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ARB's Scoping Plan Website

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Stationary Sources Division
P.O. Box 2815
Sacramento, CA 95812

**Re: Comments on the California Air Resources Board Proposed First Update to the
Climate Change Scoping Plan: Building on the Framework**

Dear Dr. Cliff:

Pacific Gas and Electric Company (PG&E) welcomes the opportunity to submit these comments on the Air Resources Board's (ARB) Proposed First Update to the AB 32 Scoping Plan (Plan).

INTRODUCTION

PG&E's detailed comments are set forth below. The following summarizes our key points:

- PG&E Supports a Multi-Sector, Technology-Neutral GHG Reduction Program that Allows Compliance Entities to Prioritize Cost-Effective Emissions Reductions
- ARB Should Actively Seek Partnerships and Consult with Other State Agencies and Jurisdictions to Achieve Cost Containment and Greater Global Emissions Reductions
- PG&E Supports Offset Protocol Development to Reduce Emissions
- A Better Understanding of California's Methane Emissions from Natural Gas Systems is Needed Before Moving Forward with Additional Control Measures
- State Coordination with Local Governments is Needed
- PG&E Supports the Update's More Developed Scope of Economic Analysis
- The Update's Discussion of Energy Efficiency Should Be Refined
- The Update Should Emphasize Net-GHG-Reducing CHP
- The Costs and Challenges of Distributed Generation Should Be Acknowledged
- Future Analyses Should Not Assume that All Homes Can Achieve ZNE
- CalEnviroScreen Should Be Used Appropriately
- PG&E Is Investing in Alternative Fuel Vehicles

I. PG&E Supports a Multi-Sector, Technology-Neutral GHG Reduction Program that Allows Compliance Entities to Prioritize Cost-Effective Emissions Reductions

PG&E supports this Update's focus on encouraging reductions from *all* of California's major economic sectors while also underscoring the need for flexibility in reaching our climate goals. This Update's path forward for emission reductions -- away from technology-specific program mandates and towards technology-neutral and flexible overall strategies for achieving cost-effective emissions reductions -- is essential if California is to achieve its climate goals. PG&E strongly believes that California's clean energy policy should include a technology-neutral procurement process where all technologies compete to provide the best value to customers, including their effectiveness in reducing greenhouse gases, at the lowest possible cost.

PG&E requests ARB include additional specificity around its vision for state agencies to "develop comprehensive and enforceable GHG emission-reduction requirements for the State's electric and energy utilities to achieve near-zero GHG emissions by 2050." Given the uncertainty around technology advancements, economic development, and federal and international climate policy, the agencies should not endeavor at this time to develop a fixed and enforceable target for the energy sector to achieve by 2050. Instead, any discussion of 2050 target-setting should allow the sector to adapt to changing circumstances. This strategy should also include an extension of the Cap-and-Trade Program. Any future goals should also recognize interactions between sectors that will be needed to further reduce California's greenhouse gas (GHG) emissions (e.g. vehicle electrification). This framework would require that any sector-specific targets be performance-based rather than set as a specific metric ton target or percentage reduction. This will help ensure that cross-sector emissions reductions are captured and encouraged.

Any specific recommendations for actions post-2020 should be made with sufficient supporting analysis. While PG&E agrees that future reduction targets should be based on sound climate science and align with other jurisdictions, ARB should also take into account the feasibility and cost-effectiveness of achieving these goals. Feasibility is not just whether a technology exists, but the scalability of that solution. We see additional fixed mandates, such as an increased renewable energy procurement goal or a technology-specific energy mandate, as potentially counterproductive to the goal of ensuring that emissions reductions are achieved efficiently and at the lowest cost to the state and our customers. ARB and the state should continuously assess the effectiveness of reduction programs, and should consider modifying or suspending existing programs that lack demonstrated GHG reduction benefits.

