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**SoCalGas Company Comments Draft 2018 IEPR Update**

*Additional submitted attachment is included below.*



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**Subject: Comments on the Draft 2018 Integrated Energy Policy Report Update Volume II,  
Docket # 18-IEPR-01**

The Southern California Gas Company (SoCalGas) appreciates the opportunity to comment on the California Energy Commission's (Commission) Draft 2018 Integrated Energy Policy Report (IEPR) Update, Volume II.

California's policy goals are focused on emission reductions to achieve climate stabilization. The long-term goal is total, economy-wide carbon neutrality by 2045 (Executive Order B-55-18).<sup>1</sup> The California goal for buildings is greenhouse gas (GHG) emissions reduction, not electrification. Electrification is a choice of one technology to achieve the objective. There are other approaches, specifically decarbonizing the existing, resilient natural gas system, that must be considered and compared. The Commission should not mandate one technology over all others, but instead set emission standards and allow the technology market to compete to comply. Decarbonizing the gas supply assists in decarbonizing energy use directly, but also assists the electric power sector facilitation achievement of our Renewable Portfolio Standard (RPS) goals for 2030, by limiting the expansion of the demand for electricity to only energy efficient and optimal emission reduction end uses.

Our comments below further elaborate on the need for the Final 2018 IEPR Update to support multifaceted approaches to lower the carbon intensity of buildings that are cost-effective and equitable to achieve California climate goals as required by Assembly Bill (AB) 3232. Building electrification is not the single solution to reduce total GHG emissions from buildings and should not be predisposed in the Draft 2018 IEPR Update.

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<sup>1</sup> Executive Order B-55-18 To Achieve Carbon Neutrality. Available at: <https://www.gov.ca.gov/wp-content/uploads/2018/09/9.10.18-Executive-Order.pdf>

Please consider our comments on Chapters 1, 2, 3, 5, and 6 as outlined below:

Chapter 1: Decarbonizing Buildings

- a. SoCalGas supports building decarbonization strategies that are balanced and inclusive, and that focus on maximizing emission reductions while ensuring energy affordability and choice for consumers
- b. Request policy support to increase RG use in the commercial and residential sectors
- c. Request modification to the Market Transformation proposal language and elaborate on recommendation to incorporate GHG emission intensities into electric grid energy metrics
- d. Correct statements under the *Policy Goals for Decarbonizing Buildings* section

Chapter 2: Doubling Energy Efficiency Savings

- a. Provide corrective statements regarding third party requirements

Chapter 3: Increasing Flexibility in the Electricity Sector to Integrate More Renewable Energy

- a. Flexible seasonal storage resources to manage increasing renewable production are needed
- b. Low-carbon fuels, such as hydrogen, can decarbonize the natural gas system

Chapter 5. Climate Adaptation and Resiliency

- a. A solution to reduce wildfire risk is converting biomass resources into renewable gas
- b. The natural gas system is reliable, resilient, and supports climate adaptation
- c. Distributed generation at critical facilities

Chapter 6. Southern California Energy Reliability

- a. SoCalGas will begin winter season with higher levels of natural gas in storage than predicted
- b. Correct statements on the SoCalGas system and reliability
- c. Viability of underground natural gas storage should be included in the 2018 IEPR Update
- d. Gill Ranch Storage connection proposal would not improve the reliability of the SoCalGas System

## I. Chapter 1: Decarbonizing Buildings

### a. SoCalGas supports building decarbonization strategies that are balanced and inclusive, and that focus on maximizing emission reductions while ensuring energy affordability and choice for consumers

Residential and commercial building decarbonization is identified in the Draft 2018 IEPR Update as a key focus to meet our climate goals. Specifically, electrification is identified as a “highly salient strategy to reduce or eliminate GHG emissions from buildings.”<sup>2</sup> However, if the goal is to make significant strides to combat climate change, a multifaceted approach that includes all pathways to lower the carbon intensity of buildings should be taken. SoCalGas is supportive of building decarbonization strategies that include renewable gas (RG), including biomethane, hydrogen, and methanated hydrogen production to decarbonize the gas supply. An RG pathway not only keeps consumer costs down, but also enables customer choice—which should not be undervalued. Further, it enhances the overall reliability and resilience of the state’s energy delivery systems by avoiding narrowing energy delivery to just one system.

Over 90% of customers in Southern California use natural gas for space and water heating. Customers deserve, and prefer, a choice in how they heat their homes and cook their food. Customer choice should not be eliminated, nor should the Commission dismiss customer reaction when pursuing electrification policies.

When the California Public Utilities Commission (CPUC) issued a proposal to direct SoCalGas to implement a moratorium on new commercial and industrial natural gas connections in Los Angeles County,<sup>3</sup> numerous other parties<sup>4,5</sup> opposed the CPUC’s proposal, and highlighted the harm that would be done to the economy if the moratorium were implemented. California policy makers must support fuel neutral policies that preserve customer choice and support the maintenance of a safe and reliable natural gas system, promote a robust California economy, and continue towards its environmental and air quality goals, which natural gas and RG can support.

