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**SoCalGas Comments on the CEC IEPR California Planning Library  
Workshop**

*Additional submitted attachment is included below.*



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Vice Chair Siva Gunda  
California Energy Commission  
Docket Unit, MS-4  
Docket No. 22-IEPR-02  
1516 Ninth Street  
Sacramento, CA 95814-5512

**Subject: Comments on the CEC 2022 IEPR Update California Planning Library Workshop**

Dear Vice Chair Gunda:

Southern California Gas Company (SoCalGas) appreciates the opportunity to provide public comments on the California Energy Commission (CEC) 2022 Integrated Energy Policy Report (IEPR) Update California Planning Library Workshop held on April 27, 2022. SoCalGas appreciates the CEC's willingness to be transparent and provide data and information to stakeholders and the public. A common theme that all the panelists at the workshop highlighted is the importance of uniform and up-to-date energy data that is accessible to all users.<sup>1</sup> Universal access to updated uniform data provides the opportunity for stakeholders and Californian residents to use a fact-based approach in developing solutions for carbon neutrality in an informed, reliable, equitable, and affordable way.

Our answers to the questions posed to the public during the workshop are as follows:

- **What products or datasets do you most frequently use?**
  - SoCalGas uses some components of IEPR demand forecasts and is pleased to see that the datasets supporting the CEC's gas demand scenarios are included in the scope of the California Planning Library. **Datasets for Additional Achievable Energy Efficiency (AAEE) and Additional Achievable Fuel Substitution (AAFS) demand scenarios** are of particular interest to us. These CEC assumptions

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<sup>1</sup> See "CEC IEPR California Planning Library Workshop," CEC, April 27, 2022, available at: <https://www.energy.ca.gov/event/workshop/2022-04/iepr-commissioner-workshop-california-planning-library>.

are often included as part of SoCalGas' service-area demand forecasts. SoCalGas requests the CEC to include all the scenario forecasts' outputs as well as their inputs and assumptions with the maximum amount of detail possible, particularly for individual **gas and electric utilities' geographic service areas**. For example, it would be useful to have more detail regarding the impact of climate change trends on the number of heating degree-days and cooling degree-days per year, possibly by each utility service area. Being better able to understand the inputs and adjustments to the demand forecasts allows users of these products to better understand the results.

- SoCalGas respectfully requests that the CEC include the assumptions and modeling process underlying the CEC's **forecast of long-term carbon prices** (e.g., carbon trading prices) in the data set, in the same manner as that presented in the 2021 IEPR Volume IV California Energy Demand Forecast report.<sup>2</sup> SoCalGas may use these forecasted prices in developing our retail rate forecasts, as carbon costs are a component of core customers' rates. Thus, expanded information on the forecasted prices would be beneficial for us.
- SoCalGas finds the **CEC Thermal Efficiency of Natural Gas-Fired Generation in California Reports**<sup>3</sup> useful and requests that the CEC continue producing annual updates of this report.
- SoCalGas recommends that the CEC migrate the PDF documents on the **CEC Tracking Progress website**<sup>4</sup> and integrate them in a more search-friendly format (e.g., not as PDF documents but perhaps as text on a dashboard) to the California Planning Library, especially those related to energy storage (short duration and long duration, demand response, renewables, energy equity indicators, installed electric capacity and resource flexibility). It would also be beneficial to include electricity carbon intensities by hour, which would help identify times and months of greatest need to decarbonize.
- The CEC can collaborate with the California Public Utilities Commission (CPUC) to present **Public Safety Power Shutoff (PSPS) event data** in a manner that would help the public understand reliability and resiliency impacts. This would dovetail with the CEC's current work on tracking and approving diesel backup generators ranging from residential to commercial and industrial sizes.<sup>5</sup>
- SoCalGas proposes that the CEC include greenhouse gas (GHG) emissions data within the scope of the California Planning Library. Of particular interest are **GHG emissions from wildfires categorized by anthropogenic sources**, such as those triggered by electric power lines, and natural causes. Breaking down the emissions

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<sup>2</sup> See "CEC 2021 IEPR Report Volume IV California Energy Demand Forecast," CEC, published February 2022, available at: <https://efiling.energy.ca.gov/GetDocument.aspx?tn=241581>.

