From: rsb2 < rsb2@turbonet.com>

Sent: Monday, September 30, 2019 3:25 PM

To: IRP -- mail -- < IRP@pse.com>

Subject: Upstream Methane Emissions in PSE 2019 IRP

Fellow TAG Members,

Upstream methane emissions are an arcane and detailed facet of PSE's IRP analyses.

I'm providing the link below to my latest letter to PSE seeking clarification of the assumptions they are using and the basis for those assumptions:

https://oohpseirp.blob.core.windows.net/media/Default/19\_Sept\_TAG\_8/Upstream\_Gas\_Assumpt\_ions\_PSE\_2019\_IRP.pdf

While it's great that PSE has established a space for sharing communications on the IRP with the TAG and the public, it is difficult to locate things there, hence this note.

And while the issue may appear technical, even picayune, the impact is not. PSE presented a figure (TAG #8 - slide 15) showing that including the social cost of carbon adder more than triples the levelized cost of gas. If upstream methane leakage is modeled consistent with the studies I'm reading, it likely quadruples the cost. Particularly for optimization-based analyses, discrepancies of this magnitude without suitable sensitivities, pose major risk to the usefulness of analysis results. It seems to me like optimizing the business plan for your startup, while neglecting to include the payroll.

Rob Briggs

TAG Member representing Vashon Climate Action Group