As we previously commented,<sup>6</sup> energy leaders in other parts of the world are looking at RG as a pathway to decarbonize the gas supply. SoCalGas is collaborating with several utilities in Europe

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<sup>2</sup> 2018 Draft IEPR Update, page 13

<sup>3</sup> CPUC Draft Resolution G-3536, Emergency Order Direction Southern California Gas Company to Implement a Moratorium on New Natural Gas Service Connections. Available at: <http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M201/K367/201367863.PDF>

<sup>4</sup> Los Angeles County, American Gas Association, LA County Business Community Coalition, Bloom Energy, California Manufacturers and Technology Association, Biz Fed LA County, PTG Water & Energy, Californians for Affordable and Reliable Energy, California Council for Environmental and Economic Balance, Clean Energy, and Honeybird Restaurant

<sup>5</sup> Los Angeles Business Journal. January 5, 2018. *Business Opposition Mounts to Proposed Moratorium on New Natural Gas Hookups*. Available at: <http://labusinessjournal.com/news/2018/jan/05/business-opposition-mounts-proposed-moratorium-new/>

<sup>6</sup> SoCalGas comments in response to Achieving Zero Emissions Buildings Workshop held June 14, 2018. Available at: <https://efiling.energy.ca.gov/GetDocument.aspx?tn=224017>

and Canada to advance the development of policies and technologies to support this.<sup>7</sup> California should not depart from the international community's consensus.

SoCalGas agrees with the Draft 2018 IEPR Update that "...renewable gas can be part of the solution to reducing GHG emissions from buildings," but we disagree with the claim that "the role is likely to be constrained by limitations on renewable gas availability."<sup>8</sup> There have been multiple studies evaluating in-state and out-of-state RG resources that demonstrate there are sufficient supplies available to decarbonize gas delivered to buildings to achieve the emissions reductions equivalent to electrification of 100% of the state building sector by the year 2030. SoCalGas welcomes a more robust conversation on this within the context of next year's IEPR or the AB 3232 study.

Furthermore, it is premature to abandon RG as a potential path to building decarbonization. The Draft 2018 IEPR Update draws the conclusion that there is a consensus around building electrification as the lower cost alternative, largely based on a study developed by Energy and Environmental Economics (E3). However, there are important cautions in the E3 report on the price uncertainty in the scenarios that merit further analysis and understanding before California locks into a single technology path. E3 notes there are two key factors that could significantly change the cost comparison between electrification and RG. "First, biofuels could be available at lower cost than modeled here, particularly if sustainability concerns with purpose-grown crops are addressed, or if other jurisdictions continue to lag California in decarbonizing their economies and so do not rely on advanced biofuels, resulting in more of the global biofuel supply being available to California. Second, high costs associated with retrofitting existing buildings for electric heating could significantly increase the cost of the High Electrification scenario."<sup>9</sup> These factors could also have a significant impact on customer acceptance of either approach. And, therefore, deserve further considerations as plans to implement our climate policies are developed.

The year 2030 is fast approaching and California needs to look at all opportunities available to reduce emissions. California must remain a leader in addressing climate change and should adopt policies that provide a pathway for other states, utilities and developing countries to follow our lead. We need to look at how to decarbonize natural gas, not just electrify end-uses. The importance of fuel diversity cannot be overstated given its implications for assuring economic and energy security. We should not solely rely on a single energy source. Building envelope improvements coupled with decarbonizing the fuel we use in buildings should remain paramount in meeting the state's GHG emission reduction goals.

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<sup>7</sup> Press release by SoCalGas, Energir, GRDF and GRTgaz (Attachment 3)

<sup>8</sup> Draft 2018 IEPR Update, page 18

<sup>9</sup> Energy and Environmental Economics. June 2018. Deep Decarbonization in a High Renewables Future: Updated Results from the California PATHWAYS Model. page 5  
<https://efiling.energy.ca.gov/GetDocument.aspx?tn=223785>

**a. Request policy support to increase RG use in the commercial and residential sectors**

The clean energy policy landscape is evolving, and the Commission should not revisit the status of RG in four years as recommended in the Draft 2018 IEPR Update,<sup>10</sup> as this precludes a possible path to immediate building decarbonization.

As acknowledged in the 2018 IEPR Update, the state has provided significant grant funding and other incentives to RG projects for electricity generation and transportation fuel production.<sup>11</sup> However, the state needs policies to support the broader use of RG, such as those that encourage its use in buildings to reduce GHG emissions.

Senate Bill (SB) 1440 was not but should be included in the Draft 2018 IEPR Update. Passed by the Legislature and signed by the Governor, SB 1440 requires the CPUC, in consultation with CARB, "...to consider adopting specific biomethane procurement targets or goals for each gas corporation."<sup>12</sup> Based on the state's experience with an electric RPS, we believe that market stability through this utility procurement requirement will increase production, drive down costs over time, develop new renewable gas technologies, including gasification, and provide the volumes of RG necessary to move it into the core market to decarbonize the building sector. This will drive greater GHG emissions reductions without the massive disruption and investment that would be required for individual customers to replace existing equipment and appliances.

A rulemaking under SB 1440 is needed to create a framework that will make RG an option in the residential and commercial sectors. RG is chemically indistinguishable from natural gas and can be used in the same manner without appliance or other end-use upgrades. Using RG to decarbonize end-uses allows consumers to use the appliances they prefer while minimizing, their carbon impact. This will allow for deep emissions reductions in two sectors simultaneously: the methane emissions from the RG source and the end-use emissions are reduced, since the biomethane displaced traditional natural gas.

