

Comments on the Draft Clean Air Science Advisory Committee (CASAC) Report on United States Environmental Protection Agency's (US EPA's) "Integrated Science Assessment for Ozone and Related Photochemical Oxidants (External Review Draft – September 2019)" and the Draft CASAC Report on US EPA's "Policy Assessment for the Review of the Ozone National Ambient Air Quality Standards (External Review Draft)"

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Gradient

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Thank you for the opportunity to speak today. I am speaking on behalf of Gradient, but my time spent preparing these comments and calling into this meeting has been supported by the American Petroleum Institute.

Individual Clean Air Science Advisory Committee (CASAC) member comments on the evaluation of health effects and human health risks in the "Integrated Science Assessment for Ozone and Related Photochemical Oxidants (External Review Draft – September 2019)" (ISA) and the Draft CASAC Report on United States Environmental Protection Agency's (US EPA's) "Policy Assessment for the Review of the Ozone National Ambient Air Quality Standards (External Review Draft)" (PA) are quite extensive, with considerable depth and detail, and most importantly, a solid scientific basis. I am largely in agreement with these comments and the letters representing CASAC's opinion.

As indicated in my written comments and the CASAC letter, the ISA does not conduct a comprehensive, systematic review of the health effects evidence, and study quality and biological plausibility are not always fully or consistently considered. The ISA would be improved with the inclusion of a clear description of the study selection processes and evaluation criteria, a systematic review and synthesis of relevant studies (including those with negative findings), and a detailed discussion of study quality. It would also benefit from a more comprehensive discussion of the uncertainties in study results attributable to chance, bias, confounding, and non-linear concentration-response functions in epidemiology studies, and a discussion of causal biological mechanisms based on animal studies.

I also agree with the CASAC letter on the PA, which indicates that because the PA is dependent on the ISA, but the ISA has many issues that need to be addressed, "the PA does not establish that new scientific evidence and data reasonably call into question the public health protection afforded by the current ozone annual standard." Another issue in the PA is that because of unconventional rounding choices and compounding levels of conservatism in the modeling, fine-scale (*i.e.*, 1 ppb) distinctions between proposed alternative standards cannot be made. Also, as acknowledged in the PA, a robust uncertainty analysis was not conducted. These issues effectively render meaningless the comparisons between the risk assessment results for different alternative standards.

I request that CASAC consider one edit to the letter on the PA. The letter currently states: "[S]ome CASAC members conclude that the Draft Ozone PA does not establish that new scientific evidence and data reasonably call into question the public health protection afforded by the current ozone annual standard." While the CASAC opinion was not unanimous, the use of the word "some" may cause confusion regarding the degree of agreement among members. It would be helpful if the letter explicitly identified which members support this conclusion and which do not.

Thank you.