

**DOCKETED**

<b>Docket Number:</b>	19-MISC-03
<b>Project Title:</b>	The Natural Gas Infrastructure and Decarbonization Targets
<b>TN #:</b>	230668
<b>Document Title:</b>	Final SoCalGas comments E3 Gas Distribution Study 111319
<b>Description:</b>	N/A
<b>Filer:</b>	System
<b>Organization:</b>	SoCalGas
<b>Submitter Role:</b>	Public
<b>Submission Date:</b>	11/13/2019 4:56:19 PM
<b>Docketed Date:</b>	11/13/2019

*Comment Received From: Edith Moreno*  
*Submitted On: 11/13/2019*  
*Docket Number: 19-MISC-03*

**Final SoCalGas comments E3 Gas Distribution Study 111319**

*Additional submitted attachment is included below.*



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November 13, 2019

California Energy Commission  
Dockets Office, MS-4  
1516 Ninth Street  
Sacramento, CA 95814-5512

**Subject: Comments on E3's Final Project Report, "*Natural Gas Distribution in California's Low-Carbon Future: Technology Options, Customer Costs, and Public Health Benefits*"**  
**Docket #19-MISC-03**

The Southern California Gas Company (SoCalGas) appreciates the opportunity to comment on the California Energy Commission (CEC)-funded research released in October 2019, conducted by Energy and Environmental Economics, Inc. (E3) that was "designed to inform the investigation of the role of the natural gas system in the decarbonization of the California energy system."<sup>1</sup> Despite this stated goal, SoCalGas respectfully asserts that this study relies on skewed and technically unsound inputs and assumptions to conclude that a high building electrification scenario is the optimal (lower-cost and lower risk) strategy to meet California's 2050 climate goals, and proceeds to indicate decommissioning of the gas delivery system be considered as a matter of State policy.

As explained previously in SoCalGas' comments submitted in response to the draft results presented by E3 and the University of California Irvine (UC Irvine) at the CEC's June 6, 2019 workshop, the study erroneously concludes it is advisable to eliminate an entire energy infrastructure that delivers affordable energy to customers today and which should be a vital part of the solution for delivering decarbonized energy in the future.<sup>2</sup>

Moreover, there is significant detail provided in the study's Appendix that necessitates greater review and discussion. Unfortunately, the three weeks allotted by the CEC does not allow for adequate time to review and develop comments on much of this detailed analysis. SoCalGas will provide additional comments on the Draft 2019 Integrated Energy Policy Report (IEPR) as it too relies on this E3 study for its policy recommendations.

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<sup>1</sup> CEC. Notice of Staff Workshop, June 6, 2019, Natural Gas. May 30, 2019. Available at: <https://efiling.energy.ca.gov/GetDocument.aspx?tn=228423&DocumentContentId=59629>

<sup>2</sup> SoCalGas Comments. E3 Draft Results Future of Nat Gas Distribution. June 24, 2019. Available at: <https://efiling.energy.ca.gov/GetDocument.aspx?tn=228835&DocumentContentId=60170>

If the CEC intends to use E3's research to inform policymaking in a low-carbon future, then the assumptions relied upon must be accurate and technically sound. Achieving a low-carbon future will have large scale, economy-wide cost impacts to all residents and businesses, as well as potential impacts on the reliability and resilience of the energy supply. The CEC must support robust and broad technical research and analysis that is fully analyzed by the research community before it begins to entertain high building electrification as a future pathway. The CEC should not recommend policy, such as what is proposed in the Draft 2019 IEPR, that is based on analysis that has not been fully vetted by the research community, and which contradicts numerous studies that have been brought to the attention of the CEC in this docket. As SoCalGas previously commented, the CEC should question the assumptions of the study underlying its findings and also to consider that the study:

- Creates a false narrative on energy affordability;
- Dismisses the energy resiliency and reliability benefits provided to communities by a diverse energy system;
- Fails to address the Scope of Work adopted by the CEC; and
- Relies upon an air quality analysis that is limited and potentially misleading.<sup>3</sup>