Another key bill is SB 1369, which requires the CPUC, CARB, and the Commission to consider electrolytic hydrogen for long-term energy storage. This will help integrate increasing amounts of electricity generated from wind and solar resources and provide a source of green hydrogen, which can be injected into the natural gas pipeline as hydrogen or methanated hydrogen or used on-site to fuel vehicles. Green hydrogen can also be created from biomethane or natural gas with carbon capture, sequestration and utilization, as discussed in more detail in Section III. The implications of SB1369 in terms of increasing the volumes of renewable hydrogen gas available to assist in decarbonizing the building sector must be considered by the agency.

Through its *Short-Lived Climate Pollutant Reduction Strategy* (SLCP Strategy) and *Climate Change Scoping Plan Update*, CARB has set goals to reduce methane emissions and identified

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<sup>10</sup> Draft 2018 IEPR Update, page 4

<sup>11</sup> Draft 2018 IEPR Update, page 30

<sup>12</sup> California Legislative Information. Bill Text. SB-1440 Energy: biomethane: biomethane procurement. Available at: [https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill\\_id=201720180SB1440](https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201720180SB1440)

different approaches for “achieving success in clean energy”, including “enabling cost-effective access to renewable gas.”<sup>13</sup> To meet the goals of the SLCP Strategy, we must put waste resources—including organic sources of methane from sewage, landfills, dairies, and agriculture—towards beneficial uses. Capturing methane emissions from the agricultural and waste sectors is integral to lowering methane emissions in California in a reasonable and economic way. Equally important, however, is the need for a prudent infrastructure investment strategy to enable the sustainable production and utilization of RG. Injection of this valuable resource into utility pipelines for delivery to natural gas customers gives RG access to the broadest possible market, facilitating the most diverse and flexible end-use opportunities. By using existing infrastructure, we can create value for RG derived from organic sources and enable significant reduction of methane emissions.

**b. Request modification to the Market Transformation proposal language and elaborate on recommendation to incorporate GHG emission intensities into electric grid energy metrics**

SoCalGas respectfully request that the Commission remove or clarify Market Transformation from the building electrification/ decarbonization discussion within Chapter 1 of the Draft 2018 IEPR Update. The section, *CPUC Efforts to Decarbonize Buildings*,<sup>14</sup> specifically speaks to building electrification as the primary source of building decarbonization and lists Market Transformation as one of three approaches to advance building electrification. There is an existing *Market Transformation Staff Proposal* before the CPUC in the Energy Efficiency proceeding R.13-11-005. However, based on the Market Transformation Workshop, held on September 25, 2018, the Energy Division indicated that this Market Transformation framework is technologically agnostic and proposals would be focused on Energy Efficiency market transformation only.<sup>15</sup> SoCalGas requests that the Commission remove or modify this section, which emphasizes electrification as the CPUC’s primary alternative to building decarbonization, as it implies that the CPUC has a bias for building electrification as a Market Transformation priority, which, as stated by the CPUC, is not currently being considered.

Additionally, SoCalGas supports the recommendation to incorporate hourly GHG emissions intensities into electric grid energy metrics,<sup>16</sup> but notes that any further incorporation of these metrics into building, appliance, and load management standards should not result in an increase in peak demand. Energy efficiency is first in California’s loading order<sup>17</sup> to avoid costly generation, transmission, and distribution investments. Even as policies shift to encourage electricity usage during times with the lowest GHG emissions profiles, the Commission and CPUC should be mindful of the priority to minimize system peaks.

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<sup>13</sup> CARB Scoping Plan Update p. ESs-11. Available at:

[https://www.arb.ca.gov/cc/scopingplan/scoping\\_plan\\_2017.pdf](https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf)

<sup>14</sup> Draft 2018 IEPR Update, page 34

<sup>15</sup> R.13-11-005. Comments of Southern California Gas Company to Administrative Law Judge Fitch's Ruling Seeking Comment on Market Transformation Staff Proposal, P. 7

<sup>16</sup> Draft IEPR Update, page 45

<sup>17</sup> California Energy Action Plan, 2008 update, page 1



**c. Correct statements under *Policy Goals for Decarbonizing Buildings* section**

SoCalGas believes the Draft IEPR Update misrepresents the requirement under AB 3232: “to develop a statewide plan by 2021 to reduce GHG emissions from buildings 40 percent below 1990 levels by 2030.”<sup>18</sup> AB 3232 does not require a “statewide plan,” but rather directs the Commission to “...assess the potential for the state to reduce the emissions of greenhouse gases in the state’s residential and commercial building stock...” and report the findings to the Legislature.<sup>19</sup>

**II. Chapter 2: Doubling Energy Efficiency Savings**

**a. Correct statements regarding third party requirements**

SoCalGas appreciates the information presented in Chapter 2. For clarification, we request Commission staff make corrections to the draft language which states that at least 60% of the investor-owned utilities’ energy efficiency portfolio must be designed and implemented by third parties by the end of 2020. CPUC Decision (D.) 18-01-004, Ordering Paragraph (OP) 1 modified this timeframe to the end of 2022.<sup>20</sup>

**III. Chapter 3: Increasing Flexibility in the Electricity Sector to Integrate More Renewable Energy**

**a. Flexible seasonal storage resources to manage increasing renewable production is needed**

Energy storage procurement discussion in the Draft 2018 IEPR Update should be expanded to include Power-to-Gas (P2G) technologies to help integrate increasing amounts of solar-and-wind-powered electricity into the grid. As California is faced with an increasingly urgent need to deploy utility-scale energy storage solutions to support intermittent renewable power generation, P2G should be evaluated rigorously for its potential as a large-scale storage option.

