DOCKETED	
Docket Number:	22-IEPR-01
Project Title:	2022 Integrated Energy Policy Report Update
TN #:	247823
Document Title:	PureWest Energy Comments on Draft IEPR Update Report
Description:	N/A
Filer:	System
Organization:	PureWest Energy
Submitter Role:	Public
Submission Date:	11/30/2022 1:31:28 PM
Docketed Date:	11/30/2022

Comment Received From: Kelly Bott
Submitted On: 11/30/2022
Docket Number: 22-IEPR-01

PureWest Energy Comments on Draft IEPR Update Report

Please find our comment letter attached. Thank you.

Additional submitted attachment is included below.

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November 30, 2022

Commissioner Siva Gunda
Vice Chair, California Energy Commission (CEC)
Docket No. 22-IEPR-01
715 P Street
Sacramento, CA 95814

Re: Comments on Draft 2022 IEPR Update Report

Dear Vice Chair Gunda:

PureWest Energy appreciates the opportunity to comment on the Draft 2022 IEPR Update Report (Draft Report). We appreciate the Commission's ongoing exploration of efforts to decarbonize the gas system, and we hope that the Final 2022 IEPR Update Report (Final Report) will highlight near-term opportunities to deliver significant emissions reductions associated with California's current natural gas supply by prioritizing the use of certified (low-impact) natural gas. Doing so would deliver additional and significant, low-cost emissions benefits, on par with the long-term potential from the State's building electrification efforts, and would not conflict with other efforts to decarbonize the gas system, including other strategies evaluated in the Draft Report.

About PureWest Energy

PureWest Energy is an independent natural gas company focused on development in the U.S. Rockies, with current operations in the Pinedale Anticline and Jonah Field in Southwest Wyoming. We are dedicated to advancing modern life by responsibly delivering essential energy with exceptional reliability and proven environmental stewardship. We strive to go beyond the expected to produce natural gas in the most responsible and efficient manner possible.

PureWest was recognized by Hart Energy as a Top ESG Performer and has been working with Project Canary to certify 100% of our production as TrustWell Responsibly Sourced Gas (RSG) by year end. We are the first Rocky Mountain producer to achieve TrustWell's Freshwater-Friendly Verified Attribute and have earned a platinum rating, representing the top decile of performers, from Project Canary on more than 85% of the production certified to date. All certified production has also achieved the Low-Methane Verified Attribute.

In addition, we are partnering with Colorado State University Energy Institute in their Advancing Development of Emissions Detection program to field-test multiple stationary methane detection technologies that will inform PureWest's multi-layer strategy for methane detection throughout our field. Last year, we delivered the first-of-its-kind scope

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one and two carbon neutral RSG to Pierce Transit to power transit buses on the northwest coast.

Significant Climate Opportunity Associated with Reducing Methane Emissions from Natural Gas Supplying California

There is significant opportunity to reduce methane emissions from upstream gas production supplying California. For example, PureWest has completed an initial calculation of our average climate impact using the GREET model, which estimates the average carbon intensity of our operations to be 0.489 gCO_2e/MJ. This represents greater than a 90% reduction compared to the GREET 3.0 value of 6.07 gCO_2e/MJ for natural gas recovery supplying the State.[1]

While these results are preliminary, and we are working with third parties to complete the model with greater rigor and validate them, they suggest a significant potential for the state to further reduce greenhouse gas and potent methane emissions. California used 2,075 billion cubic feet of natural gas in 2021,[2] and imports about 90% of its supply, per the workshop slides. This suggests that about 1,900 billion cubic feet is produced out of state and not subject to the State's oil and gas methane rules.

Based on the estimated potential reduction in upstream methane emissions of 5.581 gCO_2e/MJ between PureWest operations and the current assumed industry average, California could reduce potent SLCP emissions by 11.7 $MMTCO_2e$/year, simply by shifting its natural gas use to low-impact gas.[3] ***This roughly equal to total methane emissions from livestock manure management in California, according to CARB's greenhouse gas inventory,[4] and is greater than the emissions reductions expected by 2045 from electrifying nearly every house in the State.[5]***

This is not to say that the State should not pursue its building electrification efforts or other gas decarbonization strategies. Rather, it just aims to put in context the significant,

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[1] https://ww2.arb.ca.gov/sites/default/files/classic//fuels/lcfs/ca-greet/lut-doc.pdf
[2] https://www.eia.gov/state/print.php?sid=CA
[3] Based on 10.37 therms per thousand cubic feet and 105.5 MJ/therm natural gas
[4] In 2020, emissions from livestock manure methane management in California were an estimated 11.6 $MMTCO_2$/year.
https://ww2.arb.ca.gov/sites/default/files/classic/cc/inventory/ghg_inventory_scopingplan_sum_2000-20.pdf
[5] The 2022 Climate Change Scoping Plan Update foresees all new homes having electric appliances by 2026 and existing homes transitioning to electric appliances at the end of their life, with 80% electric appliance sales in 2030 and 100% in 2035. Compared to the Business as Usual scenario, these efforts reduce emissions from natural gas use in the residential sector by 4.1 $MMTCO_2$/year in 2030 and 11.5 $MMTCO_2$/year in 2045.
For Scoping Plan scenario assumptions, See Table 2-1 of the Scoping Plan at:
https://ww2.arb.ca.gov/sites/default/files/2022-11/2022-sp.pdf
For related Scoping Plan modeling results, see 'Energy GHGs Detailed' worksheet in "AB 32 GHG Inventory Sectors Modeling Data Spreadsheet" at: https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2022-scoping-plan-documents

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low-cost and near-term opportunity to deliver additional emissions reductions as part of California's clean energy and climate change strategy. Transitioning to certified natural gas epitomizes low-hanging fruit in the fight against climate change.