The revised E3 study does nothing to address these issues, and instead doubles down on conclusions based on false data and skewed assumptions. Given the shortness of time, this letter focuses on some of the most glaring issues with the new E3 report. ***SoCalGas urges the CEC to review E3's assumptions, require peer-review of the study, and adopt a holistic view of the energy system to affordably achieve California's climate goals. Without addressing the issues identified in this and previously submitted comments, the CEC should not use this study to endorse a transition away from natural gas, nor accept that gas rates will be higher in the 2030 and 2050 timeframes due to stranded assets.***

## 1. The study omits critical assumptions in its analysis

### A. Underestimated electric rate increases and overestimated gas rate increases

Electric rate increases are grossly underestimated, and gas rates are overestimated in the study. E3 contends, "[a]bsent wildfire costs, electric rates remain almost flat in near term and increase to 20 percent above today's rates by 2050. In the wildfire cost sensitivity [analysis], electric rates exhibit a marked near-term increase to 40 percent above today's rates but stabilize post-2030."<sup>4</sup> These figures, however, fail to include a full economic value chain and do not analyze revenue requirements for infrastructure upgrades for wildfire mitigation, cost of capital, nor additional distribution infrastructure required to meet electricity demand from increased load of an all-electric system.

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<sup>3</sup> For more information, please see: SoCalGas Comments. E3 Draft Results Future of Nat Gas Distribution. June 24, 2019. Available at:

<https://efiling.energy.ca.gov/GetDocument.aspx?tn=228835&DocumentContentId=60170>

<sup>4</sup> E3. FINAL PROJECT REPORT. *Natural Gas Distribution in California's Low-Carbon Future Technology Options, Customer Costs, and Public Health Benefits*. At p. 62. Available at:

<https://tinyurl.com/u679jwf>

E3 estimates that electric rates will increase by 6-8% in the near term and then remain flat. However, California utilities' general rate cases (GRC) show rates are increasing more dramatically in the near-term. For example, Southern California Edison Company's (SCE) GRC filing requests a \$7.625 billion or a 20.5% revenue requirement increase in 2021.<sup>5</sup> Additionally, E3's electrification scenario assumes there will be no incremental economy-wide costs after 2030—despite the increase in electric demand during this period. This diverges from previous E3 research which estimated 2030 total direct cost, (excluding health and climate benefits) for their high electrification (base) case of \$9 billion per year in 2030 and \$26 billion per year in 2050.<sup>6</sup> More recently, SCE released their vision for electrification to meet carbon neutrality in 2045, which indicates the incremental cost will be \$30 billion per year in 2050.<sup>7</sup>

Conversely, E3 assumes a 25% increase in gas rates in 2019, which is twice what the California Public Utilities Commission (CPUC) unanimously adopted (12.8%) in their final decision (D.19-09-051) for SoCalGas' total 2019 revenue requirement of \$2.770 billion.<sup>8</sup> SoCalGas' service territory largely overlaps with SCE's such that residential customers are generally in the same households for both utilities.

The study also fails to include the benefits of uninterrupted gas-powered microgrids and the cost of electric grid outages. Uninterrupted gas-powered microgrids help communities survive and recover after public safety power shutoffs and climate-driven disasters.

Recent wide-ranging prospective power shut offs have serious consequences for health and safety, as well as significant costs for individuals, businesses, and the environment. Measures to mitigate these harms will continue for years and cost significant sums. According to research conducted by the American Council for an Energy-Efficient Economy, electric grid outages and power disruptions lead to unexpected costs or revenue losses and, in the case of critical infrastructure facilities, safety and health risks. The estimated cost of loss of power for medium and large commercial and industrial facilities (>50,000-kilowatt hour/year) ranges from \$12,952 for a momentary outage to \$165,000 for a 16-hour outage.<sup>9</sup>