The shift towards electrification of residential buildings and increasing amounts of renewable generation could exacerbate the ramping challenges experienced by the California Independent System Operator. This accentuates the need of maintaining diverse and flexible resources to support the grid.

For example, at the Los Angeles 100% Renewable Energy Study Advisory Group Meeting #5 held on June 7, 2018, the Los Angeles Department of Water & Power (LADWP) presented a simulation of their supply/demand under increasing renewables load. A copy of the presentation

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<sup>18</sup> Draft IEPR Update, page 15

<sup>19</sup> LegiScan AB 3232 Bill Text. Available at: <https://legiscan.com/CA/text/AB3232/2017>

<sup>20</sup> CPUC D.18-01-004, Ordering Paragraph 1 at 61

has been uploaded to the Commission’s IEPR docket on Integrating Renewable Energy (18-IEPR-06)<sup>21</sup>. They reported, “[w]e need to find a mix of resources that shift the cost curve and meet the economic challenges... And find a mix of resources that will meet the demand for reliable energy during all hours of the year.” Specifically, slide 36 presents a graph of a “...very simple example where adding 3 gigawatts of battery storage gets us along way. But it doesn’t get us all the way and adding more batteries has very rapidly diminishing returns due to the seasonal mismatch problem.” Based on their analysis, they do not believe that more short-term duration storage and/or load shifting will help. Slides 40 and 41 state that we will need seasonal storage and the National Renewable Energy Laboratory explicitly recommends P2G and hydrogen to provide that resource.

SoCalGas has submitted extensive comments<sup>22</sup> on the opportunity for P2G technology<sup>23</sup> to convert surplus renewable energy into hydrogen, which can be blended with natural or renewable gas and utilized in everything from home appliances to power plants. The renewable fuel can also be converted to methane for use in a natural gas pipeline and storage system or used in hydrogen fuel cell vehicles.

#### **b. Low-carbon fuels, such as hydrogen, can decarbonize the natural gas system**

SoCalGas supports the development of safe and cost-effective pathways that can efficiently produce low-carbon fuels to 1) help decarbonize the natural gas system, 2) support California’s ambitious 2030 GHG reduction targets (SB 350, SB 32, and SB 1383) across the energy and transportation sectors, 3) advance the hydrogen highway, and 4) further build upon the mandated 33% renewable hydrogen requirements in California.<sup>24</sup>

Hydrogen can play an integral role as a carbon-free energy carrier to support the above policy goals. It can be produced from multiple pathways using diverse energy feedstocks. Reforming natural gas with steam to generate hydrogen is the most common method in the U.S. and accounts for 95% of hydrogen production.<sup>25</sup> Biomethane can be used in reformation processes to produce renewable hydrogen from pipeline gas. Hydrogen can also be produced electrolytically from renewable electricity, and thermochemically from organic resources. Additionally, zero-

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<sup>21</sup> <https://efiling.energy.ca.gov/GetDocument.aspx?tn=225784>

<sup>22</sup> SoCalGas. Comments in response to the 2015 IEPR [Draft AB 1257 Report](#), the [2017 IEPR Increasing the Need for Flexibility in the Electricity System Workshop held on 5/12/17](#), and the [Draft 2017 IEPR](#).

<sup>23</sup> SoCalGas Website. Learn about new approaches to decarbonizing our natural gas pipelines. Available at: <https://www.socalgas.com/smart-energy/presentations-webinars/decarbonizing-the-pipeline>

<sup>24</sup> California’s hydrogen industry has already surpassed 33% renewable requirements. *Zero Emission Transportation and Power: The Opportunity of Hydrogen Energy*, California Hydrogen Business Council (January 2018). Available at [https://www.californiahydrogen.org/wpcontent/uploads/2018/03/CHBC\\_Opportunity-of-Hydrogen-and-Fuel-Cells-January-2018.pdf](https://www.californiahydrogen.org/wpcontent/uploads/2018/03/CHBC_Opportunity-of-Hydrogen-and-Fuel-Cells-January-2018.pdf)

<sup>25</sup> Institute of Transportation Studies, UC Davis. *The Potential to Build Current Natural Gas Infrastructure to Accommodate the Future Conversion to Near-Zero Transportation Technology*, (March 2017), at 24. Available at <https://steps.ucdavis.edu/wp-content/uploads/2017/05/2017-UCD-ITSRR-17-04-1.pdf>.

carbon hydrogen can be produced from traditional natural gas by employing processes that can capture and use carbon as a feedstock for materials and other uses.<sup>26</sup>

Biomethane generated from multiple sources can be synthesized into renewable hydrogen for multiple end uses. For example, California has close to 1,400 dairies<sup>27</sup> producing a significant amount of animal waste/manure. Dairy lagoons typically store waste/manure in open lagoons that release methane into the atmosphere. The carbon intensity of the dairy digester biogas is carbon negative,<sup>28</sup> which can be processed into biomethane and injected into the existing natural gas pipeline network, as is being piloted under SB 1383. This biomethane can be used as a feedstock to produce hydrogen for use as a vehicle fuel, or in stationary fuel cells to generate electricity. Sourcing biomethane from dairy digester clusters located in disadvantaged communities and using it to produce hydrogen to fuel zero-emission end uses can also provide local environmental benefits by reducing emissions and can also act as an innovative economic driver for distributed energy resources or a microgrid in those communities.