II. ARB Should Actively Seek Partnerships and Consult with Other State Agencies and Jurisdictions to Achieve Cost Containment and Greater Global Emissions Reductions

PG&E supports ARB's efforts to encourage subnational, federal, and international partnerships that promote joint climate action and address the global risks of climate change. We continue to believe that coordination and alignment with other jurisdictions is essential to achieving greater worldwide emission reductions in a cost-effective manner. We urge ARB to forge new partnerships outside of California's borders. ARB should continue to engage internationally,

establish actionable plans for increased collaboration with other countries, and advance the integration of sector-based offset programs such as REDD into California's Cap-and-Trade Program.

PG&E appreciates ARB's engagement with U.S. EPA in the development of carbon regulations under the Clean Air Act and agrees that California is well-positioned to respond. PG&E is particularly supportive of California's commitment to ensure that the State's existing actions, including many described in this and previous versions of the AB 32 Scoping Plan, are adequately recognized in subsequent Federal actions. We are also hopeful that EPA's regulations on carbon dioxide (CO₂) from existing power plants will create new opportunities for regional coordination and alignment as states develop their Clean Air Act Section 111(d) implementation plans. In conjunction with these efforts, we encourage California to follow through on the initiatives identified in the Pacific Coast Collaborative (PCC) Action Plan on Climate and Energy and engage with the PCC partners to align policies to reduce GHGs and harmonize long-term targets. PG&E looks forward to working with U.S. EPA, the State of California, and interested stakeholders to develop flexible and cost-effective regulations that achieve meaningful GHG reductions within and beyond California's borders.

III. PG&E Supports Offset Protocol Development to Reduce Emissions

PG&E appreciates ARB's commitment in the Update to consider developing additional offset protocols for recycling, composting, anaerobic digestion, and biomass. As actions to reduce GHG emissions across sectors like waste, agriculture, and working lands are considered, PG&E encourages ARB to develop offset protocols wherever possible to support a cost-effective, market-based approach to GHG reduction. Offset protocols have the added benefit of linking emission-reduction projects in other states to California's Cap-and-Trade Program, thereby increasing awareness of the Program and promoting policy alignment between California and participating states.

IV. A Better Understanding of California's Methane Emissions from Natural Gas Systems is Needed Before Moving Forward with Additional Control Measures

PG&E continues to enhance its methane control systems, such as improving leak detection and repair. *In fact, the recent White House strategy paper on curbing methane emissions credits PG&E with being one of a handful of gas utilities nationwide that are "collaborating to address key technical and regulatory factors affecting methane emission reduction opportunities from natural gas distribution systems."*¹

PG&E was the first utility to begin using a car-mounted, advanced leak-detection device. The Picarro Surveyor analyzer—approximately 1,000 times more sensitive than traditional gas-leak-detection equipment—helps PG&E field crews quickly and efficiently identify where potential

¹ http://www.whitehouse.gov/sites/default/files/strategy_to_reduce_methane_emissions_2014-03-28_final.pdf (page 9)

gas leaks may exist. PG&E has also begun deploying in-line inspection devices called “smart pigs” that rely on GPS mapping data, magnetic sensors and other technology to record detailed information from inside the pipeline. Smart pigs can find defects as well as measure the thickness of pipeline walls. Once reviewed, the data is analyzed for areas of reduced wall thickness and potential anomalies within the pipeline. The GPS mapping allows for repair crews to accurately identify the areas to be excavated and examined. PG&E also routinely implements a technique called cross compression, where natural gas is transferred from one pipeline to another during large pipeline construction and repair projects to limit the amount of methane vented into the atmosphere. Our commitment to delivering safe and reliable service, coupled with our dedication to environmental stewardship, are driving investments in innovative technologies and practices that will deliver long-term emissions reductions within California.

Many of the population and leak emission factors used in reporting methane emissions from natural gas systems have a wide range of uncertainty. Because not all significant sources are required to be reported, PG&E encourages ARB to strengthen its efforts to first gain an understanding of the sources and volume of methane emissions in California. This is a critical step that is needed before moving forward with a comprehensive strategy for mitigating methane and other short-lived climate pollutants that could include additional control measures.