Because emissions reductions from certified natural gas come primarily from short-lived climate pollutants (SLCPs, in this case, methane), they deliver especially significant, near-term climate benefits.[6] For example, using the 20-year GWP of methane of 86 would translate to an emission benefit of ~40 $MMTCO_2e$/year, which is more than the emissions of every heavy-duty vehicle on the road, or every building in the state, and is about equal to emissions from all power plants in California combined.[7,8]

Looking at the potential another way, as highlighted in the Draft Report,[9] CARB has completed an evaluation of out-of-state methane emissions from natural gas supplies to the State. As noted in the Draft Report, CARB estimates 2019 emissions from natural gas imports to be 25.9 $MMTCO_2e$/year, using a 20-year GWP of 72, which it recognizes is an outdated, low figure.[10,11] According to this analysis, and correcting for the current 20-year GWP of 86,[12] suggests CARB's estimate of out-of-state methane emissions to be ~30.9 $MMTCO_2e$/year in 2019. Even with this lower figure, applying PureWest's best practices across the supply chain to deliver 90% reductions would lead to an emissions benefit of 27.8 $MMTCO_2e$/year, which is more than the emissions from refineries in California in 2020.[13]

Suffice to say, the potential for near-term climate benefits is tremendous – and on par with removing an entire, major sector from the State's greenhouse gas inventory. We believe that with the right policies and market signals, California could quickly transition its gas use – perhaps in its entirety – to certified natural gas, by about 2025. Regardless of the estimation technique, transitioning California's natural gas imports to certified natural gas within a few years would represent perhaps the most significant and rapid greenhouse gas reduction in California's history.

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[6] For example, using a 20-year global warming potential for methane of ~82,
[7] Compared to the 100-year GWP of 25 used in the GREET model
[8] In 2020, emissions from on-road heavy-duty vehicles were about 32 $MMTCO_2e$/year, emissions from the residential and commercial sector were a combined 38.7 $MMTCO_2e$/year, and emissions from instate electricity generation was about 41 $MMTCO_2e$/year.
https://ww2.arb.ca.gov/sites/default/files/classic/cc/inventory/ghg_inventory_scopingplan_sum_2000-20.pdf
[9] Draft 2022 IEPR Update Report, pg. 92.
[10] See footnote 1 in CARB's report at:
https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2019/ab_2195_out_of_state_natural_gas_emissions.pdf
[11] The report also acknowledges that numerous studies suggest the data behind the input assumptions in CARB's estimates may significantly underestimate actual emissions.
[12] https://www.ccacoalition.org/en/slcps/methane
[13] Emissions from refining and hydrogen production in 2020 were estimated to be 25.8 $MMTCO_2e$/year.
https://ww2.arb.ca.gov/sites/default/files/classic/cc/inventory/ghg_inventory_scopingplan_sum_2000-20.pdf

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The Final 2022 IEPR Update Should Highlight the Opportunity Associated with Certified Natural Gas and Include Recommendations to Deliver on that Opportunity

Accordingly, we urge you to highlight this opportunity in the "Fossil Gas Transitions" section of the Final Report and identify new recommendations in Chapter 5, including:

- Set goals for reducing methane emissions associated with natural gas supplies to California, aligned with industry best practices, and
- Take steps to encourage utilities and other natural gas users to procure certified natural gas with the lowest greenhouse gas emissions and other environmental impacts.

These recommendations would help California capture a significant, additional, near-term opportunity to significantly reduce its climate footprint. It would also align treatment of imported natural gas with other imported energy sources in the State. Several policies already address emissions from out-of-state electricity use, including the State's Emission Performance Standard under SB 1368 (Perata, Chapter 598, Statutes of 2006), the Cap-and-Trade Program, and the Renewable Portfolio Standard. Emissions associated with imported transportation fuels are covered by the Low Carbon Fuel Standard. Despite being the largest source of imported energy used in the State, natural gas is the only major energy source where California does not incentivize emissions reductions associated with imported supplies.

Thank you again for the opportunity to comment on the Draft Report. In the Final Report, we hope you will identify the significant opportunity and make recommendations to further reduce California's climate footprint through the use of certified natural gas. We look forward to continuing to work with you to further support the deployment of clean energy in California – now and into the future.

Thank you,

Kelly Bott
Senior Vice President, ESG, Land and Regulatory
PureWest Energy