In addition, hydrogen has significant potential to reduce GHG and criteria pollutant emissions from the transportation sector, the largest contributor of GHG emissions in California.<sup>29</sup> AB 8<sup>30</sup> and Executive Order B-48-18<sup>31</sup> are critical policy drivers to support Hydrogen Fuel Cell Electric Vehicle infrastructure in California. SB 1505, which requires hydrogen fueling stations in California to meet the 33.3% renewable requirement, has made renewable hydrogen an important zero-carbon fuel source in California. Biomethane and other hydrogen pathways will be critical to successfully achieving our goals.

#### **IV. Chapter 5. Climate Adaptation and Resiliency**

##### **a. A solution to reduce wildfire risk is converting biomass resources into RG**

The Draft 2018 IEPR Update includes a robust discussion on climate adaptation and resiliency; however, natural gas is overlooked in that section of the report. Chapter 5 highlights the

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<sup>26</sup> <https://www.prnewswire.com/news-releases/socalgas-works-to-develop-new-technology-that-makes-carbon-fiber-during-hydrogen-production-300577866.html>

<sup>27</sup> Renewable Hydrogen Roadmap, Energy Independence Now. Available at: [https://static1.squarespace.com/static/58e8f58d20099ea6eb9ab918/t/5afd25a9f950b7543abe21ba/1526539702668/EIN\\_RH2\\_Paper\\_Lowres.pdf](https://static1.squarespace.com/static/58e8f58d20099ea6eb9ab918/t/5afd25a9f950b7543abe21ba/1526539702668/EIN_RH2_Paper_Lowres.pdf)

<sup>28</sup> CARB Website. LCFS Pathway Certified Carbon Intensities. Available at: <https://www.arb.ca.gov/fuels/lcfs/fuelpathways/pathwaytable.htm>

<sup>29</sup> Institute of Transportation Studies, UC Davis (March 2017). *The Potential to Build Current Natural Gas Infrastructure to Accommodate the Future Conversion to Near-Zero Transportation Technology*. Available at: <https://steps.ucdavis.edu/wp-content/uploads/2017/05/2017-UCD-ITS-RR-17-04-1.pdf>.

<sup>30</sup> CARB Website. California's Hydrogen Transportation Initiatives. Available at: <https://www.arb.ca.gov/msprog/zevprog/hydrogen/hydrogen.htm>

<sup>31</sup> Office of Governor Brown. *Governor Brown Takes Action to Increase Zero-Emission Vehicles, Fund New Climate Investments*. Jan 26, 2018. Available at: <https://www.gov.ca.gov/2018/01/26/governor-brown-takes-action-to-increase-zero-emission-vehicles-fund-new-climate-investments/>

importance of vegetation management as over 46% of reported fires are suspected to be caused by contact with vegetation (Figure 35).<sup>32</sup> This section would benefit from a discussion of the potential of biomass gasification as a win-win scenario that contributes to vegetation management while also producing a reliable and renewable energy source. As highlighted in our letter in response to the Climate Adaptation and Resiliency Workshop held in August,<sup>33</sup> converting dead trees and other flammable biomass sources into pipeline-quality, renewable, low-carbon biomethane that can be used interchangeably with natural gas is one way to reduce the risk for large-scale destructive wildfires.

We recommend the Commission include an analysis on the potential for biomass-to-biomethane in California in the Final 2018 IEPR Update. We were pleased to see the Commission's recent *Grant Funding Opportunity Demonstrating Innovative Solutions to Convert California's Residual Forest Biomass Resources into Renewable Gas*<sup>34</sup> and we look forward to seeing what solutions to address the risk of catastrophic wildfires from dead and dying trees are funded. There are emerging technologies in this field and we continue to encourage the Commission to increase support for projects and programs that convert dead biomass into RG through biomass gasification. Biomass gasification has enormous public health and safety benefits by reducing the risk of large amounts of black carbon resulting from catastrophic wildfires and open burning. There are also corresponding environmental benefits from reduction of black carbon as a powerful short-lived climate pollutant. Gasification of biomass adds to the supply of reliable, low-carbon energy source that contributes to the State's renewable energy goals (e.g. Low-Carbon Fuel Standard) and contributes to rural economies while simultaneously promoting sustainable forest management.

**b. The natural gas system is reliable, resilient, and supports climate adaptation**

The Draft IEPR Update includes very little information on the vulnerabilities and resiliency of the natural gas system. Recent analysis shows that there are significant differences in the vulnerabilities when comparing the mostly aboveground electric grid to the predominantly underground natural gas system. In our August letter, we included a set of case studies that examined the impacts of various natural disasters throughout the country and their impact on utility and transportation infrastructure. We shared the results with the public to help enhance resiliency both in California and across the Country<sup>35,36</sup>. These studies found that natural gas

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<sup>32</sup> 2018 Draft IEPR Update, page 156

<sup>33</sup> SoCalGas Comments in response to joint agency Workshop on Climate Adaptation and Resiliency held on August 2, 2018. Available at: <https://efiling.energy.ca.gov/GetDocument.aspx?tn=224506>

<sup>34</sup> GFO-18-501 *Demonstrating Innovative Solutions to Convert California's Residual Forest Biomass Resources into Renewable Gas*. Available at: <http://www.californiabids.com/bid-opportunities/2018/10/30/8995961-Demonstrating-Innovative-Solutions-to-Convert-Californias-Residual-Forest-Biomass-Resources-into-Renewable-Gas.html>.

