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ARB's Scoping Plan Website

Michael Tollstrup
Chief, Stationary Source Division
California Air Resources Board
1001 I Street
Sacramento, CA 95812-2828

Re: Comments on the California Air Resources Board 2013 Update to the AB 32 Scoping Plan – Kickoff Workshop Presentation

Dear Mr. Tollstrup:

Pacific Gas and Electric Company (PG&E) welcomes the opportunity to submit these comments on the Air Resources Board's (ARB) initial workshops regarding the 2013 Update to the AB 32 Scoping Plan (2013 Plan).

I. INTRODUCTION

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

- ***PG&E supports AB 32 and believes its goals can be achieved cost-effectively.***
  - The 2013 Plan should transparently evaluate the abatement cost and relative cost-effectiveness of both existing and any new proposed measures.
  - The cost of abatement from complementary policies should be compared to the allowance price band created by the cap-and-trade program.
  - Ensuring we are on track to meet 2020 targets in a cost-effective manner is at least as critical, if not more critical, than planning for post-2020 reductions.
- ***Sustained net emissions reductions must be a priority.***
  - Policy support for technologies that can offer only limited near-term reductions—such as topping-cycle combined heat and power (CHP)—should be reevaluated.
- ***The 2013 Plan should actively seek partnerships and consider how to align action with other jurisdictions to achieve cost containment and greater global emission reductions***.

II. GUIDING PRINCIPLES

The next few years will be critical for determining whether, and in what fashion, California meets its greenhouse gas (GHG) reduction goals under AB 32. The 2013 Plan should not only ensure that California is on track to achieve the 2020 GHG reduction goal, but also that it will do so in the most cost-effective manner. PG&E proposes the following guiding principles for the 2013 Plan:

A. Transparently Evaluate Technological Feasibility and Cost-Effectiveness

- The 2013 Plan should include a transparent, analytically-based, decision-making framework to prioritize reduction measures. The framework should:
  - Be structured to facilitate comparison of abatement quantity and abatement costs for existing and any newly proposed program measures across different sectors;
  - Allow for improved visibility about the tradeoffs between the market-based and non-market-based program measures; and
  - Provide stakeholders with the ability to assess and evaluate the underlying reasoning for the decisions made in the final 2013 Plan.
- To the extent the 2013 Plan covers both pre-2020 and post-2020 activities, rigorous analytics should be applied to both timeframes. Employing a systematic cost-effectiveness 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.
- Adjustments to existing measures should be undertaken if the analysis indicates they are needed. For example, PG&E believes that the 2020 abatement estimate for combined heat and power (CHP) should be revisited.

B. Actively Seek Partnerships and Consider how to Align Action With Other Jurisdictions

- Achieving post-2020 targets without contributions from a broad coalition of jurisdictions will be more challenging and costly for California.
- Renewed attention should be placed on working with the federal government, other states, and other governmental entities to set a plan to achieve post-2020 goals.
- Attracting and guiding private investment toward the development of low carbon technologies will provide momentum to meet post-2020 goals at a lower cost to California.
- Broader linkage of cap-and-trade programs will promote innovation, build relationships, increase market size, reduce costs, and yield greater reductions globally.
- California cannot resolve climate change unilaterally. Formal recognition of this fact through off-ramp recommendations for any post-2020 recommendations (contingent upon lack of action outside of California) will reduce emissions leakage, signal flexibility, and help manage potential adverse California economic impacts.

C. Seek Opportunities for Cost Containment

- PG&E supports a transition to an increased reliance on market-based measures to manage costs and promote innovation in the long-run.

- Increased opportunities for offset projects, with fewer, not greater, geographic limitations are needed to support cost containment.

III. DETAILED DISCUSSION

A. Need for a Transparent, Cost-Based, Prioritization Framework

AB 32 makes repeated reference to ensuring that GHG reductions are technologically feasible and cost-effective[1] and defines cost-effectiveness as the cost per unit of reduced emissions of greenhouse gases[2]. In order to meet these requirements and promote a constructive dialogue about sensible and affordable clean energy policy, we recommend the 2013 Plan include a transparent, analytically-based, decision-making framework to prioritize reduction measures.[3] In our view, AB 32 requires no less.

Such a framework should:

- Be structured to facilitate comparison of abatement quantity and abatement costs for the program measures across different sectors;
- Allow for improved visibility regarding the tradeoffs between market-based and non-market-based program measures; and
- Provide stakeholders with the ability to assess and evaluate the underlying reasoning for all decisions made in the final Plan.

