Comments on Natural Gas Decarbonization (Docket UE-210553), June 30, 2023
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(1) The unusual web-based dashboard format which requires computer skills to navigate may have put the content of this report out of reach of some people who care about how the pathway choices will affect them. I'm an engineer, fairly computer saavy, and I have a good computer and pretty good internet service, but it took me some time to figure out how to view the data.

(2) Most people will not be able to look at the totals in the tables and draw conclusions about how the choices hidden in those totals will affect them. A full report written in plain language should have been provided, explaining all the underlying assumptions for each pathway, describing the complex interactions between components in the analysis, and how those were considered and resolved, and describing how value considerations such as equity, resource limitations, pollution, health, safety, biodiversity and environmental impacts were incorporated. You have not managed this analysis in a way that enables meaningful comments on any of these important factors by those most affected.

(3) The Commission seeks comments and feedback on the SSG dashboard, and general comments on other potential pathways. As described in my comment #2 above, this dashboard provides only summaries and subtotals, not detail. I understand that details underlying the dashboard are yet to be released, including a full report, more data, and methods and assumptions. I look forward to seeing a breakdown of the emission and energy reduction potential of each of the modeled actions. I ask that a comment period be provided for anyone who is interested to make specific comments that are directly related to the details in the full report, and including data, methods and assumptions. This will be much more useful to you than the comments you will get from uninformed reviewers.

(4) I did not have time to go through the totals to try to do a backward calculation to figure out what emissions factors were used for various alternative fuels or biofuels. I look forward to seeing those emissions factors in the full report. In past government reports, the greenhouse gas emissions of biofuels and other alternative fuels is commonly not fully accounted for. I will reserve my comments on this for after I see the full report, data, methods and assumptions. It is essential that you use accurate values for emissions for each fuel, to avoid choosing a pathway that does not in reality meet your greenhouse gas limits.

(5) I was hoping that this report would help us think through the real world practical considerations and and challenges of replacing natural gas heat in buildings with heat pumps, what our near-term decarbonization options are for industry, whether electricity utilities are planning right now (under CETA) for adequate supply to replace natural gas heat in buildings and in industry within the next 10-15 years, and how a rapid decommissioning of natural gas service will be managed equitably, safely, reliably, and economically. I don't see those real world considerations laid out for us in this dashboard. Hopefully, the soon to be released missing pieces of the report (full report, data, methods and assumptions) as described in my comment #3 above will contain all this important detail.

(6) In my review, I was looking for factors that will directly impact Washington residents, such as fuels that may compete with agricultural land for food or water use, or local air pollution due to burning synthetic or bio-based fuels. I was also looking for how equity would be incorporated into this major transition to low carbon emissions energy sources. I do not think these considerations are incorporated into the pathway calculations as presented in this dashboard, but are instead referred to in a very general way in the text. Understanding those considerations should be central to our choice of pathways, and must be incorporated into the analysis of each pathway.

My general comments based on what I can see on the SSG dashboard, and past SSG presentations on the UTC webpage:

The problem of Washington State greenhouse gas limits being outdated (again) must be addressed. Safe greenhouse gas limits will require developed countries cut emissions in half by 2030 and reach zero emissions by 2040 or earlier. I understand this is outside the boundaries of this report, but this is a problem with real consequences to Washingtonians, especially children.

The Executive Summary is probably all the legislators will read. It is important that the Executive Summary is clear, and not confusing.

Electricity is the only practical zero carbon emissions replacement for the vast majority of natural gas use. Decarbonizing natural gas requires the systematic decommissioning of natural gas services. The Natural Gas Decarbonization pathways should explore how we will equitably replace the vast majority of natural gas with electricity in the next 15 years or so, and define potential solutions for unresolved challenges that remain in industry.

Two of the pathways provided in the dashboard, the Alternative Fuels scenario, and the Hybrid scenario, depend on blending hydrogen or RNG into the natural gas grid. I will provide more detailed comments on this when I see the quantities, and when it is clear whether you intend this for residential use. Blending hydrogen into natural gas for residential use is clearly unsafe, and I do not believe it could be made safe for this use. Renewable methane gas (RNG) from waste products is theoretically available in quantities of up to 3-5% of current natural gas use, so I am assuming by RNG you mean methane created from agricultural biomass. I will know when I see the details in the full report. Using methane (RNG) from agricultural sources for even a fraction of current natural gas use would have huge land use implications. The lifecycle emissions of agricultural RNG can be greater than emissions from burning fossil fuels. Using agricultural biomass to create RNG in large quantities would compete with food production for land and water. Burning methane indoors has health impacts. Burning it outdoors impacts outdoor air quality. Emissions from burning methane have the same greenhouse effect in the atmosphere regardless of whether it is from agricultural biomass or fossil fuels — the claim that using plant material for fuel is carbon neutral is false.

I look forward to seeing the full report.

Thank you to SSG and UTC staff for their work.

— Donna Albert, PE (retired), MCE