

DOCKETED

Docket Number:	17-IEPR-07
Project Title:	Integrated Resource Planning
TN #:	216162
Document Title:	ORA Informal Comments on GHG Targets
Description:	N/A
Filer:	System
Organization:	Office of Ratepayer Advocates, (ORA), California Public Utilities Commission
Submitter Role:	Public Agency
Submission Date:	2/21/2017 4:56:15 PM
Docketed Date:	2/21/2017

Comment Received From: Diana L. Lee

Submitted On: 2/21/2017

Docket Number: 17-IEPR-07

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Additional submitted attachment is included below.



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THE OFFICE OF RATEPAYER ADVOCATES' COMMENTS ON
*Options for Setting GHG [greenhouse gas] Planning Targets for Integrated Resource Planning
and
Apportioning Targets among Publicly Owned Utilities and Load Serving Entities*
R.16-02-007
February 21, 2017

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The Office of Ratepayer Advocates (ORA) submits the following informal comments on questions 1-5 in response to the February 10, 2017, California Public Utilities Commission (Commission or CPUC) and California Energy Commission (CEC or Energy Commission) staff document, *Options for Setting GHG Planning Targets for Integrated Resource Planning and Apportioning Targets among Publicly Owned Utilities and Load Serving Entities*.

1. Under Part 1, which of the options do you recommend, and why? What issues should be considered when implementing that option, and how should those issues be addressed?

ORA recommends Option A, using the electric sector share of statewide 2030 emissions specified in the California Air Resources Board (CARB) scoping plan. CARB's 2030 GHG emissions targets incorporate and leverage many of existing and ongoing efforts, while identifying new policies to achieve the State's climate, environmental and public policy goals. Based on Senate Bill (SB) 32, the statewide 2030 GHG emissions target is a 40 percent reduction from 1990 levels, or 260 million-metric tons of carbon dioxide equivalents (MMTCO_{2e}).

CARB's statewide 2030 emissions targets for the electric sector are based on modeling assumptions. Some of the key assumptions include: a Renewable Portfolio Standard (RPS) requirement of 50 percent of retail sales by 2030, increasing to 80 percent by 2050; behind-the-meter solar photovoltaic (BTM PV) is assumed to reach 18.2 GW statewide by 2030 (based on an extrapolation of the California Energy Demand 2016 – 2026 Adopted Forecast mid-case); and by 2030, one half of light-duty electric vehicles are assumed to have access to workplace charging, enabling greater use of day-time charging of electric vehicles; increase of approximately 5,500 cumulative megawatts (MW) of conventional, load shedding demand response by 2031, over and above the approximately 2,000 MW of existing demand response available in 2015.¹

In its Scoping Plan, CARB conducted an uncertainty analysis surrounding GHG policies and measure performance relative to CARB's proposed scoping plan scenario to achieve the 2030 GHG reduction goals. The uncertainty was modeled using assumptions around the measures to achieve their full estimated GHG reduction potential. As the result of this analysis, CARB's staff created emission ranges based on assessment of reduction uncertainty and stakeholder input. CARB's 2030 estimated GHG emissions for the electric sector ranged between 42-62 MMTCO_{2e}; which corresponds to 61 percent-43 percent reduction in GHG emissions compared to 1990 levels.²

¹ CARB's Proposed Scoping Plan Scenario & Alternatives Modeling Description. Appendix D. pp. 12-13 https://www.arb.ca.gov/cc/scopingplan/app_d_pathways.pdf.

² Note that the estimated GHG emissions in CARB's 2030 proposed plan from all sectors ranges between 300-345 MMTCO_{2e}, whereas the SB 32 2030 GHG emissions goal is 260 MMTCO_{2e}. As stated by CARB, the Cap-and-Trade program will constrain the emissions to the necessary levels to achieve the State's 2030 goals. Thus, the Cap-and-Trade program is expected to reduce GHG emissions in the range

CARB's most recent emissions inventory (based on 2014 data) indicates that GHG emissions from the electric sector total about 88 MMTCO₂e,³ which is about 19 percent lower than the 2020 electric sector goal of 108 MMTCO₂e. Based on the 2014 electric sector estimated GHG emissions level (88 MMTCO₂e), an additional 52 percent to 30 percent reduction in emissions is required to achieve the 2030 electric sector target of 42-62 MMTCO₂e, respectively.