<sup>3</sup> See "Thermal Efficiency of Natural Gas-Fired Generation Reports," CEC, available at: <https://www.energy.ca.gov/data-reports/energy-almanac/californias-natural-gas-market/thermal-efficiency-natural-gas-fired>.

<sup>4</sup> See "Tracking Progress," CEC, available at: <https://www.energy.ca.gov/data-reports/tracking-progress#:~:text=Tracking%20Progress%20The%20California%20Energy%20Commission%E2%80%99s%20tracking%20progress,are%20today%20and%20where%20we%20need%20to%20be>.

<sup>5</sup> See "Temporary and Emergency Generation Program," CEC, available at: <https://www.energy.ca.gov/programs-and-topics/programs/temporary-and-emergency-generation-program>.

in this way would make it possible to determine the quantity of direct emissions associated from preventable anthropogenic triggers of wildfires and properly associate those emissions to the correct sector. Understanding preventable man-made causes of fires and associated emissions would help to evaluate the effectiveness of mitigation strategies such as PSPS events and would provide more accurate sector GHG and **criteria pollutant (e.g., particulate matter (PM) 2.5) emission inventories**. Furthermore, the cost to customers from an outage and the indirect emissions from PSPS events should be included as a data set to improve strategies to prevent fires while minimizing negative impacts to customers. Currently, the CEC houses data on the wildfires that have occurred over the past century (going back the last thirty years) on the GHG Emissions Reduction Report as part of the Tracking Progress tool. Further analysis of the GHG emissions resulting from wildfires and their sources, as suggested here, could enable informed decision-making to reduce GHG emissions and negative public health, air quality, and cost impacts.

- **Transportation fuel forecasts** are appropriate to include in the California Planning Library. It would be helpful to be able to forecast and trend the climate, air quality and volume reductions (e.g., displaced diesel in diesel gallons equivalents) associated with displacing carbon-intensive transportation fuel (e.g., diesel) with lower carbon-intensity alternatives such as electricity, natural gas, renewable natural gas, and hydrogen. The amount of carbon dioxide equivalent avoided or reduced associated with these lower carbon-intense alternatives, as well as the criteria pollutant reductions, would be helpful in determining air quality and associated health benefits especially for those that live along transportation corridors. Also, the carbon dioxide equivalent reductions could be helpful for assessing status in meeting State climate goals. Since the rate of GHG reductions is critical to meeting climate goals, forecasts on adoption rates of alternative lower emitting transportation energy supplies would be very helpful in determining whether further incentives or policy changes are needed in this largest emitting sector.<sup>6</sup>
- **Of the products you utilize, is there a preferred format or geographic level of granularity you would like to see?**
  - **Locational granularity** is becoming more important for equity, reliability planning, and land use. This data is already important for planning and historical comparisons and will become more important as the impacts of climate change increase and as higher percentages of intermittent resources create more challenges to reliability and as available land decreases.<sup>7</sup> It is therefore critical that data

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<sup>6</sup> See “Current California GHG Emission Inventory Data,” California Air Resources Board (CARB), available at: <https://ww2.arb.ca.gov/ghg-inventory-data>.

<sup>7</sup> See “2021 Senate Bill (SB) 100 Joint Agency Report,” CEC, published March 15, 2021, p. 40, available at: <https://efiling.energy.ca.gov/EFiling/GetFile.aspx?tn=237167&DocumentContentId=70349>.

granularity use the most robust geospatial tools available today while simultaneously planning for the expansion of information and granularity as soon as they become available. Of particular interest are breakdowns by climate zone, building zone level, and census tract level where possible. In addition, locational granularity can be applied to disadvantaged communities to glean information about the energy consumption of electricity, natural gas, and transportation fuels.

