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SoCalGas Comments on IEPR Commissioner Workshop on the California Energy Demand Forecast Results

Additional submitted attachment is included below.

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December 20, 2023

Vice Chair Siva Gunda
California Energy Commission
Docket Unit, MS-4
Docket No. 23-IEPR-03
715 P Street
Sacramento, CA 95814-5512

Subject: Comments on IEPR Commissioner Workshop on the California Energy Demand Forecast Results

Dear Vice Chair Gunda:

Southern California Gas Company (SoCalGas) appreciates the opportunity to provide comments on the December 6, 2023, California Energy Commission (CEC) 2023 Integrated Energy Policy Report (IEPR) Workshop on the California Energy Demand Forecast Results. Energy forecasting is increasing in complexity and SoCalGas commends the CEC's efforts to incorporate climate change and energy transition policy changes in this year's demand forecast.

Gas Planning has a Robust Stakeholder Process which Incorporates CEC Forecast

In response to Vice Chair Gunda's request for comments on risk mitigation of stranded assets in the gas system during the workshop, SoCalGas starts with providing an overview of our existing gas planning process, which incorporates the CEC demand forecast. Currently, SoCalGas produces a gas demand forecast in proceedings such as the Cost Allocation Proceeding (CAP) and also produces a gas demand forecast every two years in the form of the California Gas Report (CGR) in conjunction with the State's other gas utilities. SoCalGas incorporates one of the Additional Achievable Fuel Substitution (AAFS) scenarios from the CEC's IEPR into its gas demand forecast for its CAP and CGR forecasts. During the IEPR process, SoCalGas maintains a constructive dialogue with the CEC about the key assumptions included in the AAFS and other scenarios. In preparing the CGR, SoCalGas engages with key stakeholders, including the CEC, to provide transparency into how it derives fuel substitution and other assumptions incorporated in its gas demand forecast. While we agree that improvements to the energy planning process should be

explored, especially to incorporate more holistic, risk-managed transition scenarios, we don't believe there is currently a deficiency in incorporating input from the CEC or the IEPR into gas planning.

Safety and Reliability are Key Requirements for Gas Planning

During the workshop, CEC staff acknowledged that planning for the gas system may require a different set of scenarios than the electric system and "the electricity system has to be ready to accommodate building and transportation electrification, whereas the gas system has to continue to be available in the event that the market is not able to transition as quickly as proposed."[1] We agree with staff's observation. Indeed, the State needs an integrated planning process that recognizes the extent of changes and uncertainty under a range of electrification scenarios, and the commensurate gas system investment decisions needed.

For instance, integrated gas and electric system planning is required to identify and manage the risk and uncertainty of relying on ambitious electrification forecasts if electrification does not materialize at the pace projected or in the manner expected. It is critical to incorporate risk-managed projections of how dispatchable electric generation may be relied on in the future given the impacts of end-use electrification and the heavy reliance on intermittent renewables into electricity supply models. We recommend this complementary analysis which includes evaluation for region-wide supply or demand side events that can influence the availability of imported resources, as well as variation in deployment and dispatch of preferred resources compared to projections. This is one example where developing more holistic and risk-managed approaches to demand forecasting will help maintain energy system reliability as California decarbonizes.

We anticipate the California Public Utilities Commission (CPUC) and stakeholders will explore in the upcoming Phase 3 of the Gas Planning Order Instituting Rulemaking (OIR), R.20-01-007, an integrated gas system planning framework to assess the increasing criticality of the State's gas grid to support the energy system even if overall gas throughput should decrease. Consistent with the CEC's understanding and strategy, the CPUC also recently affirmed the strong interdependencies between the gas and electric systems in R.20-01-007, finding that:

> The natural gas and electric sectors are interdependent.
>
> Natural gas transmission pipelines are critical to the reliability of the gas and electric systems.
>
> Transmission pipelines must be maintained in accordance with state and federal safety standards as long as they are needed to meet reliability standards.

[1] CEC, IEPR Commissioner Workshop on the California Energy Demand Forecast Results, December 6, 2023, available at https://www.energy.ca.gov/event/workshop/2023-12/iepr-commissioner-workshop-california-energy-demand-forecast-results.

