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December 9, 2022

Dear Resilient Efficient Buildings Task Force Co-chairs Senator Lieber and Representative Marsh,

I would like to express my appreciation for the opportunity to participate on the Joint Task Force on Resilient Efficient Buildings and for your leadership in this process. It is clear Task Force members share a desire to meet the Legislative direction and you have been sincere in your efforts to lead an unbiased process that results in sound and well-informed outcomes.

Knowing your intent, it is especially disappointing that as we reach the conclusion of the Task Force, we are left with unclear goals and modeling that ignores considerations essential to informing effective policy recommendations resulting in a draft report that doesn't reflect policy consensus.

Throughout my engagement on the Task Force, I have conveyed NW Natural's full support of emission reduction policies founded in tangible facts. For example, a building performance standard tied to ASHRAE drives quantifiable emission reductions – it is relatively easy to implement and effective. While there would be details to work out, this is the sort of policy that if done correctly we'd fully support.

But when the Task Force moves into policy recommendations that involve energy system planning and shifting vast amounts of energy from one system to another – the stakes are very high and so are the potential negative outcomes. This is why NW Natural and other utilities have dedicated teams of experts and modelers to do this kind of work over thousands of hours, and why I've been so strident about the importance of sound analysis and modeling.

Quite frankly, if NW Natural tried to put the kind of analysis conducted by SSG forward in any other energy policy process, it would be rejected for its lack of transparency, lack of modeling sophistication, lack of support for assumptions, and lack of accurate cost implications.

How can anyone evaluate the efficacy of these policy scenarios without the math and the detailed assumptions feeding it? Why would the Task Force even look at summaries of policy scenarios until that critical data – and all of it - was provided and comments were allowed? When we ask questions – SSG provides vague, unhelpful answers suggesting they have provided the details. They have not.

I offer the following information as a summary of errors or missing information in the SSG work and the Task Force process that is paramount to the integrity of any energy policy recommendations to lawmakers.

Inaccurate Treatment of CPP

Contrary to what SSG has said, **they did not model the emission reduction impacts of the Climate Protection Program** (CPP), and its many compliance pathways, including renewable natural gas (RNG), clean hydrogen, and hybrid systems, even though the CPP is an absolute requirement for all natural gas utilities.

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Modeling of the CPP would have resulted in changes to the emission factors used for the gas system over time as the carbon intensity of the fuel delivered decreases in line with the CPP trajectory. SSG confirmed in the November 29 Task Force meeting that the emission factors for electricity were reduced to reflect the trajectory of HB2021, but that same process was not done of the gas system to reflect the required reductions by the CPP. In fact, a closer look at the obfuscated details show CPP compliance was only presented for illustrative purposes on the scorecard for each policy, it was not included in the reference case for the modeling, like HB2021 was.

It is stunning that SSG would pass this work off to Task Force members or lawmakers as "CPP modeling." That is inaccurate and it obviously skews the emissions savings results of certain policy actions.

To be specific and clear: SSG only modeled electric heat pumps adoptions, which is not the same as modeling CPP consistent with all the tools allowed under the Department of Environmental Quality (DEQ) rules or consistent with how they modeled HB2021. As importantly, SSG modeled electric heat pump adoptions without any relevant energy system capacity, installation feasibility, or storage viability information and costs. **These glaring omissions produce substantially inaccurate emissions and cost benefit results for the electric heat pump scenarios.** There is no policy rationale for these choices beyond opinion and preference by SSG and/or Task Force advocates for electrification.

Peak Analysis

There is no accounting for peak energy demands in SSG's work for shifting gas space heating loads to the electric system using electric heat pumps, so the cost savings projected for electric heat pumps are not just wrong – they are incredibly wrong. SSG's approach conveniently leaves out massive amounts of missing costs that no amount of Inflation Reduction Act (IRA) incentive funding will solve.

The physics of the energy system are stubborn and can't be wished away. Electricity can't be stored economically for long durations with existing technologies, so flexible, dispatchable capacity must be available to meet peak electricity demands. The energy system capacity costs (i.e., utility costs passed through to customers) associated with meeting higher peak electric demands are completely ignored. The model looks only at energy costs (a small part of overall costs to Oregonians).

The only time "capacity" is mentioned in the SSG report in reference to the energy system is on page 55: "the economic value of the avoided demand and resulting avoided electricity generation capacity [from deep building retrofits], is not included in this analysis." **Nor are the costs of additional demand to the electric system from the gas system.**

NW Natural has repeatedly requested SSG use actual peak data from PGE, Pacific Power, NW Natural, Cascade and Avista energy system planners–who are charged by Oregon regulators with the accountability for system reliability–and heat pump information from the Energy Trust of Oregon (ETO) to develop reasonable estimates of the major cost elements that should be included in this policy analysis.