Specifically, the 2013 Plan should present the average cost of obtaining one metric ton of GHG emissions reductions ($ per metric ton) through a given abatement activity or portfolio of activities. These values should be used to present clear evaluations of relative cost-effectiveness and technological feasibility across all sectors, along with a full set of input assumptions into each calculation. Relative costs should be a critical factor in decision-making and prioritization of reduction measures.

Under perfect market conditions, carbon pricing is the key element of a least-cost policy framework to reduce GHGs. The cap-and-trade program provides a transparent band of expected carbon (allowance) prices between now and 2020.[4] The ARB found that it is in the public interest to ensure that cap-and-trade allowance prices should not exceed the third tier of the Allowance Price Containment Reserve (APCR) (Board Resolution 12-51). PG&E proposes that the 2013 Plan extend this policy to the evaluation and review of program-based measures.

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[1] AB 32 requires that the ARB plan to achieve the "maximum technologically feasible and cost-effective reductions" (§38560.5(b) of the Health and Safety Code).

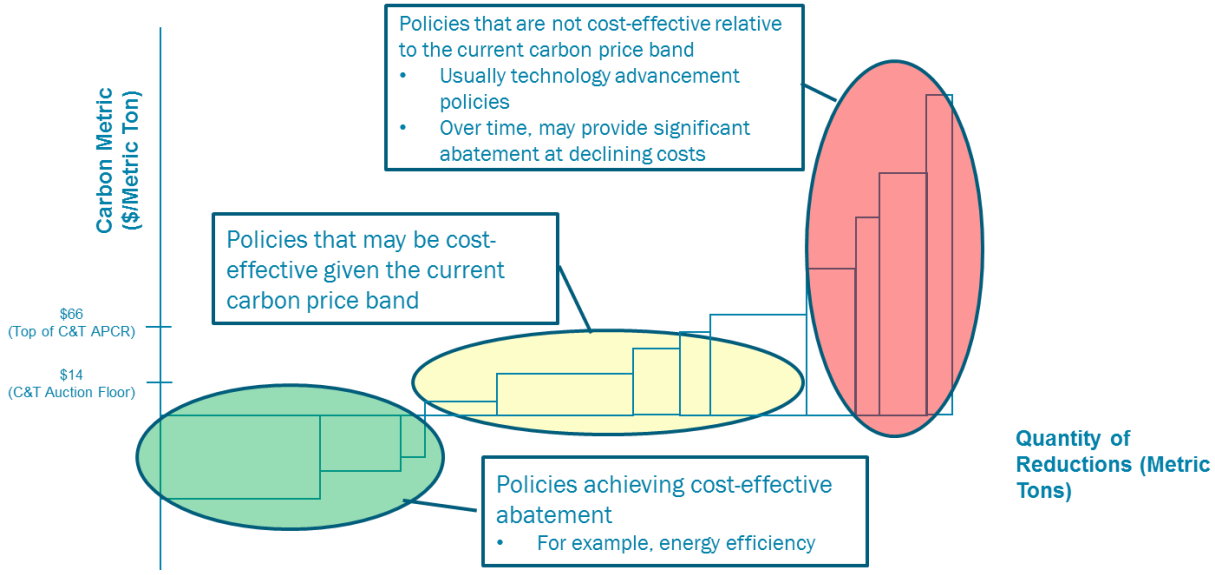
[2] See §38505(d) of the Health and Safety Code.

[3] AB 32 requires that the Scoping Plan "evaluate the total potential costs and total potential economic and noneconomic benefits of the plan for reducing greenhouse gases to California's economy, environment, and public health, using the best available economic models, emission estimation techniques, and other scientific methods" (§38560.5 (d) of the Health and Safety Code).

[4] This price band is implemented through the "Auction Reserve Price" and the "Allowance Price Containment Reserve".

Specifically, ARB should use these market-based floor and ceiling prices to define three cost-effectiveness categories as shown in Figure 1 below.

Figure 1. Three Conceptual Categories of Greenhouse Gas Abatement Activities



Under this framework, the justification for GHG program measures can be conceptually divided as follows: (1) cost-effective policies designed to remove investment barriers (green area); (2) moderate-cost actions that may be cost-effective within the range of possible carbon prices (yellow area); and (3) high cost technology advancement policies that are not cost-effective relative to current carbon prices, but may be needed in the longer-run to facilitate innovation and reduce the costs of long-term carbon reduction (red area).

The carbon price band administratively chosen by ARB provides guidance addressing California's "willingness to pay" for GHG reductions. As shown in Table 1, this price band should serve as a key guidepost as ARB prioritizes abatement in the 2013 Plan. Adopting such a decision-making framework provides two-way visibility between the needed cap-and-trade allowance price band and the cost-effectiveness of AB 32 program measures. This will identify measures that reduce GHGs at the lowest cost and support the development of a lower cost portfolio of measures to reduce GHGs over the long-term.

Table 1: Prioritize Implementation of AB 32 Actions by Comparing Measure Abatement Costs to the Cap-and-Trade Allowance Price Band

If The Measure's Abatement Cost is:	Cost-effectiveness Category	Proposed Action
1. Less than the 2020 Auction Price Floor	Always cost-effective	➢ Prioritize implementation ➢ Unlock abatement potential otherwise untapped by the carbon price signal ➢ Identify and address any barriers to adoption
2. Between the 2020 Auction Price Floor and the top price of the 2020 Allowance Price Containment Reserve (APCR)	May be cost-effective today, depending on carbon price	➢ Should be prioritized after measures in Group 1 ➢ Explore likelihood of cap-and-trade price signal driving reductions in this category
3. Above the top of the 2020 APCR	Unlikely to be cost-effective under expected near-term carbon prices	➢ Ensure actions are focused on achieving market transformation and reducing costs for long-term carbon reductions ➢ Evaluate if societal benefits outweigh societal costs ➢ Devote extra efforts to cost reduction ➢ Employ funding sources other than utility customer rates

Measures that fall above this expected carbon price band deserve the most attention in cost-effectiveness analysis. In general, these high-cost investments should only be undertaken if there is a recognized potential for significant future abatement coupled with expected cost reductions over time. Any policy of this type should be constructed as broadly as possible to achieve GHG reductions (e.g., support for all low carbon fuels is preferable to support for one specific low carbon fuel) and should be required to demonstrate, through additional analysis, that net social benefits outweigh costs to California. Further, we believe that decision-makers should explore funding the "above-market" portion of high-cost electric and gas program measures using sources other than utility customer rates (e.g., auction revenue from the Air Pollution Control Fund or "green" private equity investment).

PG&E understands that the 2013 Plan will focus on both pre-2020 activities needed to reach the AB 32 2020 target and measures that may be developed to motivate GHG reductions post-2020. In PG&E's view, ensuring we are on track to meet 2020 targets in a cost-effective fashion is critical, and required by AB 32. Equally important is adopting and putting into practice a cost-effectiveness framework as ARB develops a plan for post-2020 reductions. Without such a

framework, it will be extremely challenging for ARB and the state to develop a least-cost plan for making progress toward post-2020 goals. A uniform evaluation framework should be applied across both pre-2020 and post-2020 time periods. Adjustments to existing measures should be undertaken if the analysis indicates they are needed.

B. Sustained Net Emissions Reductions Must be a Priority

Sustained net emissions reductions must be a priority for the 2013 Plan to ensure a smooth transition from all pre-2020 activities to any post-2020 activities. Adjustments to existing measures prior to 2020 should be included in the 2013 Plan, if robust analysis indicates they are needed to put California on the correct path post-2020. Policy support for technologies that can offer only limited near-term reductions—such as topping-cycle CHP—should be scrutinized closely.[5]

In California, the electric grid will continue to become cleaner due to AB 32 and other related policies.[6] As a result, we believe that topping-cycle CHP is unlikely to be useful as a GHG reduction measure post-2020 and has much more limited GHG reduction potential prior to 2020 than stated in the 2008 Scoping Plan. Conventional topping-cycle CHP is a GHG-producing, fossil-fuel based source of electricity and ARB should not continue to group CHP with energy efficiency in the 2013 Plan.

CHP is typically a "baseload, must-take" resource that provides only very limited operational flexibility. As such, it could potentially displace renewable electricity and exacerbate the already challenging integration of sufficient renewable electricity to meet California's long-term GHG reduction goals.

PG&E believes that short-sighted policy support for topping-cycle CHP in California could potentially lead to long-term lock-in of expensive and net-emitting resources. Consequently, we urge ARB to revisit the Scoping Plan estimate of 2020 GHG reductions from CHP and reconsider any other technology-support policies that cannot offer sustained emission reductions over the long-term.

C. Need for Partnerships

California cannot resolve climate change unilaterally. PG&E continues to believe that a well-designed, multi-sector cap-and-trade program—linked with emerging regional, national, and international programs—will allow California to meet its GHG emission reduction goals in a cost-effective manner and set the stage for successfully addressing what is clearly a global issue.

[5] PG&E supports affordable bottoming-cycle and renewable-fueled combined heat and power and recognizes that these CHP configurations can reduce greenhouse gas emissions.

[6] PG&E believes that nationally, unlike in California, topping-cycle CHP remains an effective way to achieve greenhouse gas reductions. The primary reason for this disparity is that the mix of resources serving California's electric grid is already dramatically cleaner than the resources serving many other parts of the nation.

Linkage is needed to provide lowest cost compliance options and promote innovation in low-carbon technologies that might only occur if GHG markets reach sufficient size.

We appreciate ARB's efforts to promote linkage with Quebec and other Western Climate Initiative jurisdictions. Proactive steps to explore linkage with the Australian, the European, the Regional Greenhouse Gas Initiative, and any other viable cap-and-trade programs should also be transparently outlined in the 2013 Plan. As these discussions unfold, we encourage ARB to continue to promote the types of compliance flexibility and cost-containment measures ARB is considering as part of the California program.

Outside of cap-and-trade linkage discussions, California should continue to engage in implementation-based dialogue to leverage regional, national, and international approaches to GHG reduction. PG&E encourages ARB to actively engage with the U.S. Enviornmental Protection Agency (U.S. EPA) as it develops GHG regulations under the Clean Air Act for stationary sources to ensure that such regulations:

- Appropriately recognize the GHG reductions achieved by California entities, including those brought about through implementation of the AB 32 Scoping Plan;
- Do not undermine the mechanisms ARB has incorporated into its GHG cap-and-trade program to contain costs; and
- Facilitate other jurisdictions' adoption of market-based GHG reduction programs, either independently or through formal linkages between jurisdictions.

Partnerships may also promote investment in developing and commercializing new low carbon technologies. The post-2020 plan should include attracting and focusing capital as a goal to support this objective. Such a policy will accelerate progress in meeting post-2020 goals, and will provide funding sources other than, or at least complementary to, government funding or funding through utility customer rates.

Conversely, if others fail to act, California must be prepared to slow or halt its reduction activities, or risk being placed at an economic disadvantage relative to other jurisdictions. Therefore, the 2013 Plan should clearly outline recommended off-ramps for post-2020 targets contingent upon observation of GHG abatement in other jurisdictions. PG&E recommends these off-ramps consider the structure the European Union imposed in international negotiations regarding 2020 GHG targets.[7]

D. Need for Cost Containment

As California begins to look past 2020, the state should rely more on market-based programs and less on technology-based mandates. PG&E is committed to our current best-in-class

[7] For 2020, the EU committed to cutting its emissions to 20% below 1990 levels. The EU offered to increase its emissions reduction to 30% by 2020 if other major emitting countries in the developed and developing worlds committed to undertake their fair share of a global emissions reduction effort. See: http://ec.europa.eu/clima/policies/brief/eu/index_en.htm

energy efficiency and renewables programs, but additional post-2020 programmatic mandates with specific, set-aside targets are not ideal. The CHP targets from the 2008 Plan described above offer a strong example of how mandates conceived with good intentions can become problematic as the technological playing field shifts over time. Mandates offer little choice in how to meet goals, often leading to higher costs for our customers and limited abatement. Instead, PG&E believes that, in the long-run, more reliance should be placed on the ability of the cap-and-trade program to deliver cost-effective, innovative, and substantial emission-reduction opportunities. As discussed above, the relative cost of mandates versus market-based measures, and their interaction, should be thoroughly examined in any analytical framework used for the post-2020 portion of the 2013 Plan.

We strongly support the use of offsets as an indispensable tool in abating greenhouse gases in a cost-effective fashion. PG&E believes that there should be a transition to no geographic or quantitative limits on the use of offsets for compliance purposes, as long as the offsets meet rigorous standards. High quality offsets should be allowed to play a greater role in achieving 2020 targets and will be essential to any California approach to post-2020 goals. International sector-based programs, such as the Reducing Emissions from Deforestation and Forest Degradation (REDD) framework, offer the most promise for emissions reductions outside of California.

IV. 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