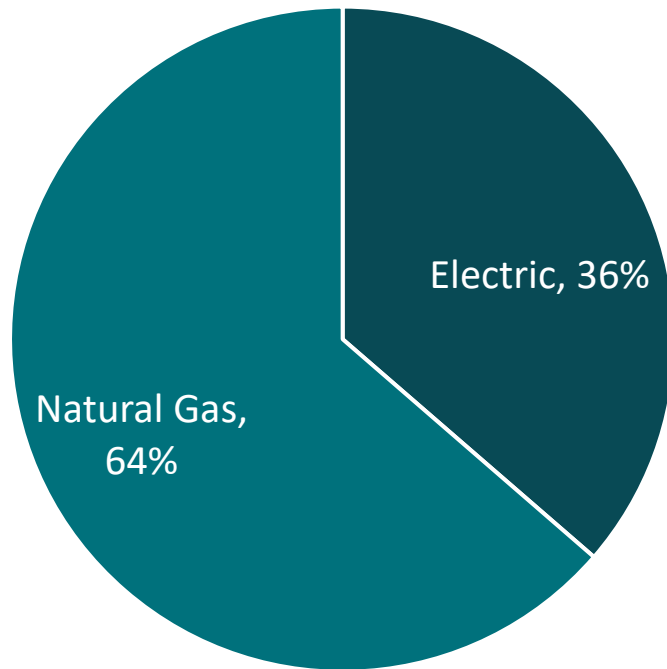
Electric Heat Pump (Packaged), 9%

Equipment Type

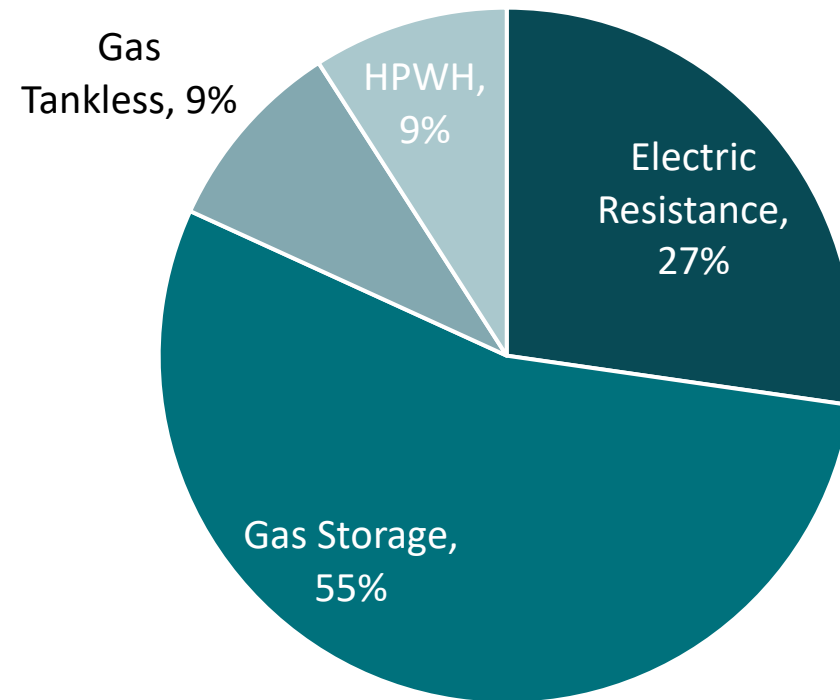


Water Heating in New Construction – City of Bend

Heating Fuel



Equipment Type



*When access to gas, 100% of homes have gas water heating

Engagement Slides

Engagement updates

Digital Presence

- Revamped Environment & Climate webpages, including a dedicated CCAP page and focus area pages (Energy, Transportation, Waste & Materials)
- Launched quarterly Environment & Climate newsletter featuring electrification updates
- Introduced COB climate and environment social media series highlighting CCAP actions

Outreach & Engagement

- Rolled out Year 1 of the Climate Action Partner Grant Program with strong media and community attention
- Developed educational materials: CCAP and Electrification one-pagers, factsheets, and a “What You Can Do” guide

In-Person Events

- Participated in key community events:
 - Earth Day Celebration
 - Action Nights (The Environmental Center)
 - Ecochella (Deschutes Youth Climate Coalition)
 - Green Drinks (High Desert Food and Farm Alliance)
 - Sun Day Solar Fest & Go Clean Energy Conference (350 Deschutes) – both focused on electrification

Building a Clean Energy Path for our Community



What's Happening?

