



*SAB Panel Review of EPA's
October 2019 Report on
"Evaluating Reduced-Form
Tools for Estimating Air Quality
Benefits"*

EPA Remarks at the Public Meeting of the
Science Advisory Board Reduced-Form Tools
Review Panel

September 10, 2020



General EPA Comments

- EPA appreciates the efforts of the SAB Reduced Form Tools review panel to develop a set of recommendations for evaluating and using reduced-form (RF) tools as part of regulatory analyses.
- These recommendations will influence EPA's on-going efforts with respect to use of reduced-form AQ/benefit tools in a regulatory context.
 - EPA plans to incorporate the panel's recommendations in future efforts to develop, evaluate, and apply (where appropriate) RF approaches to estimating the benefits of air quality actions.
 - EPA is currently working to update our benefit-per-ton estimates with a more recent emissions inventory and is continuing to support research into RF approaches through the ACE centers.
 - Throughout these efforts, EPA will continue to evaluate the usefulness of RFTs, including a benefits per ton approach, in regulatory impact analysis and how RF tools compare to full-form models (FFMs).
 - Areas of further evaluation might include comparing the effect of differences in various components of PM (e.g., crustal emissions) and/or the impact of differences in model and data resolution on the results from FFMs and RF tools.



Specific Responses to Panel Concerns

- The panel recommends EPA acknowledge the dependency of the evaluation results on the decision to compare all reduced-form approaches to full-form models (CMAQ/CAMX).
 - EPA acknowledges this fact but notes that one of the key determinations in evaluating the appropriateness of any RF tool will be its ability to replicate the results of EPA’s existing approach for estimating AQ changes and resultant benefits (i.e., state of the science, full-form models like CMAQ/CAMx with BenMAP).
- The panel notes that it would be “inappropriate for EPA to rely upon the report of this Panel as an external validation” of any conclusion that certain RF tools are ready for use in a regulatory context.
 - EPA does not intend to use the Panel’s report in that way.



Specific Responses to Panel Concerns (cont.)

- The panel had some concerns about the transparency and reproducibility of some of the underlying results in the evaluation report.
 - EPA acknowledges the need to provide more detailed results at regional scales and acknowledges the difficulty panelists had in reproducing the primary $PM_{2.5}$ SA-Direct results. Moving forward, we will strive to provide greater detail and clarity in any future evaluations of RF tools.
 - EPA remains committed to public transparency in our efforts to evaluate RF tools and points to our efforts to maintain a Github site of model inputs and outputs, as well as the 2019 “Data In Brief” journal article that was prepared in conjunction with the evaluation report as evidence of that commitment.



Specific Responses to Panel Concerns (cont.)

- Finally, EPA appreciates the panel's recommendation to provide a discussion on the usefulness of RF tools in different parts of the regulatory decision process and to clarify how these tools could be used for screening or prioritizing procedures.
 - Moving forward, EPA is working to develop an agreed-upon framework in which specific tools are determined to be appropriately suited for the type of regulatory questions being asked.