

COMMENTS ON 2022 SCOPING PLAN - INITIAL AIR QUALITY AND HEALTH IMPACTS AND ECONOMIC ANALYSES

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May 2nd, 2022*

Elders Climate Action (ECA) is an organization of seniors devoted to creating more a sustainable environment for our children and grandchildren through climate change advocacy. ECA appreciates the opportunity to submit comments regarding the 2022 Scoping Plan.

Our comments are divided into those addressing the Economic Modeling and those addressing Air Quality/Health Impacts. The comments focus on the adequacy of the protocols and suggest, where applicable, changes to improve the forecasting accuracy and to better distinguish among alternatives.

Economic Analysis

1. *Assumptions Regarding Industrial/Commercial Source Electrification* - Although the economic model calculated the cost of energy associated with electrifying industrial and commercial processes, it did not quantify costs of equipment replacement or ongoing operation and maintenance costs. The given rationale for this omission was that the data were not available. Eliminating these costs due to lack of data leads to a skewed picture of economics and undermines the ability of the analysis to compare among alternatives. Assuming that a certain percentage of total facility operating costs would be required to facilitate the transition to electrified equipment would be a better approach and the costs could be allocated by economic sector based on gross revenue. Although the initial capital outlay may be greater in Alternatives 1 and 2, lower operating and maintenance costs (as well as reduced air compliance costs) may partially offset the initial expense.

2. *Economic Impacts Associated with a 10 Year Implementation Delay* - The alternative analysis focuses on the direct impact to each sector of the economy based on their potential ability to reduce CO₂eq below target levels. However, the analysis does not account for the economic impact, particularly with respect to Alternatives 3 and 4, of allowing the climate to deteriorate for an additional decade. Secondary (indirect) economic impacts include such climate change phenomena as sea-level rise; damage to infrastructure including roads, rail and waterways from extreme weather; health effects from increased temperatures; massive wildfires (including loss of property and crops); prolonged drought; and water shortages. These secondary impacts pose a threat to the state of California much larger than the cost of electrification and should be addressed. Another potential impact would be failure to meet the federal ozone standard and consequential loss of federal funding at the state and local levels.

3. *Lack of Specificity on Engineered Carbon Removal* - Several of the alternatives rely heavily on the use of carbon removal technology to allow slower implementation of combustion fuel replacement measures. However, the specific technologies to achieve this removal were not determined, nor the costs associated with implementation of wide-spread carbon removal infrastructure were not quantified. The technological feasibility of potential removal strategies should be considered, as implementing a carbon removal strategy that turns out to be inadequate could result in a disastrous acceleration of climate deterioration. Even if a feasible technology were identified and implemented, it would mean that industrial users (or taxpayers) would be paying double on a long-term basis - paying for initial carbon removal facilities and then paying ten years later to electrify.

Air Quality and Public Health Benefits Analyses

1. *Use of 2045 as the modeling year for all scenarios* - It is unclear why this methodology is considered to result in a reasonable comparison for all alternatives, given that 2035 is the compliance year for Alts 1 and 2. Also, this methodology does not address inter-pollutant issues such as the requirement to meet the federal ozone standard in a planning year that occurs before the date of analysis or the health effects in disadvantaged communities between 2035 and 2045. ECA requests that two modeling years be simulated and presented in a public forum, so that a clear understanding of the total impacts of each scenario is provided.

2. *Use of Short-Term (Acute) Impacts as Basis for Scenario Comparison* - Although the use of short-term air quality data in January and July allows comparisons of relative air quality impacts associated with each alternative, the analysis is an over-simplification that does not address all the air quality impacts. Specifically, it does not consider long-term chronic effects such as cancer or other impacts to target organs. Since long term health effects are most likely more widespread and costly than the health impacts presented in the analysis, they should be addressed.

3. *Use of PM_{2.5} and Ozone as Surrogates for Health Effects Analysis* - The use of PM_{2.5} and ozone as surrogates for health impacts is another over-simplification that could lead to inadequate or erroneous information for decision-making purposes. Fossil fuels have a much larger toxic footprint than criteria pollutants such as diesel PM, benzene, or acrolein that should be considered as additional indicator pollutants in comparing alternatives. Delay in phasing out fossil fuels for an additional decade has a much larger negative impact than presented in the initial results.

4. *Lack of Health Impact Analysis Associated with PM_{2.5} from Massive Wildfires* - Although the analysis does analyze in the impact of PM_{2.5} changes by alternative, it does not include the massive, state-wide, pollutant burden of PM_{2.5} from ever-expanding, regional wildfires. The emission source and public health characterization does not address the PM_{2.5} associated with additional wildfires and associated health effects of failure to take immediate action. The analysis of PM_{2.5} for July in 2045 should include the cumulative effect of yearly wildfires and the long-term chronic health effects associated with the additional lifetime exposure.

5. - *Lack of Consideration of Impact to Public Health of an Additional Decade of Climate Deterioration* - Since the analysis of public health impacts associated with climate change GHG reduction strategies focuses on conditions in 2045, it does not address the secondary impacts of a decade-long delay in implementation of source control strategies, particularly with respect to Alternatives 3 and 4. Specifically, the health impacts of extreme heat; safety issues associated with severe weather; and damage to infrastructure from sea level rise, catastrophic storms, and wildfires should be included in the analysis. Future estimates of health effects due to limited access to food and water should also be estimated.

Conclusion

ECA's understanding is that the agency has chosen Alternative 3 as the favored scenario, based on the initial findings associated with economic impact and air quality/public health effects. We urge you to conduct a more thorough analysis before coming to this conclusion. Our specific recommendations for additional analyses are summarized as follows:

- Include the economic costs of equipment electrification in all alternatives, as well as the indirect economic costs in Alternatives 3 and 4, as described above.
- Provide more specificity in terms on the types of engineered carbon removal processes to be employed and ensure that the options rely on proven technology, are reliable in achieving the estimated carbon reductions, their effectiveness is verifiable and enforceable, and that the technology is economically feasible.
- Model air quality and public health impact scenarios for 2035 in addition to 2045 so that decisionmakers can more fully assess the relative impacts of alternatives.
- Expand the analysis to include chronic health impacts and costs, particularly of continuing to generate fossil fuel combustion products that drive long term health risk.
- Modify the PM2.5 emission inventory to include the fine particulate generated and dispersed throughout the state during massive wildfires so that cumulative long-term health effects from delaying electrification are more fully characterized.

It is very possible that when these additional analyses are performed that decisionmakers will conclude that a different alternative than Alternative 3 is a more appropriate strategy to pursue in achieving climate change GHG reduction goals.

We appreciate the opportunity to comment and look forward to participating in additional steps in the public review process going forward.