#### *B. Excluded value of the natural gas system and renewable natural gas potential*

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<sup>5</sup> SCE. 2021 GRC Amended Application. November 11, 2019. Available at: [http://www3.sce.com/sscc/law/dis/dbattach5e.nsf/0/74927F6FEF5E16B8882584AB0074EC86/\\$FILE/A1908013-SCE%202021%20GRC%20Amended%20Application.pdf](http://www3.sce.com/sscc/law/dis/dbattach5e.nsf/0/74927F6FEF5E16B8882584AB0074EC86/$FILE/A1908013-SCE%202021%20GRC%20Amended%20Application.pdf)

<sup>6</sup> E3. *Deep Decarbonization in a High Renewables Future*. 2018. Available at: <https://tinyurl.com/y4368zug>

<sup>7</sup> SCE PATHWAY 2045-Update to the Clean Power and Electrification Pathway. November 2019. Available at: <https://www.edison.com/home/our-perspective/pathway-2045.html>

<sup>8</sup> CPUC. D.19-09-051. Decision Addressing the Test Year 2019 General Rate Cases of SDG&E and SoCalGas

<sup>9</sup> American Council for an Energy-Efficiency Economy. *Valuing Distributed Energy Resources: Combined Heat and Power and the Modern Grid*. April 2018. Available at: <https://aceee.org/sites/default/files/valuing-der.pdf>

Notwithstanding the study's stated intention of analyzing the role of natural gas in the State's decarbonization efforts, it omits any consideration of the potential value in continuing to use the gas system and natural gas assets in developing new technologies and systems, such as delivering renewable natural gas (RNG) and hydrogen which should be vital resources in reaching the State's environmental goals.

The study also omits the value of the resilience of the natural gas system to climate change driven natural disasters, that the reliability of natural-gas fired generation has enabled the high penetration of renewables, and that natural gas can provide seasonal storage for excess renewable electricity. Currently, Californians rely on a gas system that integrates with the electric system, is resilient, and enables energy affordability and consumer choice. The CEC should recognize that preserving this system is the best way to pursue California's climate goals.

Without sound technical basis, E3 makes suggestions that already *assume* the State should move away from natural gas and undervalues the contribution of RNG. E3 even suggests that a comprehensive gas transition strategy might include accelerated depreciation of gas assets. By accelerating depreciation of future assets that may, or may not, become stranded based on consumer behavior over several decades, an economic dislocation is created that artificially drives gas rates up in the present, unnecessarily challenging affordability and skewing the costs of electrification. This policy approach is circular; E3 makes unsupported assumptions that increase the cost of natural gas, making electrification look more economically attractive, which then leads to faster depreciation of natural gas. In other words, it assumes an outcome and then constructs the pathway to arrive at that predetermined outcome while failing to consider the actual risks of selecting a sole pathway against the benefits of a comprehensive, diverse approach in reaching the State's goals.

Despite SoCalGas' and the Bioenergy Association of California's<sup>10</sup> previously submitted comments, the study still underestimates the availability of RNG. Numerous studies suggest higher volumes of available feedstock, both in- and out-of-state.<sup>11</sup>

### *C. Undervalued synthetic natural gas (syngas) and hydrogen*

The work by UC Irvine to update the cost of power-to-gas (P2G) is a significant improvement over previous analyses on a renewable gas pathway. However, it was unclear in the study if

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<sup>10</sup> Bioenergy Association of California Comments. E3 Study and Presentation. June 21, 2019. Available at:

<https://efiling.energy.ca.gov/GetDocument.aspx?tn=228817&DocumentContentId=60148>

<sup>11</sup> UC Davis Institute of Transportation Studies. *The Feasibility of Renewable Natural Gas as a Large-Scale, Low Carbon Substitute*. at p.ix. June 2016. Available at:

<https://steps.ucdavis.edu/wp-content/uploads/2017/05/2016-UCD-ITS-RR-16-20.pdf>

recent research from International Energy Association (IEA)<sup>12</sup> and BloombergNEF<sup>13</sup> were included in the analysis. While E3 acknowledges the benefits of using hydrogen and syngas in existing gas distribution infrastructure, they assume high costs for hydrogen and syngas in the base renewable gas case, again driving the analysis towards the conclusion that electrification is the preferred outcome. UC Irvine has well documented the potential for significant cost reduction in the production of hydrogen and syngas. E3 dismissively refers to this case as the “Optimistic P2G” scenario. Serious consideration should be given to this lower cost P2G scenario in comparison to the high electrification case.