> Natural gas storage facilities play a crucial role in protecting customers from reliability issues and adverse rate impacts in the electricity and gas sectors.[2]

Furthermore, we believe decarbonizing California's energy system through electrification necessarily requires commensurate gas system planning because the gas system enables electrification to occur in a reliable and safe manner. Accordingly, the gas system must be managed in a way that reflects this public benefit to the energy system as a whole and particularly as a backstop for the electric grid if further gas system improvements are necessary to meet increased electric demand.

It is also important not to automatically equate reductions in gas total annual throughput with direct reductions in gas operation, maintenance, customer meters[3], and capital expenditures. Simply put, a reduction in gas total annual throughput does not necessarily translate to an equal reduction in gas infrastructure requirements because the infrastructure may still be needed to continue to serve other demand and/or other operational purposes such as reliability and safety of the gas system.

Additionally, the CGR includes the natural gas peak day demand forecast, which is not included as part of the CEC's forecast. Natural gas peak day demand is not decreasing proportionally to reductions in total annual throughput.[4] Similar to peak electricity demand, peak gas demand is a critical factor in designing a reliable gas system to serve Californians. There are deficiencies in today's approach to forecasting peak demand, especially for dispatchable electric generation, at least in part due to the lack of holistic and risk-managed scenarios discussed above, including considering supply risks and demand conditions associated with extreme and region-wide weather events. For example, the 2022 CGR summer peak day demand estimation for 2022 was far below the actual summer peak day in 2022. For more information on this, please see the related discussion in 2023 CGR.[5]

This significant discrepancy between forecast and actuals compels an approach that incorporates a more complete review of demand scenarios to better support peak demand forecasts that will inform energy infrastructure designs that maintain reliability through the energy transition.
Today, demand for natural gas used to generate electricity tends to be greater in the summer when electric demand peaks. Dispatchable gas-fired generation is called upon to satisfy peak electric demand and help balance the electric grid by complementing intermittent renewable resources. Electrification of gas heating appliances is likely to increase demand for electricity during the

[2] See D.23-12-003 at FOF 1-3 and 28.
[3] Rebuttal Testimony of Eduardo J. Martinez (Customer Forecast), p.5, SoCalGas 2024 General Rate Case, accessed December 20, 2023, available at https://www.socalgas.com/sites/default/files/SCG-235_Rebuttal_Testimony_of_Eduardo_J_Martinez_Customer_Forecast_3459_3460.pdf
[4] 2022 California Gas Report, accessed December 15, 2023, p.181-186, available at: https://www.socalgas.com/sites/default/files/Joint_Utility_Biennial_Comprehensive_California_Gas_Report_2022.pdf
[5] "Summer 2022 Western Heatwave Overview," 2023 California Gas Report Supplement, accessed December 15, 2023, p.15, available at: https://www.socalgas.com/sites/default/files/Joint_Biennial_California_Gas_Report_2023_Supplement.pdf

winter season,[6] creating a growing winter peak in demand for gas used for electric generation. This trend may also be compounded by the relatively lower availability of solar resources during winter months. Seasonal storage and the gas system (including gas storage and line pack) are likely to play a critical role in both balancing the energy system year round, and delivering energy during these peak periods. Developing integrated, holistic demand forecasts that take into account energy supply risks and variations, as well as a range of end-use electrification scenarios, among other factors, will be critical to informing peak demand conditions and maintaining reliability.

Feedback Loop Between the Demand Forecast and Electricity Resource Planning is Crucial

The work performed by the CEC focused on electricity demand and behind the meter energy resources is important for system planning, but it is also important to understand the context of system supply. Changes with regard to magnitude, timing of load additions, load profiles, and seasonal changes of electricity loads will directly impact the types of electricity resources needed in the system. It may also change the electric generation resource profiles that will directly impact gas demand and the capabilities of the future energy system. Furthermore, in the 2022 CGR, SoCalGas incorporated the CPUC's adopted 2021 Preferred System Plan[7] into its gas demand forecast. Any delay or cancellation of electric resources (renewable resources and energy storage resources) would have significant impacts on the annual gas demand forecast and the peak day gas demand forecast, potentially increasing system reliability risk.