Realizing these ambitious goals depends on market adoption of advanced and new technologies. In addition, some of these goals depend on policy mechanisms and programs structured to deliver and implement the underlying technologies. Therefore, there is a large set of uncertainties surrounding the achievement of these goals. By setting the State's electric sector target at 62 MMTCO₂e (the higher range of CARB's 2030 proposed plan), the Commission will be able to accommodate some of these uncertainties. In addition, achieving this target (62 MMTCO₂e) by 2030 would require a 30 percent reduction from the estimated 2014 GHG emissions levels; which is more realistic than achieving 52 percent reduction in emissions if the target is set at 42 MMTCO₂e.⁴

The Commission could utilize the GHG emissions inventory that is collected and published by CARB to continuously monitor the level of current emissions, and the feasibility of achieving its 2030 GHG emission electric sector targets.

of 40-85 MMTCO₂e by 2030 to achieve the State's goal of 260 MMTCO₂e. "The 2017 Climate Change Scoping Plan Update," January 20, 2017, pp. 42-43, available at https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf.

³ <https://www.arb.ca.gov/cc/inventory/data/data.htm>.

⁴ Similarly, a 52 MMTCO₂e electric sector target (option B in part 1) would require a 41percent reduction in emissions from the 2014 GHG emission levels, which would require more stringent policies and higher investments to achieve that goal. Option B in part 1 in the Staff Discussion Paper, p. 5.

2. If recommending Part 1 Option A, should the IRP process use an emission reduction target equal to the lower end of this range (42 MMTCO_{2e}), the higher end of this range (62 MMTC_{2Oe}), or a target somewhere within this range?

Due to modeling uncertainties as well as uncertainties inherent in market adoption of technologies needed to achieve the 2030 electric sector GHG emissions targets, ORA recommends that the Commission adopt the higher of the 2030 electric sector targets of the CARB's 2030 scoping plan, i.e. 62 MMTCO₂.

3. Are there any other methods that should be considered for assigning overall electricity sector target in 2030 for IRP purposes? If so, please describe the method in as much detail as possible and explain why it is preferable to the options listed above.

As discussed in response to question 1, ORA recommends using the higher range of CARB's proposed 2030 electric sector target. At this time, ORA does not include additional recommendations to alternative methods for assigning the overall electricity sector target for 2030 for the IRP. ORA will review and consider any methods proposed in the opening comments of other stakeholders.

4. Do the proposed methods adequately account for interactive effects between the electric and other economic sectors, in particular with the transportation sector? If not, please explain how those interactive effects should be accounted for in the IRP process.

A significant concern regarding the interaction between the electric and transportation sectors is the increasing load resulting from electricity supplanting petroleum as the primary transportation fuel in California. According to the Scoping Plan, the Proposed Plan Scenario employs the PATHWAYS model to estimate GHG emissions,⁵ and states that "if the transportation sector adds more electric vehicles, PATHWAYS responds to reflect an energy demand increase in the electricity sector."⁶ The Proposed Plan Scenario factors in the major goals under current policy measures such as, SB 350 goals, Low Carbon Fuel Standards, and the

⁵ PATHWAYS is structured to model GHG emissions while recognizing the integrated nature of the industrial economic and energy sectors. The 2017 Climate Change Scoping Plan Update, p. 44.

⁶ The 2017 Climate Change Scoping Plan Update, p. 44.

Mobile Source Strategy.⁷ These measures encompass the majority of statewide transportation electrification initiatives; therefore, by including them in PATHWAYS modelling assumptions of the Proposed Plan Scenario, the interactive effects between the electric sector and the transportation sector are adequately captured.

5. Under Part 2, which of the options do you recommend, and why? What issues should be considered when implementing that option, and how should those issues be addressed?

ORA recommends Option B under Part 2, which would divide the electric sector target between the CPUC's and the CEC respective IRP processes based on electric load served in 2016. This option would use retail load forecasts, which are obtained from the Energy Commission's 2015 Integrated Energy Policy Report (IEPR) California Energy Demand Forecast for 2016-2026. The retail load forecasts would be used as a proxy for emissions by electric load serving entities (LSEs) and publicly-owned utilities (POUs,) for the purposes of defining GHG planning targets for the CPUC and the CEC to use in their respective proceedings.

The LSEs' and POU's specific targets developed in this option would apply the same data source (the CEC's 2015 IEPR) and forecast period (2016-2026) that are used to model the statewide electric sector target for 2030 emissions specified in CARB's scoping plan (Option A in Part 1).

Therefore, this option will provide consistent goals and complementary targets to achieve GHG emissions reduction across policies implemented by different agencies (CARB, CPUC, CEC).

⁷For specific assumptions used in modeling the various initiatives impacting the electric and transportation sectors, refer to CARB's Proposed Scoping Plan Scenario & Alternatives Modeling Description. Appendix D. https://www.arb.ca.gov/cc/scopingplan/app_d_pathways.pdf.