Furthermore, E3 fails to consider the broad array of existing and emerging technologies under development that could drive California towards substantially lower costs for P2G. Technologies that SoCalGas is working to develop include:

- Large scale P2G using California and Midwestern wind and CO<sub>2</sub> from ethanol plants.
  - There is a potential to recycle more than 30 MMT/Y of CO<sub>2</sub> capable of producing 560 BCF of RNG per year
  - Bio-methanation coupled with P2G will drastically reduce the operating costs currently associated with high-temperature catalytic methanation.
- Methane pyrolysis is an emerging technology which can potentially provide an essentially unlimited hydrogen production stream with a solid carbon by-product which can be used (e.g., carbon-black, coke, graphite, etc.) or sequestered.
- Hydrogen and methane production from direct solar water-splitting and CO<sub>2</sub> air capture using chemical, electrochemical, and photoelectrochemical pathways.
- Resilient gas-based microgrids that avoid the hazards of high power electric transmission lines passing through California’s forests and chaparral.

Certainly, many technologies and pathways exist and will emerge over the next decade and beyond. Prematurely forcing Californians away from our existing gas pipeline system and abundant low-cost natural gas is comparable to the regrettable public policies that decommissioned and destroyed Southern California’s Red Car rail system in the 1950s. We should learn from, and not repeat, that incredibly expensive mistake.

## **2. Study contradicts well-respected energy and environmental organizations**

By excluding the benefits of RNG and hydrogen, the E3 study contradicts the California Air Resources Board (CARB), IEA, Energy Futures Initiative (EFI), Lawrence Livermore National Laboratory, and other respected energy and environmental organizations’ positions and advice.

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<sup>12</sup> IEA. The Future of Hydrogen: Seizing Today’s Opportunities Full report. Available at: <https://www.iea.org/topics/hydrogen/>

<sup>13</sup> BloombergNEF. *Hydrogen: The Economics of Production From Renewables*. 2019. Available behind the pay-wall at: <https://tinyurl.com/tc5mwf3>. See also Fuel Cell & Hydrogen Energy Association. *Roadmap to a US Hydrogen Economy*. Executive Summary. Available at: <http://www.fchea.org/us-hydrogen-study>.

The study directly contradicts CARB's Climate Change Scoping Plan that identifies several different approaches for 'Achieving Success in Clean Energy,' including "...prioritizing natural gas efficiency and demand reduction, and enabling cost-effective access to renewable gas."<sup>14</sup> Additionally, the study minimizes the urgency to reduce short-lived climate pollutants.

The study deviates from the IEA's views which considers hydrogen to be one of the major contributors to decarbonization of multiple sectors, including industry and transportation, and which examines costs for using hydrogen.<sup>15</sup> For more information, please see <https://www.iea.org/topics/hydrogen/>.

EFI's study, *Optionality, Flexibility & Innovation: Pathways for Deep Decarbonization in California*, developed by Dr. Earnest Moniz, former Secretary of Energy under the Obama Administration, analyzes the ways California can meet its 2030 and 2050 low-carbon energy goals.<sup>16</sup> This study states that clean fuels like RNG and hydrogen are critical clean energy pathways due to the enormous value of fuels to allow for the flexible operations of energy systems.

Lawrence Livermore National Laboratory, an independent science-based academic organization, advises against a drive to phase-out all existing natural gas infrastructure from a climate mitigation standpoint. The organization points out the following:<sup>17</sup>

1. Natural gas-fired electricity generation can be decarbonized through efficiencies.
2. Existing natural gas distribution infrastructure could provide a platform to broaden the use of carbon-neutral or carbon-negative renewable gas and clean hydrogen.
3. California has the largest renewable gas potential of any state and reducing short-lived climate pollutants is key to reach climate goals.
4. California already has the largest number of natural gas refueling stations in the nation and this number is expected to grow.
5. Existing natural gas infrastructure, coupled with a renewable gas supply, can help decarbonize hard-to-electrify sectors, such as industry and transportation.
6. Natural gas reduces the need for energy storage by allowing for flexible, dispatchable generation. The California Independent System Operator warns that there will be

