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Chair Lieber, Vice Chair Findley, Members of the Committee;

As a local distribution company serving over 80,000 customers in Oregon, Cascade Natural Gas Corporation (Cascade) appreciates the opportunity to submit comments regarding the proposals before the Committee collectively referred to as the REBuild bills. Cascade offers preliminary thoughts on the bills, and believes further interpretation and rulemaking will be essential to ensuring a continued robust dialogue and equitable outcomes for all Oregonians.

We direct our initial comments below specifically toward SB 868, SB 869, and SB 870:

**SB 868, Healthy Heating and Cooling for All**

Cascade appreciates the approach of SB 868 in encouraging the use of high-performance equipment in Oregon homes. While the bill does not specify the fuel source of the heat pumps being deployed in the state, introductory language to the bill under the header "What are Heat Pumps" states "[l]ike your refrigerator, heat pumps use electricity to transfer heat from a cool space to a warm space, making the cool space cooler and the warm space warmer." Section 1 of the bill, lines 12-15 also make a specific reference to electric heat pumps.

We believe it is important that the bill provides flexibility to allow best-efficiency heat pumps whether they are operated by electricity or natural gas. Like their electric counterparts, natural gas heat pumps can achieve over 100% efficiency. Several brands are now achieving commercial availability in North America for both residential and commercial end uses. Enbridge and GTI Energy are currently engaged in a series of commercialization pilots in Montreal, Ontario, and Illinois which are demonstrating significant efficiencies and average COPs over 1.0. These technologies can operate on both conventional and renewable natural gas and hydrogen, and gas absorption HPs can operate in minimum ambient temperatures as low as -40 degrees F.<sup>1</sup>

While electric heat pump technologies can provide value depending on efficiency type and climate zone installed, not all applications of the technology have the same benefits. It will therefore be important to delineate between standard and high-efficiency heat pump technology to ensure that only high-performance equipment is deployed for the purposes of this program. This avoids the risk of locking in lower-efficiency equipment that results in higher home energy expenses, diminished comfort, and lower performance. It is also important to consider the differences in electric heat pump performance by

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<sup>1</sup> [https://webinars.myescenter.com/2021/Enbridge\\_GHP\\_Webinar.pdf](https://webinars.myescenter.com/2021/Enbridge_GHP_Webinar.pdf)

climate zone. While some electric heat pumps are better designed for cold weather operation, even these models may experience declines in efficiency once the temperatures drop below 40 degrees. Such winter temperatures are common in Cascade's service area, whose Oregon customers are exclusively based in the Central and Eastern parts of the state. According to analysis from GTI Energy:

*Electric heat pump limitations at colder ambient temperatures raise several consumer and energy supplier concerns. Especially as the temperature drops, heat pump efficiencies and capacities likewise drop, leading to significantly higher source energy use than in direct use of natural gas. Heat pumps may even revert to electric resistance heating, further straining the electricity transmission and increasing source energy and emissions. Widespread electrification could result in significantly higher peak-day electric power asset requirements.<sup>2</sup>*

Additionally, the training and Technical Assistance (T&TA) provisions of the bill as outlined in Section 4 of the bill may benefit from additional consideration of training on high performance natural gas heat pump technologies, on-site gas carbon capture technologies, and training on the appropriate circumstances and climate zones in which various heat pump technologies (both electric and gas) provide the greatest value. This will help mitigate circumstances where a technology is placed within a home that may have unintended consequences for the end user.

Avoiding unintended consequences for homeowners is particularly essential given SB 868's prioritization of low-income households for receipt of heat pump technology. Performance levels of equipment (both baseline efficiency and performance in cold climate zones) is critical when equipment is being placed on homes that are experiencing extreme energy burden. With previous analysis from AEG demonstrating that close to half of Cascade's OR customers fall below median-income levels, we are particularly concerned about impacts to economically burdened households. Even if equipment is provided to low-income homes at low- or no cost, the lifetime costs of equipment maintenance, replacement, and monthly energy bills needs to be considered to ensure that households are not faced with untenable costs later down the road.

Cascade also has concerns about GHG emissions goals taking precedent in regulatory decision making. While we agree that it is important to enact policy designed to combat climate change and reduce GHG emissions impacts, grid reliability and resiliency, and economic impacts of energy costs to ratepayers should remain at the forefront of well-balanced energy policy.

### **SB 869, Build Smart from the Start**

Cascade recognizes the importance of constructing buildings in a manner that balances exceptional performance with energy affordability, grid-and-equipment reliability, and resilience. Success will come from a robust and transparent public process to support further ingenuity in the energy and construction sectors. Consideration of an all-of-the-above approach to decarbonization will help maximize GHG emissions reductions, while factoring for variations in the carbon intensity of electricity across climate zones, and the progressive decarbonization of gaseous fuels through solutions such as

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<sup>2</sup> [Tackling Residential Space Heating Opportunities and Challenges • GTI Energy](#)

renewable natural gas and hydrogen. We look forward to remaining part of the conversation as this effort develops.

### **SB 870, Building Performance Standards**

Reducing energy intensity in commercial buildings is a critical to state decarbonization efforts. A well-designed program provides opportunities for engagement with building owners and managers, energy suppliers, equipment dealers, and the greater community.

We encourage consideration of source efficiency, rather than site for this bill. Consideration of source efficiency and full fuel cycle will ensure that buildings utilize technologies with minimal GHG impacts both at the point of generation as well as the point of utilization. The bill should also provide flexibility for the use of both electric and gas powered technologies and solutions, accounting for the decarbonization of gaseous fuels through technologies such as RNG and hydrogen over time as local distribution companies ramp-up compliance with existing state mandates such as the Climate Protection Program (CPP). We would also recommend further examination of language in section four that seeks to:

*...ensure that an eligible building owner is responsible for paying the costs of compliance with sections 1 to 3 of this 2023 Act and that prevent the eligible building owner from passing the costs to tenants or other persons or recouping or defraying the costs by means of fees, charges or other impositions upon other persons.*

While protections for renters and the economically vulnerable is critical, clarification on the allowance of state and federal grants and ratepayer funded EE programs such as utility rebates operated through the Energy Trust of Oregon will be important.

### **Conclusion**

As stated earlier in our comments, Cascade believes further interpretation and rulemaking will be essential to maximizing the GHG emissions reductions of these proposals and minimizing unintended consequences. We look forward to continuing this important dialogue and supporting the evolution of fuel and technology neutral pathways to decarbonization inclusive of both electric and gas efficiency technologies.

Thank you again for the time and opportunity to provide our initial thoughts.

Respectfully Submitted,



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