PG&E is currently participating in a three-year effort led by the Environmental Defense Fund (EDF) to better estimate fugitive emissions from natural gas systems as well as other national efforts. These studies will include solid, empirical data, collected and analyzed with scientifically rigorous methods, and vetted by independent scientists with diverse and applicable expertise. This work should be leveraged by ARB and other state regulatory bodies. Our extensive state and federal mandatory and voluntary reporting suggests that natural gas transmission, distribution, and storage systems emit a relatively small portion of the state’s anthropogenic methane emissions. As California moves forward with a short-lived climate pollutant reduction strategy, all sources of methane should be considered and any direct control strategies should target opportunities for GHG reduction actions that are cost-effective, as described in more detail in Section VI below.

V. State Coordination with Local Governments is Needed

PG&E views local governments as a key partner in meeting the state’s GHG reduction targets. PG&E has implemented a suite of programs designed to support local government efforts, create and implement effective policy, and educate and mobilize communities to save energy. We currently provide comprehensive climate planning support, from assistance with GHG inventories to training and guidance on climate action plans. More than 200 communities in Northern and Central California have conducted GHG inventories with the help of funding through PG&E’s Green Communities Program. These public-private partnerships are a key mechanism for incenting action to reduce California’s GHG emissions.

PG&E is concerned by the Update’s recommendation that “local government reduction targets should chart a reduction trajectory that is consistent with, or exceeds, the trajectory created by

statewide goals.” Large companies like PG&E are already regulated by myriad federal, state, and local bodies, and California has developed one of the most rigorous GHG reduction programs in the world. We would therefore recommend that the state’s regulatory bodies remain coordinated around target-setting and development of reduction strategies to optimize reduction opportunities while avoiding working at cross-purposes. Any local reporting rules should align with existing state and federal requirements rather than create duplicative and burdensome requirements.

VI. PG&E Supports the Update’s More Developed Scope of Economic Analysis

PG&E appreciates the inclusion of a more developed scope of economic analysis in the latest Scoping Plan Update. We are supportive of ARB’s objectives to assess impacts at the macro level as well as identifying the distribution of impacts on industry, small businesses, households, environmental justice communities, and the public sector. PG&E also recommends the use of transparent metrics to convey the distribution of impacts on consumers, such as utility rate increases and costs of fuel at the pump. While we appreciate additional detail regarding the analysis, there is no timeline presented for obtaining results. If the evaluation is intended to inform the design of California’s long-term climate change regulatory portfolio, the timely completion of this analysis is necessary in order for stakeholders to review and provide feedback on the results.

In addition to the ex-post analysis, ARB should adopt a transparent cost-effectiveness-based prioritization framework for evaluating future measures. In our initial 2013 Plan comments,² PG&E provided ARB with a detailed proposal for a transparent, analytically-based, decision-making framework to prioritize reduction measures and to study the impact of the recommended portfolio of measures on the California economy. Employing such a framework will position the state to meet 2020 targets in a cost-effective fashion, and will provide critical guidance in developing plans for post-2020 reductions.

VII. The Update’s Discussion of Energy Efficiency Should Be Refined

The Update recommends that state energy agencies pursue proceedings to enhance energy efficiency programs. California already leads the nation in energy savings resulting from energy efficiency programs. Given the cost-effectiveness of energy efficiency as a GHG-reduction approach, new funding mechanisms, such as revenue from the sale of cap-and-trade allowances, should be leveraged to help fund these enhanced energy efficiency programs.

The Plan also recommends the development of robust methodologies to monitor and evaluate the effectiveness of energy efficiency programs. PG&E supports the use of robust methodologies to evaluate emission-reduction strategies. However, given the multitude of existing evaluation methodologies, ARB and its sister agencies may see more value in reviewing and selecting the methodologies most appropriate for a given application from the existing pool. If ARB adopts

² Our August 5th, 2013 comments are available here: <http://www.arb.ca.gov/lists/com-attach/55-2013-sp-update-ws-VSUAYVYIADYBWFUm.pdf>

this approach, it should focus on methodologies that offer consistency, transparency, credibility, timeliness, and simplification.