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<sup>14</sup> CARB. *California's 2017 Climate Change Scoping Plan*, adopted November 2017. 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>15</sup> International Energy Association. *The Future of Hydrogen: Seizing Today's Opportunities*. Available at: <https://www.iea.org/hydrogen2019/>

<sup>16</sup> Energy Futures Initiative. *Optionality, Flexibility, & Innovation. Pathways for Deep Decarbonization in California*. 2019. Available at: <https://energyfuturesinitiative.org/>

<sup>17</sup> Information summarized from Lawrence Livermore National Laboratory. Comments in response to the CEC's Workshop on The Natural Gas Infrastructure and Decarbonization Targets. At p.2. Available at:

<https://efiling.energy.ca.gov/GetDocument.aspx?tn=228811&DocumentContentId=60143>

electricity capacity shortfall in 2022 and advocates that the CPUC ensure there are natural gas resources available to ensure reliability.<sup>18</sup>

### **3. The study has not been peer-reviewed and there is a lack of transparency on scenario and assumption selections**

The study has not been fully vetted and peer-reviewed by the research community. Because the CEC is already using the draft study as an underpinning of its policy recommendations (e.g. 2019 Draft IEPR), all inputs and assumptions must be shared and discussed in an open forum to reconcile data differences.

Appendix C provides a significant amount of information on how UC Irvine and E3 developed the P2G costs, elaborating on the materials presented at the June 6, 2019 workshop. This is the first time the information has been presented with significant detail to be reviewed by other subject matter experts. The same sort of detail should be provided for their analysis of costs underlying the electrification scenario. Furthermore, this information should be provided with sufficient time for meaningful review and discussion— which has not been done.

### **4. The study parameters were not developed in a collaborative process**

E3 and the CEC alone developed the scenarios and parameters for the analysis. Overall, the development of the report was not collaborative: while there was a Technical Advisory Committee ((TAC) composed of CEC staff, academics, and industry partners), E3 often dismissed or ignored their concerns and comments on the flawed assumptions and data. For example, E3 lists a number of issues that were “[k]ey areas of discussion and debate among TAC members and the research team... [including]:

1. How to reflect the costs and uncertainties around wildfire risk in California?
2. How to assess the future resource potential for biomass and biofuels available to California?
3. How to reflect current state programs that encourage through incentives the use of biofuels, electricity, and hydrogen in the transportation sector, particularly the Low Carbon Fuel Standard?
4. How to characterize the most likely future trajectory for hydrogen gas and synthetic natural gas production costs?”<sup>19</sup>

The study fails to account for or answer the questions raised by TAC members: it does not reflect costs of wildfire liability or hardening the system for wildfire protection (issues that have assumed critical importance in recent months); fails to reflect conclusions of carefully researched

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<sup>18</sup> CPUC Rulemaking 16-02-007. Comments of the CAISO. July 22, 2019. Available at: <http://www.caiso.com/Documents/Jul22-2019-Comments-PotentialReliabilityIssues-R16-02-007.pdf>

<sup>19</sup> E3. FINAL PROJECT REPORT. *Natural Gas Distribution in California’s Low-Carbon Future Technology Options, Customer Costs, and Public Health Benefits*. At p. 4. Available at: <https://tinyurl.com/u679jwf>

reports on RNG supply and costs; fails to consider how programs, like the Low Carbon Fuel Standard, could accelerate renewable fuel uses at stationary sources; and fails to reasonably address costs and volumes of hydrogen and synthetic gas for the 2050 scenario, using faulty cost increases for hydrogen contrary to other published studies, including the *Roadmap to a US Hydrogen Economy*<sup>20</sup> and *The Future of Hydrogen: Seizing Today's Opportunities*.<sup>21</sup>

E3's statement in Appendix B is accurate: "Members of the TAC do not necessarily support or condone the research findings presented herein."<sup>22</sup> To be clear, SoCalGas provided limited funding for the technical analysis conducted by UC Irvine on the cost of hydrogen production. But as Appendix B notes, SoCalGas does not support the findings of this report based on the issues presented in this letter and in previous comments.