Natural gas electric generation has already undergone changes due to electricity import and demand changes. California Independent System Operator's (CAISO) net imports have decreased for every hour of the day since 2020 (see Figure 1 and 2), while natural gas generation has increased for mornings and evenings. This figure also reflects the need for western-wide forecasting, as California is still dependent on electricity resources from other states that may be unavailable during western-wide events such as heatwaves and wildfires.

[6] "Hourly Electricity Demand" presentation at IEPR Commissioner Workshop on the California Energy Demand Forecast Results Part II on December 19, 2023, Nick Fugate, slide 23, available at: https://efiling.energy.ca.gov/GetDocument.aspx?tn=253660&DocumentContentId=88907

[7] 2022 California Gas Report, accessed December 19, 2023, p.8, available at: https://www.socalgas.com/sites/default/files/Joint_Utility_Biennial_Comprehensive_California_Gas_Report_2022.pdf

Figure 1 and 2: CAISO data on change in average hourly generation by fuel type for 2020-2021[8] and 2021-2022[9]

Figure 1.9 Change in average hourly generation by fuel type (2020 to 2021)

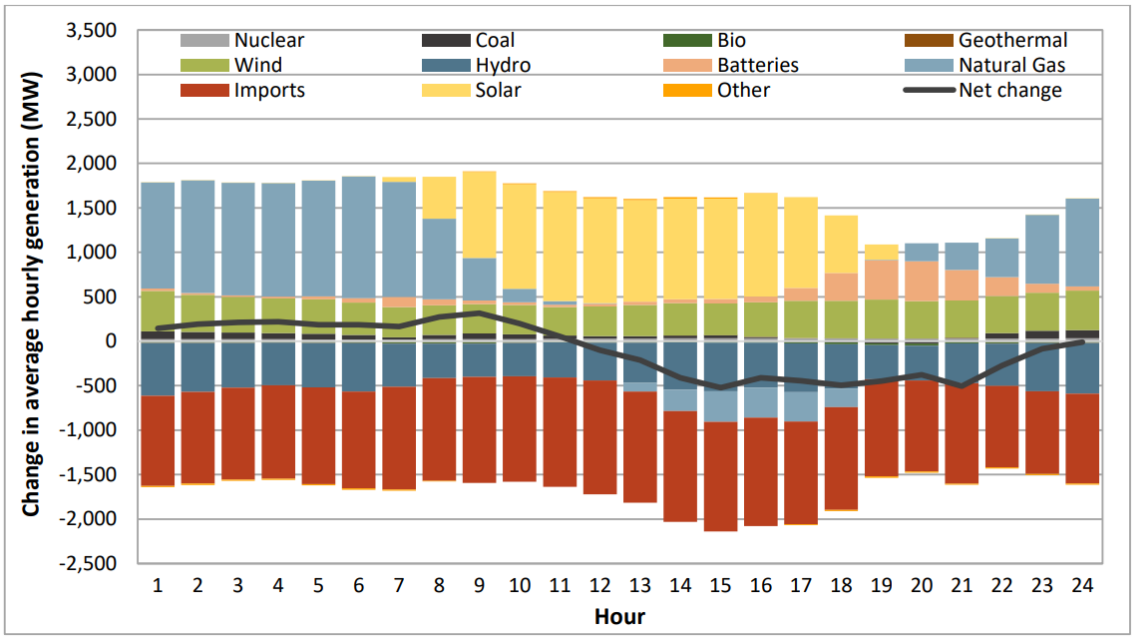
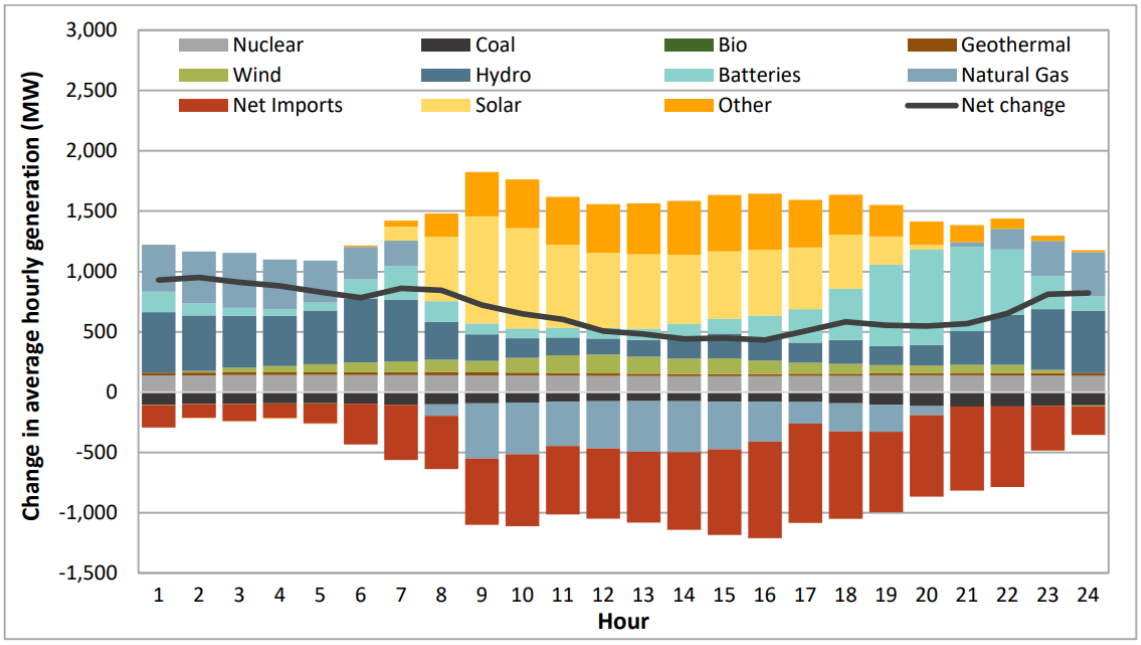