The City of Bend is developing a new policy to address the use of natural gas in residential buildings. This approach may:

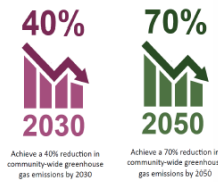
- Discourage new natural gas infrastructure in residential buildings
- Account for the environmental and social costs of carbon
- Support incentives that encourage switching to electricity

The goal is to help Bend transition toward clean, renewable energy—especially as Oregon law requires our electricity

Project Background

Bend's Community Climate Action Plan (CCAP), adopted in 2019 and updated in 2025, is the City's roadmap for reducing greenhouse gas emissions and building climate resilience. It outlines strategies across transportation, energy, buildings, and waste to help Bend meet its climate goals.

- The CCAP identifies building electrification as a key strategy, since residential and commercial buildings account for 48% of local emissions.
- By shifting to electricity—especially as our grid becomes cleaner—we can significantly reduce Bend's carbon footprint and improve air quality.



What We've Done So Far

In 2024, City Council asked the Environment and Climate Committee (ECC) to explore ways to encourage building electrification. After research and community input, Council directed staff to develop a policy mechanism to reduce natural gas use in new residential construction, and use this tool to help fund incentives for electrification.

What's Next

- Aug – Oct 2025 (current phase): Procure consultant support, analyze and scope policy options, present to Council for direction (Oct. 22).
- Nov 2025: Begin public meetings and stakeholder engagement.
- March 2026: Present proposed policy to Council.
- May 2026: Present proposed incentive program to Council.

Did you know?
95% of new single-family homes in Bend have a gas hookup.



How You Can Get Involved

- Attend the October 22 Council Meeting – Staff will present electrification policy options to Council
- Email your City Councilors – Share your thoughts
- Contact the Environment and Climate Team – climateaction@bendoregon.gov
- Subscribe to our Environment and Climate Newsletter – Stay up to date on progress and opportunities:



Language Assistance Services & Accommodation Information for People with Disabilities

You can obtain this information in alternate formats such as Braille, electronic format, etc. Free language assistance services are also available. Please contact Megan Lee at mlee@bendoregon.gov or (541) 693-2161. Relay Users Dial 7-1-1.

Servicios de asistencia lingüística e información sobre alojamiento para personas con discapacidad

Puede obtener esta información en formatos alternativos como Braille, formato electrónico, etc. También disponemos de servicios gratuitos de asistencia lingüística. Póngase en contacto con Megan Lee en mlee@bendoregon.gov o (541) 693-2161. Los usuarios del servicio de retransmisión deben marcar el 7-1-1.

A Community Guide to Reducing Emissions

We're All Part of the Plan

The Bend Community Climate Action Plan is a community solution that brings us together to address climate change. Achieving the fossil fuel reduction goals laid out in the Community Climate Action Plan means having neighbors, businesses and community leaders work together. We all have a part to play, including you.

Where to Start

Taking climate action doesn't have to be expensive or time-consuming. Use this Climate Action Guide to support the Bend community as we work together to preserve our natural environment, promote economic opportunity and develop resilience for current and future generations.

Increase energy efficiency and renewable energy at home

Purchase renewable energy through your utility (if available), buy energy-efficient heating and cooling systems, water heaters and appliances, consider installing solar water heating or solar electric and purchase LED lightbulbs. These actions can save both money and energy.

Promote smaller homes and denser housing

Choose a smaller home with efficient features that requires less stuff and less energy to keep comfortable.

Other transportation actions

Minimize air travel and buy offsets when you fly.

Reduce wasted food and improve recovery of food waste

Plan meals to avoid food waste and compost spoiled or inedible food.

Increase alternative transportation, like walking, biking, carpooling and transit

Walk, bike, ride transit or car/vanpool instead of driving alone.

Reduce consumption

Reduce what you buy, donate or sell usable goods and minimize air freight delivery by choosing "no rush" delivery options for online purchases.

Increase electric vehicle use

Consider buying a new or used electric vehicle for your commute or in-town trips.