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We are mystified why the Task Force and SSG would not insist on using actual utility data in Oregon – that is easily accessible for this analysis and do this math *before* supplying legislators with energy system policy recommendations.

Not doing so can lead to ineffective and risky energy system outcomes that include much higher utility rates overall, instability of the electric system, no diversification of the energy system for power outages, and a back-stop reliance on additional natural gas electric generation or even coal (as we've seen in California and in Europe). These are all outcomes that are damaging to Oregonians, don't achieve health or climate goals, and make our buildings significantly less resilient.

Emissions Calculations

In their *Data, Methods, and Assumptions Manual*, SSG states on page 8, "the calculation of GHG emissions should not systematically overstate or understate actual GHG emissions and should be accurate enough to give decision makers and the public reasonable assurance regarding the integrity of the reported information." I think we all can agree with this statement, which is why it was disappointing to see that SSG used *average* avoided emissions in their policy modeling and did not include the CPP in the reference case. This created an incomplete picture with skewed emissions benefits of electric heat pumps. As I have raised before, "avoided source emissions" and/or "avoided source energy" as defined by ASHRAE 105-2021 would be the accurate way to evaluate emissions benefits of heat pumps.

At the local level, we have seen policies that seek to force or further incent electrification in new homes and businesses aren't supported by the local governments' own analyses. For example, the City of Eugene's own climate action planning analysis[1] showed a ban on natural gas in new construction would result in a net carbon savings on the residential side of 0.1%, and for commercial 1.7% by 2037. It should be noted that those numbers are for a community that uniquely gets most of its current power from the hydro system.[2] That analysis also does not include the gas system emission reductions required by the CPP.

The City of Portland did similar climate planning analysis to assess the impact of electrification of all new construction and a ban on natural gas; that analysis[3] projected a 1% carbon savings by 2050.

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[1] Eugene City Council Agenda Packet, July 25, 2022, at 10, Figure 2, available at: https://ompnetwork.s3-us-west-2.amazonaws.com/sites/134/documents/cc_agenda_packet_7-25-22_ws_council_post.pdf?dzuxWhxtI._J3SweKK9_FhkIOEW5w4_e

[2] See, https://www.eweb.org/about-us/power-supply

[3] City of Portland Bureau of Planning and Sustainability, Portland Decarbonization Pathways Tool and Analysis, Available at: https://www.portland.gov/bps/climate-action/pathways-tool

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When compared to both our state's cleanest City and our largest City, the SSG modeling yields quite different results for electric heat pumps. Shouldn't this raise red flags about bringing this work forward to lawmakers without more rigor and review?

Indoor Air Quality

We appreciate and agree with SSG's consideration of indoor air quality and the conclusion that the complexity of parameters would require a dedicated analysis that should not be undertaken during their work.

NW Natural agrees indoor air quality is an important and complex issue that needs to be analyzed with sound science by trained experts. To that end, I have enclosed a letter from an expert[4] on IAQ submitted to the Eugene City Council after assertions were raised by individuals – not trained in toxicology – that are similar to those raised at the last Task Force meeting suggesting electric cooking is healthier and basing those opinions on poorly constructed studies.

Impacts on Overburdened and Underserved Communities

Appropriately, the Task Force highlighted social justice issues around energy and energy-related health issues. However, a major social justice issue will be around the potentially regressive impacts of higher utility bills on customers. Relying unnecessarily on expensive GHG abatement options will not be affordable for Oregonians. Further, there has also been no discussion about what neighborhoods, environmentally sensitive areas, or tribal lands will be impacted by all the additional electric transmission and distribution lines that will be needed to support some of these scenarios. Nor has there been discussion about how power outages disproportionately affect historically overburdened and underserved communities, an issue the White House has recently recognized in their call for real-time, standardized, and transparent power outage data.[5] These issues seem like major problems in addressing the shared interest of this Task Force – problems that have not even been discussed.

I appreciate the opportunity to provide feedback on the Task Force draft report and related issues. Regretfully, as it stands, NW Natural can't support policy proposals or recommendations based on SSG's modeling discussed above. Thank you for your consideration.

Sincerely,

Kim Rush

[4] See, https://gradientcorp.com/team/david-dodge/
[5] See, https://www.whitehouse.gov/ostp/news-updates/2022/11/22/a-white-house-call-for-real-time-standardized-and-transparent-power-outage-data/

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Enclosure:
Letter from David G. Dodge, M.S., DABT, CIH, dated November 29, 2022