- We commend the CEC on the **geospatial data, layers, and web mapping applications** that are currently provided and maintained on the Geographic Information System (GIS) data hub.<sup>8</sup> GIS is a robust and versatile tool for identifying geospatial trends and land use planning purposes. The accessibility of this data to stakeholders and the public allows these parties to be able to explore and use this data for their own planning purposes. We recommend the CEC continue to expand this tool by adding more data and layers to the GIS data hub.
  - Along the same lines, if the CEC shares data that has a location attribute, we request the data to be **geocoded** so it can be processed and added to layers on standard GIS products such as ESRI mapping software (e.g., ArcGIS and ArcView) and Google Earth.
  - Microsoft Excel is a widely used program. It would be helpful to users if all datasets in the California Planning Library were easily exportable as **Excel spreadsheets**.
- **How can we make products easier to find?**
    - SoCalGas supports the recommendations made by panel members and stakeholders, requesting a **user-friendly search function** that will yield results if users use long-form terminology or acronyms. The ability to use quotation marks around the search phrase to find an exact match of the phrase in results, like the function available on Google Search, would also be helpful for users.
    - To the extent that the CEC will house some data outside of the California Planning Library, SoCalGas recommends adding **links to alternatively located data** within the library such that all data is easily accessible from the library.
  - **Are there ways to make them easier to utilize?**
    - SoCalGas recommends creating **uniform templates** with potential placeholders for the future such that data that is not yet available, but expected in the future, will have a designated placeholder, space, or column. This will minimize disruptions to data users. Echoing remarks made by the CPUC and California Community Choice Association (CalCCA) during the workshop, a stable data format will be helpful for data automation.<sup>9</sup>
    - SoCalGas proposes the CEC **standardize the GHG or intensity units used** in the California Planning Library for the energy sector as well as for the rest of the data it presents to facilitate an apples-to-apples comparison of the GHG emissions generated per unit of energy delivered. For example, GHG intensities for all energy

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<sup>8</sup> See “CEC GIS Open Data,” CEC, available at: <https://cecgis-caenergy.opendata.arcgis.com/>.

<sup>9</sup> *Ibid.*, CEC California Planning Library Workshop.

delivery systems (petroleum, electric, natural gas, hydrogen, propane) can be converted to metric tons (MT) of carbon dioxide equivalent (CO<sub>2</sub>e) per megajoule (MJ) of energy delivered (together abbreviated as MTCO<sub>2</sub>e/MJ). Having a common unit for comparing GHG intensity of these linked energy delivery systems will help create transparency in the effectiveness of reduction strategies to support cost-effective economy-wide carbon neutrality goals.

- To facilitate use of the California Planning Library by power users, stakeholders, and the public alike, an **energy equivalency reference** or resource would be helpful to educate users on the energy units associated with different energy systems. For example, a reference that details the conversion factor between kilograms of hydrogen and therms of natural gas. The U.S. Environmental Protection Agency's (EPA) GHG Equivalencies Calculator<sup>10</sup> and Calculations and References<sup>11</sup> is a good starting point the CEC can use to develop a calculator relevant to California's energy system.
- **Are there datasets or products missing?**
  - **Model assumptions and meta-data** should be included in the scope of the California Planning Library. All models that the CEC uses to inform its decisions or make policy should have a listing of assumptions, sensitivities, uncertainties and confidence intervals for any direct measurements and potential biases. This would allow stakeholders to replicate the modeling results and run scenarios to see other potential results.
  - **Marginal abatement costs for the energy sector in dollars per metric ton (\$/MT) carbon dioxide equivalent reductions** is currently missing from the scope of the California Planning Library. The State of California has limited resources to mitigate and decarbonize the energy system. To prioritize the most cost-effective reduction strategies, it would be helpful to understand the costs per metric ton of carbon dioxide equivalent reductions of existing mitigation programs and have this data broken down by energy system with inclusion of costs to harden any system against leaks, losses, or climate event disruptions (e.g., undergrounding of electric lines to prevent fires and associated GHGs and criteria pollution, leak detection and repair, etc.).
  - **The levelized cost of energy (LCOE)** should be based on delivered energy, not solely on generated energy to account for the cost of energy storage or readily dispatchable resources.
  - **Delivered energy cost data** should be included in the scope of the California Planning Library to enable evaluation of affordability. The U.S. Energy Information Administration (EIA) has state-level average wholesale and retail rates

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<sup>10</sup> See "U.S. EPA GHG Equivalencies Calculator," U.S. EPA, available at: <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>.