Visit the Plan's website to stay up to date on the project: bendoregon.gov/ccap
Reach out to our team with questions: climateaction@bendoregon.gov

Bend's Sustainability Checklist

- Energy Actions**

 - Enroll in renewable energy programs through your utility
 - Explore incentives for energy efficiency upgrades
 - Consider solar hot water or solar electric systems
 - Use Energy Star appliances and electronics
 - Upgrade to electric heat pumps and efficient water heaters
 - Renters: access energy-saving tips tailored to your needs
- Materials & Waste Actions**

 - Compost food scraps at home
 - Shop at thrift and consignment stores
 - Attend repair cafés and clothing swaps
 - Use reusable dishware and containers
 - Plan purchases carefully—buy only what you need
 - Reduce food waste with smart storage and meal planning
 - Choose reusable products over single-use items
 - Borrow, rent, or share tools and goods through local programs
- Transportation Actions**

 - Consider purchasing a new or used electric vehicle
 - Check for EV rebates and incentives
 - Walk, bike, take transit, or carpool whenever possible
 - Use local bike share and trip planning tools
 - Offset emissions from air travel
- Household Actions**


 - Calculate your household carbon footprint
 - Purchase carbon offsets to reduce your impact

Get Involved and Learn More!

- Learn more about what you can do and peruse our webpages:
- Sign up for the City's Environment and Climate newsletter at the bottom of this page:
- Attend an Environment and Climate Committee meeting:



Visit the Plan's website to stay up to date on the project: bendoregon.gov/ccap
Reach out to our team with questions: climateaction@bendoregon.gov

 **Community Climate Action Plan (CCAP)**
CITY OF BEND

What is the CCAP?

The Community Climate Action Plan (CCAP) is Bend's roadmap to cutting down our greenhouse gas emissions making the City more resilient. Originally adopted in December 2019, it details strategies and actions to move toward a cleaner, more sustainable future in response to the community's push for local climate action.

40% 2030
Achieve a 40% reduction in community-wide greenhouse gas emissions by 2030

70% 2050
Achieve a 70% reduction in community-wide greenhouse gas emissions by 2050

Energy Supply

Source of energy used for transportation, buildings, waste and materials. Provide 100% renewable electricity, reduce fossil fuel emissions, encourage renewable energy on build-ings, pursue local projects, and decarbonize City facilities.

Energy in Buildings

Energy used in residential, commercial and industrial buildings. Support policies reducing building emissions, encourage energy-efficient upgrades, implement benchmark-ing and performance standards, and promote smaller, denser housing options.

Transportation

Emissions from vehicles. Encourage electric vehicle adoption, bike and pedestrian travel, transit ridership, carpooling, fleet electrifi-cation, and reduce vehicle miles travelled.

Materials and Waste

Emissions from the production and disposal of materials. Prevent waste, improve composting and recycling, use low carbon concrete, recover food and construction waste, and promote low carbon food choices.

City of Bend Climate Action Partner Grant Program

Empowering Local Climate Solutions | Apply by September 21, 2025

\$150,000
Funding Available!

What is it?

The Climate Action Partner Grant Program offers funding to nonprofits and government entities for projects that help reduce greenhouse gas emissions and build climate resilience in Bend.

This is the first year of the program, and it's part of the City's commitment to a healthier, more sustainable future through community collaboration.

Why does it matter?

The Climate Action Partner Grant Program is a key tool in advancing Bend's Community Climate Action Plan (CCAP)—a roadmap to reduce greenhouse gas emissions by 40% by 2030 and 70% by 2050. The City recognizes that achieving these ambitious goals requires broad community participation.

This program was created to:

- Support local leadership in climate action
- Fund projects that reduce emissions and build resilience
- Empower our community to implement solutions identified in the CCAP

By investing in community-driven efforts—like clean energy education, Electric Vehicle infrastructure, waste reduction, and green workforce training—the City is helping to build a stronger, healthier, and more climate-resilient Bend.

The City can't do it alone. This program uplifts the incredible work already happening in our community and helps bring it to scale.

Who can apply?

- Local nonprofit organizations
- Government entities (City, County, School Districts, Colleges, etc.)

Projects must take place in Bend or serve Bend residents.

What projects are eligible?

Projects must directly support CCAP actions that list "community partner" as the implementation partner or lead. A list of these actions can be found on our Grant Program webpage; scan the QR code below for more information.

What types of projects are funded?

- Outreach & Education**
Raise awareness of CCAP sectors through events, workshops, campaigns, and media—priority given to community-accessible programs.
- Workforce Development**
Build skills in green trades like clean energy, sustainable transportation, and waste reduction through trainings, classes, and curriculum development.
- General Programs or Technical Assistance Programs**
Provide direct support to help individuals, businesses, or organizations reduce emissions or improve resilience (e.g., energy audits, reuse events, tool libraries).
- Program Scoping Planning**
Fund early-stage work like feasibility studies, planning, or design—ideal for smaller funding requests.

Ready to Apply?

Visit program website:



Join our next info session! August 26, 10-11 a.m.:



Submit your application by September 21:



