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California Air Resources Board
Dockets Office, MS-4
Re: 2030 Target Scoping Plan Update Concept Paper
1001 "I" Street
Sacramento, CA 95814

Re: Comments of Pacific Gas and Electric Company on the 2030 Target Scoping Plan Update Concept Paper

I. Introduction

Pacific Gas and Electric Company (PG&E) welcomes this opportunity to provide input on the California Air Resources Board's (ARB) 2030 Target Scoping Plan Update Concept Paper (Concept Paper), posted June 17, 2016 and presented to ARB on June 23, 2016.

PG&E strongly supports California's long-term ambitions for significant greenhouse gas (GHG) reductions post-2020, taking into consideration that specific post-2020 targets must be environmentally and economically sustainable. PG&E recommends that the post-2020 Scoping Plan program should be informed by analysis that provides insight into the four concepts outlined in the Concept Paper, and that this analysis should be made accessible to stakeholders and discussed in public workshops.

PG&E supports California's continued leadership role in the fight against climate change. This leadership includes working with other jurisdictions to broaden participation in meaningful GHG reduction efforts (including through formal linkage to California's cap-and-trade program), providing policy leadership, and demonstrating that GHG emission goals can be achieved at acceptable costs. As California looks to significantly increase the stringency of its emission goals post-2020, it is critical that the 2030 Scoping Plan:

- Continues to provide policy leadership through some form of carbon pricing mechanism.
- Focuses on other new measures only where they are truly complementary and cost-effective in achieving significant GHG reduction.
- Builds in a cost-containment backstop that ensures acceptable GHG reduction costs and a sustainable GHG reduction program.

More detailed comments on the Concept Paper follow below.

II. Policy Approaches Incorporating Carbon Price Are Needed to Achieve Deep GHG Reductions Cost-Effectively

PG&E strongly supports ARB's recognition of the critical role for policies that provide economy-wide investment decisions that incorporate GHG emissions (i.e., carbon pricing). There is strong academic and empirical evidence[1] that such a mechanism is a necessary component of a least-cost approach to achieving emission reduction goals. Accordingly, we believe that concepts lacking such policies (i.e., Concepts 2 and 3 from the Concept Paper) are not worthy of serious consideration and are inconsistent with California's aim of climate leadership. In addition, we believe the challenge for "complementary" policies is to identify those beyond current policy that are truly complementary, flexible, and cost-effective. These "complementary" policies need to be evaluated individually and at different levels of stringency. For example, ARB could model variations of Concept 1 with SB 375 targets (sustainable communities' strategies) at the current stringency, at higher stringency, and without SB 375 targets to help evaluate the level of SB 375 targets that are complementary and cost-effective as part of a comprehensive GHG reduction program.

Staff has noted, and PG&E agrees, that the inclusion of the multi-sector cap-and-trade program in Concept 1 offers many potential benefits. One is the facilitation of linkage with other jurisdictions, including Canadian provinces and state programs that develop under the Clean Power Plan. Such linkages offer the potential for significant cost savings in achieving joint emission goals and can encourage the broader participation in GHG reduction programs that are needed to achieve global emission goals. Another is providing a mechanism (i.e. allowance allocation) to address potential cost impacts to electric and natural gas customers and to fund programs in disadvantaged communities, which California has used effectively in the current program.[2] A third is its potential use to address GHG regulations at the federal level, including the Clean Power Plan and any new programs that develop. These benefits, along with the broader cost-minimization characteristic described earlier, make options that include a multi-sector carbon pricing program (like Concept 1) the most promising, and make Concepts 2 and 3 unattractive.

Concept 4 also utilizes carbon pricing, except through a tax instead of a cap-and-trade program, and could achieve the critical function of including GHG considerations in economy-wide investment decisions. A carbon tax could provide regulatory certainty for the economy in general and utility customers specifically, and ensure sufficient revenue generation for state-funded GHG reduction programs. Moreover, a carbon tax could address the need for a price cap on GHG compliance instruments.

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[1] See the Carbon Pricing Leadership Coalition at http://www.carbonpricingleadership.org/why/, the OECD's 2013 "Climate and Carbon: Aligning Prices and Policies." Available at: http://www.oecd.org/greengrowth/climate-carbon.htm, and EDF and IETA's 2016 "Doubling Down on Carbon Pricing." Available at: http://www.ieta.org/resources/Resources/Reports/Doubling_Down_Carbon_Pricing_EDF-IETA.pdf

[2] Gattaciecca, Julien et al. 2016. "Protecting the Most Vulnerable: A Financial Analysis of Cap-and-Trade's Impact on Households in Disadvantaged Communities Across California." Available at: http://innovation.luskin.ucla.edu/sites/default/files/FINAL%20CAP%20AND%20TRADE%20REPORT.pdf

Consequently, PG&E supports continued analysis of Concept 4. In particular, it would be helpful to project California emissions at different carbon tax trajectories (e.g., from the US Governments Social Cost of Carbon analysis), which would also help inform the discussion around post-2020 California GHG goals. Similar to our recommendations for Concept 1, we encourage evaluating the complementary policies individually as possible components of Concept 4. As for Concept 4's potential use to address GHG regulations at the federal level, we note that the EPA allows states to use a carbon tax for Clean Power Plan (CPP) compliance under a state measures plan. On the other hand, this does not position California to link with mass-based CPP trading programs in other states.