<sup>35</sup> Resiliency Planning to Help Communities and Utilities Prepare for Disasters <https://www.prnewswire.com/news-releases/socalgas-study-offers-lessons-in-resiliency-planning-to-help-communities-and-utilities-prepare-for-disasters-300740527.html>

<sup>36</sup> Case Studies of Natural Gas Sector Resilience Following Four Climate-Related Disasters in 2017. Available at: <https://www.socalgas.com/1443742022576/SoCalGas-Case-Studies.pdf>

infrastructure and services were relatively resilient to recent hurricanes and wildfires. The studies highlighted concerns with an over-reliance on any single energy source and demonstrated that utilizing a diverse energy delivery system contributes to greater reliability, community resilience, and public safety. When considering how best to adapt and be resilient in the face of climate change, we urge the Commission to acknowledge the differences in vulnerabilities of the natural gas and electric grids and make recommendations that take advantage of a diversity of energy delivery systems.

The Commission's own research for the fourth assessment on climate adaptation and resiliency promotes a flexible adaptation approach to managing climate change because of the large uncertainty. Flexible adaptation pathways implement adaptation actions over time to allow for adjustments based on new information or circumstances. Rather than predetermining a set of adaptation investments (e.g. "electrify") based only on what is known today, flexible adaptation pathways is prudent risk management by assessing different options and scenarios when contemplating large scale extremely costly infrastructure changes. The flexible adaptation approach helps balance short-term action with long-term planning. The Commission needs to be consistent with climate adaptation science to cost-effectively ensure long-term resilience and to protect California's economy.

Southern California's natural gas infrastructure supports the resilience of our entire energy system. Because it is mostly underground,<sup>37</sup> it is resilient to extreme weather events, including wildfires. Additionally, natural gas has been vital to supporting critical services for victims of natural disasters across the country. This demonstrates the importance of supply diversification, and specifically natural gas-powered distributed generation resources, which can provide increased resiliency and localized power backup, providing both electricity, heating, or cooling when electric grid resources are unavailable.

### **c. Distributed generation at critical facilities**

SoCalGas recommends that the Final 2018 IEPR Update includes gas-fired distributed energy resources when discussing providing power to critical facilities such as hospitals and fire stations. Combined heat and power systems and fuel cells, powered by natural gas, have contributed to increased resiliency during and after natural disasters. From Superstorm Sandy to Hurricane Harvey, we now have real-life examples of facilities successfully maintaining power because of their investments in natural gas-powered distributed energy resources. Critical facilities with gas-fired backup generators cited these systems as an important disaster response strategy.

While the Draft 2018 IEPR Update discusses battery storage and diesel generators, we believe the Commission should take a more thorough look at the resiliency contributions of natural gas-powered distributed generation. We recommend that the Commission learn from the disasters from other parts of the country and include policy recommendations that support the use of combined heat and power and fuel cell technologies.

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<sup>37</sup> SoCalGas. Comments in response to [8/29/17 2017 IEPR Climate Adaptation and Resiliency Workshop, 2017 Draft IEPR, 2018 IEPR Scoping Order](#).

## V. Chapter 6. Southern California Energy Reliability

### a. SoCalGas will begin winter season with higher levels of natural gas in storage than predicted

The Commission's gas balance analysis and assessment concludes that there is moderate risk to reliability during the summer, but a more serious risk for winter.<sup>38</sup> Specifically, that there may not be enough flowing supply throughout the summer to meet demand and inject gas into storage, and that SoCalGas' December month-end storage inventory levels could be so low that the withdrawal capability is insufficient to maintain reliability in the winter.<sup>39</sup> However, SoCalGas will begin the winter season with levels of natural gas in storage that are higher than predicted in its 2018 Summer Technical Assessment.<sup>40</sup> This is due to mild summer conditions which allowed for late season injection as opposed to the predicted withdrawal during this time-period. During the summer, SoCalGas successfully executed its Second Injection Enhancement Plan<sup>41</sup> and the CPUC increased the allowable inventory limit at Aliso Canyon to 34 billion cubic feet (Bcf)<sup>42</sup> in support of increasing storage inventory levels in advance of the winter season. SoCalGas' Winter 2018-19 Technical Assessment provides a forecasted outlook of system reliability during the coming winter season (November 1, 2018 through March 31, 2019) and analyzes the associated risks to energy reliability during this period.<sup>43</sup> With prudent management of storage inventory levels to maintain sufficient inventory to provide reliability, and the use of Aliso Canyon to maintain that inventory through critical periods, SoCalGas has calculated an approximate maximum system-wide capacity range available to serve end-use customers of 3.75 to 4.15 Bcf per day, depending upon the extent of existing and potential outages on transmission and storage facilities. This range is sufficient to meet the 1-in-35-year peak day design standard and still provide some level of service to crucial noncore customers. SoCalGas forecasts a demand of 4,965 million cubic feet per day (MMcfd) under the CPUC mandated 1-in-10-year cold day design standard, in which service is provided to both core and noncore customers, and a demand of 3,527 MMcfd under the 1-in-35-year peak day design standard, in which all noncore customers are assumed to be fully curtailed. Even with the use of Aliso Canyon, SoCalGas has insufficient capacity to meet the 1-in-10-year cold day design standard given the expected withdrawal capacity of its storage fields and the transmission pipeline outages that are expected to remain throughout the winter season.