## **5. Holistic view of energy is needed to affordably achieve California climate goals**

About 90% of residential energy consumers in Southern California use natural gas for space and water heating<sup>23</sup> and prefer a choice in how they heat their homes and cook their food.<sup>24</sup> SoCalGas would also like to point out that more than 100 local governments have passed resolutions in support of affordable and balanced strategies to reduce emissions from buildings that allow consumers to choose among technologies and fuel sources, and that call on state policymakers to preserve consumers' ability to choose either natural gas or electric appliances for their homes and businesses.<sup>25</sup> These resolutions were passed in response to the concern that policymakers are taking steps to prohibit the use of natural gas in new buildings. State energy regulators are actively considering calls for new regulations that would eliminate natural gas use in new buildings and have also proposed programs that would result in existing natural gas customers paying for all-electric retrofits to existing homes.

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<sup>20</sup> Fuel Cell & Hydrogen Energy Association. *Roadmap to a US Hydrogen Economy*. Executive Summary. Available at: <http://www.fchea.org/us-hydrogen-study>

<sup>21</sup> International Energy Association. *The Future of Hydrogen: Seizing Today's Opportunities*. Available at: <https://www.iea.org/hydrogen2019/>

<sup>22</sup> E3. FINAL PROJECT REPORT. *Natural Gas Distribution in California's Low-Carbon Future Technology Options, Customer Costs, and Public Health Benefits*. Appendix B. at p.B-1. Available at: <https://tinyurl.com/u679jwf>

<sup>23</sup> CEC. *2009 California Residential Appliance Saturation Study: Executive Summary*, Table ES-3: Natural Gas UEC and Appliance Saturation Summaries by Utility. October 2010.

<sup>24</sup> Natural Gas Institute. *California Reports Show Homeowners Prefer NatGas Over Electrification*. April 25, 2018. Available at: <https://www.naturalgasintel.com/articles/114152-california-reports-show-homeowners-prefer-natgas-over-electrification>

<sup>25</sup> PR Newswire. *SoCalGas Applauds More Than 100 Local Governments in Southern California that Pass Resolutions in Support of Balanced Energy Policies*. October 3, 2019. Available at: <https://www.prnewswire.com/news-releases/socalgas-applauds-more-than-100-local-governments-in-southern-california-that-pass-resolutions-in-support-of-balanced-energy-policies-300931093.html>

With this in mind, we need a robust and broad technical study supported by numerous, independent studies before the CEC entertains an energy pathway. We need to understand how natural gas allows for penetration of renewables and provides seasonal storage and protects resiliency. We need a study that models decarbonization scenarios that leverage existing natural gas assets to deliver RNG and hydrogen to be used in the residential, industrial, and transportation sectors. Then a real assessment of the role of natural gas towards the State's decarbonization goals can be made in a comprehensive and informed manner.

## 6. Air quality analysis requires additional review and explanation

Air quality is an important co-benefit to evaluate as part of California's decarbonization strategies. Unfortunately, the air quality analysis illustrates some of the problems with the larger E3 study. The analysis relies on limited studies that have not been adequately vetted nor peer-reviewed and are not consistent with the Air Quality Management Plans of the South Coast Air Quality Management District and the San Joaquin Valley Air Pollution Control District, which prioritize emissions reductions in the transportation sector. The study focuses on only two 2-week periods during the year, and admits that it cannot estimate "annual health saving" from these four weeks, but then goes on to do exactly that, claiming that all electrification "would lead to substantially higher health benefits."<sup>26</sup> This conclusion is unsupported and not scientifically valid. The authors also admit that it did not assess the effects of gas combustion on indoor air quality. These serious flaws and gaps make the conclusions in this section untenable, and the CEC should withdraw/reject them. Below are several examples.

