

PGE Comments on SB 333 - Renewable Hydrogen Study

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Renewable hydrogen, or hydrogen made from clean electricity, offers promising opportunities to enable economywide decarbonization. The production of renewable hydrogen - especially through electrolysis - will require an adequate supply of clean and renewable electricity. PGE's 2018 deep decarbonization study included electrolytic hydrogen in one of the pathways analyzed and found that this pathway required the largest build out of new renewable resources. However, this same pathway had the smallest build out of battery storage and smallest amount of renewable curtailment as the production of electrolytic hydrogen provided a significant source of flexible load for system balancing. As electric utilities decarbonize their systems, flexible loads are necessary to integrate renewable generation like wind and solar on the system cost effectively by shifting demand to times of high renewable generation. Production of electrolytic hydrogen can start and stop as the wind blows and the sun shines. Renewable hydrogen can also be used to fuel dispatchable thermal power generation - displacing fossil fuels.

As we prepare for our next integrated resource plan, PGE is examining hydrogen storage technologies. We are also participating in and sponsoring the Electric Power Research Institute's Low Carbon Resources Initiative, focused on the low-carbon electric generation technologies needed to enable affordable pathways to economywide decarbonization, including clean hydrogen.

Senate Bill 333 should be designed to analyze the costs and benefits of use of renewable hydrogen to support decarbonization. As introduced, the study makes assumptions about hydrogen technology deployment and does not consider costs or barriers to adoption. For a study of renewable hydrogen to advance economywide decarbonization in Oregon, it should evaluate the highest and best use of renewable hydrogen to economically meet the state's greenhouse gas emissions goals in ORS 469A.205. Such a study should consider the commercial feasibility, economic costs, and policy barriers for use of a range of hydrogen technologies, alongside the greenhouse gas emissions reduction and economic development benefits. Renewable hydrogen may have useful applications in industry, long haul transportation, utility scale electricity generation, and storage of non-emitting energy sources, among others. A new hydrogen study should also align with other work underway in state government, such as decarbonization analyses under discussion at the Oregon Department of Energy, Oregon Global Warming Commission, and Department of Environmental Quality.

If the committee would like to proceed with this study, we also recommend that the study be led by the Oregon Department of Energy rather than the Legislative Revenue Office. The Department of Energy is directed in ORS 469.030 to be "a clearinghouse for energy research," and has recently completed a thorough review of energy issues in its 2020 Biennial Energy Report.

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