

June 5, 2023

Samantha Hernandez, Oregon Physicians for Social Responsibility
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Re: NW Natural 2022 Integrated Resource Plan Testimony

Chair Decker and members of the Commission,

My name is Samantha Hernandez and I am a climate justice organizer at Oregon Physicians for Social Responsibility (Oregon PSR), an organization of over 2,000 health professionals and public health advocates working to protect human life from the gravest threats to health and survival. Oregon PSR is writing in regards to the NW Natural Natural Integrated Resource Plan (IRP) docket. Global temperatures are likely to surge to record levels in the next five years according to scientists from the World Meteorological Organization (WMO), something we are seeing here in Multnomah County as recently as the May heatwave of this year that broke records.¹² It is important now more than ever that we downsize our gas utilities and follow the IRP guidance discussed in the Final Future of Gas Report as the climate emergency worsens.

¹World Meteorological Organization (WMO). (2023). *WMO Global Annual to Decadal Climate Update*.
https://library.wmo.int/doc_num.php?explnum_id=11629

²Acker, L. (2023, May 18). Portland's ongoing May heatwave is breaking all kinds of records. *The Oregonian*.
<https://www.oregonlive.com/weather/2023/05/portlands-ongoing-may-heatwave-is-breaking-all-kinds-of-records.html>

Oregon Physicians for Social Responsibility

The US affiliate of International Physicians for the Prevention of Nuclear War, Recipient of the 1985 Nobel Peace Prize

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Oregon PSR is particularly concerned about the health and safety risks of hydrogen blending, something gas companies have been making unrealistic and misleading claims about. Most hydrogen gas is derived from methane or coal, which are major sources of carbon emissions, so utilizing hydrogen will actually increase carbon emissions.³ For this reason, using hydrogen to blend with methane also increases the demand for and prolongs our dependence on methane gas. The production of hydrogen from methane and burning hydrogen gas in buildings will also create air pollution that contributes to asthma, heart disease, and premature deaths.⁴ In June 2022, the American Medical Association (AMA) acknowledged the harms of fossil hydrogen, passing a resolution recognizing “the health, safety, and climate risks of current methods of producing fossil fuel-derived hydrogen and the dangers of adding hydrogen to natural gas.”⁵

Moreover, hydrogen ignites more easily and is more explosive than methane.⁶ Methane leaks inside residential and commercial buildings when appliances are in use and turned off.⁷ Hydrogen could make these leaks more dangerous. Hydrogen blends of more than 20% present a higher likelihood of permeating plastic pipes, which can increase the risk of gas ignition outside

³Krasner, A., & Gottlieb, B. (2022). *Hydrogen Pipe Dreams: Why Burning Hydrogen in Buildings is Bad for Climate and Health*. Physicians for Social Responsibility. <https://psr.org/wp-content/uploads/2022/07/hydrogen-pipe-dreams.pdf>

⁴Krasner, A., & Gottlieb, B. (2022). *Hydrogen Pipe Dreams: Why Burning Hydrogen in Buildings is Bad for Climate and Health*. Physicians for Social Responsibility. <https://psr.org/wp-content/uploads/2022/07/hydrogen-pipe-dreams.pdf>

⁵American Medical Association House of Delegates (A-22). (2022). *Report of Reference Committee D* (p. 16). American Medical Association. <https://www.ama-assn.org/system/files/a22-refemte-d-report-annotated.pdf>

⁶Krasner, A., & Gottlieb, B. (2022). *Hydrogen Pipe Dreams: Why Burning Hydrogen in Buildings is Bad for Climate and Health*. Physicians for Social Responsibility. <https://psr.org/wp-content/uploads/2022/07/hydrogen-pipe-dreams.pdf>

⁷Lebel, E. D., Finnegan, C. J., Ouyang, Z., & Jackson, R. B. (2022). Methane and NO_x Emissions from Natural Gas Stoves, Cooktops, and Ovens in Residential Homes. *Environmental Science & Technology*, 56(4), 2529–2539. <https://doi.org/10.1021/acs.est.1c04707>

⁸Sargent, M. R., Floerchinger, C., McKain, K., Budney, J., Gottlieb, E. W., Hutyra, L. R., Rudek, J., & Wofsy, S. C. (2021). Majority of US urban natural gas emissions unaccounted for in inventories. *Proceedings of the National Academy of Sciences of the United States of America*, 118(44), e2105804118. <https://doi.org/10.1073/pnas.2105804118>



the pipeline.⁹ What's more, blending green hydrogen with methane gas to power home appliances is less efficient than renewable energy.¹⁰ Due to the lower energy content of hydrogen gas, more hydrogen-blended methane gas will be needed to deliver the same amount of energy to users compared to methane gas.¹¹ Blending more hydrogen in gas pipelines results in a greater chance of pipeline leaks and the embrittlement of steel pipelines.¹² In addition to the safety risks, the high costs of hydrogen production and delivery could result in dramatic increases in fuel costs for people using methane gas for heating and cooking, which will hurt low-income households the most.¹³ Switching gas appliances for hydrogen-compatible appliances will also add costs. Hydrogen blends above 5% could require modifications of appliances such as stoves to avoid leaks and equipment malfunction.¹⁴

Oregon PSR strongly urges the Public Utility Commission to follow the IRP guidance in the Future of Gas report and not allow for continued, business-as-usual growth, including false climate solutions like blending hydrogen with methane gas.

Thank you for consideration,
Samantha Hernandez, *Climate Justice Organizer*

⁹University of California, Riverside. (2022). *Hydrogen Blending Impacts Study*. California Public Utilities Commission. <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M493/K760/493760600.PDF>

¹⁰Krasner, A., & Gottlieb, B. (2022). *Hydrogen Pipe Dreams: Why Burning Hydrogen in Buildings is Bad for Climate and Health*. Physicians for Social Responsibility. <https://psr.org/wp-content/uploads/2022/07/hydrogen-pipe-dreams.pdf>

¹¹University of California, Riverside. (2022). *Hydrogen Blending Impacts Study*. California Public Utilities Commission. <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M493/K760/493760600.PDF>

¹²Melaina, M W, Antonia, O, & Penev, M. *Blending Hydrogen into Natural Gas Pipeline Networks: A Review of Key Issues*. United States. <https://doi.org/10.2172/1068610>

¹³Aas, D., Mahone, A., Subin, Z., Mac Kinnon, M., Lane, B., & Price, N. (2020). *The Challenge of Retail Gas in California's Low Carbon Future: Technology Options, Customer Costs, and Public Health Benefits of Reducing Natural Gas Use*. California Energy Commission. <https://www.energy.ca.gov/sites/default/files/2021-06/CEC-500-2019-055-F.pdf>

¹⁴University of California, Riverside. (2022). *Hydrogen Blending Impacts Study*. California Public Utilities Commission. <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M493/K760/493760600.PDF>