- On Page 49, the authors state, "[w]hile annual health savings cannot be estimated from the episodic modeling method used in this study," they do exactly that by stating that the annual health savings would be "higher." This conclusion is invalid and unsupported. We request that the text be modified as follows, "~~While a~~Annual health savings cannot be estimated from the episodic modeling method used in this study, ~~the use of long term exposure PM<sub>2.5</sub> health impact functions like those used in a recent analysis of air quality impacts from electrification in California would lead to substantially higher health benefits.~~" This point is of particular concern. While emissions from the transportation sector remain relatively constant across seasons, it is likely that, if evaluated on an annual basis, the impacts on emissions and air quality of building electrification may be very different than those shown in the episodic analysis. In turn, health savings results may change significantly whereby the incremental health benefit of building electrification on an annual basis would be diminished compared to the health benefits of mitigation measures in the transportation sector.
- The scenario names High Building Electrification, No Building Electrification, and High Building Electrification with Truck Measures are misleading because they oversimplify what these scenarios actually include. The scenario names seem to indicate that the mitigation measures addressed by these scenarios are purely related to building

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<sup>26</sup> E3. FINAL PROJECT REPORT. *Natural Gas Distribution in California's Low-Carbon Future Technology Options, Customer Costs, and Public Health Benefits*. At p. 50. Available at: <https://tinyurl.com/u679jwf>

electrification and truck measures. However, Appendix F lays out additional actions required in each scenario.

- Use of word “Episode” in Table 3 of the Air Quality Results Section (Pages 47-49 of the main report) and in Appendix F is misleading. An air quality “episode” is typically defined as a time period during which there is an ozone level peak; whereas, the summer/winter episodes used in this report refer to the time periods from July 8-21 and January 1-14, respectively. Hence, we recommend that the word “episode” be replaced with the term “2-week time period.”
- On Page 47, the authors state that they did not assess the effects of gas combustion on indoor air quality. However, they have included an entire paragraph on Page 49 with a brief description of two indoor air quality (IAQ) studies. This discussion on IAQ is outside the purpose of the report and the statements made present an incomplete and one-sided picture that is misleading. We therefore request that this text be stricken from the study.

There is significant detail in the Appendix, and SoCalGas is working with an air quality consultant to better understand the analysis and results and reserves the option to provide additional feedback on the Air Quality analysis.

## **7. Multiple outside parties have expressed concerns related to the study**

Several other parties have expressed concern with the assumptions and results of the study. For example, the California Natural Gas Vehicle Coalition<sup>27</sup> and AdTra Consulting<sup>28</sup> suggest that upstream greenhouse gas emissions from electric system-caused wildfires must be included in a policy discussion on how to meet climate change objectives.

## **8. Conclusion**

In conclusion, the E3 study relies on flawed assumptions and erroneously concludes it is advisable to eliminate an entire energy infrastructure that delivers affordable energy to customers today and which can be a vital part of the solution for delivering decarbonized energy in the future. The study’s high building electrification pathway is built on a false premise that California’s prime directive should be to exclude decarbonized gas solutions as a viable component. In reaching this foregone conclusion, the study dismisses beneficial resources such as the gas system, RNG, and hydrogen, which are critical to meeting the State’s goals in an informed, holistic manner that accounts for resiliency, reliability, affordability, and choice needs for residents and businesses. Relying on a study built upon inaccurate assumptions that have not been appropriately peer-reviewed and analyzed would be a crucial and potentially irreversible misstep if the CEC and other agencies unquestioningly accept the study’s conclusions to drive future decision making as has been done in the 2019 Draft IEPR.

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<sup>27</sup> CNGVC Concerns RE E3 report to CEC. June 21, 2019. Available at:

<https://efiling.energy.ca.gov/GetDocument.aspx?tn=228830&DocumentContentId=60165>

<sup>28</sup> Ad Tra Comments RE Docket No. 19-MISC-03 (Decarbonization of Natural Gas System ). June 24, 2019. Available at:

<https://efiling.energy.ca.gov/GetDocument.aspx?tn=228838&DocumentContentId=60175>

As always, SoCalGas subject matter experts are available to discuss with CEC staff further.

Sincerely,

*/s/ George Minter*

George Minter  
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