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<sup>38</sup> Draft 2018 IEPR Update, page 190

<sup>39</sup> *Ibid.*, pages 190-191

<sup>40</sup> SoCalGas Advice Letter (AL) No. 5275, Attachment C. Available at: <https://tinyurl.com/yadsoxrl>

<sup>41</sup> AL No. 5275, approved by the Commission in Resolution G-3540

*Southern California Gas Company request for expedited approval of its Second Injection Plan and Memorandum between its System Operator and Gas Acquisition Department to Maintain Summer Reliability*

<sup>42</sup> Aliso Working Gas Inventory, Production Capacity, Injection Capacity, and Well Availability for Reliability, Summer 2018 Supplemental Report, Public Utilities Section 715, July 6, 2018. Available at: <https://tinyurl.com/ybqo43qt>

<sup>43</sup> Aliso Canyon Winter Risk Assessment Technical Report. Available at: <https://tinyurl.com/ych34fua>



## **b. Correct statements on the SoCalGas system and reliability**

The Draft 2018 IEPR Update contains inaccurate statements regarding the SoCalGas system and reliability. It asserts that “SoCalGas has stated it needs 43 Bcf in the non-Aliso Canyon storage fields to support the maximum withdrawals needed should an extreme peak-day event occur.”<sup>44</sup> However, SoCalGas’ 2018 Summer Technical Assessment provided that, “[t]o reach the Commission’s requirement of 1,320 million cubic feet per day (MMcfd) of withdrawal capacity from the non-Aliso Canyon storage fields, SoCalGas would need a winter inventory of 43 Bcf in those storage fields.”<sup>45</sup> SoCalGas has not affirmed that 1,320 MMcfd of withdrawal is needed for a peak-day event, only that 43 Bcf inventory is needed in the non-Aliso fields to meet the 1,320 Mmcfd withdrawal rate that the CPUC deemed necessary.<sup>46</sup>

In addition, the Draft 2018 IEPR Update states that “[f]our key pipeline outages continue in 2018, reducing system capacity by more than 1 Bcf from full system capacity.”<sup>47</sup> The SoCalGas/SDG&E gas transmission system is nominally designed to receive up to 3,775 MMcfd of flowing supply on a firm basis. This means, if customers deliver that much supply to the SoCalGas system, and there is a sufficient level of customer demand, SoCalGas can redeliver that gas supply to customers. Supplies delivered to the SoCalGas system do not reach maximum receipt levels for a variety of reasons including, a decline in California production and a history of little to no supply being delivered at Otay Mesa.

The ability to receive supply at Otay Mesa beyond 400 MMcfd is dependent upon local demand in San Diego or displacing supplies that would otherwise be delivered at Ehrenberg. With these realities in mind, the receipt capacity of flowing supplies without any pipeline outages is 3,395 MMcfd. Currently, the receipt capacity is at 2,675 Mmcfd, creating a loss of 720 MMcfd, not over 1 Bcf. In addition, only three key pipeline outages continue in 2018. Work on Line 3000 was completed on September 16, 2018 and it is back in service.<sup>48</sup>

## **c. Viability of underground natural gas storage should be included in the 2018 IEPR Update**

SoCalGas disagrees with the Commission’s recommendation to develop a long-term strategy to close Aliso Canyon. An independent analysis by the California Council of Science and Technology (CCST) validates the importance of underground storage to energy reliability. Aliso

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<sup>44</sup> Draft 2018 IEPR, page 190

<sup>45</sup> Aliso Canyon Risk Assessment Technical Report Summer 2018, pp. 1-2. Available at: <https://tinyurl.com/yalwlxcr>

<sup>46</sup> Letter from Executive Director Alice Stebbins to Bret Lane, President and Chief Operating Office of SoCalGas, under the Subject “Injection Required for SoCalGas Summer Reliability and Storage Inventories. March 13, 2018.

<sup>47</sup> Draft 2018 IEPR, page 181

<sup>48</sup> Further, SoCalGas disagrees with the statements that the SoCalGas system is more constrained in 2018 than 2017 (See <https://efiling.energy.ca.gov/GetDocument.aspx?tn=225027>). Line 3000 has been returned to service, mild summer conditions allowed for late season injection versus the predicted withdrawal during this time-period, and the CPUC increased the allowable inventory limit at Aliso Canyon to 34 Bcf.

Canyon has been instrumental in supporting an affordable, reliable, and resilient energy system; enabling the integration of renewable resources; and in promoting a healthy and functioning economy.

In 2016, the Governor called for the CCST to prepare an independent and scientific assessment of the long-term viability of all natural gas storage facilities in California, and this assessment “will inform how the state will rethink all natural gas storage facilities in California.”<sup>49</sup> That independent assessment should cause the Commission to reconsider how it views natural gas storage facilities in the state, including Aliso Canyon – a facility that, before the current restrictions imposed by the CPUC, accounted for approximately 23% of the natural gas storage inventory in California and 64% in Southern California. The CCST report was created by having numerous scientific experts and research institutions consult with the CPUC, the Commission, CARB, and the Division of Oil, Gas and Geothermal Resources. The CCST report ultimately determined that California needs natural gas and underground gas storage to run reliably, and that without such storage, California would be unable to consistently meet winter demand for natural gas.<sup>50</sup> In fact, that CCST report assessed the need for natural gas in the near- (2020), mid- (2030), and long-term (2050), and determined:

- “We could not identify a technical alternative gas supply system that would meet the 11.8 Bcfd extreme weather peak day demand forecast and allow California to eliminate all underground gas storage by 2020.”<sup>51</sup> “No ‘silver bullet’ can replace underground gas storage in the 2020 timeframe.”<sup>52</sup>
- “California’s climate change policies for 2030 are likely to reduce total gas in California, however, they are also likely to require significant ramping in our natural gas generation to maintain reliability.”<sup>53</sup>
- “California has not yet targeted a future energy system that would meet California’s 2050 climate goals and provide energy reliability in all sectors. California will likely rely on underground gas storage for the next few decades as these complex issues are worked out.”<sup>54</sup>

The Commission’s recommendation to develop a long-term strategy that would lead to the eventual closure of Aliso Canyon should be reconsidered based on the findings of the CCST report which included consultation with the Commission.<sup>55</sup> Moreover, the CPUC is already

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<sup>49</sup> CEC letter to CPUC. Energy Commission Chair Releases Letter Urging the Future Closure of Aliso Canyon. July 19, 2018. Available at: [http://www.cpuc.ca.gov/uploadedFiles/CPUC\\_Public\\_Website/Content/News\\_Room/News\\_and\\_Updates/2017-07-19-energy-commission-chair-releases-letter-ailso-canyon\\_nr.pdf](http://www.cpuc.ca.gov/uploadedFiles/CPUC_Public_Website/Content/News_Room/News_and_Updates/2017-07-19-energy-commission-chair-releases-letter-ailso-canyon_nr.pdf)

<sup>50</sup> Long-Term Viability of Underground Natural Gas Storage in California Summary Report, p. 9 (Conclusion SR-2); Long-Term Viability of Underground Natural Gas Storage in California, p. 496 (Conclusion 2.1). Available at: <https://tinyurl.com/y9xwzdb8>

<sup>51</sup> Ibid., p. 547 (Conclusion 2.16)

<sup>52</sup> Ibid., p. 547 (Conclusion 2.16)

<sup>53</sup> Ibid., p. 547 (Conclusion 3.8)

<sup>54</sup> Ibid., p. 547 (Conclusion 3.12)

<sup>55</sup> In addition, the recommendation that the Commission must continue to provide support to the CPUC as both agencies work to develop strategies for replacement energy resources that ensure electricity reliability in Southern California is irrelevant. SoCalGas’ true peak is due to core demand in the winter.



examining the future of Aliso Canyon through the proceeding it opened pursuant to SB 380 (I.17-02-002). In reaching a final determination in that proceeding, SB 380 (Chapter 14, Statutes 2016) requires that multiple stakeholders and “relevant government entities” must be consulted. In 17-02-002, the CPUC will consider the results of the CCST’s report<sup>56</sup> in order to determine whether the agency should reduce or eliminate the use of Aliso Canyon.<sup>57</sup> SoCalGas requests that the appropriate regulatory process be permitted to be completed before the Commission makes any such recommendation. It is necessary that policy be guided by technical analysis such as the CCST report, especially when assessing the energy needs of a region as large and as diverse as Southern California.

**d. Gill Ranch Storage connection proposal would not improve the reliability of the SoCalGas System**

As we previously commented,<sup>58</sup> the Gill Ranch proposal would not improve the reliability of the SoCalGas system. Creating a new interconnection between Pacific Gas and Electric and Kern/Mojave to allow the SoCalGas system access to stored natural gas from Gill Ranch is not a replacement for SoCalGas underground natural gas storage. Further, it would not increase supplies into the system, but rather provide an alternate to existing pipeline supplies. New supplies need to be incremental to replace local storage and provide the same reliability within the basin. As such, to avoid constraining our ability to receive existing supplies, a significant investment in new pipeline and compressor infrastructure would be required on the SoCalGas system.

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Therefore, the necessity of having Aliso Canyon is not related to what the electric generation does in the summer, but more so about being reliable in the winter.

<sup>56</sup> California Council of Science and Technology Website. Natural Gas Storage. Publications. Available at: [http://ccst.us/projects/natural\\_gas\\_storage/publications.php](http://ccst.us/projects/natural_gas_storage/publications.php)

<sup>57</sup> 1.17-02-002 Scoping Memo.

<sup>58</sup> SoCalGas’ Comments in response to the Reliability in Southern California Workshop held May 8, 2018. Available at: <https://efiling.energy.ca.gov/GetDocument.aspx?tn=223536>

## Conclusion

In conclusion, SoCalGas provides these comments to help move California towards meeting our aggressive climate goals in a thoughtful, reasoned, studied, and cost-effective way. The state needs sensible policies that are cost-effective and preserve customer choice while meeting our GHG emissions reduction goals.

While, we are aware of an aggressive campaign against the use of natural gas in buildings to “jump start” building electrification has been launched by activists with broad misunderstandings and misstatements around both energy usage and related emissions; the Final 2018 IEPR and further Commission proceedings should not prejudge end results, but instead conduct scientific and fact-based studies that lead to the best conclusions to inform decisions to achieve the state’s climate objectives. Both agency responsibility and legislative requirements behooves the agency to address facts, not public rhetoric and ideology.

Sincerely,

A handwritten signature in black ink, appearing to read "George Minter". The signature is written in a cursive style with a large initial "G" and a long, sweeping underline.

George Minter  
Regional Vice President, External Affairs & Environmental Strategy  
Southern California Gas Company