

From: [James Champagne](#)
To: [UTC DL Records Center](#)
Subject: Docket numbers UE160918 & UG160919 - PSE's 2017 IRP
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Dear Commissioners,

As a consumer in the PSE market, I would like to bring to your attention an emerging photovoltaic technology nearing commercialization that will greatly impact the relative economics of renewable vs gas plants in PSE's Integrated Resource Plan.

This technology is one of several non-silicon based photovoltaic developments but is the only one likely to reach large scale implementation in the near future. The technology, called perovskite photovoltaics, has been in development since the early part of the 21st century and is now in limited production in Germany by a company called Oxford Photovoltaics (oxfordpv.com).

Because unlike silicon wafers, which have to be grown as ultra pure crystals, high conversion efficiency (22%) perovskites can be mass produced directly.

The eventual cost per unit when large scale production and competition ensues will be a fraction of current costs.

There is now NO UNCERTAINTY about the relative economics of new photovoltaics vs gas fired electric production, with all of gas's collateral damage through transmission leakage as a greenhouse gas (87X as much as carbon dioxide).

In the near term, planing new gas fired plants even as "a back up plan" makes NO ECONOMIC SENSE. Please reject this plan.

Thank you for your consideration.

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