III. Complementary Measures Should be Evaluated for Cost-Effectiveness on a Dollar-per-Tonne Basis

PG&E strongly believes in meeting current and future GHG reduction goals in a cost-effective manner, as required by Assembly Bill 32 (AB 32). To this end, the dollar-per-ton estimate of complementary measures as compared to market prices (under cap-and-trade or carbon tax) is an important indicator. Transparency in the expected difference between the cost of a potential complementary measure and the market price of carbon is needed for policy makers to make rational decisions about the tradeoffs between complementary measures and market-based mechanisms. Additionally, without a dollar-per-tonne abatement cost figure, it will be difficult to determine whether subsidies for specific GHG-reduction technologies are effectively addressing other market failures. PG&E urges ARB to evaluate cost-effectiveness (dollars-per-tonne) for various complementary measures in the process of finalizing its plan for achieving the 2030 GHG reduction goal.

IV. The 2014 California State Agencies' Pathways Project Scenarios Should Be Considered Guidelines

E3[3] describes their Pathways model as a "California-wide, economy-wide, infrastructure-based GHG and cost analysis tool", where "adoption rates of technologies are defined by the user" rather than through optimization. As technology adoption is driven by user assumptions rather than as an economic response to a policy, we believe it is inappropriate to characterize the 2014 California State Agencies' Pathways Project as modeling policies. While we agree that the scenarios did not model the cap-and-trade program, we think it is equally clear that the scenarios also did not model "complementary" policies. PG&E is concerned that the Pathways work could be used to draw conclusions about the "right" mix of market-based and complementary policies; this concern is particularly relevant as the Concept Paper presents two concepts that rely exclusively on "complementary" policies. More generally, the Pathways model can help identify alternative technology pathways to achieve particular GHG emission levels; but because it does not model policies, it has limited utility in helping the state evaluate and design policy alternatives to achieving GHG emission goals.

[3] Mahone, Amber et al. 2015. "California Pathways: GHG Scenario Results." Available at: https://ethree.com/public_projects/energy_principals_study.php

V. Draft Scoping Plan Should Consider Only Statewide GHG Targets

PG&E has long worked with local government partners in implementing targeted GHG reduction programs where there are synergies (e.g., energy efficiency). There are also clearly areas, such as land-use, where local decision making has important GHG emission implications. However, there is little evidence that local government GHG policy action would be more cost-effective than consistent statewide GHG policy. To the contrary, academic research[4] around nested GHG regulation suggests limited opportunities for welfare-enhancing GHG regulations at lower levels of government in cases where regulations have establish fixed emission limits at a higher level of government, as is the case in California. Accordingly, we discourage further consideration of regional or local GHG targets that are nested underneath statewide targets; instead, we encourage a focus on determining the best mix of statewide policies for achieving California's GHG goals, and addressing local government policy in areas where local government has unique authorities or capabilities (e.g., land-use, buildings).

VI. Clarifying Progress Tracking Towards Achieving California's GHG Goals Is Important

We support ARB's intention to clarify how it will track progress towards achieving California's statewide GHG goal. In particular, determining how flows of cap-and-trade program compliance instruments between jurisdictions are incorporated will bring added clarity to the evaluation of new potential linkage partners. In addition to exploring GHG accounting issues associated with the Low Carbon Fuel Standard (LCFS) and allowance flows between jurisdictions, we suggest ARB explore GHG accounting issues associated with additional flexibility features such as offsets (in particular, those outside of California) and allowance banking (e.g., how are reductions achieved in prior years accounted for in assessing achievement of a particular "goal year" (2020, 2030) target?). In exploring these issues, we prefer accounting approaches that focus on broad environmental integrity (i.e., cumulative GHG emissions to the atmosphere) consistent with the global, long-term nature of the climate challenge.

VII. Corrections Must be Made to the Draft Scoping Plan Assumptions Language to be Truly Reflective of the 2016 Long Term Planning Process Assumptions

PG&E agrees with most of the draft assumptions for the electricity supply-side under the reference scenario. We support inclusion of the renewable procurement and energy efficiency goals contained within SB 350 in the Scoping Plan policy scenarios (Concepts 1 to 4) rather than the reference case. SB 350 programs were clearly developed to contribute to meeting the State's 2030 GHG reduction goal.

PG&E supports referencing the 2016 CPUC Long-Term Procurement Plan (LTTP) for supply-side combined heat and power (CHP) resources as well. However, the characterization of

[4] Goulder, Lawrence H. and Robert N. Stavins. 2011. "Challenges from State-Federal Interactions in US Climate Change Policy." American Economic Review, 101(3): 253-57.

the LTPP CHP assumptions in the draft Scoping Plan concept paper is incorrect[5]. PG&E recommends correcting the draft scoping plan assumptions language to be truly reflective of the 2016 LTPP assumptions.

> Suggested edits: ~~*Increased*~~ *Supply-side Combined Heat and Power (CHP)* ~~*to achieve the Governor's target*~~ *assumptions as described in the CPUC Long-Term Procurement Plan (LTPP, February 2016)*

VIII. CONCLUSION

PG&E thanks the ARB for the opportunity to submit these comments on the 2030 Target Scoping Plan Update Concept Paper. PG&E looks forward to continuing to work with the ARB to ensure the successful implementation of these regulations.

Sincerely,

/s/

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[5] 2016 CPUC LTPP supply-side CHP assumptions: The default projection for exporting CHP resources assumes that all retiring CHP resources less than or equal to 20 MW that are on the 2016 NQC list would be replaced on a one to-one basis by similar CHP resources; CHP resources that are greater than or equal to 20 MW will be assumed to retire based on the same methodology used for other conventional resources, as reflected in the Scenario Tool