VIII. The Update Should Emphasize Net-GHG-Reducing CHP

PG&E supports the Update's focus on clean and efficient Combined Heat and Power (CHP) and encourages ARB to take a more active role in establishing minimum GHG performance criteria for CHP systems. As the California grid continues to become cleaner, technologies that are currently viewed somewhat in isolation, like CHP, must be viewed with an eye across sectors and programs, and with long-term emissions reductions in mind. In the case of CHP, the state must distinguish between renewable, bottoming-cycle, and fossil-fueled topping-cycle CHP. PG&E supports affordable renewable and bottoming-cycle CHP because these configurations can reduce GHG emissions. In contrast, natural gas-fired topping-cycle CHP may only provide limited emissions reductions, and may be a source of significant GHG emissions in the long run.³ The Scoping Plan should carefully distinguish between CHP configurations that reduce GHG and CHP configurations that may make only limited contributions which may diminish over time.

In addition, we encourage ARB and other state policymakers to revisit the current GHG reduction target for CHP, using updated values for representative CHP operating efficiencies, as well as appropriate 2020 boiler efficiencies and marginal grid emissions rates. Updating this target based on a sound analytical framework that prioritizes long-term emission reductions and avoids support for net-emitting resources should be a critical area of focus. ARB should also make public the GHG performance and operating efficiency of existing CHP facilities it collects through the GHG mandatory reporting program at a level of aggregation consistent with protecting business-sensitive information.

IX. The Costs and Challenges of Distributed Generation Should Be Acknowledged

The Update notes that the state could reach 35% below 1990 levels by 2030 through existing policy goals such as 12,000 MW of renewable distributed generation (DG) by 2020.⁴ However, the Update does not acknowledge the physical changes needed to integrate DG into the grid, the changes in rate structures needed to reduce the cost shift that customers with DG impose on other customers, and changes to regulatory structures needed to incent utilities to support the continued growth of DG. These challenges should be noted in the Update.

The adoption of customer-sited distributed generation is driven largely by its ability to lower costs in meeting a customer's energy needs in comparison to the costs otherwise seen by a participating customer. While this customer may realize an overall cost reduction, renewable

³ In the 2014 CPUC LTPP proceeding, the Union of Concerned Scientists expressed apprehension that if the state continues pursuing aggressive CHP goals through technologies that rely on natural gas, in 2050 CHP alone could contribute more than half of the entire economy's greenhouse gas emission budget

<http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M086/K632/86632715.PDF>

⁴ Page 39

distributed generation remains a very expensive alternative relative to larger scale renewable technologies. This seeming contradiction is explained by PG&E's tiered residential rate structure and the benefits of net energy metering (NEM), which provide additional monetary benefits to the participating customer.

The Update acknowledges the growth of distributed generation, but does not mention the critical regulatory activity that will support the sustainable growth of distributed generation moving forward. On page ES-2, the draft Scoping Plan Update states that renewable energy "is already cost-effective" for millions of customers. As noted above, PG&E contends that renewable customer generation is competitive with retail rates for some customers partly because costs have come down dramatically in the past five years, but also due to IOU's residential rate structures. The CPUC is currently implementing residential rate reform to correct unintended consequences from rate policies prompted by the energy crisis over a decade ago. A second key activity, critical to creation of a sustainable customer generation market, is the development of a substitute for the current net energy metering (NEM) program. The CPUC is also engaged in this process, which will be implemented in 2017, or when the NEM cap is reached.⁵

The Update discusses utilities' roles and responsibilities as California shifts towards more renewable and distributed energy integration.⁶ The Update should further note that the revision of regulatory structures (i.e. from specific program measures to a comprehensive climate change and energy policy focused on cost-effective GHG reductions) is critical to aligning utilities' and nonparticipating customers' interests in support of distributed generation while managing the cost increases and cost shifts that increased penetration of distributed generation is likely to entail.