<sup>11</sup> See "Greenhouse Gases Equivalencies Calculator: Calculations and References," U.S. EPA, available at: <https://www.epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references>.

for various sectors,<sup>12</sup> but this level of energy cost data has not been helpful for optimizing programs under time-of-use rate structures and evaluating costs to customers and climate or air quality benefits that have time dependencies. As discussed above, all costs should be in energy equivalent units or dollars per megajoule (\$/MJ) of delivered energy or dollars per million British thermal unit (\$/MMBtu) of delivered energy for apples-to-apples comparisons between energy systems. Furthermore, where appropriate and available, all costs should be geospatially available and broken down by census tract and utility service territory regions.

- **Energy system climate resilience and adaptation cost forecasts** should be included in the scope of the California Planning Library. The costs of hardening, recovering, or adapting the energy infrastructure to be resilient to climate events (e.g., sea level rise, wildfires, and extreme weather such as excessive wind, rain, cold, and heat waves) and withstand damages and ease recovery from climate related events should be accounted for to properly identify future energy costs to customers. The CEC has conducted research on utility systems climate resiliency and adaptability, and it would benefit stakeholders if this research were routinely updated. Actual costs of hardening or recovering from damages due to an event (e.g., preventable anthropogenic triggered fire) from utility General Rate Cases (GRC) or from other cost recovery mechanisms should be overlaid with forecasts as a check to forecasted models.
  - The California Planning Library will help stakeholders plan for the State’s climate goals by enabling **data sharing** with stakeholders. To facilitate this type of analysis, SoCalGas recommends that the library include data that helps stakeholders understand changes in how Californians use energy. Specifically, **data on load modifiers, like behind the meter energy storage, solar, and growing electric vehicle load**, should be shared with as much locational detail as possible.
  - SoCalGas agrees with the comments made by California Independent System Operator’s (CAISO’s) Delphine Hou recommending **hourly granularity**, as that level of detail could be very helpful for understanding changing load shapes.<sup>13</sup>
  - SoCalGas echoes CalCCA’s request for regularly sharing updates to its **PLEXOS production cost model data** to enable consistency across organizations.<sup>14</sup>
- **Do you have questions about the terminology used?**
    - SoCalGas does not have any specific questions but requests that all data sets include **a glossary and technical documentation written** such that both lay people and technical experts can understand it. It is critical for users to understand terminology, inputs, and assumptions. Including this important information can help users avoid misuse of data and possibly incorrect conclusions resulting from misuse. Additionally, SoCalGas recommends including explanations of the

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<sup>12</sup> See “State Electricity Profiles,” U.S. EIA, available at: <https://www.eia.gov/electricity/state/>.

<sup>13</sup> *Ibid.*

<sup>14</sup> *Ibid.*



relationships between different data sets to help users interpret available information.

- **Other remarks**

- In general, SoCalGas recommends that the California Planning Library contain or include links to all the data it makes newly available and all data that is already published in the CEC's multiple proceedings, regulations, programs, and reports. New data would ideally be as granular as possible within confidentiality rules and should be aggregated when necessary to protect confidentiality. In addition, the CEC should make sure **appropriate safeguards** are in place to protect sensitive information aligned with any confidential processes and information that data submitters have identified. One possible option is exploring the idea raised by CAISO in the workshop to create a mechanism for which confidential data can be released if Non-Disclosure Agreements (NDA) are signed by the user.

### **Conclusion**

SoCalGas provides these comments in the spirit of collaboration as the CEC refines the scope of the 2022 IEPR California Planning Library. The concept of a California Planning Library is completely novel, and the CEC is the best agency situated in the State of California to pull this together as it is the energy planning, policy, and coordination agency. We look forward to the CEC creating a repository of energy data that is uniform and up to date, as well as easily accessible to all users ranging from frequent power users such as state agencies, gas and electric utilities, and academics, to casual users of the data such as members of the public. Energy data that is easy to understand and use could help to facilitate informed decision making in California's efforts to decarbonize its energy system. Thank you for your consideration of our comments.

Respectfully,

*/s/ Kevin Barker*

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