

Submitter: John Perona

On Behalf Of:

Committee: Senate Committee On Energy and Environment

Measure, Appointment or Topic: SB1143

Thank you for the opportunity to submit testimony for SB 1143. I write in SUPPORT of the bill.

I am Professor (emeritus) of Chemistry at Portland State University and author of the climate change science/policy text for laypersons titled From Knowledge to Power, which has been widely circulated in Oregon.

I support this bill because it initiates the process of deploying a simple technology that saves on energy costs and reduces greenhouse gas emissions - especially for buildings that are heated by natural gas. Thermal energy networks also help reduce demand for electricity, helping the grid operate more affordably and with greater resilience.

I note an important side benefit - building out thermal energy networks is a natural complement to the infrastructure work engaged in by natural gas companies. But because these thermal networks are very climate friendly, the bill also provides a route for natural gas companies to begin to transition their business models toward technologies that are climate friendly.

The successful deployment of thermal energy networks at scale will soon require more substantial and deeper infrastructure. The reason is simple to understand: as more underground heat transfer becomes operational, the all-important temperature difference between the surface and the underground diminishes. This happens in both cold and hot months. Hence, there will be a need to couple closer-to-the-surface networks with deeper infrastructure elements. Fortunately, geophysical studies have established that Portland's underground topography is favorable for such development. Please see:

<https://www.sciencedirect.com/science/article/pii/S0375650519304729>

Thank you very much for the opportunity to submit testimony in SUPPORT of SB 1143.