X. Future Analyses Should Not Assume that All Homes Can Achieve ZNE

While zero net energy (ZNE) will be possible for many newly built homes, not *all* homes will be able to attain ZNE without exceptions to Title 24 requirements. For example, some buildings are limited in their ability to utilize renewable distributed generation. Some residences may be unable to incorporate sufficient onsite renewables to accommodate the building's demand due to shading, roof space, or orientation. Therefore, it will be important as ARB considers the GHG contribution of the ZNE goals to ensure that the analysis does not assume all homes can achieve a ZNE target.

PG&E notes the following comments related to ARB's recommendation to move toward zero net carbon buildings:

- The use of distributed renewable energy to address comprehensive GHG impacts, including (as noted by ARB) energy, water, waste and transportation, could result in

⁵ California's IOUs are obligated to provide credit at retail rates for exports to the grid from customer renewable generation, until such generation comprises 5% of the utility's noncoincident peak demand. This 5% is the NEM cap.

⁶ Page 50

- significantly more renewable energy than is needed by the building itself. This could require changes to allow the grid to receive exported excess energy generation. These grid modifications carry an associated cost that should be factored into any cost-effectiveness analysis of the zero net carbon building approach.
- Zero net carbon and ZNE buildings are two approaches to reducing the GHG impact of buildings. To date, limited analysis has been conducted on either policy to determine their cost-effectiveness as GHG mitigation solutions. PG&E recommends conducting an analysis to determine which policy, zero net energy or zero net carbon, is considered more cost-effective and technically feasible as a GHG mitigation solution.

XI. CalEnviroScreen Should Be Used Appropriately

PG&E supports the Update's recognition of the difficulty in making causal attributions of health disparities in EJ communities. Given this acknowledgement, PG&E is concerned by the Update's recommendation to use CalEnviroScreen (CES) for purposes for which it is not designed, including evaluating climate-related programs; targeting siting of and enforcement against potentially hazardous facilities; and evaluating whether AB 32 measures are reducing emissions in hot spots and ensuring that no new hot spots are created. The CES guidelines clearly indicate that it is not to be used for regulatory purposes, but rather to identify "communities of concern" for further assessment. PG&E implores ARB to develop a separate methodology to assess local impacts resulting from AB32 implementation.

XII. PG&E Is Investing in Alternative Fuel Vehicles

PG&E operates one of the largest and cleanest fleets in California, with 32% of its vehicles running on alternative fuels. We are committed to using the most effective and efficient vehicles to perform the work of providing safe, reliable and affordable gas and electricity to our customers. We have been at the forefront of alternative fuel vehicle implementation and continue to develop and test technologies that meet our needs in the most sustainable way possible. PG&E operates hundreds of work trucks that utilize a series of onboard batteries to power booms, lights, power tools and cabin conditioning, effectively eliminating the need to idle the vehicles at job sites. Developed in partnership with Altec Industries, this technology is called Electric Power Take-Off (ePTO). The benefits of vehicles equipped with ePTO include safer job sites, since crews do not have to communicate over the noise of a diesel engine, extended operating hours due to noise reduction, reduced emissions, and dramatic fuel savings. In fact, PG&E saved over \$700,000 in fuel costs over the last year alone by integrating the ePTO system into nearly 350 of its utility trucks. In 2013, PG&E began piloting the utility industry's first plug-in electric hybrid drivetrain (eREV) Class 5 work trucks. Developed in partnership with Stockton-based Electric Vehicles International (EVI) and the California Energy Commission (CEC), these vehicles feature an all-electric range of 45 miles with fuel savings of up to 30 percent when operating in hybrid mode.

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CONCLUSION

Thank you for the opportunity to submit these comments. We look forward to continuing our work with ARB and other stakeholders to ensure the successful implementation of AB 32.

Very truly yours,

/s/

Mark Krausse

cc: Richard Corey
Edie Chang
Steve Cliff