Figure 1.9 Change in average hourly generation by fuel type (2022 compared to 2021)



[8] 2021 CAISO Annual Report on Market Issues and Performance, p.40, accessed December 20, 2023, available at https://www.caiso.com/Documents/2021-Annual-Report-on-Market-Issues-Performance.pdf

[9] 2022 CAISO Annual Report on Market Issues and Performance, p.38, accessed December 20, 2023, available at https://www.caiso.com/Documents/2022-Annual-Report-on-Market-Issues-and-Performance-Jul-11-2023.pdf

Point Forecasts May Not Represent Inherent Uncertainties in the Forecast

Presently, the CEC demand forecast's foundation is based on a point forecast derived from economic and demographic outlooks. The economic and demographic outlooks are major drivers of the forecasts and excluding a forecast range (low, mid, high) could lead to more risk and uncertainty. We understand the CEC removed the bookend cases to streamline the forecast, however, we believe that work refining the wide breadth of potential scenarios is crucial to better reflect potential realities. Notwithstanding, should the forecast be reduced to only point forecasts, SoCalGas recommends the CEC to include language in the forecast recognizing the inherent uncertainties with such an approach and the likelihood of assumption and/or input changes especially in the economic and demographic outlooks (e.g., changes in inflation or household formation assumptions), which can significantly impact the forecast. Finally, SoCalGas notes that point forecasts may create the illusion of increased precision, which could increase planning risks if the specific forecast assumptions fail to materialize as expected.

Conclusion

SoCalGas commends the CEC for its hard work to prepare this year's IEPR demand forecast and for its openness to engagement and input. We support the State's clean energy goals and believe the gas system will continue to play a key role in providing reliable and resilient energy to enable the decarbonized system of the future. Needless to say, maintaining the integrity and safety of the system is SoCalGas' top priority and responsibility and we are proud to be a partner in California's climate efforts and look forward to all the work ahead.

Thank you for your consideration of our comments.

Respectfully,

/s/ Kevin Barker

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